

ARCHITECTURAL RECORD



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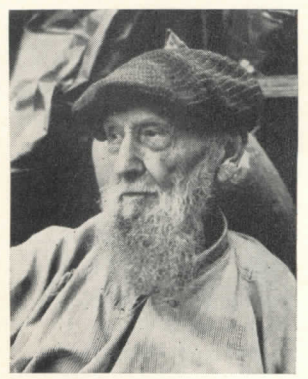
COVER:

Vista Elementary School, Vista Unified School District, California. Maynard Lyndon, Architect. Merge Studio photo. School yard photo, Underwood & Underwood News Service

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JUNE 1951

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Dean Hudnut and Dean Burchard are photographed between sessions; and (right) Henry Saylor is welcomed to Fellowship in the Institute by Ralph Walker

Bernard Ralph Maybeck, at 89 the A.I.A. Gold Medal winner.

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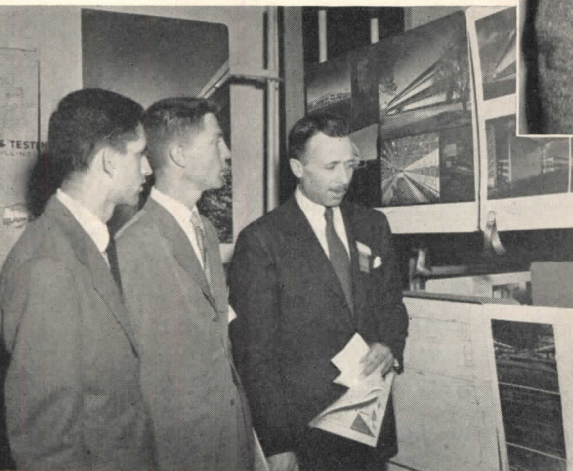
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A.I.A. CONVENTION

Below: Ralph Walker presents Edward C. Kemper Award to Marshall Shaffer, busy architect of U. S. Public Health Service. Right: A.I.A. Journal Editor Henry Saylor, New York Regional Director Arthur Holden and Past President Douglas Orr. Far right: Alexander Robinson III, Cleveland, and the new A.I.A. second vice president, Norman J. Schlossman, Chicago



Left: Richard M. Bennett of Chicago and John Hargrave, Cincinnati. Below, Dean Hudnut and Emerson Goble



Left: two students of architecture, William B. Morris of Cornell and William Potts of the University of Florida, look over some of the exhibits of Honor Awards in Architecture with Pietro Belluschi, M.I.T. dean of architecture and planning



A.I.A. CONVENTION



Session on acoustics: R. Allen Wilson, Celotex Corp., Chicago; Hollowell Davis, Central Institute for the Deaf, St. Louis; Robert Newman, M.I.T.; Samuel Hooper of Remington Rand, New York; and Walter A. Taylor, director of education and research for A.I.A.

the 1951 Product Literature Competition Awards also was made at the opening session (see pages 282, 284, 286).

Defense "Confusion" Scored

The convention's "working" sessions on building under controls, the architecture of civil defense, planning as a weapon for defense and the education of architects provided information and debate on vital subjects; and the acoustics and modular coordination sessions continued the notable series of seminars on design fundamentals.

Apathy and confusion in the country's civil defense efforts and ineptness in government handling of materials allocations and building controls were sharply criticized.



Above: Robert Little of Miami Beach and Joseph Murphy, architecture dean at Washington U., St. Louis



Above: Leonard Wolf of the Iowa State College Architecture Department and Harris Armstrong, St. Louis. At left above: Francis Keally, F.A.I.A., New York, and C. E. Silling of Charleston, W. Va., Middle Atlantic regional director. Left: Robert Durham of Seattle and Albert Balch, Seattle builder and member of the A.I.A.-N.A.H.B. Joint Committee



Frank Lopez, the RECORD's senior associate editor; James Gambaro, Brooklyn; Mrs. Hauf; and Cmdr. Harold Hauf, editor-in-chief of the RECORD till his recall to active duty



L. Morgan Yost, Chicago, president of the host chapter, greets Kenneth Welch, Grand Rapids, while Philip Will Jr. of Chicago, one of the new A.I.A. Fellows, looks on



Great Lakes Regional Director John N. Richards and Mrs. Richards, Toledo; and Howard Eichenbaum of Little Rock, Ark., Gulf States Regional Director



Above: Clair E. Ditchy, A.I.A. secretary; Carter Hewitt, Peoria, Ill.; and Donald Kirby, San Francisco. Below: group at a cocktail party

Leonard Bailey of Oklahoma City was named director of the Central States District (Iowa, Kansas, Missouri, Nebraska, Oklahoma) in one of two contests for directorships. In the other, Charles O. Matcham of Los Angeles became director for the Sierra Nevada District (Arizona, California, Nevada, Hawaii and "other insular possessions in the Pacific").

1951 Gold Medal to Maybeck

Departing somewhat from previous custom, the convention had scheduled no principal speaker for the annual din-

ner. Mr. Walker, whose services to the Institute as president were cited by the convention in a resolution of gratitude and high tribute, opened the program that followed the dinner with a talk which culminated with the award of the A.I.A. Medal.

The Institute's Gold Medal, its highest honor, went to Bernard Ralph Maybeck of California; and his son, Wallen White Maybeck (an engineer) accepted the award for his 89-year-old father, who could not be present. He sent his greetings and his thanks in a record made for the occasion, though in the





Session on acoustics: R. Allen Wilson, Celotex Corp., Chicago; Hallowell Davis, Central Institute for the Deaf, St. Louis; Robert Newman, M.I.T.; Samuel Hooper of Remington Rand, New York; and Walter A. Taylor, director of education and research for A.I.A.

course of his remarks he observed that architects "are those who listen; they do not speak."

In an informal talk that was intensely interesting to his listeners, Wallen Maybeck provided some little-known details of his father's early life which made the man "come alive" for many who have known only his designs.

Also at the annual dinner, certificates of fellowship were presented in traditional ceremonies to the 39 new Fellows of the Institute (ARCHITECTURAL RECORD, May 1951, page 11).

A.I.A. Honors Awarded

Presentation of other awards took place at the convention's opening session. Thomas Church, landscape architect, of San Francisco, received the Fine Arts Medal; and a Citation for Craftsmanship in Glass went to Steuben Glass Inc., of New York City. The Craftsmanship award is made each year, like the

Fine Arts award; but this was the first time it had gone to a corporation.

Marshall A. Shaffer, A.I.A., senior engineer, U. S. Public Health Service, Washington, D. C., received the Edward C. Kemper Award. Honorary memberships were bestowed on Edwin S. Burdell, director of Cooper Union, New York City; Lewis Mumford, author and critic, New York City; and W. Engelbert Reynolds, commissioner, Public Buildings Service, Washington, D. C.

Recipients of honorary corresponding memberships were: Gines F. Rivera, Manila, Philippines; Andrew Graham Henderson, Glasgow, Scotland; J. Roxburgh Smith, Toronto, Canada; Edward Thomsen, Copenhagen, Denmark; Jacques Greber, Paris, France; Moustapha Fahmy Pasha, Cairo, Egypt; Michael T. Waterhouse, London, England; and Horacio Navarrete, Havana, Cuba.

Announcement of the 1951 National Honor Awards in Architecture and of

the 1951 Product Literature Competition Awards also was made at the opening session (see pages 282, 284, 286).

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Apathy and confusion in the country's civil defense efforts and ineptness in government handling of materials allocations and building controls were sharply criticized.

These criticisms were supplemented before the convention closed in formal resolutions urging prompt action by the government to: appropriate additional funds for civil defense; provide information on structural designs for atomic blast resistance; make some definitive estimate on the probable construction pattern for 1952; relieve dislocations in the construction industry in key industrial and population centers where no defense construction is contemplated by an early relaxation of NPA Order M-4 in those areas; employ fully the training and abilities of all segments of the construction industry in planning and building national defense projects.

In other resolutions, the convention supported the Defense Housing Bill now before Congress, but went on record against any provision for "temporary" housing, and voted down overwhelmingly a resolution urging Congress to restore to the public housing program for the coming year the figure of 50,000 subsidized units which the House a few days earlier had cut to 5000.

Planning for Survival

Two major sessions were devoted to the responsibilities of architects in the civil defense program.

The first dealt directly with the architecture of civil defense — how to design for blast resistance and the problem of shelter. Fred N. Severud, New York consulting engineer, described the effects on structure of atomic blast and offered some conclusions about designing to counter them. Most needed in this field, he said, is "a personal, intimate understanding" of what the blast is and what it does so broad principles can be determined. Morris Ketchum, A.I.A., New York, speaking on "Group Shelters," and an architects' panel led by Harry

(Continued on page 280)

Panel on civil defense: Victor Gruen, Hollywood, Cal.; Morris Ketchum, New York; Lawrence Perkins, Chicago; Moreland Smith, Montgomery, Ala.; Perry B. Johanson, Seattle; and Harry Prince, New York Chapter president, moderator for the discussion



How to Stop CONDENSATION!

Prevent Damage to Wood, Plaster, Paint, etc.

As air grows colder, it can hold less vapor. Saturation increases until a dew-point is reached, and condensation occurs. The surface of a material colder than the contacting air it faces, and continuously losing heat on the other side, will continuously extract heat from the air by direct conduction. The denser and bulkier the material, the more heat will it extract and store before attaining room temperature, if it ever does.

For example, if ordinary insulation is installed with air spaces on both surfaces, it continuously absorbs and emits heat rays at a rate of over 90%. If installed without air spaces, there is even more heat flow continuously by direct conduction through solids. Each square foot contains about 363,314 fibers, with surfaces aggregating approximately 46 sq. ft. for condensation formation.

With multiple sheets of accordion aluminum, the sheet nearest the warm room weighs only $\frac{1}{5}$ oz. per sq. ft., absorbs and emits only 3% heat; thus extracts and stores practically no heat from the air, only enough to attain and remain at room temperature. The additional reflective air spaces on the other side are insignificant heat conductors. The other sheets of aluminum and fiber block convection heat losses to the "cold" side.

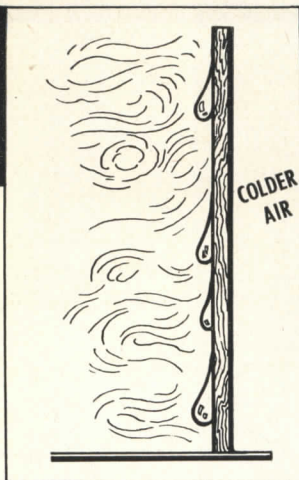
No condensation forms on the aluminum surface next to the warm room, for a dew point is never reached. The sheet's other surface faces a space which is a *little* colder than the aluminum. Since warmth flows to cold in radiation and conduction, the aluminum will *give off a slight* amount of heat to the colder space, thereby slightly *increasing* its vapor retaining capacity; making condensation impossible.

The next reflective space has almost the same temperature as the next aluminum surface, with its slight mass, $\frac{1}{5}$ oz. per sq. ft. The aluminum absorbs and emits little heat. Its other surface is slightly warmer than the air it faces; again there is no extraction of heat (the REVERSE), no dew point.

With 4 or 6 reflective spaces, there can be no dew point anywhere on or in such aluminum insulation. Should rain leak in, it will be slowly expelled as vapor, since exterior walls, in comparison to aluminum have a far greater permeability than the required minimum 1 to 5 ratio. Because aluminum is impervious to vapor flow, condensation on under surfaces of roofs and inner surfaces of outer walls is minimized.

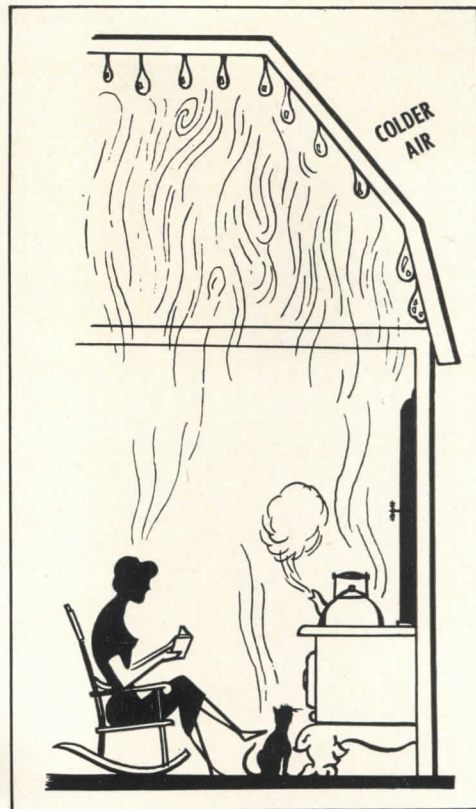
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Condensation forms when temperature of contacting air is reduced below dew-point by a cold surface.

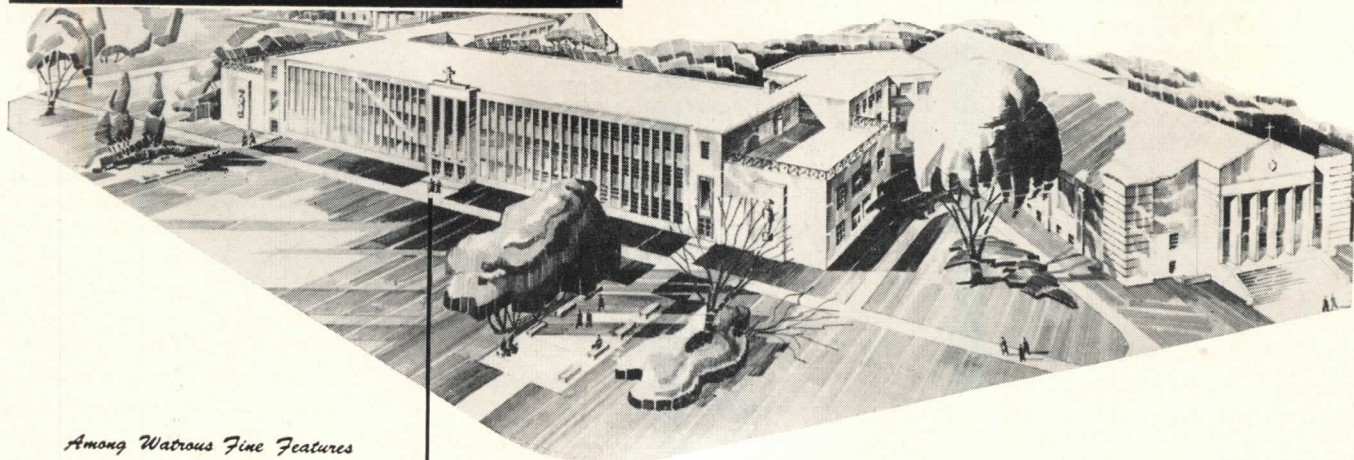
Condensation forms when the capacity of an air space at a given temperature is too small for the amount of vapor present.



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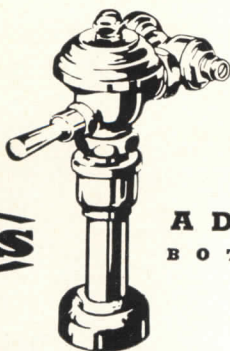
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NEWS FROM WASHINGTON *by Ernest Mickel*

M-4 Amendment Puts Most Building Under NPA Control; Shortage of Mortgage Money Worries Builders at Low-Cost Housing Clinic; HHFA Seeks Quality Standards; CMP Rule on Construction Issued; All Structural Steel to be Regulated by Early 1952; Fleischmann

THE MAY 3 AMENDMENT to M-4 brought nearly every type of building under the direct control of the National Production authority.

Further conservation of steel and other construction materials in the interest of the defense program and coordination of requirements of the construction industry with the Controlled Materials Plan were cited by NPA as reasons for the move.

Architects and engineers were once again advised to "keep the design simple" and make every attempt to use substitutes for critical materials. NPA emphasized that applications for building permits would be sharply scrutinized on these counts.

The amendment requires authorization for apartment houses in excess of three stories and basement, houses costing more than \$35,000, buildings for radio broadcasting and television broadcasting, terminal warehouses and all private and public construction projects requiring more than 25 tons of steel. These provisions are included in a new section of the order, List C.

Other changes effected in the amendment:

The construction of advertising signs is prohibited by removal of that item from List B (construction requiring NPA approval) and putting in List A (prohibited construction).

The specific exemption of newspaper plants formerly included in the order is removed. They are now in List B under the item "printing or duplicating plant" and require NPA authorization.

One liberalization of construction regulations included in the amended order provides for certain installations such as box-type air conditioning units and similar improvements. A new section was added to provide for this additional exemption: "installation of personal property, fixtures or equipment where

the total cost incurred for installation in any consecutive 12-month period does not exceed \$2000."

A significant change in the NPA definition of commencement of construction also appeared in the amendment. A building is now considered to have been commenced by "substantial site clearance (including demolition of buildings or structures), preliminary to the start of or incident to the work on a new building, structure or project; or incorporating into a building, structure or project a substantial quantity of materials which are to be an integral and permanent part of such building, structure or project (for example, the pouring or placing of footings or other foundations)."

Under the old definition demolition of buildings and site preparation were not considered to constitute commencement of construction.

As originally adopted on Oct. 26, 1950, M-4 banned only construction of new buildings for amusement, recreational or entertainment purposes. An amendment in January established a permit system under which nearly all new private commercial construction was made subject to specific NPA authorization. Applications (on Form NPAF-24 furnished by NPA) have been processed and authorizations issued from 30 field offices of NPA since February 15, and interpretation so far has been fairly liberal.

Clinic for Home Builders

Memphis, the city where half a dozen contractors in the past two years have erected some 2000 units of modern, livable housing with rentals of \$35 to \$50 per month, was the scene last month of a new-style clinic.

More than 300 of the nation's leading operative builders met with federal housing officials and mortgage experts at a two-day conference on low-rent housing construction sponsored by the National Association of Home Builders.

The conferees had a chance to study the Memphis story and carry it back to their own associations for consideration

(Continued on page 18)



— Drawn for the RECORD by Alan Dunn

"Since you appear to be a thoroughly intelligent, happy and integrated couple, I am afraid I'll have to turn you down—my houses are supposed to solve a problem"

WASHINGTON

(Continued from page 17)

and application where possible. They also took part in a series of spirited discussions on some subjects that are basic for any evaluation of the outlook for home building.

On volume for 1951, the surprising (unofficial) consensus of the builders present was that they will top the government estimate of 800,000 to 850,000 units—and maybe by an impressive amount.

In general, builders are convinced that they can produce rental housing in abundance at lower costs. They are certain of their ability to penetrate that twilight zone lying below the minimum level at which most of them have been building since the war.

But this conviction is founded on some very important "ifs"; foremost among them: *if* the federal government provides the tools. Summarized generally, this means a modification and adjustment of Section 207 of the National Housing Act to result in closer conformity with the provisions of old 608.

Another condition stipulated by the builders deals with ready mortgage money. They say they must have a far more favorable mortgage market in which to deal if their plans for a greatly expanded low rental housing program are realized. They hoped the present tight money situation would begin to show improvement soon.

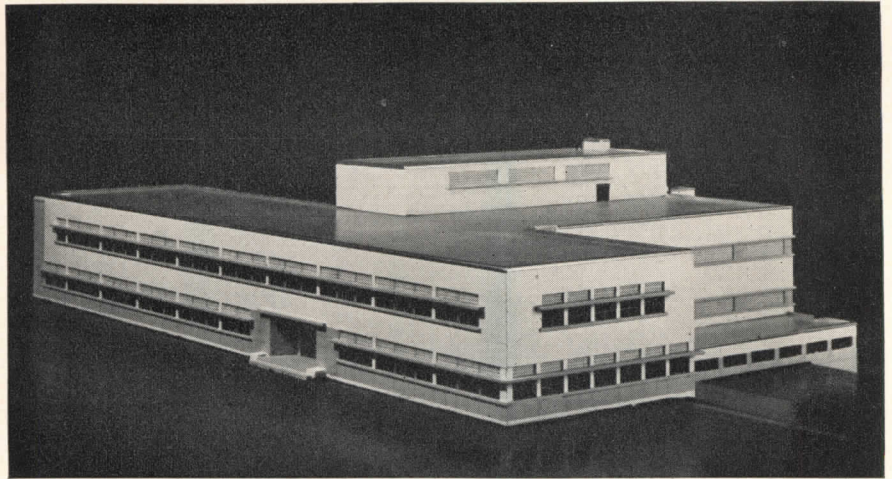
And still another *if* in this picture of potentially large quantities of new low-cost shelter involved the minimum property and construction standards of the Federal Housing Administration; more precisely, field office interpretation of MCR's and MPR's by FHA personnel in handling builders' projects.

Mortgage Money Crisis

The prime stumbling block to an immediate expansion of low cost housing construction on a nationwide basis—ultimate objective of the N.A.H.B. program—was the shortage of mortgage money.

In a hastily-called session at the Memphis conference, the 300 or so builders in attendance made it plain they considered the current crisis one of the

(Continued on page 20)



Model of laboratory building for Building Research Division, National Research Council

NEWS FROM CANADA by John Caulfield Smith

Research Council Is Planning Building Research Laboratory

CONSTRUCTION WILL BEGIN this summer on the laboratory building planned for the Division of Building Research of the National Research Council on the Council's Montreal Road site at Ottawa.

J. C. Meadowcroft of Montreal is architect; J. P. Keith and Associates, also of Montreal, are mechanical engineers.

Facilities for research into many phases of construction will be provided in two stories and basement, with a gross area of 55,800 sq ft and a gross volume of 870,000 cu ft.

No experimental features will be included in the construction of the building: the Council explains that the time allotted to design and erection of the building precluded the possibility of using it as a subject for building research.

Exteriors of the building will conform to existing buildings at the site, with continuous windows and a white stucco finish. Three courses of prismatic glass blocks will run horizontally above all windows to improve natural lighting. The building will be supported by a structural steel frame and exterior walls above grade will be terracotta tile.

The interior of the building has been planned for maximum flexibility. It will be divided into two general areas, the administration and office sections in the front of the building, laboratory space in the rear and the basement. Distribution of services to the laboratories was simplified by this arrangement.

Under this scheme, the general administration offices for the Division, as well as office space for the secretariats of the Canadian Government Specifications Board and the National Building Code, will be at the front of the building. None of these sections requires laboratory facilities. The Building Practice Group, which includes the Library, is also located in this area, as it deals, to a very large extent, with the general public. A conference room to accommodate up to 200 persons will be provided on the first floor.

The entire basement area will be devoted to laboratory space. One section, entirely below grade, will contain controlled condition rooms. These will consist of a climatometer room for testing the performance of full-scale wall sections under varying conditions of temperature and humidity; a low temperature room for research into the properties of snow and ice; and others for testing building papers, heat insulators and other materials. Another section, about 3600 sq ft in area, will have over 27 ft of clear head room and has been designed so that load-bearing tests can be carried out on structures of any size up to that of a full-scale house. Other laboratories for research in soil mechanics and building materials, including concrete and masonry, will be located on three floors in one wing. Services for these laboratories will be provided by vertical risers on an interior wall with horizontal distribution above hung ceilings.

(Continued on page 274)

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fire, or a C-O-TWO Built-In High Pressure or Low Pressure Carbon Dioxide Type Fire Extinguishing System for total flooding an entire fire hazardous area . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

For example, at many locations a C-O-TWO Combination Smoke Detecting and Fire Extinguishing System is a "must". The first trace of smoke in a protected area sounds an alarm . . . then fast, clean, non-damaging, non-conducting carbon dioxide blankets the fire, putting it out in seconds, before it spreads and causes extensive damage.

So, let an expert C-O-TWO Fire Protection Engineer help you in planning complete and up-to-date fire protection facilities now. Write us today for complete free information . . . our experience is at your disposal.



C-O-TWO FIRE EQUIPMENT COMPANY
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Sales and Service in the Principal Cities of United States and Canada
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MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeeze-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers • Built-In Smoke and Heat Fire Detecting Systems
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems

most severe they have faced. There was general agreement that the problem would work itself out, perhaps in another five months or less, but the merchant builders wanted to know what they were to do in the meantime, faced as they might be with the necessity of laying off crews.

One of their own members, Thomas Coogan of Miami, advised them not to get panicky and start offering their

mortgages at less than par. He urged them to cut down on housing starts for a while, and to "warehouse" their mortgages to keep them off the distressed market until things get better.

N.A.H.B. has reported that evidence from every part of the country indicates an almost complete withdrawal from the market of large investors. Some panic-selling and bargain-buying has added fuel to the fire, the association said.

While all the Memphis low-rent housing was constructed under the former Section 608 of the National Housing Act, the conviction persisted that builders elsewhere could achieve lower costs than they now experience through close attention to design and cooperative action from their FHA field offices. Climatic and labor cost differentials were taken into consideration in comparing the Memphis 608 housing with what might be constructed in other parts of the country using 207 as the financing vehicle.

207 Rent Formula Lowered

Some concession came in the announcement that FHA had switched from a rent formula of seven-and-a-half per cent under Section 207 to seven per cent. Commissioner Franklin D. Richards, in explaining the drop, estimated it would result in a reduction of approximately five per cent on rentals of new units. All the savings comes on the amount of payment to principal, which was lowered from two-and-a-half to two per cent.

The federal government spokesmen at the conference pledged no specific modifications in 207 beyond this. But they did signify that instructions to field offices would result in a closer cooperation with the builder and a better understanding on the part of FHA field personnel of national office intentions. This referred to the actual handling of builders' projects and implied the possibility of a more liberal attitude toward MCR and MPR interpretation. It met with enthusiastic approval from the builders.

Representing the federal housing agencies at the intensive discussions in Memphis were Raymond M. Foley, administrator of the Housing and Home Finance Agency; Franklin D. Richards, commissioner of the FHA, and his assistant commissioners, Curt Mack, Clyde Powell and Herbert Redman.

Mr. Richards summarized the federal government viewpoint thus:

"I feel confident that this meeting will prove to be a milestone in the development of adequate low-rent housing. Production is the key to the future, and to that end I promise you the full support of the FHA within its legal ability to help provide low cost housing for the average American family.

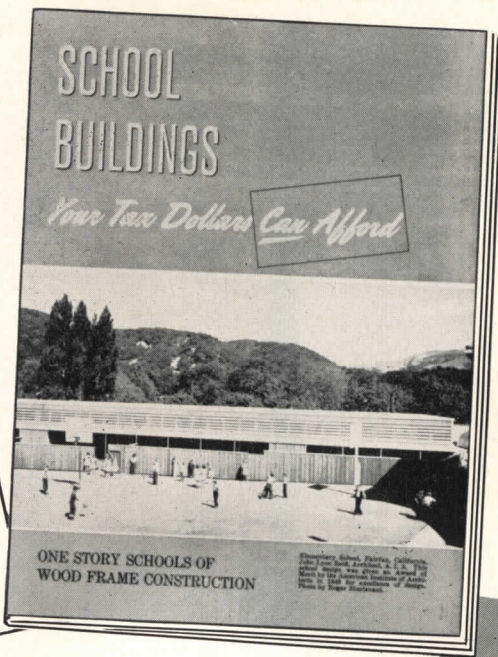
"This meeting is a focusing of attention of our more efficient builders along a path of endeavor leading to serving the mass market where the need is greatest."

(Continued on page 22)

SCHOOL BUILDINGS

Your Tax Dollars

Can Afford



This timely publication, featuring one story schools built of wood frame construction in all parts of the country, is so popular that it is now in its third printing.

Architects like its 24 pages of exterior and interior illustrations—its carefully prepared data on costs, safety factors for fire, earthquake and wind, flexibility, permanence and—its illustrations of well designed Teco timber connector trusses, glued laminated arches and Lamella roof construction.

Experienced fabricators in all sections of the country are ready to supply timber trusses and framing ready to erect for schools and other types of buildings.

Specify timber—there's plenty of it and ready as usual for early delivery.

AR

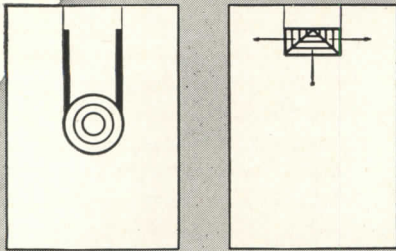
TIMBER ENGINEERING COMPANY 1319 18th St., N.W., Washington 6, D. C.

Please send me FREE copy of "School Buildings Your Tax Dollars Can Afford."

Name.....

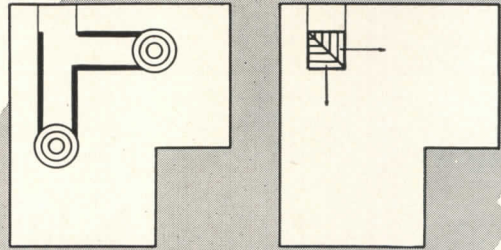
Company.....

Street..... City..... State.....



See how much metal and labor is saved in the shorter duct runs with Agitair tailor-made diffusers.

SHORTER DUCT RUNS



L Shaped area? One diffuser does the work of two. Note the savings.

FEWER OUTLETS

Save Metal...

Cut Costs...with

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**SQUARE & RECTANGULAR
AIR DIFFUSERS**

Compare the diagrams on this page and you'll understand why today — more than ever before — it's important to specify AGITAIR Type R. They are the only diffusers that may be assembled in a variety of patterns to provide blows in one — two — three and four directions, with discharge orifices proportional to the area being served. Yes — you can help overcome the metal shortage and reduce the cost of duct work — *without reducing the efficiency of air distribution*. Specify AGITAIR . . . the only air diffuser tailor-made for each application.

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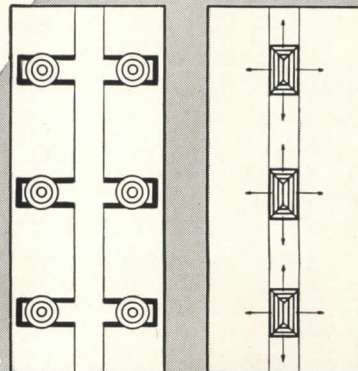
AIR DEVICES Inc.

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CONSERVE CRITICAL MATERIALS



Note savings in number of outlets and length of duct runs with Agitair.

*The Only Air Diffuser
Tailor-Made
for Each Application*

Also described to the builders was a new approach to the amortization scheme under section 207. It henceforth will be on the 39 years and three months basis, but with a declining monthly payment provided rather than the constant figure for the life of the insured loan so familiar under 608. The new system is expected to make it possible for builder-owners to reduce rents over a period of

time, if necessary, to meet competitive conditions incident to new projects coming on the market. This declining annuity plan was, in fact, the basis for reducing the initial curtail of principal from two-and-a-half to two per cent. The FHA staff found this could be done and "economic soundness" of the project retained at the same time. The builders heard analysis of this view.

Architect's Function Is Basic

It was evident that FHA feels the architect must play an important part in this low-cost housing program. Commissioner Richards urged the builders to begin their economies at the drawing board. He answered protests that many of the projects submitted would not pass field office scrutiny with a promise of close examination in Washington. The builders were urged to override their local FHA offices in instances where their designs would not pass.

In Chicago, meanwhile, architects and home builders continued earlier efforts to team up their talents and forces for better housing for America. They began tying their cooperative endeavors into the defense mobilization picture. The joint committee of architects and builders by resolution urged the National Production Authority to adopt specific measures to prevent waste of building materials. It said that copper, steel and other scarce materials were being wasted by obsolete building methods required in most cities by building codes "or perpetuated by tradition and inertia." Most important, it called for government action to make conservation measures mandatory for housing it builds or aids financially, and allow them as minimal requirements in other housing.

But on the subject of architect-builder cooperation the joint committee, now a year old, decided a new kind of service for the commercial builder will have to be learned by architects practicing in the field. It was said that today most architects can offer the builder of hundreds of homes only the conventional design contract and the services they render private clients. The builder finds this unsuited to his particular needs. Too few architects, it added, are prepared to give the special services the large-scale builder needs.

After a year of meetings of this joint group, it appears the problem now is to get the new-found understanding between the two groups off the drafting boards and onto the building sites.

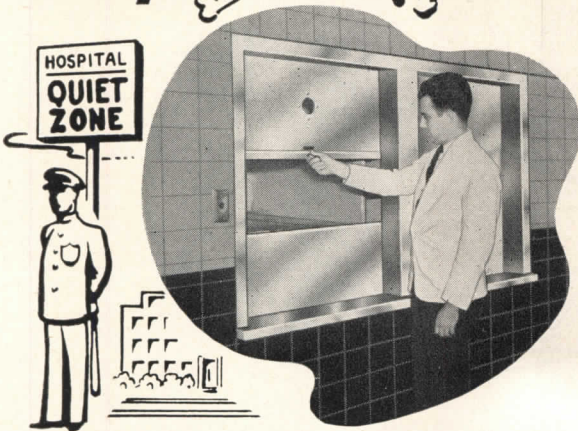
One tangible result of the Memphis clinic was the decision to assemble the plans and specifications not only of the Memphis builders in the low-cost rental field, but those of other N.A.H.B. members who have been reaching down into the lower cost levels. Carl Lans, N.A.H.B.'s research director, will head up this effort. The best features of all the plans will be coordinated into a mas-

(Continued on page 24)

Why **SLAM** the Door...

...on greater

- Economy!
- Eye-Appeal!
- Extra Protection!
- Ease of Operation!



SECURITY *Uni-Bilt* **DUMBWAITER DOOR UNITS**

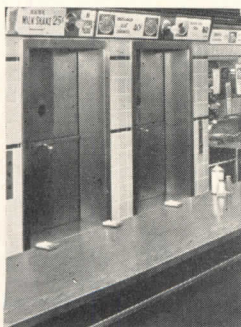
... vastly different from other makes—Security Door Units are doing a smoother, quieter, better job for America's most progressive hospitals and restaurants.

Although frequently overlooked, proper construction and design of Door Entrance Units is essential to any Dumbwaiter, trayveyor, or subveyor installation. No part receives more wear or is subject to as much damage or abuse.

Factory-assembled as a complete door with frame and trim as a unit, these easily installed doors must be set before walls are erected. Constructed to give **LASTING** trouble-free service, Security Doors provide improved operation with their adjustable **ANTI-FRICTION GUIDE SHOES** and rugged, easy action **THUMB-OPERATED POSITIVE LATCHES**. **ELECTRIC INTERLOCKED** for Safety with Security's own sturdy switches, these doors are usually furnished with **INSULATED PANELS**, and may be **UNDERWRITERS LABELED** for complete fire protection.

For over 30 years Security has specialized in, developed, and built unsurpassed Dumbwaiter and Freight Elevator Door Entrance Units

- A FEW OF THE MANY HOSPITALS USING SECURITY UNITS
- St. John's, Detroit • Cedars of Lebanon, Los Angeles • Blodgett, Grand Rapids
 - U. of Cal., Moffitt Hospital, San Francisco • Good Samaritan, Los Angeles
 - Grace-New Haven, New Haven

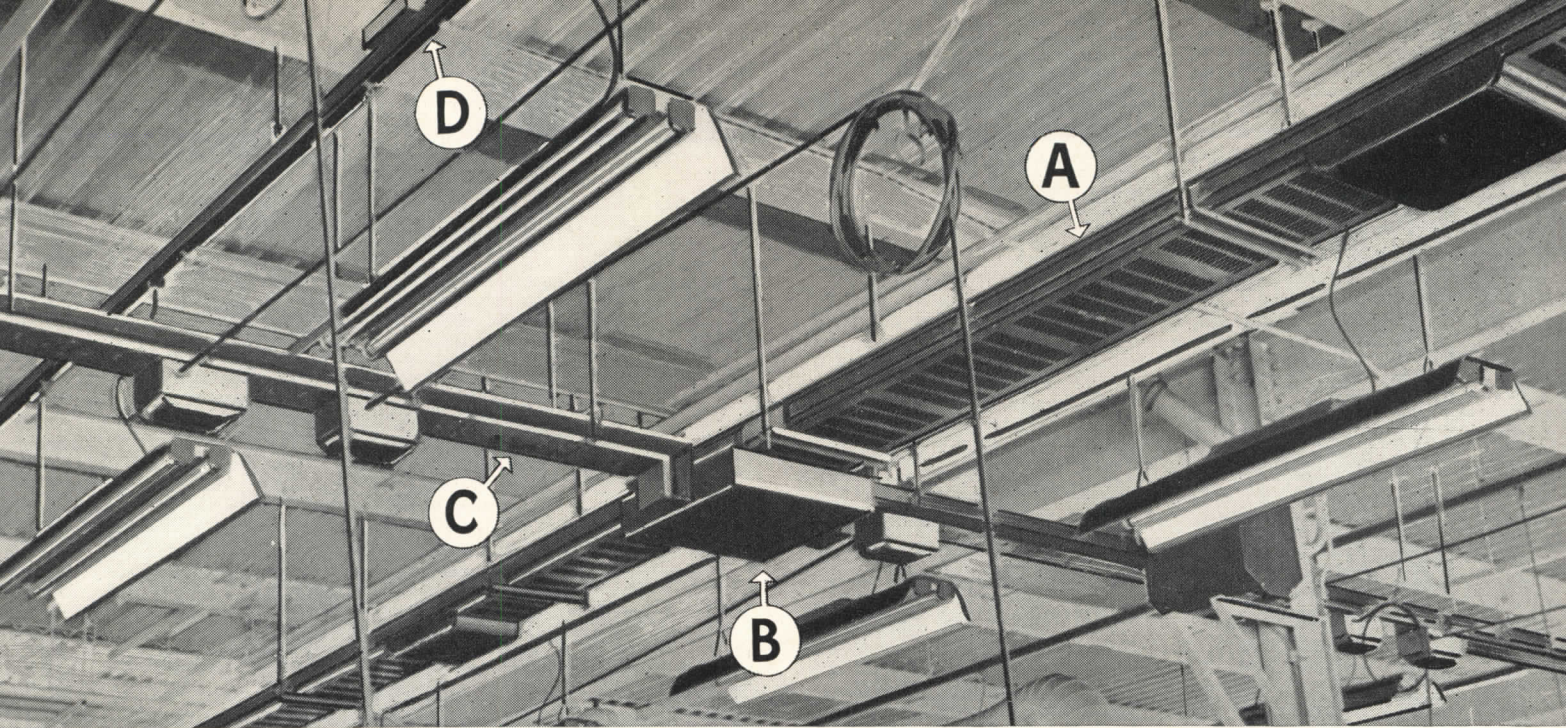


Counter Door Units at F. W. Woolworth's largest store in Houston are typical of Security installations in Woolworth stores throughout the country.

S. H. Kresge, Sears Roebuck and W. T. Grant are other chains that have many Security installations.

Write for Catalog

Security Fire Door Co.
3047 LAMB DIN AVE., ST. LOUIS 15, MO.



MAIN FEEDER AT SEALED POWER CORP. Trumbull LVD FLEX-A-POWER high-capacity feeder (A) distributes power through plant with minimum voltage loss. Can be dismantled, relocated with

complete salvability. Tap box (B) takes off power for FVK secondary feeders (C). 600-4000 amperes. LTC (D)—see below—is used for lighting. Bulletin TEB-1.

SECTIONALIZED POWER FEED

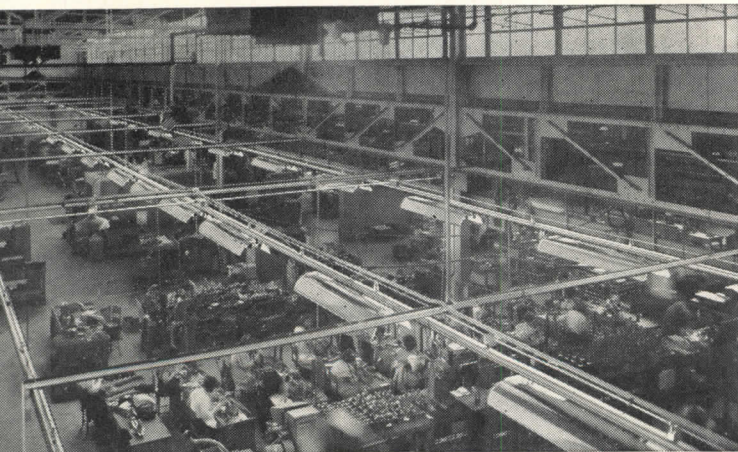
is ready for quick conversion

No plant... few buildings... can foretell what its power requirements will be months—or days—ahead.

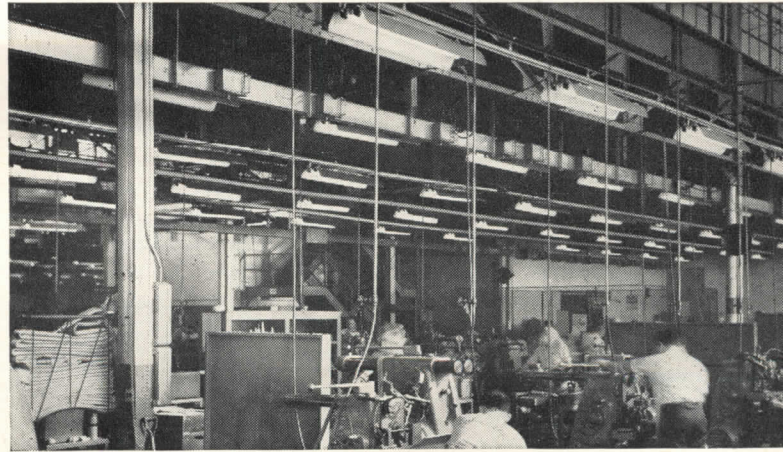
But with FLEX-A-POWER® handling the electric power distribution from main switch or breaker to machine or lamp... any new requirement, additional load or rearrangement of load, can be easily met.

This system of standard-section busways gives utmost flexibility in power take-off, and, if necessary, can be taken apart for quick relocation. Easier to install than wiring and conduit—and more economical—it is ideal for a period when emergencies may develop, when conversion may be necessary.

Write us for literature on the types that interest you.



LIGHT-DUTY BUSWAY AT PESCO PRODUCTS Division of BORG-WARNER CORP. Use of LTC FLEX-A-POWER to distribute power to tools and lighting fixtures permits quick changes in machine layout without delay for rewiring. Busway can be tapped at any point by plug or trolley—every inch an outlet. Rated 50 amperes. Bulletin TEB-2.



SECONDARY FEEDER AT PESCO PRODUCTS Division of BORG-WARNER CORP. Nearly ¼-mile of 600 amperes, 440 volt Trumbull FVK FLEX-A-POWER takes power from a panelboard in parallel runs over entire area. 15 outlets to each 10-ft. section. No expensive rewiring needed when relocating loads. Can also be easily dismantled and re-installed. 225-1000 amperes. Bulletin TEB-4.

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PLAINVILLE, CONN.

Another Globe Elevator!

America's Most
Economical Elevator
to Install, Operate
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APARTMENTS
FACTORIES
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HOTELS
✓ **STORES**
WAREHOUSES

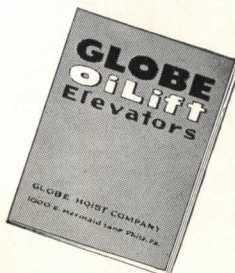


This 36-passenger Globe Elevator, serving 4 floors, was installed recently in a well known Boston department store. (Name on request)

The Globe Elevator operates on the exclusive OiLIFT principle. Its ascent is powered by an oil operated cylinder, and it descends by gravity. This makes the Globe OiLIFT simple in design, easy to install, economical in first cost and operation.

Its maintenance cost is far lower than that of cable-type elevators. Over a period of 20 years, the owner of an OiLIFT will save more than the original cost of the elevator. More and more architects are realizing the unusual economy of the OiLIFT.

Globe Elevators are custom-assembled to meet your specifications. Write today for our informative Bulletin AR-304 on passenger and freight elevators. It belongs in your files.



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BY THE WORLD'S LARGEST
MAKERS OF HYDRAULIC
LIFTS, ELEVATORS AND
AUTOMOTIVE HOISTS

GLOBE HOIST COMPANY, 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

THE RECORD REPORTS

WASHINGTON
(Continued from page 22)

ter set and this master plan then will be submitted to the FHA for its approval or for suggested changes.

Saner, Not Smaller: HHFA

Adequate space for allowed housing rather than smaller and smaller houses is the avowed aim of the Housing and Home Finance Agency's Research Division as it continues to work on its emergency housing standards.

The standards are being prepared to aid federal control agencies in estimating materials requirements for housing and to encourage local building code revision aimed at further materials conservation. This approach is the current substitute for the mandatory housing specifications used in World War II.

The researchers are using 1050 sq ft as the minimum space specification for a conventional three-bedroom single-story house. A division spokesman explained that the agency is seeking a factor for estimating material needs per house, whether it is bd ft of lumber, or copper, aluminum or other materials expressed in their unit measurement.

It is an effort, the spokesman emphasized, to write reasonable specifications for permanent housing.

CMP Reaches Construction

The construction industry still awaited specific details on the Controlled Materials Plan. National Production Authority, preparing the intricate machinery for running this complicated procedure of materials allotment, starting July 1, promised clarifying directives soon.

The announcement two months ago that there actually would be such a plan dispelled a flock of rumors that the Administration had given up the idea. A general description of the plan was made available in a pamphlet issued by NPA soon after the announcement; and then in May there came a series of new directives, one of which concerned itself with construction exclusively. This was Regulation 6.

NPA first issued Regulations 1 and 3 early in May. No. 1 set the basic pattern for operations under CMP, particularly at the manufacturer's level. No. 3 dealt with preference ratings on different

orders — the banding system. Nos. 2 and 4 followed soon, on inventories and warehousing respectively.

No. 6, on construction, was among the last to be issued.

Architects were studying the NPA pamphlet closely. It covered CMP operations in a very general way, describing lists "A" and "B," considered the working base for the program.

In general, list "A" includes products "where the most convenient method of production authorization is vertical." Producers of "A" products will get their production authorizations and material allotments from their customers. A prime contractor's customer is a government agency. A subcontractor's customer is a prime contractor or another subcontractor.

More interest centers in the "B" listings, however, since the "A" items are mostly custom-tailored for military uses. The "B" list programs include products where it is most practicable to furnish authorizations horizontally; that is, directly to the producer. So, this list embraces many civilian-type products, industrial machinery and equipment and components which are needed for defense.

It is important to note that producers on the "B" list will receive their authorizations and allotments directly from their NPA Industry Division.

Present plans call for decentralizing CMP operations after the first quarter of its application. Authorities do not expect it to make its mark on the economy much before September 30 anyway. In this decentralization process, the administrative procedures will follow those of the World War II CMP. It was felt then that in a great majority of cases authorizations and allotments were best handled through the field offices. When the functions are scattered, most producers then will apply to their local offices, cutting down on paper work in Washington and saving producers' time, trouble and expense.

N.A.H.B. Looks at CMP

The new system for controlling supplies of steel, aluminum and copper, while not affecting the home building industry so directly as some others, will have an important bearing on the availability of items made from these metals for incorporation in new housing. The National Association of Home Builders gave its membership the following

(Continued on page 26)

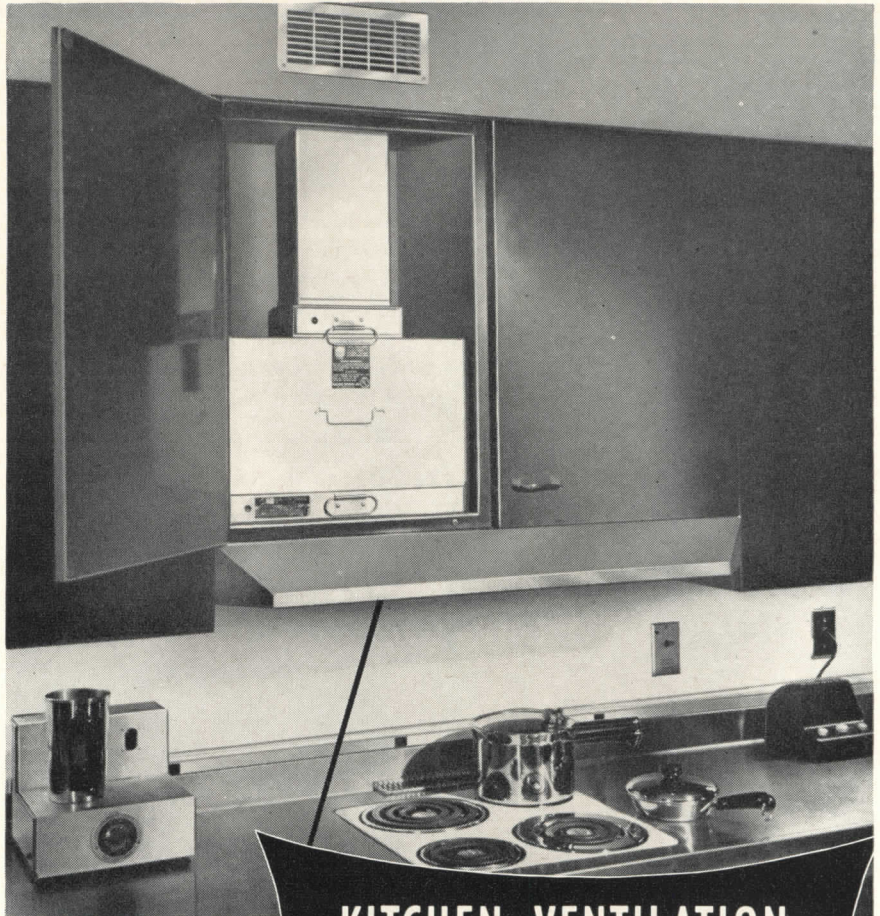


Photo courtesy Holiday Magazine

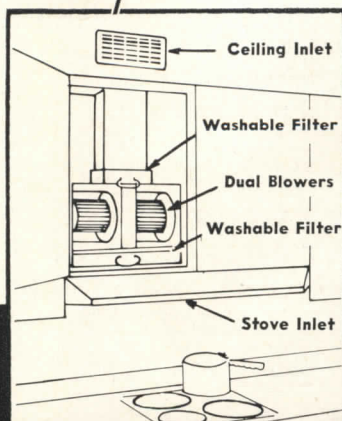
**KITCHEN VENTILATION
AT ITS BEST
IN HOLIDAY HOUSE**

made only by TRADE-WIND

This cabinet ventilator — the Super Clipper — which is now serving thousands of homes, including Holiday House, is the perfect answer to *complete* kitchen ventilation.

The unit has *dual* inlets — at the ceiling level and above the range. It fits compactly into a wood or metal cabinet and has ample capacity (550 CFM) to do a thorough, quick job.

Write today for complete details of this advanced kitchen ventilation.



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MOTORFANS, INC.**

5707 S. MAIN ST., LOS ANGELES 37, CALIF.

sketch on what the plan might mean to them:

"The credit controls and limitation orders of many types will, presumably, restrict the total production of non-defense items (including building materials and housing) so that there will be a sufficient supply of metals to meet the production needs of both defense and non-defense items.

"For example, if Regulation X and

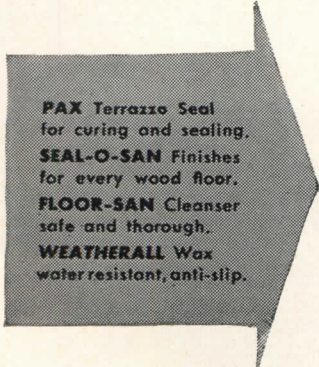
other credit controls cut housing 35 per cent and if the CMP cuts manufacturers of hot water heaters by 35 per cent, there will be a theoretical balance between supply and demand. However, the serious fallacy of such an approach is that the unrestricted, and in fact, accelerated demand from maintenance and repair will undoubtedly drain off a substantial percentage of such items from new construction."

Specify Correct Maintenance Products



GIVE FLOORS THE RIGHT START

FLOORS have a much greater life expectancy, and a better chance for keeping their beauty when they are started on the right maintenance program. Wood, terrazzo, linoleum, asphalt, rubber and cork tile and other materials have specific maintenance needs which **Huntington Laboratories** manufactures. Write for our literature and ask for our help when you have a special problem.



PAX Terrazzo Seal for curing and sealing.
SEAL-O-SAN Finishes for every wood floor.
FLOOR-SAN Cleanser safe and thorough.
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Huntington, Indiana • Toronto, Canada



see catalog 13J in Sweet's

Application forms are being required from manufacturers of such items as fabricated structural steel products, electrical wiring devices and supplies, lighting fixtures, cut nails, millwork, prefabricated wooden buildings, window and door screens, flat glass products, insulation, hardware, hand tools, plumbing fixtures, metal doors and sash, and sheet metal products such as roofing.

On the other hand, producers of certain metal-using items were permitted in the original plans to scramble for their materials on the open market — left out in the "open end" area where steel, aluminum and copper supplies will not be subject to the application of CMP. These included the makers of household refrigerators, residential heating and cooking equipment, household electrical appliances, and a rather long list of non-housing items.

Pattern for "Critical" Areas

While NPA worked out the final details of its new CMP, and as the defense housing bill continued to stagnate in the House Banking committee, the Interagency Critical Areas committee of the Defense Production Administration named a few more areas that will benefit by relaxation of the credit control on real estate transactions. San Diego, Calif., Corona, Calif., and Colorado Springs, Colo. were among those designated recently.

Along with the Savannah River area in S. C., and Paducah, Ky., and Arco, Idaho, these localities now will enjoy certain limited benefits in the modification of Regulation X credit restrictions imposed by the Housing and Home Finance Agency and the Federal Reserve System. The actions applied specifically to 500 new rental and sales units in the Arco area, 6000 in the San Diego location (4000 rental and 2000 sale), 150 at Corona, and 1000 at Colorado Springs.

There was a pattern of cause guiding the interagency committee's deliberations. Atomic Energy Commission installations were responsible for the Regulation X modification for Savannah River, Paducah and Arco. These created immediate demands for additional housing units, and for community facilities to serve them. The interagency committee could stipulate the Regulation X relaxation to alleviate the former condition — housing shortages — but not much could be done toward providing federal aid for construction of most community facilities beyond the advance loan program of

(Continued on page 242)

For "TOUCH and GO" action

Russwin Fire Exit Bolts

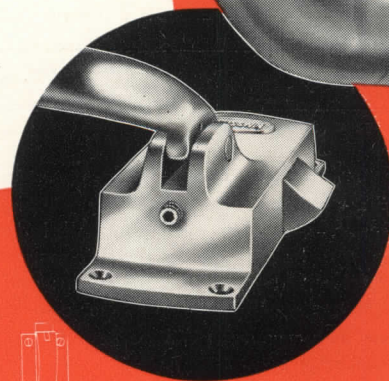
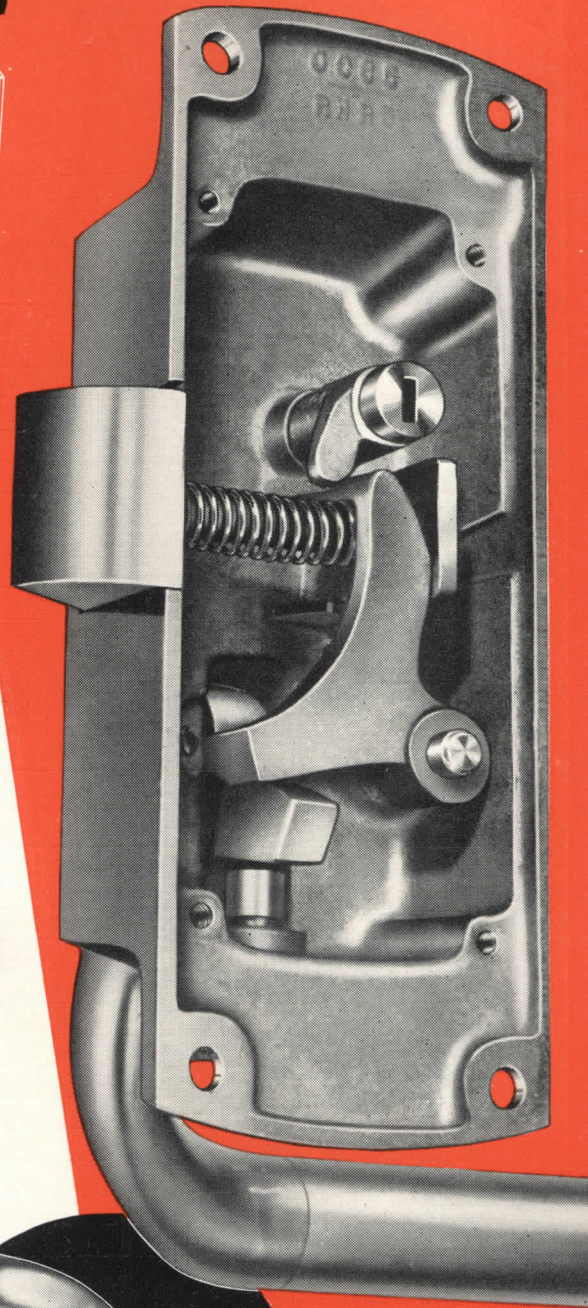
Your recommendation on emergency door exit bolts probably gets more customer consideration than any other hardware item. In the Russwin line, you have a very special "talking" point . . . its extremely simple mechanism . . . only 3 moving parts. You can see how sturdy it's made from the illustration at the right . . . and each part is positively aligned. Such simplicity assures "touch and go" action at all times.

OTHER FEATURES INCLUDE . . .

- drop forged levers
- advanced-design self-latching
- unit construction for balanced action
- dogging device
- Russwin ball-bearing cylinders
- Oilite bearings

Whatever your needs for emergency door equipment, there are Russwin products to fill them. Russwin fire exit bolts are classified into three divisions . . . heavy duty rim type, side latching; heavy duty, top and bottom and side latching; medium weight — competitive type — top and bottom latching and side latching. Specify Russwin Fire Exit Bolts with the utmost confidence. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.

SINCE 1839
RUSSWIN[®]
DISTINCTIVE HARDWARE



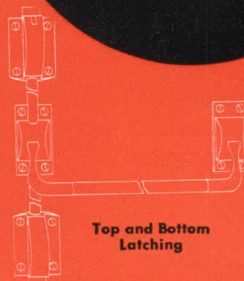
FOOL-PROOF DOGGING DEVICE
Positive, Tamper-Proof dogging device permits locking bar in depressed position, retracting latch bolt so that bar becomes a simple push and pull bar on door.



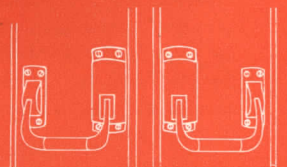
Single Door,
Rim Type



Single Door,
Mortise Type



Top and Bottom
Latching



Double Door, Rim Type
with Wrought Steel
Removable Mullion

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.		Brick and Steel	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel	
	Brick	Frame		Brick	Frame		Brick	Frame		Brick	Frame
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6	92.5	83.4	
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6	
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1	
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7	
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5	97.5	
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1	
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1	158.0	
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8	178.8	178.8	
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8	177.5	
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7	185.0	
Jan. 1951	270.6	269.3	260.6	262.2	259.4	209.2	210.8	200.0	199.0	200.4	
Feb. 1951	273.3	271.5	262.4	263.6	262.1	211.2	212.8	201.0	200.0	201.1	
Mar. 1951	273.5	271.7	262.7	263.8	262.3	212.8	214.4	203.0	201.6	202.7	
	% increase over 1939					% increase over 1939					
Mar. 1951	121.5	122.0	101.0	97.8	101.6	146.6	158.0	113.5	107.0	114.0	

ST. LOUIS

SAN FRANCISCO

1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
Jan. 1951	247.2	243.2	232.6	235.6	233.8	240.2	235.4	235.0	239.1	235.5
Feb. 1951	248.8	245.2	233.2	236.1	234.7	242.5	238.3	236.7	240.4	240.7
Mar. 1951	249.0	245.4	233.5	236.3	234.9	242.9	238.7	237.2	240.8	241.1
	% increase over 1939					% increase over 1939				
Mar. 1951	126.0	129.3	96.7	97.2	97.4	130.0	140.4	102.0	97.5	107.0

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
 index for city B = 95
 (both indexes must be for the same type of construction).
 Then: costs in A are approximately 16 per cent higher than in B.

$\frac{110-95}{95} = 0.158$
 Conversely: costs in B are approximately 14 per cent lower than in A.
 $\frac{110-95}{110} = 0.136$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

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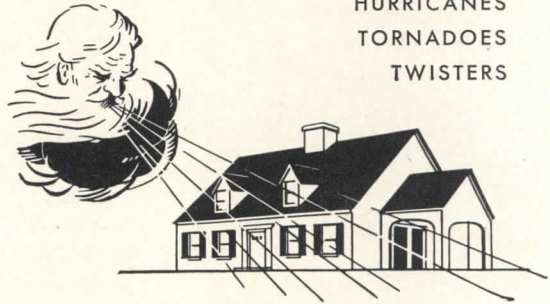
HOMASOTE COMPANY, Trenton 3, N. J.



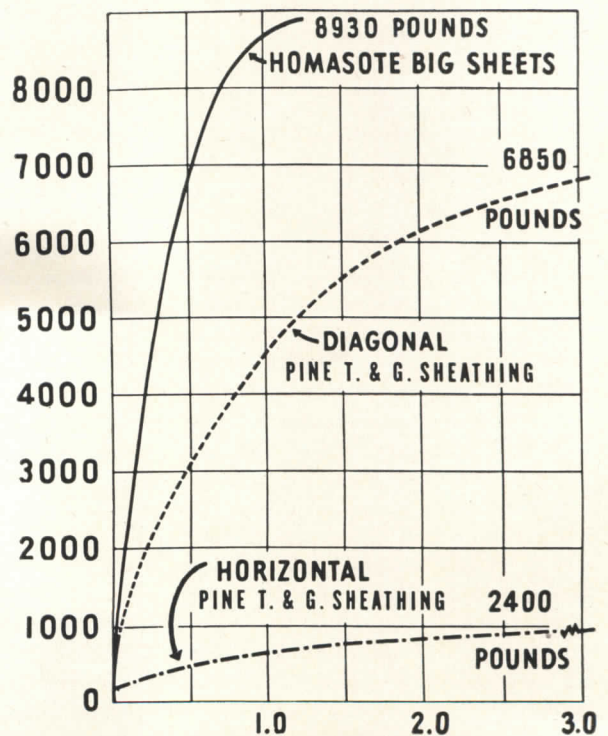
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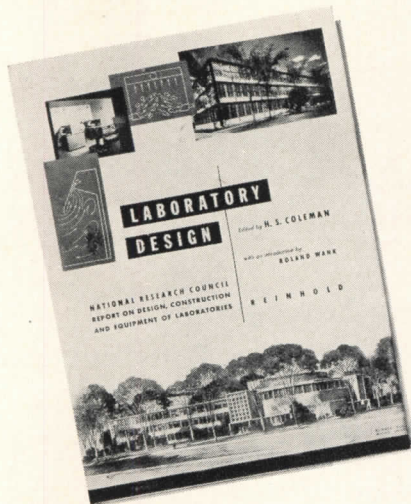
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REQUIRED READING



LABORATORY DESIGN

Laboratory Design: National Research Council Report on Design, Construction, and Equipment of Laboratories. Edited by H. S. Coleman. Reinhold Publishing Corp. (330 West 42nd St., New York 18, N. Y.), 1951. 8¾ by 11¾ in. 393 pp., illus. \$12.00.

REVIEWED BY KENNETH REID

The last few years have seen a notable increase in the number and quality of industrial and educational research laboratories and it is appropriate that a book should appear at this time to add up the experience and technical knowledge accumulated by those who have taken part in the process of their design and construction. The National Research Council is to be congratulated on what should be a highly useful volume to assist those responsible for future laboratories.

Authorship of the book is divided among a number of eminent laboratory authorities, including architects, engineers, educators, laboratory directors, scientists and technicians — forty-two of them, if my addition is correct — under the chairmanship of Mr. H. S. Coleman of the Mellon Institute. It is thus more in the nature of a symposium than of a straightaway book, and of course enjoys the advantages of bringing many expert points of view to bear on the problem as well as the disadvantage of containing a number of divergencies and differences of opinion. Yet when

authorities disagree, the mature reader makes up his own mind, which is just as well if continued progress is to be made.

There are four principal parts in the book. The first deals with the several general technical matters common to all laboratories: construction, lighting, heating and ventilating, plumbing and power services, safety precautions, etc. Then come two extensive portions dealing first with the problems of teaching laboratories and second with those of industrial research laboratories. Finally there is a series of discussions of some of the more recent laboratories of both types. In all cases the text has been written by men of substantial experience in this special field so that their judgments have weight.

The many illustrations are on the whole well chosen and give evidence that the art of designing laboratory buildings has been moving in the right direction. There has been a general trend toward greater flexibility in the construction systems used, in recognition of the constantly changing needs of the scientific explorers who use the facilities. Methods of installing and maintaining laboratory services have improved due to forethought and careful planning. Particularly gratifying is the indication that the big corporate owners of some of the great industrial laboratories have thought it worthwhile to invest generously in the amenities as well as in the necessities for their personnel. They have found (and are finding) that it pays to give their workers of both high and low degree the environment as well as the equipment to make their daily activities comfortable and pleasurable.

Laboratories built since the material for this study was assembled as well as those now being built or designed show still further advances in convenience and efficiency, and those to be done in the future will undoubtedly be better yet, but the principles and directions of these developments are recorded in the buildings pictured and described in this volume for the wise architect to discern.

It is a minor point, perhaps, but one could wish that not so many of the scientific participants in this symposium cherished the notion that architecture is concerned mostly with outer embellishment. That obsolete conception crops up so often as to seem almost menacing. Those who hold it undoubtedly suffer from having been housed in the earlier, more academic types of formally enclosed space. They would benefit from a visit to, let us say, the Bell Laboratories at Murray Hill, New Jersey, where they would discover that the whole modern laboratory plant is a completely integrated affair, in which every part — from the services provided to an individual laboratory cell to the general treatment of the site relationships — has been thought out architecturally and with understanding of its place in the whole scheme. The laboratory facilities are the architecture and the architecture is the laboratory; they are inseparable. General understanding of this point may usher in the architectural millennium, but it is apparently a long way off.

Laboratory design is a highly cooperative and collaborative business, in which the best thinking of many minds must be involved. The client and the architect, each assisted by a number of specialists in particular phases of a problem, must work together from the start, and must join their wisdom over a period of years before the final result is materialized. That way only are good modern laboratories born.

SCHOOLS

The New School. Das Neue Schulhaus. La Nouvelle Ecole. By Albert Roth, Girsberger (Zurich), 1950. 7 by 9½ in. 223 pp., illus.

REVIEWED BY N. L. ENGELHARDT, SR.

This three-in-one volume, with parallel translations in three languages, originated, as the author states, in the desire that the Education of youth should take place in genuinely harmonious surroundings. The author has endeavored to

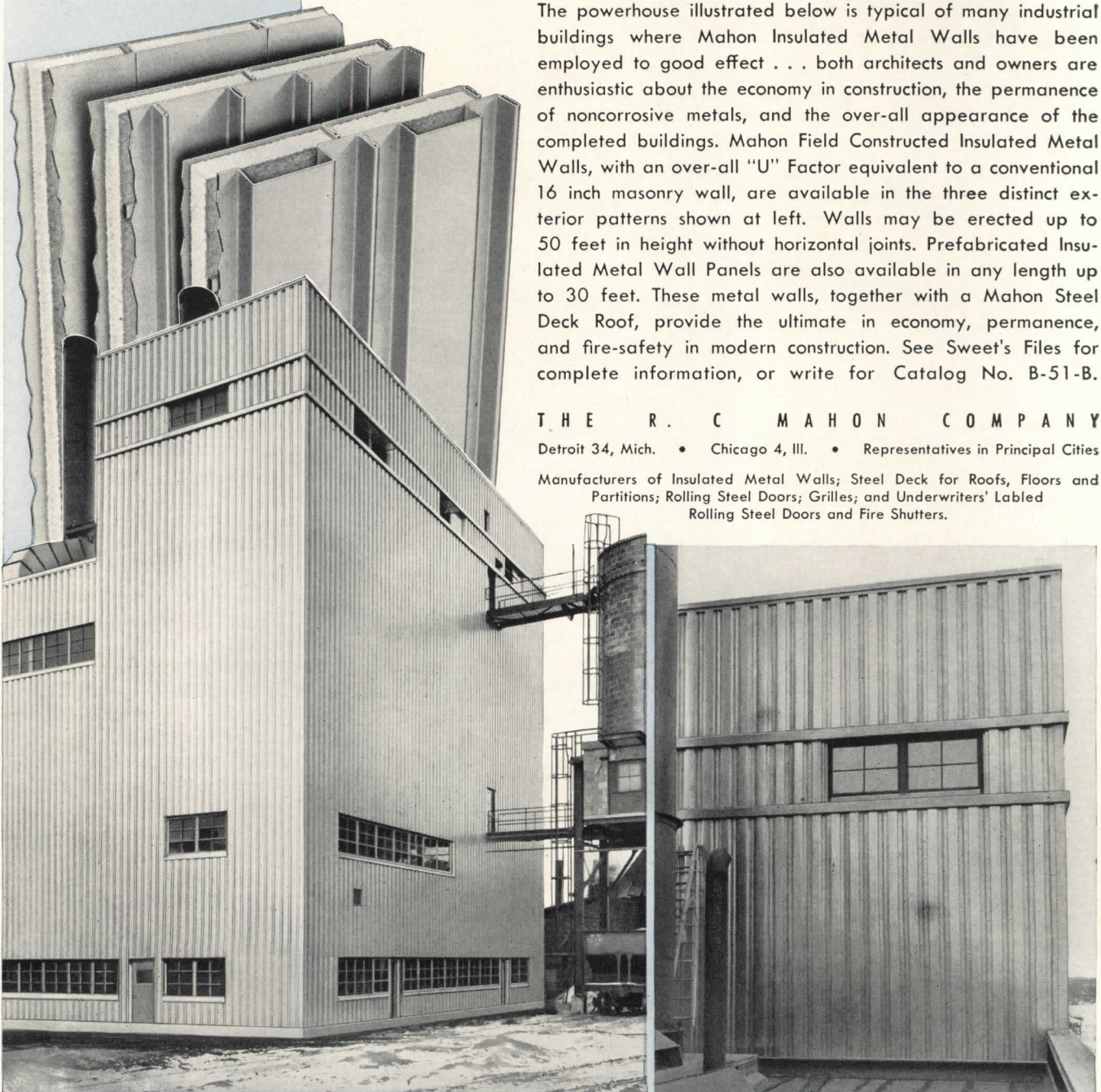
(Continued on page 32)

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MAHON

(Continued from page 30)

select the schools of relatively recent construction that reflect his interpretation of such surroundings. Pestalozzi's philosophy appears to be the inspiration back of the author's thinking. It is heartwarming to find that these 200-year-old teachings are now bearing print. The principles that Roth accepts may well be reviewed by every architect planning for children's facilities. They include the following:

"Education at school is the continuation and extension of parental education at home.

"The classroom and school must afford the same sense of natural security and intimacy with which the child is familiar at home.

"The whole of the wider natural or man-made environment both of the school and the home forms a vital part of the child's education."

The selection of schools illustrated in the volume is unique. The spread by countries is Switzerland 7, Italy 1, U.S.A. 5, England 3, France 1, Holland 2, Sweden 1, Denmark 1. That is a narrow list for a book dedicated to the "Youth of All Countries." What about Hawaii, Brazil, Venezuela, Japan, Australia and scores of others? Many of them have schools of equal rank with those portrayed, for the "New School" movement has expanded world-wide.

The illustrations, however, are fine; the editorial material is interpretative and to the point. A service has been rendered here from which any architect planning a new school will gain much. The volume leans to generalization rather than detail but certainly most of us are concerned first with getting our generalizations firmly grounded.

The architect of the east, south and midwest in the U.S.A. will be annoyed to find little, or no, reference to schools of those areas. The author gives deserved emphasis to planning by Kump and Wills and Perkins. He makes an occasional misstep (as when he talks about natural lighting) — "In countries like California, for instance, the favourable climatic conditions have lead to a most simple and categorical solution: all the classrooms face north." Too bad if true! Even Californians do not think of themselves as a separate country. And California takes pride in having such a

(Continued on page 288)



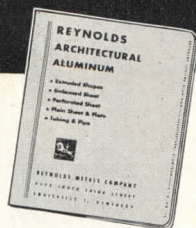
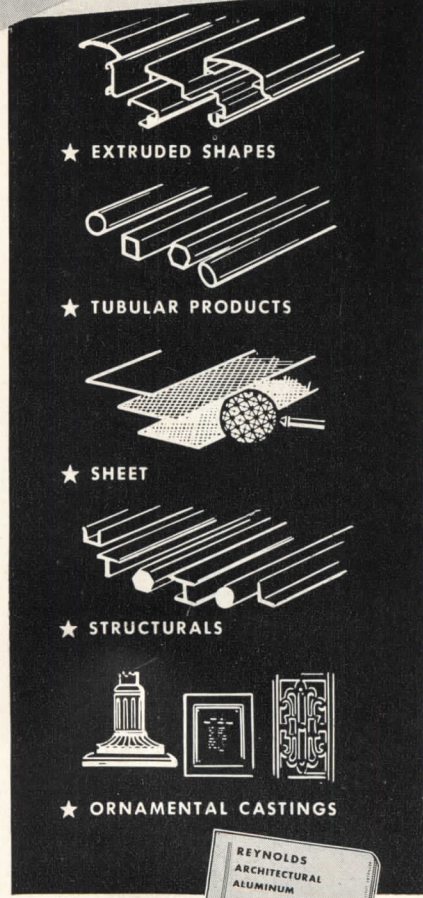
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MODERN DESIGN HAS ALUMINUM IN MIND

SCHOOLS AND SCHOOL PRACTICE

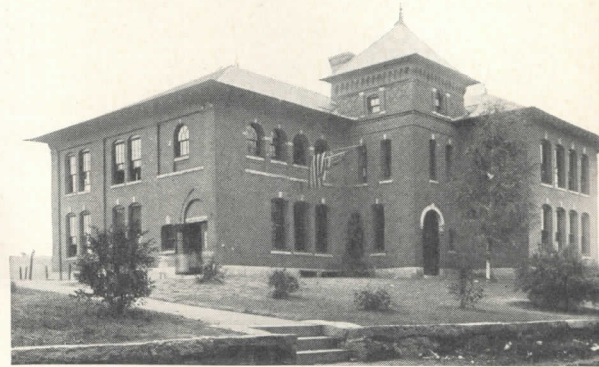


TRANSLATING abstract ideas into tangible buildings is everyday work for architects, particularly architects of schools. On one hand is the problem of providing space which will function well, fostering mental, spiritual and physical growth in accordance with modern educational philosophy. On the other is the demand for economy of means, doubly emphatic today when, in addition to sky-high costs, we face the need for conserving strategic materials. Neither was a difficult problem in the day of the little red schoolhouse, nor did either receive much attention when the pompous, gloomy schools of the early 1900's were built. In 1951 both are prime considerations to laymen, educators and architects. That is why today's schools look different.

It is not often easy to convince a hard-headed taxpayer that anything so unfamiliar as a modern school building merits his approval. Beset by educational requirements beyond his experience, wanting the best for his children, having a dim knowledge of state and local regulations and an acute awareness of his short pocketbook, the voter cannot be blamed for wanting a full explanation. Sometimes the architect, remaining in the background, can feed the voter information through a building committee, school board or P.T.A. Occasionally, to his dismay, the architect finds himself up directly for questioning. This aspect of his professional practice is important. It is more than maintaining good public relations; it is part of the task of raising the general level of culture which, as a professional man, is his duty; in the long run it will make his work easier; and the process of justifying his work to his clients helps insure its continuing vitality.

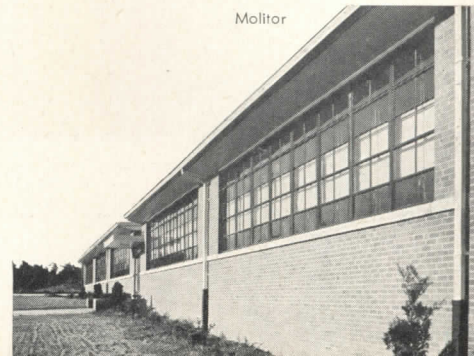
Perhaps in the concern with techniques and costs something possessed by the little red schoolhouse has been lost. Those were obviously schools, for children. Inside a good modern schoolroom this same atmosphere is of course evident. Modern heating, lighting, teaching equipment, use of color and planning make it so. The exteriors of so many good schools betray so little of this internal respect for the child and his world! Bricks, glass and doors all in monotonous procession so frequently fail to achieve the individuality which educators stress today. No attempt to remedy this fundamental lack by superficial means — for instance, by painting the doors different colors — can give the philosophic concept more than a spurious tangibility.

— *Frank G. Lopez*



Above Photos Underwood & Underwood News Photos

Molitor



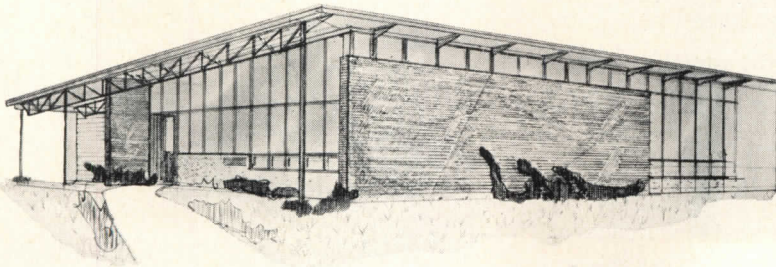
ECONOMICS + PHILOSOPHY + AVAILABLE MATERIALS AND EQUIPMENT +

IN SCHOOL design we have been through an era of concentrated attention to technical detail which, late though it may have been in arriving, has nevertheless revolutionized schools physically in the last two decades. Starting when a few centers of educational philosophy and even fewer architects began to wonder how to translate pedagogic theory into buildings, realized in a handful of schools prior to World War II, quietly undergoing refinement during the semi-idle construction period of the depression and war economy, this careful analysis and development have made most of the schools built since 1945 unrecognizable to an earlier generation.

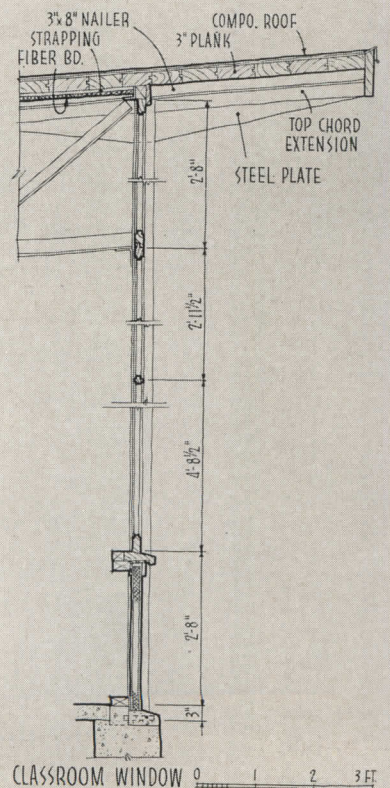
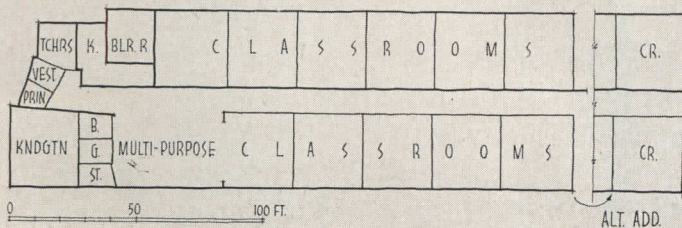
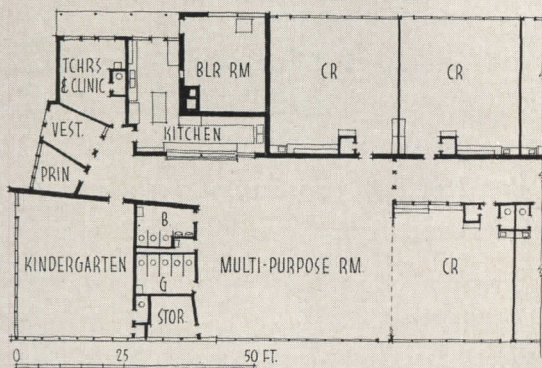
Although not every recent school is in this sense

modern — quite a percentage of the total is apologized for as being necessarily neo-Georgian or Romanesque — even our old-line firms have found themselves forced, many a time, into a rational attitude of design which they had not previously contemplated. The reason was simple, difficult though the problems encountered might be. First came demands from educators for improvement in utility and amenities, which meant better space organization, teaching equipment, lighting, heating and ventilation, all to serve a changed conception of teaching methods. Little by little this transformed classrooms.

Next came rising costs — of construction, of maintenance, of administration — which meant increased tax burdens. At first schools were merely consolidated,



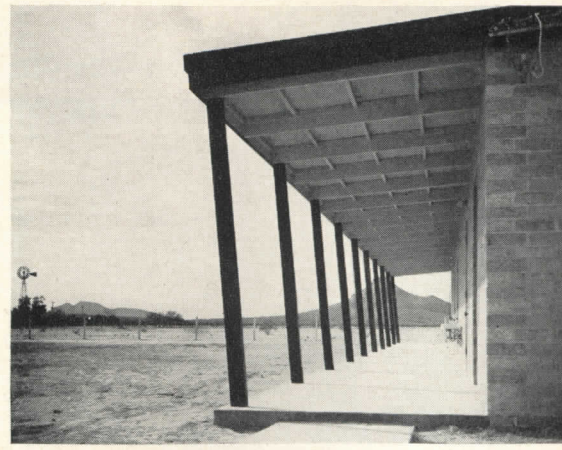
Elementary School proposed for Brewer, Maine; Alonzo J. Harriman, Inc., Architects-Engineers: exposed light steel framing with the minimum of enclosure to keep out weather and hold down heat loss; wood sash secured directly to steel.



DESIGN ≡ MODERN SCHOOLS

but this provided only partial relief. Next came a stripping down to essentials: removal of ornament, simplification of detail, rationalization of structure. The pent-up demand for buildings, not by any means confined to the nation's school systems, put a premium on many types of materials, which meant that prices rose ever more. Now we have schools which, various though they may be in form, material or expression, display their function visibly and have one common, somewhat anomalous, characteristic. Average-good modern classrooms do wonders in aiding the educational program; the best of them are delightful interiors; the modern school plant, a gem of ingenuity, is well organized; the outside of the building is apt to be pretty monotonous.

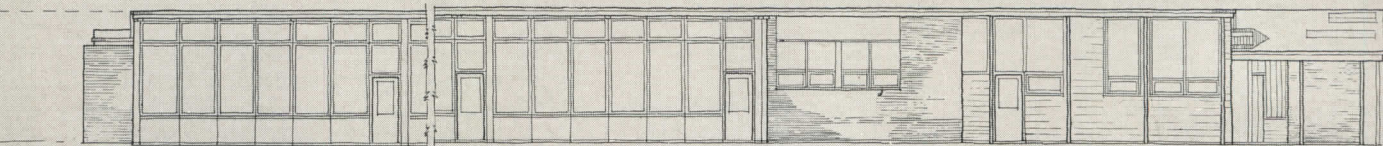
Color is liberally used to offset sparseness. Structural expense is reduced to minimum; climate and limited sunlight mean costly mechanical and electrical plants. Though not devised for defense shortages, use of some critical materials is reduced



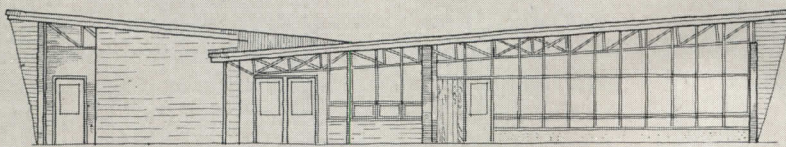
Stuart Weiner Photo

Sunnyside School, Maricopa County, Arizona; Ralph Haver, Architect; M. M. Lowey, Mechanical Engineer. Problem is similar to the Brewer School, but climate changes the picture. See following pages

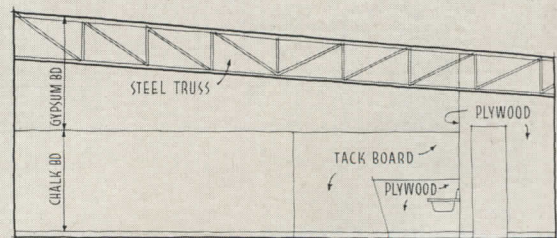
Economy is of course an excellent scapegoat. That low cost, or consumer resistance or availability of materials should dictate impoverished design, however, is acknowledgment of architectural incapacity. Architects should be the last to employ such an argument, particularly in the case of a school. The buildings which play so large a part in forming our children ought to be entirely delightful in ways children can comprehend, not merely inside, after the child has passed through a



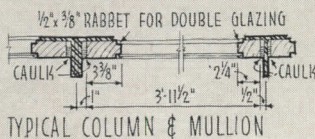
WEST ELEVATION



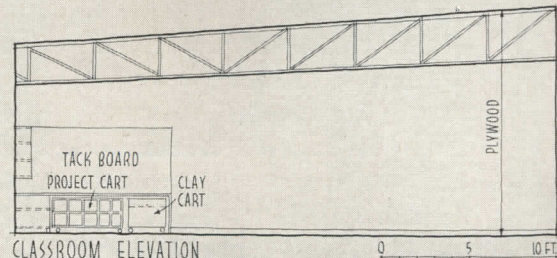
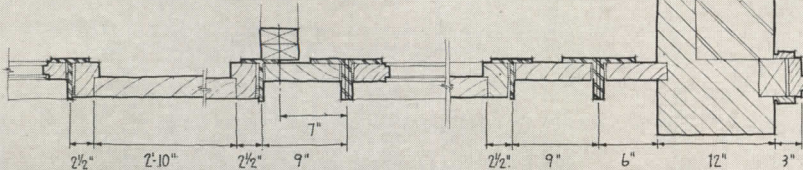
SOUTH ELEVATION



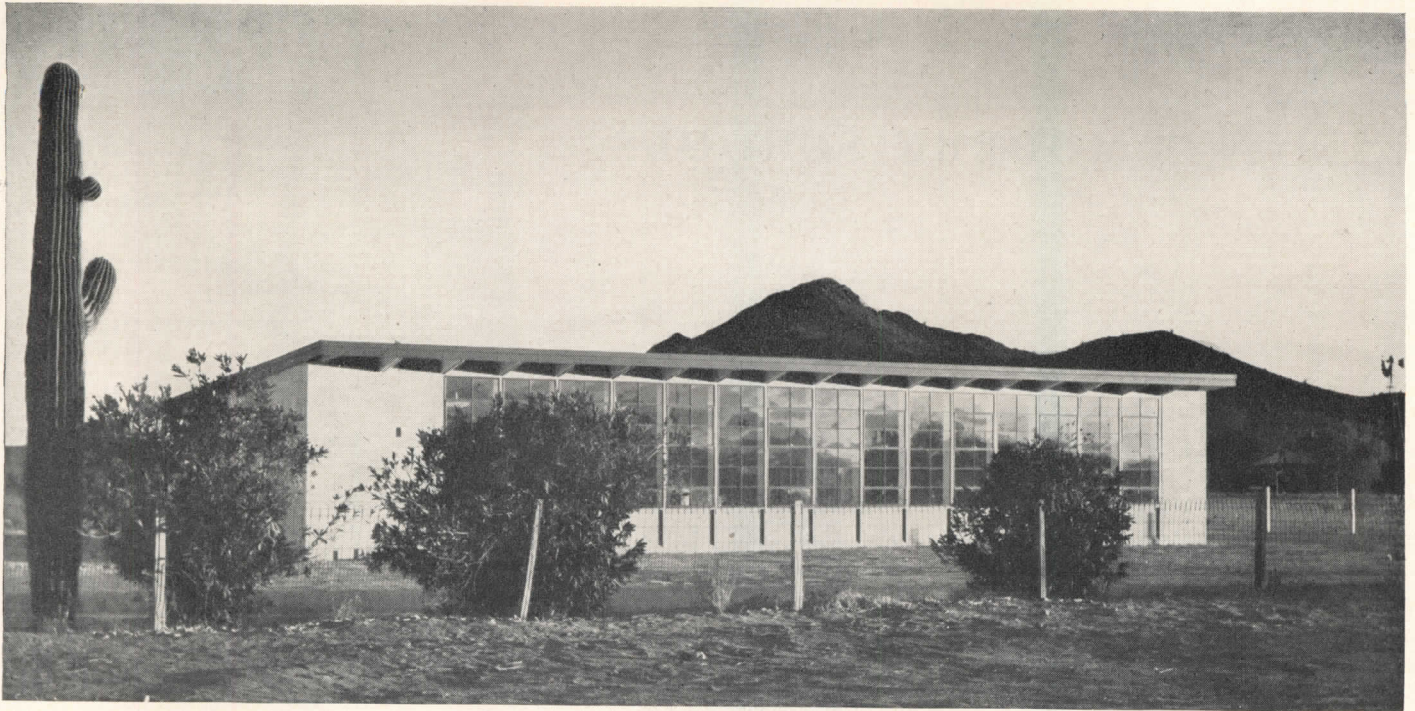
CLASSROOM ELEVATION



TYPICAL COLUMN & MULLION



CLASSROOM ELEVATION



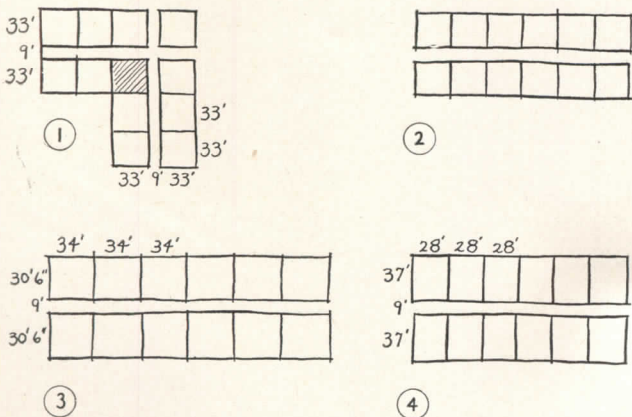
Stuart Weiner Photos

forbidding facade. First impressions count. Now, in addition to high costs and what may be called normal material scarcities, the difficulties of a defense economy are upon us. The modern structure, so ingeniously devised and pared down, is going to need restudy; though schools are declared essential structures and priorities for materials may be obtainable, getting a

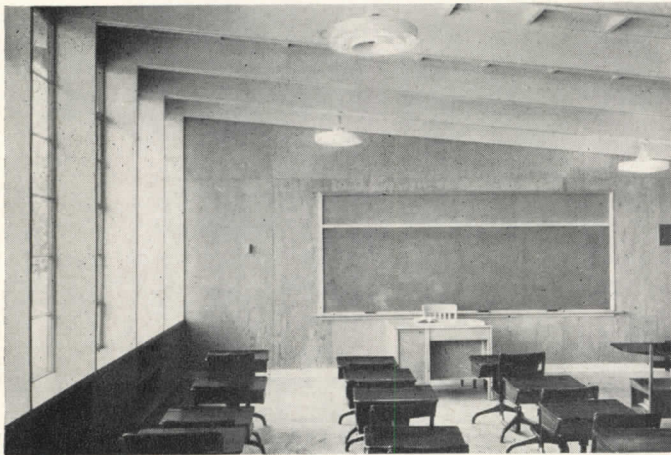
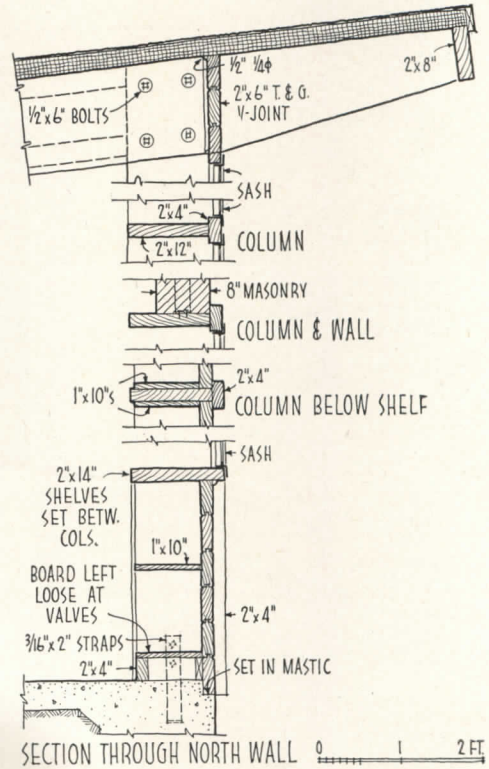
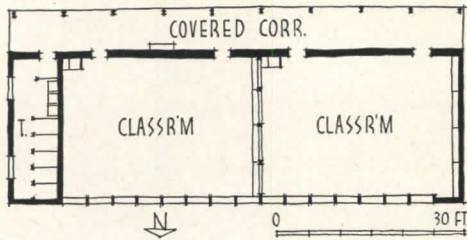
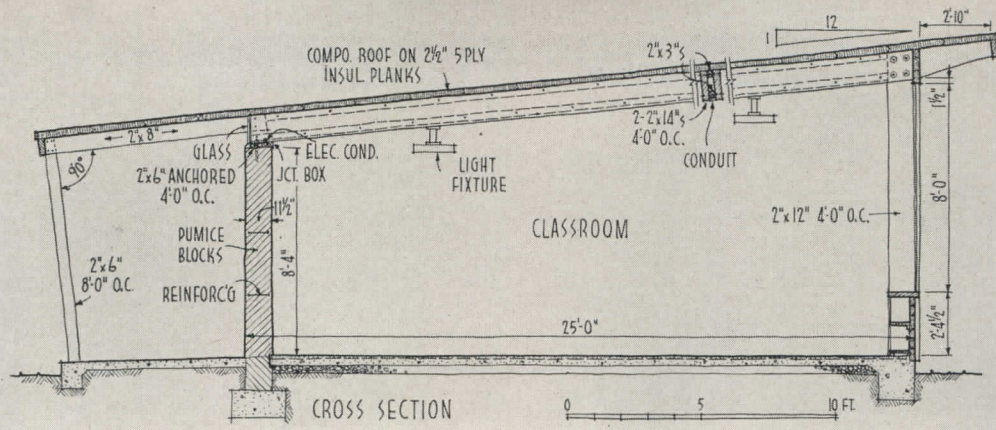
priority for an H-section does not mean that the H-section will be delivered when wanted. Loss of time also means increased cost.

In the restudy (which has started in many architects' offices) we cannot afford to lose the many improvements we have made. To list these briefly: in construction, the cavity wall, the structural frame with spans wide enough to encompass the desired space, interior walls of such durable materials as cinder block (not forgetting expansion joints to avoid shrinkage cracks); in plan, classrooms of efficient shape and size for their purpose, perhaps end-on, perhaps square (though this may lead to deceptively low cubic costs and actually high cost per teaching unit), organized for functioning well together, well equipped and cheerfully promoting the well-being of their occupants. In regard to lighting, orientation to make the most of natural daylight, means of attaining even daylight distribution such as bilateral windows in some form; artificial light in sufficient quantity and quality, without glare and without the distraction of "hot spots". In heating, means of even — and economical — distribution of warmth, and, especially for smaller children, attention to the problem of distributing this warmth close to floor level (and many architects call a radiant-heated slab on grade too expensive for a school). There are many more items, ranging from ventilation to provision, equipment and integration of non-teaching rooms.

All of these seriously affect and are in turn affected by the paramount considerations of cost, educational requirements and that something which only the architect can provide, which is variously called esthetics, scale, humanity and many other names. Without it no school can be more than mediocre architecture.

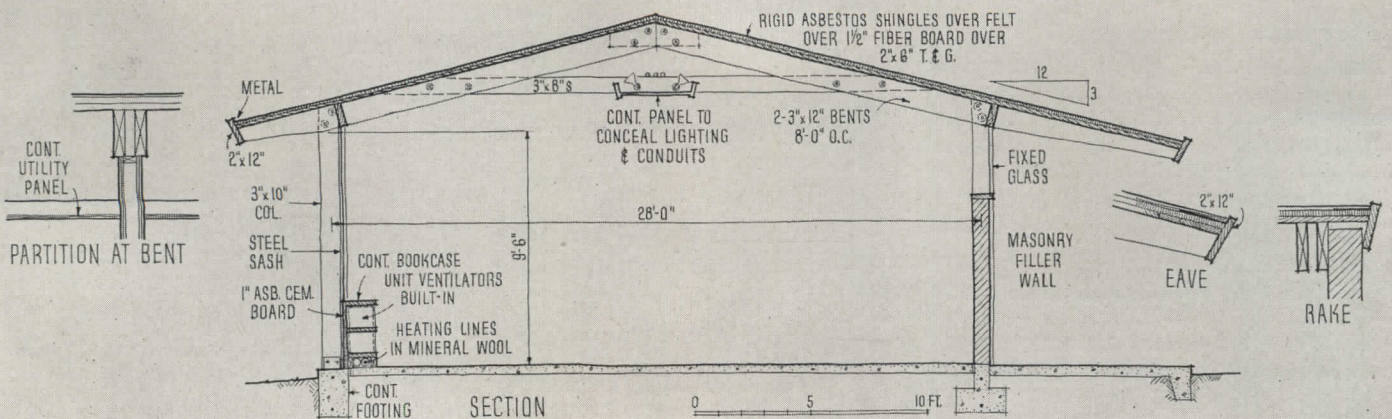


John W. Maloney and John H. Whitney, Yakima, Wash., architects, argue the merits of classroom arrangement: assuming a corridor 9 ft wide and rooms with individual exterior doors, if building 1 will house 11 classrooms, building 2 will house 12 in 675 fewer sq ft. Building 3 requires 548 ft of perimeter wall, 1,836 sq ft of unacademic corridor. Building 4, same number of comparable classrooms, requires 46 lin. ft less perimeter wall, 324 fewer sq ft of corridor, shorter mechanical and electrical runs than 3

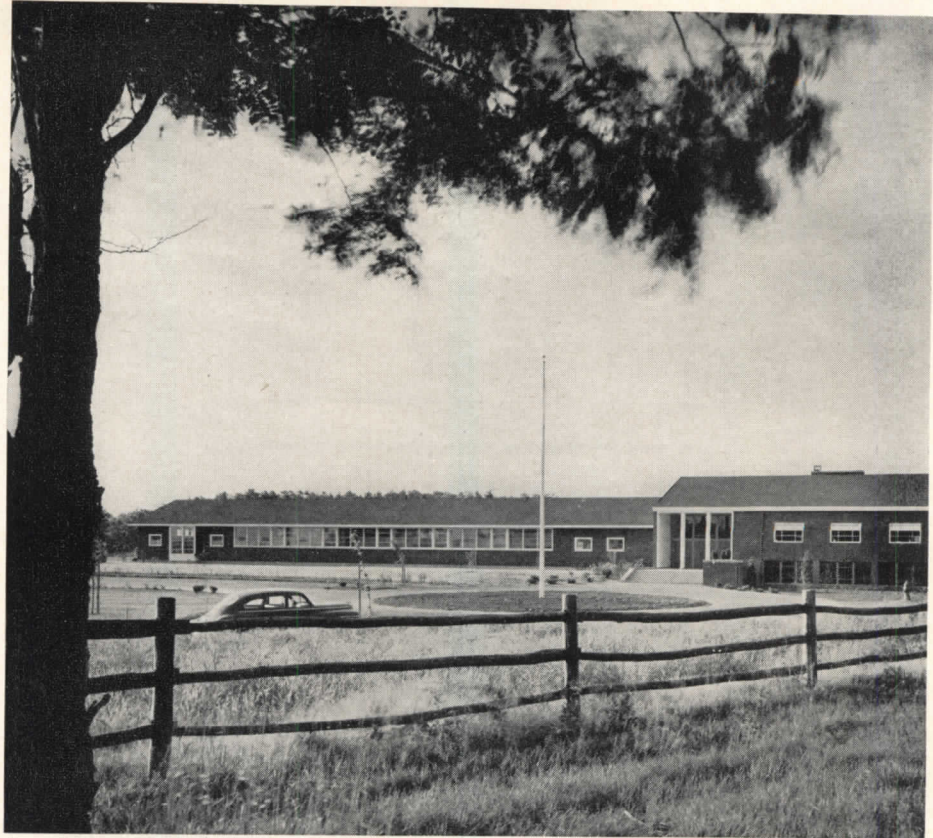
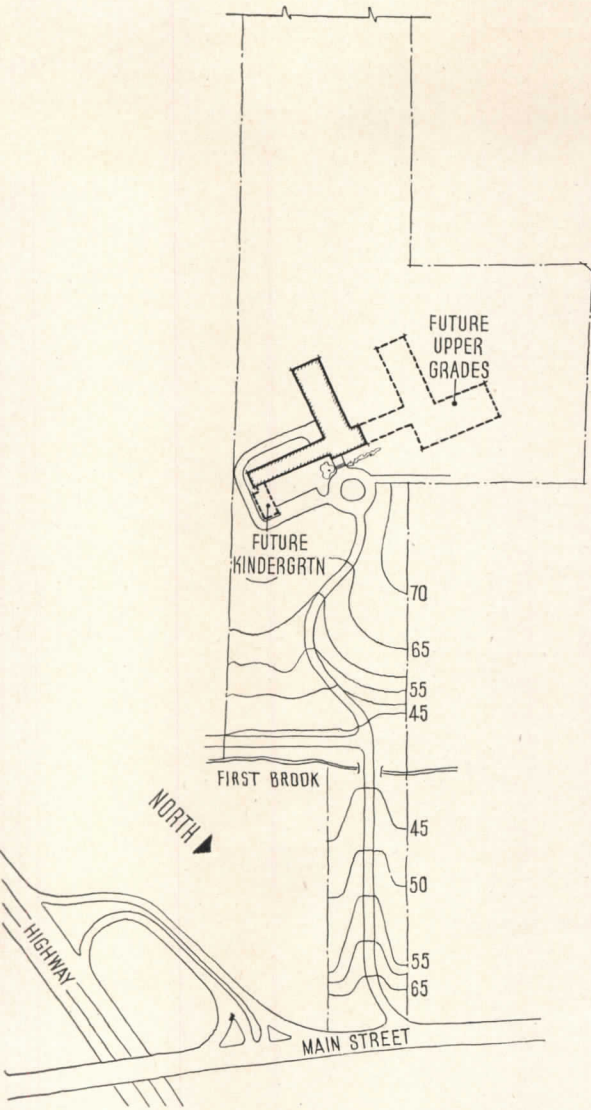


Photos and drawings above show the small Sunnyside School in Arizona (Ralph Haver, architect), economical yet pleasant. Climate makes mechanical and electrical plants relatively inexpensive; structure is hardly more complex than the Brewer

School (see page 118). Even in so minimum a building, however, the squeeze of cost and priorities is being felt; for the future the architect is experimenting with the even simpler structure shown below



Joseph Molitor Photos

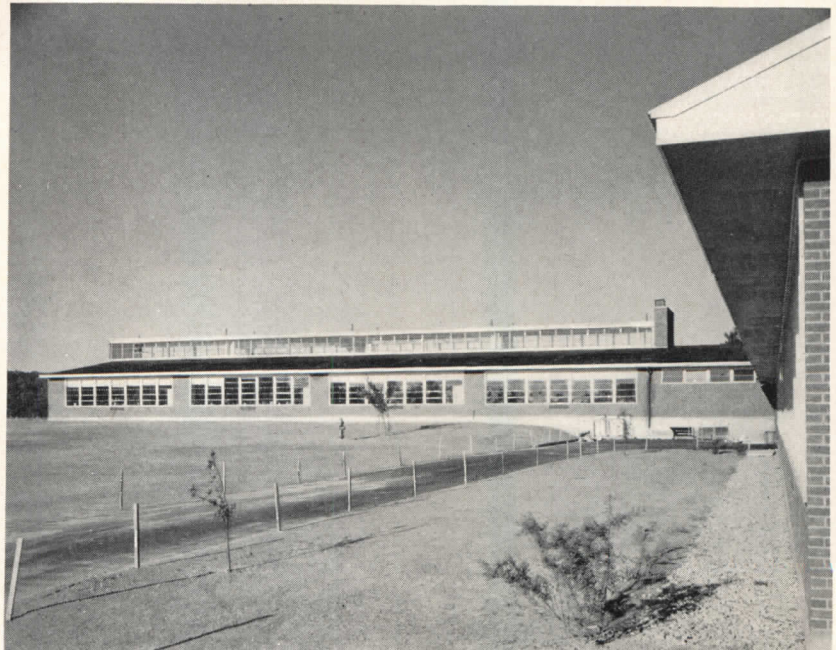


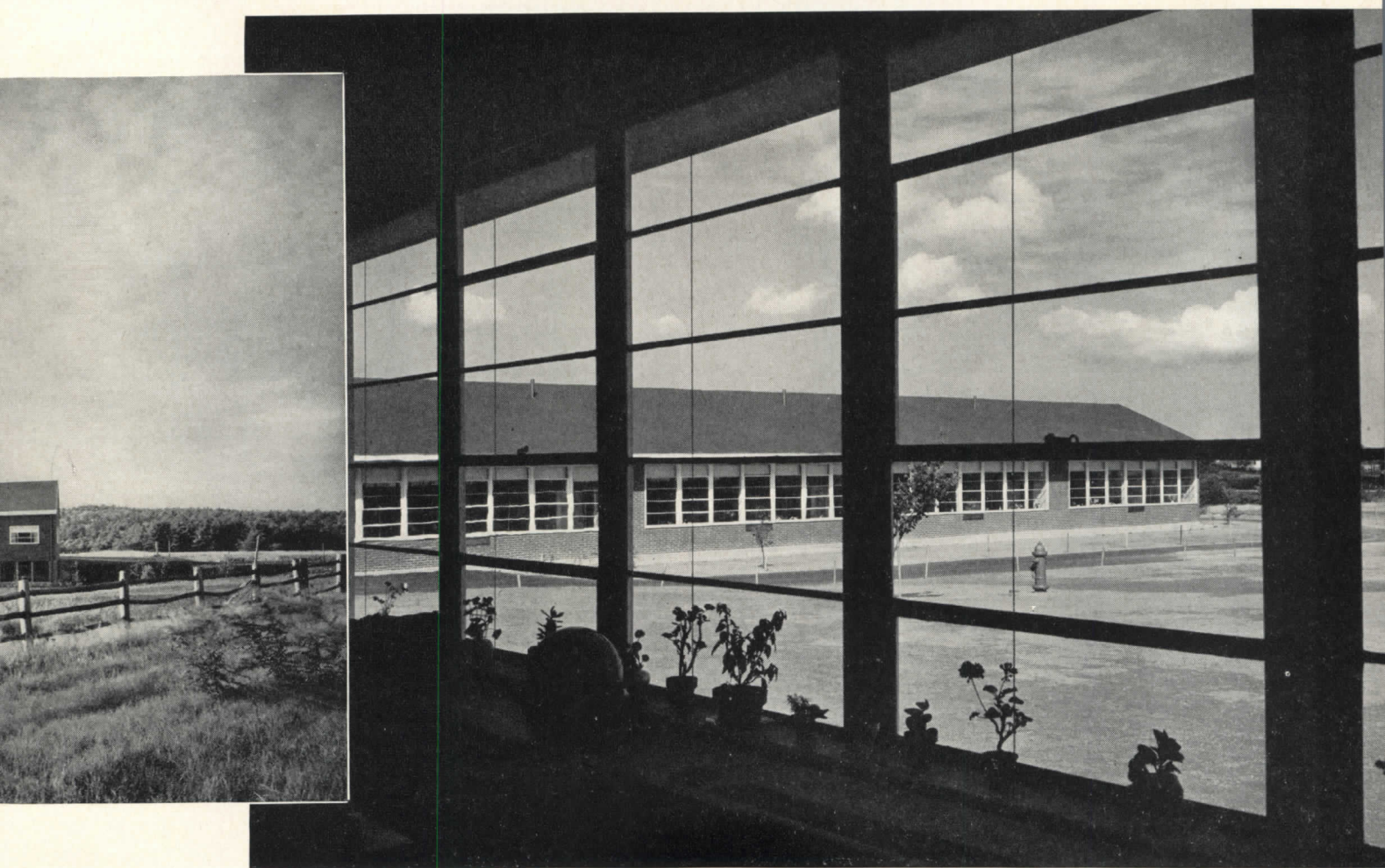
ELEMENTARY SCHOOL

It took many months, starting with a complete survey in which the architects participated, to persuade this conservative town to abandon its sub-standard existing schools. But when final costs were figured the town realized it had better facilities at lower cost than any nearby community, and its community pride swelled justifiably

COST DATA

Building construction.....	\$288,110.00
Sewage disposal.....	3,700.00
Land improvement.....	25,000.00
Fees, Clerk of the Works.....	25,000.00
Equipment.....	35,000.00
Committee expenses.....	3,875.12
TOTAL.....	\$380,685.12
Cu ft contents.....	382,580
Cu ft cost, building only.....	\$ 0.75
No. pupils.....	360
Cost per pupil, building only.....	\$ 800.00
Cost per classroom (30 pupils).....	\$ 24,000.00





Walter F. Bogner and

Carleton R. Richmond, Jr., Architects

KINGSTON, MASSACHUSETTS

Cleverdon, Varney & Pike

Mechanical, Structural Engineers

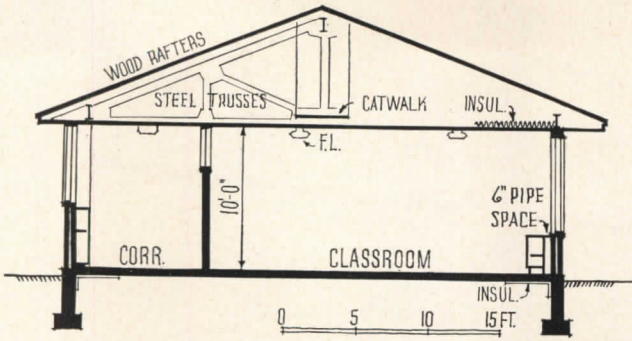
KINGSTON is the next town north of Plymouth, Mass., where Plymouth Rock is situated. Entirely independent, in New England fashion, of its famous neighbor, it has approximately 3000 inhabitants of moderate means, all of whom are interested in any project involving expenditure of funds, in maintaining the region's traditionally high standards of learning, and in careful appraisal of innovations, educational or architectural. The town badly needed schools. All its several small buildings, including the high school, were old and seriously sub-standard. For several years some townspeople had worked to get a new building; in 1945 a survey committee was authorized, to which Walter F. Bogner, Professor of Architecture at Harvard; Dana M. Cotton, of the Harvard Graduate School of Education; and Ralph D. McLeary, Concord Superintendent of Schools, were appointed. In 1946 this committee reported strongly in favor of a single new elementary

building, an eventual new high school (preferably to be built jointly with surrounding communities), offered advice on site selection, probable costs, financing, size and nature of building, types of school planning, and made enrollment forecasts. The survey report was prepared to answer any question which might be asked, because under the New England Town Meeting government, all citizens have the right to ask questions before voting on a problem. After two years of deliberating, and after the Chairman of the School Building Committee threatened to resign when he saw the size of cost estimates given in the survey report, a Town Meeting gave the Building Committee authority to select an architect and apply for federal aid. (At that time Massachusetts provided no state aid, although in the course of this building's design a state-aid program was enacted and Kingston eventually received state funds.)

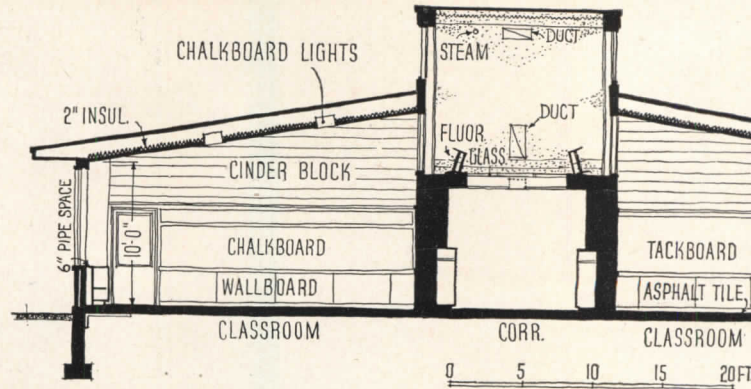
In November 1947, Mr. Bogner, of the firm of Bogner

KINGSTON ELEMENTARY SCHOOL

EAST WING

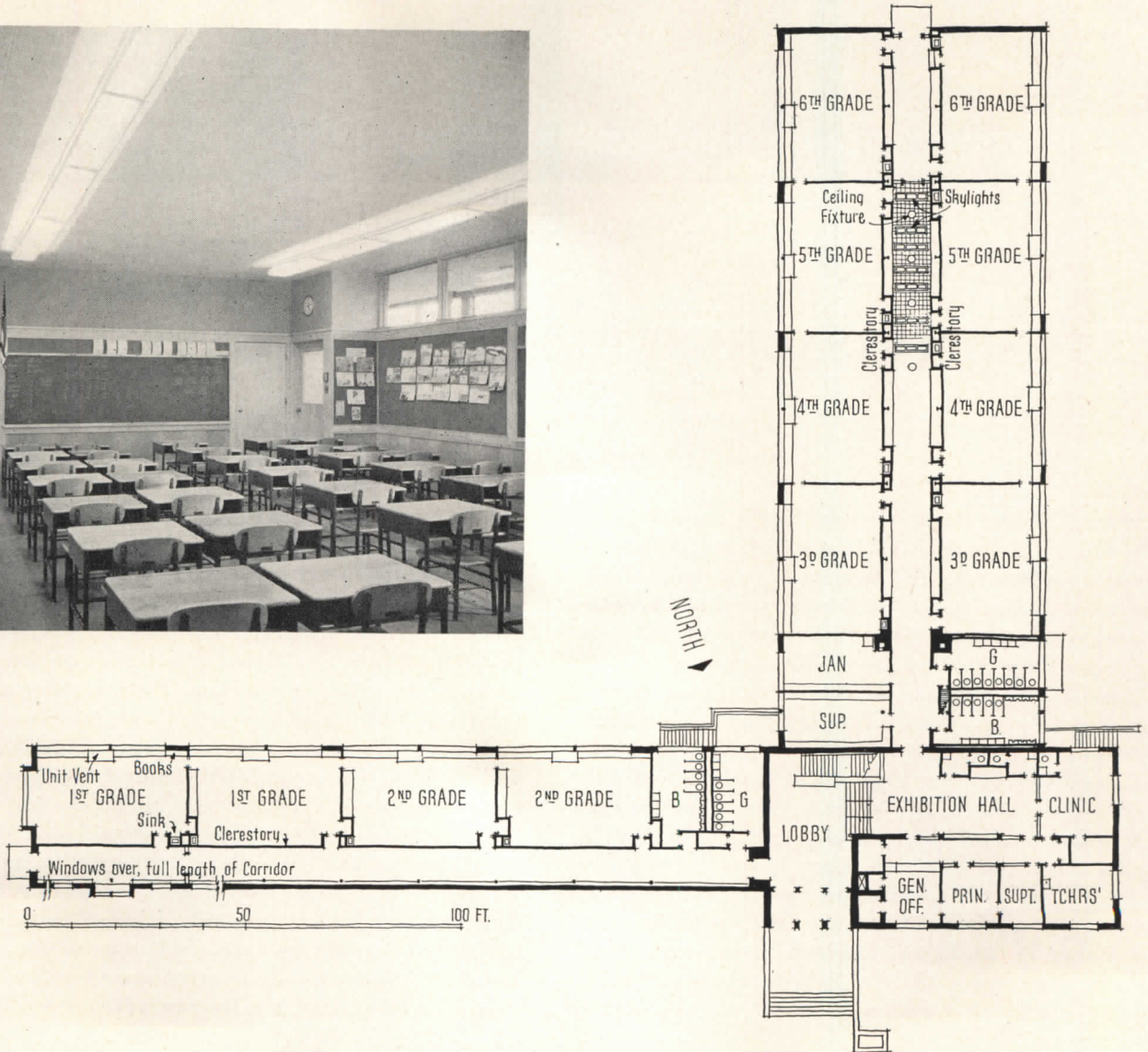
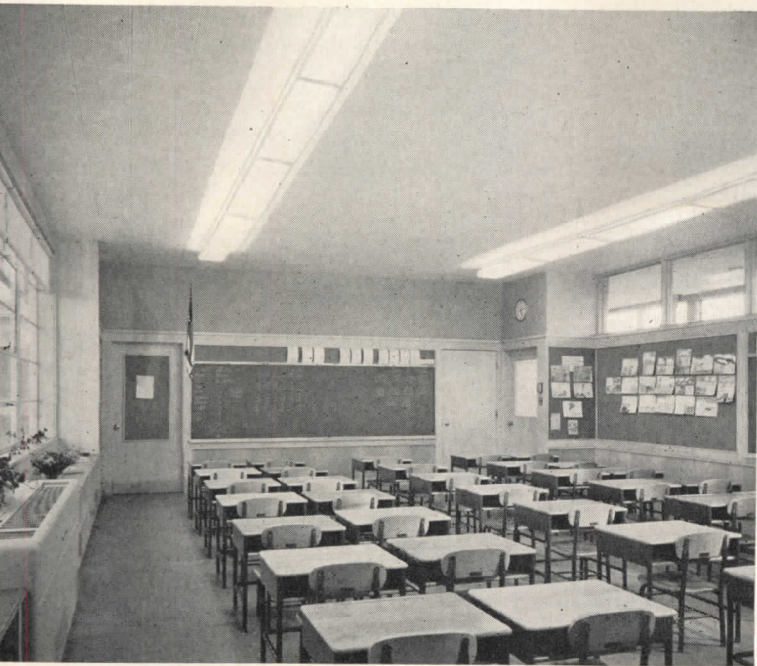


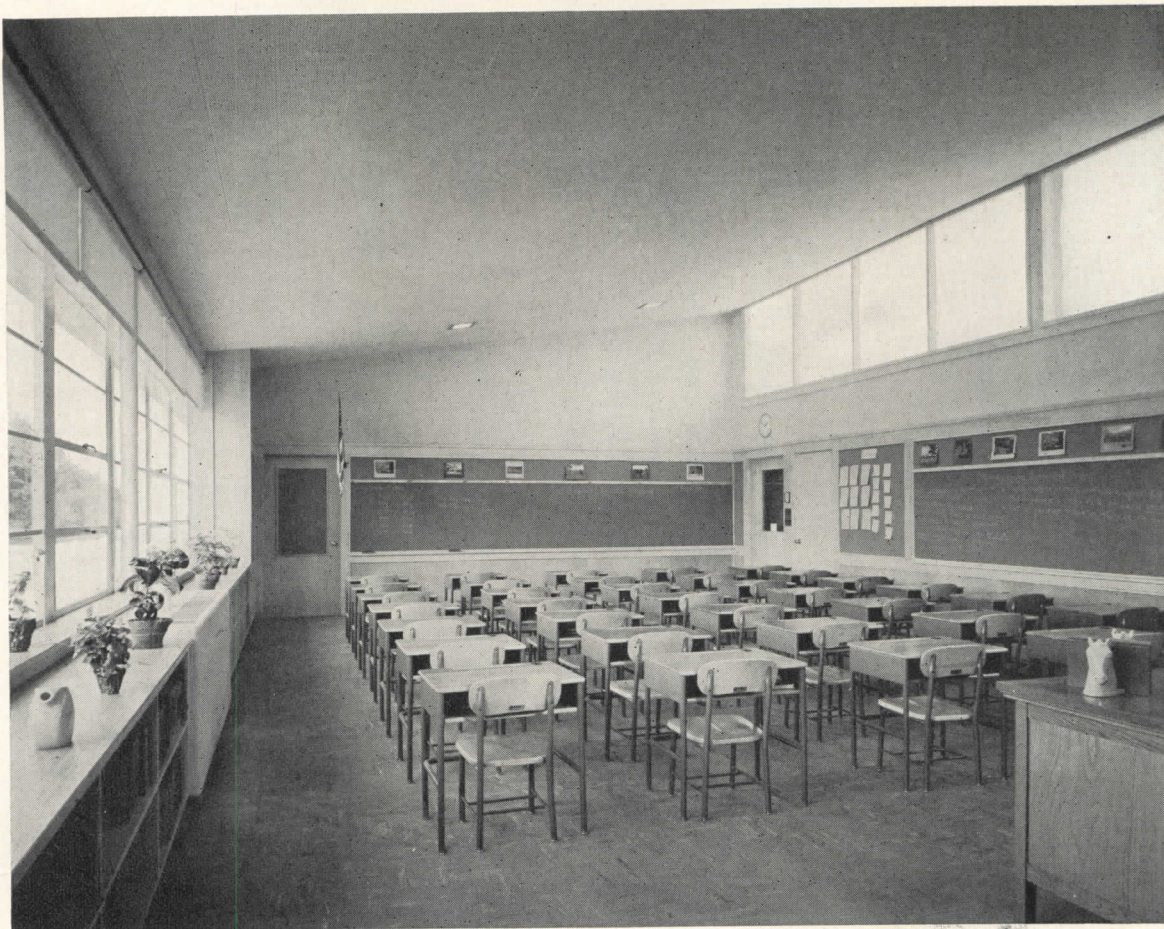
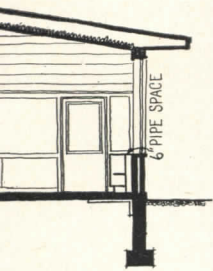
SOUTH WING



Kingston's east wing is fairly conventional in section, with flat-ceilinged classrooms having the usual almost continuous windows on the south wall, plus an internal "clerestory" which borrows light from the northlighted corridor. These rooms require exposed ceiling lighting fixtures to supplement daylighting. The south wing's monitor roof affords clerestory lighting to both rows of classrooms and

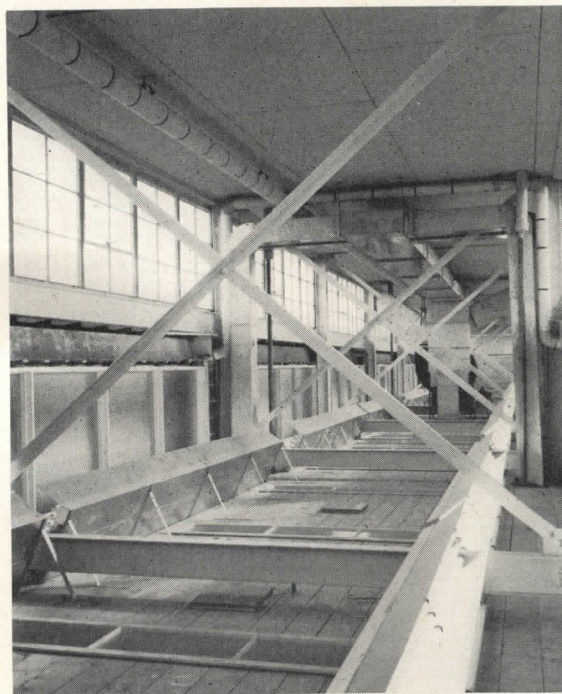
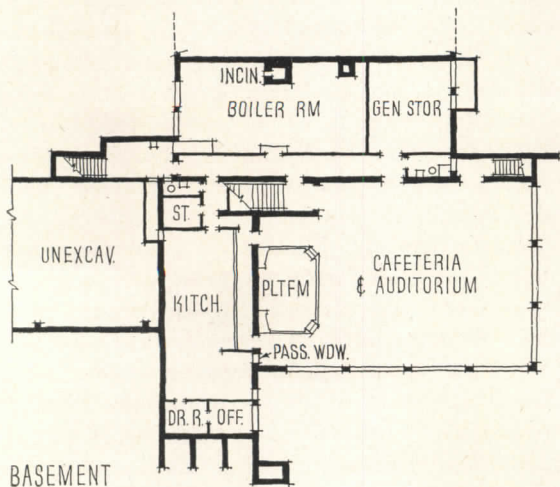
diffused daylighting for the corridor as well. In addition, industrial fluorescent fixtures concealed in the monitor indirectly light classrooms; used only on the gloomiest days, these are almost imperceptible as light sources when lit; they eliminate "hot spots" of light caused by visible fixtures. This the architects deem exceedingly important. Recessed chalkboard lights are the only classroom fixtures





Joseph Molitor Photos

Construction is steel frame with brick cavity walls, steel sash, acoustic tile ceilings, asphalt tile floors on insulated concrete slab. Interiors are asbestos-cement board wainscots and hardwood trim in classrooms, glazed tile in corridors, toilets and kitchen, painted plaster above door heads, plastered cinder block partitions. Chalkboards are green composition slate, tackboards cork, cafeteria tables recessed wall type concealed in linoleum wainscot

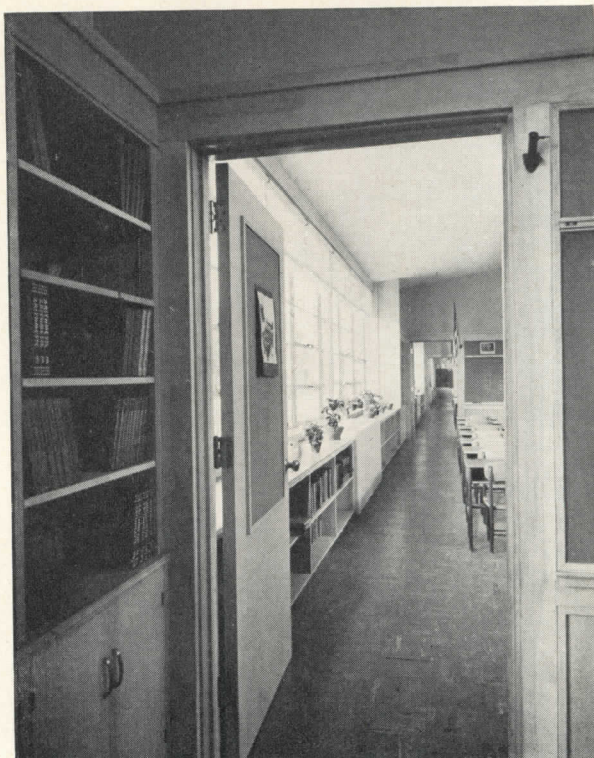
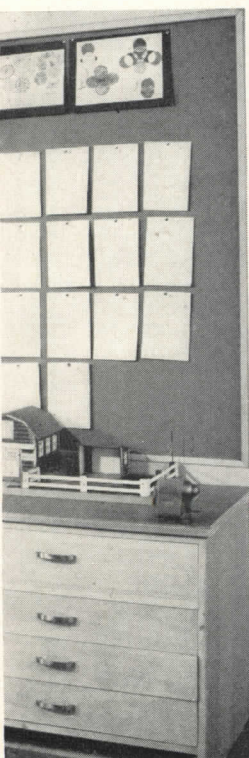


Top photo shows classroom in south wing with sloping ceiling virtually free of lighting fixtures, clerestory glazed with translucent glass. Note even, high-level illumination. Bottom: interior of monitor showing piping, ductwork, framing, clerestories, corridor ceiling lights, lighting fixtures

KINGSTON ELEMENTARY SCHOOL



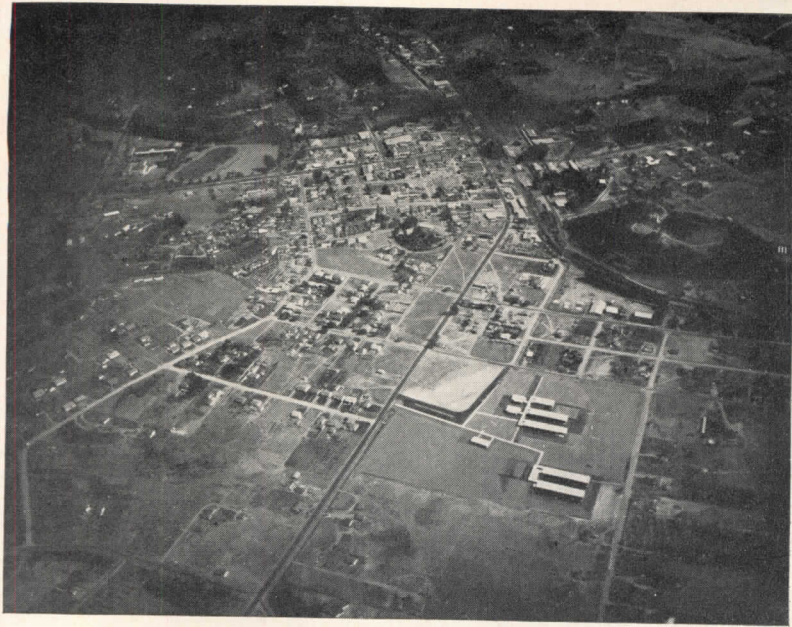
& Richmond, was selected as architect. Throughout the entire job of getting the building from preliminary sketches to completion of construction, the architects worked most intimately with the Building Committee. Taking the attitude expressed by its Chairman, that if he failed fully to understand every last detail of design, construction, or equipment he would fail in his appointed job, the Committee exercised very close control over every aspect of the work. This is truly a building which the Town of Kingston built. Popular opinion is responsible for the pitched roofs and reminiscently columned entrance. The Committee members made themselves a deal of unnecessary work, though most of the architects' recommendations were followed in technical matters, making Kingston Elementary School an outstanding example of advanced design in the technical sense. Also, by controlling design so closely they undoubtedly spent more money than was necessary; and though the school has a certain charm which makes it an extremely pleasant place for children, it could have been more forthright, even more characteristically in the trend of New England progressivism. Yet these are minor faults. The building is an excellent example of the application of the full range of architectural talents in a certain environment; it reflects that environment's status and capabilities; it cost less than was anticipated; as a school it functions very well.



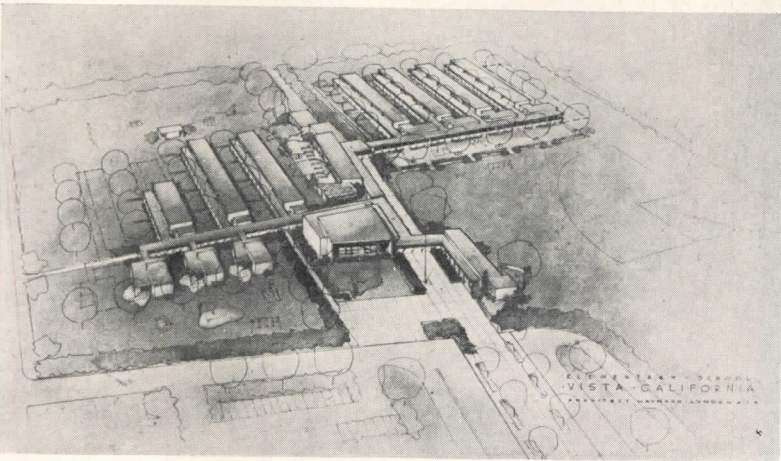
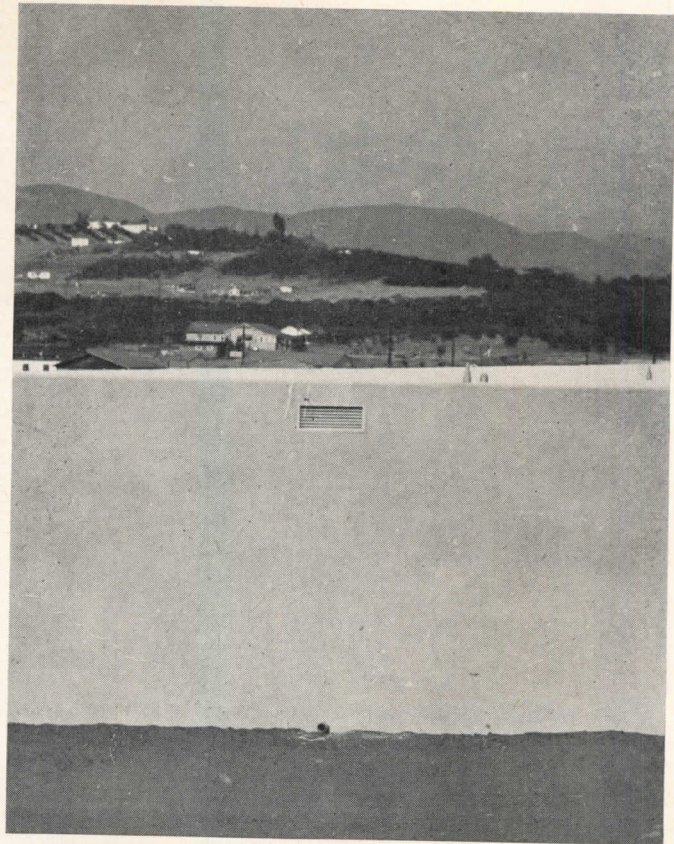
Facing page, left top: corridor, south wing, with natural light from clerestories over; left bottom, corridor, east wing, lighted by high windows and with borrowed lights to classrooms. Above, typical classroom equipment: built-in

cabinets, sink and supply closet, bookcase, cabinets and unit ventilators under windows, with piping behind them accessible through cabinet backs. Below, large cafeteria is also assembly room, play space in poor weather





R. U. Meen Photo



20-acre site on edge of town, remote from traffic, is generally flat. Top, air view; bottom, eventual development

ELEMENTARY SCHOOL

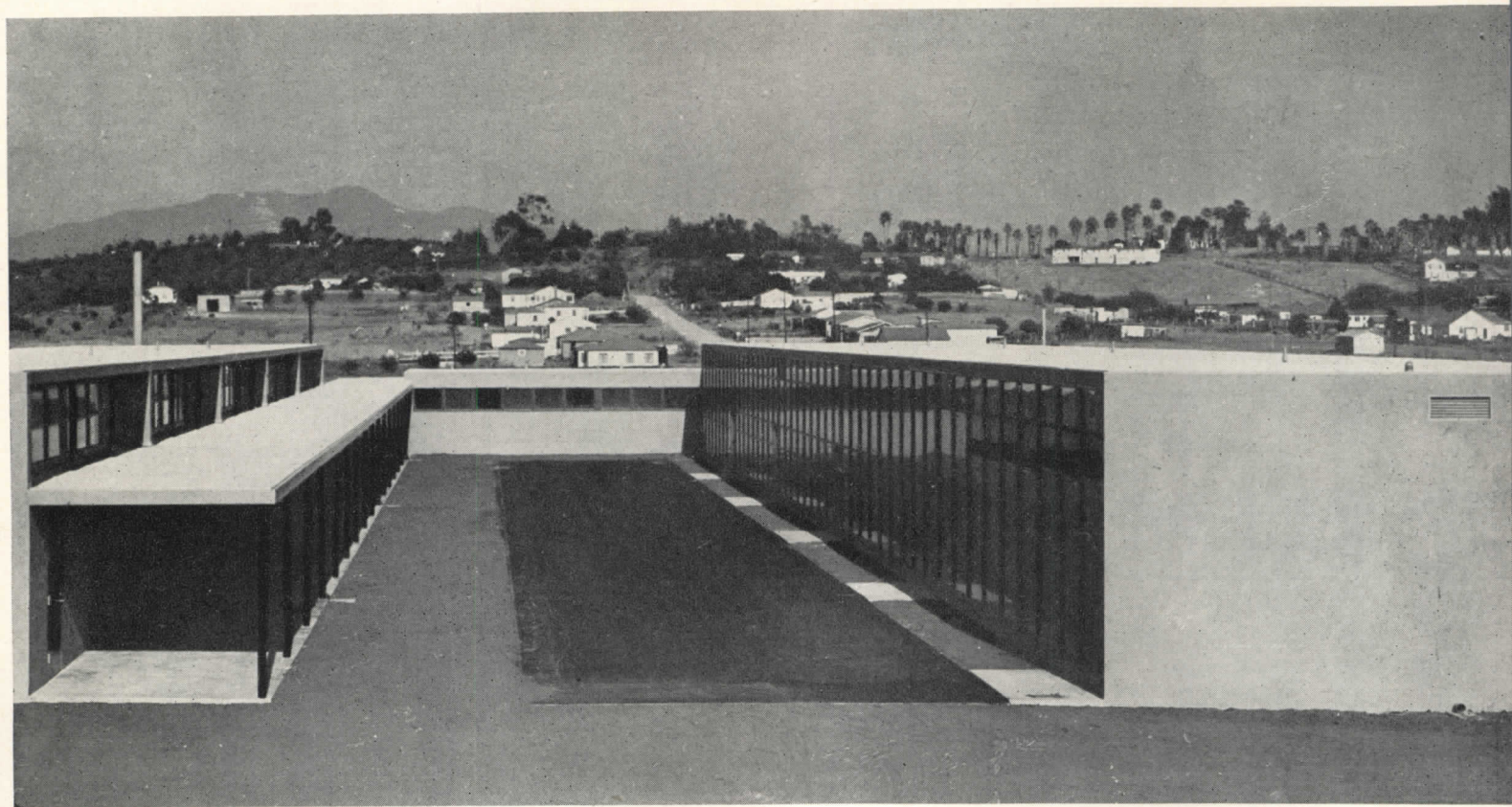
Maynard Lyndon, Architect

E. L. E. Co., Mechanical Engineers

Howard Annin, Structural Engineer



Merge Studios Photo



VISTA UNIFIED SCHOOL DISTRICT, CALIFORNIA

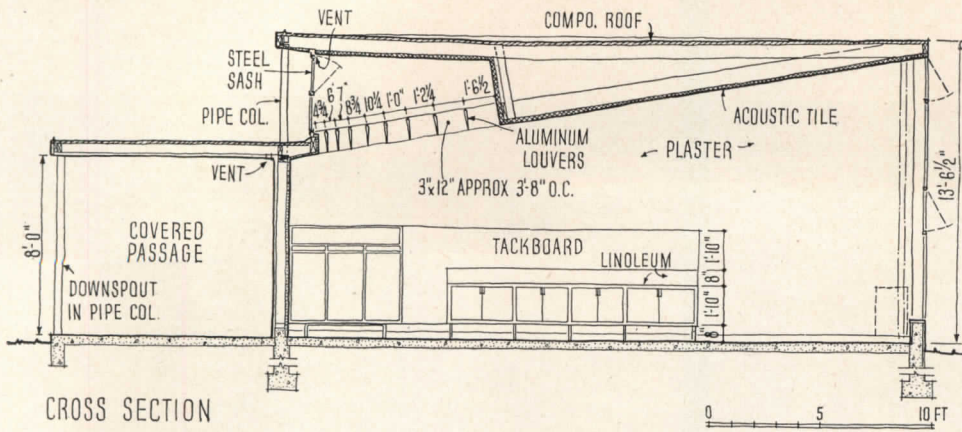
VISTA, an unincorporated California town of about 2000, lies 8 miles inland from the Pacific in northern San Diego County. Its climate, free of coastal fog, is temperate, varying from a rare 30° at night to a daytime high of 95. It is surrounded by small avocado groves, many owned by retired gentleman farmers or people with other active interests, an unusually uniform, high-density agricultural development which curiously limits the town physically. Its new elementary school serves the Vista Unified School District ("Unified" means elementary and high schools under one Board of Trustees — a rare situation in California) of some 36 square miles, with a total population of 11,000. Elementary enrollment, doubled in the last 5 years and still rapidly increasing, is now just under 1300 children, 90 per cent of whom travel to school by bus. Elementary grades formerly occupied what one teacher calls "inconvenient temporary bungalows."

These uncommon local characteristics, coupled with the more universal desirability of keeping costs low, made mandatory a very large school plant: 20 classrooms and 2 kindergartens, with provision for further expansion. That it cost approximately \$400,000 (less than \$10 per sq ft) is in part due to cooperation of many organizations and individuals, from State level down to the local contractor who was Chief Inspector.

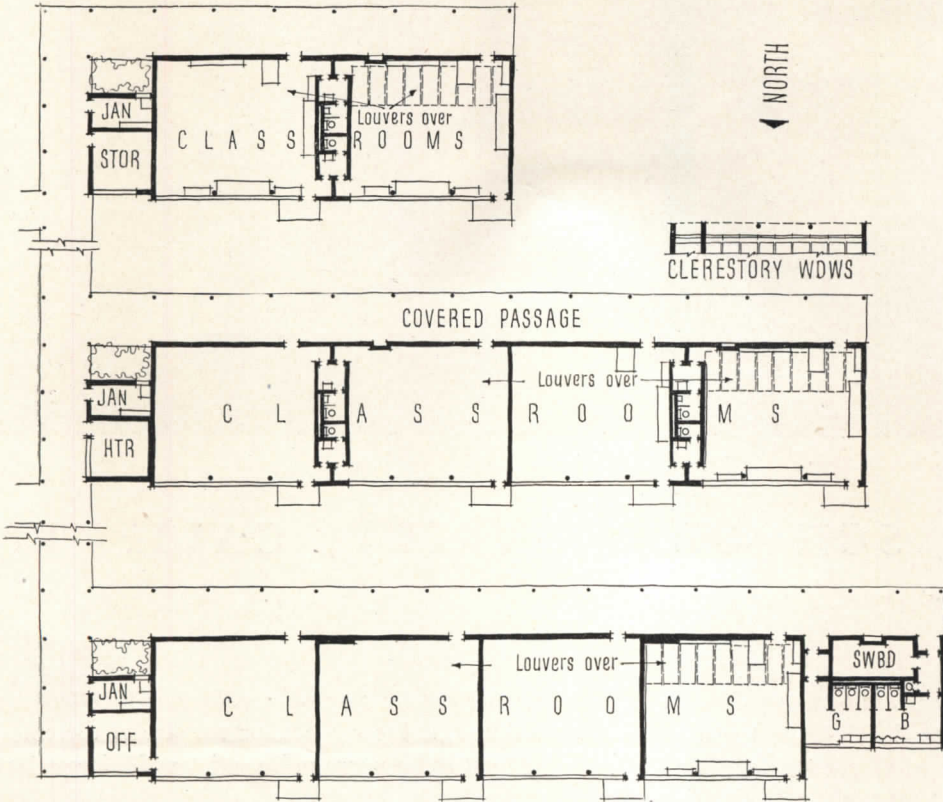
Surely as important as cost, considering its effects on Vista's children, is the respect for the size of the child, for his interest in his surroundings, love of color, gaiety and activity, which Vista Elementary School displays — particularly the kindergarten buildings, each an entity complete yet small enough for a youngster to comprehend. By such devices as segregating classroom units according to age groups and by liberal use of strong color, any temptation to make the large school a child-dwarfing monument was avoided, and the stringencies imposed by California's school "Austerity Pro-

Dedication ceremonies in fall of 1950; architect at microphone

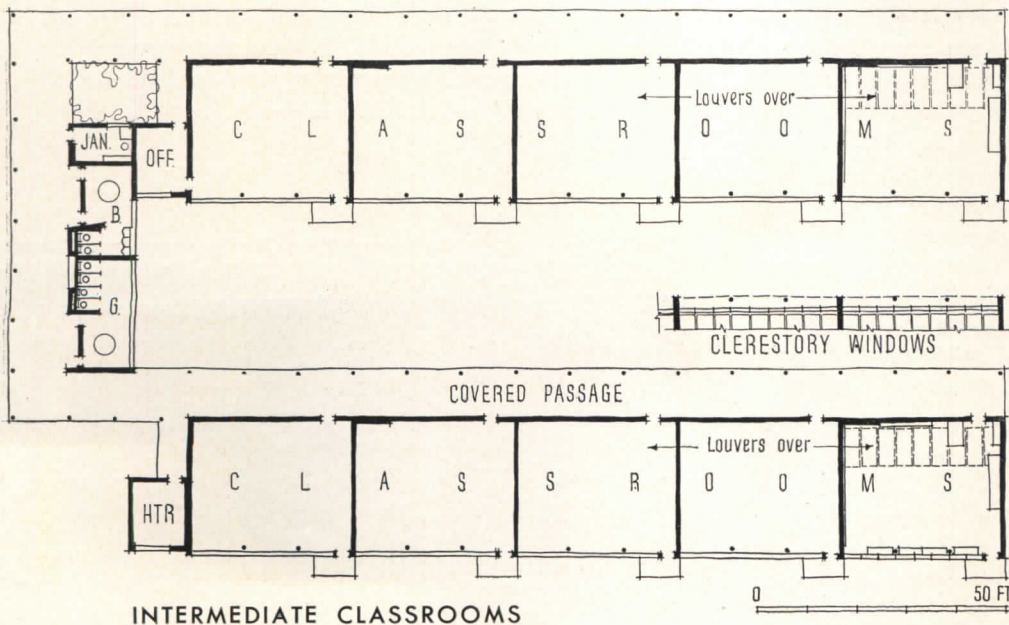




CROSS SECTION



PRIMARY CLASSROOMS



INTERMEDIATE CLASSROOMS

Board of Trustees

- Alex McDougall, Pres.*
- Jack L. Powell, Clerk*
- John A. Barrett*
- Paul B. Elsner*
- Martha G. Thompson*

District Superintendent

William P. Schlechte

Chief Inspector

Rayburn O. Hanzlik

General Contractor

W. D. Haxton

Office of School Planning

*John Brannigan,
Field Representative*

Parent-Teachers Ass'n

Mrs. R. O. Hanzlik, Pres.

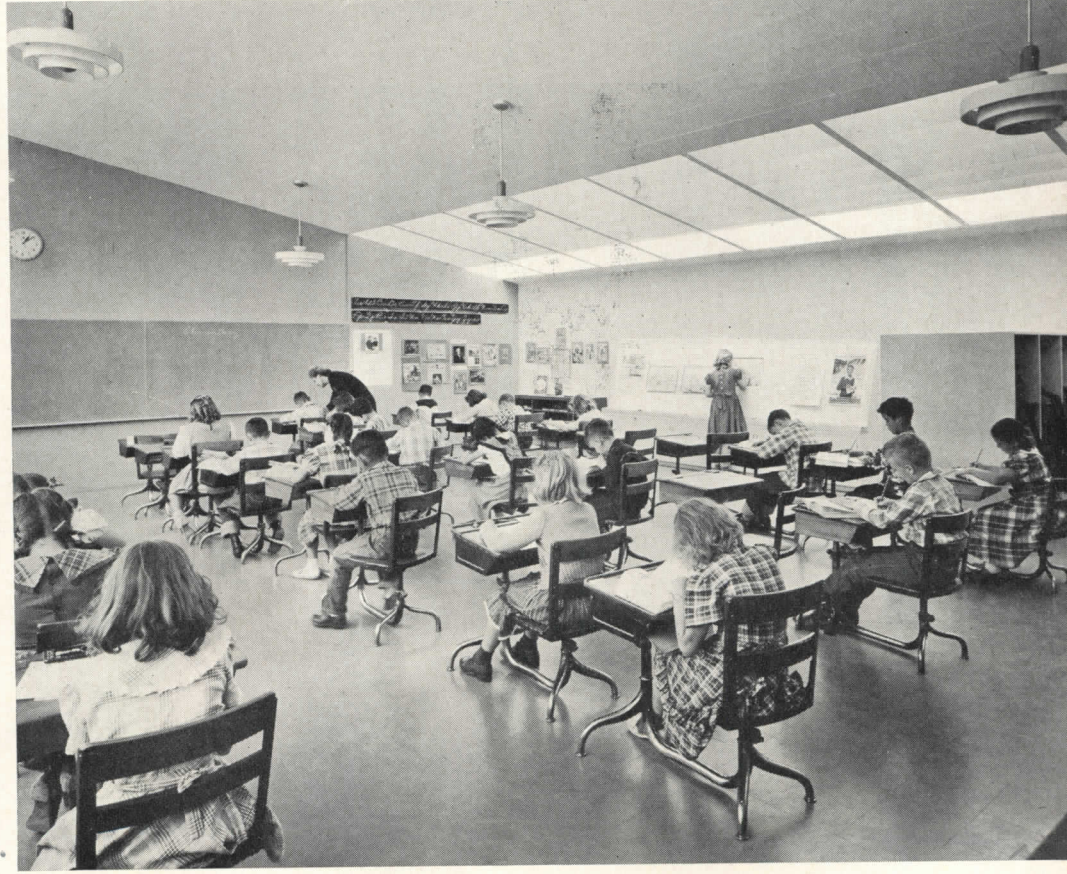
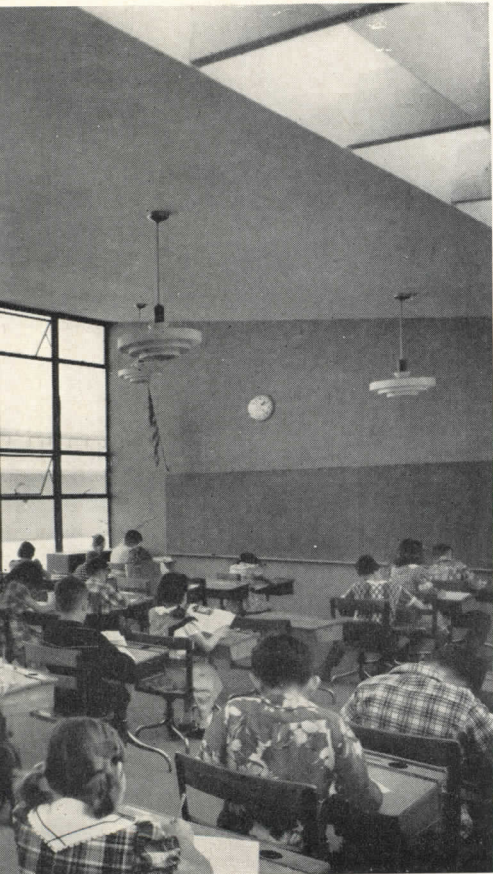
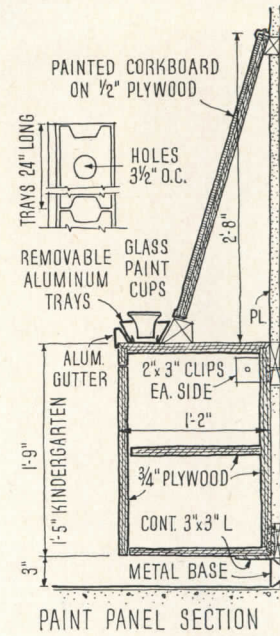


Merge Studios Photos

VISTA ELEMENTARY SCHOOL

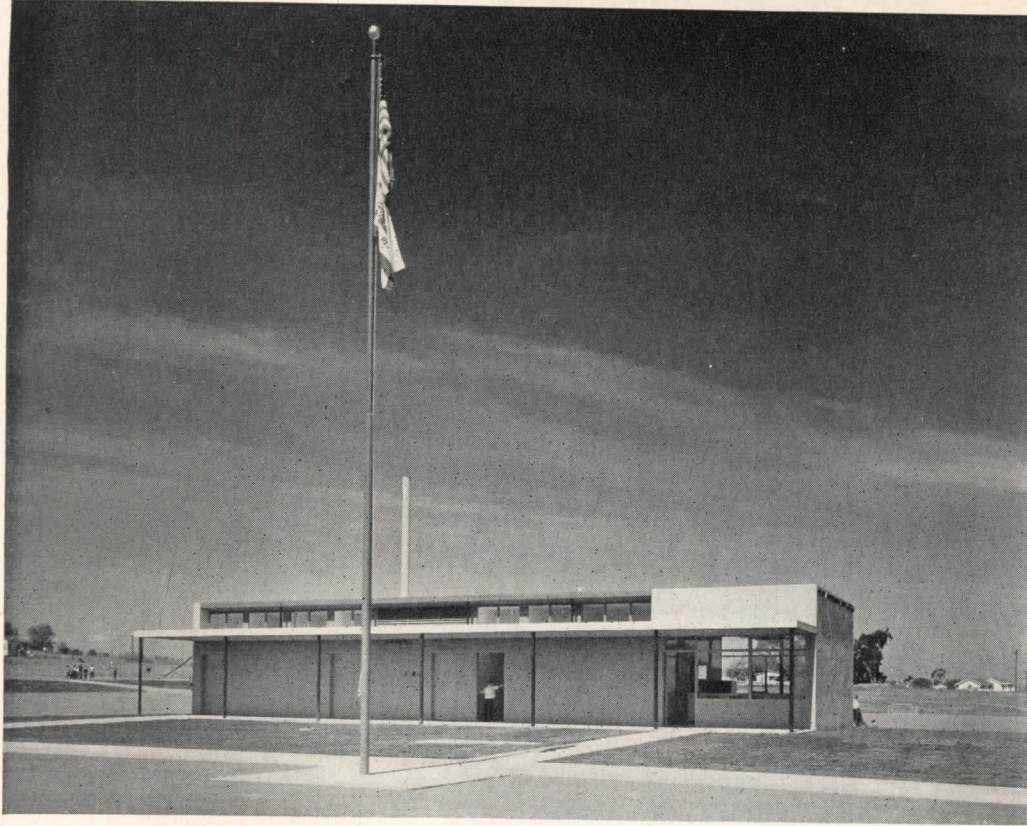
gram" were softened. The school is big but pleasant, without applied ornament yet pleasingly proportioned and rich in color; obviously a school, definitely not a residence, it is human in character.

Directly concerned in developing the project were a number of agencies. The State of California granted funds to help complete this first portion of the total scheme. The Office of School Planning of the State Department of Education reviewed plans to determine construction and finish justifiable under the state-aided Austerity Program, gave advice during planning and construction, and provided a "pool" of ideas drawn from its experience with all California school districts. The Vista Board of Trustees (five elected members: two businessmen, an attorney, a contractor, and an unusually alert woman) selected Maynard Lyndon as architect on the basis of his training and experience, after examining several of his schools in regard to: site

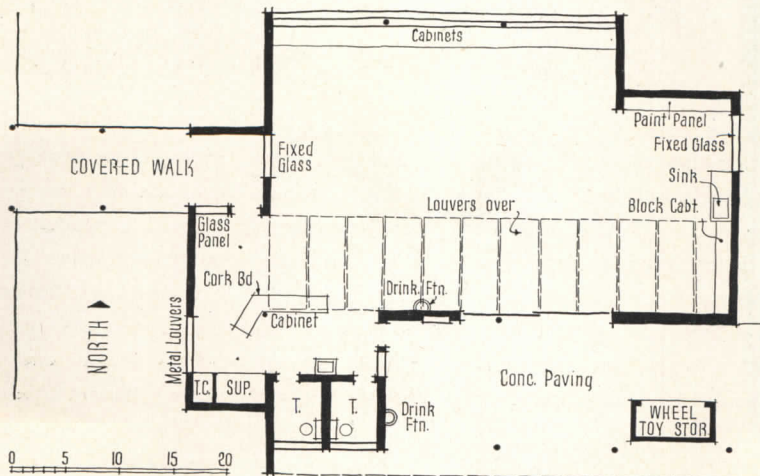
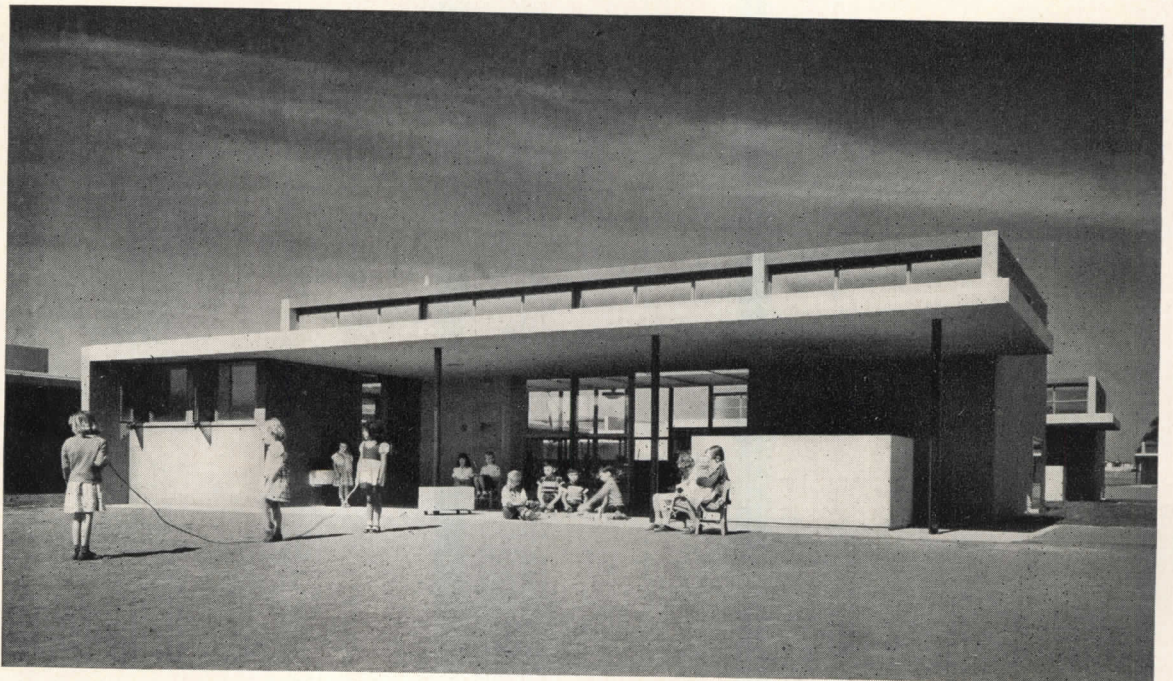


Each elementary classroom is oriented to receive full north light from wall-to-wall windows, ceiling high with a low sill. A door in this window-wall leads to a paved outdoor classroom. On the south side of each wing is a clerestory whose light is diffused by carefully angled aluminum louvers in classroom ceilings. The sloped ceiling is about 8 ft high at the south side, 13 ft at north; this and the 8-ft high corridor help achieve child-scale. Classrooms have cork panels, floor to ceiling, in southeast corners as backgrounds for project displays; each has a built-in sloping

easel (detail at top), sink cabinet with white linoleum top and drinking fountain, radiant floor heating plus auxiliary convectors at windows. Wardrobe units, teacher's storage, clay board and tote-tray cabinets with flap doors over each section, bookcases, etc., are all movable cabinets. Construction is wood and steel frame, with stucco exteriors, flat-painted plaster interiors, asphalt tile floors and acoustic ceilings. Group toilets for upper grades are between classrooms and playgrounds for each group. Color has been liberally used throughout the school



In Vista's kindergartens, with their child-sized windows in the east walls (photo, facing page) and outdoor wheel-toy garage with lift-up door, respect for a child's size and interests are evident. Toilets, lavatory, drinking fountain, wardrobe cabinet, even the wide sliding doors leading to paved, canopied outdoor space, all maintain this scale. Like the classrooms, kindergartens have white reflective roofs, oil-fired hot water heat (radiant floors and convectors) and light colored asphalt tile floors, not marbled



VISTA ELEMENTARY SCHOOL

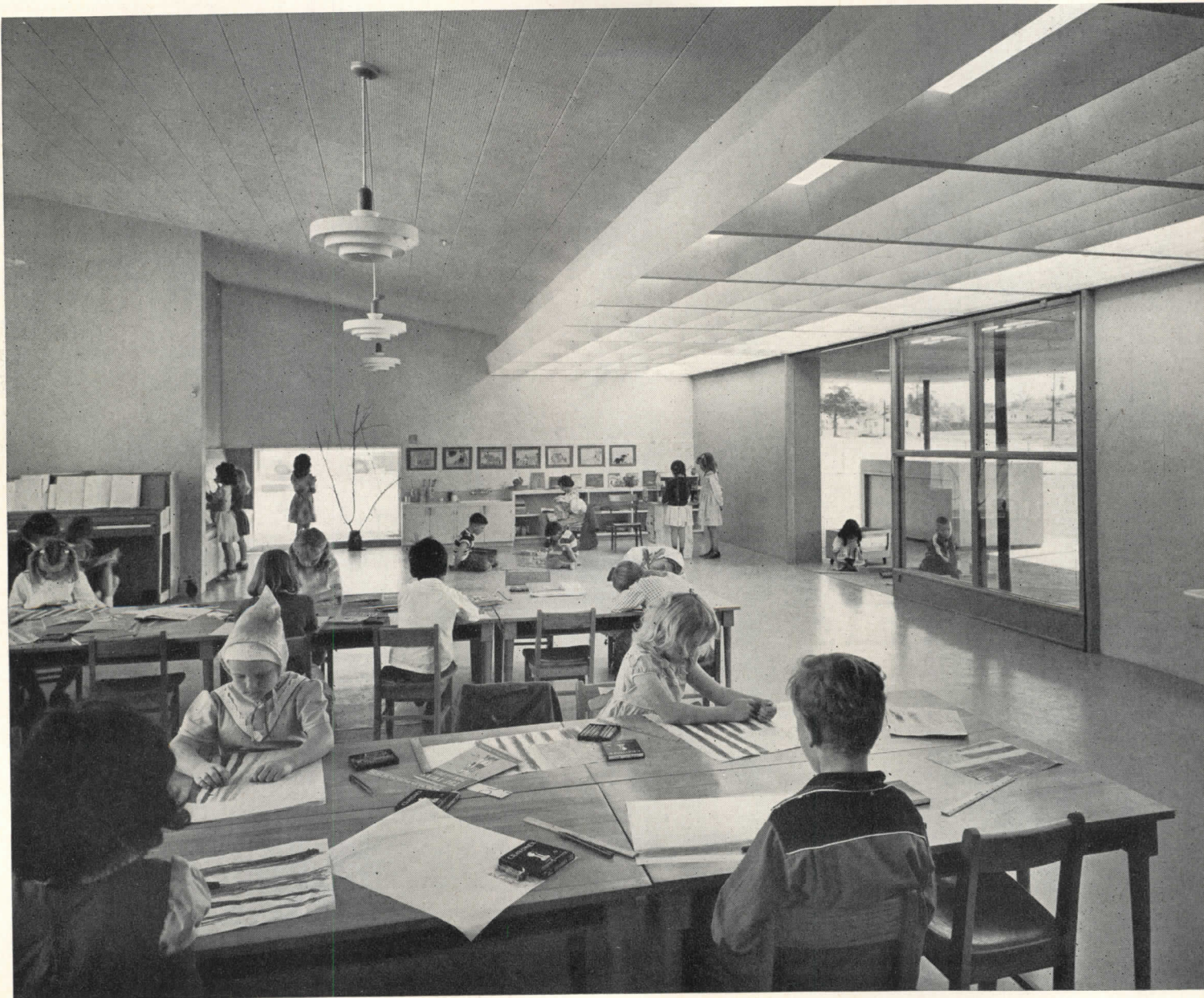
plan; appearance; functioning; heating and lighting.

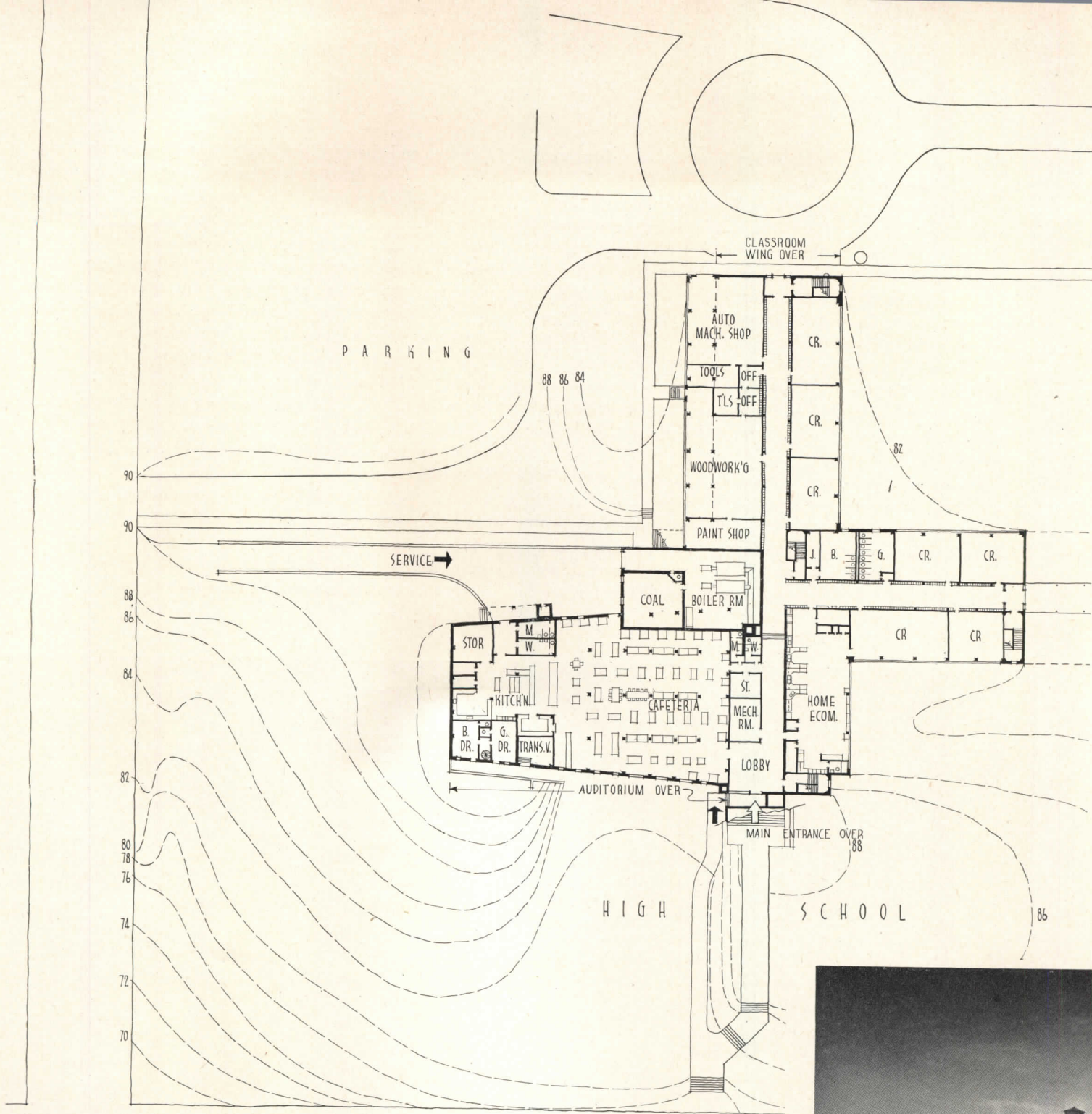
The Vista District Superintendent brought to the job a good eye for management and maintenance of large school districts. The teaching staff also reviewed preliminary drawings to help tailor details to the district's policies and teaching program. The active Parent-Teachers Association stimulated interest and distributed information to the district's voters, who had to approve a bond issue to the maximum debt limit — which meant a maximum tax rate — before financial aid could be granted by the state; it organized the school dedication program and arranged to have a mother on each bus for the first day of school, to help make things go smoothly.

Coordinating the activities of such various groups is a far cry from architectural design in the abstract; but its earthy practicality gives the resulting buildings vitality. There were differences of opinion and even serious misgivings at times. What do the clients think now? The District Superintendent, speaking for the

Trustees and the teachers, expresses appreciation of the plant's easy maintenance, the well-equipped, radiant-heated, colorful rooms with north light, and the organization of the site. The State Office of School Planning, through John Brannigan, Field Representative, has expressed its pleasure at receiving full cooperation in reviewing every phase of design, from site selection to finishes. Teachers and parents say: "While the school was being built I thought that I wasn't going to like it. It looked sort of like a factory. But now I know that the simple design emphasizes the importance of children themselves." . . . "A sink in every room is wonderful. (I wonder, though, why the sinks are not deeper. The water splashes all over the place)" . . . "My child used to have one cold after another. . . . This year he has been perfectly well. The heating and ventilating in the new school must have something to do with this." . . . "I love the way the rooms are scaled to the children. When a first grader talks about 'my school' he really means it. The children love the colors."

Merge Studios Photos

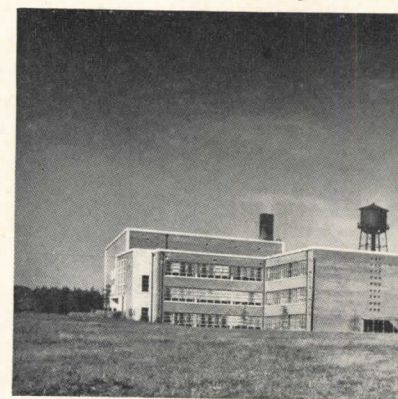


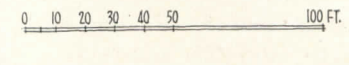
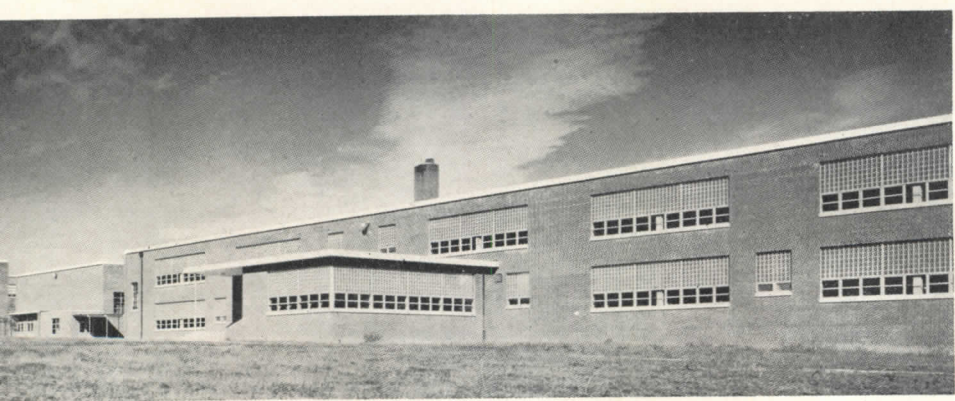
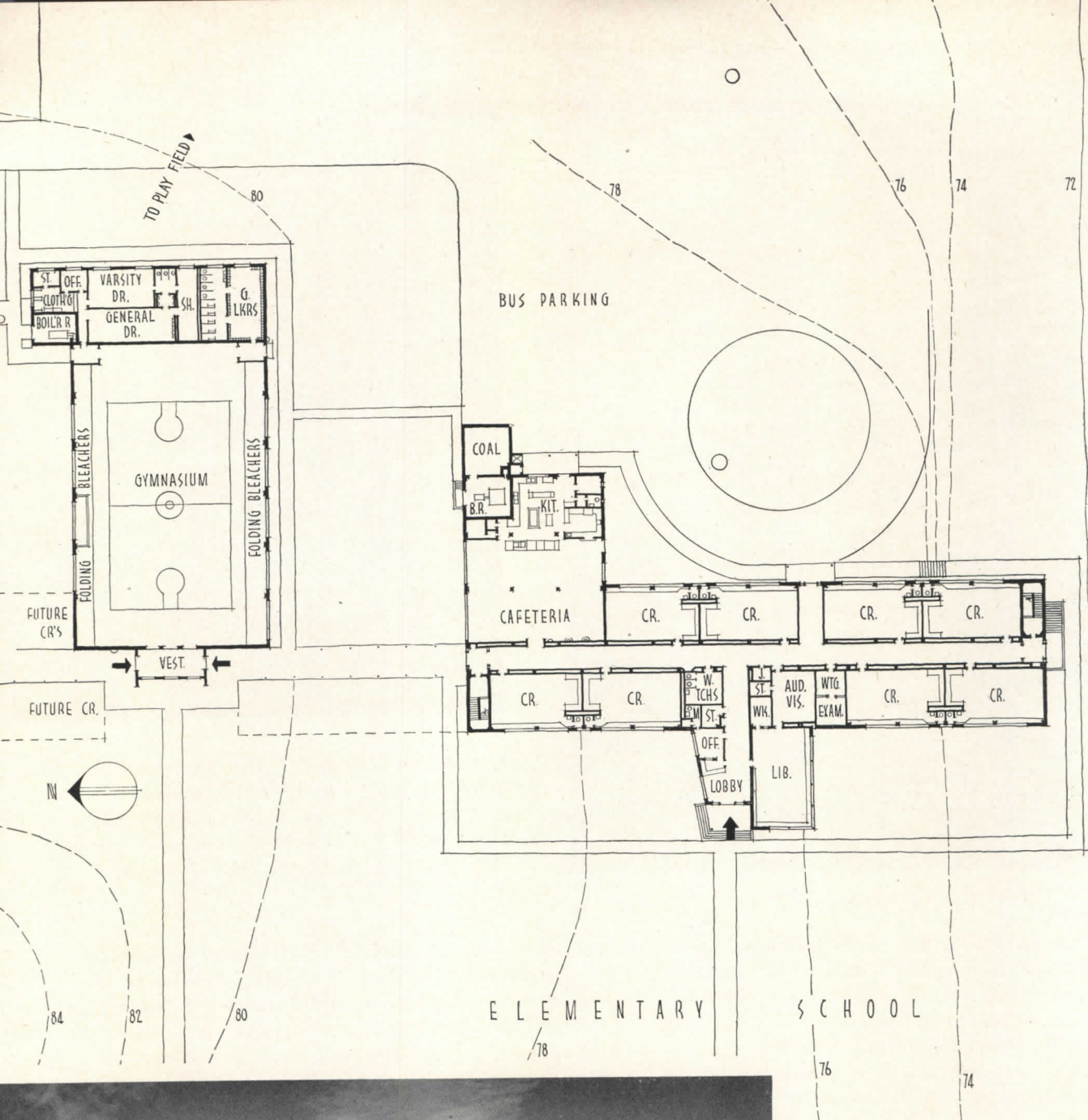


MINERAL SPRINGS HIGH AND ELEMENTARY SCHOOLS

FORSYTH COUNTY, NORTH CAROLINA

*Macklin & Stinson
Architects and Engineers*





Plan and photo show, left to right: High School; Gymnasium; Elementary School. As in most sites in this region, considerable cut and fill were required. Separating the buildings not only reduced site work, it also helped segregate age groups

ORIGINALLY the 33-acre site of the Mineral Springs schools, purchased by Forsyth County before consulting an architect, was intended solely for a high school. Later, when another plot proposed for the elementary school was found unsuitable, it was decided to build both on one site. While this reduced the outdoor areas available for high school use, it did provide better facilities for the schools as a group. In part, the proce-

dure was due to the need for economy; Forsyth County schools are administered — and supported — separately from those of Winston-Salem, a manufacturing center which is the county's largest city. The substantial industrial growth of this portion of North Carolina in recent decades has contributed to the increase in population of nearby rural and suburban areas without comparably increasing sources of tax revenue. Under



MINERAL SPRINGS HIGH SCHOOL



Photo above: auditorium. Facing page, top row: looking from study room into library, library office in right foreground; typical classroom. Bottom row: library for both community and school (higher shelves used as stacks); home making laboratory

such circumstances it is natural to find the Mineral Springs schools, which replace a number of outmoded, uneconomical structures, in one compact, easy-to-operate group. That the cost of a large fleet of school busses, to transport children from quite distant points to one school, is substantially less than the expense of building and maintaining several smaller schools, has been proved many times. A problem with the big buildings which result is overcoming their tendency to become somewhat forbidding, particularly to small children. Seldom does the emphasis on cost permit more than repetitive materials and fenestration.

This North Carolina region is almost uniformly a series of low, rolling hills; a site of from 15 to 30 acres may have as much as 50 to 75 ft difference in elevation from high to low point. At Mineral Springs this difference is 40 ft; considerable cut and fill was required to produce an area level enough for economical design and construction. Due in part to these conditions, and to conserve as much land as possible for playgrounds and other buildings, the High School was made three stories high. Similarly, the Elementary School has two stories. Separating the entire plant into three buildings, with the Gymnasium an independent structure between the others, obviated the more extensive grading which a single huge building would have required, and helped to keep the scale closer to that of children.

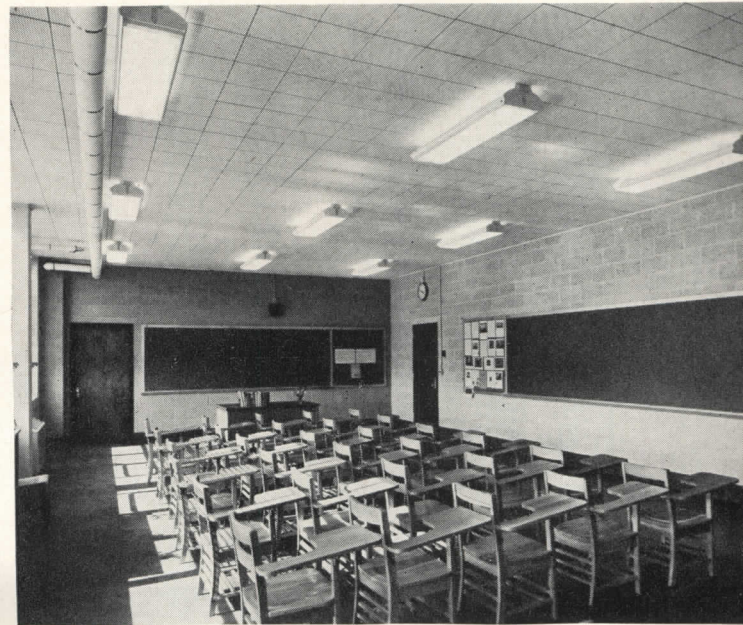
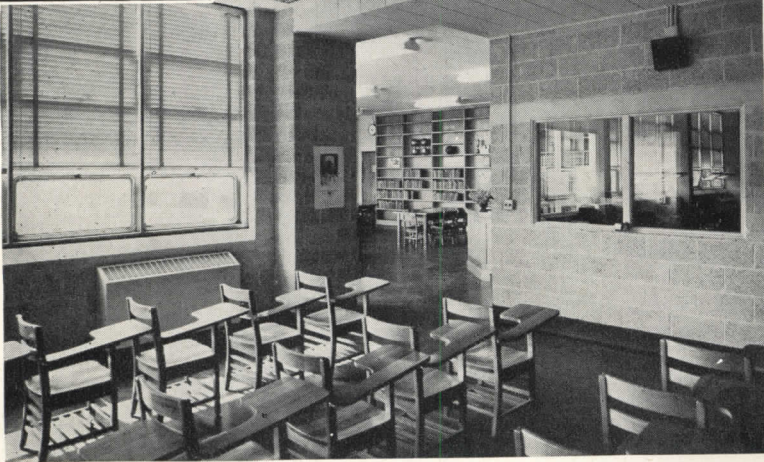
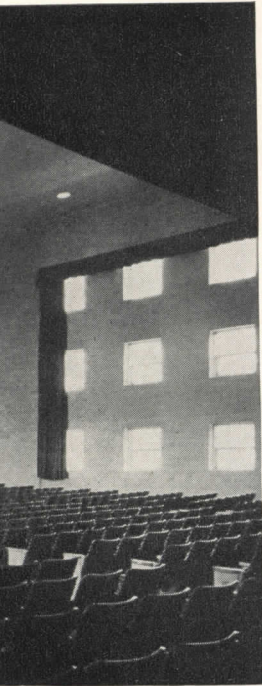
Inside, the classrooms are efficiently equipped and

quite pleasant. The cinder block, used both as back-up for exterior face brick and for all interior partitions, is painted with cement paint in different colors, none of them intense, according to exposure and room use. The High School contains a cafeteria, auditorium and library used by the community as well as the school; for these there is a separate entrance to the main floor, accessible from a street and from the parking area. The principal entrance leads also to the main floor; there is another separate entrance serving the stage, kitchen and boiler room. Shops, on the north side of the ground floor, extend beyond the wing of offices and classrooms above to reduce noise transmission. Band and practice rooms, on the north wing beside the auditorium, are soundproof. In addition to standard classrooms there are also commercial and homemaking suites; a study room next to the library; science, music, conference, audio-visual, and lecture rooms.

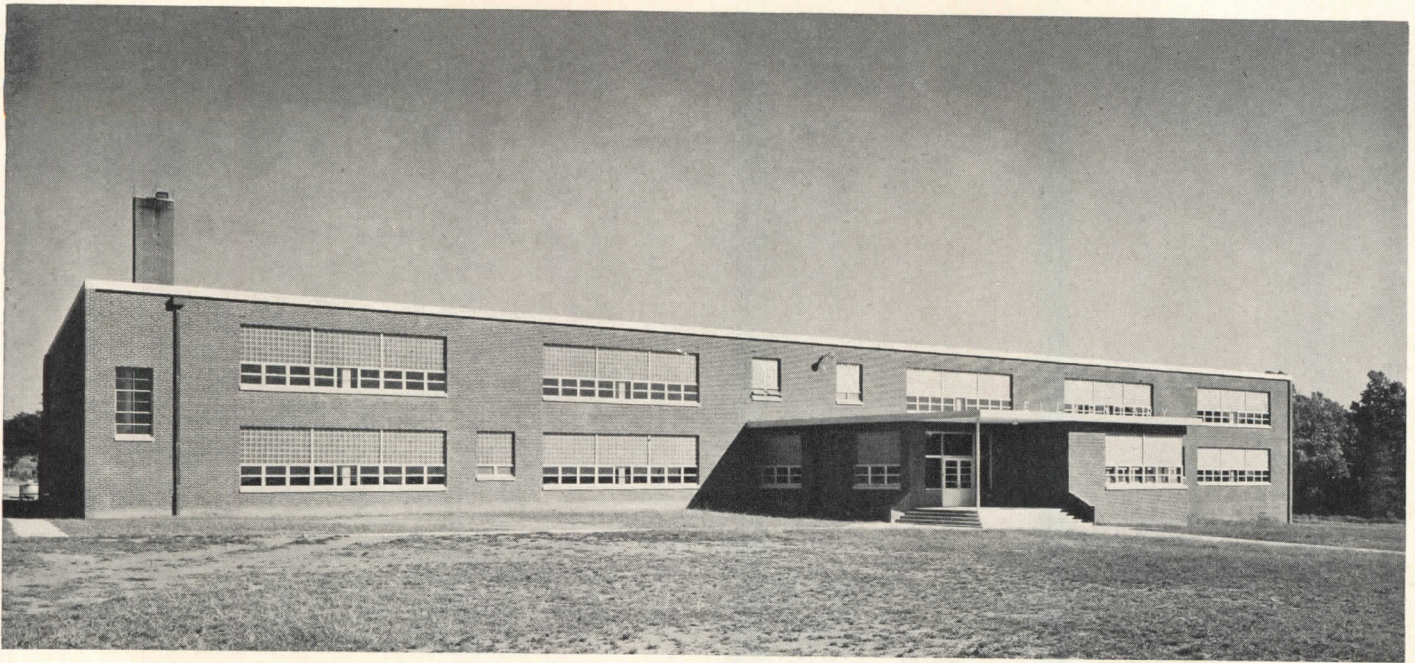
The Gymnasium, with a 48 by 84 ft playing court and folding bleachers to seat 1200, has locker and dressing rooms accessible both from within and from the playground. The Elementary School has eight classrooms on each floor. Lower-grade rooms, on the first floor, each have a special wardrobe, toilet and drinking fountain. On this floor are the elementary cafeteria, kitchen, audio-visual and first aid rooms, library and office. On the second floor are a special music classroom for group activities, etc.; group toilets, lockers, and storage.

Both High School and Elementary buildings at Mineral Springs are of reinforced concrete frame, with brick-faced exterior walls backed up with cinder block. Auditorium and Gymnasium building are steel framed, fire proofed. All interior walls are cinder block, painted. Floors in High School are concrete, integrally colored light brown; in Elementary School, asphalt tile over concrete. Windows are projected, of aluminum; lighting is fluorescent; lockers are metal, ventilated. All door frames, exterior doors and stair doors are metal; classroom doors, wood. Chalkboards are green glass; tackboards, 1/4-in. cork. Heating is low-pressure, 2-pipe steam with wall-hung convectors thermostatically controlled. Gymnasium has overhead unit heaters, auditorium a central heating and ventilating duct system. Cafeterias also have a duct system with special exhausts from kitchens

Joseph Molitor Photos

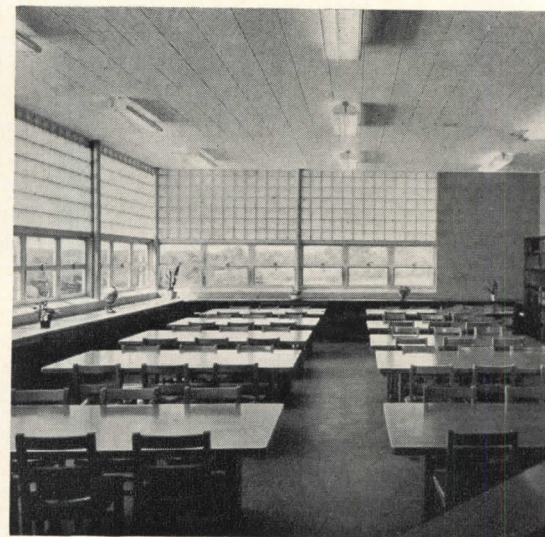


MINERAL SPRINGS ELEMENTARY SCHOOL



Recreation room (left, below) is on second floor, serves as rehearsal space for dance groups, etc., for assemblies and as bad-weather play space. Library (right, below) is for school use only. Elementary building does not contain any facilities designed for community use

Joseph Molitor Photos



COST DATA

HIGH SCHOOL, GYMNASIUM

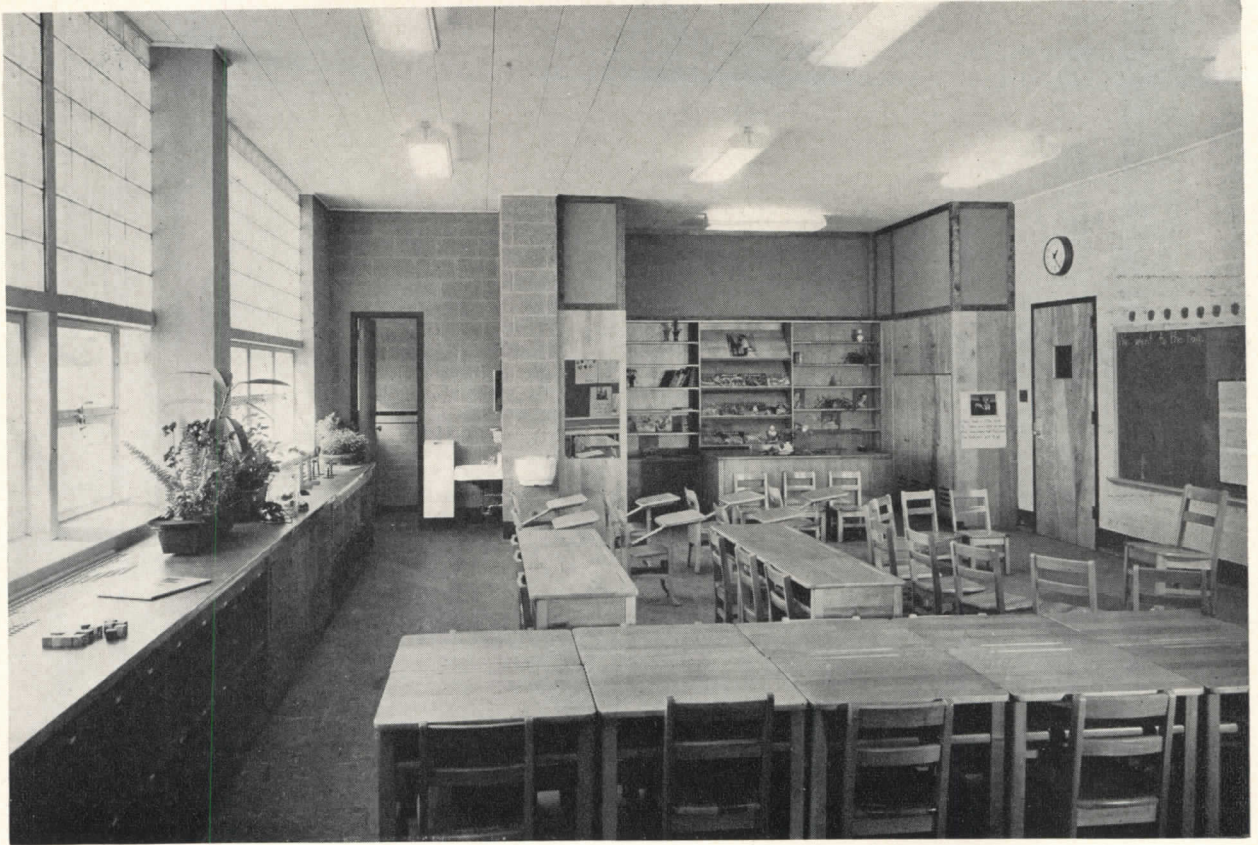
Construction including equipment, site development	\$728,477.23
Electrical	33,598.08
Plumbing	87,185.08
Heating, ventilating	115,073.00
Kitchen and cafeteria equipment	23,000.00

ELEMENTARY SCHOOL

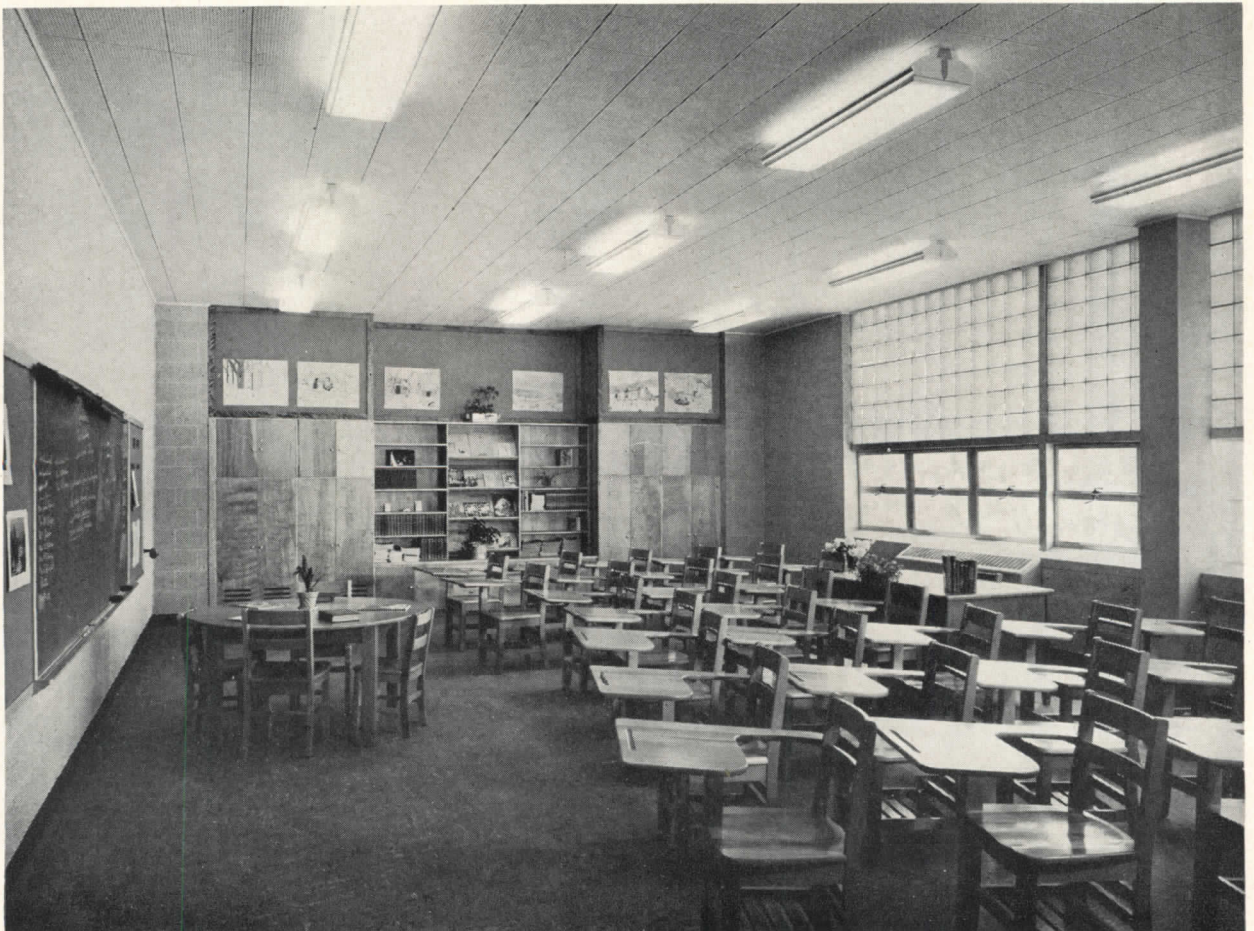
Construction (as for High School)	\$277,298.00
Electrical	13,155.00
Plumbing	18,493.00
Heating, ventilating	17,836.00
Kitchen and cafeteria equipment	11,800.00

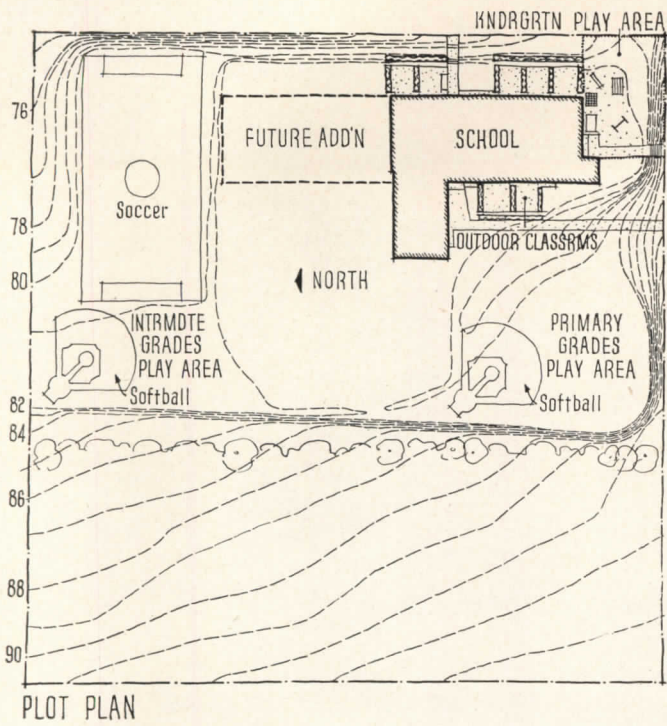
COMPLETE PLANT

Total cost, excluding classroom furniture and fees	\$1,325,915.39
Total cubage	1,843,980
Total floor area	132,627
Cost per sq ft	\$9.90



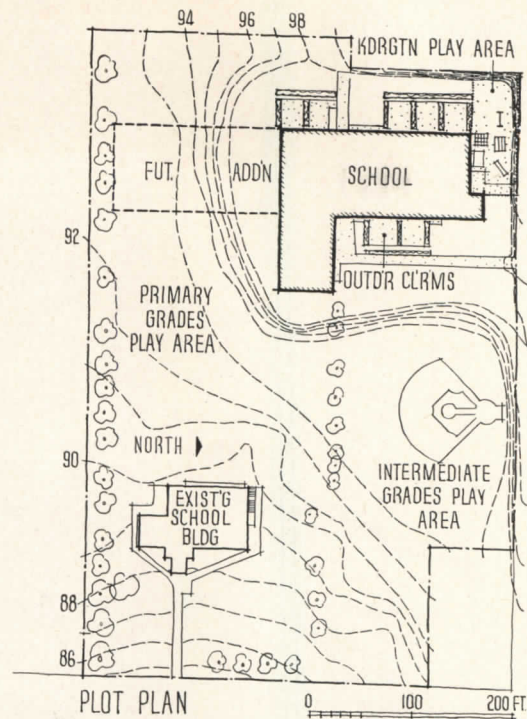
Lower elementary classrooms (photo above) are on ground floor; note work alcove at end, cabinets under windows, child-height fountain and sink, room toilets. Upper elementary classrooms (photo below) have almost as much built-in cabinet space, drinking fountains in corridors, group toilets





PLOT PLAN

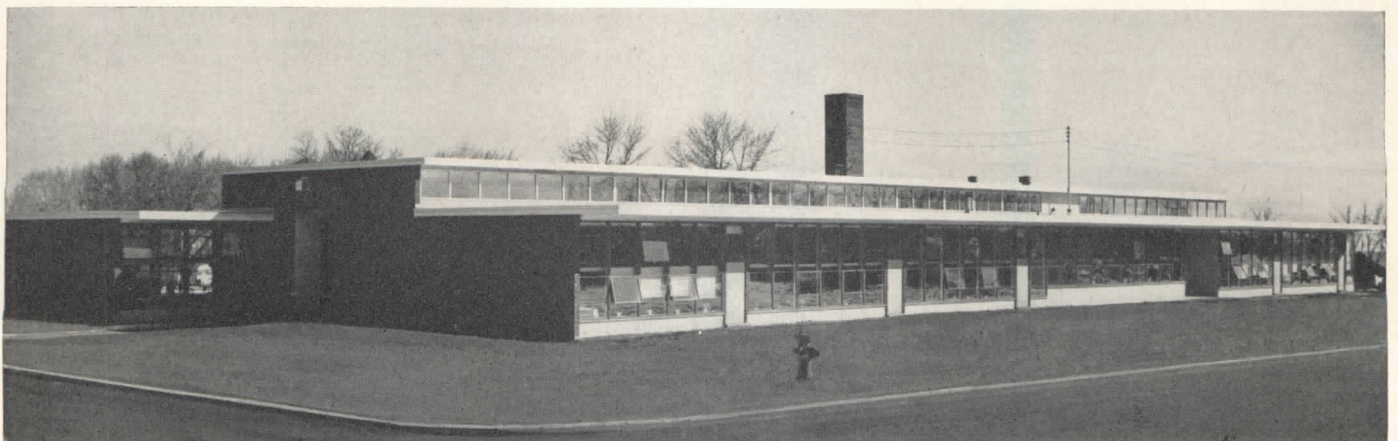
NOB HILL SCHOOL



PLOT PLAN

H. M. GILBERT SCHOOL

TWIN



*John W. Maloney and
John H. Whitney, Architects*

*Lincoln Bouillon & Assoc.
Consulting Engineers*

*W. H. Witt & Co.
Structural Engineers*

THE BOARD OF EDUCATION of District 7 in the City of Yakima faced a familiar problem: overcrowded facilities in a growing locality; a rigid necessity for economy; and an educational philosophy that demanded a building ("in which," in the words of its Superintendent, M. L. Martin, "children could live actively in a friendly, informal school atmosphere") designed to house a flexible, functional program aimed at developing the

ELEMENTARY SCHOOLS IN YAKIMA, WASHINGTON

Dean Spuler Photos



Using identical plans and construction for these two city schools, both with a minimum of outside walks and one with an excessive amount of site grading, resulted in the following low total costs (excluding fees):

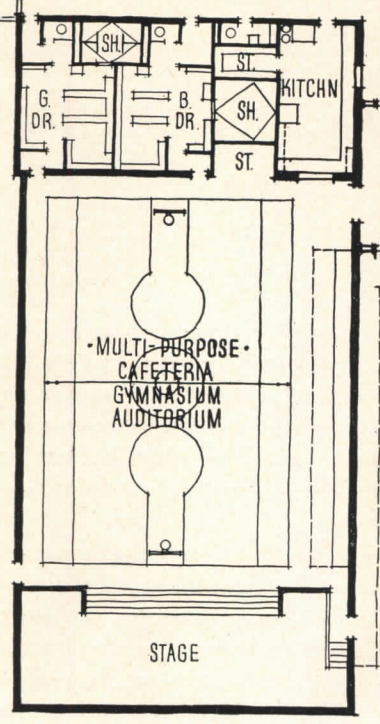
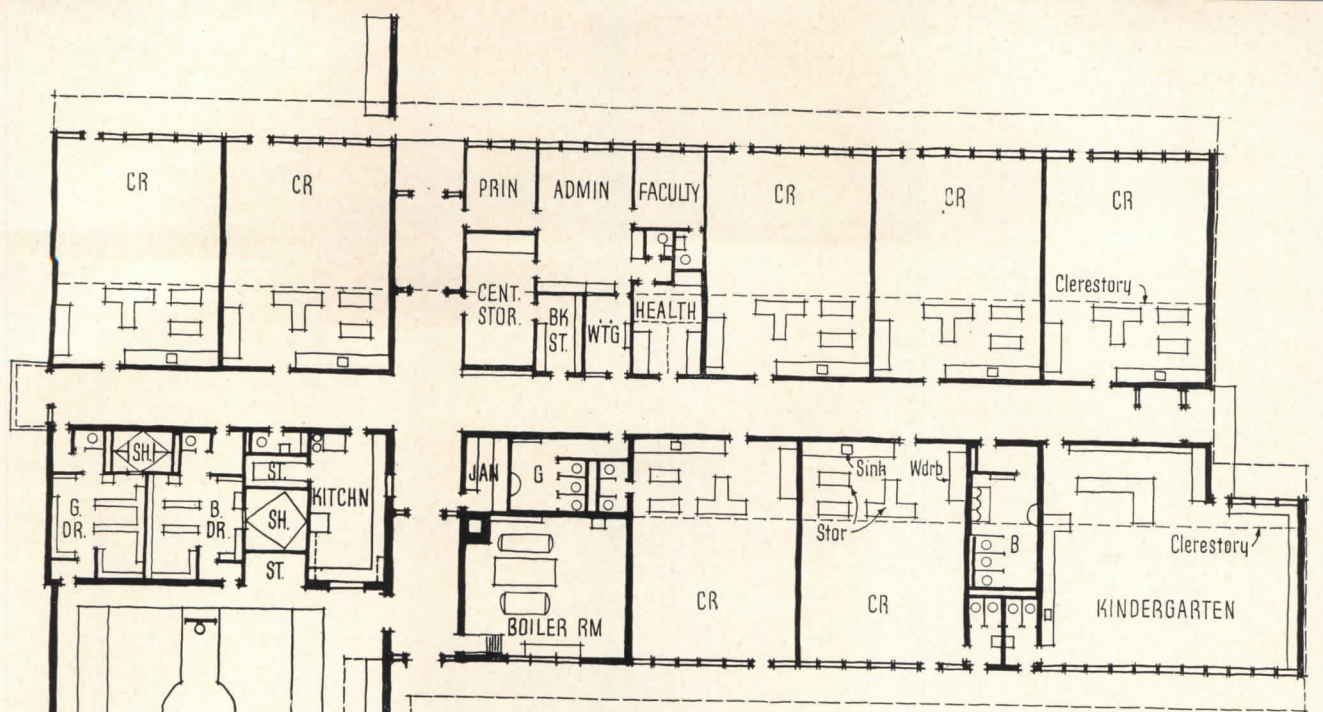
Total (average) construction cost, each school	\$205,822.50
Cost per pupil	\$858.00
Sq ft per school	20,950
Cost per sq ft	\$9.82
Cu ft per school	295,038
Cost per cu ft	\$0.70

whole child as an individual through an expressed belief in his worth, integrity and security. In 1948 the District approved a bond issue which was floated in early 1950. By January 1951 the two needed schools were in operation, though hampered somewhat by having still to wait for some hardware, metal-clad doors, incinerators and dishwashers.

The two buildings, so designed that reversed orientation does not affect the functioning of their classrooms, are identical. In discussing them the architects express the belief that, when economy is paramount, it is better to establish a satisfactory, typical structure to which the site must conform, rather than to relate the building to the site. At the same time, what with the changing building materials situation and a progressing educational program, they do not regard a prototype as sacred. The scheme shown here, used three times in Yakima and once in The Dalles, Oregon, is now up for re-study in their office.

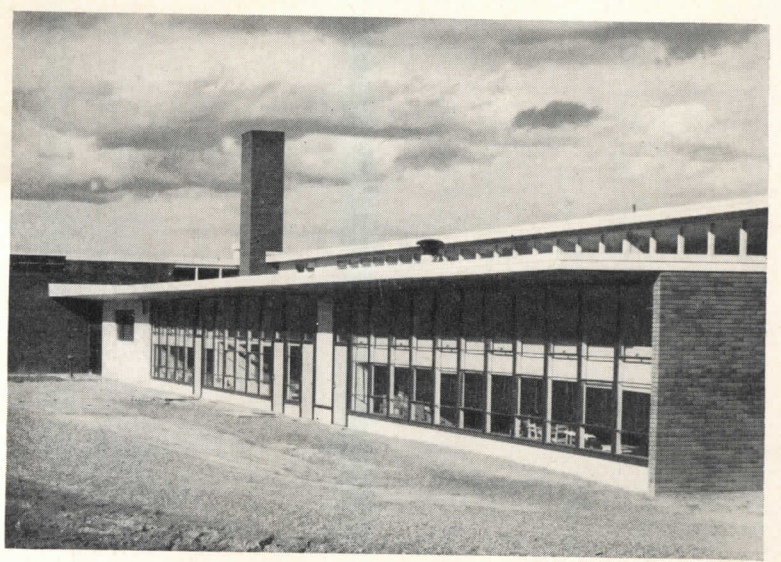
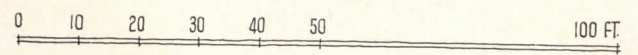
In the present plan, classrooms are end-on, with a clerestory lighting the rear third and an exterior wall practically all glass save for a 17-in. sill ("sills might better be desk-height," comments the principal of one school). On clear days natural light provides over 70 foot-candles near window walls, 35 in darkest areas. Fluorescent fixtures, used on overcast days, provide an even 35 foot-candles throughout. Light borrowed from classrooms illuminates the corridors, which are, deliberately, narrow "bowling-alleys;" exterior doors for all classrooms reduce the corridor's importance and make possible corridor doors opening into classrooms. The State Board accepted these ideas without much difficulty.

The architects now believe that, with one wall of windows and the clerestory, ceilings can be lowered 16 in., which would improve the scale of the building with respect to children and would save 16 in. of material around the building's perimeter. Also, although the end-on classroom is expected to continue to help hold down cost, its framing may have to change due to the steel situation.

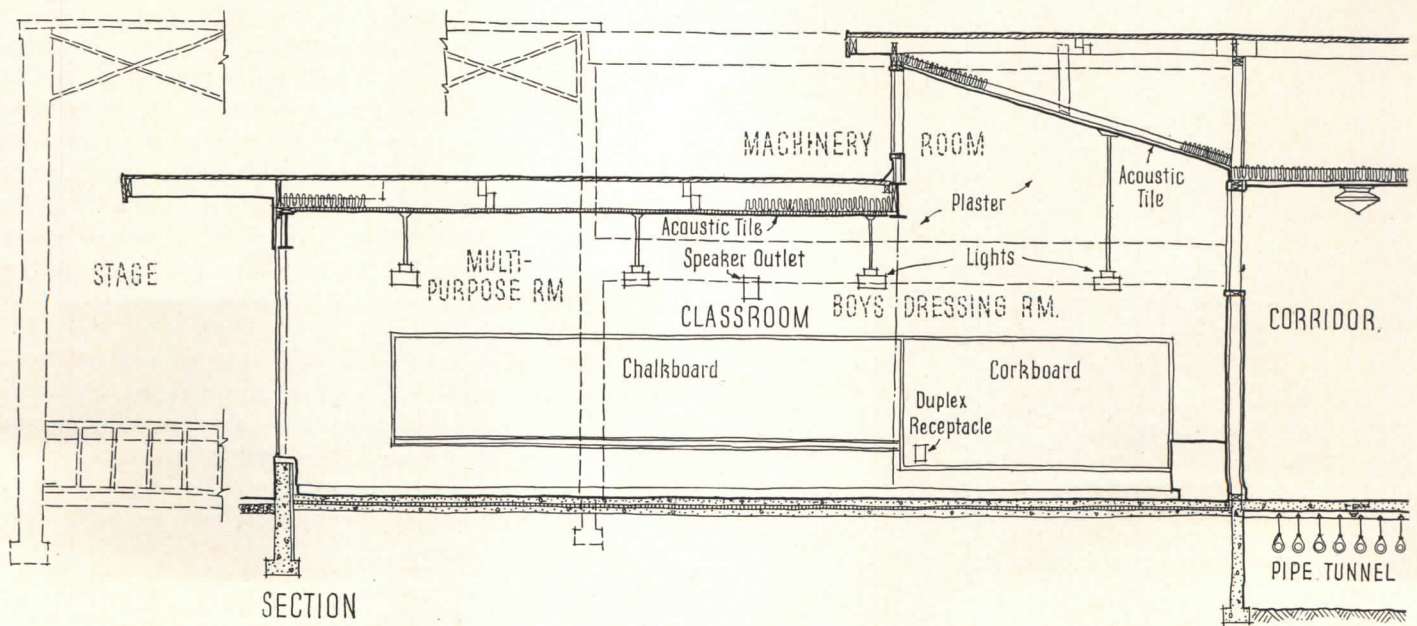


NORTH ▸ NOB HILL

H. M. GILBERT ◀ NORTH



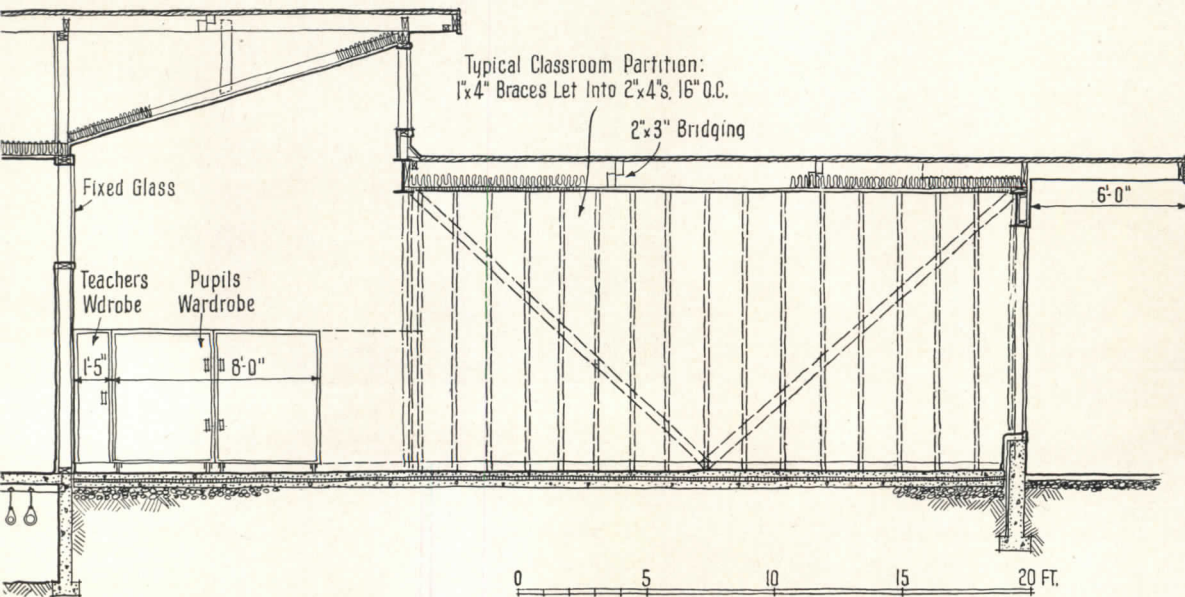
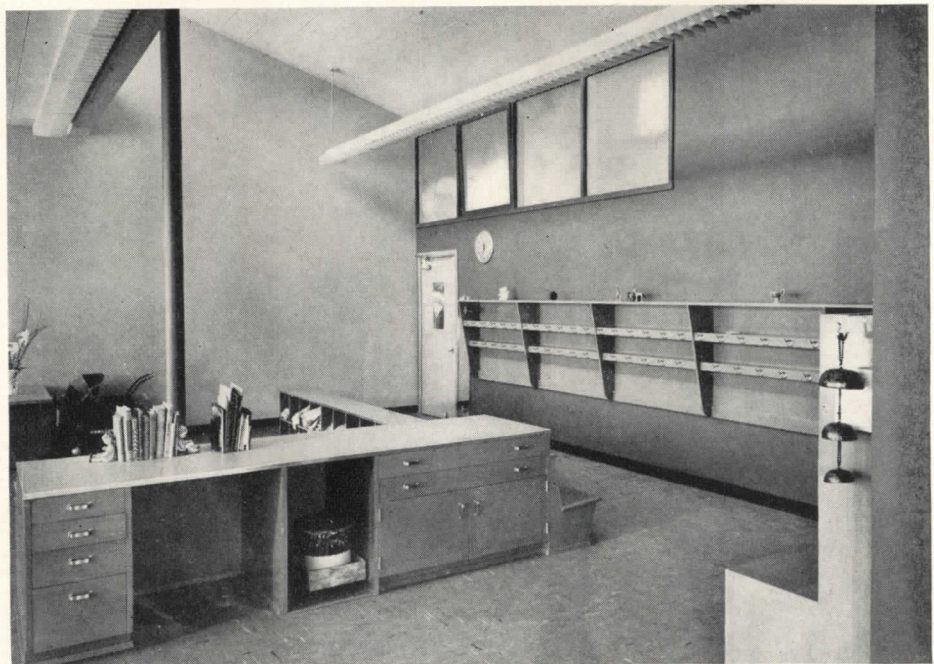
Dean Spuler Photos



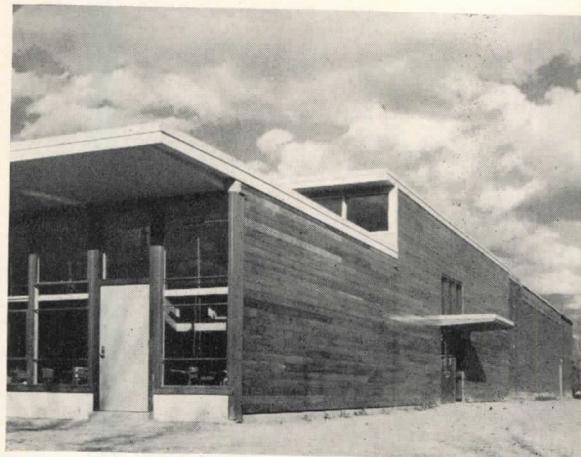
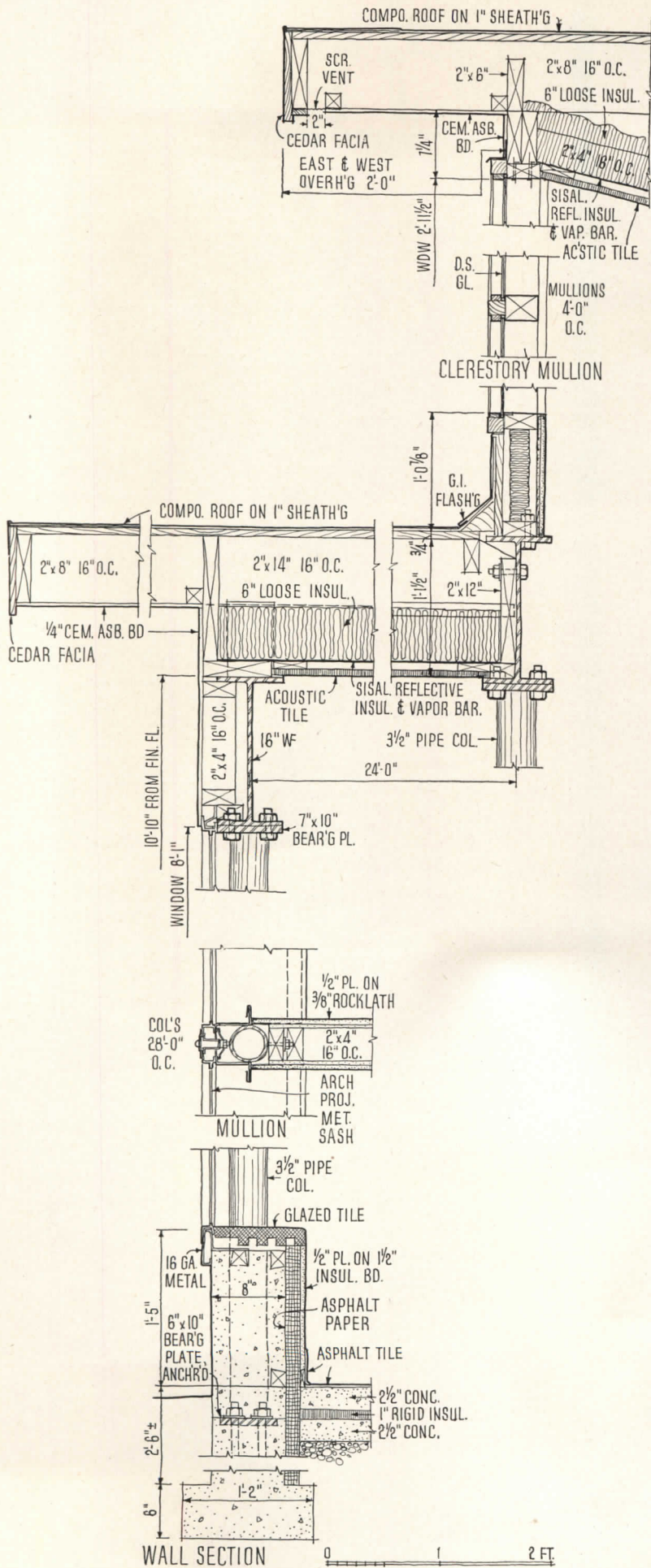
SECTION

YAKIMA SCHOOLS

Photos at right: completely glazed exterior wall of typical end-on classroom, and clerestory-lighted interior wall of kindergarten. Borrowed lights illuminate corridor. Construction: classroom wing is wood frame with steel girders; multi-purpose room, reinforced brick and steel joist framing with brick-veneered tile walls. Floors are split concrete slabs, radiant heated, with asphalt tile surface. Interior walls are painted plaster over gypsum lath; windows are steel, projected; lighting is fluorescent; mechanical ventilation is confined to kitchen and toilets. All cabinets, including coat rack strip in kindergarten and wardrobes in classrooms (see following pages) were specially designed



YAKIMA SCHOOLS



End of classroom wing, multi-purpose room in background. Classroom wing can be extended if future needs require



Kindergarten has bilateral window walls as well as clerestory at interior corner. Architects do not want to make clerestoried classrooms so high again; lowered 16 in., they would have scale better related to children, cost less

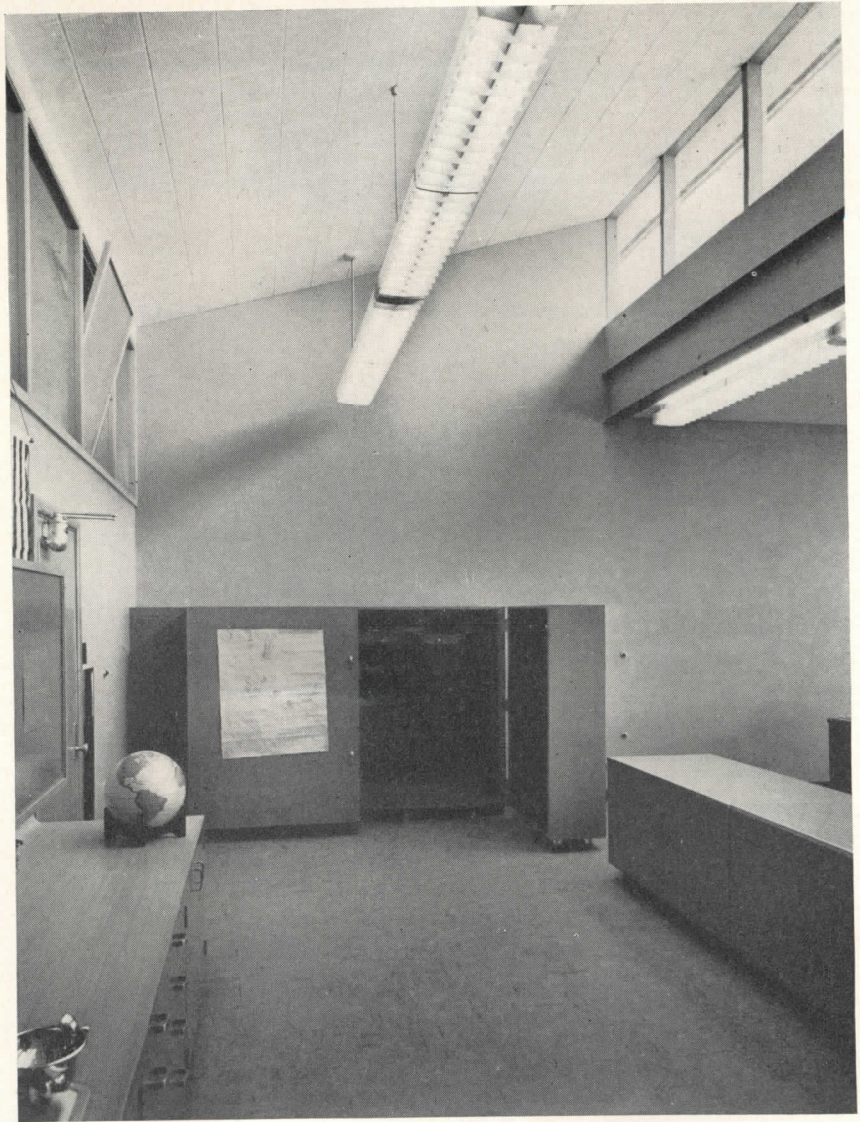
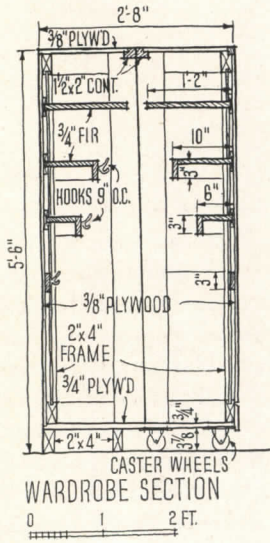
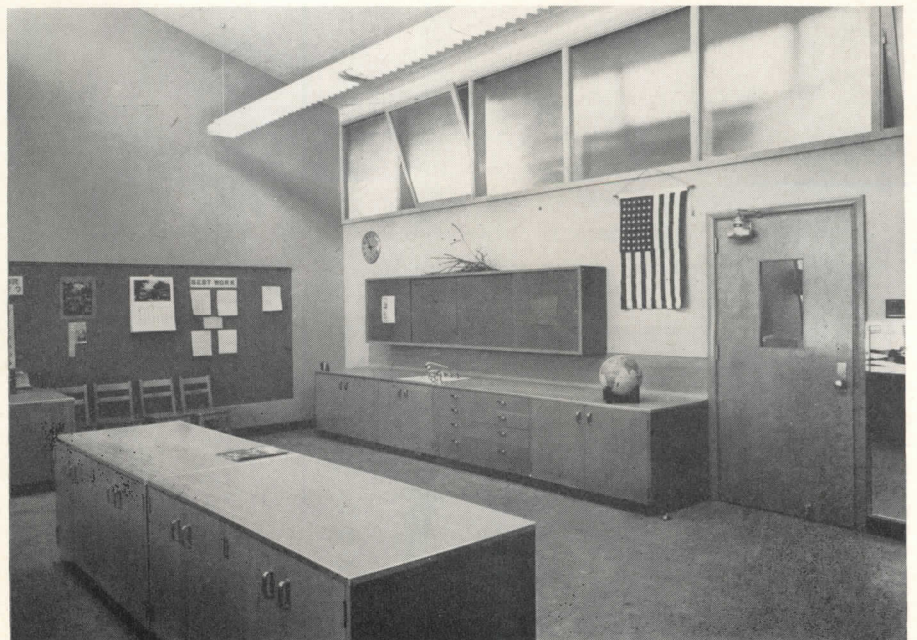


Photo and detail above show wardrobes with hinged front halves on casters so they can fold in. Below, cabinet work at inner end of a typical classroom. Superintendent states, that clerestories have caused no maintenance problem (except that they mean more glass to clean) nor have the fluorescent fixtures. While exterior doors to classrooms have caused "some mud in initial months, when grass and walks are in the difficulty will be overcome. The doors' advantages outweigh this minor problem"



Dean SpulerPhotos

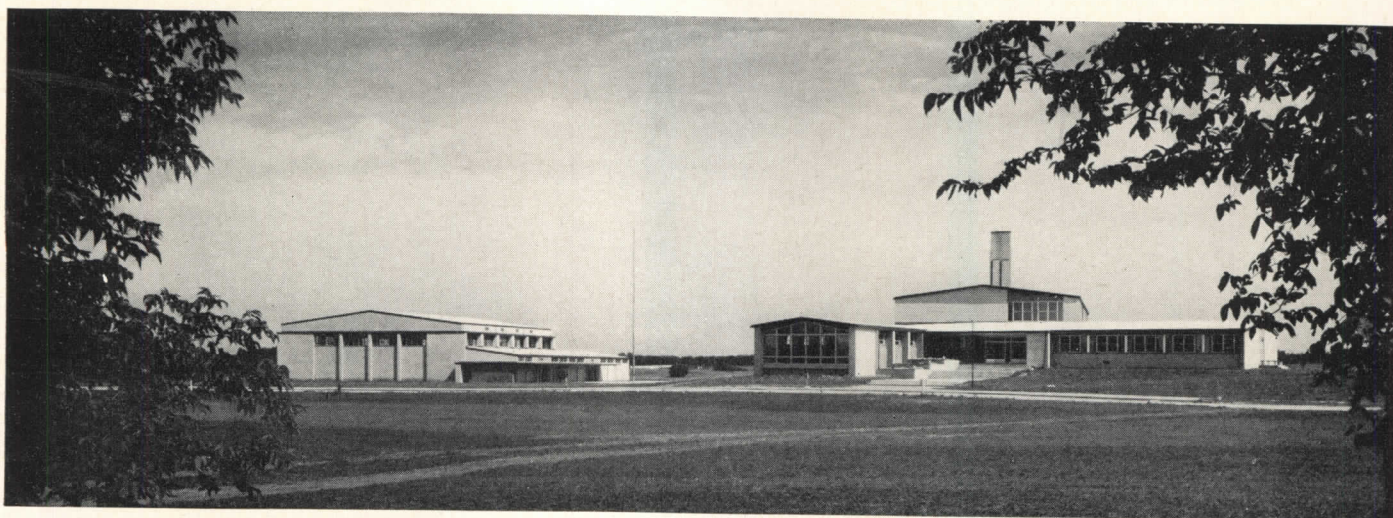


BARRINGTON CONSOLIDATED HIGH SCHOOL

Perkins & Will, Architects — Engineers

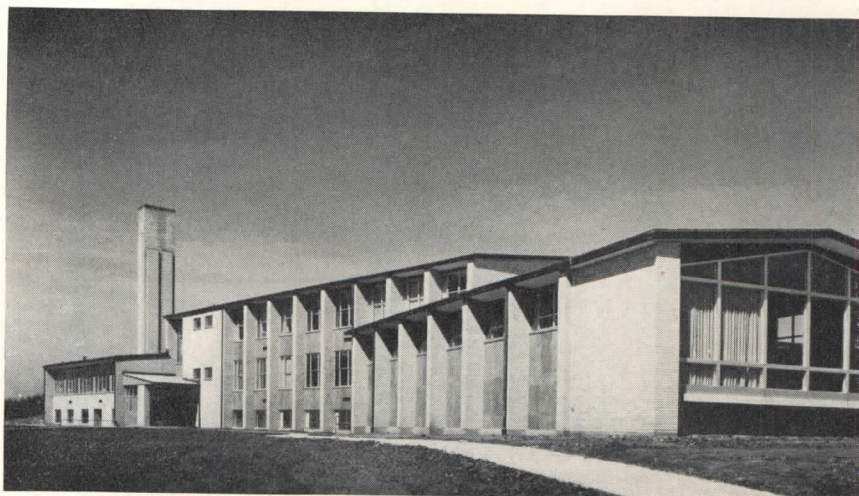
TWENTY YEARS or so have passed since any important new secondary schools were built in Illinois. Meanwhile, as with all educational age levels, pedagogy and its architectural expression have changed. In elementary schools, of which many more have been built, the changes are more frequently evident. Nowadays the primary child's activities center around his home classroom; elementary schools, then, become a series of almost independent units, to be expanded horizontally as much as site and economic considerations permit. High school curricula, in contrast, have become more specialized, with emphasis on the individual subject — academic, scientific, manual arts, physical education, commercial — rather than the grade or age level. Stu-

dents have more freedom of selection, too; put these factors together and the result is a traffic jam every 55 minutes when students pass from social sciences to shop. Since every part of the high school must thus be quickly accessible to every other part, the loose, extended plan of elementary schools is almost completely inappropriate. Again, the high school classroom has changed from an academic to a special facilities room: witness the importance of gymnasiums, shops, crafts rooms, etc. Industrial and home arts, no longer solely vocational subjects, are integrated into the curriculum for all students in application of the theorem that education for democracy implies appreciation of every element of the community. Emphasis on learning by doing means that

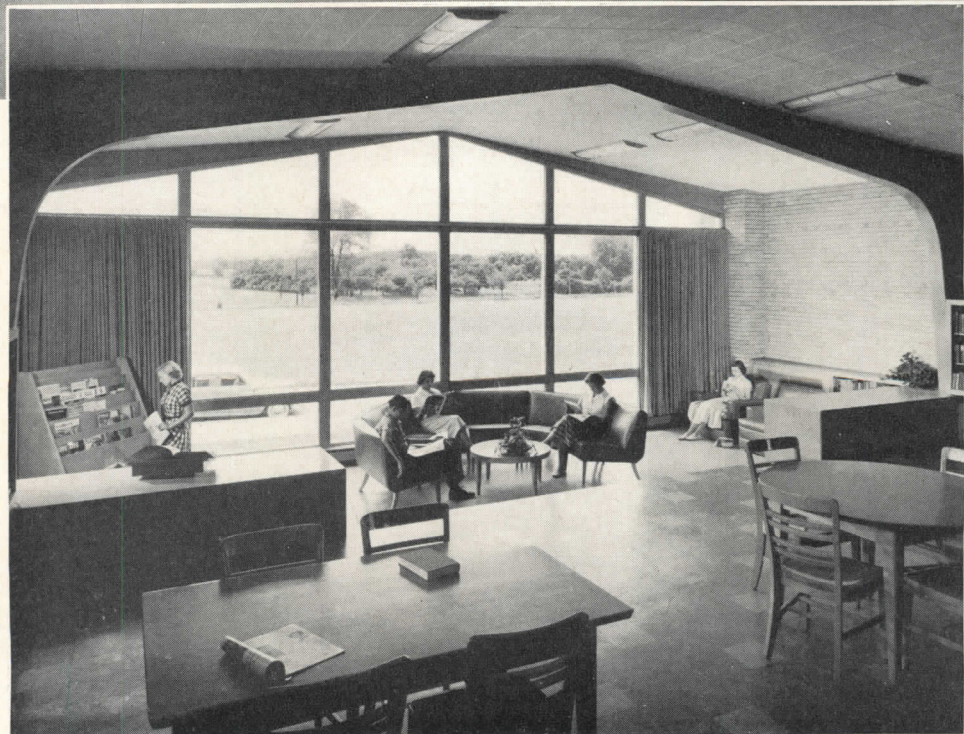
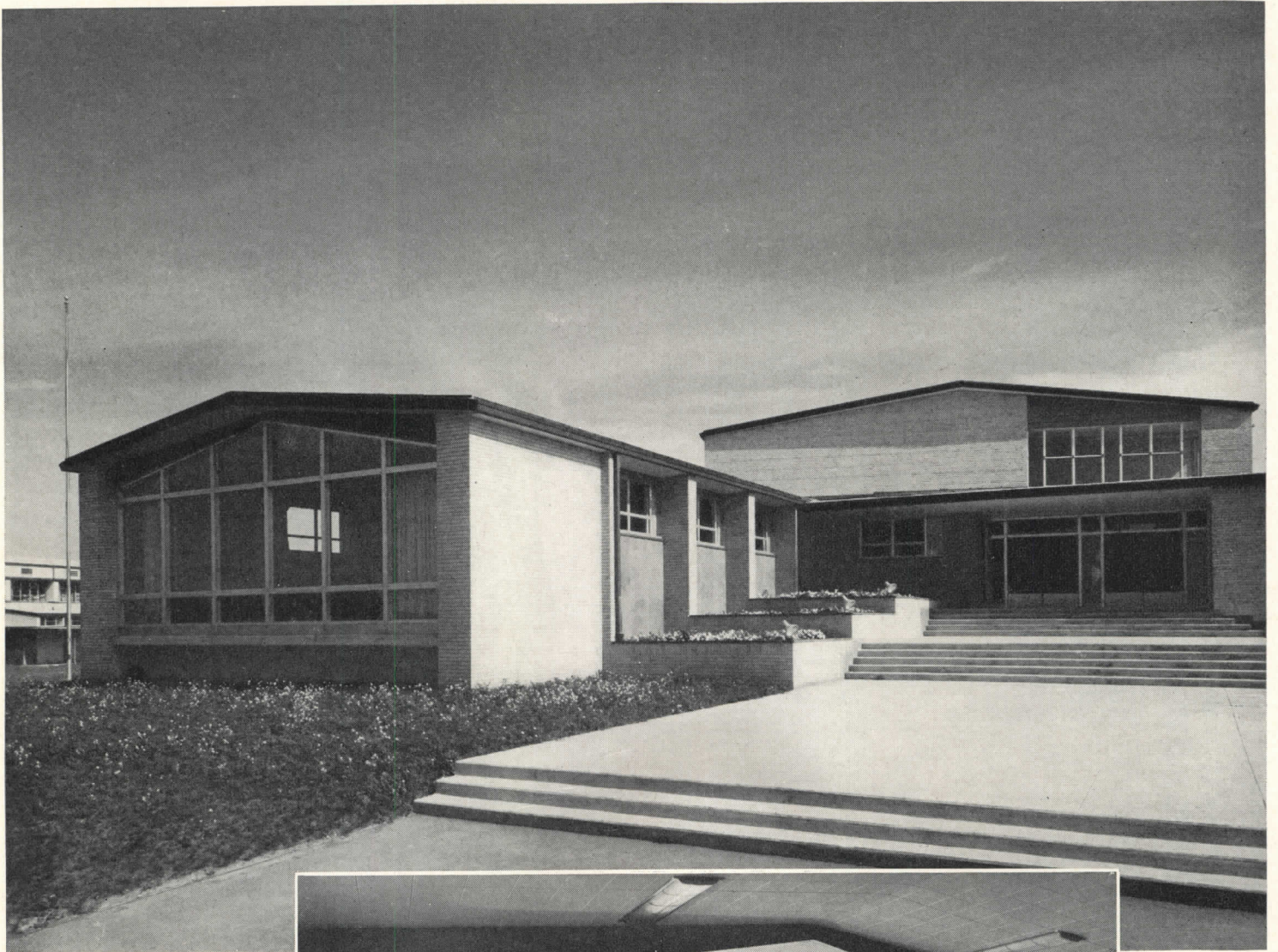


Hedrich-Blessing Studio Photos

Photo above: academic building at right, separate gymnasium at left. Eventually an arts wing and covered walks are to connect the two. Right: academic building; at left is community entrance to basement cafeteria-social hall, choral and band room, main floor shops. Facing page: exterior and interior, library wing adjoining main entrance. "Browsing center," down a few steps at glass-walled end of library, is casually furnished to invite comfortable reading



BARRINGTON, ILLINOIS

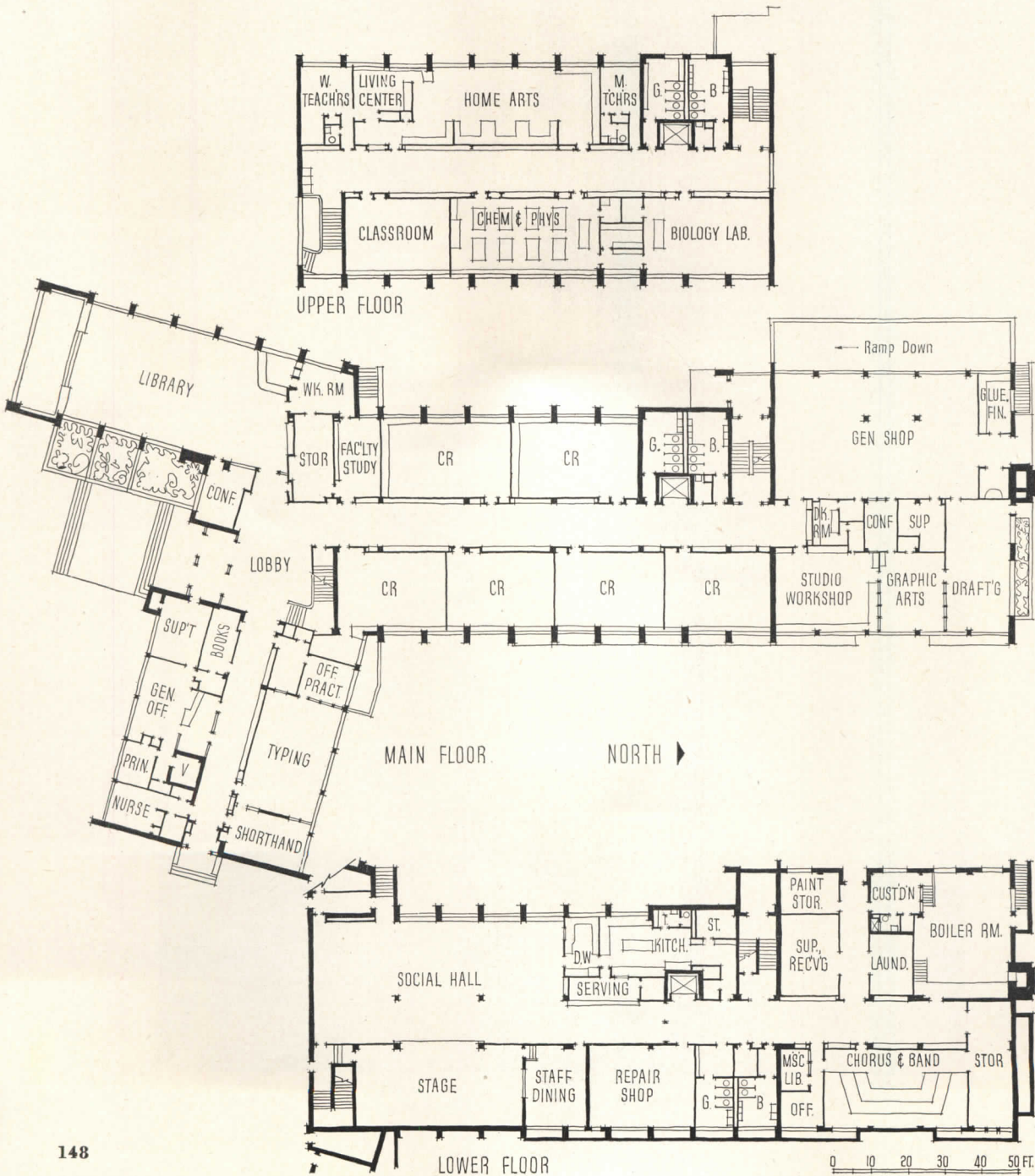


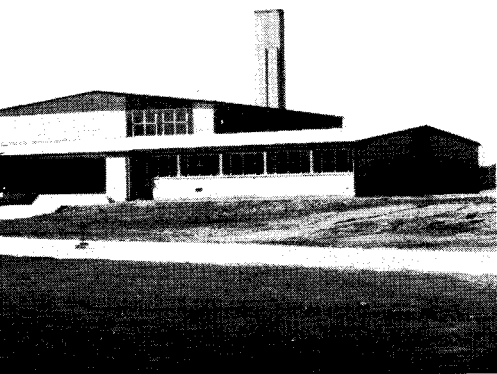
BARRINGTON HIGH SCHOOL

the pupil studies government not from texts, but by practicing parliamentary procedure.

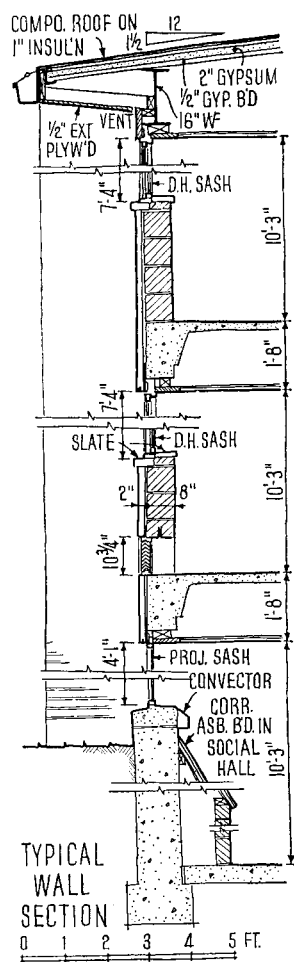
Barrington's new high school was planned for a rapidly growing suburban and farm area, consolidated since the war into one high school district. More than 30 miles from Chicago, it has a high proportion of non-commuting population needing a broad program to fit both village and countryside. Voters approved purchase of a 73-acre site which provided plenty of room, and a complete building and site development program was laid out. High cost has limited immediate construction to only two buildings, the academic unit and gymnasium shown here. Ultimately a separate arts wing, auditorium group, more teaching space, football and baseball stadia, outdoor gymnasiums, physical education areas, ice hockey and skating ponds, open-air amphitheater, greenhouses and agricultural plots are contemplated. Squeezed by costs, the buildings do

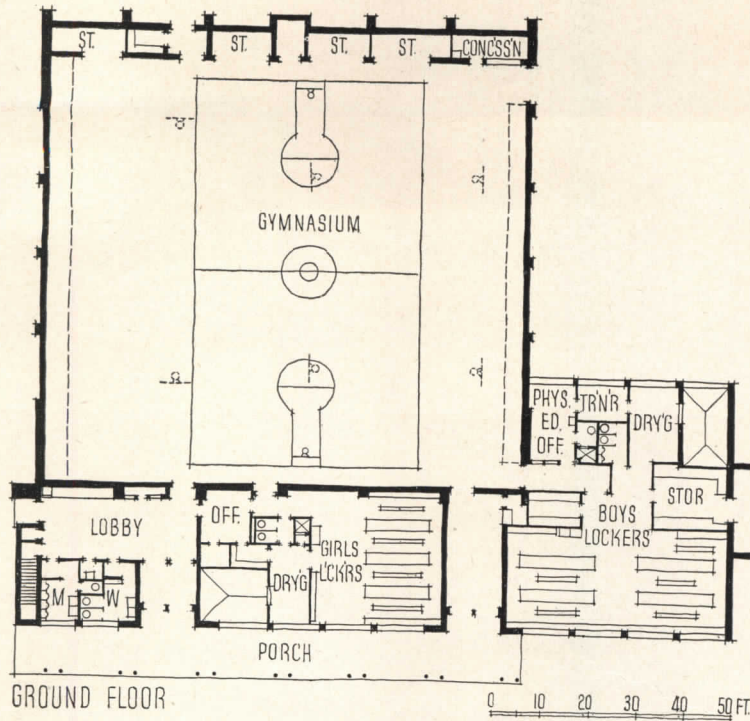
Hedrich-Blessing Studio Photos





Each classroom is designed for a special purpose. All have painted concrete block walls, acoustic tile ceilings, asphalt tile floors, aluminum sash, fluorescent light, finned radiation, unit ventilators, blue glass chalkboards. Right, top to bottom: social science room; home economics laboratory with demonstration area at far end set off by low tiled wall; drafting room; general shop whose beamed ceiling, formed by concrete pan construction, accommodates fluorescent light strips





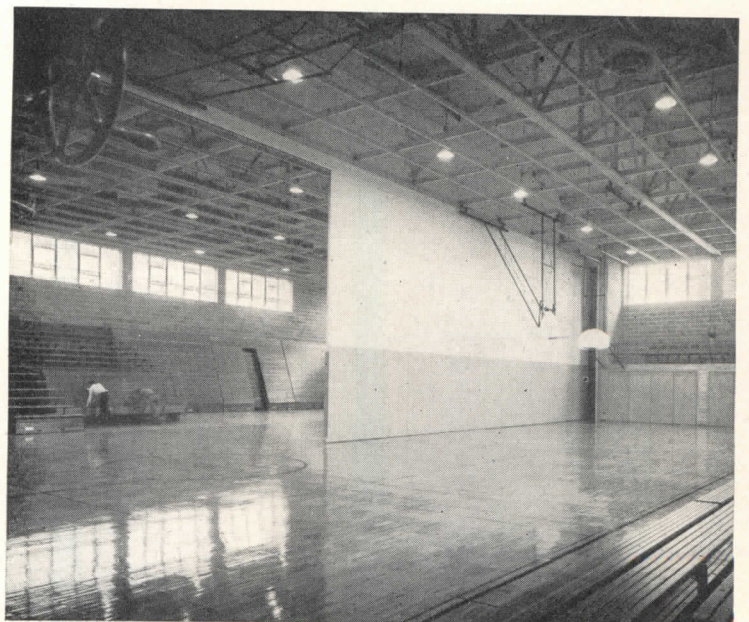
Gymnasium, with masonry walls and steel-framed roof, has exterior of same gray textured brick used on academic building. A motor-driven folding partition can divide it into separate gyms for boys and girls. Floor is polished maple over concrete slab. Entire high school was designed to provide a community building for use of non-school groups whenever possible. "Campus" planning makes any facility accessible without opening entire building. This, says the Superintendent, has worked out very well

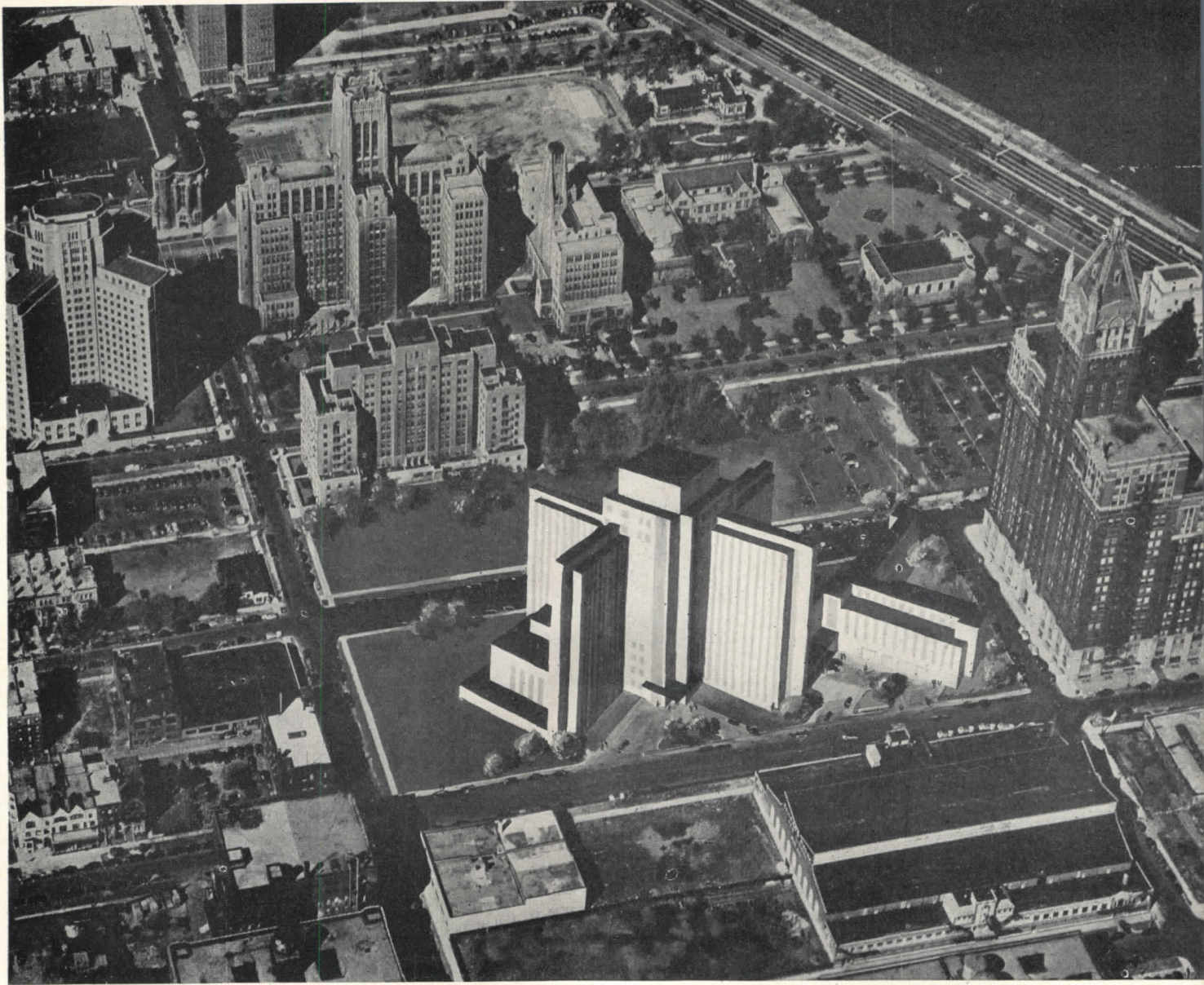
contain many compromises. Ideally, fine and industrial arts would be centered in a separate wing, as they eventually will be, between the academic building and the gym. Like other portions of the school, these are used 'round the clock by adults as well as students. The main building represents maximum concentration of multi-purpose space into a compact, low-cost structure of reinforced concrete construction, designed on a modular basis and with concrete block partitions to simplify future changes. The gymnasium also is planned for multiple use; it can be divided to take boys and girls simultaneously, seats 1526 in folding bleachers, or ac-

commodates more than 2500 for community meetings.

In general the people of Barrington think well of the new high school now that they've gotten used to modern architecture. There is still some opinion that the outside is unattractive, although "from inside looking out," said one citizen, "it's beautiful." Nearly everyone deplores the present lack of a real auditorium and would like to see the two present buildings physically connected. The School Superintendent, F. C. Thomas, states that Perkins and Will gave Barrington the school it needed, with a quiet, friendly atmosphere to which children would want to come.

Hedrich-Blessing Studio Photos





Williams and Meyer Photo

VETERANS ADMINISTRATION RESEARCH HOSPITAL

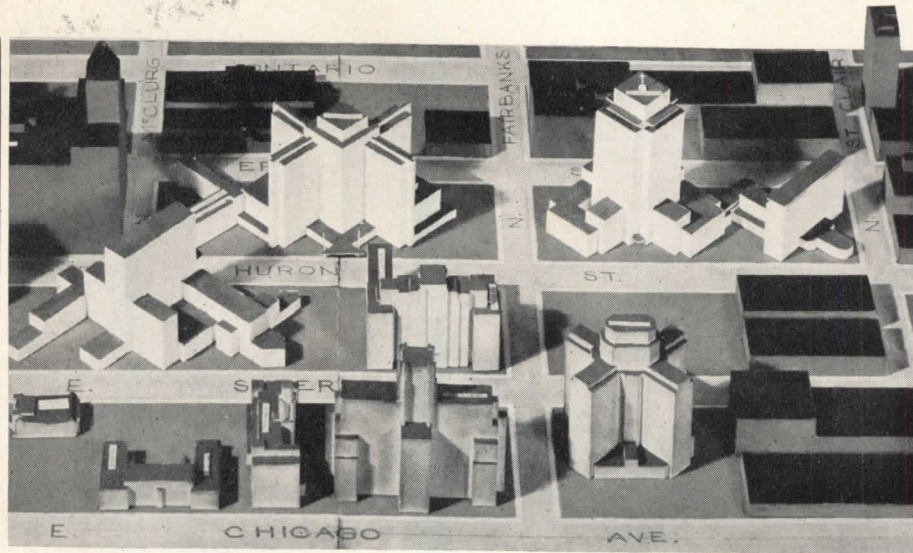
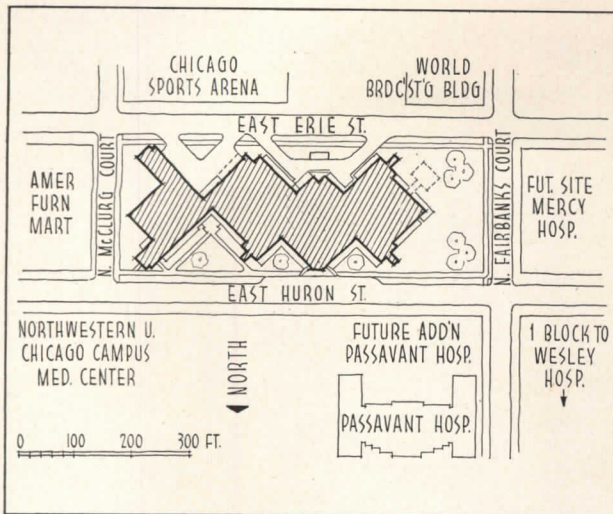
CHICAGO, ILLINOIS

Schmidt, Garden & Erikson

Architects and Engineers

IT IS PUTTING IT MILDLY to say that this is not a typical hospital — it is about as far from a typical hospital as it is now possible to go. As the VA's Research Hospital it brings to a focus all of the specialized diagnosis and treatment (especially cancer) not provided by other VA hospitals. In these fields it runs the full gamut now known to medical science, from bedpan to betatron.

If it is bold in medical matters it is also bold in architectural planning. To get a 500-bed hospital, with its Rube Goldberg array of special equipment, in a fairly congested city area (it is adjacent to the Medical School of Northwestern University's near-north-side campus



in Chicago) required some strong measures and some new groupings of hospital facilities. It is, then, a hospital to be studied with interest, but not one to be put into a notebook too literally.

The site is a city block 633 by 128 ft, which will eventually be surrounded by tall buildings. On-site parking was seriously considered and reluctantly abandoned. But a power plant was required; it was put almost entirely below ground. Also required were quarters for 50 resident doctors and 90 nurses.

In the design of the hospital, major consideration was given to securing favorable orientation and providing as much light, air and sunshine around the building as possible, hence the diagonal scheme. It was anticipated that some day tall structures will be built on the adjacent sites. However, the location is such that to the north and northeast the view is across the interesting buildings of the Northwestern Campus to Lake Michigan.

The typical floor developed after much study is a cruciform plan composed of two equal nursing units with a large central core containing common facilities and the vertical circulation. This arrangement provides an ideal location for the nurses station with a minimum amount of travel along each bed wing. The solarium and four-bed wards receive excellent sunshine and to a lesser degree so do the single-bed rooms. The diagonal light courts insure a maximum amount of light and air for all of the rooms, together with interesting views of the lake and city. The placing of the stair at the ends of the extremely narrow wings freed the plan and added considerably to the particular character of the building. The shape of the stairway was continued over the roof to provide space for fans and pipes. The lower floors where more space was needed expanded easily to contain the medical services in air conditioned space. Even with these areas so large, they are not far from the elevators.

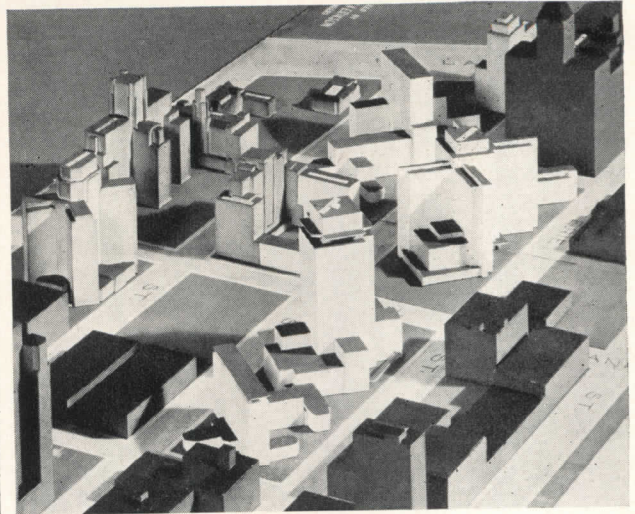
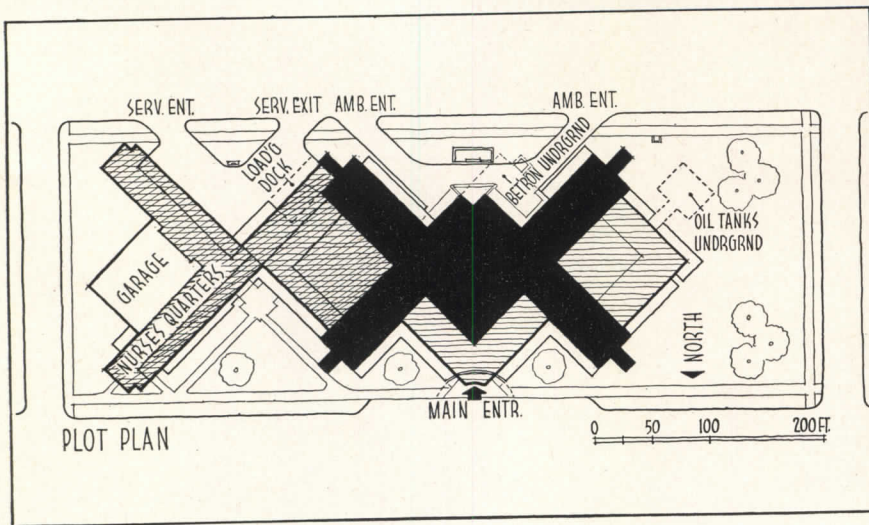
After and during the development of the typical bed floor plan much consideration was given to the location of the departments of the hospital.

The large areas needed by the x-ray department, surgery, out-patients and administration, with their close relationship to other parts of the hospital required easy vertical communication. The fact that most of these spaces would be air conditioned suggested the development of large concentrated areas on either side of the elevators at the base of the building. This scheme has worked out very well. It has been possible efficiently to organize these large departments on a square basis with all of its attending economies, rather than in long wings in the usual fashion. This grouping together has concentrated the air conditioning load and the large interior areas promote real economy in operation.

The form of the plan gives the building a classic silhouette and mass. The fenestration was the result of the required room sizes and the tremendous variation in floor usages. The masonry piers were essential to permit a reasonable flexibility in arranging partitions. The cast aluminum spandrels were chosen because it was felt that a vertical treatment of the windows was more characteristic of the building than a pattern of windows. Wood double hung pivoted sash have been used for ease of cleaning and general maintenance. Stone was selected as the facing material to conform to the existing buildings on the Northwestern campus.

The first floor out-patient department, which also serves the functions of an admitting office, is ideally located. The use of one well-marked patients' and visitors' entrance eliminates the exasperating experience encountered in so many large institutions, of investigating a number of entrances until finally the right one is focused. The department is close to the elevators so that patients may be easily referred to other departments of the hospital.

The extensive x-ray departments on the second floor



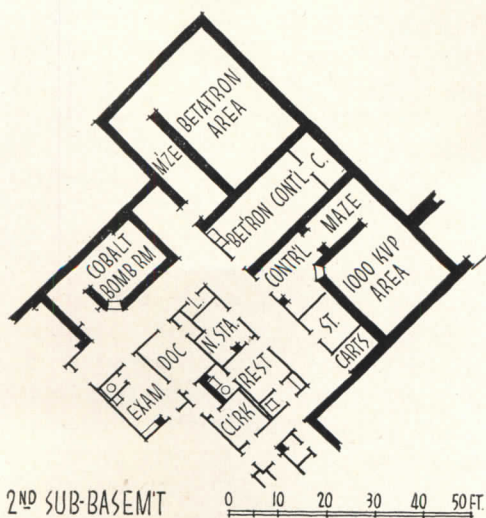
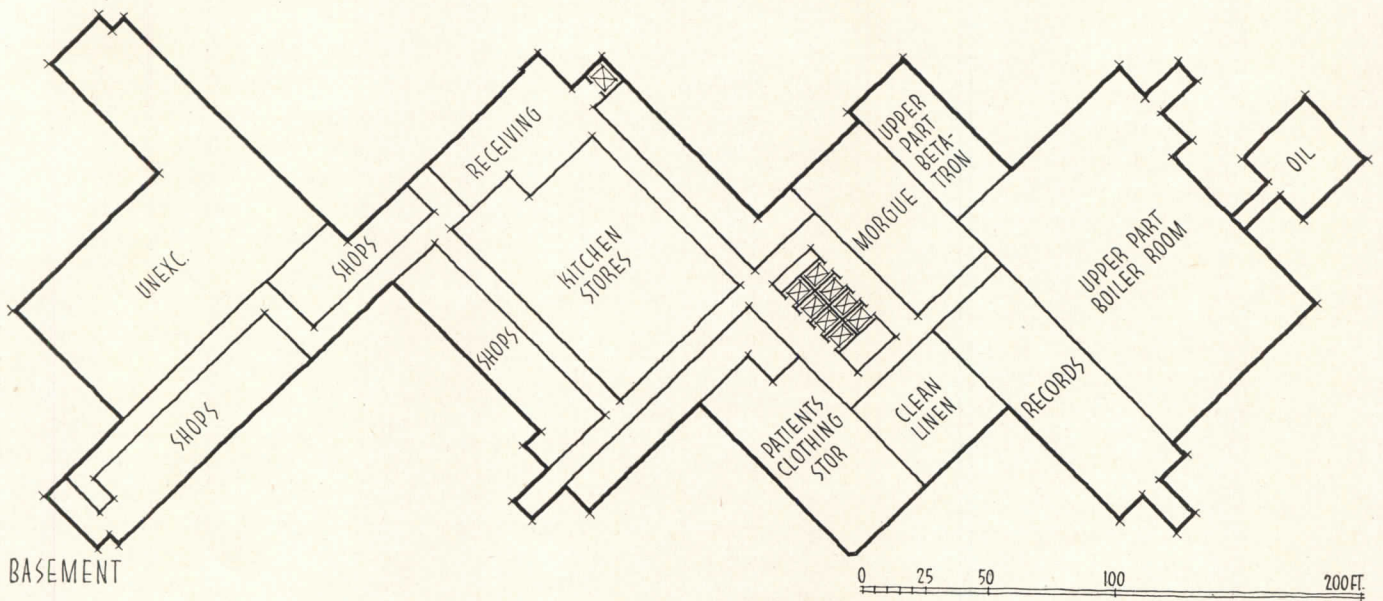
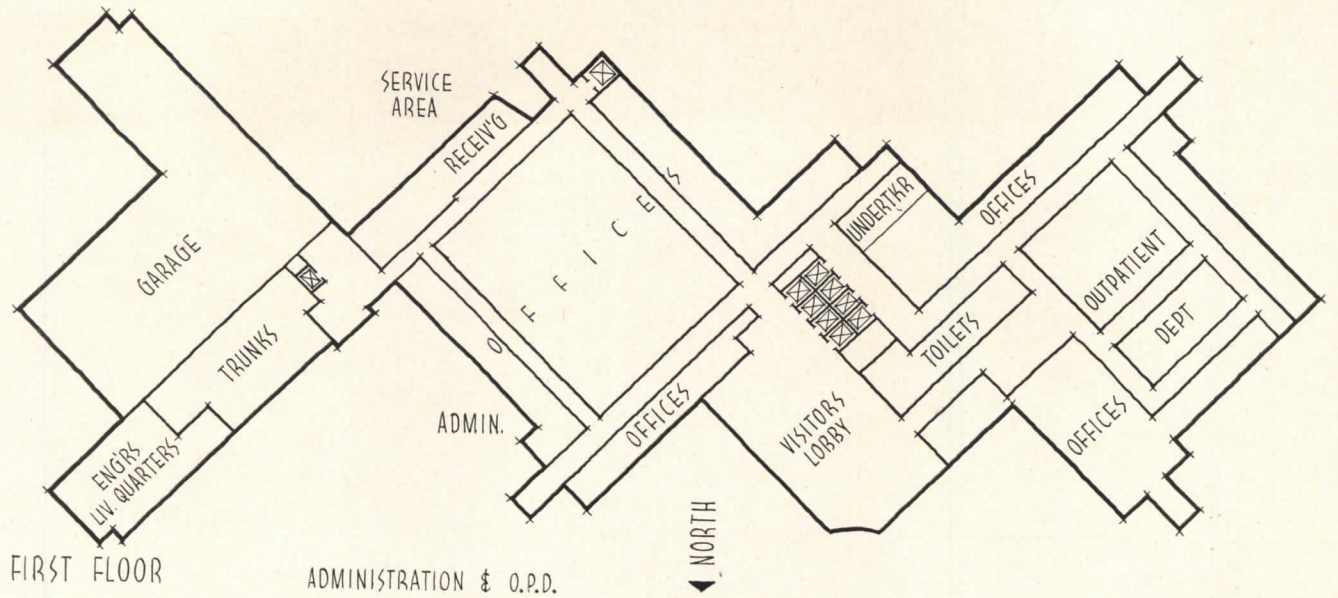
and in the second sub-basement are very differently organized from conventional arrangements, which usually have treatment rooms on either side of a long corridor. The large air conditioned interior areas of this building have made possible an efficient and economical arrangement of space based upon the function of the department. In general the treatment rooms are grouped around the work areas of the staff to promote efficient use of the technician's and doctor's time. The patients' waiting rooms are close to the elevators and convenient corridors lead patients to the treatment rooms with a minimum of interference with the movements of the hospital personnel. In the therapy section eight identical treatment rooms grouped on either side of a service corridor permit the easy passage of doctors and technicians from one room to another, and also open directly to the examination rooms and offices. The patients' corridors lead from the waiting space past the offices and examination rooms to the treatment rooms entering on the opposite side through a dressing room. This arrangement will overcome the ordinary confusion of one long busy hospital corridor serving everyone. The department also contains a radon plant for the manufacture of radon seeds. The room is heavily insulated with lead and equipped with special ventilating equipment to exhaust the air in the room quickly in the event of a plant failure. Facilities for the storage and shipping of radium, the calibration of instruments and a research physics laboratory and work shop are also provided. The heavy doors of all of the lead-lined rooms are pneumatically operated.

The radiographic x-ray or diagnostic department is organized upon the same general principle of grouping the treatment rooms around a service room to promote speed of operation. The six treatment rooms are arranged around the developing room so that film may be passed from each room directly. The drying room opens conveniently into the film filing space, which in turn

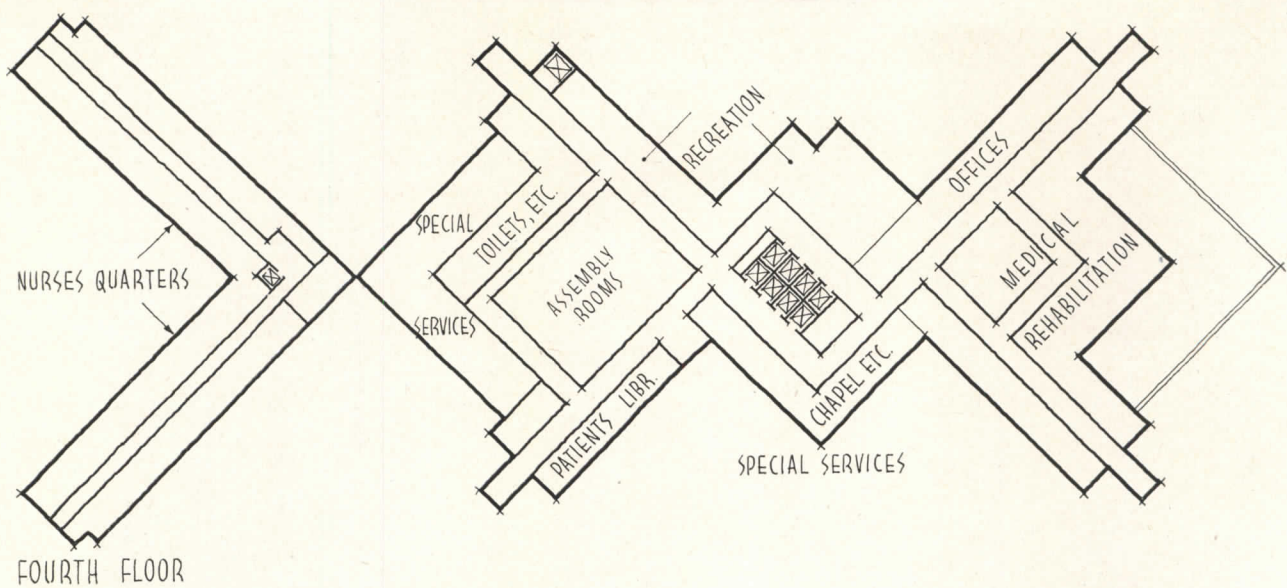
supplies the developed film to the film viewing rooms. The patients' corridors are again separated from the activities of the hospital personnel as much as possible.

In the second sub-basement is the betatron, the 1,000,000-volt x-ray machine, and a cobalt bomb room placed below the grade to afford maximum shielding. The betatron room is heavily insulated from the main structure by thick concrete walls to prevent radiation and by an air-space to reduce noise transmission, as the betatron in operation emits a very disagreeable high-pitched whine. The room is lined with perforated asbestos acoustical material to reduce the noise factor inside the room as much as possible. The entrances are shielded against scatter radiation by mazes and heavy lead doors pneumatically operated. The vision panel in the control room of the betatron is composed of two water glasses to stop radiation. The tanks are continually fed fresh water to prevent the formation of algae. Two mirrors at the corners of the room permit the operator to see the patient during the treatment.

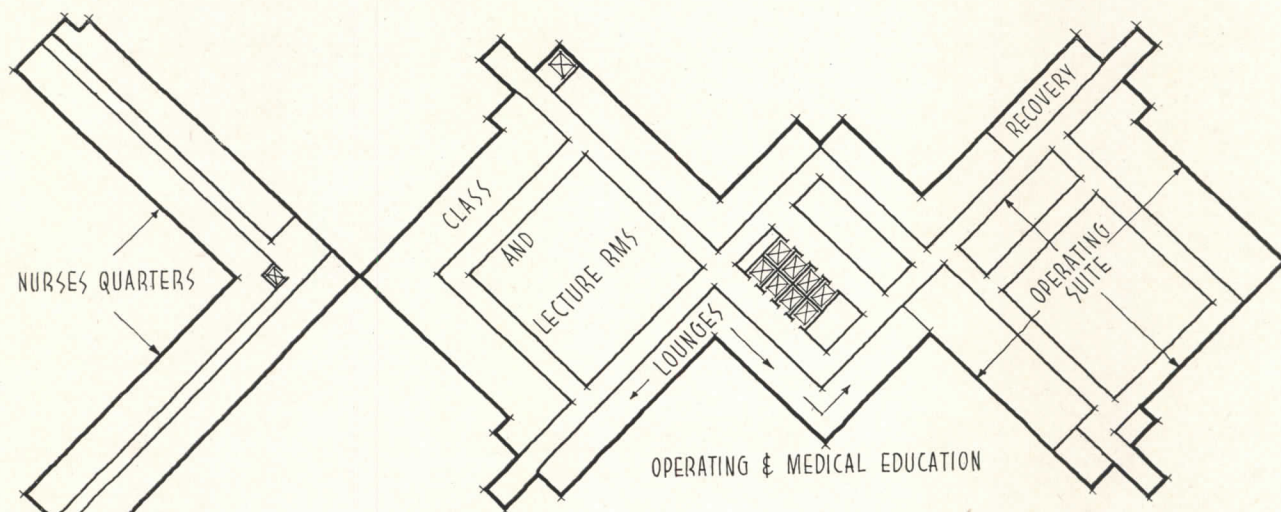
The third floor operating department differs greatly from conventional surgery arrangements. By using a large air conditioned area and eliminating the usual small scrub rooms and sterile work room, it has been possible to organize an economical and efficient department. The principle upon which this plan is based requires a concentration of nurses and technicians in the clean and soiled work room with the travel distance to the operating rooms reduced to a minimum. The efficiency of the operating rooms is greatly accelerated by using a small adjacent anesthesia room. The soiled utility room contains a clothes chute, instrument washer, and is close to the medical incinerator, all of which saves time. The clean nurses work room is centrally located and is served directly by dumbwaiter from the central sterile supply. This type of organization promotes great efficiency and permits complete supervision of personnel in the operating department.



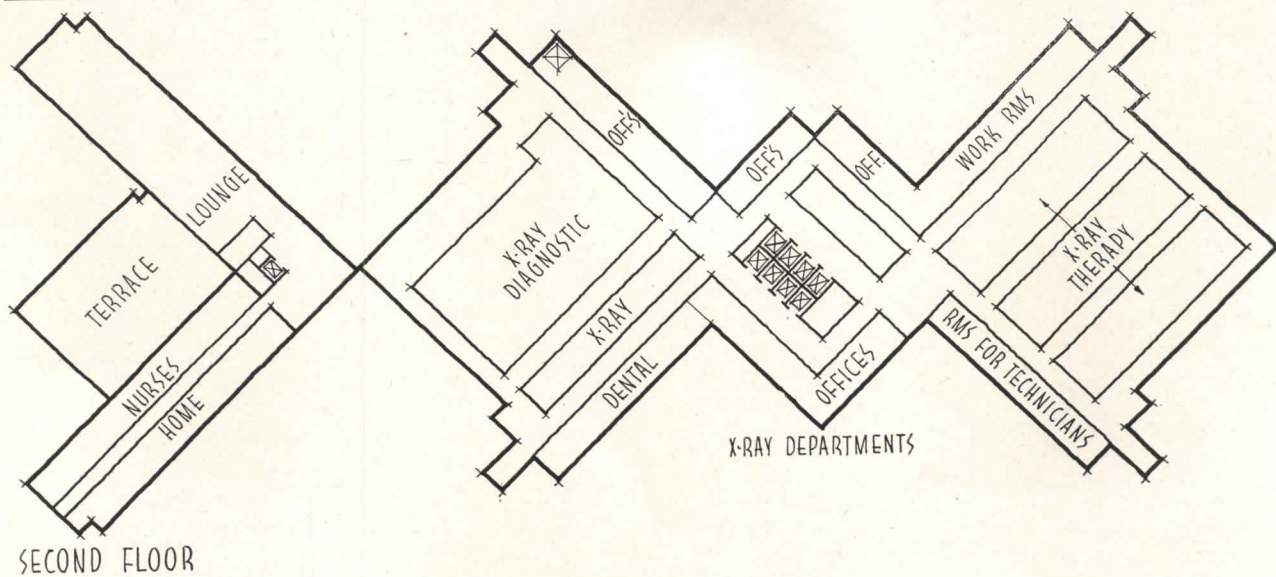
A cruciform plan with its base filled in gives good light, in a crowded city site, for upper floors and plenty of large areas in the base portion for offices, out-patient department and so on. The building goes down to a second sub-basement, to sink still other heavy requirements below grade — the power plant, locker rooms and storage, and the three-story betatron equipment, which is easily shielded when underground. Even so, all equipment could not be put below grade, and the fifth floor (plan not shown) becomes a machine center, especially good as a central location for air conditioning plant. Upper floors are diagrammed on succeeding pages



FOURTH FLOOR

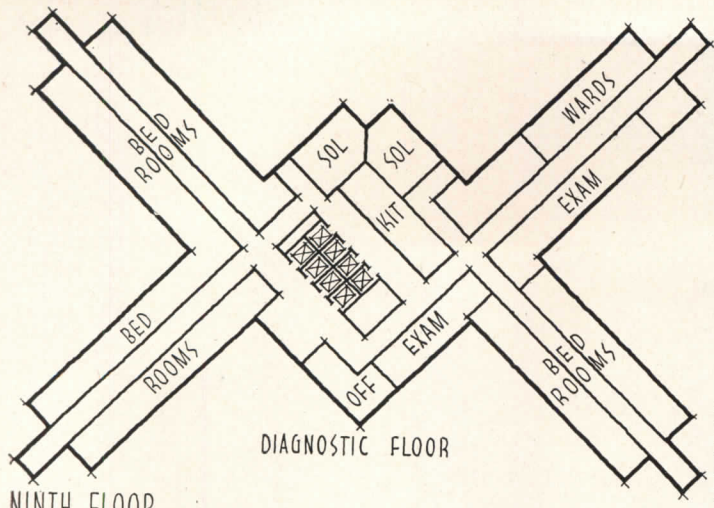


THIRD FLOOR

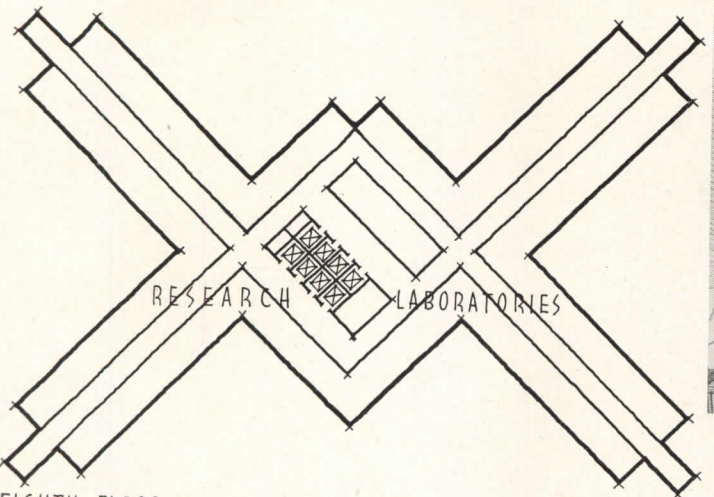


SECOND FLOOR

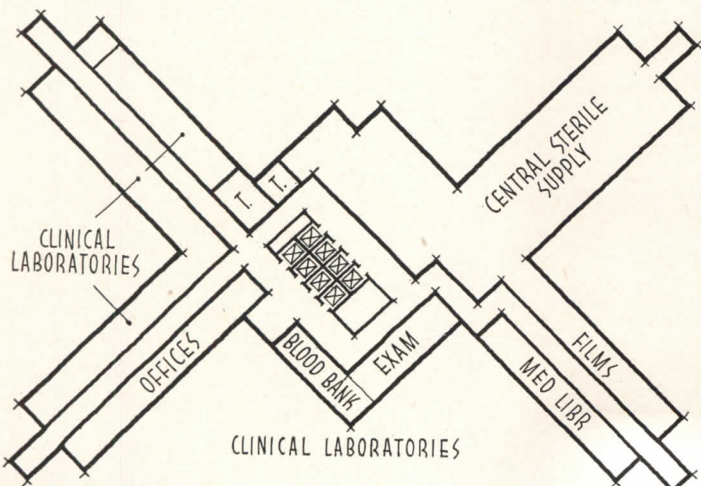
VETERANS RESEARCH HOSPITAL



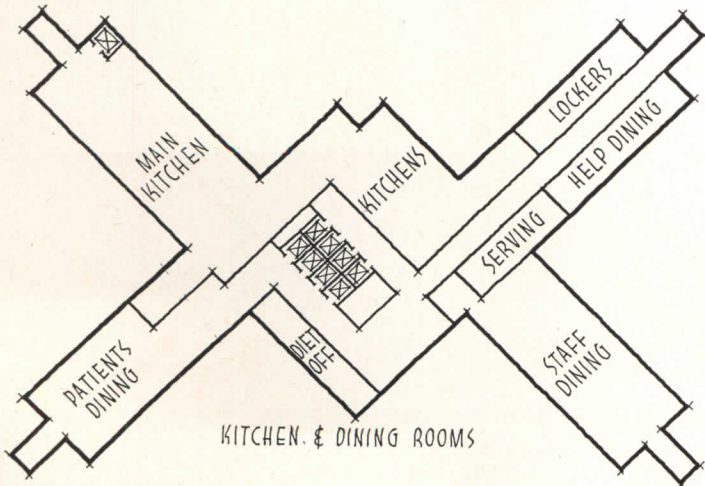
NINTH FLOOR



EIGHTH FLOOR

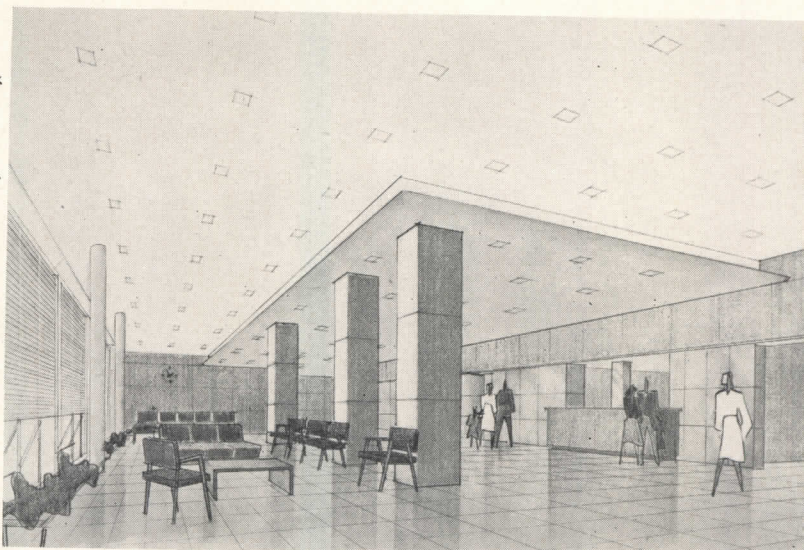


SEVENTH FLOOR

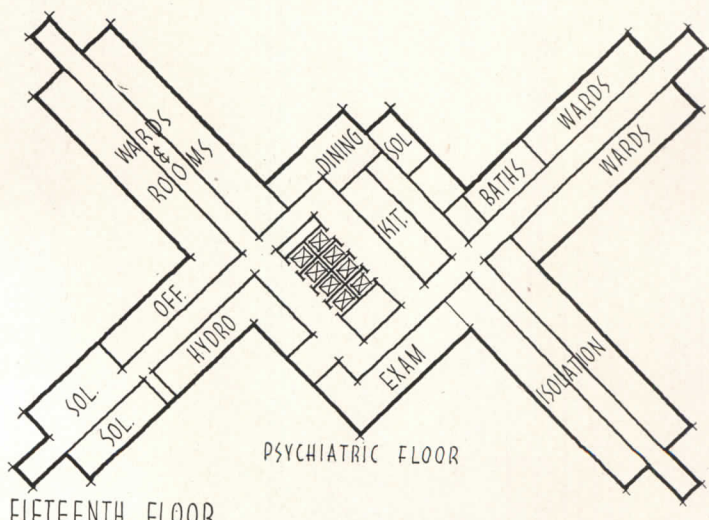


SIXTH FLOOR

Visitors' lobby, below, is a huge room; in order to avoid the confusion of many separate entrances, all visitor, in-patient and out-patient traffic uses the single lobby

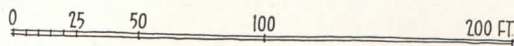


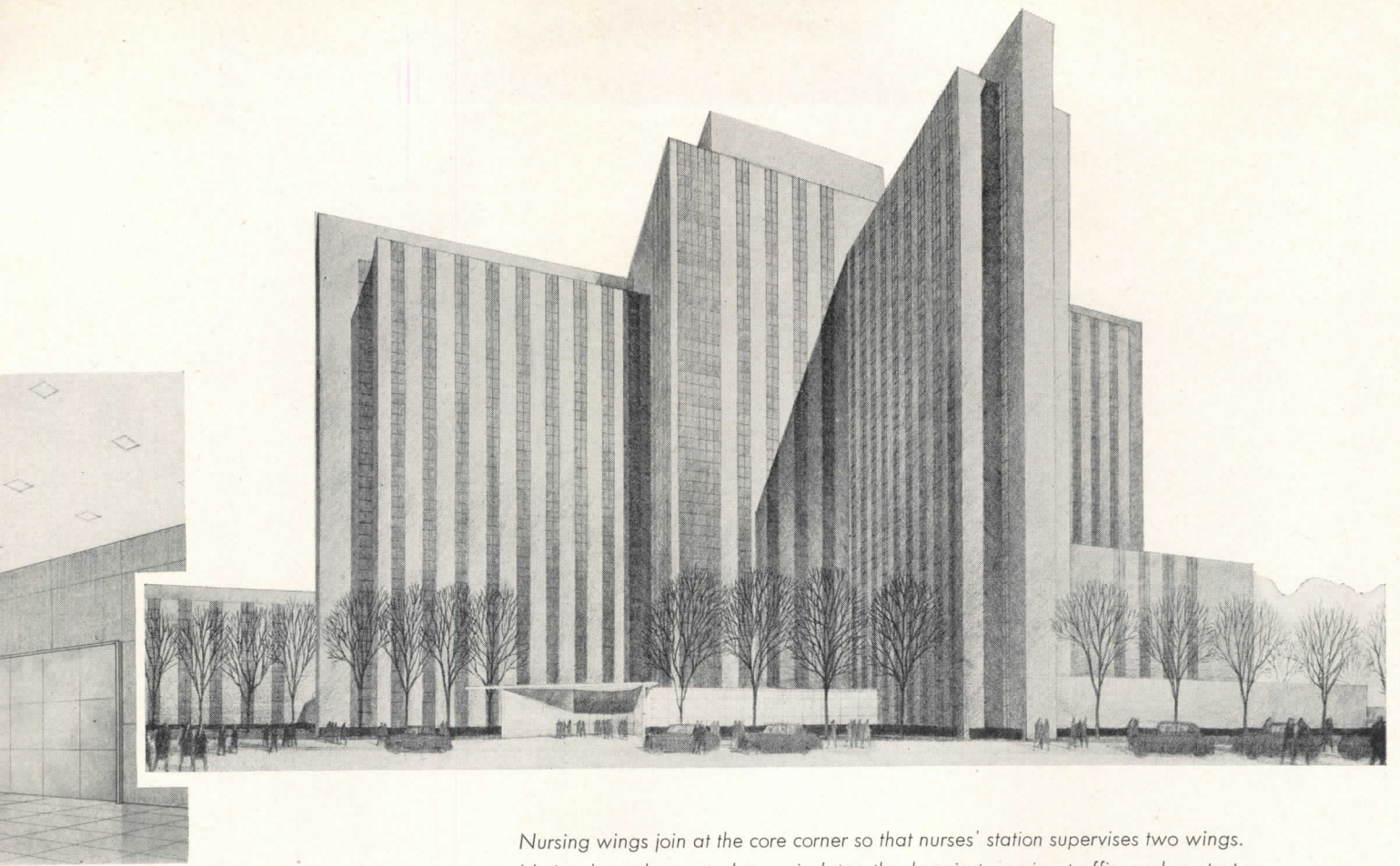
On upper floors the building narrows down to its cruciform plan, with nursing wings angled from the streets for light and views. Central portion becomes a large core for various shafts and for kitchens and other utility rooms as needed



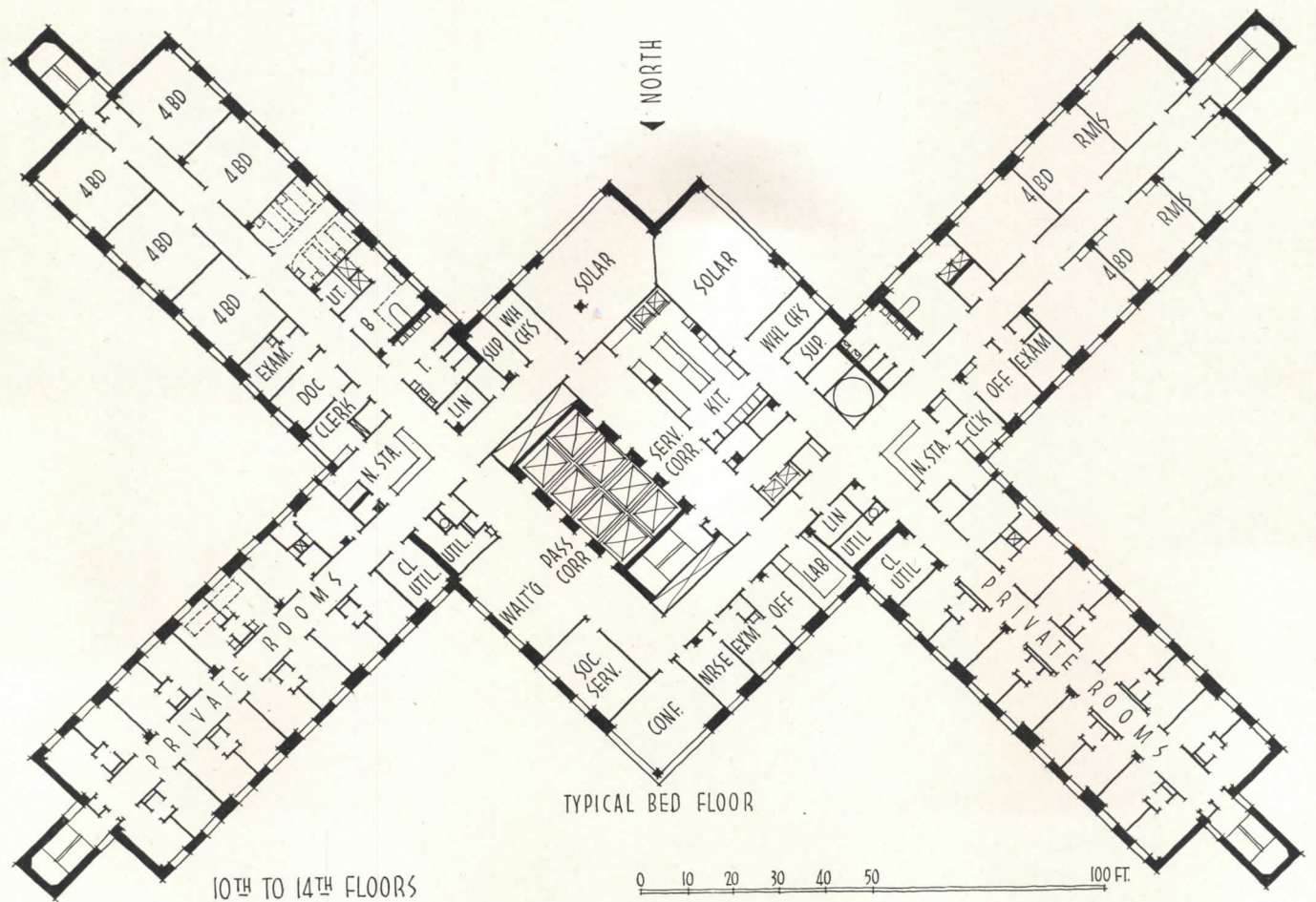
PSYCHIATRIC FLOOR

FIFTEENTH FLOOR

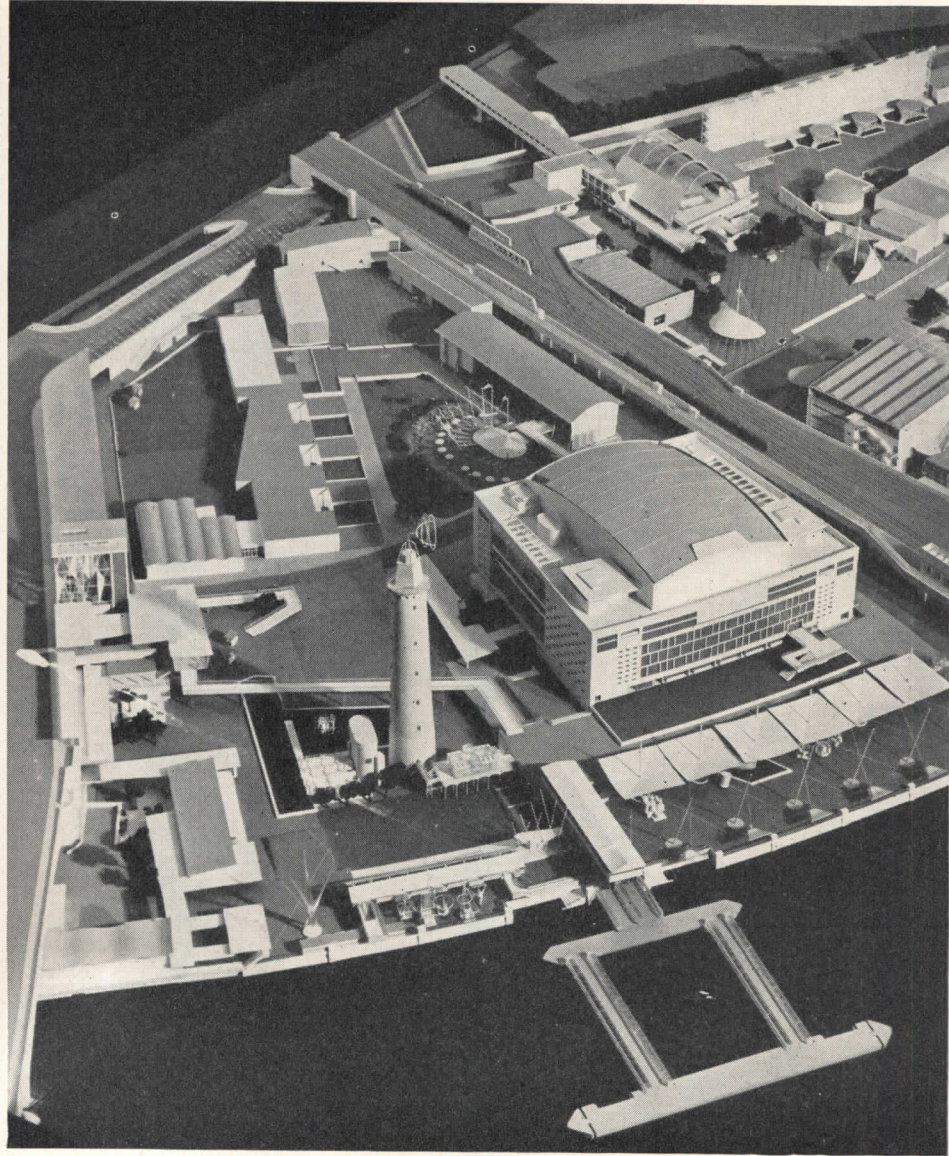
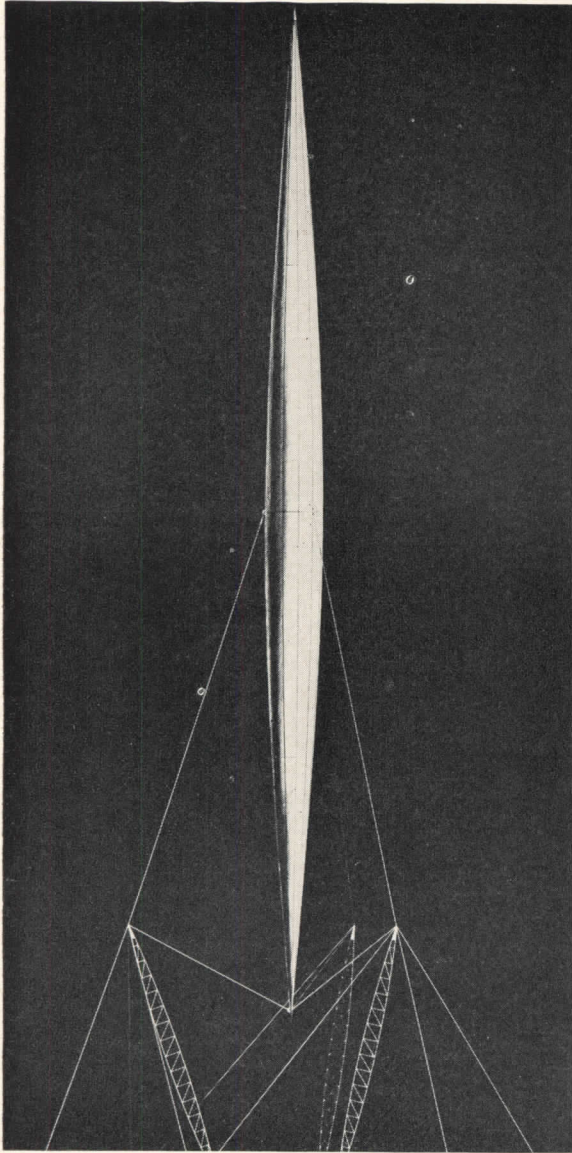




Nursing wings join at the core corner so that nurses' station supervises two wings. Notice how the central core isolates the heaviest service traffic and protects waiting room and offices from all hospital traffic, which has by-pass route



This page: left, 300 ft high aluminum "Skylon" by Powell and Moya rests on cradle 40 ft above ground; right and opposite: Central Exhibition model. Opposite: far right, site plan; below, left to right, Crystal Palace; construction progress on river front, downstream section; site between Waterloo and Hungerford bridges before construction

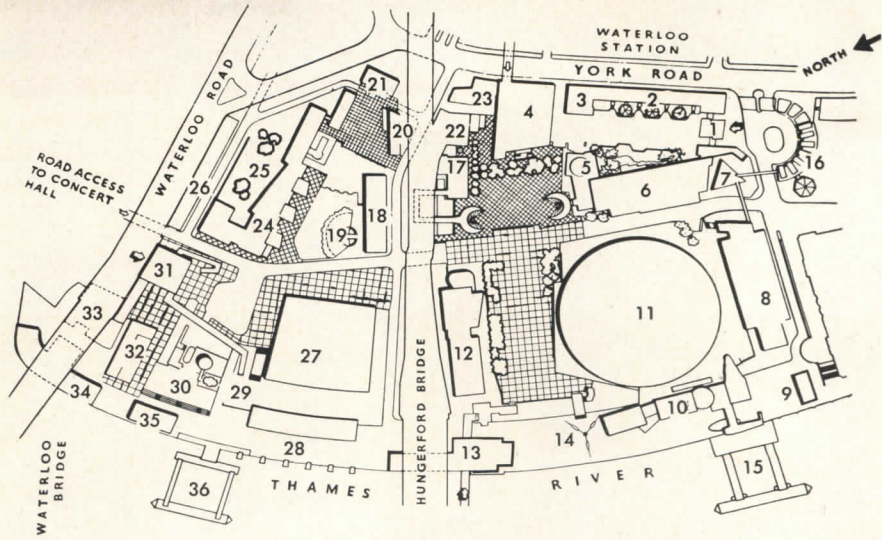


FESTIVAL

SOUTH BANK EXHIBITION

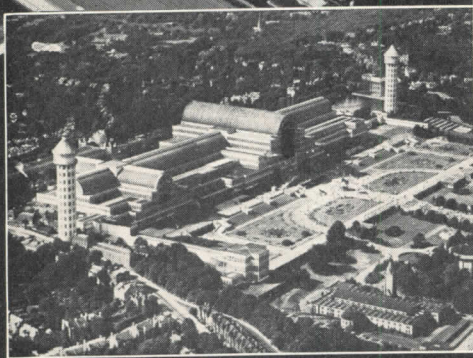
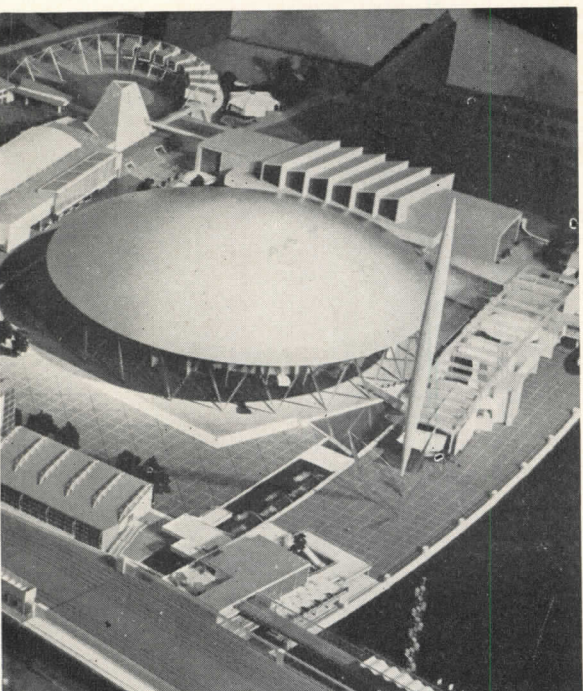
LONDON

Photos: British Information Service



LEGEND

- | | | |
|---|---|--|
| 1. Chichey Street Gate | 13. Regatta Restaurant and Embankment Gate | 25. Courtyard |
| 2. Information and Post Office | 14. The Skylon | 26. Administration and Canteen |
| 3. Fairway Cafe | 15. Landing Stage | 27. Royal Festival Hall |
| 4. Station Gate; Escalator Hall for Underground | 16. Administration Block | 28. Seaside |
| 5. The Land of Britain | 17. The People of Britain | 29. 1851 Centenary Pavilion |
| 6. The Natural Scene and the Country | 18. The Lion and the Unicorn | 30. Shot Tower |
| 7. Minerals of the Island | 19. Unicorn Cafe | 31. Waterloo Bridge Gate; The New Schools and Design Review, below |
| 8. Power and Production | 20. Television | 32. Harbour Buffet |
| 9. The '51 Bar | 21. Telecinema | 33. Health |
| 10. Sea and Ships | 22. Locomotive Exhibit; Turntable Cafe, below | 34. Thameside Cafeteria |
| 11. Dome of Discovery | 23. Police and First-Aid | 35. Sport |
| 12. Transport & Communications | 24. Homes and Gardens | 36. Rodney Pier |

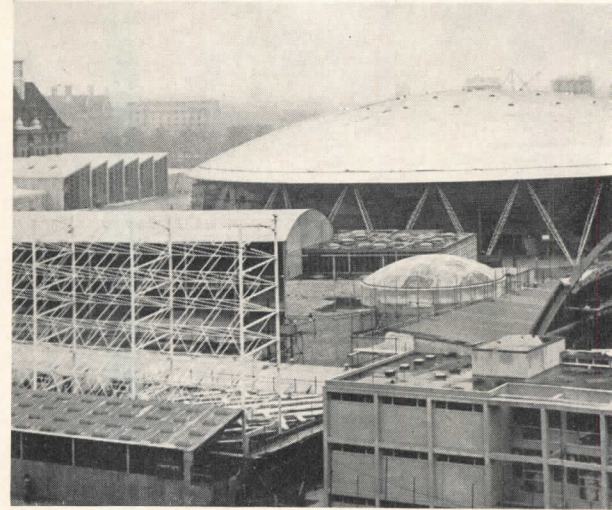
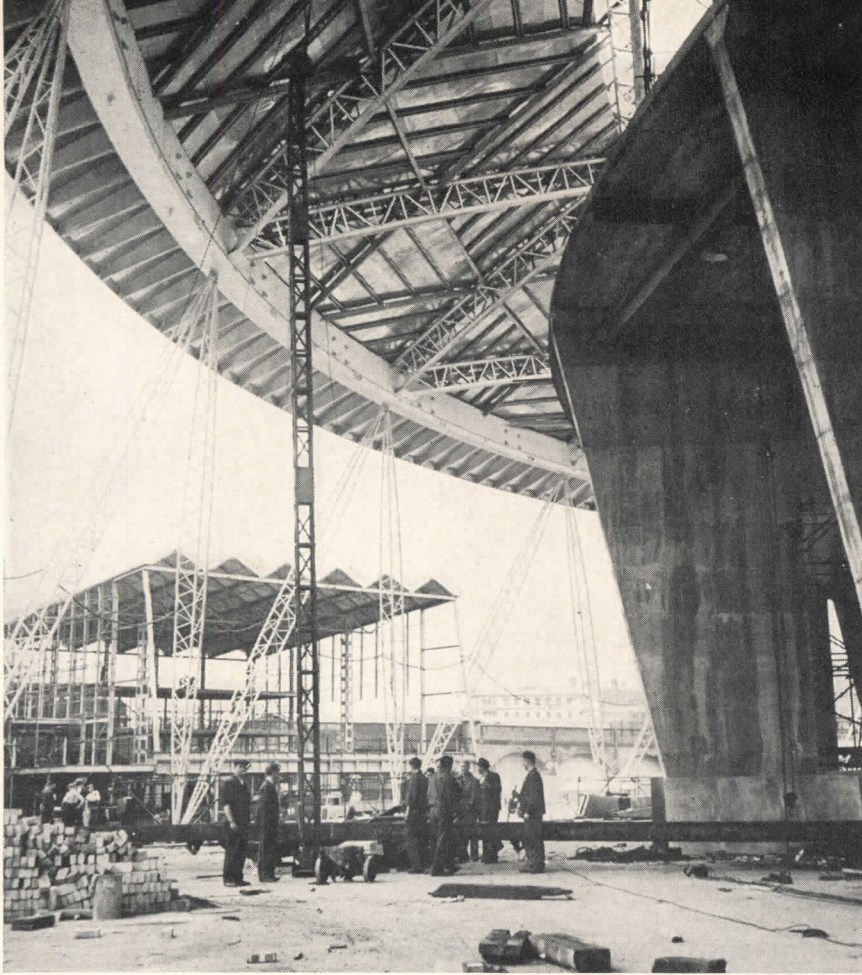


O F B R I T A I N

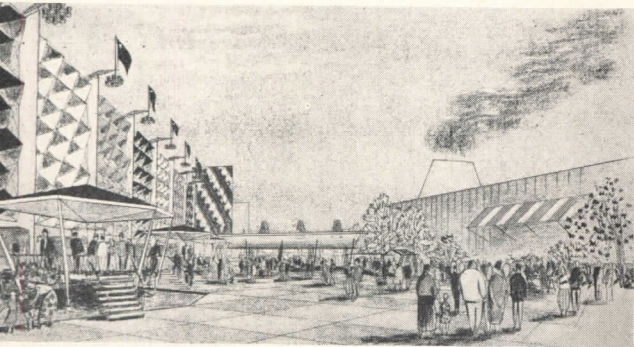
ONE HUNDRED YEARS AGO Queen Victoria opened the 1851 Exhibition at the Crystal Palace, first such structure designed specifically for a trade fair, in London's Hyde Park. May 3, 1951, King George, from the steps of St. Paul's, officially opened the Festival of Britain commemorating the fair of 1851.

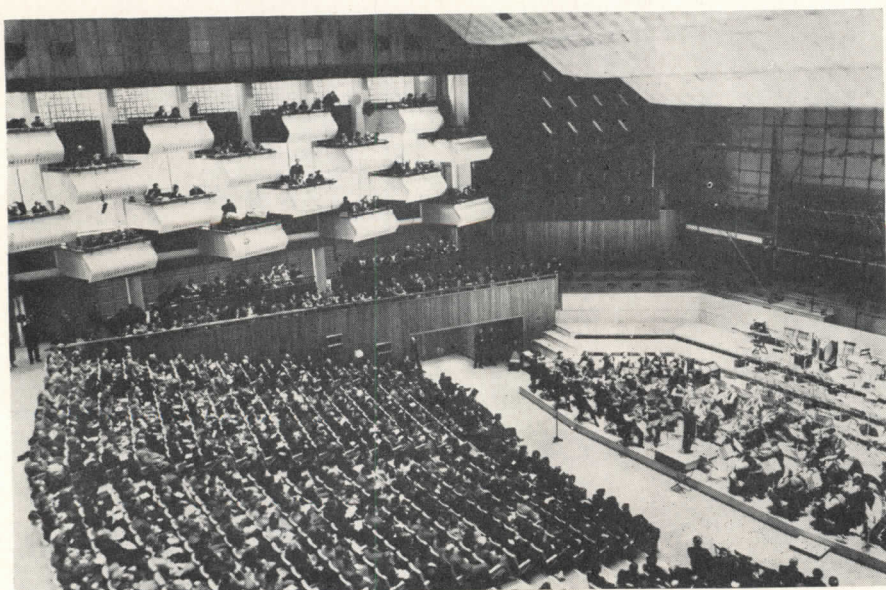
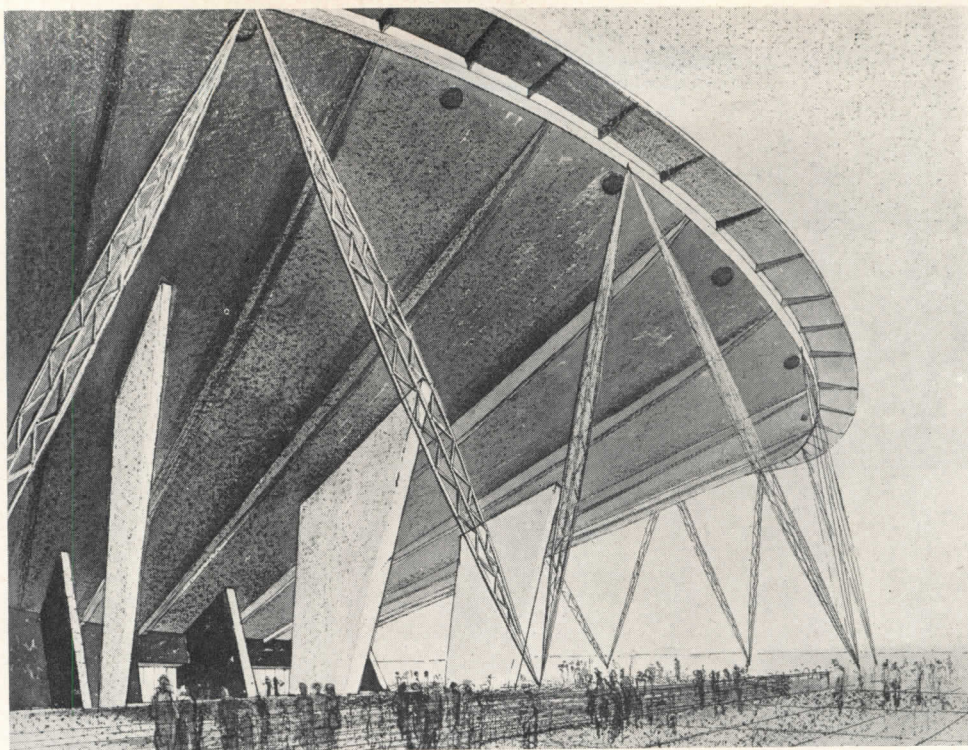
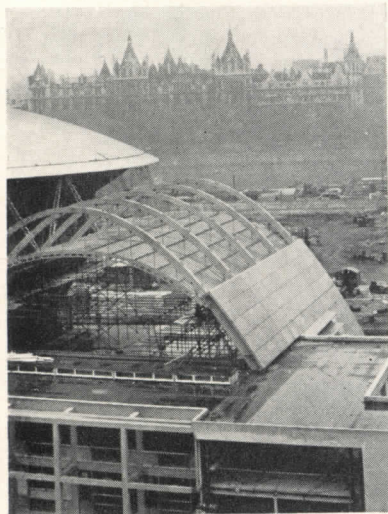
The famous old glass and cast iron Crystal Palace in inset above, designed by landscape gardener Joseph Paxton (subsequently knighted), was a single but elaborate structure for a localized exhibition. The South Bank Exhibition, occupying 27 formerly blitzed acres along the Thames between Waterloo and Westminster bridges, is credited to many men and is but the nucleus of a nationwide festival.

All of Britain is vigorously participating in its festival. The planned communities, special arts programs, scores of local festivals and both land- and sea-borne traveling exhibits will continue through September 30. Reflected throughout the Isles are the Festival's two aims: England's contributions to civilization, her strength of land and people.

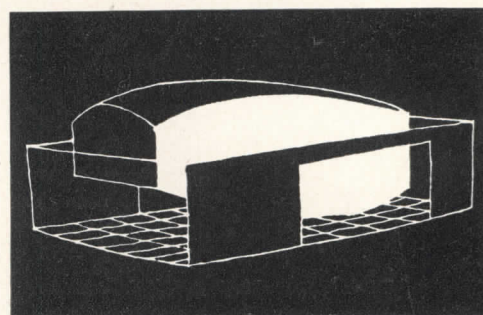


Covering an area of 104,000 sq ft, the 90 ft high Dome of Discovery posed unusual structural problems for architect Ralph Tubbs. Its saucer-shaped aluminum shell rests on unconventional supporting frames — 12 main arch ribs, arranged in criss-cross fashion form a triangulated structure. Dome which houses exhibits of British exploration and scientific research is shown in top photos, this page and opposite, under construction and as rendered. Left: Chichely Street Entrance Courtyard, Architects' Cooperative, architects. Information and administrative offices are at left below decorative screen. Below: Two-Level Entrance to grounds from Waterloo Station and the Underground has rigid, elliptical arches, clear center roof; Gordon Tait, architect



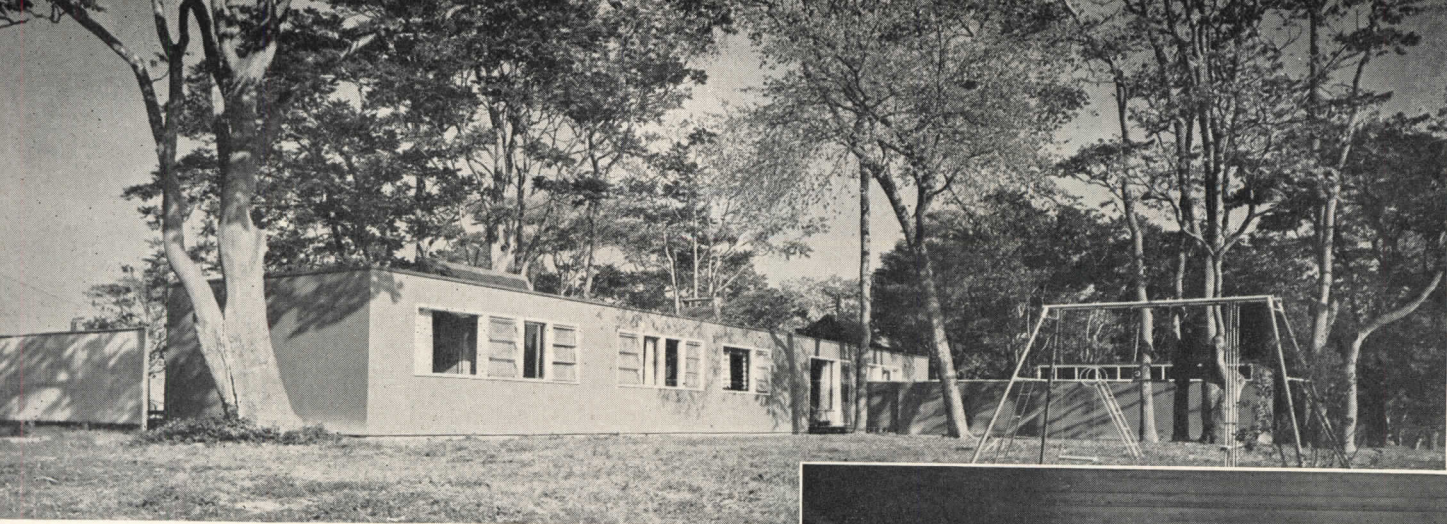


Royal Festival Hall, one of Exhibition's most interesting buildings and the only permanent structure, left and bottom, includes 3000-seat concert hall. Acoustic problems required the auditorium to be a massive form suspended in the "envelope" of the



Adapted from Architects' Journal

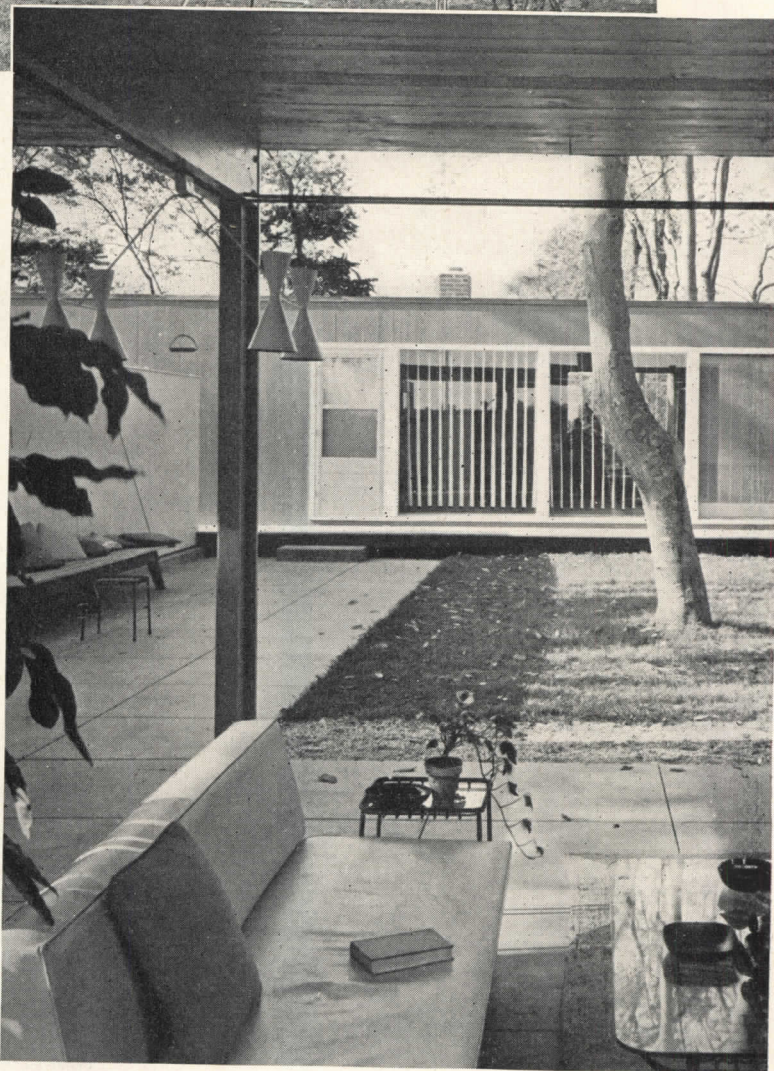
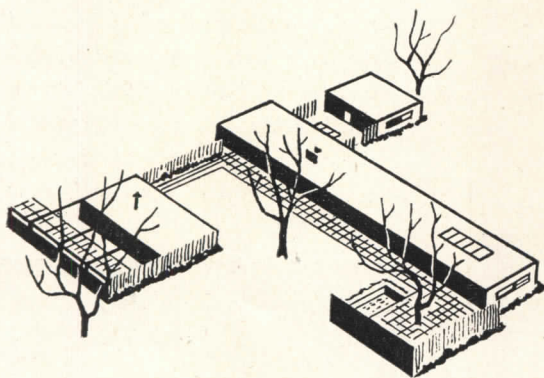
outer framework (diagram above). Heating, ventilating and electrical design problems have been inter-related with the acoustic. Light shines under the auditorium and through the building at many points. In addition to the auditorium, the Festival Hall has restaurant, meeting rooms and exhibition space. Robert H. Matthews and J. L. Martin, architects



HOLIDAY HOUSE

QUOGUE, NEW YORK

George Nelson, Architect



Photos by Ezra Stoller: Pictor,
courtesy of Holiday Magazine,
The Curtis Publishing Company
Copyright 1951



Fences and paving connect house, garden house and garage, define outdoor living areas. Photos center and above: garden house, inner court. House proper, 100 by 20 ft, is simplest structure possible. Entire compound is set back 100 ft on acre site

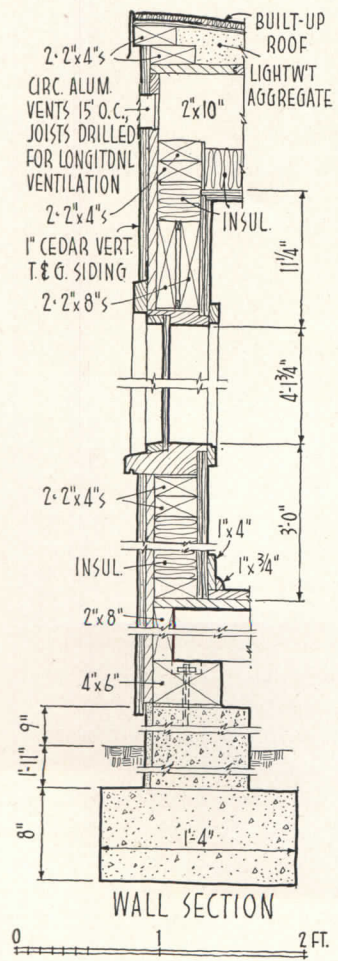
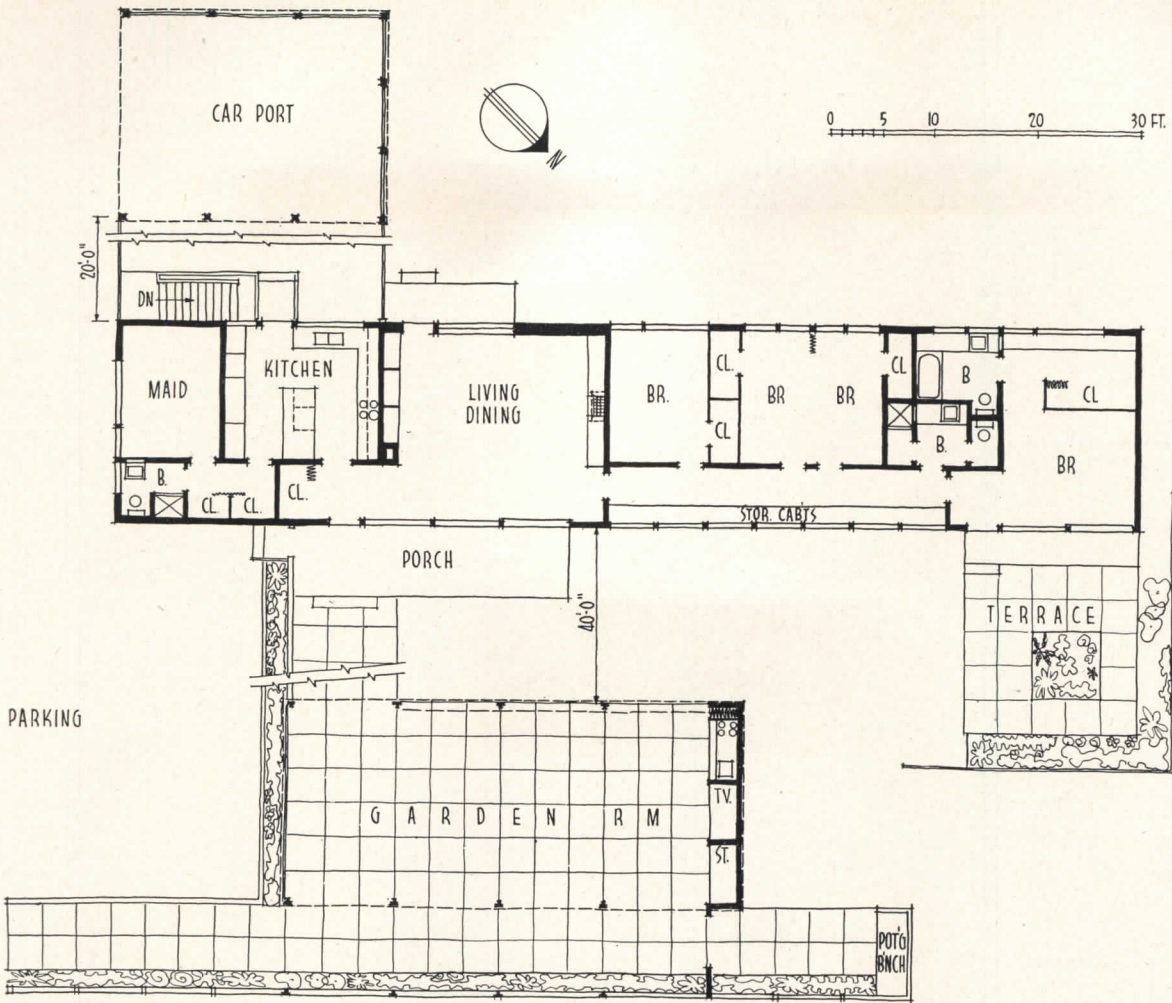
THIS UP-TO-THE-MINUTE HOUSE, the first of an originally proposed series of "Holiday Houses" sponsored by *Holiday Magazine*, was designed to explore methods of increasing and organizing interior and exterior space, together with inclusion of numerous types of equipment, to produce an atmosphere conducive to full enjoyment of today's increased leisure time, and to lighten housekeeping chores. It is also a vacation house, with the attention to recreation facilities which this implies.

In his solution, since it was a demonstration house, Nelson has concentrated his expenditure for mechanical equipment, and realized extra recreation space through

skillful use of outdoor areas. The house is frankly large and luxurious, and has a high level of craftsmanship, together with a marked simplicity of design and construction. However, of the total living space of 100 by 100 ft, only a small portion is actually enclosed, considerably reducing relative costs. A compound of secluded living areas was created by use of screening fences to link house with garden room and a carport.

For planning purposes, a hypothetical family of adequate means, with two children, was used as a client. Nelson feels that the task would have been easier with an actual client to limit and personalize the design, and to give more definition to the problem.

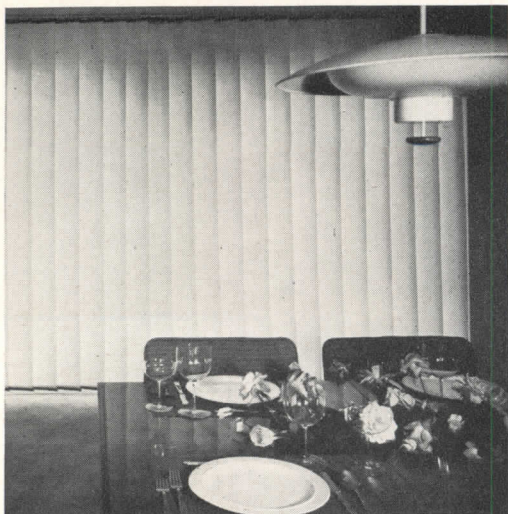
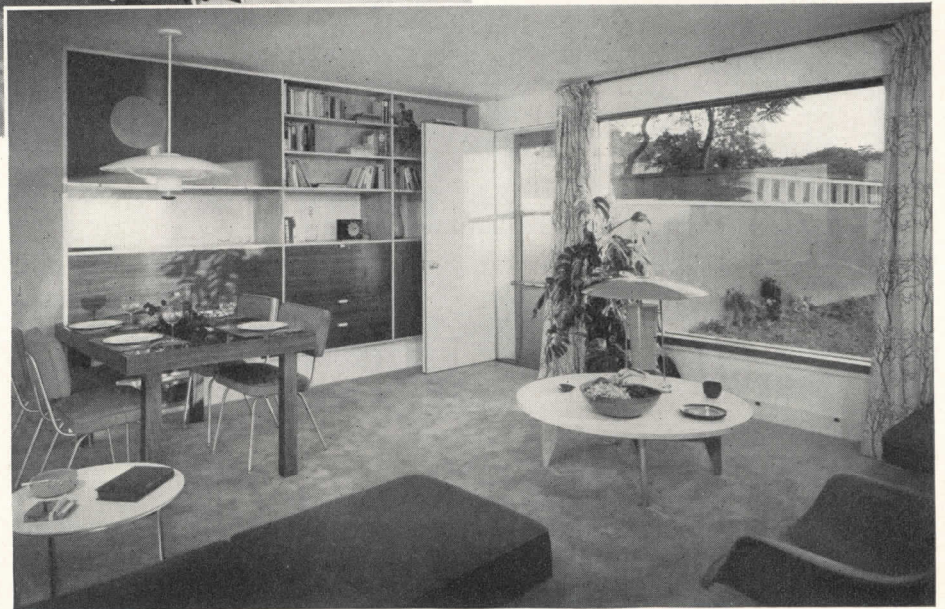
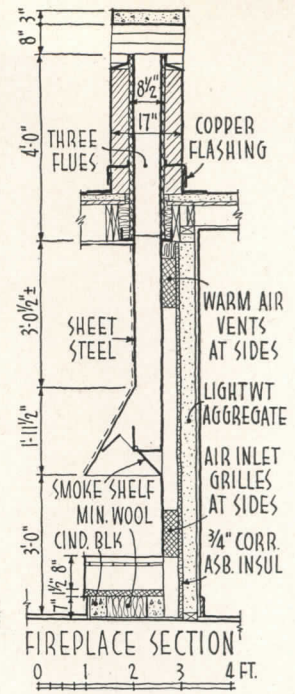
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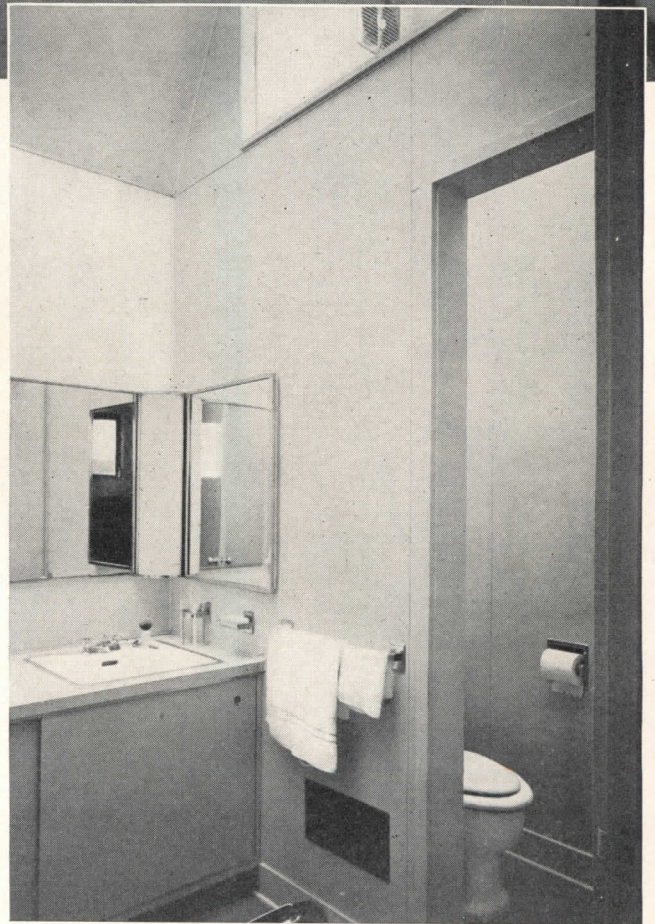
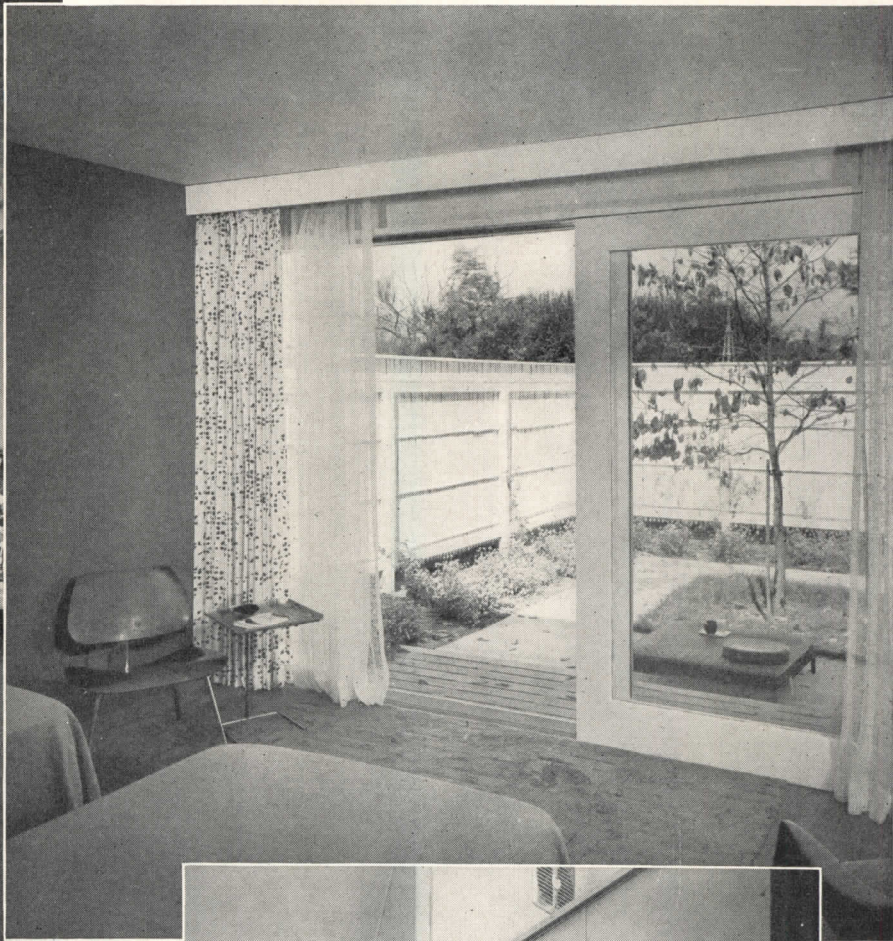
Ezra Stoller: Pictor



HOLIDAY HOUSE

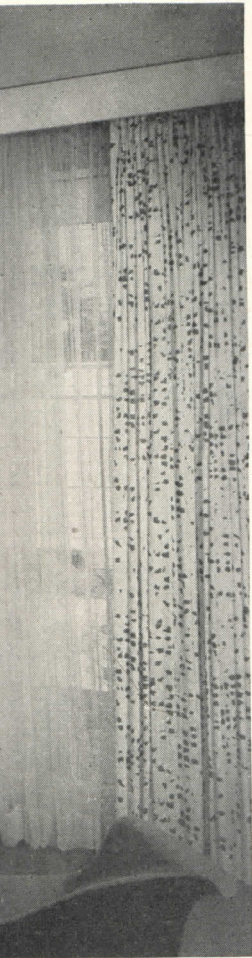


Focal point of the house plan (upper left) is the living-dining area. It is flanked by the two main garden areas and the bedroom and service wings. Sitting area (above center) is dominated by black sheet-iron chimney (detail above). Slate-top bench which extends the hearth is most useful for entertaining, as is built-in storage in dining area (above). All lights are dimmer controlled. The room is easily closed in or opened to outside. Motor-operated window toward carport (above) opens onto small private terrace for dining; it sinks into foundation cavity, pulling screen into place. Draperies are also motor-operated. Opposite wall has adjustable cloth blinds (left). Garden room has built-in kitchenette, television, lights which slide in ducts between beams. The conventional dry wall construction is shown in typical wall section, far left



Equipment was carefully selected in full co-operation with manufacturers, who, considering the attendant publicity, in every case provided the best of their products. This has greatly increased the house's value and the level of performance. It has, of course, also increased its monetary value. On the other hand, the manufacturers' desire to provide the best of equipment led to a number of changes and other difficulties which greatly increased the architect's costs. While it might have been simpler and less expensive to have procured items through regular channels, this procedure would not have made it possible to experiment with the types and quality of materials that were made available.

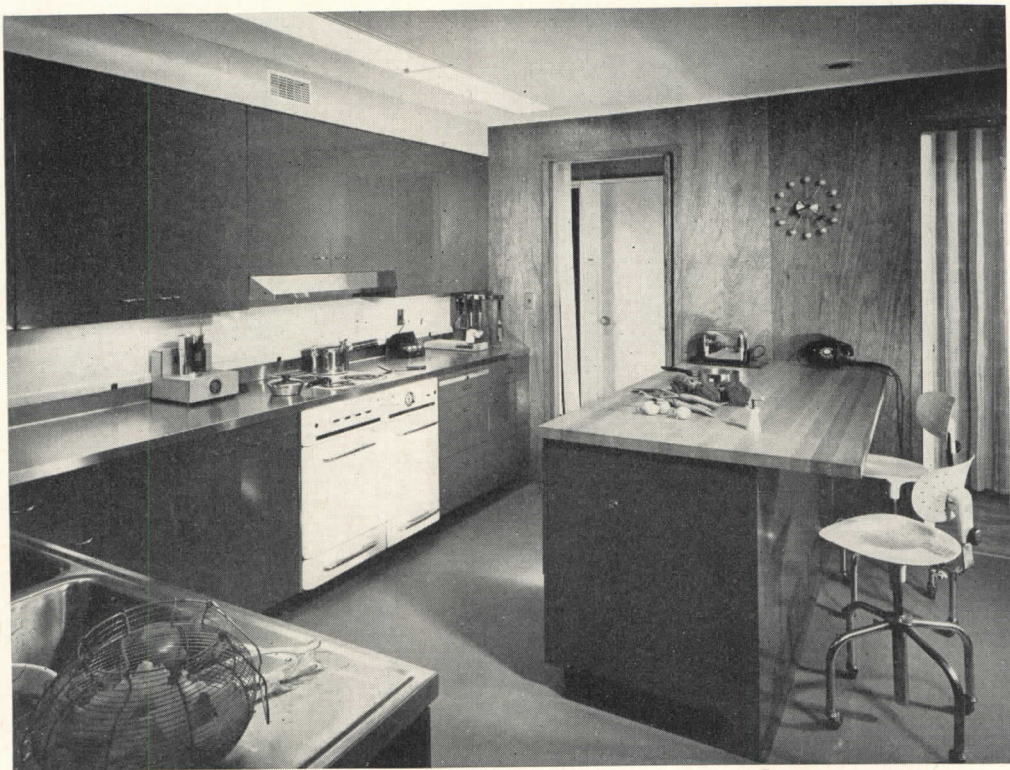
The wood frame structure is conventional and straightforward in design. Foundations are concrete block. Siding is cedar, stained. The basic interior finish is wallboard; in the living room, this is covered with white-painted sized burlap. Floors are hardwood, with linoleum or tile in kitchen and baths, asphalt tile in workshop. The heating system employs an oil-fired air conditioner. Special equipment includes an inter-com system to all areas, dimmers for many of the lights.

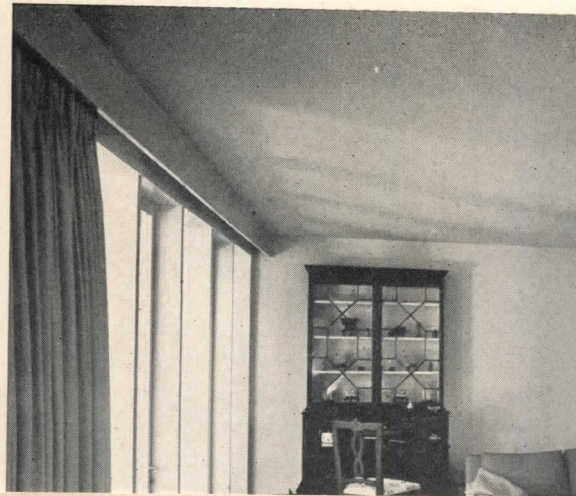
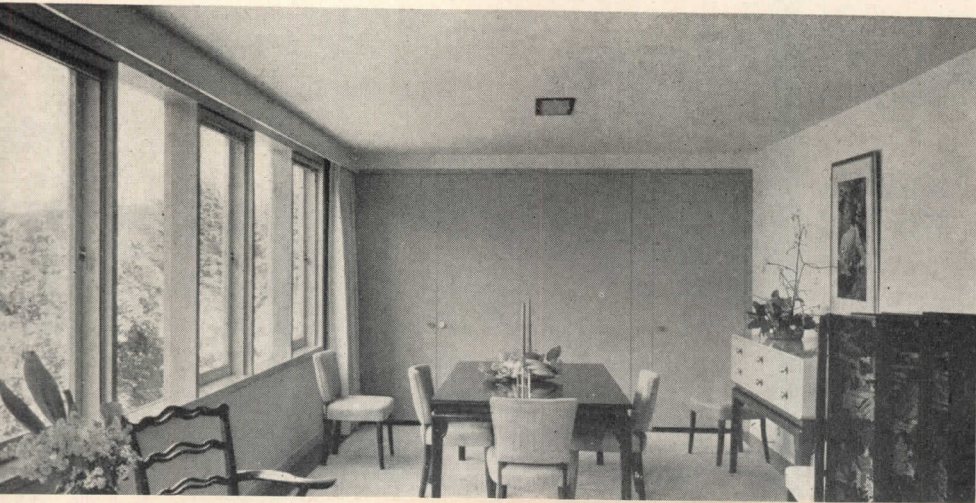
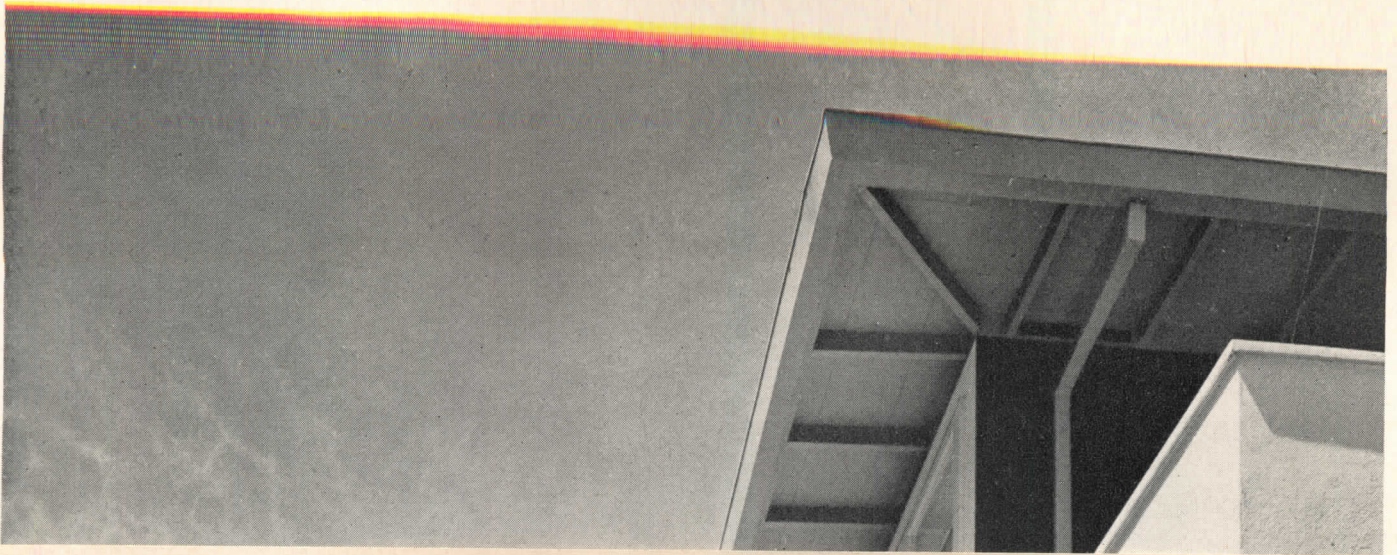


A wealth of storage cabinets lines bedroom corridor (far left). Hung ceiling of white aluminum louvers shields fluorescent lamps mounted above it. Master bedroom (center) has motor operated curtains, sun terrace. Children's room (above) may be divided by folding partition. Interior three-compartment bath (below center) has skylight, mechanical ventilation, plastic wall finishes

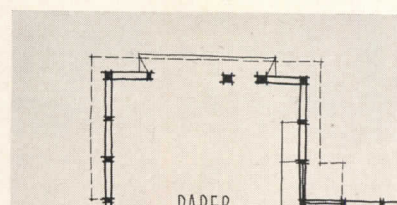
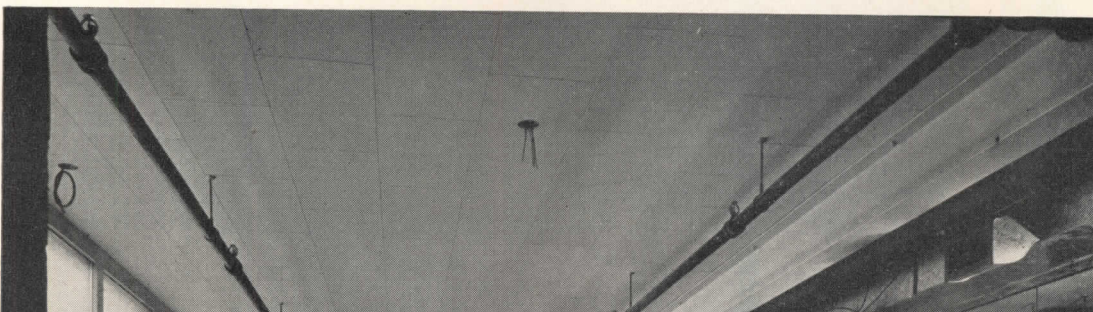
Ezra Stoller: Pictor

The service wing centers on a colorful, well-equipped kitchen (right). Walls are gray plastic and mahogany paneling; metal cabinets are dusty blue. A maple-surfaced snack and work counter is fitted with drawer-type refrigerator. Other equipment includes electric range, freezer, laundry, drier, intercom system and built-in typewriter. The service wing also includes a maid's room, and basement workshop and utility room





Joseph Molitor Photos





Living room at rear of house is far removed from kitchen or street activities, opens to enclosed outdoor living space. In combination with dining space and garden, it manages a feeling of extensiveness seldom realized on a narrow city lot. Campbell & Wong did the interiors, using most of the owner's existing furniture. Covers and color schemes were changed in some cases, but only two new pieces added



Roger Sturtevant Photos



JUNE 1951

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CALEDONIAN RECORD PUBLISHING CO., INC.

ST. JOHNSBURY, VERMONT

*Whittier & Goodrich
Architects*

IN THE DESIGN of this small newspaper plant and of the Vermont Electric Co-operative building (page 175), the architects were frankly experimenting with the use of modular coordination and inexpensive materials and detailing to hold down construction costs. The two buildings, erected almost concurrently, are therefore very much alike both in simplicity of plan and in exterior appearance.

The newspaper plant shown on these three pages is completely self-sufficient, providing every facility re-

CALEDONIAN RECORD PUBLISHING CO., INC.

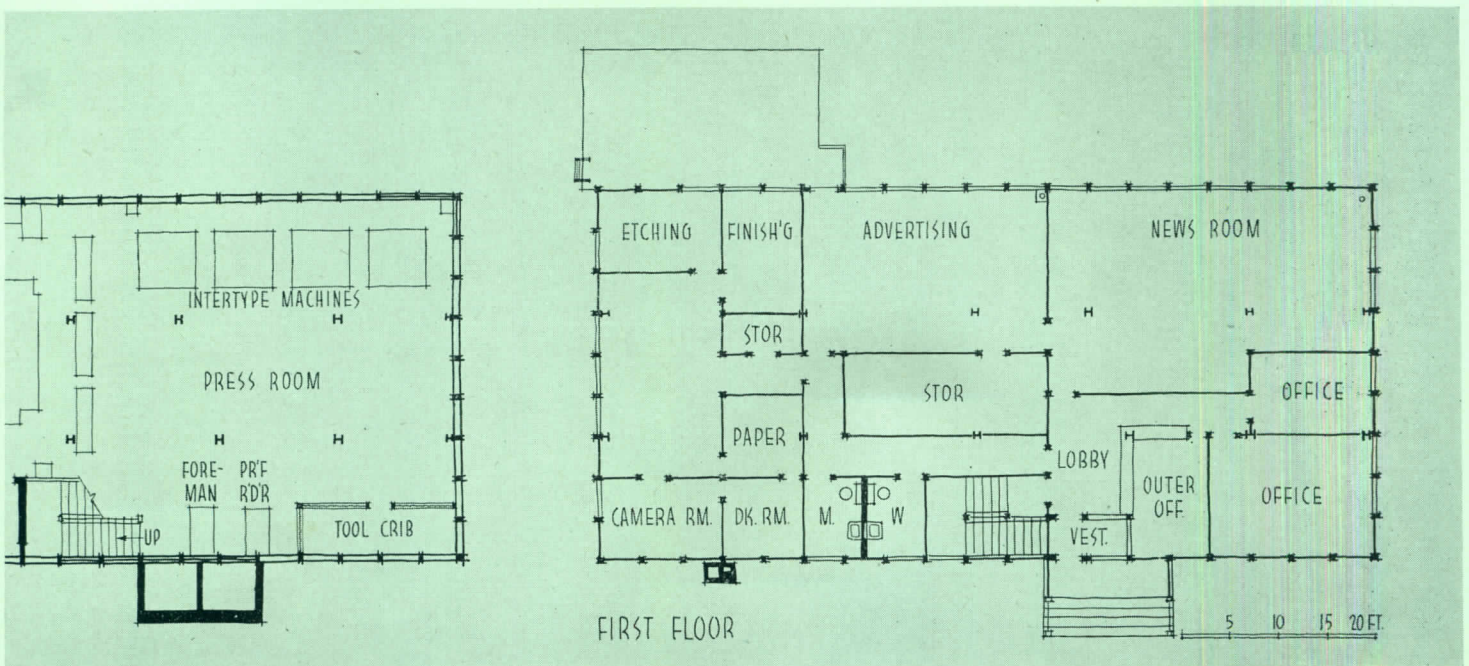
ST. JOHNSBURY, VERMONT

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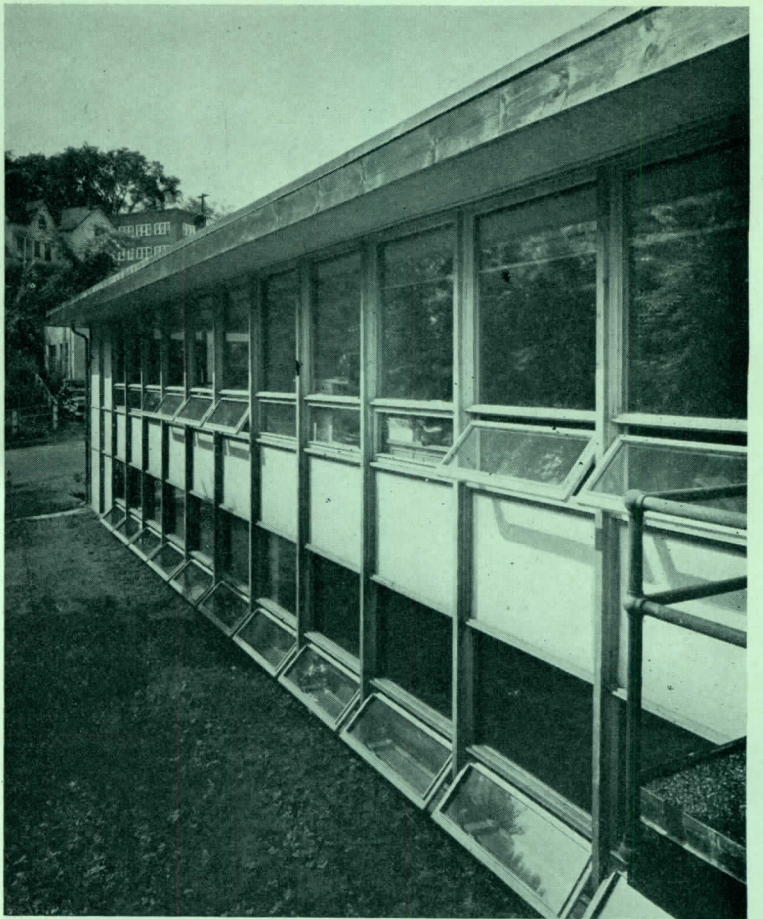
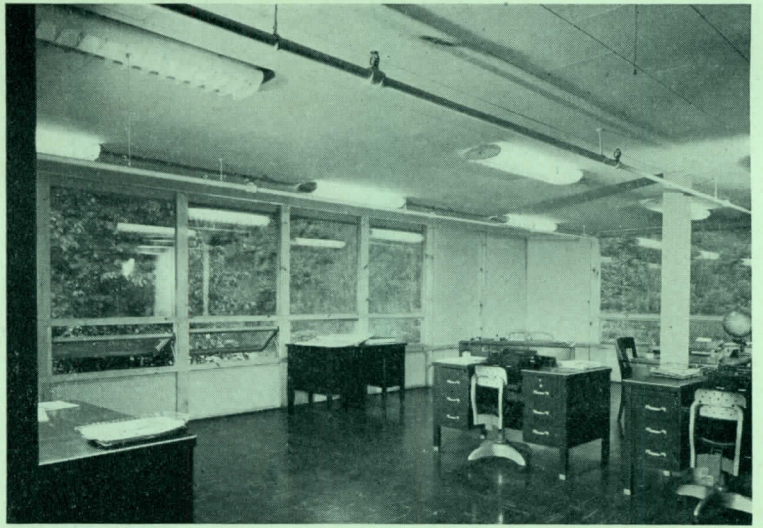
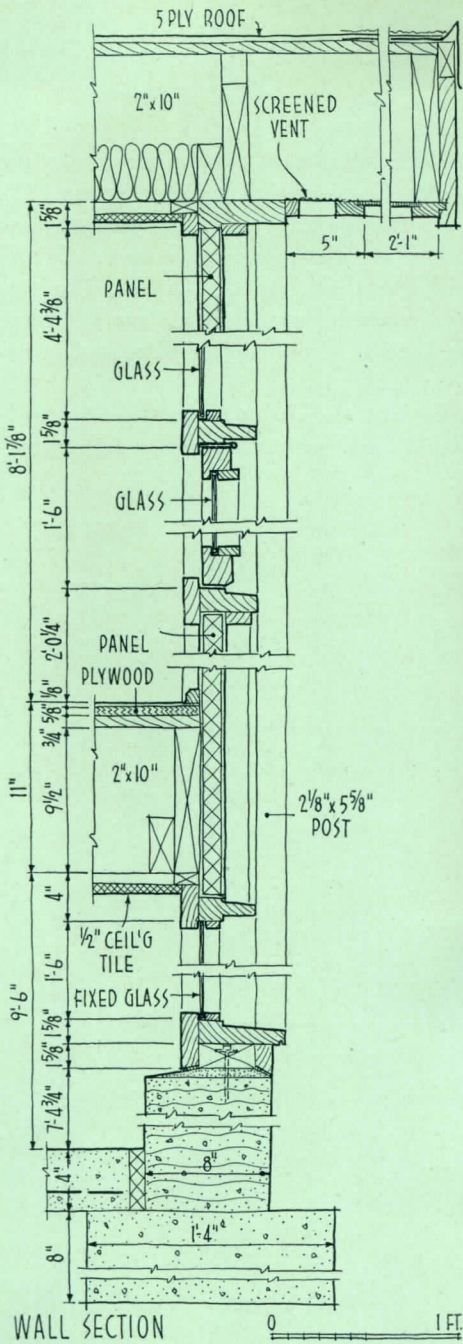
The newspaper plant shown on these three pages is completely self-sufficient, providing every facility re-



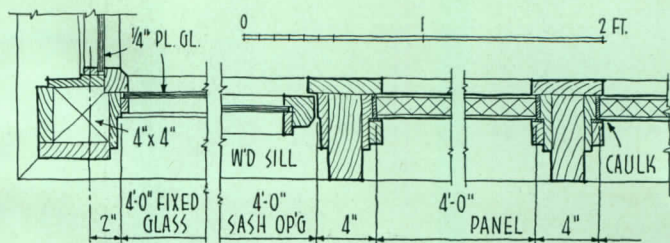
Opposite page: a sloping site was used to give building a seemingly one-story front (top) and two-story rear (bottom). The press room (center) is on lower level, handy to mailing room and paper storage, well lighted and well organized

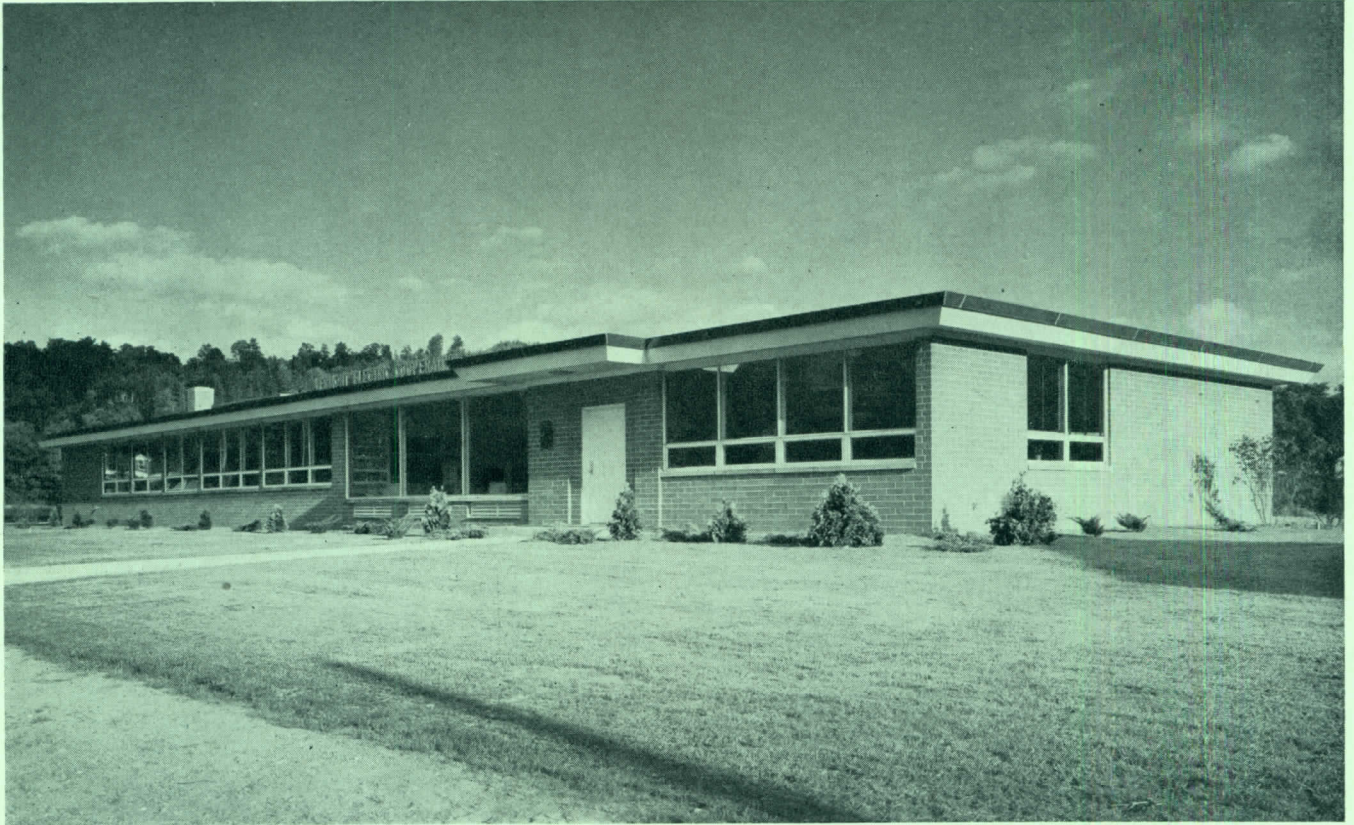
quired not only for the printing and mailing of the paper itself, but for income-augmenting job printing as well. Within the economical rectangle of its exterior walls is ample room for the many departments required by a newspaper. Yet the building has no pretense about it; it blends happily with the surrounding Vermont countryside; and it gives unmistakable evidence of economic planning.

Foundations are concrete block, framing is steel with wood joists. Exterior walls and all interior partitions are cement fiber panels in modular sizes, which were used in conjunction with 4-by-4 verticals to achieve virtually complete modular construction. Floors are asphalt tile, ceilings are acoustic tile.



Careful attention to detail is evident in wall and window sections above and right. Use of modular wall panels, standard posts and windows cut down on construction costs without in any way detracting from efficiency and comfort of the building





VERMONT ELECTRIC CO-OPERATIVE, INC.

JOHNSON, VERMONT

Whittier & Goodrich

Architects

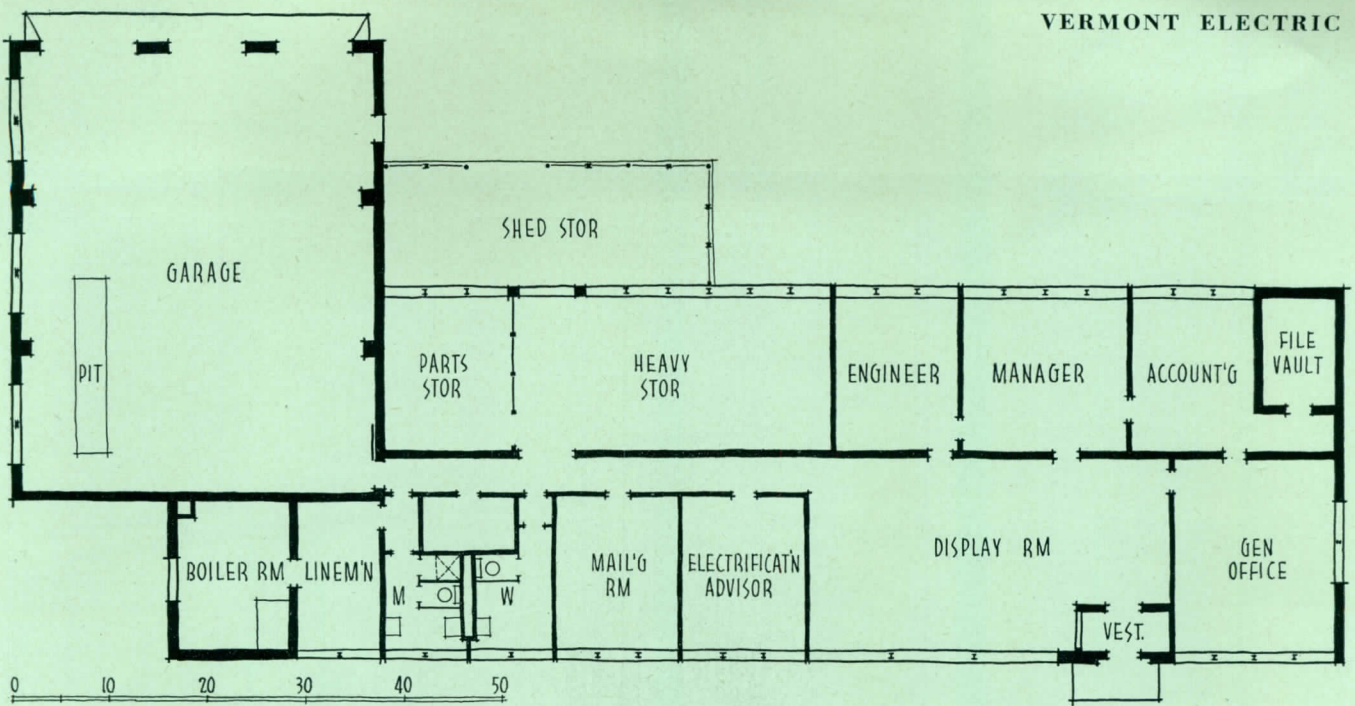


Joseph Molitor Photos

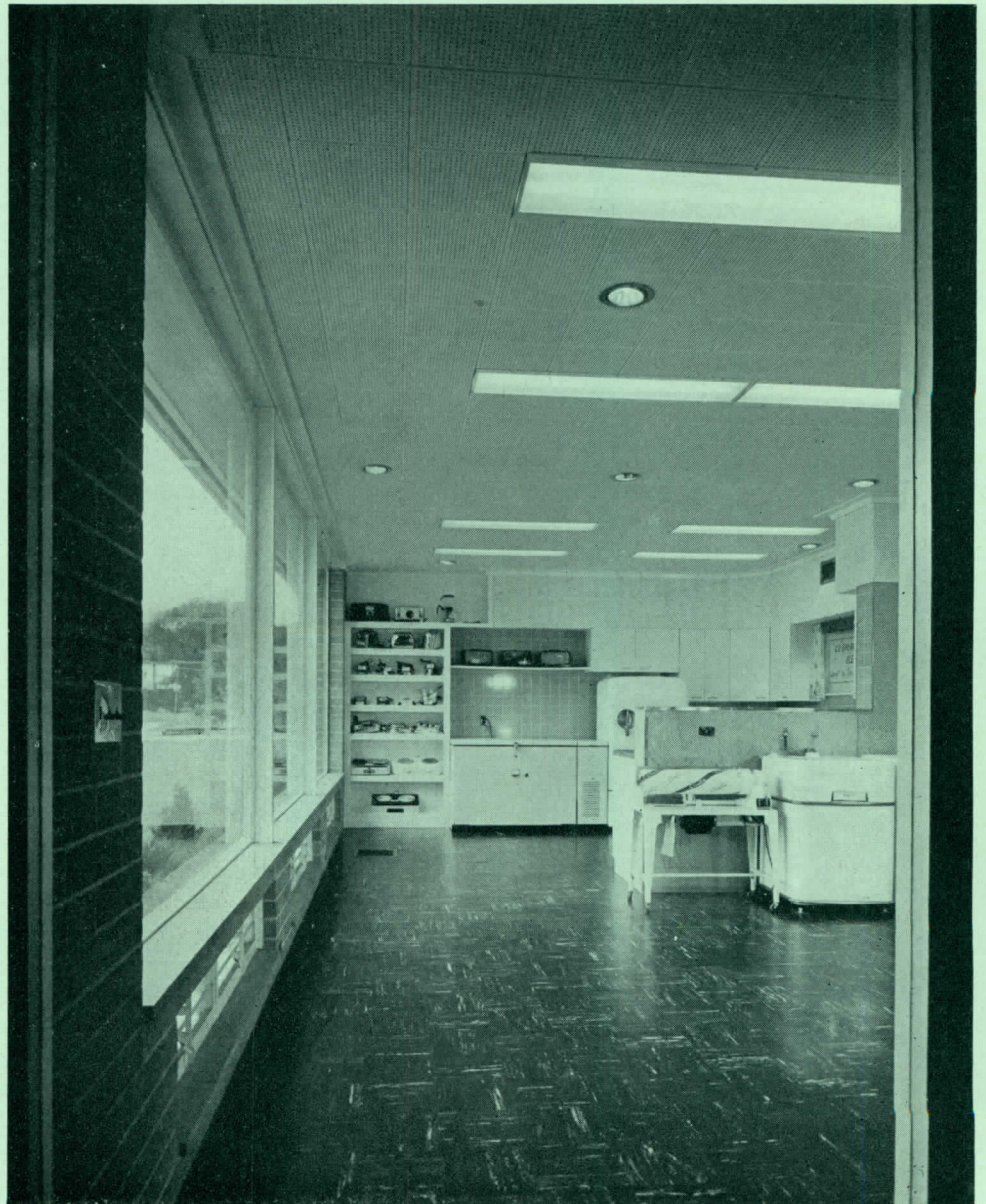
*Display room is clearly visible
from walk leading to entrance*

THE Vermont Electric Co-operative building stresses modular construction almost as strongly as does the Caledonian Record plant shown on the preceding three pages. Foundations again are concrete block, but exterior walls are of patented hollow-core semi-modular cement brick. Interior plans again revolve around the 4-in. module established by selection of materials for exterior walls and framing.

Although the two buildings are alike in plan and elevation, each reflects its own particular purpose. The Caledonian Record plant is thoroughly businesslike, intended to attract a strictly business clientele; the Vermont Electric Co-operative building is planned to appeal to the consumer, and features a large display room opened to the street with plate glass display windows.

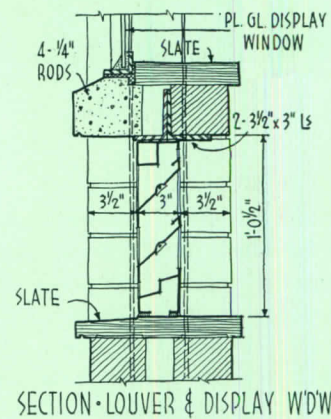
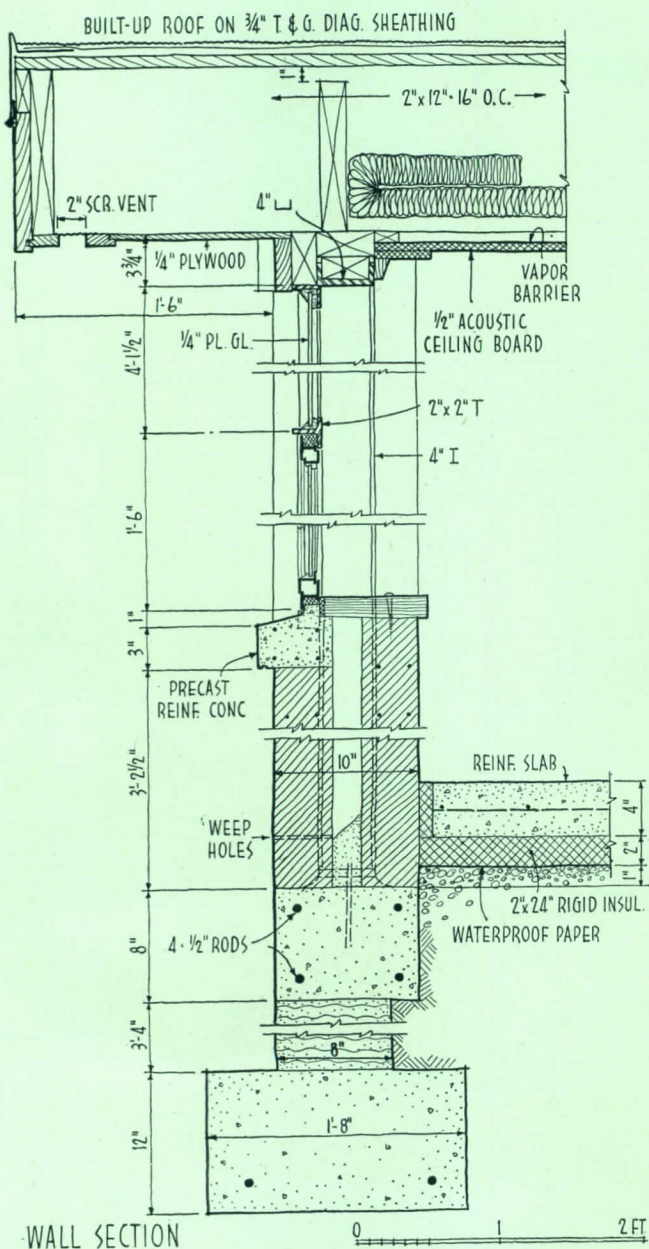


Building is so planned that each of its functions is segregated. Linemen's quarters are handy to both garage and storage rooms. Offices are at opposite end of building, opening to display room which serves also as a lobby. Floors throughout are asphalt tile, ceilings are acoustic tile. Both incandescent and fluorescent lighting are used; fixtures are mostly recessed

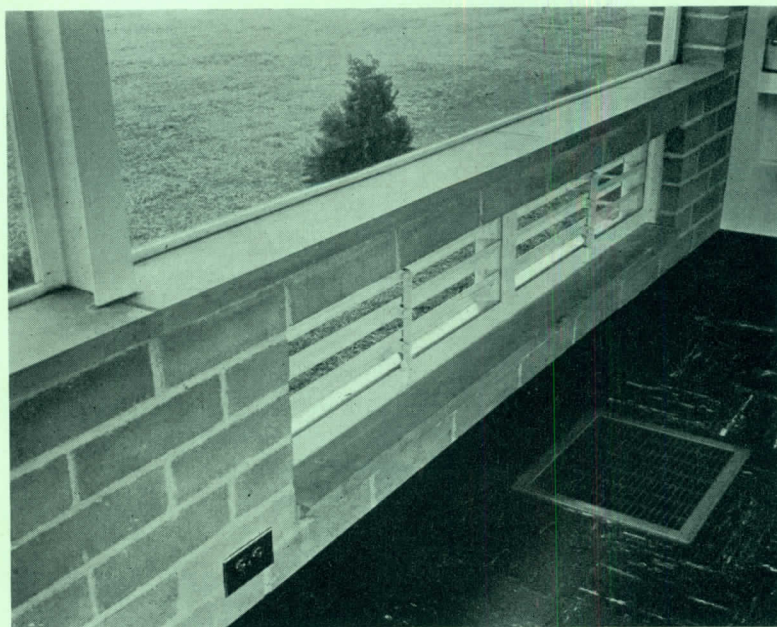




Above: manager's office; door at extreme right leads to display room, center door to accounting department. Ventilation in display room is provided by stock louvers beneath the plate glass windows (detail below)



Joseph Molitor Photos



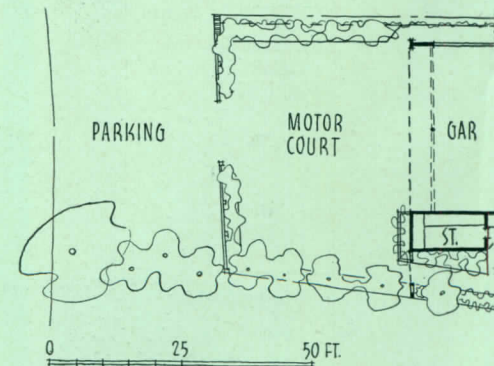


DESIGNED PRIMARILY to simplify housekeeping problems for single people, these small apartments also offer a degree of comfort and privacy not often found in more stereotyped conceptions of "efficiency" units. The solution closely resembles a series of tiny row-houses, each with provision for outdoor living and individual front and rear entrances. To assure a garden-like quality, a generous budget was allowed for good plant material to carry out the landscape design of Evans and Reeves.

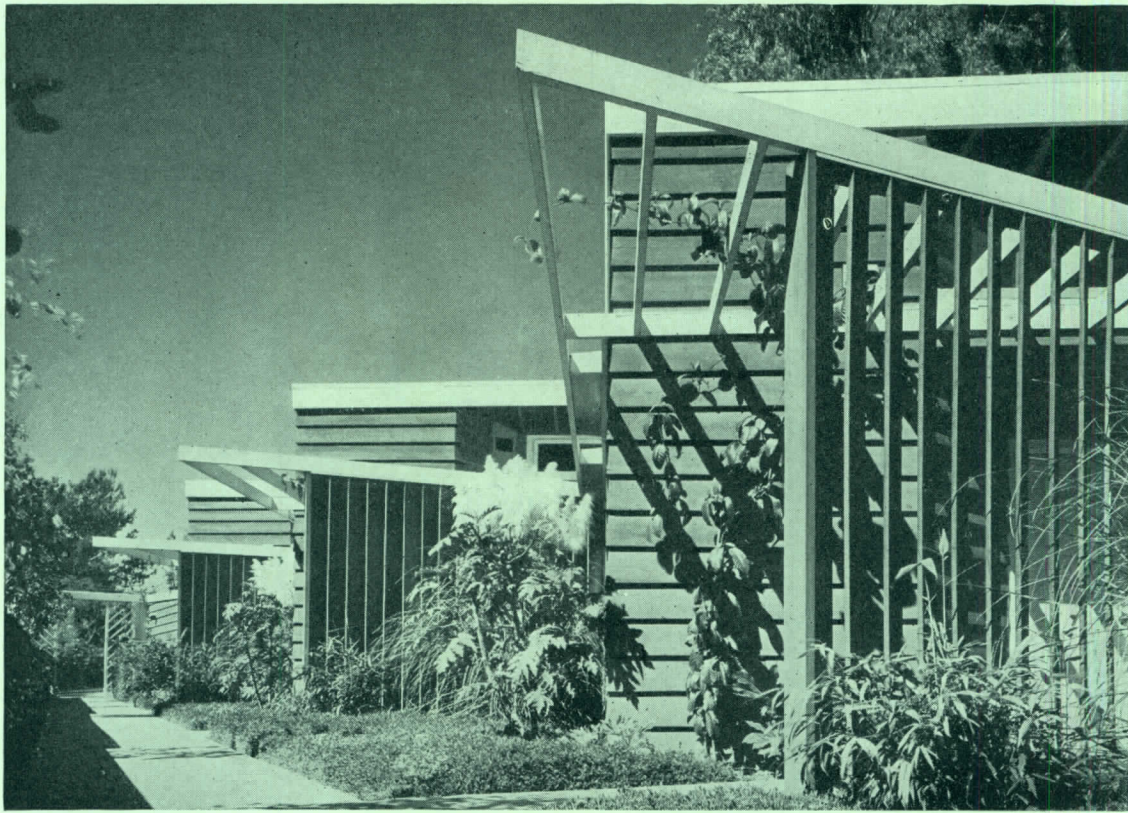
To the northeast, the irregular shaped lot is backed by a wooded canyon adjoining a government-owned Veterans' Hospital, and affords an open view of rolling hills. To take full advantage of this, and to give greater privacy, a staggered plan was developed with all living areas facing the view. Baths and kitchens on the south are shielded from an adjacent undeveloped lot, by plants and acacia trees flanking the entrance walk. A redwood grill is used to set off the entry to each unit, and to screen it from the neighboring apartments. Jointly-used service facilities and a special parking area for guests' cars are grouped at the front of the lot to form a buffer between living quarters and street traffic noises. Three of the apartments were planned for single occupancy. The fourth is a double unit with separate bedroom and study alcove.

Brentwood Garden Apartments

Los Angeles, Calif.



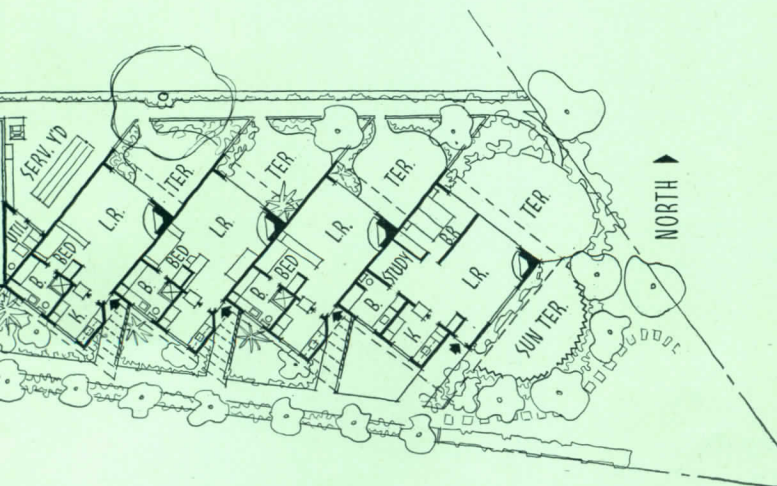
APARTMENTS DESIGNED FOR SINGLE PEOPLE



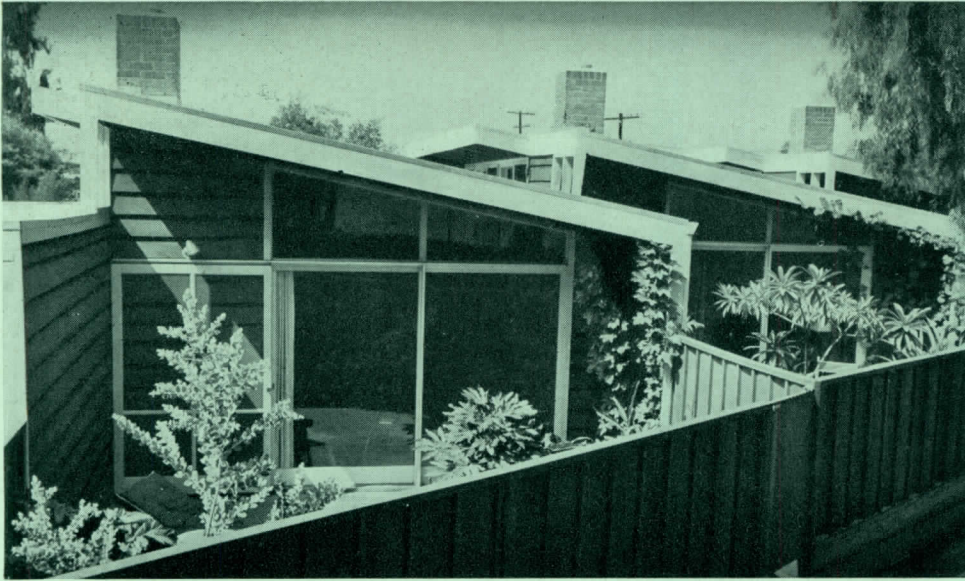
Robert C. Cleveland Photos

Chalfant Head

Architect and Owner



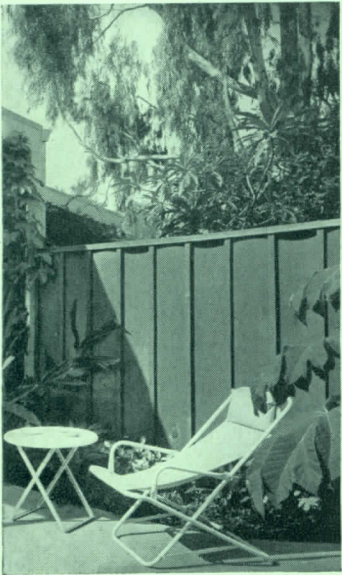
BRENTWOOD GARDEN APARTMENTS



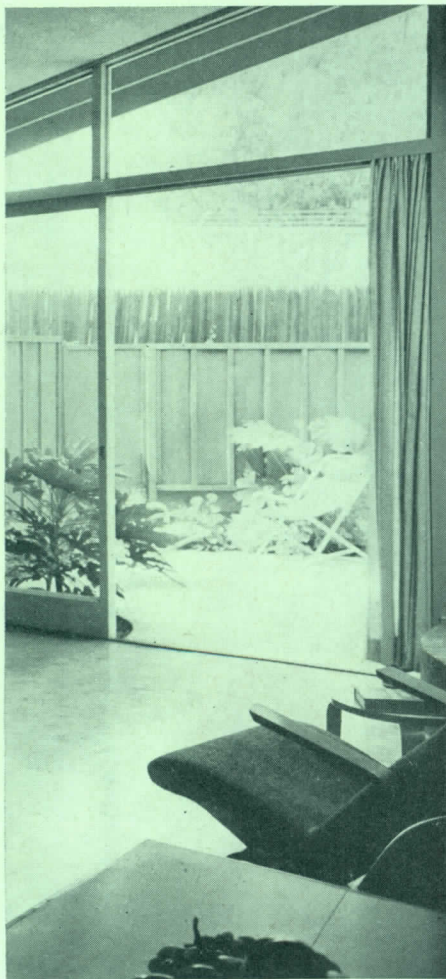
Robert C. Cleveland Photos

The repetitive patterns of setbacks and sloping roofs serve as both functional and design elements (above). Insulated blank wall at lower side of each unit shuts out intense summer heat on west exposure, gives greater sense of seclusion to garden. Shed roof permits clerestory to southeast for light and ventilation



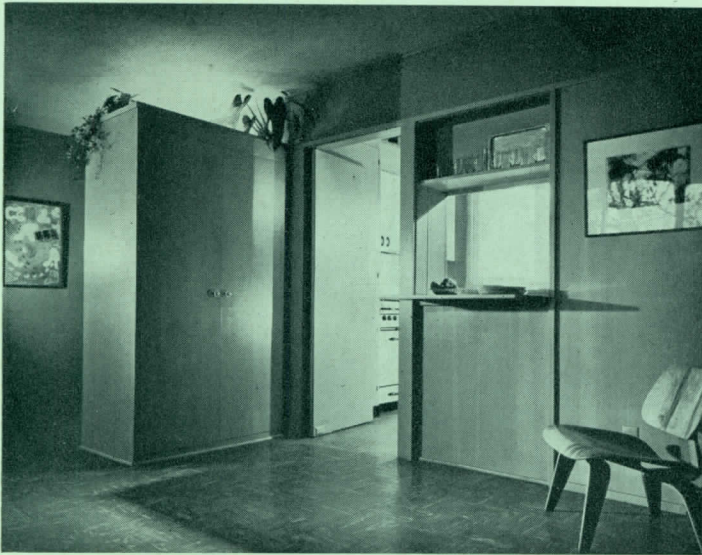


Each of the compact single apartments offers complete facilities for comfortable living, has built-in storage to minimize furniture requirements. Left: glazed wall opens all-purpose room to patio. Above: free-standing wardrobe separates sleeping and serving areas

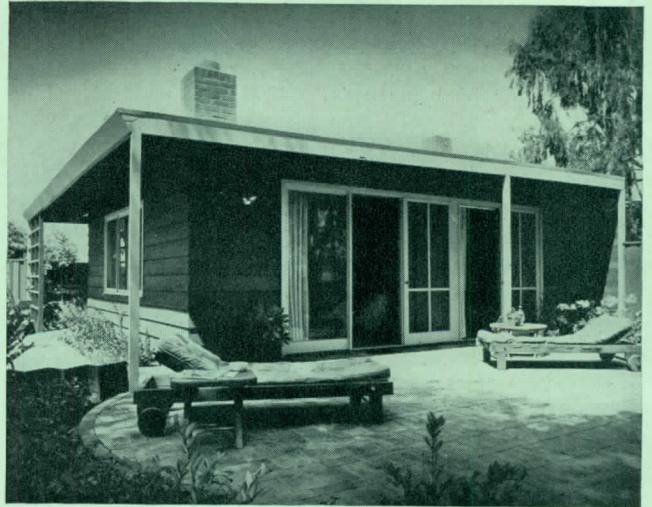


BRENTWOOD GARDEN APARTMENTS

Color and texture play an important part in the design of the frame structure. The rough redwood siding is trimmed in yellow for a warm contrast, and possible severity of the street facade was overcome by painting the interior of the open carport blue green. The entrance paths, and the main terrace of the double unit (right), are brick set in sand; the side terrace is gravel with staggered redwood edge. The patios of the single units are paved with red colored concrete to harmonize with alternating concave and convex panels of redwood fences



Double apartment includes same facilities as single units, plus bedroom and sleeping alcove (right). Alcove can be provided with folding door if desired. Kitchen, seen through swinging door and pass window (above), is fitted, as are the other apartments, with prefabricated unit, has additional storage cabinet. Plastic-top dining counter in pass window doubles as bar for entertaining. All apartments are soundproofed with rockwool woven between studding. Heating is by floor slab radiant hot water system, with gas-fired boiler

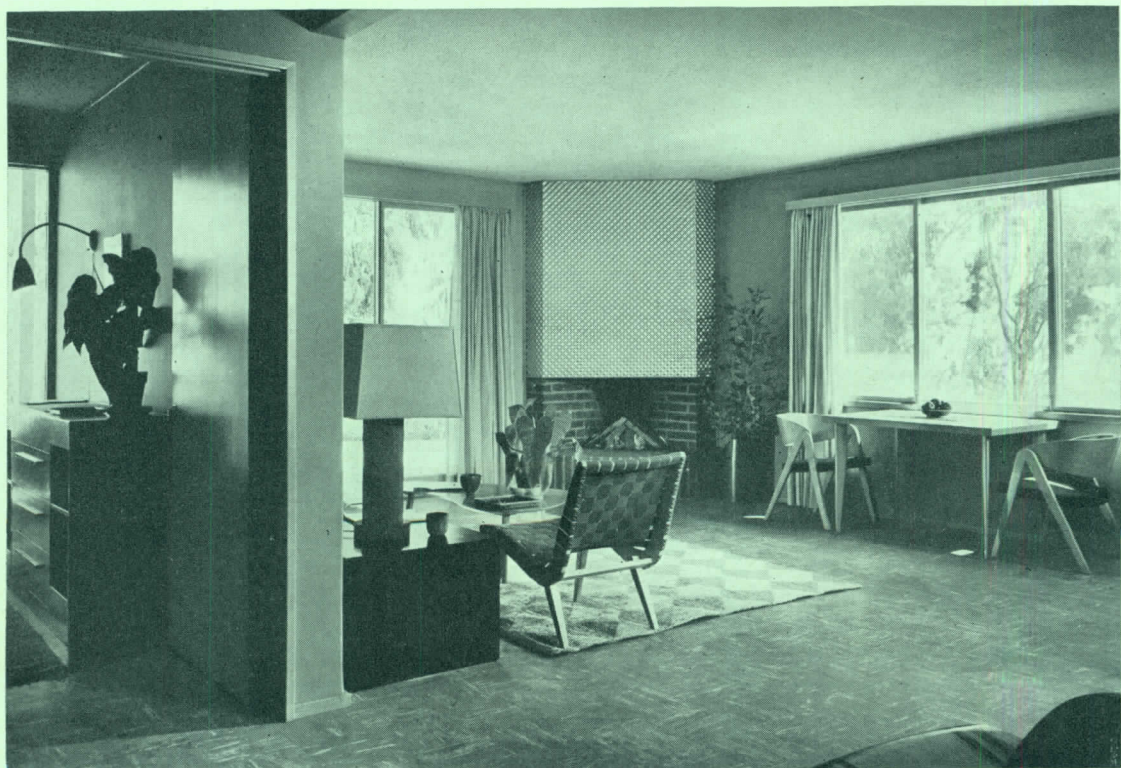


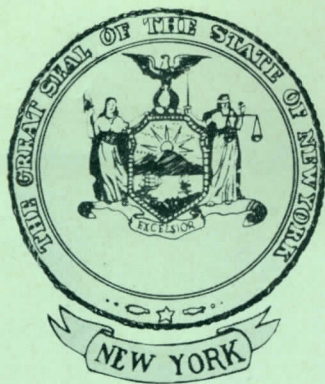
Robert C. Cleveland Photos





Ceilings of all units are pale yellow for reflective light, floors are gray asphalt tile to minimize upkeep. Fireplace hood is stamped aluminum





Four of the building code commissioners (left to right): Ralph A. Lehr; William Lescaze; George Bain Cummings, vice-chairman; Walker S. Lee. Absent is Edward J. McGrew, Jr., chairman, now on military leave

N. Y. STATE BUILDING CODE COMMISSION:

By William Lescaze, Commissioner

ABOUT TWO YEARS AGO the State of New York took a bold step — it decided to go seriously, in a business-like manner, into the business of writing a statewide building code. I am going to tell its development here in as non-technical terms as possible.

Building codes originate with the duty and power of the government to protect people in matters of safety, health and welfare. Thus, police power is implicit in building codes.

Things don't happen just because you or I want them to happen. I wanted modern architecture to happen many years before it did. Things are more likely to happen, however, when at least two favorable conditions exist simultaneously: the idea must be good, the climate must be right. That combination existed in April 1949, when Governor Dewey approved Article 15 — the State Building Code Law — which had been passed by the Legislature.

The Idea Was Good

No one can argue against the idea. For years architects, engineers, builders, building officials and laymen had sensed the folly of having, say, one set of rules for building in New Rochelle; another set for building in Yonkers, seven miles away; another for building in Port Chester, nine miles away; and still others for building in Rochester.

Here is a great state, justly proud of its vast achievements, but still saddled with over 300 building codes! Here is

that state plus all the other states making up a great nation seeking high living standards for its people, but still saddled with 2200 building codes! It doesn't make sense. It certainly means waste, duplication of effort, inefficiency and needlessly high building costs.

A great many people began to write a great many articles about building codes. Several states began talking about preparing a building code. None, however, to my knowledge has thus far so well established first the necessary mechanism — organization, budget, fundamental philosophy — which the State of New York did.

The Climate Was Right

The State of New York, through its Division of Housing, conducted in June 1948 an Institute of Housing and Planning Studies. Two hundred experts participated — architects, engineers, builders, labor officials, planners, economists, bankers, public officials. Major subjects discussed were high costs of home-building, how more efficient production and distribution methods could reduce these costs; and revision of antiquated building codes. Throughout ran the theme, "The building industry as a whole has ignored the findings of science."

It was announced that the state would hold an architectural competition, and that it would show what present building codes did to the cost of a house as well as what revised building codes might do.

Then followed the creation of the Governor's Committee on Housing and Construction, and meetings in New York and in Albany with the Governor. And, every time, one of the items discussed would inevitably turn out to be the need for a statewide building code.

On March 26, 1946, a Joint Legislative Committee on Statewide Building Codes was created by the state legislature. It was continued in 1947 and 1948, and charged with reporting to the legislature the results of its study and investigation not later than March 31, 1949.

Committee Report

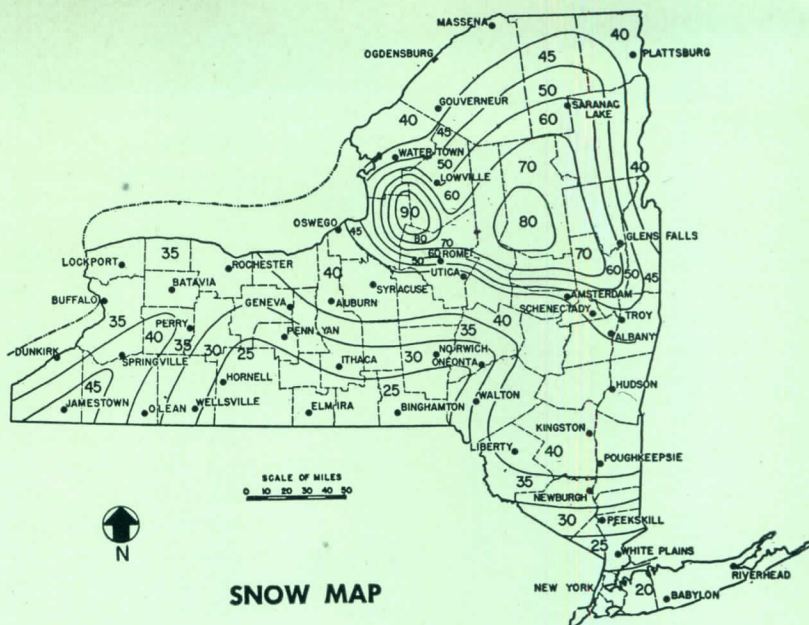
The committee reported as follows on February 28, 1949:

"The Committee is firmly convinced that reform of outmoded and unreasonably restrictive building codes cannot be handled by the municipalities. The writing of a scientific building code is no simple task; it demands the services of a multitude of experts and its cost is beyond the reach of most municipalities . . ."

"The Committee therefore proposes to establish a State building construction code . . ."

"The Committee is convinced that since a building code should constantly be revised as technological advances in the science of building are made, it should not be promulgated by legislative action. A code enacted by the Legislature requires legis-

Snow map from the "Structural Requirements" section of the proposed code for one- and two-family dwellings. Zones on map, when used in conjunction with table in the code, give snow loads for various roof slopes. Numbers on the map are weights of snow in lb per sq ft



Aims and Accomplishments

lative action to amend it. This process is frequently too slow and is the chief cause of inflexibility. The Committee therefore proposes to establish in the Executive Department a five-man commission with power to formulate the rules and regulations which will constitute the State building construction code and by amendment to keep them always up to date . . ."

Features of the Code Law

Inherent in the committee's proposal and in the text of the State Building Code Law as approved by Governor Dewey are several noteworthy features:

- Statewide uniformity of codes is bound to lower construction costs since such uniformity will assure an approved building material of a statewide market.
- A modern code must be expressed in terms of performance objectives, i.e. adequate performance for the intended use should be recognized as the test of acceptability. This is bound to result in two important improvements over existing codes: (1) modern technical methods will be accepted as soon as they are proved to give adequate performance; and (2) the code will remain flexible. It cannot freeze obsolete methods and materials, as existing codes do.
- A code today can no longer be written by one man alone. If it is to be good, a code must be prepared by a team after consultation with many experts.
- Preparation of a code is an arduous, time-consuming and costly job. If it is to be the kind of impartial and scientific

job which it ought to be, it cannot be done — as some states still seem to think — on a volunteer, quick and inexpensive basis. The State of New York had the wisdom to appropriate \$300,000 for the work of the code commission.

e. The commission is established as a going concern. As a branch of the executive department of the state, it is set up to render a continuing service to all the municipalities of the state who desire that service.

First Work of the Commission

The State Building Code Commission consists of five members to be appointed by the governor, by and with the advice and consent of the senate. At least one of the members must be a registered architect and one a professional engineer.

On October 18, 1949, the governor appointed two architects, one engineer, one lawyer and one building official. This in itself is remarkable since it emphasizes the technical composition of the commission, the technical purpose of its work. Briefly, in addition to the five commissioners, our organization consists of an executive assistant, a public relations officer, a counsel, the all-important technical section headed by a technical director, and the administrative section.

We brought together a board of consultants.* We formed a panel of specialists.* As soon as one of our first drafts was ready we conferred, in addi-

tion to our board of consultants and our panel of specialists, with several building officials, building industry employers, building labor unions and with representatives of trade associations.

Other things took place, however, some before and some after we met with consultants, specialists or advisory groups.

Just as it is in architecture, before you start sketching, you have to do a great deal of reconnoitering, of gathering facts, of asking questions. We held eight public conferences throughout the state. We held meetings with professional groups, especially those established on a state basis, such as the New York State Association of Architects, the New York State Society of Professional Engineers and similar organizations. We asked them to form code committees from their memberships to review our work with us.

We also sent a questionnaire to the 1567 municipalities of the state. We got an 85 per cent response. We found that 399 municipalities, or 21.6 per cent of the total in our state, have building codes or regulations.

Four Codes Needed, Not One

As we became more and more familiar with our problems, analyzed and organized them, it became clear that we should tackle things in the following order:

* See lists at end of article for membership.

1. Code for One- and Two-Family Dwellings. (The one I like to call the "Little" Code. It has been distributed now in draft form and after some revisions will soon come out again, but this time in final form.)
2. Code for Multiple Dwellings.
3. Comprehensive Code.
4. Short Comprehensive Code for Small Municipalities.

TABULATED RESULTS OF QUESTIONNAIRE				
Class of Municipality	Total Number	Number Answering	Number of Codes or Regulations Reported	Percentage of Reporting Municipalities with Regulations
Cities	62	62	56	90.3
Towns	950	752	63	8.3
Villages	555	513	220	42.9
Totals	1567	1327	339	24.8

The "Little Code"

At an early stage of our deliberations, working and re-working of the table of contents of the "little" code, we created the concept of two separate documents, the code proper which is the law, and the code manual which is a guide, but not the law.

The legislative mandate which we had been given was unmistakably to prepare a performance-type code. We all agreed that this was the only valid type of code today, allowing the use of modern technical methods, and making available to our citizens the benefits resulting from invention and progress. (Most existing codes are specification-type codes, rigid and frozen in their requirements.)

Performance implies ability to measure. That ability to measure must be based on tests and research. Today, in the vast and complex fields of building materials and methods of construction, tests and research have not been systematized. There has been much testing in some areas, and in others hardly any.

Obviously one of the important tasks of our commission is to scrutinize and organize available test data and to encourage specific research where needed test data are not available.

In the meantime the "little" code is as much a performance code as we were able to make it. Until more test data are available it will have to contain elements of specifications, but its perform-

ance requirements outweigh right now its specification requirements, and its basic philosophy is definitely established on the belief of the validity of performance as a criterion.

The simple device of preparing two separate instruments enabled us to place in the code — the law — all information which is most unlikely to alter in the years to come, while the conventional and more temporary information went into the manual — as a guide only. A further device, making the manual a looseleaf notebook, permits the future and easy insertion of new information which the commission plans to issue on the basis of test data and investigation as invention and progress develop.

Each page of the manual carries the reminder: "Constructions illustrated or described above are acceptable under the State Building Construction Code; but such illustrations or descriptions shall not be interpreted to preclude other constructions which also meet the requirements of the code."

While codes can either benefit or penalize all of us in our daily use of buildings, they should be first of all addressed to those groups of major users: architects, engineers, builders who build in accordance with the codes and the building officials who enforce the codes. Therefore, we arranged the contents of the "little" code in as logical manner as possible, very much as an architect would, while planning a house, go logically from considerations of space to materials, then structural and fire safety, then on to plumbing, heating and light. The "little" code is thus divided into five parts:

1. General Provisions
2. Space Requirements
3. Structural Requirements
4. Fire Safety Requirements
5. Plumbing, Heating, Electrical and other Electrical Requirements

It seems that in every trade and profession at one time or another a jargon becomes the vogue. Most existing building codes are written in a special code jargon. Such as this:

"If the horizontal section through a bearing wall shows more than thirty per cent area of flues and openings, such part of the wall where the excessive openings exist shall be increased 4 in. in thickness over minimum requirements for every 15 per cent or fraction thereof, of flue and opening area in excess of 30 per cent provided that if such wall be laid up in Portland cement mortar the increase in thickness shall

be required only when the areas of flues and openings exceeds 45 per cent; or instead of increasing such wall in thickness adequate piers or buttresses shall be provided."

But there is nothing mystical about writing codes. Wishing to have our "little" code understood as well by the lay person as by the major users, we took pains to write it in simple, plain language. Usage alone will tell if we succeeded.

As I am writing this, news has just reached us that Governor Dewey has signed a bill to which certain amendments to the original state building code law were attached. This is good news. Some of these amendments greatly simplify the procedure for acceptance of our code. Municipalities without their own building regulations can now by means of a single resolution accept our code; furthermore, any municipality after one year of use of the state code can, by resolution of its local administrative body, withdraw from the application of the state code and again later on, if it chooses to do so, restore, itself, the application of our code.

Now for the latest progress report on our "little" code: on February 19, 1951, we distributed 3500 copies of the code and of the code manual. We asked for comments from all the recipients. We have since received a great many comments which our technical staff is analyzing.

We met again with each of the members of our board of consultants and page by page reviewed our code with them. Early in May we started to make such revisions which in our judgment will further improve the code. Then the final copy will be ready and filed with the Secretary of State. And by early summer the code should be printed, public hearings held and the first part of our work done. Below are comments typical of those received which appeared in the *Ogdensburg Journal*, Feb. 22:

"The effort to get a building code adopted in the city of Ogdensburg took a step forward Monday when the New York State Building Code Commission issued its proposed one- and two-family dwelling code.

"This code will be available for local authorities to study. Perhaps the local building code committee might recommend its approval by common council.

"The advantages to communities in accepting the state's building code services are numerous, among these being munici-

pal economy. The cost of expert technical services and legal procedures involved in the preparation and amendment of building laws, expenses of public hearings and legal advertising and printing of original and amended drafts, make the undertaking prohibitive for most communities."

Range of Commission's Activities

I mentioned earlier that the commission is to be a service agency for the people of the state, that the work it is undertaking is the kind of work which most communities of our state cannot afford to do and yet need to have done. How else could the following be done except at state level and by a state agency?

The commission must provide, while preparing a state building construction code, reasonable uniform standards and requirements for construction and construction materials; formulate such standards and requirements in terms of performance objectives; encourage the standardization of construction practices; adopt tests and approvals, designate accredited testing laboratories, or provide for the testing and approval of materials, devices and methods of construction; organize one or more boards of review with rules and procedures; keep the code manual up to date by issuing new pages of information; establish contact with other agencies in the field, such as the National Bureau of Standards, the Housing and Home Finance Agency, the Building Research Advisory Board, the Joint Committee on Unification of Building Codes, etc.

As a further means of service, we have started and will continue to publish the *State Building Code Newsletter*. The purpose of this newsletter is to give information about the work of the commission. To date three issues of the newsletter have come out, reaching each time 4500 persons.

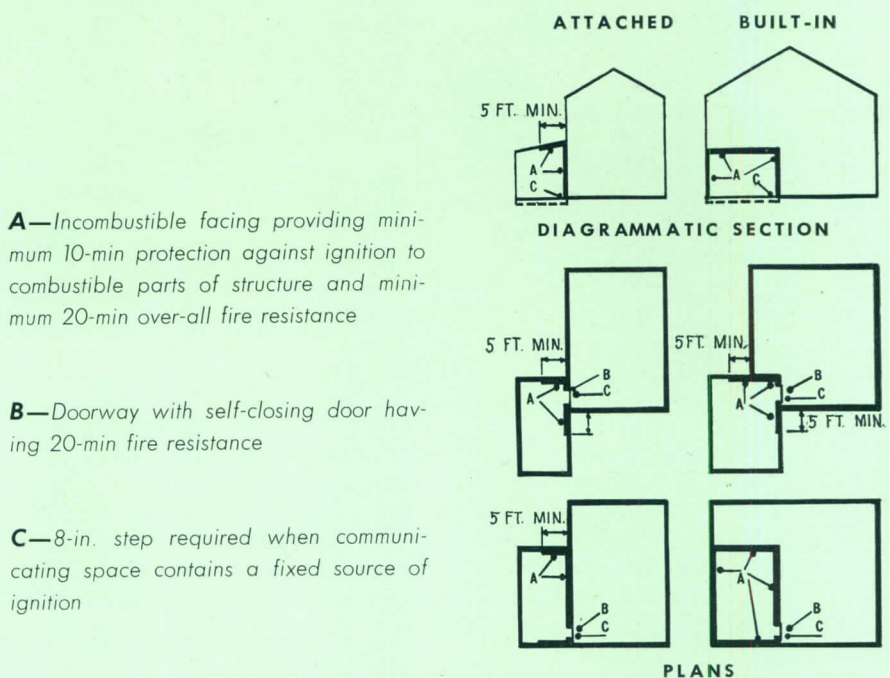
The other day an architect, anxious to consult immediately a housing code of the West Coast, had hunted high and low in the city when he thought of our commission and found that code in our technical library.

What About Administration, Zoning?

Two questions have often been put to us — "What will you do about administration?" — "What will you do about zoning?" The answers are simple. They are contained in the law which created our commission. Administration

(Continued on page 206)

FIRE SAFETY STANDARD: Private Garages, Isolation by Fire Protection



Drawings on this page are taken from two pages in the proposed code manual for one- and two-family dwellings. The manual is designed to assist in the interpretation, application and enforcement of the performance-type code

FIRE SAFETY STANDARD: Fire-Resistance Ratings

FIRE-RESISTANCE RATINGS IN HOURS	
Noncombustible framed-in members or no framed-in members	Combustible framed-in members
4" NOMINAL CLAY OR SHALE BRICK 1/2" 1:3 GYP-SUM PLASTER	
1/4	
3/4	
2 1/2	
8" NOMINAL CLAY OR SHALE BRICK 1/2" 1:3 GYP-SUM PLASTER	
5	2
6	2 1/2
7	2 1/2
12" NOMINAL CLAY OR SHALE BRICK 1/2" 1:3 GYP-SUM PLASTER	
10	8
10	9
12	9

Notes: The ratings shall also apply to walls of concrete or sand-lime brick. Ratings with combustible members framed into the fire-exposed side, or into both sides of walls are on other pages of the manual

FIRE EXPOSURE ON THIS SIDE | FRAMED-IN MEMBERS ON THIS SIDE

At the bottom of each page of standards appears this statement: "Constructions as illustrated or described above are acceptable under the State Building Construction Code; but such illustrations or descriptions shall not be interpreted to preclude other constructions which also meet the requirements of the code"



STEEL SAVED

Republic National Life Insurance Co. Building during construction in Dallas, Texas, in which the use of lightweight concrete reduced the quantity of steel required and cut the over-all cost a substantial amount

EVEN BEFORE THE PRESENT EMERGENCY, labor and material costs — especially labor — challenged the imagination and resourcefulness of architects and engineers. Now that we are faced with priorities, allocations, controls and shortages, building design is even more challenging. If structural engineers can make use of a new material which requires the use of smaller quantities of critical materials such as reinforcing steel, they can make a valuable contribution to both the construction industry and to the national economy.

This article shows how lightweight concrete and a comparatively new method of framing cut the quantity of steel required and substantially reduced the cost in the Republic National Life Insurance Co. Building.

Lightweight Concrete Means More Strength Per Pound

The engineer can learn a lesson from the development of the all-metal airplane. Although high-strength steel alloys are far stronger per inch of thickness than aluminum alloys, still the strength-weight ratio was so much in favor of the aluminum alloys that their use was quickly found more efficient.

For example, an X-4130 steel has a yield point of 70,000 psi and weighs 490 lb per cu ft. Its strength-weight ratio is then $\frac{70,000}{490} = 143$. Aluminum (24 ST) has a yield point of 60,000 psi and weighs 173 lb per cu ft. Its strength-weight ratio is 350, or an increase over that particular steel of 144 per cent.

May not lightweight concrete do for the construction industry what aluminum alloys have done for the aircraft industry? A good idea of how it might be apparent from a glance at Table 1. For example, 3000 psi lightweight concrete has a 67 per cent higher strength-weight

ratio than 3000 psi heavy (hard rock) concrete.

Now, let's compare the strength-weight ratio of 4000 psi lightweight concrete with 3000 psi hard rock concrete, which is most commonly specified for structural framing. The answer is $\frac{19}{9} =$

an increase of 110 per cent which is in the same category as the comparison of aluminum with steel.

Cost Savings Demonstrated

The two-story insurance building offers proof of steel and cost savings due to the greater strength-weight ratio of lightweight concrete. The building is 192 by 120 ft with columns on 24-ft centers. The economics of flat-plate design had already been demonstrated in the construction of a three-story nurses' home with bays 17 by 15 ft, so we hoped to use the same method of framing for the office building.

The first design studied used 3000 psi hard rock concrete which would have required a slab 11-in. thick using 4.15 lb of steel per sq ft, supported by 20-in. sq columns. This construction was estimated to cost:

Steel	2391 lb × 10¢	=	\$239.10
Concrete	19.6 yd × \$12.50	=	245.00
Forms	576 × 40¢	=	230.00
			<hr/>
			\$714.10
			per bay

$$\frac{\$714.10}{576 \text{ sq ft per bay}} = \$1.24/\text{sq ft}$$

We then studied the same design for 4000 psi hard rock concrete. The slab would have had to be 9-in. thick, supported by 19-in. sq columns, and 5.96 lb of steel per sq ft would have been required.

An allowance in the forming cost was made in proportion to the decrease in dead load. The cost estimates were:

Steel	2859 lb × 10¢	=	\$285.90
Concrete	16 yd × \$13.10	=	209.00
Forming	576 × 35¢	=	202.00
			<hr/>
			\$696.90

$$\frac{\$696.90}{576} = \$1.21 \text{ per sq ft}$$

Several producers of lightweight expanded shale aggregates are within reasonable distance of Dallas. They indicated a 4000 psi lightweight concrete could be mixed at the site at a competitive cost. The lightweight design called for columns only 16-in. square and an 8-in. slab, using only 3.81 lb of steel per sq ft. The costs proved to be (in actual construction):

Steel	2198 lb × 10¢	=	\$219.80
Concrete	14.2 yd × \$14.50	=	206.00
Forming	576 × 28¢	=	161.00
			<hr/>
			\$586.80

$$\frac{\$586.80}{576} = \$1.02 \text{ per sq ft}$$

In a multi-story building the reduction of structural dead load from 79,000 to 36,200 = 42,800 lb per bay for slabs, and 4600 to 2760 = 1840 lb per column, would have proven significant but in this case no evaluation was made.

Photographs of the building under construction show the cleanliness of the design and the ease of installing ducts and other mechanical services.

The slabs were watched carefully for deflection. Some deflection was observed, but most of it was attributable to settlement of forms during pouring — and to prove it the slabs were load tested.

Increasing Slab Thickness Saves Steel

The designer may decide to increase the thickness of a lightweight slab or the depth of a beam beyond that depth

IN LIGHTWEIGHT BUILDING

By J. A. Murlin

of George L. Dahl, Architects & Engineers

determined from design constants in order to save steel. The additional saving in reinforcing steel usually pays for the extra concrete.

For example, assume a beam 20-in. wide is required to carry a moment of 900,000 ft lb. The effective depth * required is 38-in. and cross-sectional area of steel, 17 sq in. Suppose we decide to increase the effective depth of the beam to 46-in. Then the steel cross-section required is 13.9 sq in. or a saving of 3 sq in. of steel which would amount to 10.8 lb per lineal ft or \$1.08. This procedure can be followed in any type of long span structure.

Along this line of thinking, the 24 by 24 ft bay size was calculated increasing the lightweight slab thickness from 8 to 12 in. Figure 1 shows the estimated cost per sq ft and also the weight of steel per sq ft as the lightweight slab thickness is increased from 8 to 12 in. Inserted at the top of the graph are the comparative costs for the 11-in. hard rock and the 9-in. hard rock slabs. You can see that the designer may well decide to increase the slab thickness to decrease the amount of steel even though the total cost increases. The total cost still remains below that for an equivalent hard rock slab.

* Distance from compression face to center of the steel, in inches.

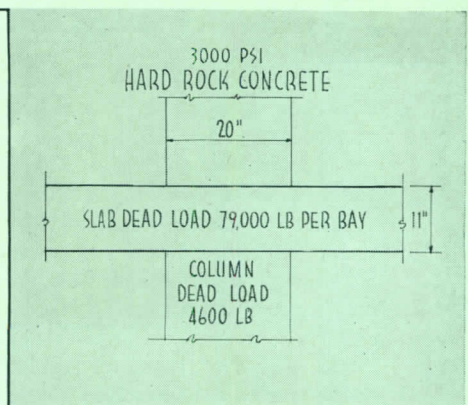
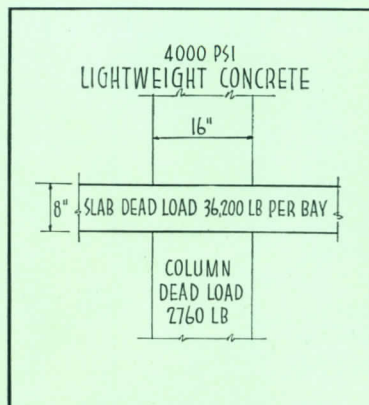
TABLE 1—Strength-Weight Ratios of Lightweight and Hard Rock Concrete

Concrete	Design Strength (psi)	Weight (lb/cu ft)	Strength-Weight Ratio
A. 2500 psi Hard Rock	1125	150	$\frac{1125}{150} = 7.5$
B. 3000 psi Hard Rock	1350	150	$\frac{1350}{150} = 9.0$
C. 4000 psi Hard Rock	1800	150	$\frac{1800}{150} = 12.0$
D. 2500 psi Lightweight	1125	85	$\frac{1125}{85} = 13.2$
E. 3000 psi Lightweight	1350	90	$\frac{1350}{90} = 15.0$
F. 4000 psi Lightweight	1800	95	$\frac{1800}{95} = 19.0$

Comparison of Strength-Weight Ratios

$$\frac{D}{A} = \frac{13.2}{7.5} = 176\% \quad \frac{E}{B} = \frac{15.0}{9.0} = 167\% \quad \frac{F}{C} = \frac{19.0}{12.0} = 158\%$$

Above: the table shows how strength-weight ratios of concrete increase as you go from hard-rock types through lightweight types. Below: lightweight concrete employed in the flat-slab construction of the insurance building shown on the opposite page results in a structure with clean lines in which air conditioning ducts and other mechanical services fit easily. The drawings point out the savings in dead load and in space required for the concrete frame, when lightweight concrete was used instead of heavy rock concrete



To complete the cost comparison picture, additional estimates were made for the same building with: (a) 3000 psi hard rock flat-slab construction (9-in. drop panel, 8 by 8 ft, with 6½-in. slab); (b) 3000 psi hard rock concrete, 72 by 18 in. wide flat beam with 6-in. one-way slab. In Table 2 are cost comparison figures in the order of their total costs.

Mixing and Field Control

While some authorities suggest the use of an air entraining admixture to prevent bleeding and to aid in workability, it has been expedient in this area to use a fine "blow sand." The proportion of sand, or air entraining agent — or combination of both — should be determined by laboratory analysis of both the sand and the lightweight aggregate as furnished to the job site.

We have found that the best guide for water content or for workability in the lightweight concrete is to keep the water as low as possible — if the concrete will come out of the mixer it will flow in the forms perfectly. The internal lubrication provided by the blow sand permits the wet concrete to be poured into any form. When a vibrator is applied the mass flows smoothly into place. And a monolithically finished slab is as easily trowelled as hard rock concrete. Shrinkage cracks were almost never observed from 1½-in. thick topping to an 8-in. thick slab. Curing was accomplished by keeping slabs wet for three days.

Figure 2 shows results of strength tests on lightweight concrete as poured. The two curves extending to 56 days are for the office building described in this article. The shorter curve extending to 28 days is for another building still under construction. It is inserted to illustrate the effect of more careful batching and water control.

It is significant that this lightweight concrete seems to continue to pick up strength at a constant rate to at least 56 days, while the strength curve for hard rock concrete (not shown) flattens out much earlier. This is explained by the comparatively large amount of water entrapped within the pores of the crushed lightweight aggregate. This water seems to slow up the curing, but does not prevent the concrete from eventually attaining its design strength. Slowing down of the hydration process may explain why some lightweight concrete evidences much less shrinkage crack difficulty than an equivalent strength hard rock concrete.

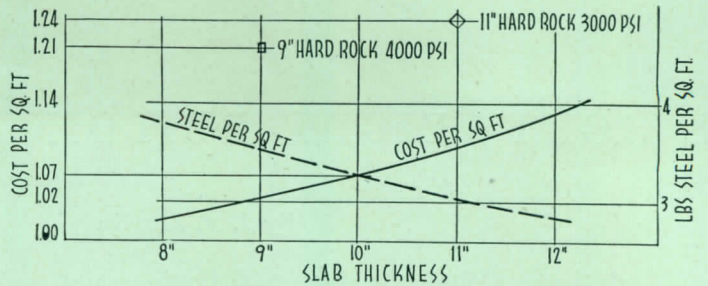


Fig. 1. Costs and reinforcing steel required for various thicknesses of lightweight concrete slabs based on the engineer's calculations

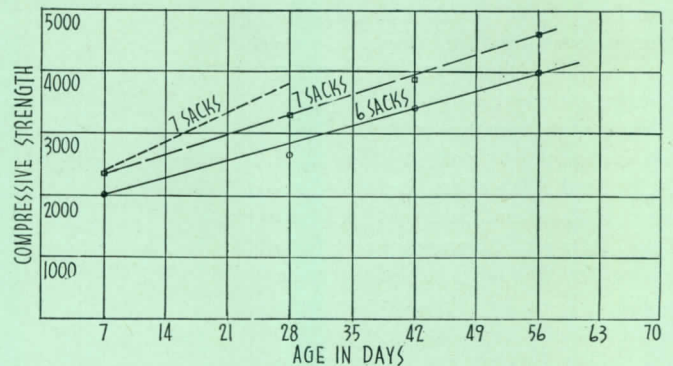


Fig. 2. Results of strength tests on concrete (expanded shale aggregate) for two buildings. Long lines are for building discussed here. Short line is for another one where there was better mixing

TABLE 2 — Costs and Steel Required for Various Types of Concrete Construction

Slab Type	Concrete	Cost per sq ft	Steel—lb per sq ft
(1) 8-in. flat-plate	4000 psi lightweight	\$1.02	3.81
(2) 10-in. flat-plate	3000 psi lightweight	1.07	3.28
(3) drop panel	3000 psi hard rock	1.07	4.00
(4) 10-in. flat-plate	4000 psi lightweight	1.08	3.28
(5) 12-in. flat-plate	3000 psi lightweight	1.14	2.85
(6) 9-in. flat-plate	4000 psi hard rock	1.21	4.96
(7) 11-in. flat-plate	3000 psi hard rock	1.24	4.15
(8) flat beam and slab	3000 psi hard rock	1.35	4.17

Taking the 8-in. lightweight flat-plate (1) as 100% in both cost and weight of steel, the systems compare as follows:

	Cost—%	Steel—%
(2)	105	86
(3)	105	105
(4)	106	86
(5)	112	75
(6)	118	130
(7)	121	109
(8)	132	109

HEATING SYSTEM LOWERS SCHOOL COSTS

Hillsborough Township Elementary School, Hillsborough, N. J.

P. C. Van Nuys & Son, Jay C. Van Nuys, Architect

Raymond Althoff, Consulting Engineer

Julian E. Garnsey, Color Consultant

Oliver A. Deakin, Landscape Architect

ARCHITECTS of the Hillsborough School integrated the heating system with the basic structure to achieve both low initial cost and optimum performance. They reversed the usual procedure of tailoring the heating system to fit the building plans after they have been developed. As a result, installed cost of the heating and ventilating system was less than 7 per cent of the total cost of the building.

Besides providing low cost and maintenance, the central warm air heating system can be controlled easily at long range to maintain a comfortable temperature regardless of solar gains, heating load of lighting fixtures and heat from occupants.

In this school, the architects turned two state building requirements — unilateral daylighting and 12-ft classroom

ceilings* — to economic advantage in the design of the heating system. The requirement of unilateral lighting determined that a double-loaded corridor be used which, combined with a 12-ft ceiling, ordinarily would have meant quite a bit of waste space in the corridor. But in this case dead space over and under the main corridor is utilized for air ducts. The ceiling of the corridor was furred down to provide a space 3 ft high by 10 ft wide for air supply ducts, leaving the corridor 9 ft high. The air space in the false ceiling has been divided into two chambers by continuous steel decking, insulated with 1½ in. of vermiculite concrete. The decking is supported by angle bars set in the 8-in. concrete block corridor walls. Under the corridor is a tunnel 10 ft wide by 4 ft deep to receive

* Eliminated since construction of the Hillsborough School.

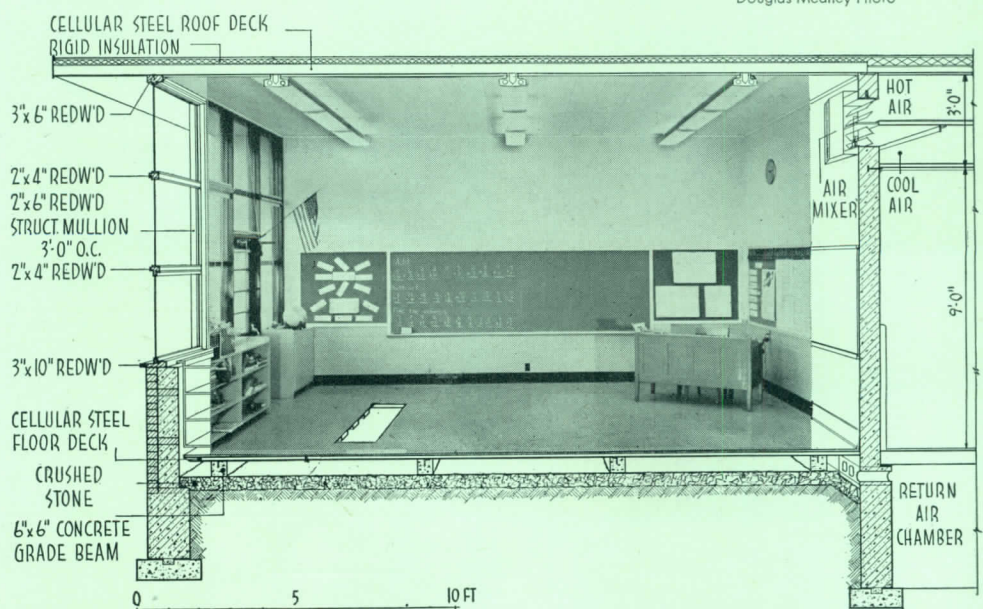
COST DATA

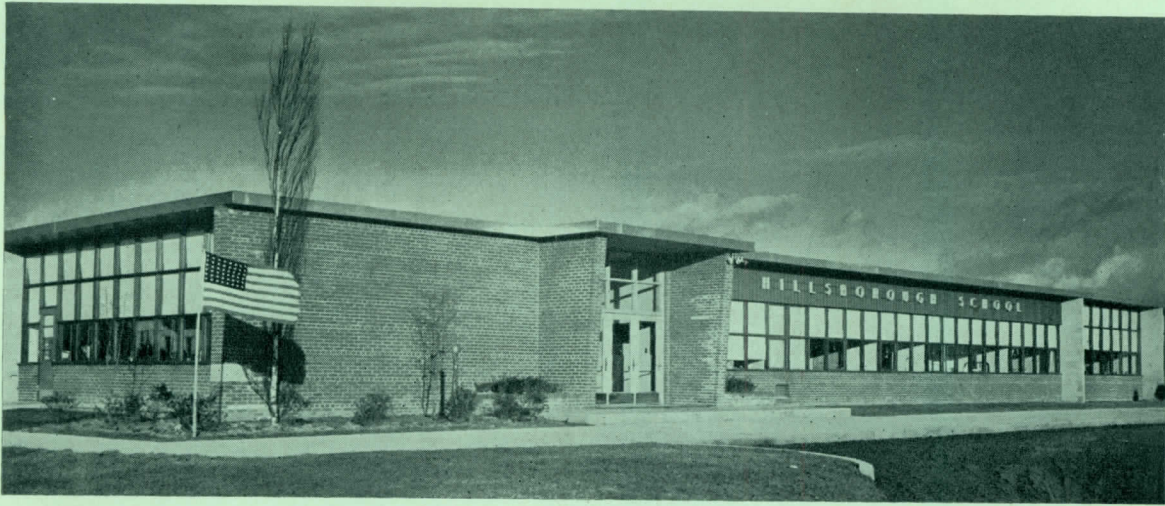
General Construction: (including site development, landscaping, kitchen equipment and sewage disposal).		\$186,031.00
Heating & Ventilating		22,787.00
Plumbing		28,372.00
Electrical		22,644.00
Structural Steel: (including floor & roof deck)		80,714.00
		<hr/> \$340,548.00

Unit Building Costs

Designed occupancy	466 pupils
Cost per student	\$730.80
Total volume	394,976 cu ft
Cost per cu ft	\$0.86
Total area	28,184 sq ft
Cost per sq ft	\$12.08

How the architects integrated the heating and ventilating system with the structure to achieve low cost can best be seen in this illustration. Hot (130 F) and cool (60 F) air enters an air mixer at the top of each room through a double-deck duct system at the top of the corridor (cellular steel, insulated with lightweight concrete, forms the ducts). Air travels out of the mixer, across the room, down past the windows, farther down behind the bookcases, and then under the floor to the return air chamber. Air is mixed to respond to individual thermostats





Douglas Meaney Photo

View towards the main entrance of the Hillsborough school shows large amount of window area. The heating and ventilating system can compensate to some extent for solar gains as long as outside air is cooler than inside air

exhaust air from the rooms, from which the air may either be discharged to the atmosphere or recirculated, or partly both.

Every room is supplied with a constant volume of totally fresh, filtered outside air during school hours. The system automatically operates on recirculated air during periods of non-occupancy to conserve fuel. A specially designed and inexpensive method of blending hot (130 F) and cold (60 F) air solves the problem of adjusting the temperature to respond to thermostats.

How the System Operates

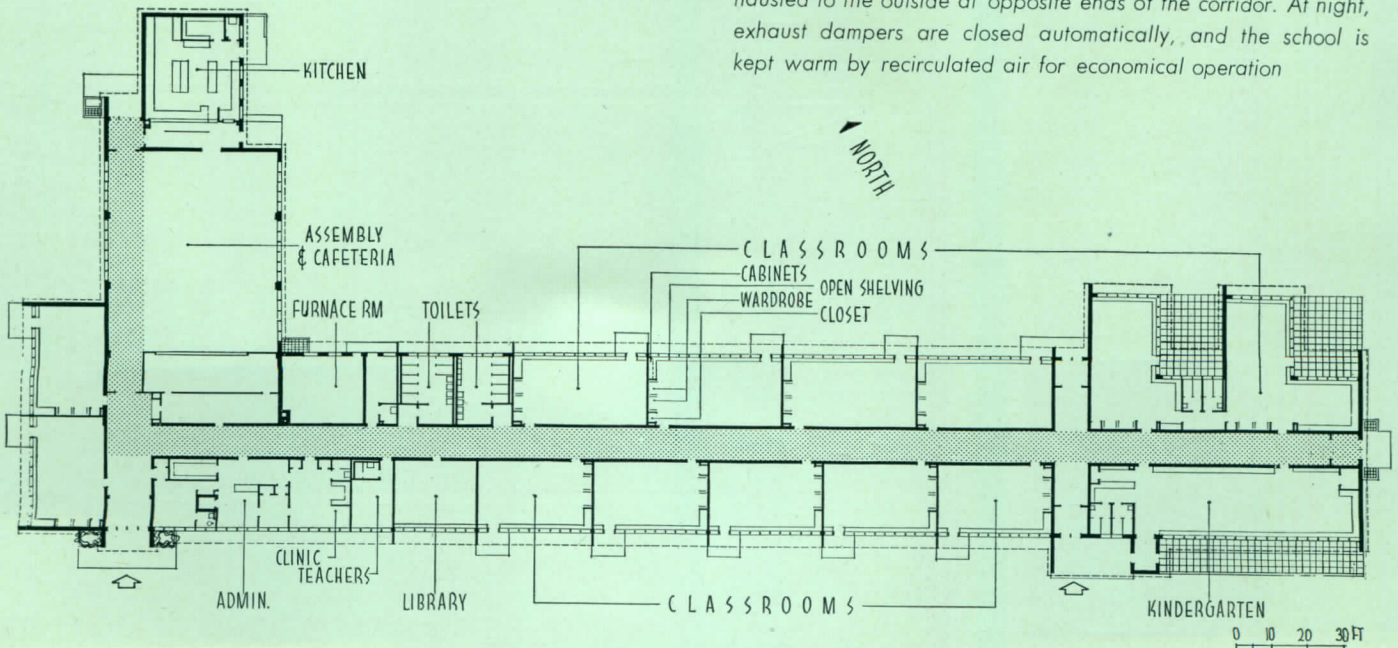
A constant volume of air is taken from the corridor supply ducts at ceiling height for each room. Manually set volume dampers at each outlet balance the air flow in the system. Each room has an air-mixing grilled register to blend air from the hot and cold ducts according to the demand of a room thermostat. The thermostat controls a small pneumatic piston which operates adjustable dampers to regulate the mixture of 130 F and 60 F air. The registers diffuse the air to

the right and left to establish uniform distribution throughout the room.

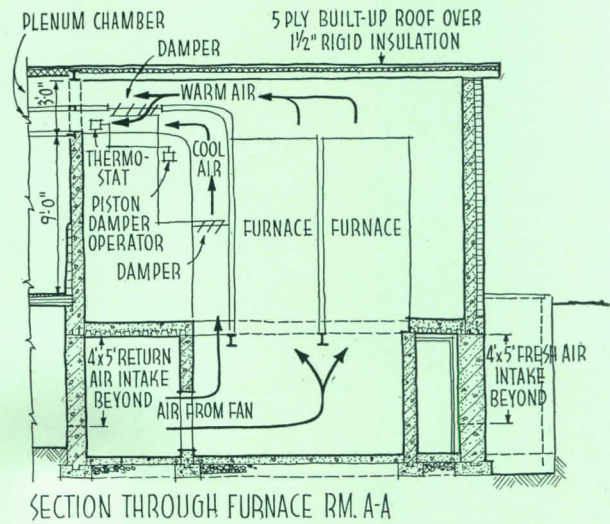
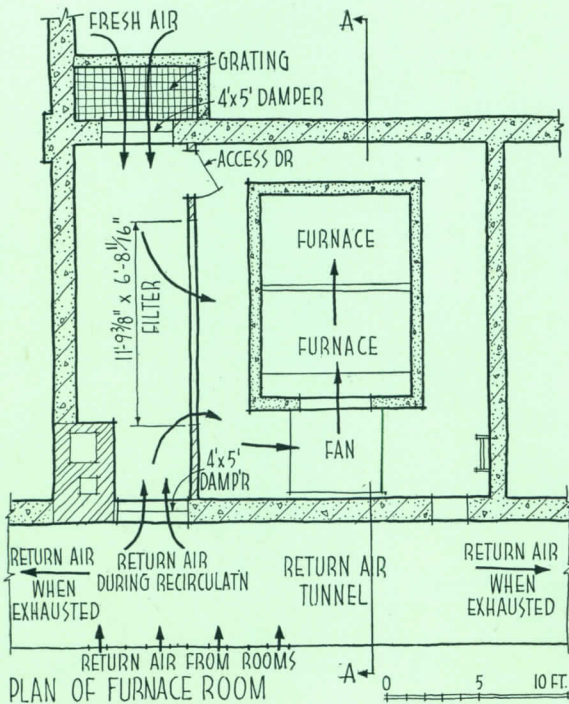
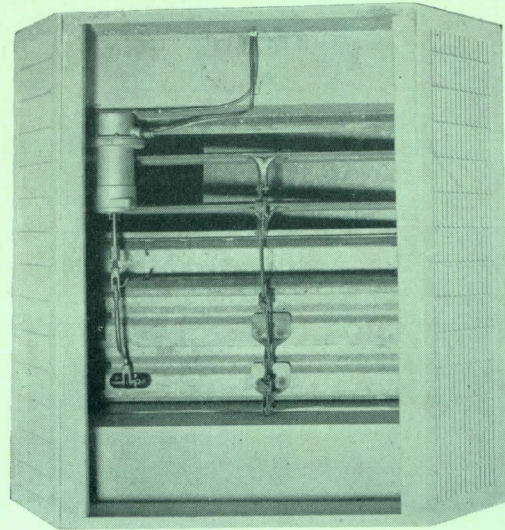
Attached to a program clock, the system operates automatically. The janitorial staff takes care of what few adjustments have to be made to the system.

Continuous slotted openings have been cut in the floor for removal of air from each room: (1) 1½-in. openings behind built-in bookcases along the exterior wall; (2) 4-in. openings inside the wardrobes along one inside wall. Wardrobe doors are open 4-in. at the top to allow entry of ventilating air in ac-

The return air tunnel, located under the corridor, is indicated on the plan by shading. During school hours return air is exhausted to the outside at opposite ends of the corridor. At night, exhaust dampers are closed automatically, and the school is kept warm by recirculated air for economical operation



Plan and section of the furnace room are fairly schematic to illustrate air flow in and out of the furnaces. In the daytime only fresh air is supplied to the rooms. Part of the fresh air passes through furnaces, and some is by-passed to go into the cold air duct (see section). Air is mixed in the rooms by the device shown at right to respond to thermostats. The mixer, designed by the engineer, has a manual damper for balancing, and adjustable dampers, operated by a pneumatic piston. Exhaust air flows from under the floors of the rooms into the return air tunnel through cinder blocks laid horizontally in the top course of the tunnel



cordance with state code requirements.

Exhaust air is drawn into these slotted openings, flows under the cellular steel deck flooring and empties into the tunnel through the cells of every third cinder block which has been laid horizontally along the top course of the tunnel. This eliminates the need for ductwork. While the exhaust air has no functional purpose, it does help keep the floor warm. The steel decking, laid on 6-in. by 6-in. concrete beams, is covered by asphalt tile flooring over a rubber-base concrete.

Two-thirds of the exterior wall in each

classroom is windowed. The windows are in the air flow path since exhaust openings are below them. Warm air continuously "wipes" the windows and helps prevent condensation.

Controls are set so that 20,000 cu ft of fresh air per minute are brought in, heated and delivered to the rooms continuously. The fresh air intake opening, 4 by 5 ft, has a pneumatically controlled damper through which air passes only during the fresh air operating cycle. The air then is drawn into a plenum chamber through a 12 by 7 ft bank of filters and

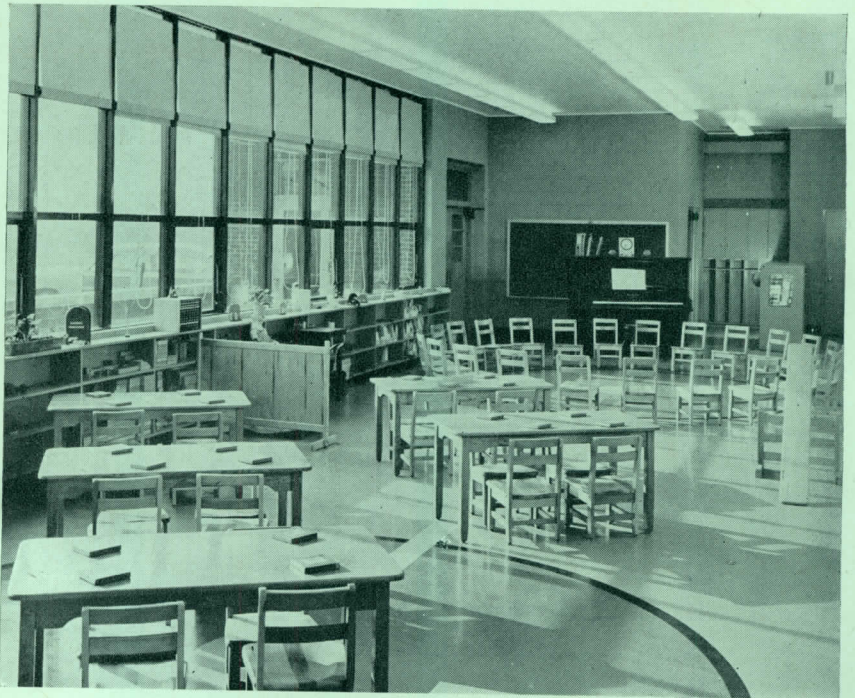
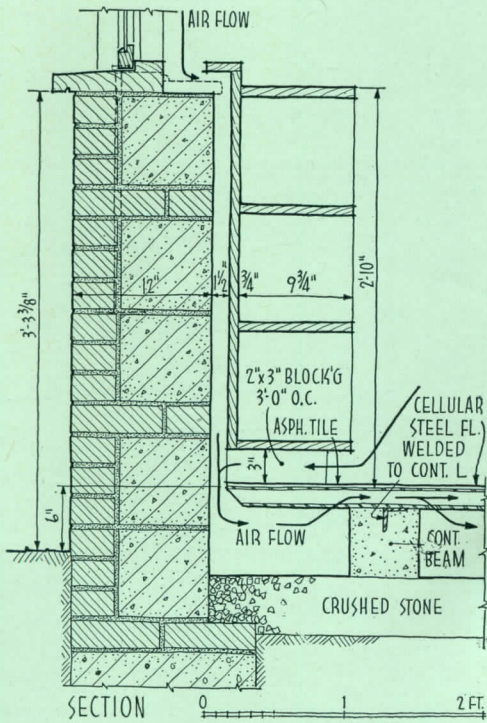
forced upward by the 20,000 cfm fan into two direct-fired heaters mounted on the floor above the chamber.

Part of the air is by-passed around the heaters to be used in making up the "cold duct" supply. The remainder passes through each heater and discharges directly into the insulated "hot" duct.

Thermostatically controlled, motor operated dampers bleed some of this hot air to mix with the cold air for the 60 F "cold duct." The "hot duct" contains a thermostat which controls the burners of

HEATING OF HILLSBOROUGH SCHOOL

After air diffuses through the classroom, it flows down past the windows, in behind the bookcases, then under the floor to the return air tunnel. Bookcases are blocked up from the floor to give more return air space, and have a ledge at the top hiding the return air passage so children will not be tempted to stuff it up with paper. Air flowing under the floor keeps it warm, but is simply a bonus and is not designed as a heat source. Law in New Jersey requires wardrobes to be ventilated, so there is a 4-in. opening at the top of the doors and an opening in the floor which is covered with expanded metal mesh. At first, school authorities wondered how the use of cellular steel decking, covered only by a rubber-base concrete and asphalt tile, would work out as a walk surface, but upon completion were quite satisfied



Douglas Meaney Photo

both heaters to obtain 130 F air. A humidifier is installed in the duct for use as needed.

After school hours, the program clock reverses this operating cycle. The fresh air intake damper closes, a return air damper in the tunnel opens, the two exhaust blowers at either end of the tunnel are shut off and the system operates on 100 per cent recirculated air.

Although the system can be operated on a mixture of both fresh and recirculated air, it is designed primarily for 100 per cent fresh air operation down to 0 F. If the outdoor temperature should drop

below zero, some recirculated air can be used to establish desired comfort.

The only ductwork required for the entire system is that used in the heater room, two small runs into the cafeteria-assembly hall, and one "hot" duct for the kitchen.

The designers believe that this adaptation of direct-fired warm air heating, with its inherent low cost and maintenance demonstrates practicability for large, one-story structures.

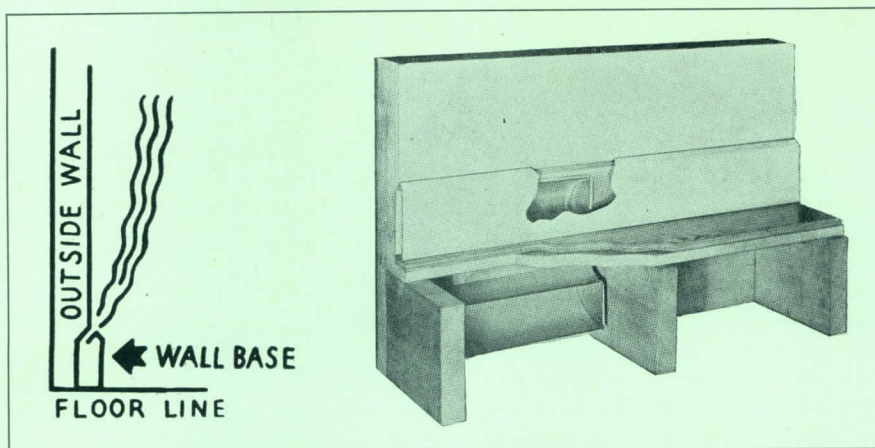
Construction Details

Roof of the building is steel decking

topped by 1½-in. of rigid insulation and a 5-ply felt, tar and gravel covering. The roof overhangs the windows 2 ft 7 in. The 3 by 3 ft redwood window frames support the roof, eliminating need for lintels.

Partition walls between classrooms are of 4-in. concrete block projected out 2 ft 7 in. These projecting partitions serve as fire stops and also make classrooms appear deeper. Ceilings of all rooms are acoustical tile. Lighting is fluorescent. Each classroom is equipped with tackboards, chalkboard, storage facilities and work space.

PRODUCTS for Better Building



New baseboard system provides warm air heating. Right: cut-away section shows double-elbow supply duct set between joists. Left: special lip prevents wall streakage, as shown in detail

Baseboard Heater

Brandes Wall Base Heating is a new system which combines the features of warm air and baseboard heating. The heavy-gage metal units are designed to introduce heat along the outside walls of a home, and are adaptable to new or old construction, with or without basement. The system is said to offer very fast

heating action. A special lip is formed at the top of the wall base to direct warm air away from the wall and prevent streaking.

Wall Base is made in two parts, front and rear, to allow the rear section to be installed during roughing-in procedures. The front is applied as the house is

finished. The same units may be used as return air grills. A spring return valved ducts to close off heat in individual rooms. The units are sized the same as a regular 4½ in. wood base, and have a prime coat finish. Brandes Co., 2046 Winnebago St., Madison 4, Wis.

Clay Pipe Used for Heating Ducts

Vitrified clay pipe has been employed to replace critical metal for underfloor heating ducts in a new building designed for Spot Motor Co., Akron, Ohio, by Beiswenger and Hoch, Architects. Use of the clay pipe was also said to have been specified because of its non-corrosive qualities, ease of handling and resistance to "buckling" as concrete floor slabs are poured.

Heat for the system is supplied by two forced-air, gas-fired blower units, with a combined output of 250,000 Btu's per hour. The total area of the structure is 25,000 sq ft. The heat distribution system required 250 ft of extra-strength clay pipe and fittings. The main duct system starts with 24-in. pipe at the furnace, reducing to 12-in. pipe at the farthest perimeter points to equalize heat output.

From the main ducts, 8-in. clay pipe branches connect with 17 floor registers,

located at the base of the showroom windows. Louver controls on the registers permit adjustment of heat output and make it possible to direct heat flow against the windows to defrost them during winter months.

Trench depths for the heating system vary from 42 to 24 in. The clay pipe

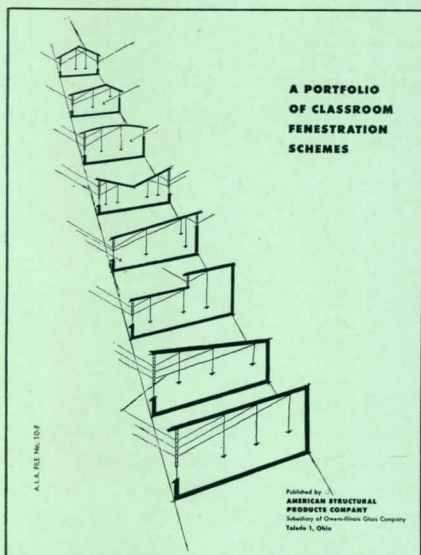
was cradled in sand, and backfill tamped to a height of 6 in. over the top of the pipe. All joints were made with hemp packing and mortar. Wire mesh reinforcing was laid over the backfill, and floor poured to a depth of 6 in. The Robinson Clay Product Co., 65 W. State St., Akron, Ohio.

(Continued on page 208)

Clay pipe replaces metal for underfloor ducts in new heating installation



LITERATURE FOR THE OFFICE



New portfolio shows daylighting schemes developed for 12 recently built schools

Classroom Fenestration

A Portfolio of Classroom Fenestration Schemes. A series of data sheets covers 12 schools in various parts of the country employing light-directing glass block. Each school is presented with a rendering or photo, plot plan, and typical classroom cross section and floor plan. General background, construction and fenestration are discussed. The various schools show light-directing glass block as a primary fenestration and in conjunction with other light-transmitting media. Several of the schemes are given with daylight illumination measurements, including room reflectivities, brightness ratios and measurement methods. 12 folders, illus. American Structural Products Co., Subsidiary of Owens-Illinois Glass Co., Toledo 1, Ohio.*

Heating Controls

Honeywell Automatic Heating Controls (Catalog and Price List 1951-1952). Presents an extensive line of automatic controls for various types of heating

systems. These include thermostats and accessories, limit controls, relays, safety devices, stoker and hand-fired-controls, hot water accessories, etc. Also included are controls for attic fans, refrigeration and evaporative coolers, warm air registers and mercury switches. Each item is presented with illustration, description and specification data. Sections are also devoted to the selection of a control system, and to thermostat heater data. 60 pp., illus. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.*

Fastening Methods for Aluminum

Mechanical Fastening Methods for Aluminum. Book presents methods, other than welding, brazing and soldering, which may be used to join aluminum parts to metallic or non-metallic materials. Eight main sections are devoted to (1) standard rivets, (2) special rivets, (3) standard screw fasteners, (4) special screw fasteners, (5) nails and pins, (6) metal stitching, (7) mechanically formed joints, and (8) resin bonding. Each method is illustrated with photos and sketches. Sizes and properties of many standard fasteners are included in a series of tables. The book is available without charge to engineers, designers, production men and executives in the metal-working industry, when requested on company letterhead. 136 pp., illus. Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.*

Modular Tile

Forty Years With Stark Modular Glazed Facing Tile (Catalog No. 51). Presents a line of tiles in modular sizes for use with the Modular Coordination System. Types, properties and uses of the tiles are covered, together with specifications for the units. Typical installations are illustrated. A series of dimensioned sketches gives sizes and shapes of available tile units. Other data given includes a vertical coursing table, sill and lintel schedule, schedule for estimating, and a table of units and weights per sq ft. A diagram of structural bonding

for interior and exterior walls, and three typical modular jamb details are also included. 24 pp., illus. Stark Ceramics, Inc., Canton 1, Ohio.*

Electronic Air Cleaner

Westinghouse Type PE Encased Precipitron (Booklet DB 93-820). Describes a "packaged" electronic air cleaner for commercial and industrial applications. Features and operation of the unit are illustrated and described. Applications for various building types are discussed. The component parts of the assembly are shown in a series of photographs and renderings. Typical specifications and a table of capacities and dimensions are also included. 8 pp., illus. Westinghouse Electric Corp., Sturtevant Div., Hyde Park, Boston 36, Mass.*

Steel and Aluminum Building Panels

Fenestra Steel and Aluminum Building Panels. Catalog gives specifications and descriptions of a line of metal wall, deck and floor panels designed for use in schools, hospitals, houses, industrial and commercial buildings. Each type panel is shown in cut-away drawings, along with tables giving minimum required section properties, panel section properties, and panel selection for given spans and loads. A series of detail sheets shows methods of joining and supporting the panels. The catalog also contains a number of photos of new job installations. 38 pp., illus. Detroit Steel Products Co., 3113 Griffin St., Detroit 11, Mich.*

Stained Shingles

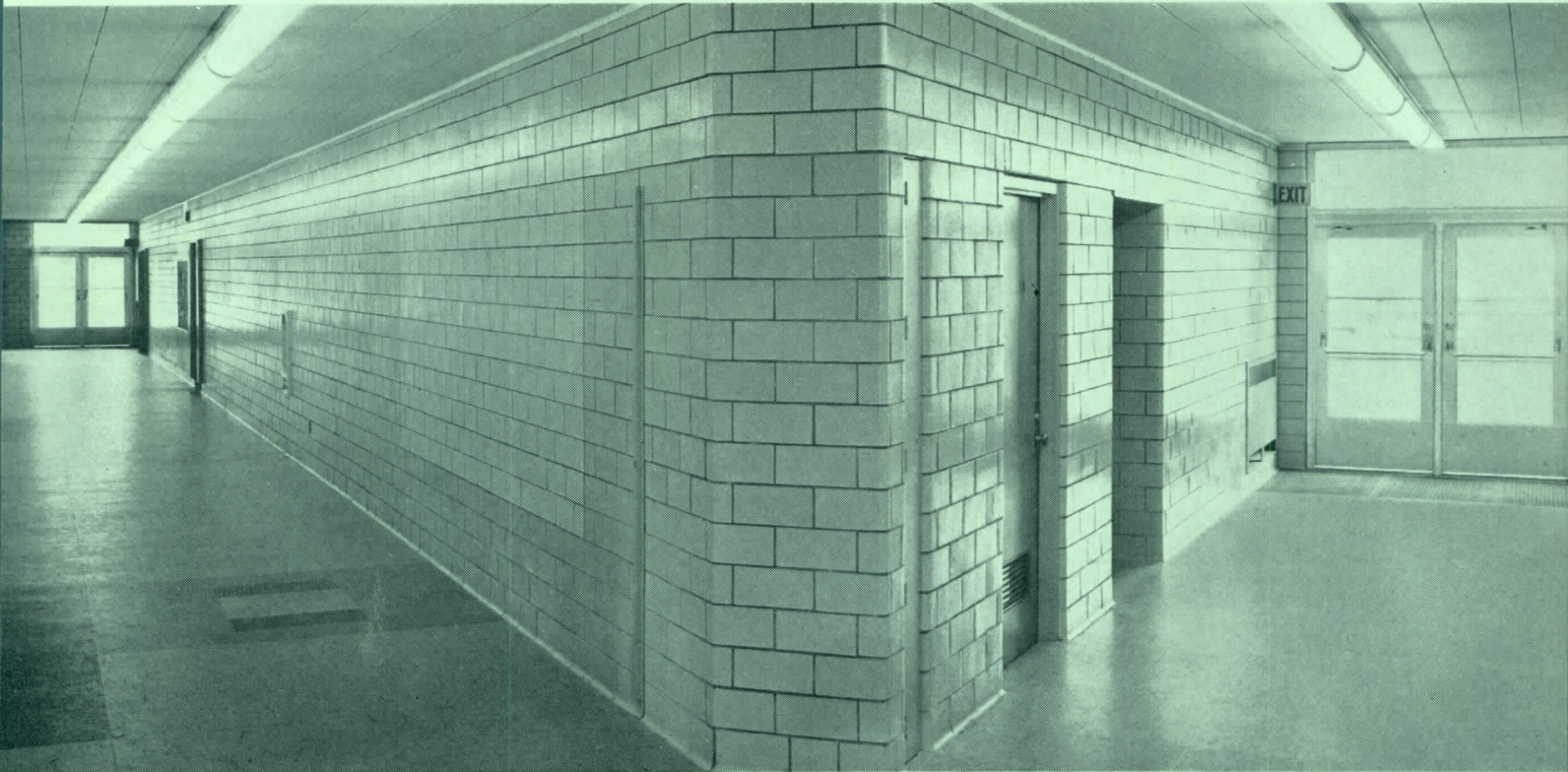
Stained Shingles and Shakes for Roofs and Sidewalls. Booklet shows typical installations using stained shakes and shingles for houses. Features of the materials are discussed, along with notes on application. Suggested specifications and size tables are also included. Illustrations show colors available in the various wall and roof materials. 8 pp., illus. Stained Shingle & Shake Assn., 835 Central Bldg., Seattle 4, Wash.*

(Continued on page 234)

FOR SCHOOL CORRIDORS, GYMNASIUMS, CLASSROOMS, CAFETERIAS . . .

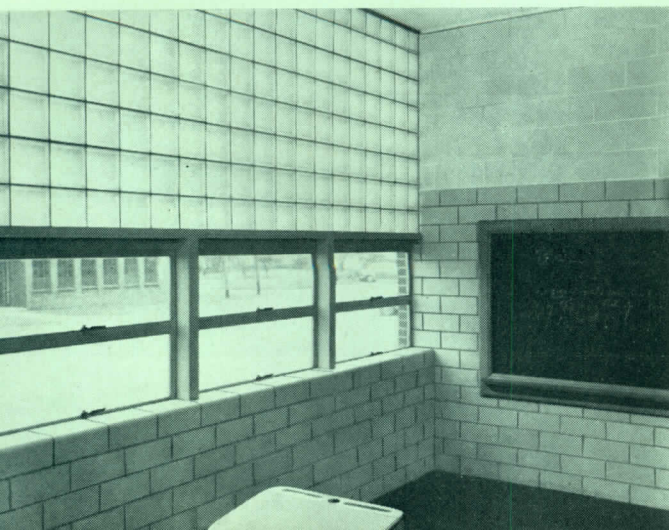
beautiful, easy-to-maintain

STARK GLAZED FACING TILE



▲ Note these walls of Stark Glazed Facing Tile. Many years of "costless" service are ahead for these corridors (in tones of cream, buff and tan) in the Jesse Mason School, Canton, Ohio. Outcalt, Guenther & Associates, Architects, Cleveland, Ohio; R. H. Evans Co., General Contractor, Columbus, Ohio; Joseph Halter and Sons, Masonry Contractor, Canton, Ohio.

▼ Classroom in School, Jackson Township, Ohio. Firestone & Motter, Architects, Canton, Ohio; Melbourne Bros., Contractor, Canton, Ohio.



In every school interior where youngsters work or play, Stark Glazed Facing Tile serves to best advantage, and for these reasons:

It is strong and durable, able to withstand heavy school traffic.

It helps create ideal lighting conditions.

It keeps maintenance at a minimum. Permanently glazed, it is impervious to dirt and grease, is easily cleaned with soap and water, never needs painting or redecorating.

It is a wall and finish in one. Modular in size, it builds fast—saves construction time and cost.

These same advantages of Stark's Glazed Facing Tile also make it the ideal material—both for new construction and remodeling—in industrial plants, hospitals, institutions, public and commercial buildings. See our Sweet's Catalog 4d-9.

For architects, engineers, contractors and building owners and administrators, we have prepared a brochure on the modular application of Stark Glazed Facing Tile. It contains much valuable information, and will be sent free to you upon request.

STARK CERAMICS, INC.

(formerly The Stark Brick Co.)

Canton 1, Ohio

14305 Livernois Avenue Detroit 4, Michigan

15 East 26th Street New York 10, N. Y.

THE FITZGIBBONS BOILER®



"Saves a ton a day on any tow"

That's what the towing masters of the 1880's and 1890's said about Fitzgibbons steel boilers. They were men who thought of coal in terms of the freight it could move, at a period when barge traffic was relatively as heavy as that of the modern four-lane auto highway. Those men knew boilers and especially requested Fitzgibbons Steel Boilers.



"This boiler fulfills every expectation"

So reported Admiral Winfield Scott Schley, famed leader at the Battle of Santiago, when in the early 1900's he headed a commission to find a distinctive boiler for a particular naval service. He gave Fitzgibbons top-rating, stressing its rapid steaming ability with the words "the evaporative power of the boiler is . . . ideal." Fitzgibbons steel boilers of today still possess this quality.

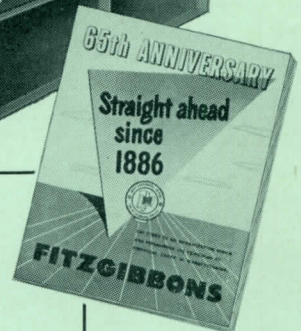
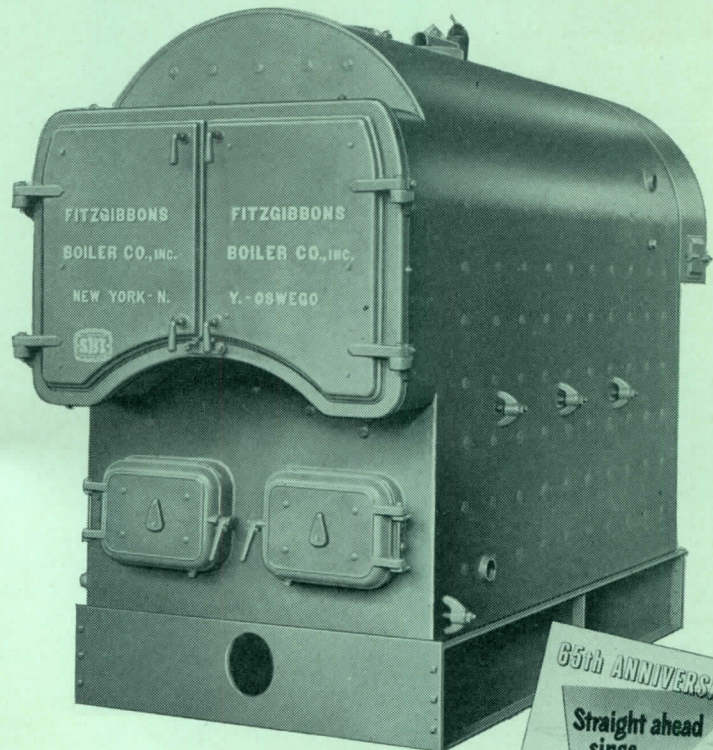


"The nation owes much to you and your employees"

So wrote Colonel F. J. Atwood, District Chief of the Rochester Ordnance District, at the conclusion of World War II. The facilities of Fitzgibbons had been turned to the production of military equipment. "Combat tank hulls produced by your organization" wrote Colonel Atwood, "helped to make our medium tanks the finest weapons of their type in the world." Fitzgibbons will always be proud of its Army-Navy "E" Awards.

65 year heritage of success

A Fitzgibbons boiler is far more than merely a structure of fabricated flange-quality steel plate . . . It is the end result of almost a three-quarter century of history-making tradition, of holding rigidly to established quality while unceasingly casting ahead for ways to make an even better boiler. The Fitzgibbons story is one of success in the best American tradition—giving people a quality boiler which returns its cost many times in fuel economy during its long life.



New book tells the Fitzgibbons Story. "Straight Ahead Since 1886" gives you the background information your customers want to know. Write for Bulletin DE-4.

65th Anniversary



1886-1951

Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

Sales Branches in Principal Cities

HARDWARE-24: Sliding Doors

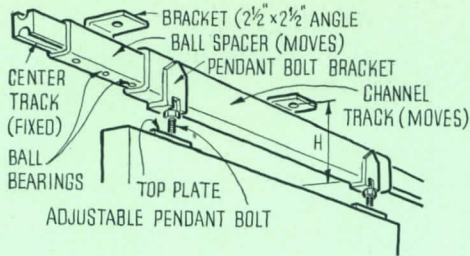
(Except garage and industrial doors)

Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

OVERHEAD SUPPORT

BALL SUPPORTED

(2 rows of ball bearings, in line vertically)



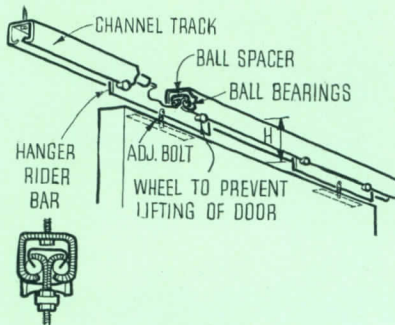
Weight of Door (lbs.)	Head Clearance "H" (in.)
up to 75	4 3/8
" " 150	4 1/4
" " 200	5 3/4
" " 300	6

Note—Dimensions and capacities for one manufacturer only. Check with catalogs.

BALL SUPPORTED

(2 rows of ball bearings, in line horizontally)

As shown, can be used for doors up to 200 lbs, with head clearance 3 1/2 in. Also available with adjustment for track and door, head clearance 6 3/4 in.

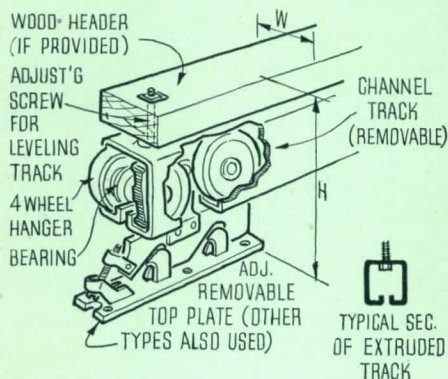


Also available, slightly different design, for:

Weight (lbs.)	Clearance "H" (in.)
up to 35	1 1/8 (non-adjust.)
" " 50	1 3/8 (" "); 2 1/2
" " 75	2 1/2
" " 150	2 5/8
" " 200	4
" " 300	4

WHEEL SUPPORTED, CHANNEL TRACK

TRACK: rolled steel, formed steel, or extruded aluminum. BEARING: plain, bushed, Oilite bushed, steel balls or steel rollers. WHEELS: steel, brass, fibre, rubber or plastic.



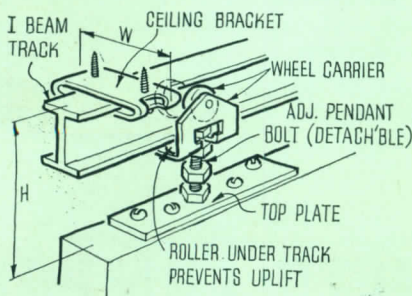
Weight limit (lbs.)	Width "W" (in.)	Clearance "H" (in.)	Notes
125	2 1/4	6 1/4	2 wheels only } as shown 4 wheels only } 4 wheels only }
175	2 1/4	6 1/4	
300	3 1/4	8 1/2	
100	1 3/8	3	
200	1 3/4	3 3/8	With header omitted, non-removable top plate, bracket support for track, and adjustable pendant bolt
300	2 1/8	3 1/2	
50	1	2 3/8	
50	1	1 1/8	Non-adjustable

Also available with special hangers for folding and accordion doors:

Weight (lbs.)	W (in.)	H (in.)
80	3 3/8	4 5/8 — 4 7/8 (higher "H" for folding doors)
110	3 3/8	5 3/8 — 5 5/8
225	5 5/8	6 7/8 — 7 1/4

WHEEL SUPPORTED, I-BEAM TRACK

WHEELS: steel, ball bearing — or nylon, steel ball bearing
TRACK: steel or aluminum



Weight (lbs.)	W (in.)	H (in.)
50	1 3/8	2 1/4
50	1 3/8	1 3/8 (non adjust.)

For by-passing, use 2 separate I-beams, or double I-beam track (aluminum);
W = 1 3/8 in. + door thickness and clearance.

Weight (lbs.)	W (in.)	H (in.)
175	1 3/4	3 3/4

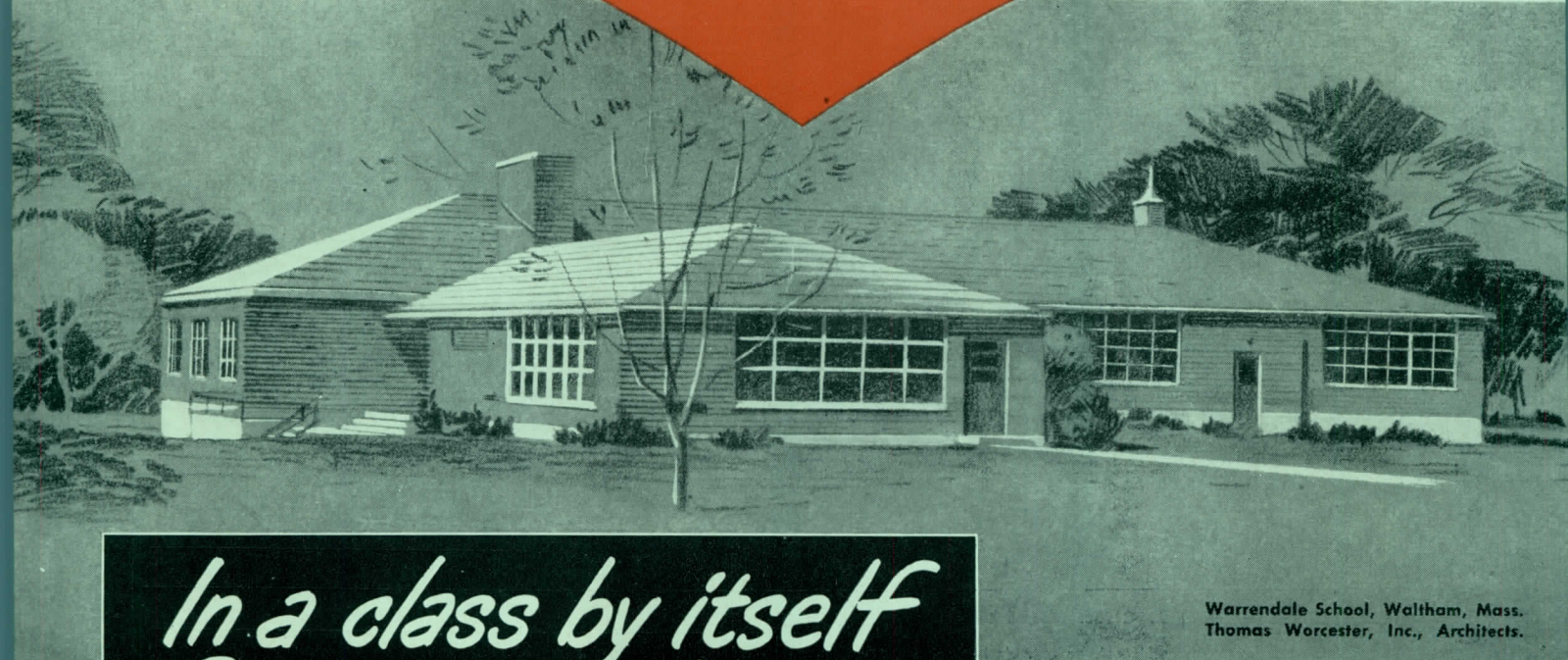
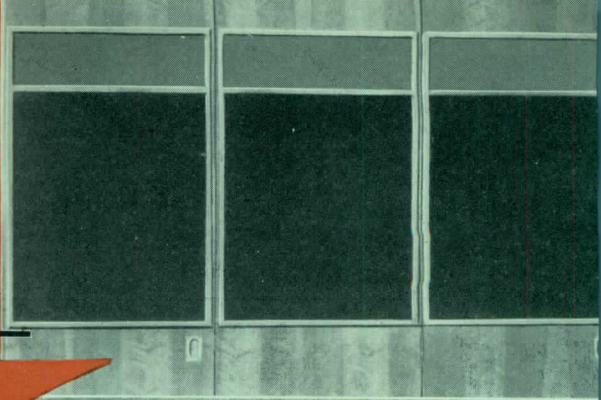
For by-passing use double I-beam track (aluminum);
W = 1 1/2 in. + door thickness.
Also available with special hangers for folding and accordion doors (H = 4 1/2 in.).

Architectural Engineering

TIME - SAVER STANDARDS

Milcor steel moulding and chalk trough (sound-proofed with Insulmat) form a typical modern class room unit. Note top and side panels devoted to bulletin boards.

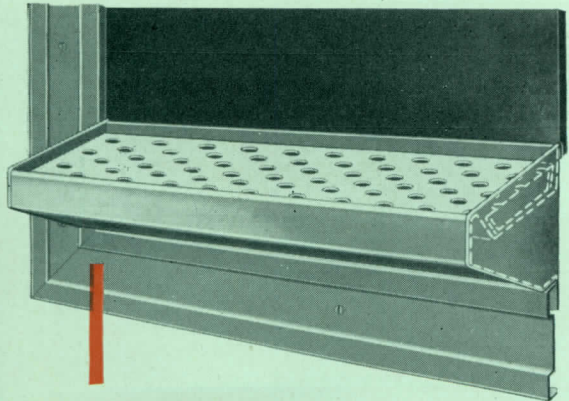
Milcor Blackboard Trim was utilized on this unique installation mounted as panels on folding doors.



Warrendale School, Waltham, Mass.
Thomas Worcester, Inc., Architects.

*In a class by itself
for any school-*

MILCOR* Chalk Trough
and Blackboard Trim



Milcor Blackboard Trim and Chalk Trough are available in a complete variety of moulds, sizes, and types to meet every requirement. Complete fittings to match. All chalk trough furnished with sound-deadening Insulmat backing.

Safety, service, and sanitation are the key words for school design. That's why Milcor — the outstanding leader in the fireproof construction field — is a natural for your projects.

There's a Milcor steel building product that is ideal for most every interior detail. Chalk trough and blackboard trim are prime examples. From the wide variety of Milcor moulds and fittings you can select the exact combination you need for any design you have in mind. All trim is made from 20-gauge steel, gray primed, in 10-foot lengths; comes complete with installation screws.

Simplify your job of designing and specifying. Standardize on one source for modern fireproof construction — the complete Milcor Steel Building Products line!

F-337

*Reg. U. S. Pat. Off.

INLAND STEEL PRODUCTS COMPANY

Formerly Milcor Steel Company

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HARDWARE-25: Sliding Doors

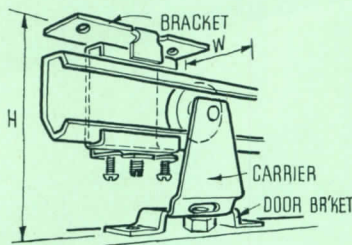
Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

OVERHEAD SUPPORT

CONTINUED

WHEEL SUPPORTED, "C" TRACK

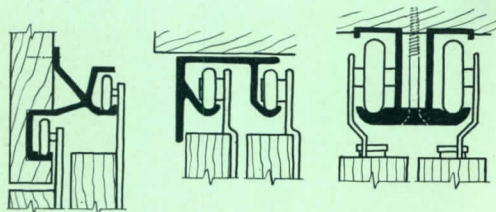
Note: Dimensions, track profiles, hanger styles, vary with manufacturers. Check with catalogs



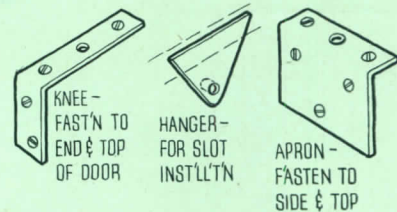
Many variations of track section available. TRACK: steel or aluminum; double sections available for by-passing doors. WHEELS: steel, fibre, plastic, rubber or brass. BEARINGS: Oilite; ball bearing or plain. TRACK: may be fastened directly with screws (non-adjustable) or hung from brackets (adjustable) as shown. CARRIER: may be fastened directly or by an intermediary of bracket.

Weight or Thickness of Door (lbs)	W (in.)	H (in.) (adjustable)	H (in.) (non-adjustable)
50	3/4 - 1 1/16	7/8 - 2	1 - 3 3/4
100		7/8 - 2	2 - 3 3/4
200		1 1/4 - 2	3 - 4

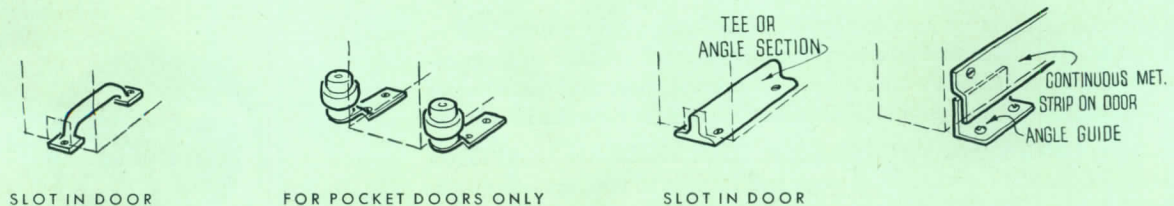
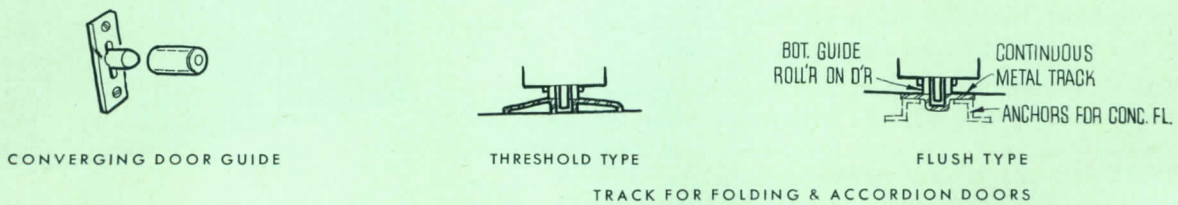
TYPICAL EXTRUDED SECTIONS FOR BI-PASSING DOORS



TYPICAL DOOR FASTENING DEVICES, OTHER THAN TOP PLATE



TYPICAL FLOOR GUIDES & TRACK



TIME - SAVER STANDARDS Architectural Engineering

"Hospital-Versatile" Elevating

ST. JOHN'S HOSPITAL
Springfield, Missouri

Maguolo and Quick • St. Louis, Mo.
Architect-Engineer
McGough Brothers • General Contractors



Maguolo and Quick, Architect-Engineer, developed the plans for the complete group of St. John's hospital buildings: A general hospital, 325 beds, basement and seven floors; a nurses' home, basement and five floors; a laundry building, basement and first floor; a power house, started in June 1950, will be completed in July 1952.

OTIS ELEVATING includes all vertical transportation for all buildings and services. The main building has 2 Passenger Elevators, 2 General Service Elevators, 1 Outpatient Elevator, 1 Freight Elevator and 6 Dumbwaiters. The freight elevator will carry supplies from the ground floor to basement storage areas, 2 dumbwaiters will serve the diet kitchen, 2 more will serve the dining room, and 2 will handle sterile supplies and pharmaceuticals. The nurses' home has 1 Passenger and 1 Service Elevator.

A big job? Yes. But easily handled by OTIS under a single responsibility. Why? Because OTIS manufactures a complete line of vertical transportation equipment for hospitals and has a field organization well qualified to work with architects and engineers in solving complex hospital problems.

All, as explained in a new OTIS booklet: **THE MODERN HOSPITAL AND ITS ELEVATOR NEEDS**. A copy will be sent to you, upon request. For further details on Otis equipment, including escalators, call your local OTIS office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

6 ELECTRIC DUMBWAITERS

1 FREIGHT ELEVATOR

3 SERVICE ELEVATORS

4 PASSENGER ELEVATORS

Better elevating
is the business of



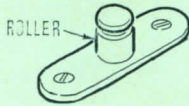
HARDWARE-26: Sliding Doors

Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

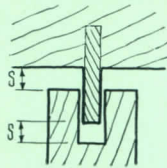
FLOOR SUPPORT

TYPICAL HEAD GUIDES

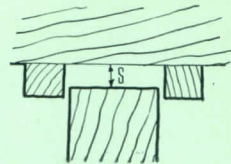
Note: space "S" must be allowed to permit lifting door up off track.



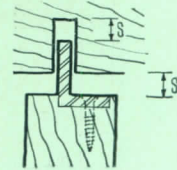
ROLLER GUIDE (1 pair per door). Can run in groove in head, in channel or between hardwood strips



HARDWOOD STRIP IN HEAD, GROOVE IN DOOR.



TWO HARDWOOD STRIPS ON HEAD.



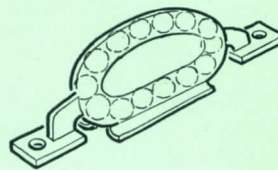
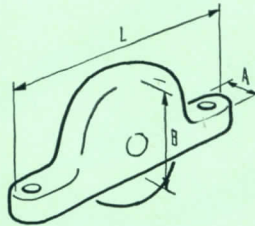
METAL ANGLE ON DOOR, GROOVE IN HEAD.

TYPICAL SHEAVES

Wheels have square edge for channel track, concave edge for T or W shaped track.



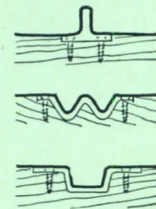
BEARING: Oilite.
HOUSING: cast iron, brass, bronze, aluminum.
WHEEL: fibre, cast iron, brass, bronze, aluminum; also with rubber tires (square edges only) and all rubber.



BALL BEARING TYPE Use with T shaped track.

TYPICAL TRACK SECTIONS

Special extruded sections are also available with weather-stripping.

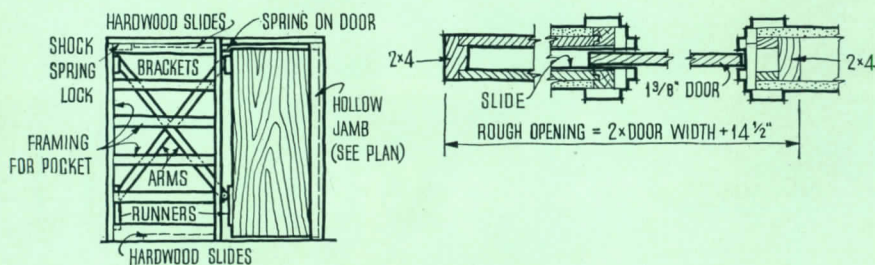


TRACK: brass, bronze, aluminum, stainless steel.

Max. Door Weight (1 pr sheaves)	Wheel Dia. (in.)	Housing (in.)		
		A	B	L
50	1 1/8	1 5/32	7/8	2 1/8
125	1 7/8	1 1/8	1 13/16	4 3/8
200	3	1 3/8	2 7/8	6

EDGE SUPPORT (Scissors Type)

Door fully open (for installation of hardware).



RUSH ORDER

Plants



In construction products **CECO ENGINEERING**

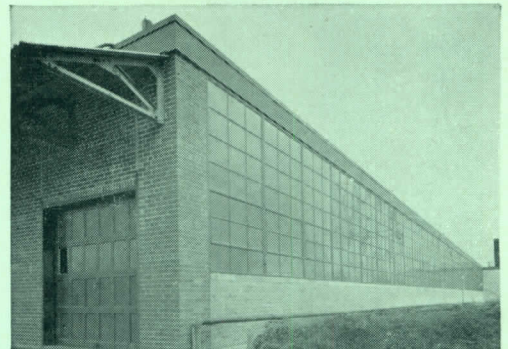
Go Up On Time...

with Open-Web Steel Joist Construction

There's need for speed in building today—an urgency that has to be met. For the nation's industrial plants must expand so enough of the things vital to defense can be made in quantity—quickly. And to help you complete more plants "on time", open-web steel joist construction truly meets the need. Here is the fastest way ever to build, with a saving in labor, too. No temporary framework is necessary—there's nothing to take down. So since speed is the need on "rush order" plants, specify Ceco open-web steel joists. They are fabricated to exact sizes in the factory, come to the job tagged, ready to install. Ceco assures you fast service from five strategically located plants: Birmingham, Chicago, Houston, and the New York and Pittsburgh areas. When speed's your need—call Ceco.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities



Ceco open-web steel joists are especially suitable for defense plants. Their light weight permits speedy installation without special equipment or falsework—also reduces the size of supporting beams, columns and footings.



Standard joists span up to 32 feet and Long-span joists up to 64 feet. By using these maximum spans, the number of columns are reduced and more manufacturing area is made available.

**CECO
STEEL**®

makes the big difference

N. Y. STATE BUILDING CODE COMMISSION

(Continued from page 187)

of the provisions of the state building construction code is the responsibility of the municipalities. For their guidance we shall prepare a model administrative ordinance—for their guidance, only. Administration and enforcement of building regulations shall continue to be the responsibility of the municipalities of the state.

To answer the second question: We will have nothing whatsoever to do with

zoning. Each municipality may regulate—personally I would like to put it more strongly and say should regulate—through its own zoning ordinance such matters which belong logically to zoning.†

Unfortunately, in the past building codes have sometimes contained zoning

† An excellent manual as a guide to zoning titled *Local Planning & Zoning* is available free from the New York State Department of Commerce.

provisions, and, vice versa, zoning ordinances have contained building regulations. The two are entirely different matters.

Statewide Codes Considered by Others

Clearly, passage and approval of our state building code law has been a bold step. But even the pioneer wants companionship. We decided we should tell the other states about the work we are doing and ask them to tell us in turn what they were doing in their respective states. Apparently, preparation and adoption of uniform statewide codes have also been under consideration for some time in a number of states. However, most states seem to hesitate to establish that firm foundation—mechanism and budget. They still cherish the hope that volunteer services of a few individuals or a combination of these may somehow produce their state code. I am afraid they will be disappointed.

At a recent meeting of building officials the development of building codes on a statewide level was discussed. Speakers from Massachusetts, Iowa, New Jersey, Ohio and New York told of their separate efforts. I felt then very keenly the need for strengthening the lines of communication between all of us who are undertaking this kind of work in different states. I felt sure that exchange of building code information and experience would have definite value. Thus the idea of a possible future nation-wide Council of State Building Code Commissions was born. It is still a dream. Our commission may help to make it come true.

I am reminded of what George Thompson wrote: “. . . the code can be a beneficent influence guiding the general course of construction in safe channels, or it can be a means of hampering the orderly growth of the community that it is supposed to protect.”

There isn't any doubt about which we want the New York State Building Construction Code to be.

Board of Consultants

John O. Merrill (directed the revision of the Chicago Building Code); George E. Strehan, Building Officials Conference of America, Inc.; George N. Thompson, National Bureau of Standards; Walter C. Voss, Massachusetts Institute of Technology; and Ralph E. Winslow, Rensselaer Polytechnic Institute.

Panel of Specialists

Mr. H. L. Whittemore—structural requirements; Dr. C. E. A. Winslow, Messrs. Allen Pond, Ralph J. Johnson, and Malcom Hope—health; Dean F. M. Dawson, Messrs. J. L. French, Vincent T. Manas, and Robert S. Wyly—plumbing; Dr. Jerome Spar—weather (particularly wind and snow); Dr. Daniel T. O'Connell—earthquakes; Dr. S. H. Ingberg—fire resistance and fire protection.

MAXIMUM IN SANITATION**Bradley Washfountains**

Bradleys, with their modern health protecting features—automatic foot-control, self-flushing bowl, ever-clean spray of tempered water—provide the MAXIMUM in sanitary wash facilities.

Economy too, is an important advantage of a Bradley installation. One 54" circular Wash-fountain serves 8 to 10 simultaneously using little more water than an ordinary "single-person" wash basin. Hot water waste is eliminated and maintenance reduced. Installation is simplified also since only three connections are needed—hot water, cold, and drain. Bradleys are available in juvenile or standard heights. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan Street, Milwaukee 1, Wisconsin.

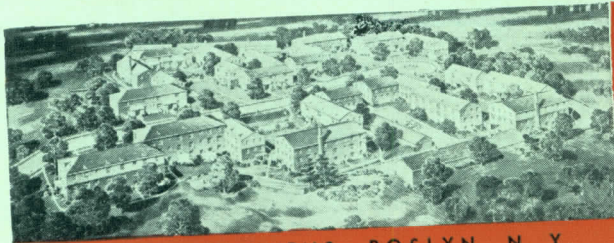
BRADLEY
Washfountains

Write today for big illustrated Catalog D-713. No obligation.

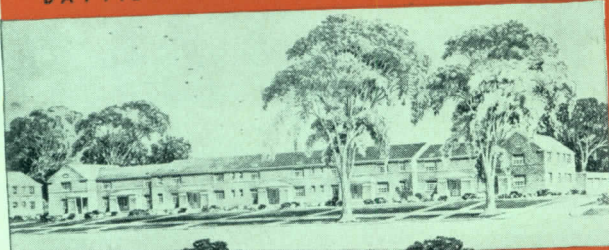
Distributed Through Plumbing Wholesalers

A Few School Installations

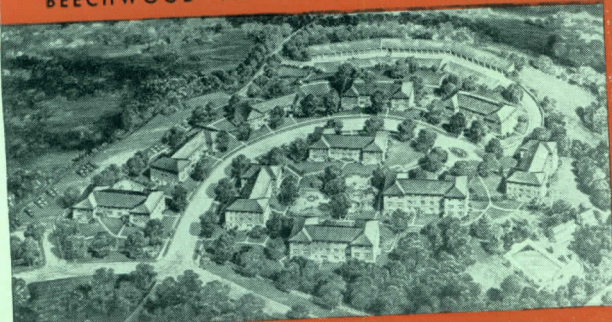
A & M College
Adrian High School
Atchison Grade School
Bala-Cynwyd School
Beaumont Trade School
Border Star School
Carleton School
Cedar City High School
Coatesville H. S.
Cornell University
Dartmouth College
Edison School
Frostburg High School
Ga. School for Deaf
Georgia Tech.
Glen Ellyn High School
Hilmar Union H. S.
Immanuel Lutheran S.
Kenilworth School
Litchfield High School
McKinley High School
Mexican School
Mo. State Training S.
Mt. St. Michaels Acad.
Oakdale Christian S.
Outer Mission H. S.
Penn. Soldiers' O. S.
Penn State College
Princeton University
Ridley Township H. S.
Santa Barbara St. Col.
Somerset High School
South Side School
Trenton High School
University of Illinois
U. S. Military Academy
Vir. Ind. School for Boys
Washington State Col.
Whiting School
Yaeger School



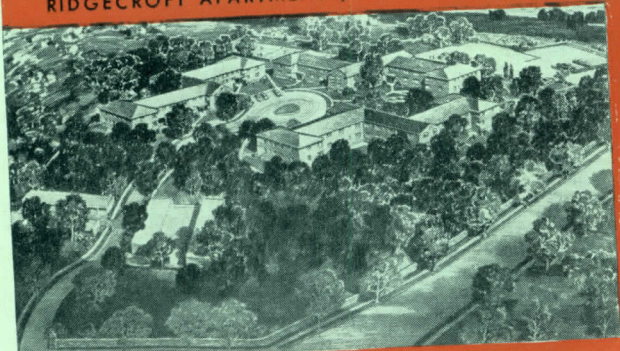
BAYVIEW GARDENS, ROSLYN, N. Y.



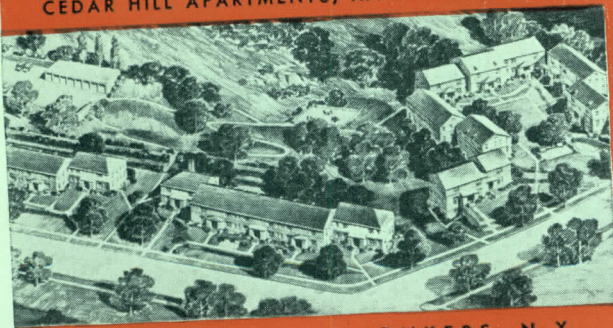
BEECHWOOD VILLAGE, AUBURNDALE, N. Y.



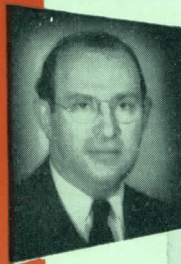
RIDGECROFT APARTMENTS, TARRYTOWN, N. Y.



CEDAR HILL APARTMENTS, IRVINGTON, N. Y.



RUMSEY GARDENS, YONKERS, N. Y.



architect . . . Gustave W. Iser
and
engineer . . . R. W. Billharz

United on **Sarcotherm** Modulating Heat Control

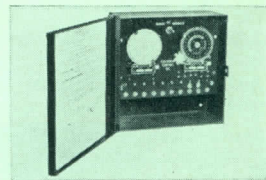
To give these outstanding apartments perfect heating comfort under all weather conditions

Yes, team work pays! It brings increased efficiency as well as superior design. The addition of Sarcotherm heat control to the combination made sure of owner satisfaction.

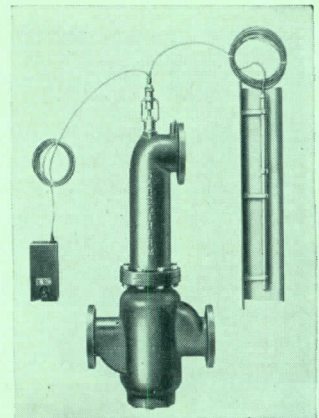
Sarcotherm is the simple, mechanical outdoor control, ideal for hot water or radiant heat.

For apartments, hospitals and institutions, it can be made fully automatic by adding the Centralized Program Panel.

Ask a Sarcotherm engineer to see you today. There is one near you. Or write for new bulletin ST-5011.



Typical centralized program panel.



Sarcotherm weather-compensated control valve.

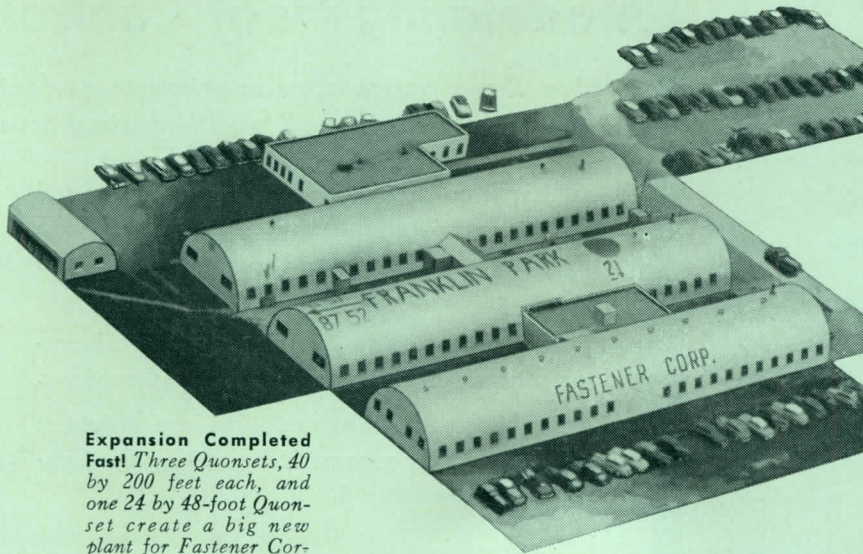
20

SPECIFY SARCO THERM
SEE SWEETS CATALOG
SECTION $\frac{29E}{SA}$

Sarcotherm

SARCO THERM CONTROLS, INC. • Empire State Bldg. • NEW YORK 1, N. Y.

Build Quicker with QUONSETS



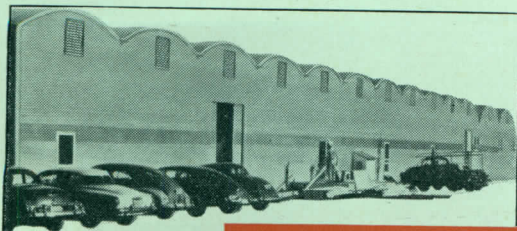
Expansion Completed Fast! Three Quonsets, 40 by 200 feet each, and one 24 by 48-foot Quonset create a big new plant for Fastener Corporation at Franklin Park, Illinois.

IDEAL FOR FACTORIES, WAREHOUSES, MACHINE SHOPS, STORAGE OR SERVICE BUILDINGS

For additions to your present plant—or for new plants—Quonsets mean *fast* completion, economy of materials, adaptability to *any* use. Also, should plants need more expansion later, you can add Quonset to Quonset, according to the need.

Made of N-A-X HIGH-TENSILE steel, Quonsets provide non-combustible construction and permanence far surpassing less modern buildings. They require little upkeep—are easily maintained. Let Quonsets serve you now. Write us today.

GREAT LAKES STEEL CORPORATION
Stran-Steel Division • Ecorse, Detroit 29, Michigan



Expands Floor Area by 20,000 Sq. Ft. Bill Jack Scientific Instrument Co., San Diego, Calif., began with two Quonsets and added 20,000 sq. ft. of floor space in just 50 days.

NATIONAL STEEL CORPORATION



STRAN-STEEL AND QUONSET REG. U. S. PAT. OFF.

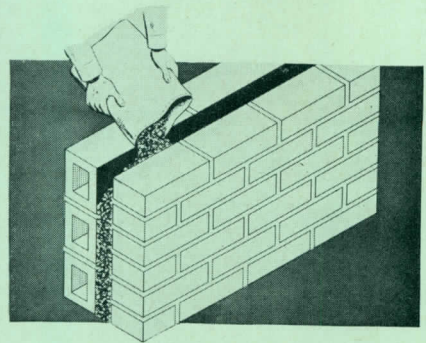
Architectural Engineering

PRODUCTS

(Continued from page 195)

Insulated Cavity Wall

The Structural Clay Products Research Foundation announces a new type of insulated cavity wall that is reportedly water tight and requires no furring, or lathing. The wall, called the *SCR Cavity Wall*, may be plastered direct, or interior masonry surfaces may be left exposed. The system features a new low cost, easy to handle insulation that is poured into the hollow space between interior and exterior masonry wall sections. The insulation is said to be inorganic, non-settling, and to have a U-value of .12.



New cavity wall is fully insulated, water tight, needs no furring or lathing

The cavity wall is said to be the first development in the brick and tile industry's long-range research program to introduce advancements in the uses of brick and tile for economical construction. Structural Clay Products Institute, 1520 18th St., N. W., Washington 6, D. C.

Revolving-Door Drains

The *Non-Skid Revolving-Door Drain* has been developed to minimize the problem of slush and dirty water tracked into building entrances where revolving doors are used. The unit is designed to set flush with the floor surface at both the exterior and interior openings of the door enclosure. It extends the full arc of the openings so that moisture is wiped into the grating by squeegee action of rubber weather stripping at the bottom

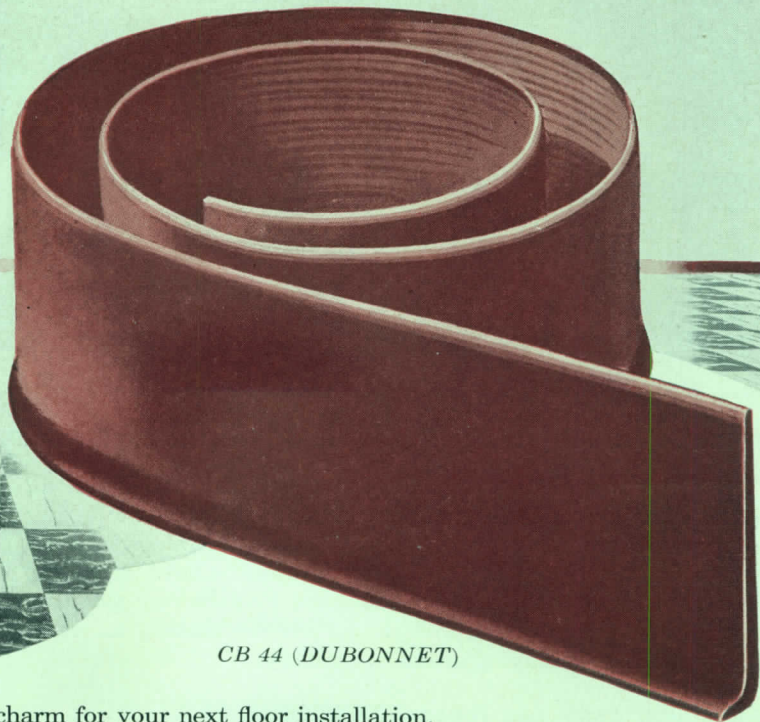
(Continued on page 210)

It's Exciting . . . Different . . . and made by Fremont

VINYL PLASTIC COVE BASE TRIM

in

Smart Colors!



CB 44 (DUBONNET)

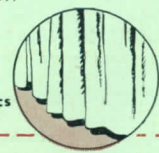
Here's added color charm for your next floor installation. Fremont continuous length Cove Base now comes in permanent colors that never need refinishing,—nothing to chip or peel. Properly adhered on either flat or curved wall surfaces, it gives a low-cost base trim protection from dirt, vermin, water or scuffing. It cleans easily with a damp cloth. For best installation, Fremont Rubber Tile Adhesive is recommended.

Plan your next job with the perfect finish—Fremont Cove Base in color.

NEW COLORS . . . CB 41 (NAVY) . . . CB 42 (LIGHT BLUE) . . . CB 43 (CHERRY) . . . CB 44 (DUBONNET) . . . CB 45 (SEA GREEN) . . . CB 46 (FOREST) . . . CB 47 (CHOCOLATE) . . . CB 48 (SMOKY GRAY) . . . CB 40 (Ebony) also available.



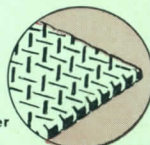
Foam Rubber



Plastics

Fremont Rubber Company

309 McPherson Highway, FREMONT, OHIO



Sponge Rubber Rug Cushion



Vinyl Plastic Cove Base

Please send me the new brochure on Cove Base in colors:

NAME _____

FIRM NAME _____

STREET ADDRESS _____

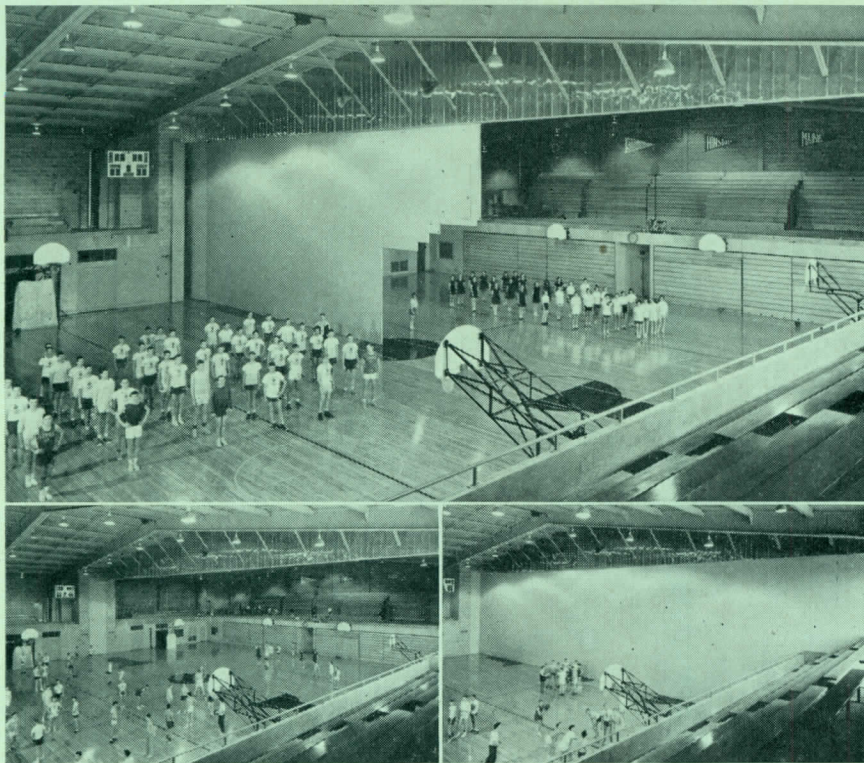
CITY _____ STATE _____

Take a tip from Hinsdale High!

Architectural Engineering

PRODUCTS

(Continued from page 208)



Stretch both space and appropriation with FoldeR-Way® Automatic FOLDING PARTITIONS by Richards-Wilcox

In these photographs taken at Hinsdale Community High School, Hinsdale, Ill., you can readily see how Richards-Wilcox FoldeR-Way folding partitions provide greatest flexibility to given areas of space. You can see how the partitions close to isolate the boys' and girls' gym classes from each other. Also, how the FoldeR-Way partition opens for conference games, and similar events, making the complete gym one vast playing arena and gallery.

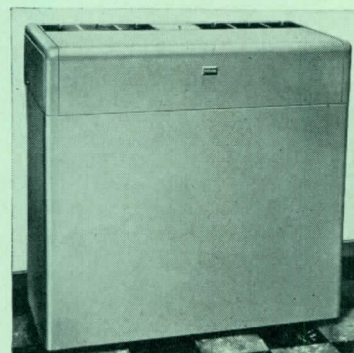
But you can't see these EXCLUSIVE FEATURES:

- 1. Fully Automatic.** All folding, unfolding, locking, unlocking, and sound-proofing operations are accomplished by the electric operator and its auxiliary mechanism. You merely turn the switch key—R-W does the rest.
- 2. Positive, Silent Action Roller Chain Drive.** Will not slip, stretch, or break.
- 3. Friction-Proof Track.** Ball-bearing hanger wheels are machined to provide a line contact with the $\frac{5}{8}$ " round cold-rolled steel bar runways of the track, assuring minimum friction and silent operation.
- 4. Gymnasium Doors Are Full Three Inches Thick Over Entire Area.** This provides flush surface similar to a solid wall. Eliminates protruding butt-hinges in players' contact zone below seven foot level.
- 5. Fully Automatic Floor Seals.** Self-adjusting to uneven spots in floor. No levers or manual effort required to operate.

For further information about R-W FoldeR-Way Automatic Folding Partitions, write, phone or wire our nearest office.

See an R-W FoldeR-Way Automatic Partition in operation at any of the Schools in the partial list at right, or write for address of installation nearest you:

Kent State University, Kent, Ohio—Opening: 114' x 20'
 Hinsdale Community High School, Hinsdale, Ill.—Opening: 127' x 28'
 Arvin High School, Arvin, California—Opening: 143' x 26'
 Kinkaid School Gymnasium, Houston, Texas—Opening: 71' x 21'
 High School, Brookline, Mass.—2 Openings: 100' x 20' and 130' x 20'
 Banks School, Bay City, Michigan—Opening: 50' x 18'



Compact air conditioner serves up to 1500 sq ft for shops or houses

The air conditioner is mounted in a compact steel cabinet with a tan baked-enamel finish. It measures 39 $\frac{1}{2}$ in. high, 42 $\frac{1}{4}$ in. wide and 22 $\frac{1}{4}$ in. deep. A special Temperature Selector control switch is concealed by panel on top of the cabinet, and permits selection of temperatures in the range from 74 to 86 F. The unit combines two 1-HP units with an automatic thermostat control to provide constant and even cooling, dehumidifying, filtering and circulation of the air. A single HP unit may be operated without the other if desired. Direction of the air is controlled by 6 adjustable grills. Philco Corp., Philadelphia 34, Pa.

(Continued on page 212)

1880
 OVER 71 YEARS



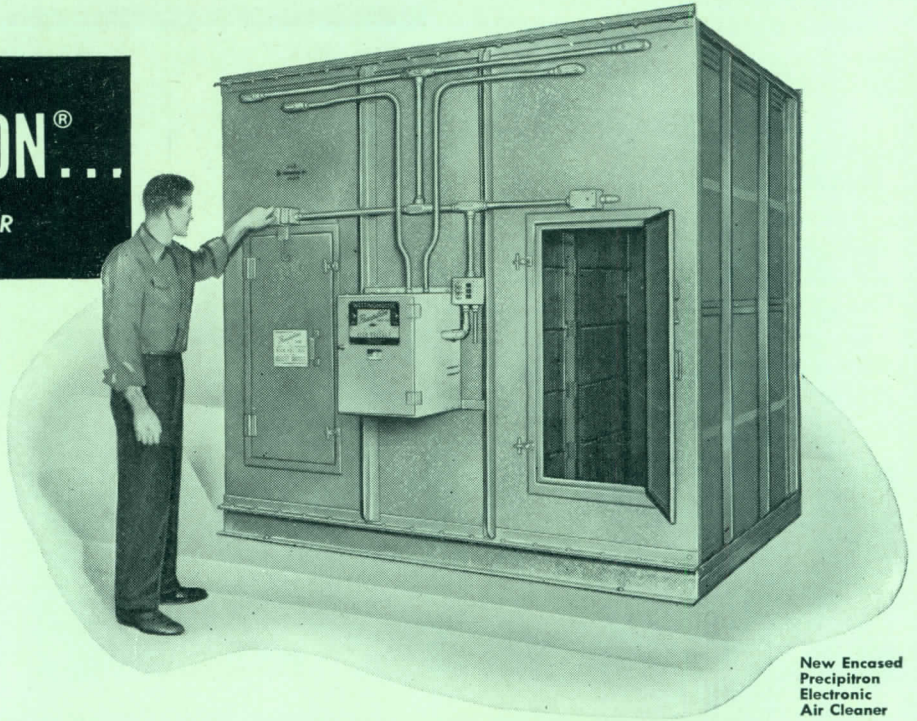
Richards-Wilcox Mfg. Co.
 "A HANGER FOR ANY DOOR THAT SLIDES"
 AURORA, ILLINOIS, U. S. A. • Branches in all principal cities

NOW PRECIPITRON®

THE ELECTRONIC AIR CLEANER

**IS AVAILABLE
AS A COMPLETE
"PACKAGE"**

Saves You



New Encased
Precipitron
Electronic
Air Cleaner

MATERIAL PROCUREMENT • ENGINEERING EXPENSE INSTALLATION EXPENSE • TIME AND MANPOWER

In schools—where central heating and ventilating systems can be used—PRECIPITRON, the Electronic Air Cleaner, provides clean, healthy air for classrooms and auditoriums, free from dirt, dust, bacteria, and pollen. Interior decorations remain as clean and attractive as the day they were completed.

Westinghouse PRECIPITRON has long been used where clean air is a *must*. Its wide acceptance is due to three factors: (1) its design—*invented* by Westinghouse and developed through years of engineering and application experience; (2) its efficiency—*three times* more efficient than the *best* mechanical air cleaner; (3) its dependability—proved by countless installations.

NOW, Westinghouse announces a new model which incorporates all the features of the standard line, and adds the convenience and money-saving advantages of a factory-designed, factory-matched *encased* unit.

HERE'S WHAT IT MEANS TO YOU:

Material Procurement Reduced. Everything you need is provided . . . no searching for scarce parts or supplies, or resorting to substitutes . . . 18-gauge casing and 10-gauge tank of galvanized steel assure rigidity; entering side baffles provide proper air distribution.

Eliminates Layout and Enclosure Design. Complete unit available in capacities from 8,000 to 44,000 cfm comes ready for assembly at the site . . . flanges punched for duct connections . . . sealed access doors with safety interlocks are pre-installed

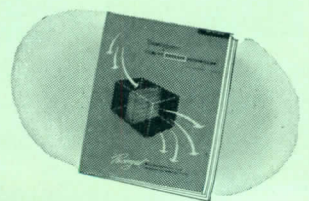
. . . all parts fit . . . even the hardware is included!

Masonry Work Reduced or Eliminated. Drain tank for flushing away collected dirt lays into place and unit bolts to it . . . range of 24 sizes from 8' x 5' x 5' to 8' x 10' x 11' permits matching to the job.

Saves Time and Manpower. Prefabricated parts, factory-matched, save assembly time and assure proper installation . . . highly skilled labor not required.

Read about these and many other benefits such as accessibility, ease of maintenance, and undivided responsibility. Ask for application data DB 93-820 TODAY, and see for yourself how the PRECIPITRON Encased Unit can fulfill your requirement for clean healthy air supply. Westinghouse Electric Corp., Sturtevant Division, 150 Damon Street, Hyde Park, Boston 36, Mass.

Write for booklet DB 93-820 today!

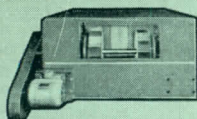


YOU CAN BE SURE...IF IT'S

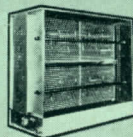
Westinghouse

PUTTING *Air* TO WORK

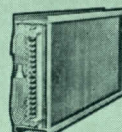
J-80210C



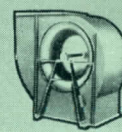
AIR HANDLING UNITS



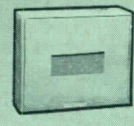
AIR COOLERS



HEATING AND COOLING COILS



VENTILATING FANS

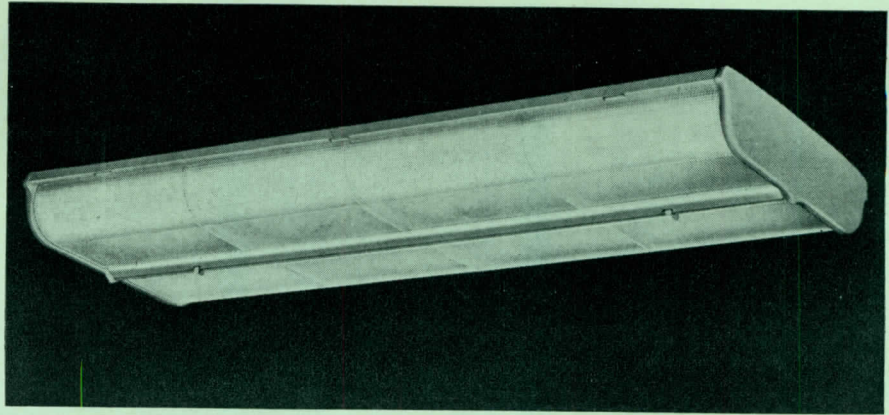


AIR BLENDERS

PRODUCTS
(Continued from page 210)

Lighting Units

The surface-attached *Holoflux Luminaires, Series 9300*, are designed as shallow units to simulate recessed construction without the expense of roughing-in. There is said to be brightness control both across and along the axis of the lamps. The fixtures can house 2 or 4



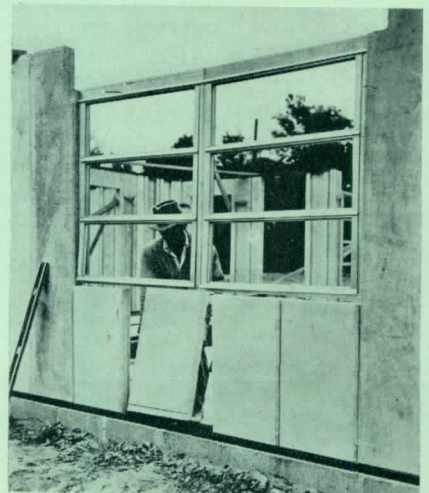
Fluorescent fixtures feature shallow construction to simulate recessed look

fluorescent lamps of either the conventional bipin or the new instant-start single pin type, in both 4 and 8 ft sizes. Light is diffused by a patented "Controlens."

The units are 4½ in. deep and have snap-shut hinged doors. A small percentage of the light is directed upward to illuminate the ceiling. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

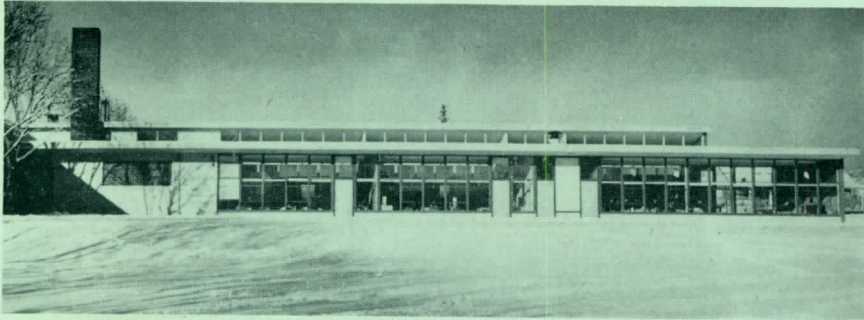
Masonry Wall Panels

Bildrok structural wall panels, made from a perlite aggregate with Portland cement as a binder, are available in a wide variety of shapes, sizes and designs for residential and commercial use. The panels are said to be fireproof, rotproof and termite proof. Ease and speed of wall erection is claimed to be a special

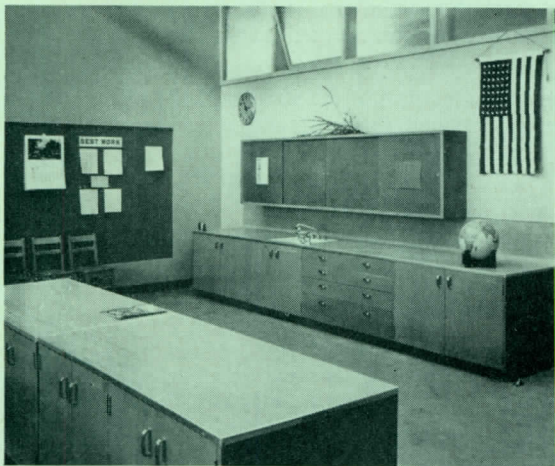


Light-weight structural masonry panels are easily and speedily erected

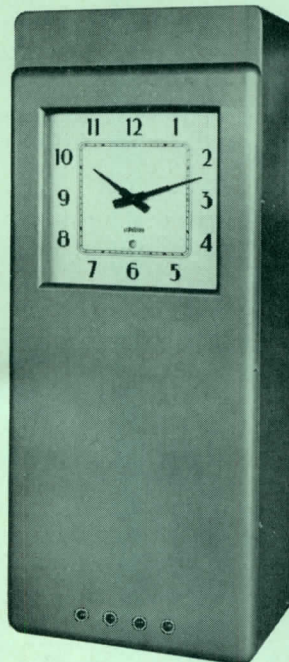
(Continued on page 214)



STANDARD Timing Governs Orderly Schedules in the Nob Hill Schools



• Schedules proceed smoothly in the Nob Hill and H. M. Gilbert Elementary Schools in Yakima, Washington. This is due to the careful planning of architects John W. Maloney and John H. Whitney, A.I.A., who specified Standard program timing and fire alarm systems. To see why Standard systems were the choice, write for bulletins, or consult our complete open specifications in Sweet's Architectural File.



Master-Program Controller Type SYN-5



THE Standard Electric Time Co.
81 Logan Street Springfield 2, Massachusetts



*Stainless
requires careful
selection, too!*

Before you marry your product to stainless steel, make certain that you've chosen the right analysis. *Stainless* is a broad term applied to a whole host of steels, each with its own characteristics. And to get the most out of stainless you must select with care.

That's why Crucible, a pioneer in the development of this specialty, offers you the services of a staff of metallurgists, well qualified by experience with hundreds of applications, to help you put stainless to work properly.

For more than half a century, Crucible has been the leader in the specialty steel field. There is no substitute for Crucible background — take full advantage of it. When you think of stainless — call in Crucible. CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, New York 17, N. Y.

CRUCIBLE

first name in special purpose steels

51 years of *Fine* steelmaking

STAINLESS STEELS

STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

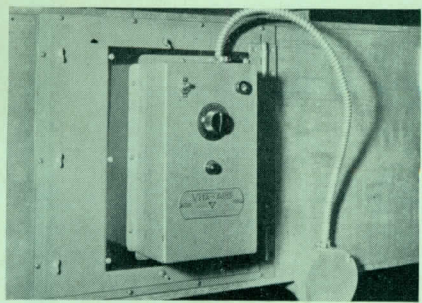
PRODUCTS
(Continued from page 212)

feature of the panels. They can be cut, sawed, nailed or drilled with ordinary woodworking tools.

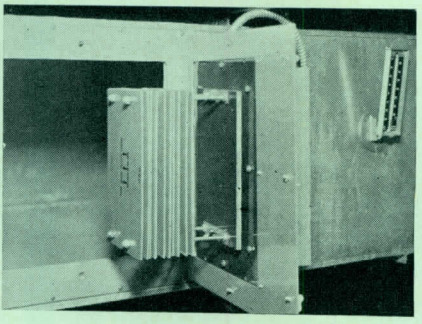
Other features claimed for the panels include flexibility in design, low maintenance cost, and superior insulating and paint adherence qualities. American Bildrock Co., 2001 W. Pershing Rd., Chicago, Ill.

Air Purifying Unit

The *Vita-Aire* unit employs an ultra-violet field for the purification of air in heating, ventilation or air conditioning systems. The ultra-violet field is said to oxidize all organic matters such as smoke, gases and odors, and to reduce bacteria content of air passing through it. The unit is reported to be low in initial cost, and economical to operate. It is designed for installation in any air duct or air conditioning unit. Portable units are available to be used where there are no ducts. The portable unit



Air purifying unit mounts in standard ducts. Above: closed. Below: open



may be placed in a convenient location and plugged into any 110 AC current outlet. Vita Aire Div., Hydro Aire Corp., Waukesha, Wis.

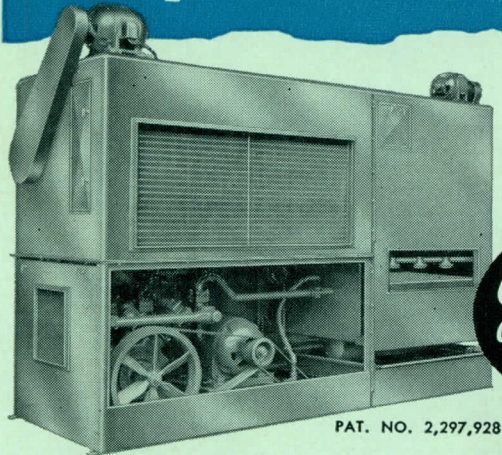
Cove Base Trim

- A new all-purpose rubber baseboard, *Sani-Base*, is said to be quickly and easily installed wherever wood molding is used. Claimed to be neat, durable, sanitary, easily cleaned and vermin proof, the trim is removable for use in another location. The base trim is made in strips of pure rubber, 3/4 by 3/4 in. core, and is available in lots of 20 ft lengths and in a variety of colors. Colors are claimed permanent and unaffected by scrubbing and rubbing. Cass Products Co., 6127 N. Cicero Ave., Chicago 30, Ill.

- *Fremont Cove Base*, a Vinyl Plastic cove base trim is available in 4 in. heights and 120 ft continuous rolls for application to either flat or curved surfaces. No painting or polishing is required, it is said, because of a high gloss finish which also affords easy cleaning. Nine colors are available. Protection against dirt, moisture and vermin is claimed if the base is properly adhered. It may be applied to hard floor coverings including rubber and asphalt tile, linoleum, plastic floor and wall tile. Fremont Rubber Co., Fremont, Ohio.

(Continued on page 216)

For day in, day out
DEPENDABILITY
you can't beat a



GOVERN AIR
COMPLETELY PACKAGED
AIR CONDITIONER

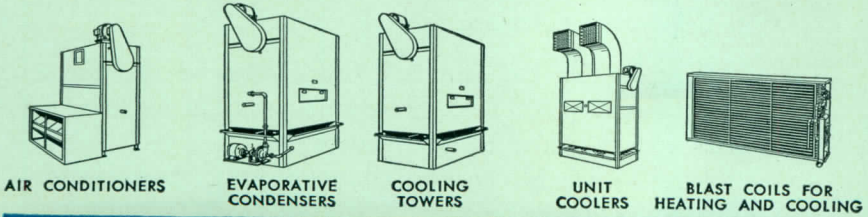
PAT. NO. 2,297,928

Name your job . . . any air conditioning job requiring from 3 to 50 tons . . . and you'll find that you can't beat a Governair system for day in, day out dependability.

Governair Packaged Air Conditioners are designed to

operate at peak efficiency—with all parts precision-matched to work together. And they're built to give years and years of low-cost trouble-free service.

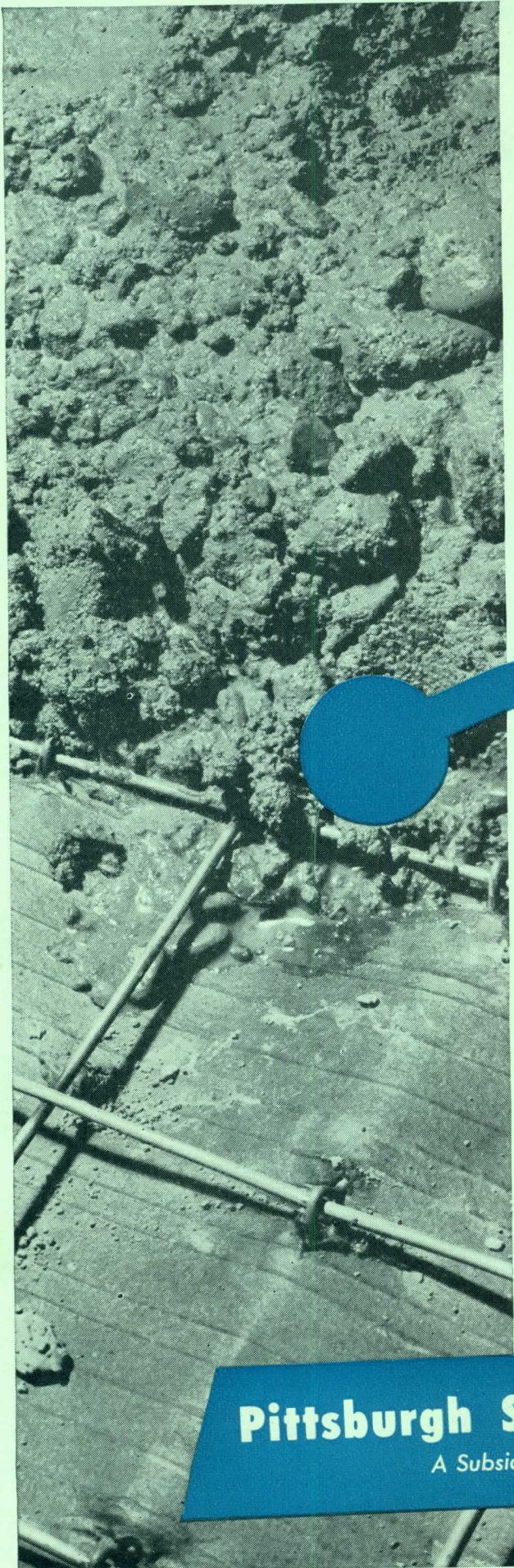
Choose Governair . . . and you choose the best!



ORIGINATORS OF COMPLETELY PACKAGED AIR CONDITIONERS

GOVERN AIR

GOVERN AIR CORPORATION • 513 N. BLACKWELDER • OKLAHOMA CITY, OKLA.



Look how the strong
welded mesh of

Pittsburgh Steeltex

Floor Lath

assumes its proper
position in a
concrete slab

You can readily see why a slab poured over Pittsburgh Steeltex Floor Lath means a better, stronger floor. It is properly reinforced with embedded galvanized welded wire mesh and properly cured because moisture is retained by tough waterproof backing. Furthermore, construction costs can be cut since work may continue on the floor below while pouring is in progress. For further good reasons to specify Steeltex, see Sweet's or write for our catalog D.S. 133, Dept. AR, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

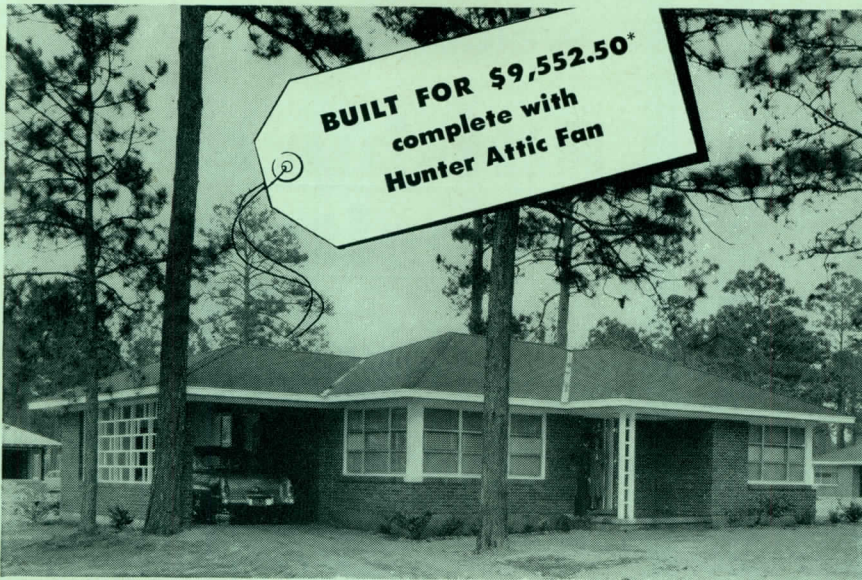
Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

WHERRY HOUSING AT KEESLER AIR FORCE BASE, BILOXI, MISS.

Sponsored by Russel S. Wilkinson, James E. McGehee, Robert G. Snowden and Max B. Ostner of Memphis, Tenn. Architect: Everett Woods; Contractors: Wilkinson,

Snowden & McGehee. The 2-bedroom house pictured below rents for \$85.00 and is one of 718 units which include duplexes and 2, 3 and 4-bedroom residences.



*Includes contractors' and architect's fee. Exclusive of land.

New 718-unit project provides cool comfort for Air Force families

It is unusual for a low-cost housing development to offer so much in the way of modern beauty, high quality materials and extra features for the comfort and convenience of tenants.

One of the most popular features of this Keesler Housing Project are the Hunter Attic Fans which will keep occupants cool and comfortable on hottest summer nights.



Cool comfort at low cost

The sponsors of Keesler Housing selected Hunter Package Attic Fans because of their dependable performance and low-cost installation. Fan, motor and suction box are all in one unit that requires only a ceiling opening in hallway and 18" clearance in the attic. Four models, ranging from 4750 CFM to 9700 CFM (ratings certified) fit any home size and any climate. Quiet, powerful, dependable, these fans are guaranteed by Hunter—exclusive fan makers since 1886.

◀ Wall switch starts fan and opens automatic shutter to pull in the cool night air and drive out the oven-like heat that accumulates throughout the day. In only a few minutes it's 10 to 20 degrees cooler inside.



Write for 36-page booklet, "How to Cool for Comfort" and complete data.
HUNTER FAN AND VENTILATING COMPANY
396 S. Front St., Memphis 2, Tenn.

HUNTER *Package Attic Fans*

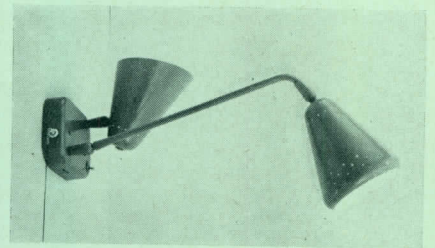
Architectural Engineering

PRODUCTS

(Continued from page 214)

Hospital Bed Lamp

The recently developed two-lamp (indirect and night light) *Hospitality Light* is said to be an innovation in lighting patients' rooms. One master wall outlet consolidating all electrical facilities in a hospital room is said to reduce wiring costs, to provide flexible lighting and to be readily accessible for maintenance and service. Savings in cost are claimed possible by elimination of extra lights, switches and outlets. A patient-operated pull switch and cord are attached to the bed linen.



Hospital light combines several fixtures

The general indirect light has a swivel arm and can be tilted down for medical examination, etc. Designed to provide low-level illumination behind the patient's bed, a night light is controlled by a toggle switch in the housing of the *Hospitality Light*. Other electrical appliances such as a radio may be plugged into an additional outlet on the lamp. The lamp is plug-in type. The master switch has a four-slot, heavy duty receptacle, and the light itself has a four-prong plug. If any of the wiring devices require repair, says the manufacturer, a spare plug-in unit may be quickly installed for use while repairs are made in a shop instead of the hospital room. The terminal block system within the *Hospitality Light* is said to allow a variety of circuit arrangements for the control of any of the appliances at will, as well as to allow two-circuit operation in the master outlet. Thus lighting will be available in one or several of the lighting units if a fuse blows in the other circuit. Kurt Versen Co., Englewood, N. J.

(Continued on page 218)



FACTORIES, hotels, hospitals and other structures and buildings erected now will require much less maintenance in years to come — if effective *rust control* with RUST-OLEUM is written into the original specifications.

Protection against costly rust is particularly important in structural beams and columns, metal deck ceilings, crawl spaces, metal sash, etc., where manufacturing processes, industrial fumes, and condensation due to ventilation difficulties increases serious rust damage that threatens the structural strength of the metal.

RUST-OLEUM effectively retards rust because its tough, pliable, moisture-resisting film combats the causes of rust — even under many of the most difficult conditions.

25 years of superior service to industry is proof that RUST-OLEUM gives excellent results in protection of rustable metal. RUST-OLEUM is highly resistant to water,

dampness, brine, heat, industrial fumes, general weathering, and many other rust producing conditions.

In drawing up specifications that involve the use of rustable metal, consider the extra protection that RUST-OLEUM provides. Specify RUST-OLEUM as the shop coat on all new steel. Remember, the first primer coats are the foundation on which your plan for future protection must stand. It's a profitable, *worthwhile* investment for your client!

When you deal with rust problems, we'll gladly help you with specific recommendations. See the complete RUST-OLEUM catalog in Sweets Architectural File, or write for a copy. RUST-OLEUM can be obtained promptly from Industrial Distributors' stocks in principal cities of the United States and Canada.

RUST-OLEUM CORPORATION

2512 Oakton Street, Evanston, Illinois



"Rigid Economy Man!"

RUST-OLEUM

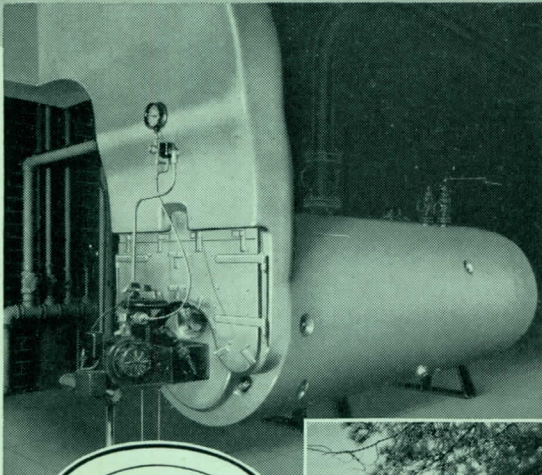
Stops Rust

Beautifies AS IT PROTECTS

Available in many
COLORS,
aluminum and white.



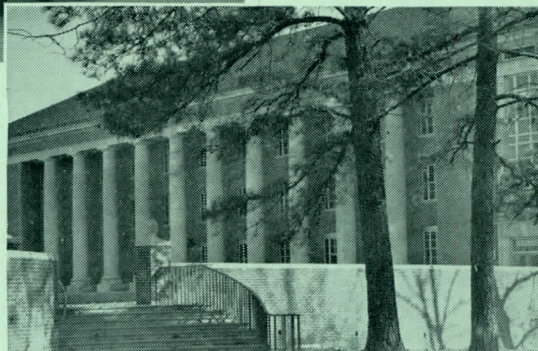
Low MAINTENANCE ...
High PERFORMANCE ...
 for Institutional Service



Titusville Scotch Marine Boiler serving new Science Building at Centenary College, Shreveport, La.



Centenary College's new Science Building. Associate Architects: Stone & Pitts, Beaumont, Texas, and Peyton & Bosworth, Shreveport, La.



TITUSVILLE
Scotch Marine **BOILERS**

Quick steaming and high efficiencies make Titusville Scotch Marine Boilers a favorite choice for schools and institutions. The last word in boiler economy and durability is "Scotch", as produced by Titusville. Write for literature, stating your service needs.

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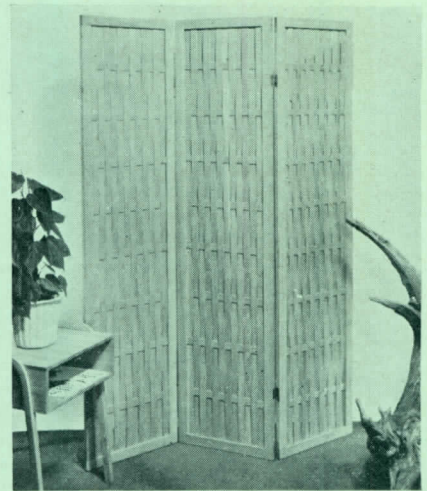
Architectural Engineering

PRODUCTS

(Continued from page 216)

Woven Panel Screen

Designed by Carter Morningstar, a *Woven Oak Panel Screen* has many uses such as partition, door, shutter. It is claimed to give draft-free protection without loss of ventilation as well as to harmonize with many types of decor. The screen is constructed of full grain



Woven oak screen can double as partition, doors, shutters, outdoor windbreak

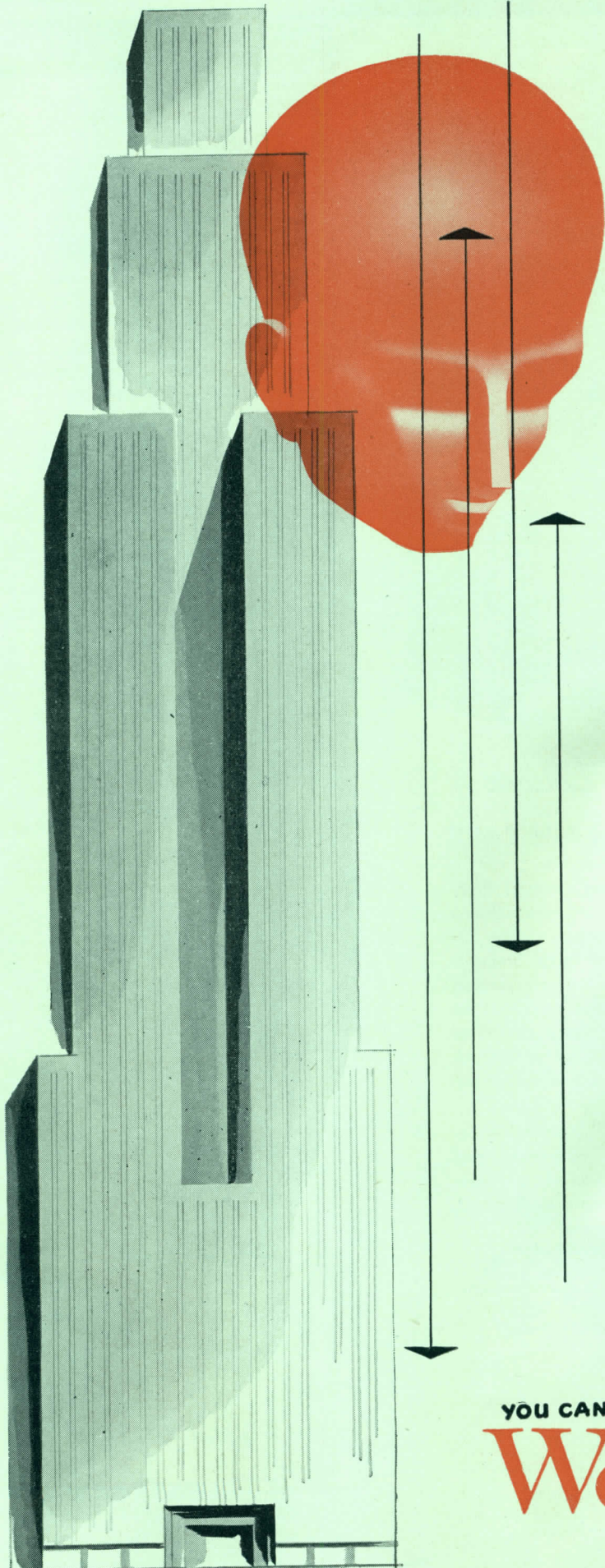
natural oak, kiln dried, with a natural finish. The handwoven strips are set permanently into solid oak frame. Panels are connected by double acting folding hinges. Panel size is 5 ft 8 in. high by 16 in. wide, and weighs 8 lb per panel. Viking Woodcrafters, Inc., 241 East 44th St., New York 17, N. Y.

Acoustical Tile

A new low-cost fiberboard acoustical material, called *Perforated Temlok Tile*, has been announced as a companion product to Armstrong's previous line. The new tile will be available in 16 by 16 by 1/2 in. size, with perforations arranged in a 12 in. pattern. The units are factory finished in a warm white color.

A feature of the new tiles is a "Lok-Bevel" joint, which is said to be designed for quick, easy and inexpensive installation. The joint has a wide flange

(Continued on page 220)



**ONLY SELECTOMATIC
TAKES YOU FROM
FLOOR TO FLOOR SO FAST
... SO SMOOTHLY!**

Maybe you think scared rabbits have fast "get-away" . . . that feather-landings are tops for softness. And birds make more accurate landings than anybody. But, you haven't seen anything until you ride a new Selectomatic elevator equipped with Synchro-Glide—the fabulous Westinghouse automatic landing control!

Selectomatic "masterminds" the over-all control of the elevator system. Its ingenious "electrical brain" reduces waiting time to a minimum. And Synchro-Glide cuts floor-to-floor travel time $1\frac{1}{2}$ seconds per stop per car. These are the facts!

But—to get a clear picture of how much these facts mean to you, you must see Selectomatic in action . . . enjoy its smooth, fast ride yourself.

So, if you are in any way responsible for planning elevator investments, *test ride Selectomatic before you decide!* Write today for the names of nearby Selectomatic installations you can "test ride."

Westinghouse Electric Corp., Elevator Division, Dept. D-1, Jersey City, N. J.

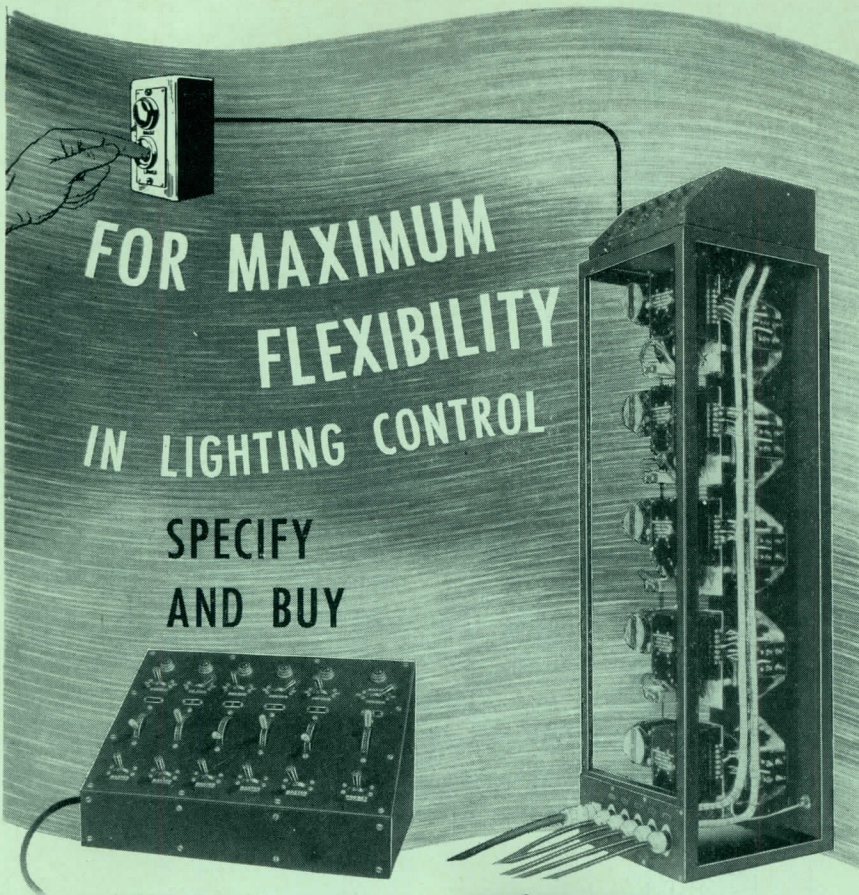
For years, Westinghouse engineering developments have stimulated the vertical transportation industry to strive for ever higher standards of quality and efficiency. In every phase of vertical transportation—equipment, maintenance, and service—Westinghouse has been the vanguard for progress. So, whatever your traffic problems may be—there's a Westinghouse Integrated Vertical Transportation System to solve them completely. Look ahead with the leader . . .

YOU CAN BE SURE...IF IT'S
Westinghouse

J-98605

PRODUCTS

(Continued from page 218)



POWERSTAT *Motor Driven*
LIGHT DIMMING EQUIPMENT

For a versatile lighting control system providing unusual flexibility with economy, investigate then invest in motor-driven POWERSTAT Light Dimming Equipment. These motor-driven assemblies offer effortless, "finger-tip" dimming of large amounts of power by merely touching a "raise-lower" button or actuating a miniature Positioner selector station. The dimmer unit can be installed in any out-of-the-way space and the control station or stations placed at the location most convenient for control. A complete line is available to dim, brighten or blend any lamp load from 1000 to 30,000 watts.

Learn more about POWERSTAT Light Dimming Equipment. Bulletin 749 features application information, ratings, dimensions and wiring diagrams to aid in the intelligent application of light dimming equipment to any job. Write 9061, Demers Avenue, Bristol, Conn.

THE SUPERIOR ELECTRIC CO.
 BRISTOL, CONNECTICUT



Please send Bulletin 749.

NAME _____

COMPANY _____

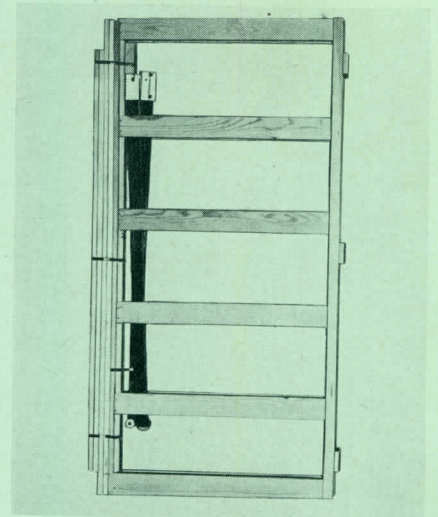
CO. ADDRESS _____

CITY _____ ZONE _____ STATE _____

for concealed stapling and nailing, and a tongue and groove which allows for expansion and contraction and stops air passage through the joint. Since there is no "breathing," use of building paper with the tiles is said to be unnecessary. Armstrong Cork Co., Lancaster, Pa.

Packaged Door Unit

The *Door-Flo Ready Unit*, a recessed door unit, is fabricated assembled for easy, rapid installation, says the manufacturer, and is adaptable to 1 $\frac{3}{8}$ in. or 1 $\frac{3}{4}$ in. doors. Use of the door is claimed to eliminate expense and inconvenience in constructing a wall section.



Scissor-type sliding door unit features ease of installation, complete packaging

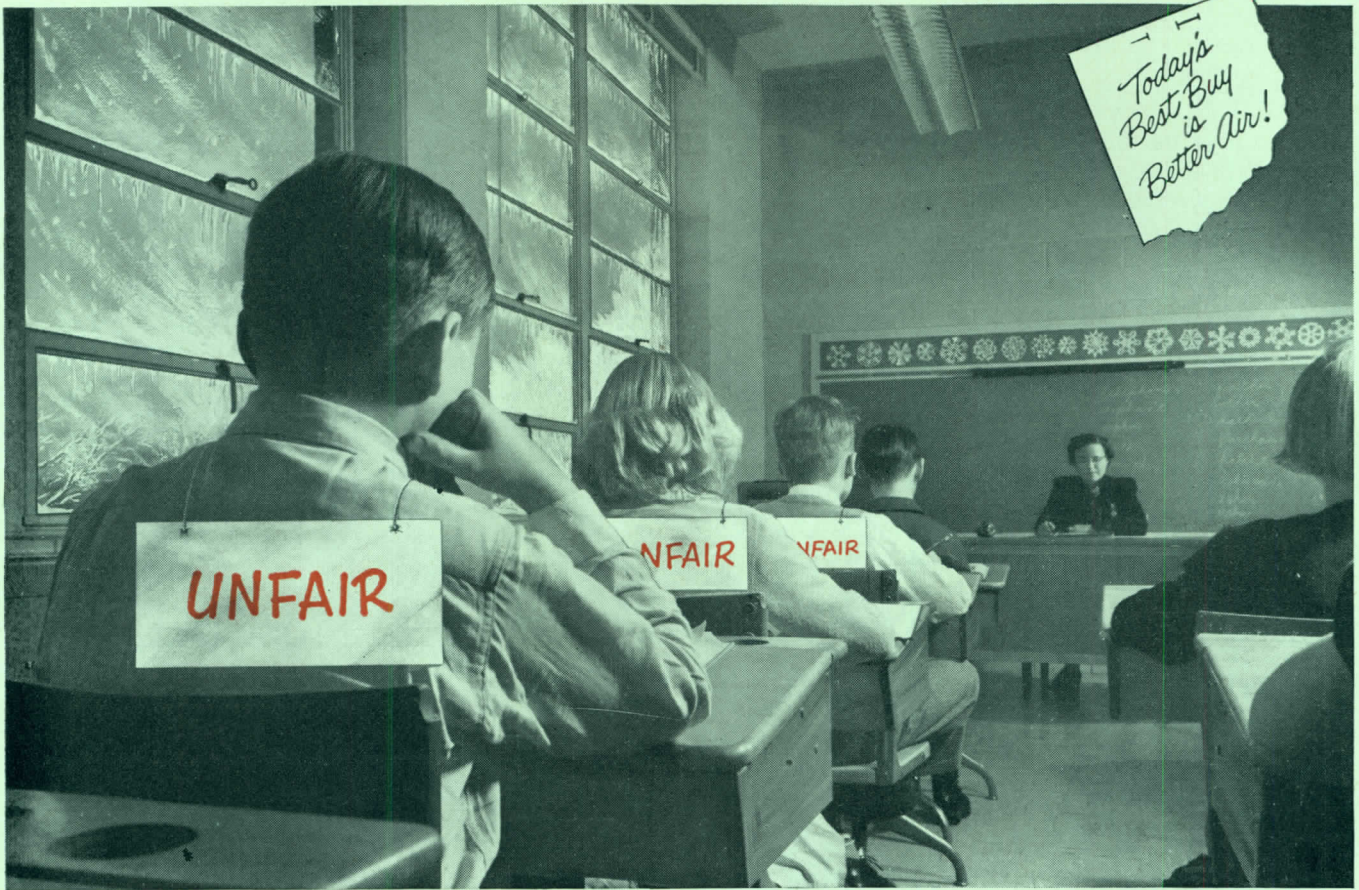
All essential hardware comes with the unit and is removable without disrupting the wall or door trim. Each piece is said to obviate slowed-down action as well as to enhance the door's glide. Dorflo Mfg. Corp., 1904 First Ave., Hibbing, Minn.

Color Impregnated Wood

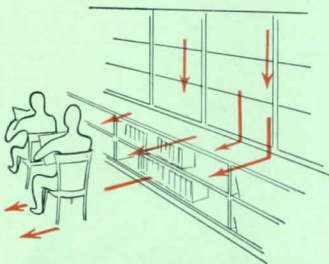
All-Color Wood features a recently-perfected process of impregnating raw plywoods with a variety of standard color pigments. The formula is said to

(Continued on page 222)

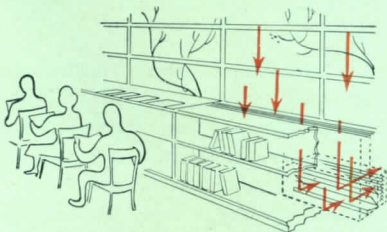
THEY KNOW THIS SUBJECT COLD!



but **DRAFT STOP** gets the honors



IMPROPERLY PLANNED ventilation! See how drafts sweep into the classroom. A threat to health and good study habits, uneven temperatures are a constant problem.



PROPERLY PLANNED ventilation with the new Herman Nelson DRAFT|STOP System traps drafts. Controlled temperature and plenty of fresh air is assured for modern classrooms.

THE SUBJECT of cold is well known to students seated next to windows where there are chilling down-drafts. Larger window areas used in modern school construction make this section of the room a "coat zone". Chilled students with health endangered can't be expected to concentrate on study. But why put up with drafts? There is an easy answer. DRAFT|STOP introduces fresh air, warms it properly and traps drafts before they start.

New DRAFT|STOP, a development offered exclusively by Herman Nelson, is a system that captures drafts at the source. Fresh air and automatically controlled temperatures enable pupils to concentrate on learning. Uniform temperatures throughout the room result in equal opportunity for good study habits. No device nor design can take the place of the new DRAFT|STOP System . . . it gets the honors.

In your plans for new schools or new additions be certain DRAFT|STOP is specified. It's the modern method for adequate ventilation without drafts. Send for our illustrated booklet available upon request to Dept. AR-6, address below.



HERMAN NELSON

Division of AMERICAN AIR FILTER COMPANY, INC.

MOLINE, ILLINOIS

PRODUCTS

(Continued from page 220)

completely permeate the layers of the plywood, which are then laminated together to form the finished substance. Uses for the product are expected to range from small accessories and home furnishings to wall paneling.

A new firm, the U.S. All Color Wood, Inc., has recently been formed for the general aims of selling and distributing

the basic materials involved in the new process. Plans call for the immediate sale of the colored wood throughout the U. S. and in countries abroad. U.S. All Color Wood, Inc., 280 Madison Ave., New York 16, N. Y.

Safety Wall Outlet

No-Shok Duplex Receptacle is said to insure safety wherever installed, minimize fire hazards and furnish additional safety when used with electrical appliances. To make a connection with a lamp or appliance, plug prongs of the

appliance are inserted into a built-in rotary cap in the receptacle. The plug is then turned to the right and pushed in and the connection is completed. When the plug is removed, the rotary cap springs back into its original position and the outlet is thus automatically closed when not in use. The manufacturers claim that the danger of accidents to children by inserting foreign matter into outlets, etc., is eliminated and that current-carrying parts are clean and shockproof at all times. The heavy duty terminals, which are said to be simply and easily installed, are composed of thick Bakelite. These outlets were used in the houses at Park Forest, Ill. Shown in ARCHITECTURAL RECORD, May, 1951, Page 94. Bell Electric Co., 1844 W. 21st St., Chicago 8, Ill.

New Elevator Signal Control

Electronic Signal Controls, formerly limited to high-speed elevators traveling at 500 fpm or more, are now available for lower speed installations. The electronic touch-buttons cannot be jammed, and are also said to be tamper-proof.



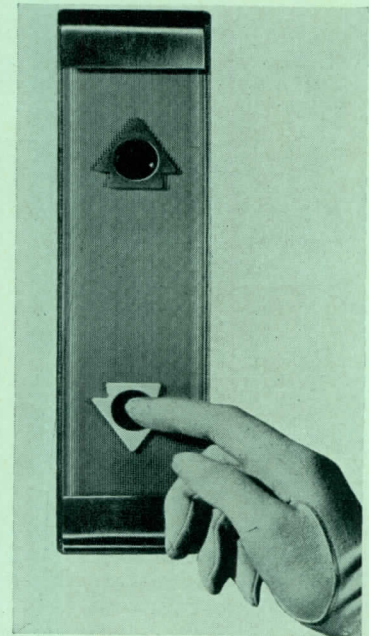
GLOBE SPRINKLERS

FIREMEN EVERY 10 FEET

SOMETHING FOR NOTHING...
Automatic sprinklers *discover and stop FIRE*. For property owners who do not care to use their own capital to pay for them, insurance savings may be used to pay for GLOBE Automatic Sprinklers over a period of years.

GLOBE AUTOMATIC SPRINKLER CO.
NEW YORK . . . CHICAGO . . . PHILADELPHIA
Offices in nearly all principal cities

THEY PAY FOR THEMSELVES

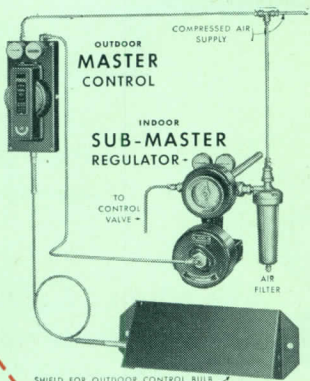


Elevator signal control is tamper-proof

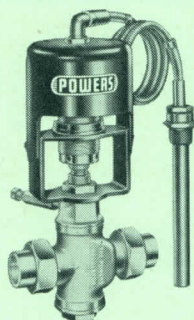
When the button is touched, a small electronic tube behind it glows to indicate that the call has been registered. At the same time electrical contacts in the selector are energized. Use of this type of signal control is said to eliminate moving parts, and to simplify elevator control. Otis Elevator Co., 260 11th Ave., New York 1, N. Y.

(Continued on page 224)

MASTROL SYSTEM
for Forced Hot
Water Heating



PNEUMATIC CONTROLS



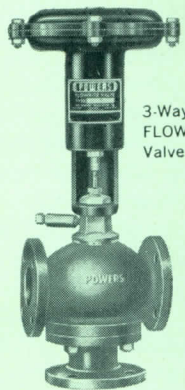
No. 11 Self-Operating Regulators

PNEUMATIC
CONTROLS

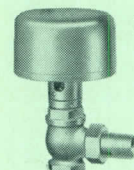


Thermostat

Hygrostat

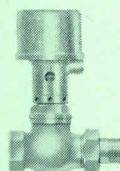


3-Way
FLOWRITE
Valve

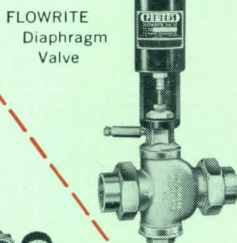


Radiator
Valves

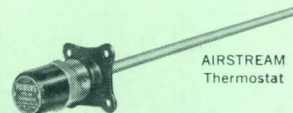
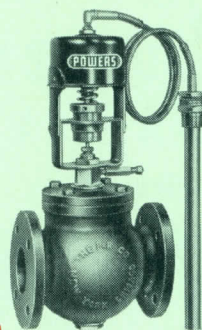
Packless Valves
Available



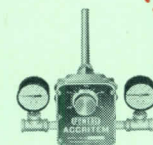
Pneumatic
Switches



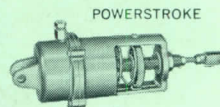
FLOWRITE
Diaphragm
Valve



AIRSTREAM
Thermostat



ACCRITEM REGULATOR
Compressed Air or
Water Operated



POWERSTROKE

Damper
Motor



FLOWRITE
Valve



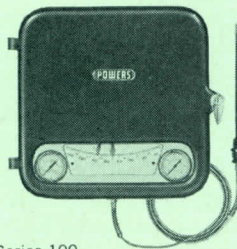
METAFLOW
Valve
Available
Packless

POWERS

TEMPERATURE and HUMIDITY CONTROL

For Heating and
Air Conditioning Systems
Industrial Processes
Water Heaters • Heat Exchangers
Jacket Water Cooling
All Types of Baths
Hospital Hydrotherapy

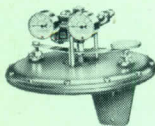
Most of your control problems
can be solved successfully with the aid
of a POWERS engineer and the proper
application of some of our modern
products. Why not profit from our 60 years
of experience? There's no obligation.
Phone or write our nearest office.



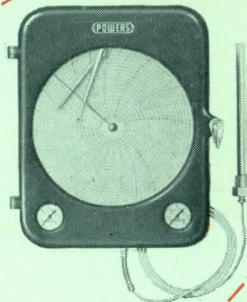
Series 100
Pneumatic
Indicating
Regulator

Pneumatic

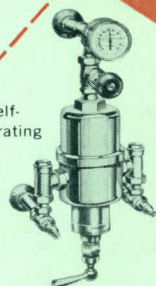
Right:
Static
Pressure
Regulator



Left:
Series 100
Recording
Regulator



Self-
Operating



Thermostatic
Water Mixers



THE POWERS REGULATOR CO.

Established 1891 • Offices in Over 50 Cities • See Your Phone Book

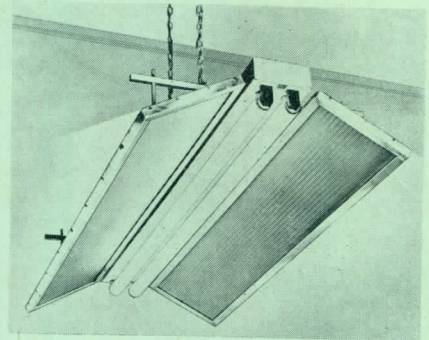
CHICAGO 14, ILLINOIS • 2720 Greenview Avenue
NEW YORK 17, NEW YORK • 231 East 46th Street
LOS ANGELES 5, CALIF. • 1808 West 8th Street
TORONTO, ONTARIO • 195 Spadina Avenue
MEXICO, D. F. • Edificio "La Nacional" 601

PRODUCTS

(Continued from page 222)

Heat-Light Fixture

Directoray, suspended heater and lighting fixture, combines fluorescent lighting and infra red radiant heating in one unit. It is said to be especially suitable for hospitals, factories, offices, processing areas, etc., where specific temperatures or spot heating are required. The units may be used singly or placed in a series. In addition to convenience, *Directoray* is claimed to be economical in installation and maintenance.



Infra-red heat panels are combined with new fluorescent ceiling fixture

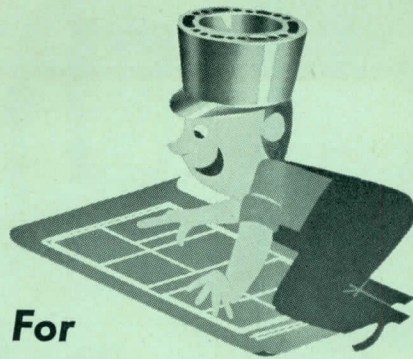
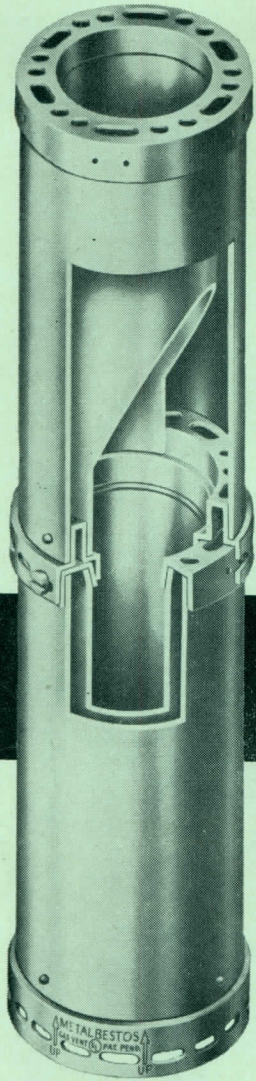
Flanking the lighting unit, two glass panels — heaters — form a reflector along the fluorescent strip. Aluminum grids function as the heating units in the panels which are made of tempered, unbreakable glass, suspended in an aluminum frame, and measure 9 by 48 in. Control of heat may be by either thermostat or global type control, or manual switch.

The lighting fixture employs a standard 48 in. fluorescent drop fixture — either single or multiple. The two-panel heating unit is available separately for installation on existing lighting fixtures. Salton Mfg. Co., Inc., 74 Reade St., New York 7, N. Y.

New Size Plastic Sheets

Formica laminated plastics will be available in decorative sheets 48 in. wide and 120 in. long, which is one ft. wider and two ft. longer than the largest

(Continued on page 226)



For
**DURABLE,
SAFE VENTING**
specify

**QC METALBESTOS
GAS VENT**

Lasting Construction

Permanent protection against the corrosive action of flue gases, condensates and the weather is provided by QC Metalbestos. Deterioration due to corrosion and cracking is eliminated when you specify this sturdy, all-aluminum, double wall gas vent pipe.

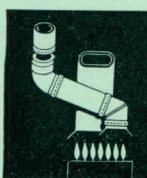
Dependable Operation

Metalbestos' unique double wall construction and leak-proof joints give complete protection against fumes or fire hazards. The aluminum inner pipe heats up quickly for efficient venting while the built-in air space minimizes heat loss and insulates the outer pipe against excessive heat. Precision formed QC Couplers and adjustable fittings permit rapid assembly and assure trouble-free, efficient venting.

Independent laboratory tests prove that Metalbestos keeps surrounding walls cooler than any other Type B gas vent listed by Underwriters' Laboratories, Inc.

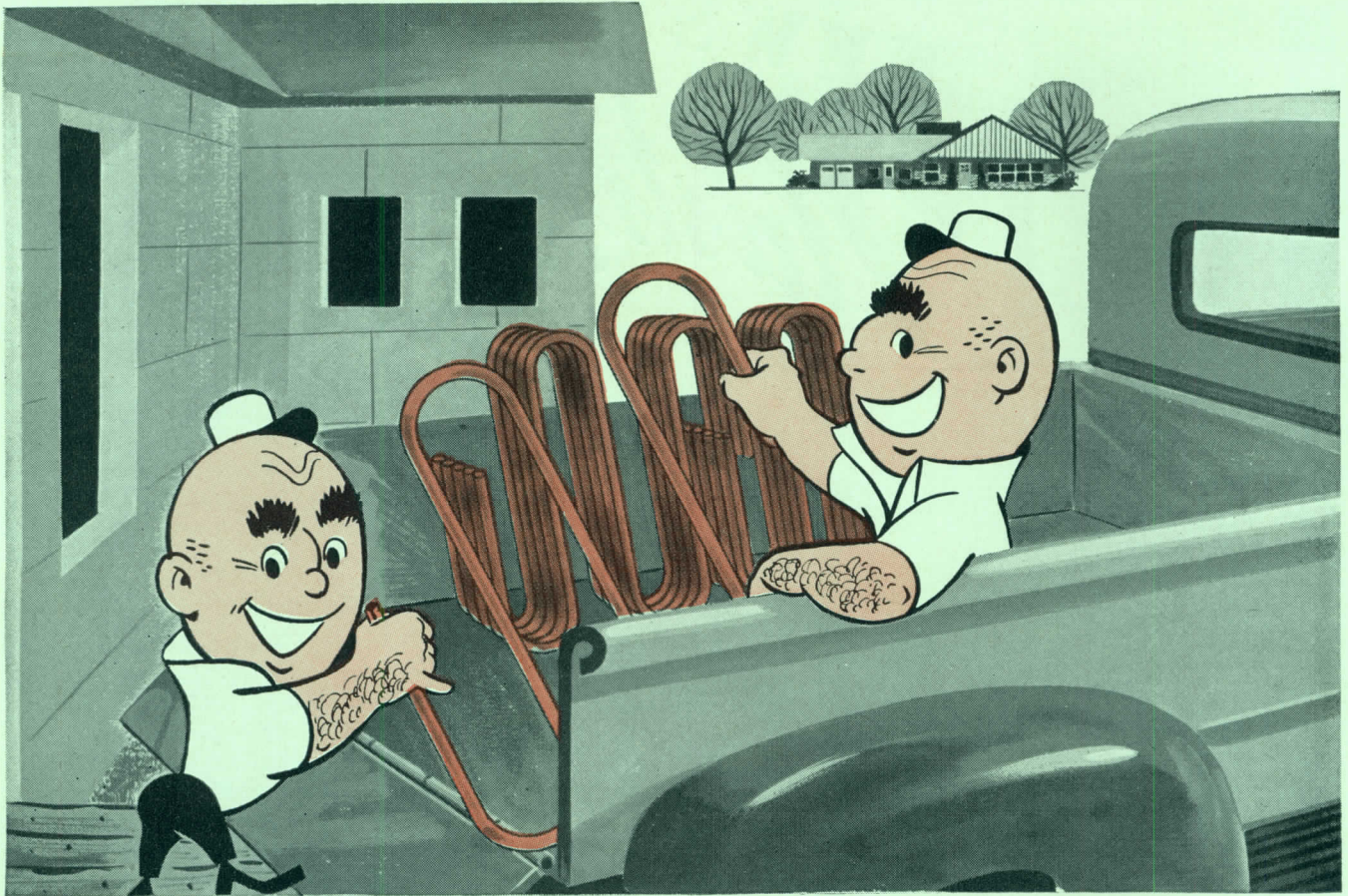
New Venting Manual Now Available!

Published in the interests of better venting, this booklet, "Venting of Gas Appliances", contains basic rules and other helpful data concerning correct venting practices. For your free copy, just write to Dept. L



METALBESTOS DIVISION

WILLIAM WALLACE COMPANY · BELMONT, CALIF.



Better radiant heating systems start with Bundyweld Tubing

Bundyweld Tubing performs better in your systems, cuts waste, saves time in fabrication, too.

It stands alone, the only tubing double-walled from a single strip, with an exclusive beveled seam-edge. It's copper-brazed through 360° of wall contact into a smoother, stronger, solid-wall tube that spells leakproof, efficient radiant heating systems right from the start.

Bundyweld comes to you in twenty-foot lengths with

one end expanded if specified. It fabricates quickly, easily at your shop or building site. No kid-glove handling; it's ductile, yet extra-strong. One man easily forms Bundyweld on a simple bending fixture. Just two men quickly position the lightweight, rigid grids.

Check your *Sweet's Architectural File* or write us now for more detailed information. Though defense tubing requirements get first call, we'll do our best to fill your needs. **Bundy Tubing Company, Detroit 14, Michigan.**

Bundyweld[®] Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of basic metal, coated with a bonding metal. Then it's . . .



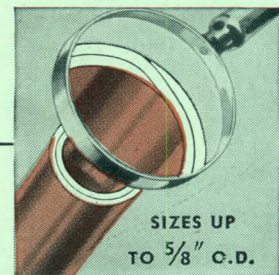
continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Bonding metal fuses with basic metal, presto—

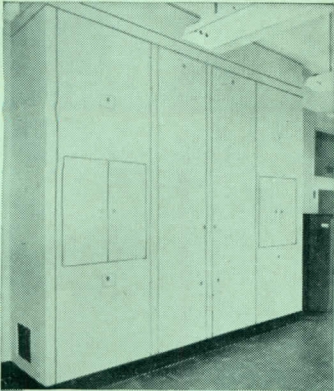


Bundyweld . . . double-walled and brazed through 360° of wall contact.

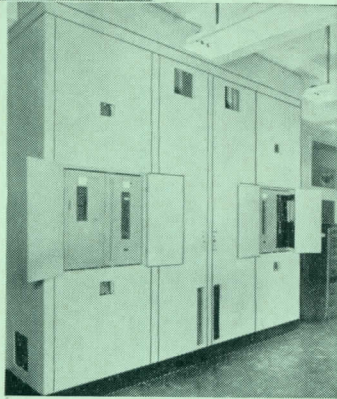


SIZES UP TO 5/8" C.D.

NOTE the exclusive patented Bundyweld beveled edge, which affords a smoother joint, absence of bead and less chance for any leakage.



NEWS Flash!



Partitions
by the
Mills Company,
Manufacturers
of Movable
Metal Partitions,
Cleveland 10,
Ohio.

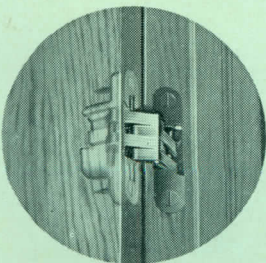


NAVY USES 4 MILES OF PARTITIONS
STREAMLINED WITH

SOSS INVISIBLE HINGES

The above example is typical of many similar installations, using SOSS INVISIBLE HINGES, in the United States Naval Ordnance Laboratory at White Oak, Maryland . . . one of the most modern and best equipped research and development laboratories in the world. Over 4 miles of Mills movable metal partitions, streamlined with SOSS INVISIBLE HINGES, were used in this project.

You, too, will find "the hinge that hides itself" ideal for use in every type of MODERN building. The SOSS HINGE is



the only hinge that eliminates unsightly, protruding hinge butts. Furthermore, it is the ONLY hinge that helps architects meet the exacting demands of modern design for smooth, flush, streamlined surfaces. For FREE Blue Print Catalogue, that gives complete architectural information on the SOSS HINGE, write to:

SOSS MANUFACTURING COMPANY

21769 HOOVER ROAD
DETROIT 13, MICHIGAN

A. I. A. File No. 27-B-1

Architectural Engineering

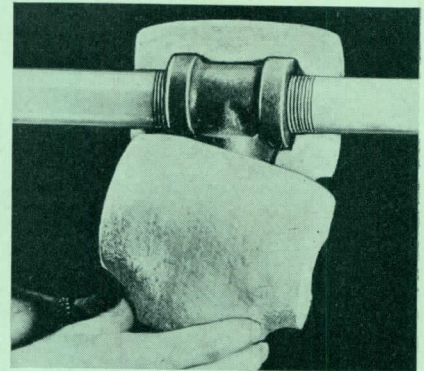
PRODUCTS

(Continued from page 224)

size presently offered. The company announces that production is expected to begin early in 1952. Major advantages of the new size, says the manufacturer, are elimination of joints on surfaces such as large tables, counters, sink tops and wall panels, and greater flexibility and reduction of waste in cutting pieces of desired size from stock sheets. Formica Co., 4633 Spring Grove Ave., Cincinnati, Ohio.

Pipe Insulation

Birpac Fiberglas fitting insulations are said to be very simply installed around tees, ells and 45 deg pipe connections. The insulation is installed by placing one half the fitting around the pipe, then covering it with the matching



New pipe insulation is moulded for many types of standard fittings and joints

half and taping or stapling the two together, thus eliminating extensive bindings or swathings around the pipe. The insulation is said to have a low thermal conductivity as well as neat appearance. Currently *Birpac* is available for standard sizes of pipe from 1/2 to 8 in. thicknesses. Birma Products Corp., 2665 Main St., Buffalo 15, N. Y.

Tape Tacker

A new portable hand tool, similar to a gun-type tacker, has been designed to dispense pressure sensitive tape. A single squeeze of the trigger of the *Trig-A-Tape Attacher* is said to feed, cut off

(Continued on page 228)

Rolling Steel DOORS

Manually, Mechanically, or Power Operated

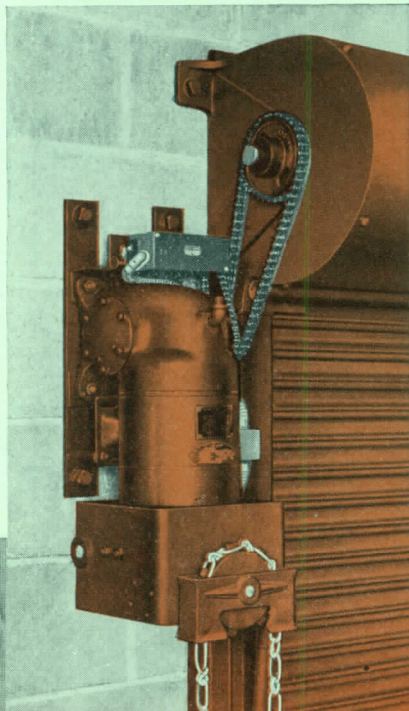
No other type of door can come close to matching the advantages of a good rolling steel door. For virtually any opening in industrial or commercial buildings, the quick-opening, quick-closing, vertically acting rolling steel door offers more desirable features than any other type. Open or closed, it occupies no usable space inside or outside the building — it rolls up clear of the opening safe from damage . . . its all metal construction assures permanence and a lifetime of trouble-free service, and, most important, it provides maximum protection against intrusion and fire. When you select Mahon Rolling Doors, you can depend on getting the latest developments in doors of this type . . . more compact and more practical operating devices, curtain slats of Aluminum, Stainless Steel, or Galvanized Steel scientifically cleaned, phosphated, and coated with high temperature oven baked rust inhibiting enamel prior to roll-forming. These, and many other built-in features that characterize Mahon Rolling Steel Doors, merit your consideration. See Sweet's Files, or write for Catalog G-50.

T H E R . C . M A H O N C O M P A N Y

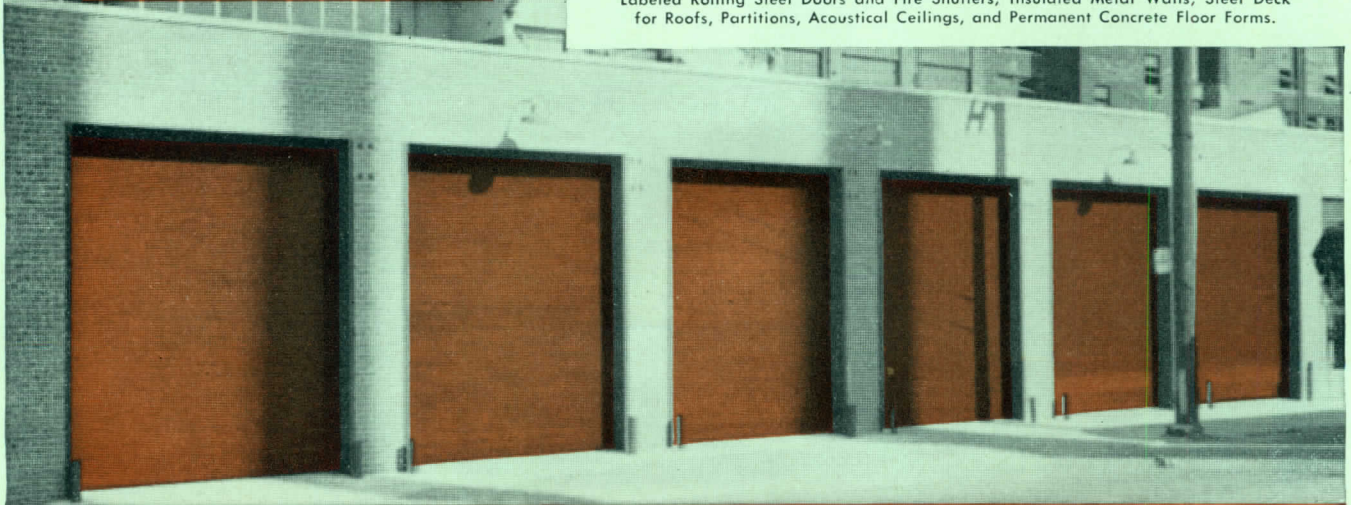
Detroit 34, Michigan • Western Sales Division, Chicago 4, Illinois

Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls, Steel Deck for Roofs, Partitions, Acoustical Ceilings, and Permanent Concrete Floor Forms.



**MAHON STANDARD
POWER OPERATOR 920-P**



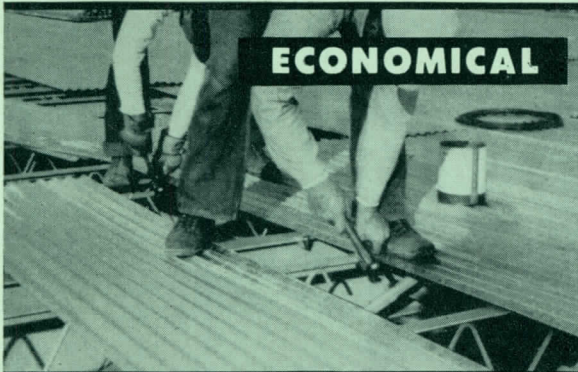
ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Six Mahon Power Operated Rolling Steel Doors installed in truck openings in The Timken-Detroit Axle Company's Plant, Detroit, Michigan.

MAHON

THE ONLY FORM FOR
STEEL JOIST CONCRETE
FLOORS AND ROOFS

Corruform



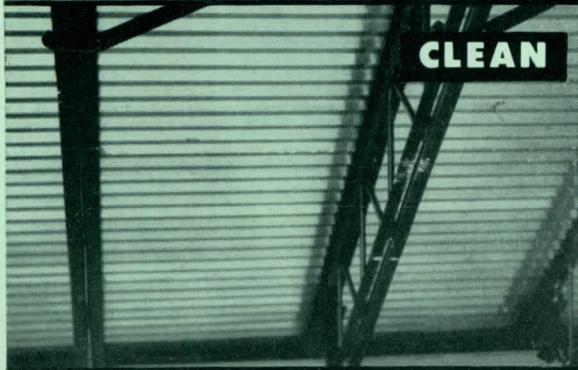
CORRUFORM

sheets are easily placed. Fasteners are positive for all common joists and beams. Lapping is automatic. No sag or material waste. Concrete is placed and finished by common practice.



CORRUFORM

is nearly twice as strong as ordinary steel of equal weight. Tough tempered to spring back under abuse. Provides a secure form for trades and concrete — no side pull on joists, beams, or walls.



CORRUFORM

is true and level. No cleanup necessary on floors below, no unsightly leakage. Bright, decorative corrugated pattern for exposed ceilings. Corruform is available plain, galvanized or vinyl-primed for painting.

SPECIFICATION

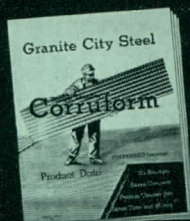
Standard weight Corruform with 2 3/16 inch wide, 1/2 inch deep corrugations. Weight .72 lbs. per sq. foot. Guaranteed average strength of 100,000 psi. — single test minimum strength 95,000 psi.

GRANCO STEEL PRODUCTS CO.

(Subsidiary of GRANITE CITY STEEL CO.)

Granite City, Illinois

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Architectural Engineering

PRODUCTS

(Continued from page 226)

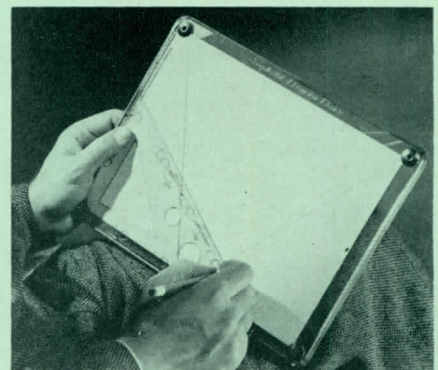
and attach a strip of white tape. It is claimed to work on any surface, including glass, without marring. The tape which the device dispenses can be written on with pencil, ink, or crayon. The unit is expected to save time and simplify many attaching operations. Trig-A-Tape Corp., 117-02 New York Blvd., Jamaica 5, N. Y.

Iridescent Plastics

Iridescent shell crystals have been incorporated into transparent *Irilite* plastic material for covering various types of panel boards. The material also has found use in table tops, furniture, tiles and floor coverings, and is said to be durable and resistant to fire, alcohol, moisture, etc. Jos. H. Meyer Bros. (Irilite Div.) 411 Fifth Ave., New York 16, N. Y.

Portable Drawing Board

A portable *Bakelite Styrene* plastic drawing board recently developed is extremely lightweight (it is claimed to weigh nearly 75 per cent less than many boards) and space saving. Made of a single piece of molded clear plastic, the

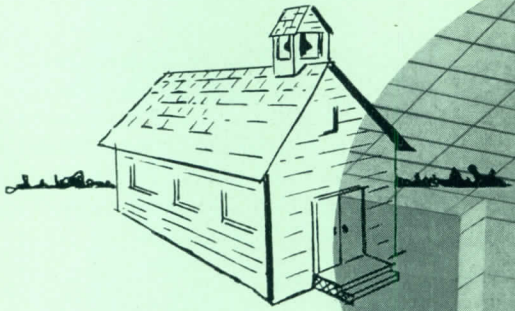


Plastic drawing board for use in field is lightweight, easily transportable

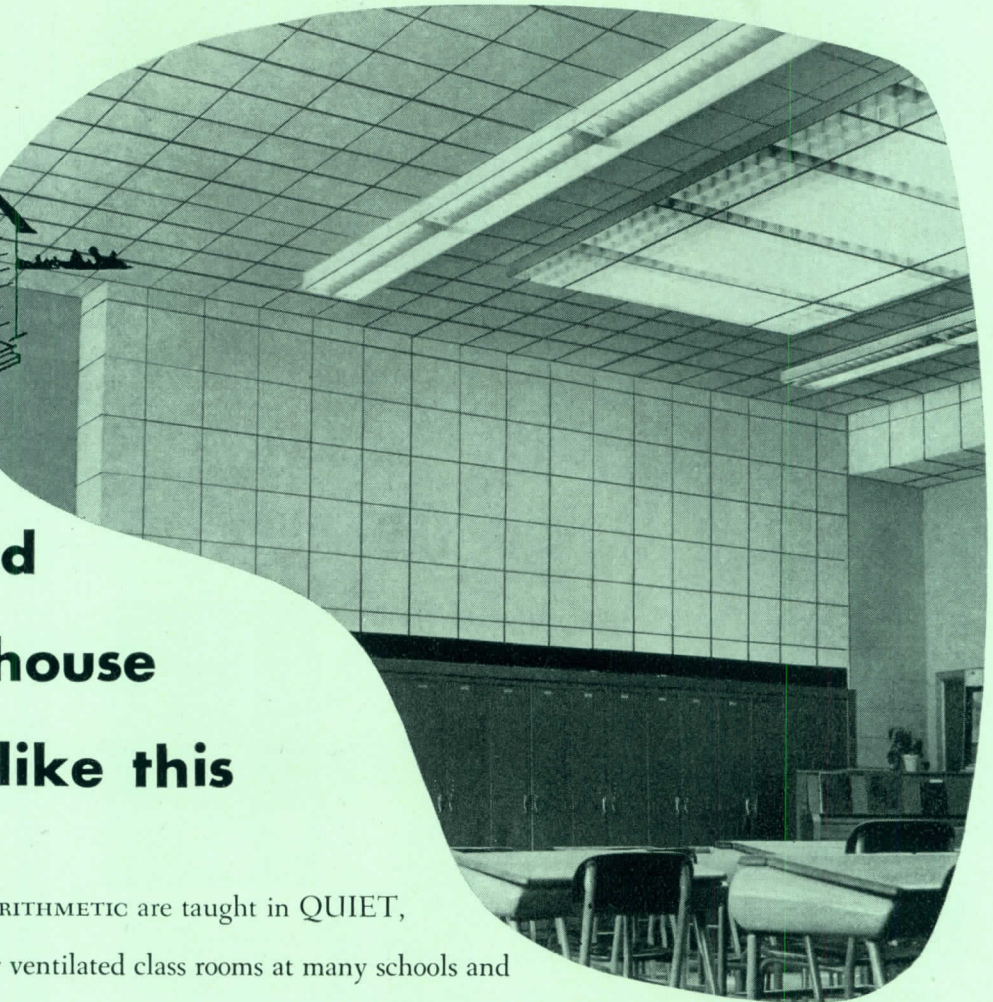
board measures 9 3/4 by 12 1/4 in. and is equipped with tension clamps in recesses on the underneath side to hold 30, 45 and 60 deg triangles in place. Metal straightedges incorporated in the board are retractable and do away with

(Continued on page 230)

Seeley-McCord School, Benton Harbor, Mich.
Maurer & Maurer, South Bend, Ind., Architects
Ray Stevens Co., Kalamazoo, Mich., Contractor

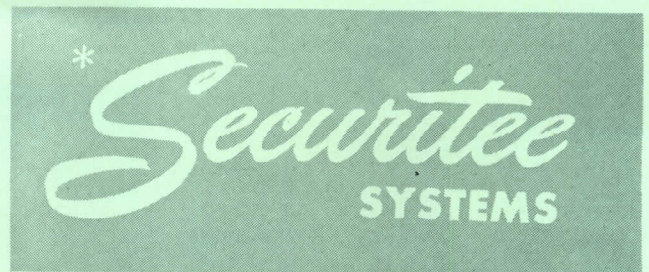


The little old red school house was never like this



READING, WRITING AND 'RITHMETIC are taught in QUIET, well lighted, properly ventilated class rooms at many schools and universities today. The conversion of an ordinary plastered or composition ceiling to an acoustically correct one is a simple matter with Securitee Systems*. This method of mechanical attachments for erecting acoustical tile is easy to install, assures structural permanence and lasting safety by giving proper full length tee support at all times. It also allows easy access to piping or wiring. Securitee Systems* superiority on new installations has been proven by the test of years. Learn more about this low-cost, efficient method—see your local acoustical applicator or write direct.

*T. M. REG. U. S. PAT. OFF.

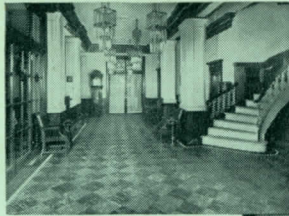


W. J. HAERTEL & CO.

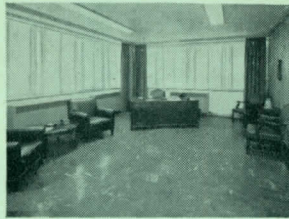
832 West Eastman Street • Chicago 22, Illinois

West Coast Distributor—**Cramer Company**, 125 Barneveld Ave., San Francisco, Calif.

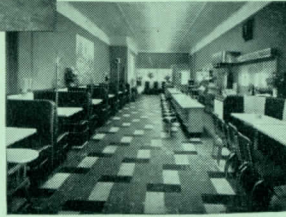
More
and
more
People
every day
are installing
Hood Asphalt Tile!



hotels

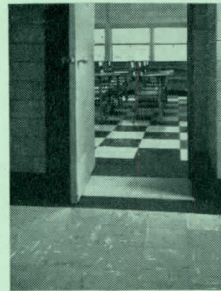


offices



cafeterias

because more and more leading architects are specifying Hood Asphalt Tile. And for good reason! This more economical tile is *adaptable* to any location on or below grade, it's *economical* in cost as well as in installation, its maintenance is easy, and it wears longer! And what's more, this easy-



schools

to-install tile, with its range of decor-
blending colors, is backed by the
world-famous research of B. F. Goodrich.
So, specify Hood Asphalt Tile from now
on—your clients will appreciate it!
Write for complete information.

Asphalt . . . specify HOOD!

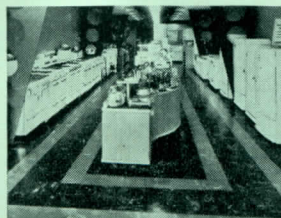


department store

stores of all kinds



furniture store



appliance store

YEARS OF BETTER FLOORING FROM YEARS OF BETTER RESEARCH



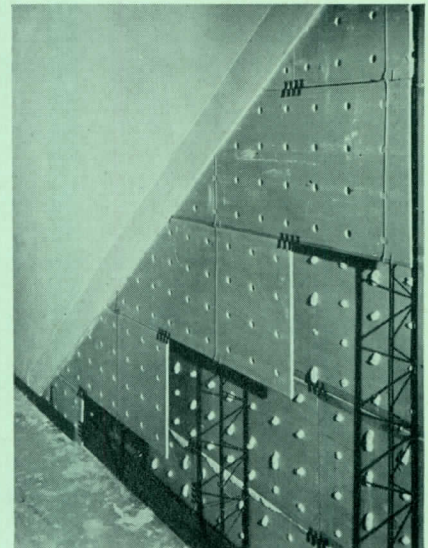
Architectural Engineering

PRODUCTS
(Continued from page 228)

the need for a T-square. Clamps are attached in each corner so that thumb tacks need not be used, and are recessed to prevent interference by use of roller or triangle. Bakelite Co. Union Carbide and Carbon Corp., 122 East 42nd St., New York 17, N. Y.

Fireproof Partition

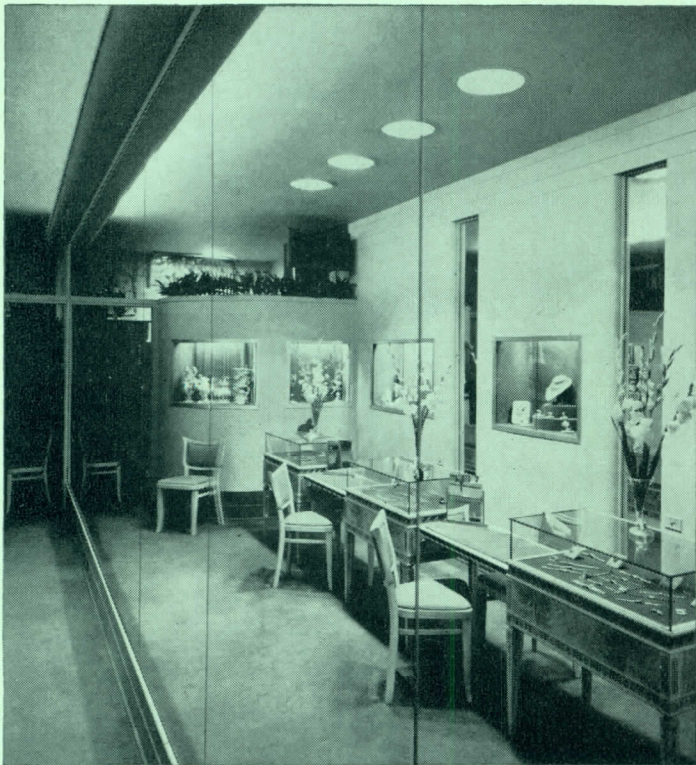
A new non-load bearing fireproof assembly is claimed to substantially reduce the expense, effort and time needed to erect partitions where 1-hour fire ratings and 45 decibel sound ratings are required. It is said to be especially well suited to construction calling for hollow partitions to conceal conduits, piping or air ducts.



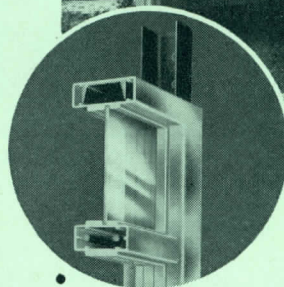
Fireproof, non-load bearing partition is designed to reduce costs of construction

The partition assembly consists of *Trusstee Studs*, perforated *Rocklath Plaster Base* attached with *Brace-Tite Clips*, and plaster. Only a 1/2 in. thickness of plaster, in 2 or 3 coats, is said to be necessary over the Rocklath. The wall finishes to an overall thickness of 4 1/2, 5 1/4, 6 or 8 in., depending on the stud size used. The partition is reportedly strong, durable and light weight. United States Gypsum, 300 W. Adams St., Chicago 6, Ill.

of quality products for
store fronts and interiors



THIS FASHIONABLE jewelry shop in Miami Beach, Florida, utilizes a large mirrored wall of Pittsburgh Structural Mirrors, together with niches and ingenious display cases of Pittsburgh Polished Plate Glass, to effect a smart, spacious-looking store interior of immediate appeal. In interiors as well as exteriors, Pittsburgh Products are the choice of leading architects and merchants from coast to coast. Architect: Victor H. Nellenbogen, Miami, Fla.



• **INSTALLATIONS** are faster, easier and less costly with Pittsburgh Doorways. That is because they are precision-built and reach the site as a completely "packaged" unit. All you do is unpack the frame, bolt it into the building opening and hang the sturdy Herculite Doors for whose strength the Pittsburgh Doorway has been especially engineered. Gone are those problems of setting and fitting, details of clearances and many other time and labor-consuming matters that usually increase costs on the job so substantially. Pittsburgh Doorways are available in twelve standard sizes and four free-standing models to fill almost any need. Inset shows a section of the rugged, precision-fabricated frame. It is made of extra-heavy extruded aluminum, highly polished and anodized. And it is heavily reinforced with steel channel and tie rods. Architects: Fuller & Beckett, Atlanta, Ga.

Design it better with **Pittsburgh Glass**

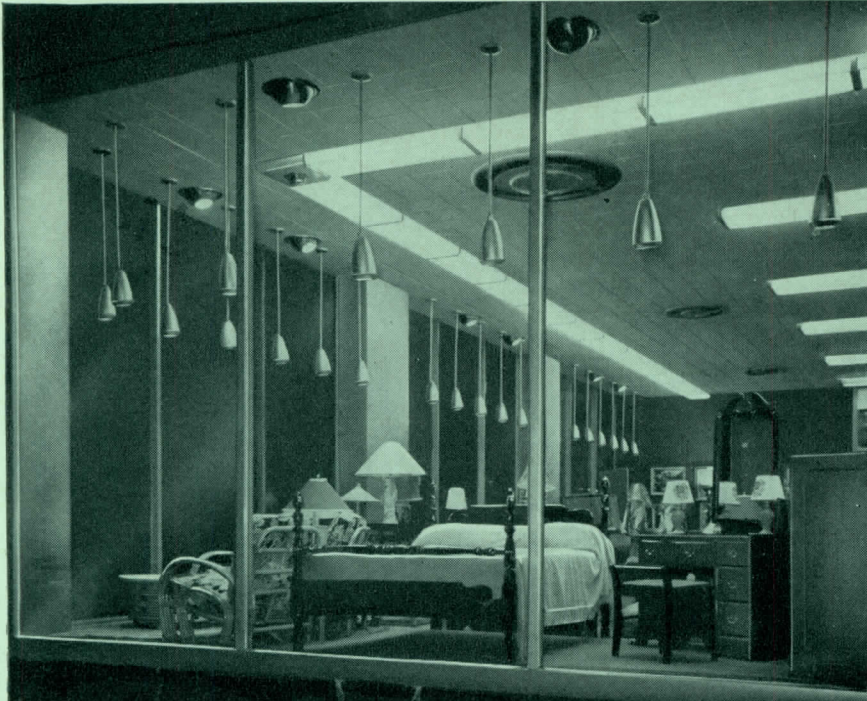


Your Sweet's Catalog File contains a complete listing and descriptions of Pittsburgh Plate Glass Company products.

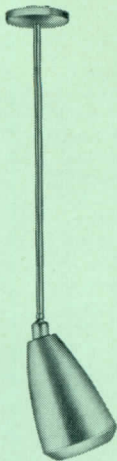
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

No wonder the big trend's to AMPLEX SWIVELITES



Swivelite Hood units in Mace Jones Furniture Store, Kansas City, Kansas, supplied by W. T. Foley Electrical Supply Co., Inc.; lighting layout by John Maultsby, Architect.



THE PLAIN FACT is that Amplex Swivelites give the most for your money. They're smartest-designed... and made of aluminum with a permanent satin finish.

Special air-flow ventilation reduces burn-outs. Their exclusive double-ball swivel gives instant, positive, fingertip control. And each basic unit of Amplex Swivelites is interchangeable with every other. Arranging new lighting effects is faster, easier, more economical.

For today's outstanding buy, send for the complete Amplex Swivelite story!

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111 Water Street, Brooklyn 1, New York.

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlights and Floodlights, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

Architectural Engineering

LITERATURE

(Continued from page 196)

Baseboard Heaters

Fedders Baseboard Radiation. Brochure describes features of a new hot water baseboard heating unit. The component parts and operating principles are also covered, along with specifications and capacity charts. A method of estimating a layout is presented, with accompanying diagram and charts. Details show installation and roughing-in dimensions for flush or recess mounting of the units. (The brochure was published as an advertising insert in the May issue of ARCHITECTURAL RECORD. Reprints are available.) 12 pp., illus. Fedders-Quigan Corp., Buffalo 7, N. Y.*

Plywood Built-Ins

A Portfolio of Architectural Designs for Plywood Built-Ins. Presents the winning designs of the 1951 NAHB-Forum competition. The portfolio contains a great number of drawings of indoor and outdoor built-ins, ranging from living room storage walls to free-standing outdoor storage fences. Information is also included on planned storage and grade use of plywood for various type built-ins and other construction. 16 pp., illus. Douglas Fir Plywood Assn., Tacoma 2, Wash.*

Steel School Buildings

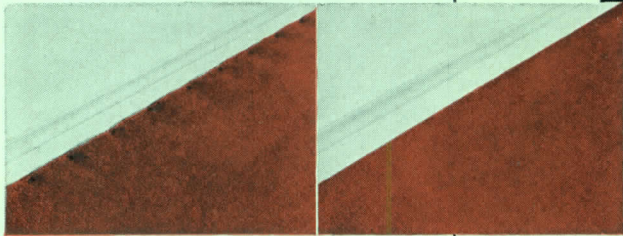
How To Give Students and Budgets a Break. Folder describes and discusses features of one-floor all-steel school buildings made of pre-finished, structural supporting steel panels. A typical plan and photographs of actual installations are included. 4 pp., illus. Armco Drainage & Metal Products, Inc., General Offices, Middletown, Ohio.*

Aluminum Paints

2 Great Heat Resisting Aluminum Paints by Skybryte. Leaflet describes 1000 deg heat-resisting interior paint and 550 deg heat-resisting exterior paint as well as acid- and alkali-resisting and fence paints. Characteristics of each type are given and sketches indicate use. 2 pp., illus. The Skybryte Co., 3125 Perkins Ave., Cleveland 14, Ohio.

(Continued on page 236)

Now you see them... Now you don't...



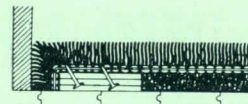
DETAILS ARE your business
tack marks ARE DETAILS!

it's not magic... IT'S

Smoothedge

TACKLESS CARPET INSTALLATION

that makes the difference



HOW SMOOTHEDGE WORKS

SMOOTHEDGE gripper holds the carpet firmly and invisibly from beneath... dust-catching tack marks are eliminated—no bulges, puckers, ripples or ridges, because the carpet is thoroughly stretched from wall-to-wall for a perfect fit, much like a curtain on a curtain stretcher. It “stays put” until purposely removed, but when it must be taken up it’s as easy as opening a zipper. No special provisions are required for installation on either wood or concrete floors. To specify, merely state, “Carpet to be installed with Smoothedge Carpet Gripper.”



easy to specify • available nationally—

Handled by more than 4,000 carpet retailers and by 68 distributors. Recommended by the leading carpet mills for wall-to-wall installations.

SEND TODAY FOR FULL DETAILS, A. I. A. FILE AND NAMES OF INSTALLATION CONTRACTORS NEAREST YOU

THE ROBERTS CO. Dept. AS-6
1536 N. Indiana St., Los Angeles 63, Calif.

Please send me Smoothedge A.I.A. file
Installation Manual Names of nearest contractors

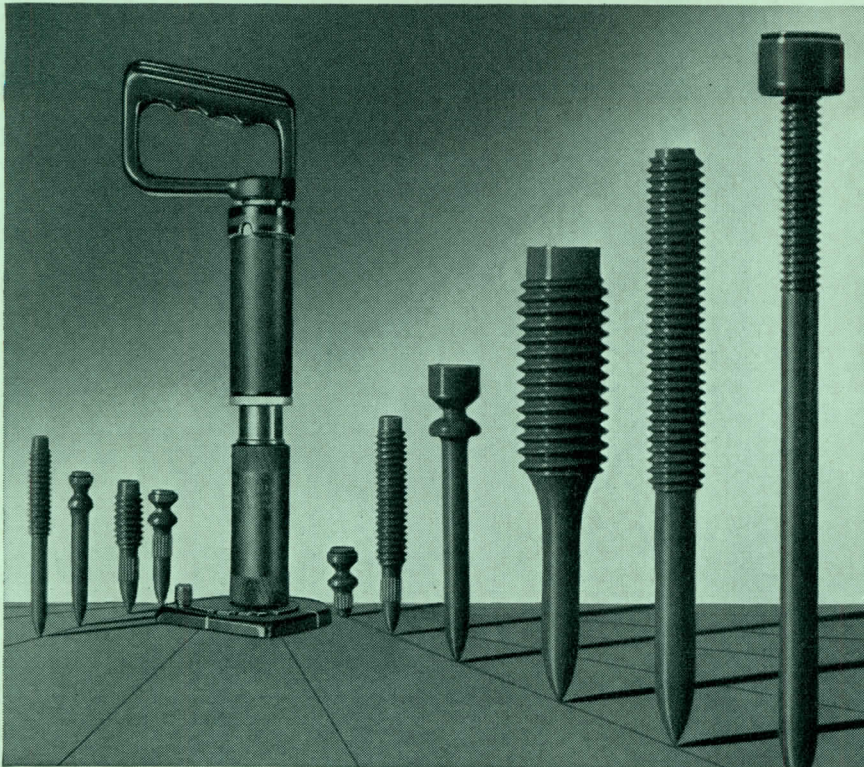
Name _____

Address _____

City _____ Zone _____ State _____

LITERATURE

(Continued from page 234)



SCHOOL BUILDERS PACK 480 MINUTES INTO 1 HOUR

With time so pressing and man power so urgently needed, architects and contractors are utilizing high-speed RAMSET FASTENING SYSTEM for faster, more economical construction of school buildings. Because RAMSET can fasten into steel, concrete, other suitable materials at the rate of *400 per day per man*, instead of only 50 per day per man by old-fashioned methods, these building men are packing 480 minutes into every fastening hour.

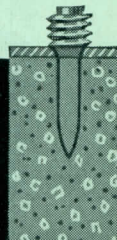
The time-saving, cost-saving advantages of RAMSET SYSTEM, plus its great versatility, account for its use in schools and other educational buildings throughout the country. For instance, in the West Side High School in Atlanta, Georgia, upwards of 40,000 fastenings were made with RAMSET, by the *general contractor, and by sub-contractors on acoustical, sheet metal, electrical and plumbing installations.*

Wherever your specifications call for fastening or anchoring involving steel, concrete, other suitable materials, RAMSET saves time and money, gets the work finished faster. Our local representatives will gladly demonstrate RAMSET and show you where and how it can be applied to schools, commercial and industrial buildings under construction or in the planning stage. Or, write for details in Architectural and Engineering Bulletin.

Ramset Fasteners, Inc., 12117 Berea Rd., Cleveland 11, Ohio

MEMBER OF PRODUCERS' COUNCIL

fasten
FASTER
with
Ramset System
FASTENING SYSTEM
Pioneer in powder-actuated fastening



School Construction

Today's Better Schools Are Built of Wood. Booklet illustrates many uses of wood in one-story school buildings. Uses are pertinent to sheathing, framing, siding, paneling, trim, sash, cabinets, flooring, etc. Examples from various structures are shown. 8 pp., illus. West Coast Lumbermen's Assn., 1401 S.W. Morrison St., Portland 5, Ore.

Roof Maintenance

Solving Roof Problems (U614a 10M 4-49). This small book is primarily a guide for maintenance men. Chapters include information on: various roof bases, paper felts used in roofing, laying the built-up roof, incidental roof factors, how roofs are un-made, related difficulties, diagnosing roof conditions, planning repairs, repair of copings, parapets and flashings, when to discard built-up roofs and area treatment of roofs, etc. Detail diagrams and photographs supplement the text. 32 pp., illus. The Tremco Mfg. Co., 8701 Kinsman Road, Cleveland 4, Ohio.*

Interior Paint

Americana Colors. Flat Wall Paint. Brochure reproduces 77 hues for interior decoration. Of these, 68 can be derived from nine basic colors (included among the 77). Proportions for mixing hues are given beneath each color plate. 2 pp., illus. E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Del.*

Electrical Systems in the Home

Getting the Most from Your Home's Electrical System. Booklet is designed to help and instruct the layman in the electrical system of his home. Information deals with the electrical service entrance, branch circuits, switch control, electric outlets, electrical needs, etc. Checklists are provided for living room, halls and stairways, bed and bathrooms, kitchen, laundry, garage, utility rooms, outdoor area and attic. Detailed

(Continued on page 238)

MODERN DOOR CONTROL BY *LCN*

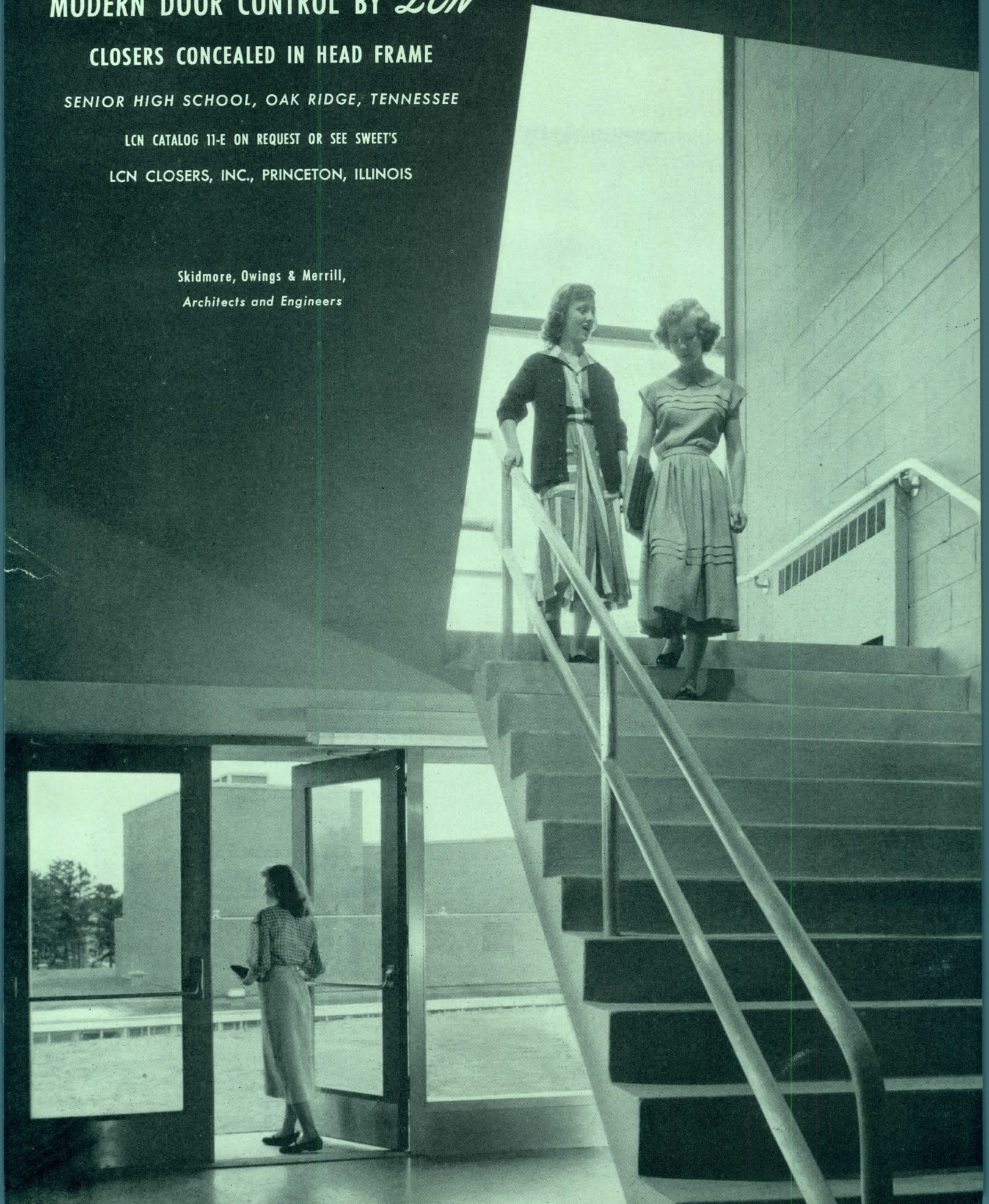
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LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S

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Skidmore, Owings & Merrill,
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Here is one of the first pieces of Wright Rubber Tile ever made. It *looks* like it might have been in use only a few months, yet it has seen hard wear for *thirty years!*

The first 15 years, this tile was used in a store. When the store was rebuilt, the tile was relaid in a residential kitchen. It has been there for 15 years *and is still in use.*

During these thirty years, this tile has lost less than one-tenth *its original thickness.* It appears to be good for another couple of hundred years.

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- ◆ WRIGHTFLOR—Hard Surface Rubber Tile
- ◆ WRIGHT-ON-TOP Compression Cove Base

2867

Architectural Engineering

LITERATURE

(Continued from page 236)

explanation of the various aspects of an electrical system are given in both text and illustration. 23 pp., illus. Price 15 cents. The National Adequate Wiring Bureau, 155 East 44th St., New York 17, N. Y.

Face Brick and Fireproofing

(1) *Sil-Bri-Co*; (2) *Rolex Aggregate*. Leaflets describe uses of products. The first shows typical installations using face brick, and gives sizes and colors of units available. Details on the composition of the brick are also given.

The second folder gives recommended installations of the company's light-weight aggregate. Tables give physical properties of the aggregate and recommended plaster mixes. Fire ratings are given in chart form. 4 pp. each, illus. Silbrico Corp., 901 W. 66th St., Chicago 38, Ill.

Duct Insulation

Dux-Sulation (Bulletin Series 400). Brochure lists various features of an asbestos-protected insulation felt designed for use on duct work. Application of the insulation to heating and cooling systems is discussed, along with notes on condensation, sound correction, frictional resistance, and recommended application. Tables are included for the computation of anti-condensation safety margins and reduction of noise levels. Illustrations show typical installations and step-by-step application procedure. 8 pp., illus. Grant Wilson, Inc., 141 W. Jackson Blvd., Chicago 4, Ill.

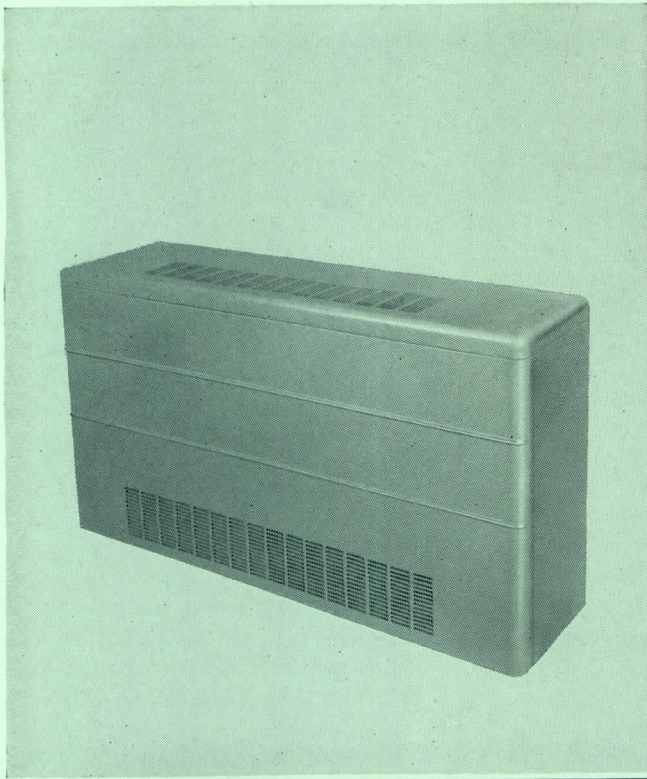
LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

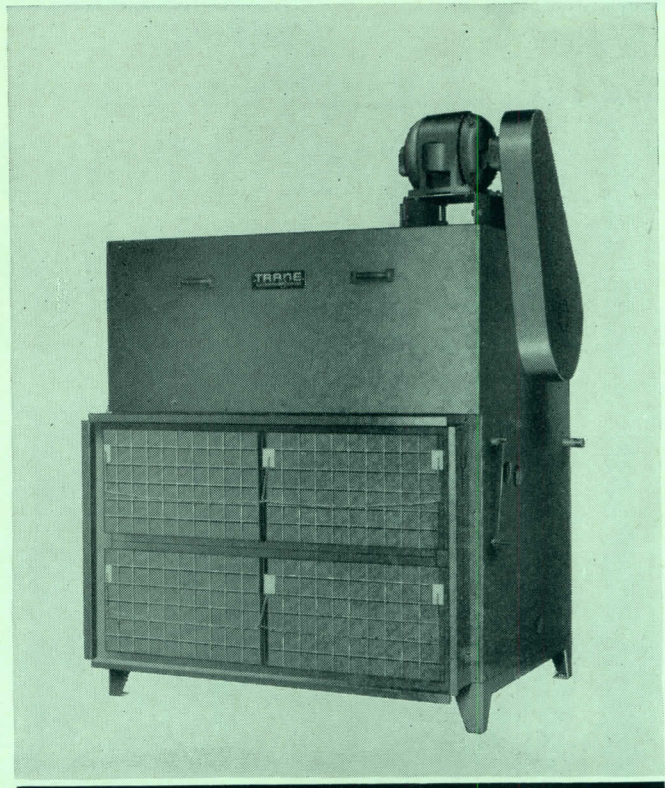
Construtora Monteiro & Heinsfurter, Ltda., Engineers, Rua 7 de Abril 252-10°, São Paulo, Brazil.

Bruce E. Howlett, 10732-76th Ave., Edmonton, Alberta, Canada.

Sankei Industrial Engineering Research Assn., Osaka Press Bldg., 48 Sonezaki Kami 4-chome, Kitaku, Osaka, Japan.



UniTrane Air Conditioners — Available in two styles with one, two or three fan arrangements.



Trane Climate Changers — Twenty-four standard combinations of coils, fans, humidifiers, filters, dampers, 450 to 16,250 cfm.

Trane Air Conditioning Products Serve Everywhere

2. One Source of Supply — all products are sold by the same high-grade sales-engineers who are trained carefully as equipment consultants. They know Trane products and they know your problems of heating and air conditioning. You deal with one salesman instead of many.

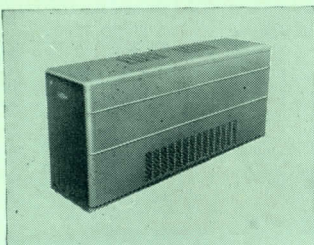
3. One Set of Catalogs — you can select all the products you need for air conditioning from one catalog binder. No searching around for ratings and dimensions—no necessity for correlating ratings and sizes. Everything is contained in those big Trane binders that fit so handily at your elbow.

4. Complete Flexibility — all Trane products are avail-

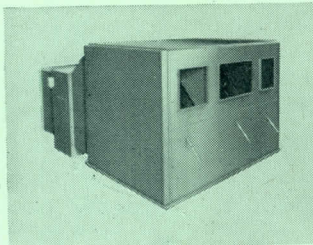
able in a complete range of sizes and models. Regardless of your problems there is Trane equipment to fit your requirements exactly — no fitting your requirements to inflexible equipment. So flexible is the Trane line that you can create a 50-ton air conditioning system in at least 10 different ways.

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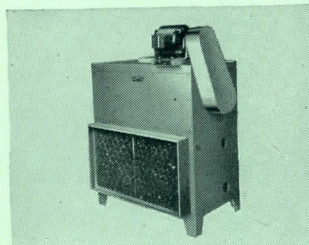
Whatever your air conditioning problem is, look for the answer in an undivided responsibility system of matched Trane products.



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OFFICES IN 80 U. S. and 10 CANADIAN CITIES

WASHINGTON

(Continued from page 26)

Here's the greatest
TIME-SAVING
MONEY-SAVING
fastening team in history!



for
Split-second
Fastening
of steel
or wood
to concrete,
steel,
masonry

With the introduction of the new heavy-duty "400", DRIVE-IT now offers the best engineered fastening team in the history of powder-powered tools.

Time-tested, exclusive features of the popular DRIVE-IT "300" have now been embodied in the new heavy-duty "400". These include CONTROLLED POWER with one power load, PERMANENT, ADJUSTABLE safety pad, SURFACE PROTECTOR to prevent splitting wood and 25% greater driving power.

So on all jobs involving the anchorage of steel or wood to concrete, steel or masonry, let the DRIVE-IT "fastening team" save you time and money. Write for the name of your DRIVE-IT representative.

Distributors Coast to Coast

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(Canadian Distributor:) Ammo Power Tool Co., Ltd.
Foot of McLean Drive, Vancouver, B. C.



Community Facilities Service, and the direct allocation funds for schools from the U. S. Office of Education.

There was general agreement that the defense housing measure passed by the Senate weeks ago, but idle in the House Banking committee early in May, would provide much of the emergency assistance for construction of the local, non-federal public works type. But Chairman Brent Spence (D-Ky.), of the House group, showed no immediate inclination to move the Senate bill out of his committee. (A broader House bill on the same subject, reflecting more nearly the Administration's desires for a comprehensive federal assistance plan in community facilities construction, was defeated on a rule vote in the House and sent back to the committee. Later the Senate put its own bill through easily and sent it over to the House where it was referred to the House Banking unit, Representative Spence's committee.)

DPA's interagency committee said it lifted the Regulation X curbs in San Diego because of the Navy's extensive expansion programs there. The additional housing is being allowed for Corona because of a guided missile laboratory, and for Colorado Springs because of the new Air Force activity nearby.

The critical area determinations are made after the committee has sifted information on the local housing supply, the impact of new military and/or defense activity, and the situation with regard to available community facilities such as waterworks, sewers, roads, schools, hospitals, etc. In most instances the number of housing units permitted under the relaxed control has been limited by a shortage of such facilities to serve the new construction wanted. This points up the argument on an immediate need for aid to communities now short on such facilities and feeling the impact of defense mobilization — if the required housing is to be constructed.

Special Programs Get Help

Meanwhile, NPA made allocations of materials (copper, steel and aluminum) for special programs during June pending inauguration of the controlled plan at mid-year. The Bureau of Public Roads was allotted 151,000 steel tons for

(Continued on page 244)

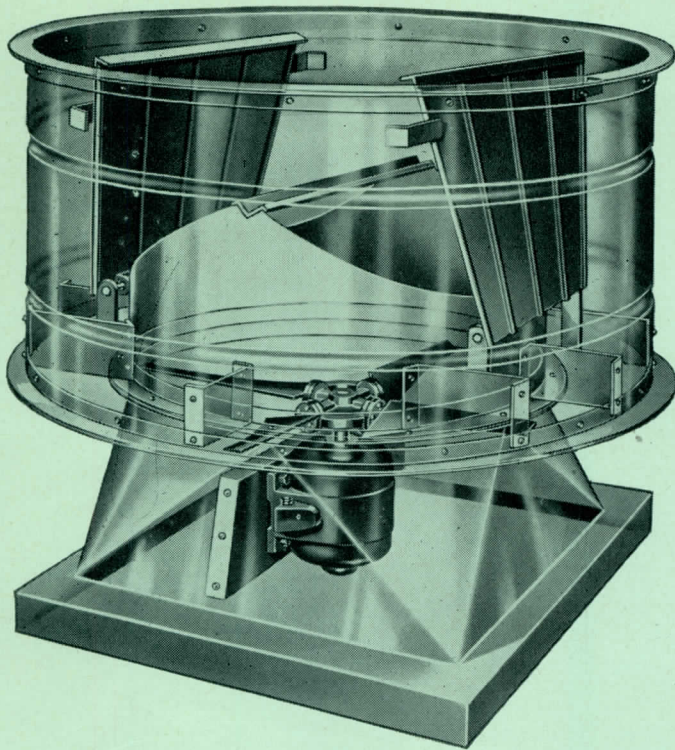


The exceptional durability and resistance to indentation of Armstrong's Linotile® has made this resilient flooring first choice for areas subjected to concentrated traffic or heavy furniture loads. Linotile's smooth surface and extra dense composition provide a combination that keeps maintenance costs to a minimum.

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The Burt Free Exhaust Fan Ventilator is an important new development for rapid localized removal of air contaminated by smoke, fumes, dust and heat. Its advanced design supplies—

HIGHER CAPACITY

Two dampers, above the fan, open wide when the fan is started—close automatically when fan is shut off. In operation, the airshaft provides an absolute free opening that exhausts a large, unrestricted volume of air vertically upward at high velocities.

AERODYNAMICALLY DESIGNED FAN

The Burt Axial Flow Airfoil Fan, used in the F.E.F. is designed specifically for the rapid removal of air—it is not "just another propeller." It provides a high volume of air delivery with efficient and economical operation.

COMPLETELY WEATHERPROOF

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THE RECORD REPORTS

WASHINGTON
(Continued from page 242)

construction of federal-aid road and street systems in that month. The agency is requiring allocation and assignment of DO-rated orders for specific tonnage amounts for each project.

The U. S. Office of Education was allowed 24,869 product tons of steel for school construction in June, and 16,465 product tons will go to the U. S. Public Health Service for its hospital construction program during the month.

The agency made tentative allocations of copper and aluminum for hospitals and schools on a pound basis. These were being revised and adjusted to balance wide differences that occurred in the initial figures due to a difference in timing of the submission of the program requirements to NPA by the respective agencies.

The June allotments are considered "emergency assistance" to the special programs. It represents the first time that special allocations of this form have been made for hospitals and schools. Said Federal Security Administrator Ewing:

"They are believed by the Defense Production Administration to be sufficient during June for urgently needed construction which otherwise would not be possible, although it is expected that a large part of the school and hospital building program will continue on an open market basis."

It was promised at the same time that hardship cases in which essential construction has been delayed or stopped due to material shortages will be given first consideration in processing applications.

FSA recently announced the reservation of \$46.5 million for 100 school construction projects in local areas affected by new federal activity. These funds, to be distributed on proper application, will meet the most urgent needs for school construction only in an estimated 10 per cent of the localities where federal military and defense expansion is placing added burden on school districts.

The inadequacy of this emergency assistance is indicated further by the Community Facilities Service announcement that as of April 1, there were on hand some 383 applications for federal funds for various school construction pro-

(Continued on page 246)

Auto-Lok

PATENTED

*the Awning Window that has brought new meaning
to the phrase . . .*
"WEATHER CONTROL"

Yes, educators and other school officials are quick to sense how effectively AUTO-LOK Awning Windows play their role in enabling students to get the most out of educational facilities provided. They applaud the 100% weather control these windows make possible; they heartily endorse the elimination of air-infiltration and the manner in which these modern school windows cut down danger of drafts or perilous "cold spots" which invite respiratory ailments and consequent absence from classes.

Students, too, appreciate the "ventilation at all times" -- regardless of the weather outside -- and welcome the spring breezes, the maximum visibility and the abundance of light that AUTO-LOK brings to any classroom.

The *operating economies* of AUTO-LOK are at once recognized by school boards and staffs. Lower fuel bills. Decreased maintenance costs (for example, the windows are easily cleaned from the inside.) Upkeep expense of any kind is negligible.

The Window with the **"FLOATING SEAL"**

No need to mention to architects that the providing of weatherstripping isn't the sole answer to elimination of air-infiltration. However, in AUTO-LOK, vinyl plastic weatherstripping combines with the ingenious locking action of patented, precision hardware to create a "floating seal." The vents are pulled in tight (locked at all four corners) and are compressed against the vinyl plastic -- assuring a tight closure *ten times as tight* as generally accepted standards - in truth the

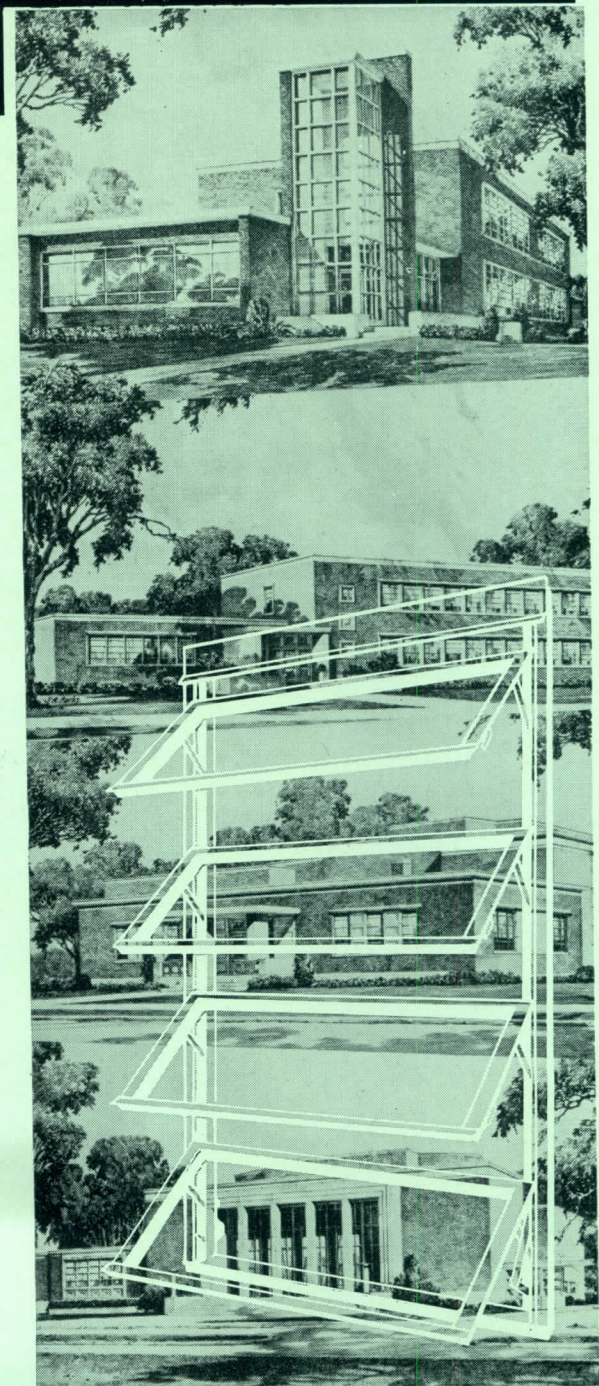
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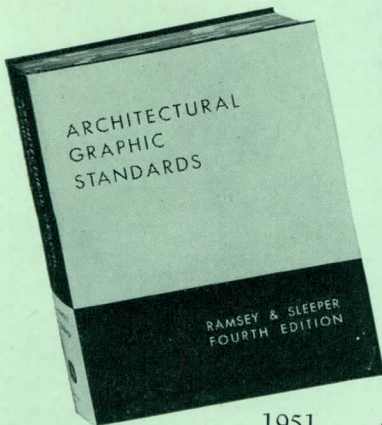
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THE RECORD REPORTS

WASHINGTON

(Continued from page 244)

grams. These came from 554 school districts and involved a proposed expenditure of \$283 million, two thirds of which would be borne by the federal government.

How Much Steel for Building?

Structural steel shortages continued to be the greatest threat to an even progress of building plans in the commercial and industrial fields. The control agencies have been urging the redesign of plans that call for any extensive use of structural steel and recently Manly Fleischmann, National Production Authority administrator, came out with the flat assertion that all structural steel would be under strict regulations by the first of 1952.

In off-the-cuff remarks to the press, which later were given quote permission, Fleischmann said the growing defense demands for structural shapes brought on the important NPA decisions.

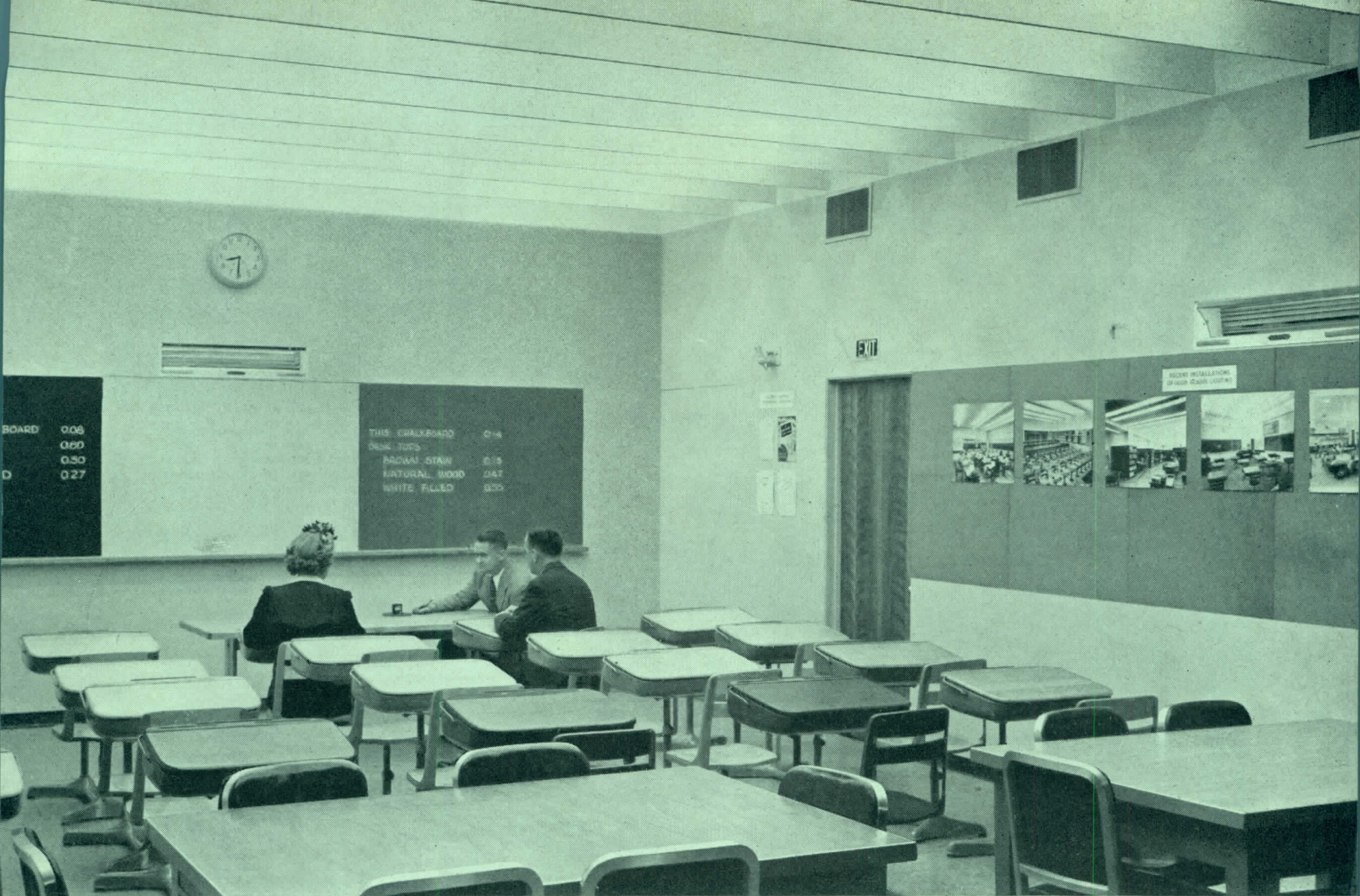
He asserted that public works projects would feel the pinch along with other types of building. At the same time, he recalled the letter written by Mobilization Chief Wilson to Governor Thomas E. Dewey of New York, telling the latter that no steel could be expected for new highway construction during the year ahead. This, of course, excepted any strictly essential projects, such as access roads to military and defense installations, and probably a certain amount of work on the interstate highway system.

"The lid will have to be put on most public works projects for the time being," the NPA Administrator said. This included schools and hospitals, he was careful to point out, except for those deemed "most essential."

How to Appeal Permit Denials

In another current move, NPA established a new appeals procedure which directly affects architects and contractors and their applications for permission to build. A three-man board has been named to hear appeals for adjustments arising from denial of applications by NPA industry divisions. Chairman is T. Munford Boyd, University of Virginia law professor. The others are Frank J. Peterson and Jack M. Rorimer,

(Continued on page 248)



Better Ballasts Mean Better Lighting

For more light per lamp, more light per watt
 make sure your fixtures are powered by
General Electric Fluorescent ballasts.

QUALITY COSTS LESS

Fluorescent lamps are designed for starting and operating at specific values of electrical power. When these values are accurately maintained by a quality ballast, the ratio of light output to power input is high—you save money because the lamp is operating at peak efficiency. Improper operation with a poor ballast means *lower* light output, and *shortened* lamp life.

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More light output from fixtures powered by G.E. Ballasts means initial investment is less to obtain the

same level of light. Longer lamp life means a yearly saving on maintenance and replacement costs. More efficient operation means a saving in power costs for the same light output.

ASK FOR THIS TAG ON THE FIXTURES YOU SPECIFY. It is your assurance of ballast quality. It means you are specifying a fixture made by a fixture manufacturer who builds with the best. General Electric Company, Schenectady 5, N. Y.



GENERAL  ELECTRIC

both former War Production Board officials.

It is important to note that the new board will hear appeals from industry division decisions only when the concern or individual has no new substantial facts to submit in connection with his case. If he has such new facts, additional data at hand to support his cause, he then applies once again to the industry division of NPA concerned, asking re-

consideration of his plea. The responsible industry division then will act on the re-application, NPA officials stated.

The following ground rules were laid down:

1. Appeals must be filed in quadruplicate with the secretary of the NPA appeals board, office of the administrator, National Production Authority, U. S. Department of Commerce, Washington 25, D. C.

2. The notice must include the nature of the NPA action appealed from, grounds for appeal, and copies of documents on the NPA action.

3. It must state whether a hearing before the board is desired and must be filed within 45 days after the NPA decision is made on the initial application for adjustment.

4. Re-application must be submitted within 30 days after date of the NPA decision. The cut-off date of May 25 was established for filing re-applications where decisions already had been made by industry divisions at the time of the new appeals board announcement.

The board meetings were to be thrown open to the public in every instance where national security and other controlling factors permitted. Decision on whether meetings will be public or private will rest with the appeals unit itself. And the board also will decide whether or not industry division representatives, persons from other government agencies, business competitors and others claiming interest in the specific case appealed may take an active part in the hearing.

BRAB Forms Liaison Unit

The Building Research Advisory Board announced formation of a new Building Research Institute. This group will act as a liaison organization between the construction industry and BRAB. Its province will be confined to consideration of technical problems of industry only. It will not deal with policy matters, said William Scheick, BRAB executive director.

Institute memberships now are available under five classifications — manufacturers, contractors, associations, participating memberships and professional memberships. A sliding scale applied to annual dues makes it possible for a building industry organization to have additional representatives present at BRI meetings.

The following opportunities for new Institute members were outlined by BRAB:

1. Members will be kept informed on research developments in the building industry. This information will be released to members by a special bulletin and publications and will help keep them abreast of research activity effecting their businesses.

2. Members can participate in meetings sponsored by Institute, at which

(Continued on page 250)

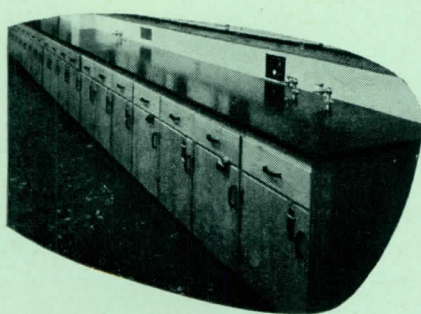
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Technical excellence in functional design, in engineering and construction, in quality and value. KEWAUNEE excellence —through and through. The big reason why Technical Institute, Long Beach, Cal., selected Kewaunee equipment for its new science laboratories.

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Quantity production of Cabinets, Casework, Laboratory Desks, Tables and Stks enables us to supply Kewaunee quality at competitive prices.

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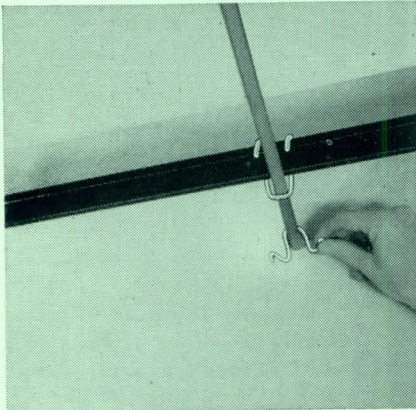
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SUSPENDED CEILINGS of GYPSUM LATH and PLASTER

now easy with Gold Bond's CLIP-LOK System

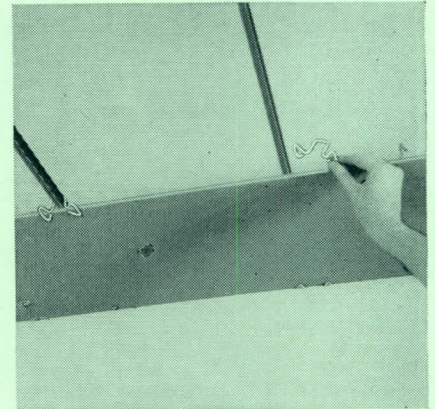
It may be applied to any suspension of 3/4" cold-rolled channels not over 16" on center.



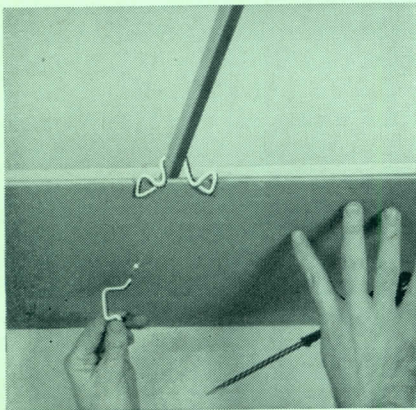
1. Here is the first step in installing an economical ceiling with the new Gold Bond Clip-Lok System. "F" starter clip is placed over 3/4" furring channel at wall line. Note Gold Bond Hairpin Clip joining channels.



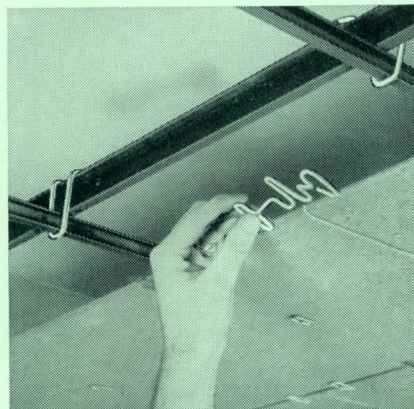
2. Now a piece of Gypsum lath is engaged by the starter clips. Plain or perforated 3/8" Gold Bond gypsum lath may be used. Handy clip cartridges are attached to lather's belt. Clips are made of strong wire.



3. Here the free side of the lath is supported by spring action "F" channel clips. They encircle the furring channels and provide a positive grip of lath to channel. Fast applying, no bending of clip required.



4. The center of the lath panel is permanently secured to the furring channel by the "Z" clip. This clip is pushed through the lath and locked over the channel. Holes can be punched with screwdriver or with the clip itself.



5. Ends of the lath fall between channels and are secured to one another by means of the flexible spring-type "C" connector clip. Completed lathing is rigid, providing a sturdy base for an economical application of 1/2" thick two coat plaster work.



Specification of this Gold Bond Clip-Lok System with Gold Bond gypsum lath permits contractors to build suspended ceilings that might otherwise be held up for lack of critical materials. Ask your local Gold Bond representative for more details, or write us.

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Gypsum Lath, Metal Lath and Accessories, Plaster, Lime, Best Bros. Keene's Cement, Acoustical Plaster, Sheathing, Wall Paint and Rock Wool Insulation.

they can suggest research projects for BRAB to undertake. Further, these meetings will offer members the opportunity to come in closer touch with other building industry people for the solving of mutual problems.

3. Members will be in a position to stimulate research work in those fields which they feel are neglected.

4. Members can add their opinions to the consensus of knowledge offered by

BRAB as research advisory service to the government, industry and university research programs.

Reginald W. Holt has been designated as director of BRAB's field service and in that capacity will further the activities of the new Institute, providing information and a point of contact for potential members.

Director Scheick has explained that BRAB is uncovering many examples of

duplication in research effort as it continues to scan the entire field. His program now has developed to the point where industry, in checking with BRAB, can readily determine in most cases just what research has been done, is being done, or is planned on specific subjects.

BRAB Plans Tropical Study

A study group appointed by Chairman Hovde is now at work on an outline of functions for BRAB's recently established Committee on Tropical Housing and Construction.

The study group, which is also considering names for committee membership, consists of Dean W. R. Woolrich, of the School of Engineering of the University of Texas, as chairman; Ralph Walker, immediate past president of the American Institute of Architects; and George Rapp of BRAB.

Dean Woolrich has suggested that the new committee might be composed of three unit groups centered in California, Texas and Florida, which together would constitute a full committee. It has also been suggested that as organization of the committee progresses there might be good reason to initiate its activities with a research correlation conference on the subject.

Appointment of the Tropical Committee was authorized by BRAB at its February 15 meeting. At that meeting, Dean Woolrich outlined the need for stimulation of research on this subject. He pointed out that the Southern portions of the United States from Florida to California have virtually a subtropical climate and one of the largest population groups living under such conditions. Most research on influence of climate on building has been done for "cold" areas.

ON THE CALENDAR

Current through June 8: 1951 Canadian International Trade Fair — Exhibition Grounds, Toronto, Ont.

Current through Sept. 30: Festival of Britain, including architectural exposition on main exposition grounds, south bank of Thames, London — London and throughout British Isles.

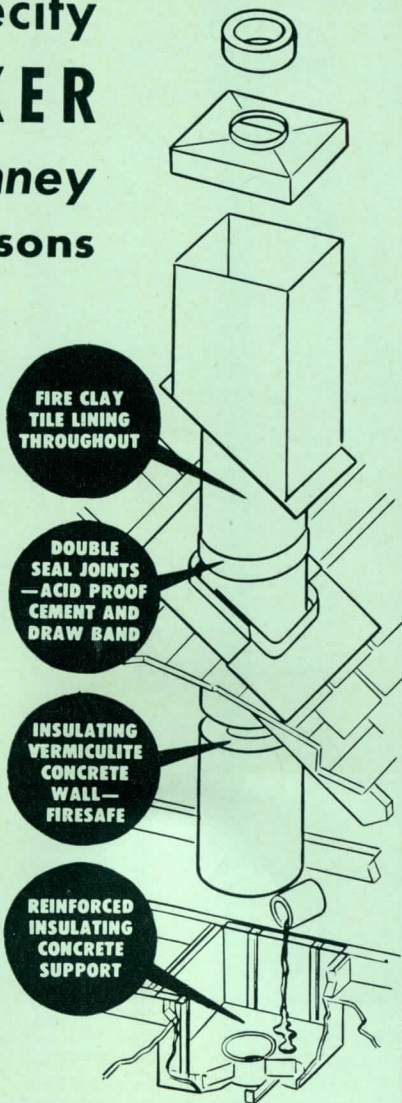
Current throughout 1951: 1951 Good Design, second in the series of well-designed home furnishings exhibitions, sponsored by the Museum of Modern

(Continued on page 254)

**Architects Specify
VAN-PACKER
Complete Chimney
...for these 7 reasons**

1. There's greater freedom in planning. A Van-Packer installation eliminates the necessity of locating the furnace near the fireplace at one end of the house. Instead the heating plant can be centrally located where it will operate with the greatest efficiency.
2. The architect knows the exact installed cost of a Van-Packer complete chimney without "guesstimating". He can save up to 50% compared to brick construction and pass these economies on to the buyer.
3. Van-Packer is easily installed in 3 man-hours or less.
4. Van-Packer develops sufficient draft for heating plants designed to serve homes of ten rooms or less. Underwriter and F.H.A. accepted for all fuels.
5. **Maximum Heater Output for Van-Packer 7" I. D. Flue**

20' Floor Suspended		10' Ceiling Suspended	
Coal	250,000 B.T.U.	Coal	150,000 B.T.U.
Oil	300,000 PER HOUR	Oil	200,000 PER HOUR
Gas	500,000 PER HOUR	Gas	450,000 PER HOUR
6. Valuable floor space is saved as a Van-Packer chimney can be hung from the ceiling.
7. The Van-Packer Chimney is nationally distributed through reliable heating and building material jobbers. Availability and immediate delivery assure you that Van-Packer will be on the job when it's needed.



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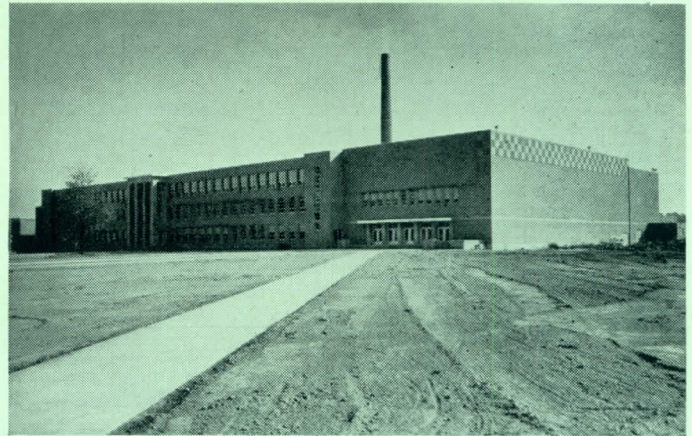
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sturdy, easy to clean...



Veltone is here, in the efficiently planned visual education room in the Euclid Senior High School, Euclid, Ohio.

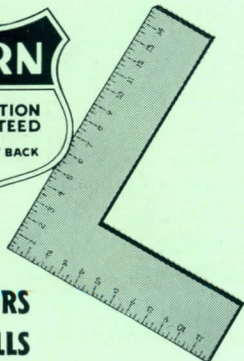


2. The new impressive-looking Euclid Senior High School, a fine example of current trends, incorporates every sound modern idea for a handsome and efficient education building.



3. Notice the striking decorative effect achieved by the linoleum border in this double room. The room can be adjusted to various uses by closing or opening the flexible partition.

Nairn Linoleum!



For FLOORS
and WALLS

- 1. Long Life**
- 2. Enduring Beauty**
- 3. Easy Maintenance**
- 4. True Resilience**



4. Quiet counts in a floor in a library—and here is Nairn Veltone in the well lighted, roomy, comfortable library at Euclid Senior High School.

THE RECORD REPORTS

(Continued from page 250)

Art and The Merchandise Mart — The Merchandise Mart, Chicago.

June 6: Annual Meeting, Indiana Society of Architects.

June 6-21: Antique Dealers' Fair — Grosvenor House, Park Lane, London.

June 14: Final Gold Medal Dinner — The Architectural League, 115 E. 40th St., New York, N. Y.

June 15-16: Spring Meeting, Virginia Chapter, American Institute of Archi-

tecs — Hotel Chamberlin, Old Point Comfort, Va.

June 18-22: Annual Meeting, American Society for Testing Materials — Chalfonte-Haddon Hall, Atlantic City.

June 20-July 15: "Modern Relief," an exhibition including actual bronzes in relief by Maillol, Arp, Callery, Lipchitz and others, as well as photographs of work by other modern artists showing reliefs in their architectural settings —

Museum of Modern Art, 11 W. 53rd St., New York City, and circulating.

June 21-23: Conference of Middle Atlantic District, American Institute of Architects, in conjunction with Second Annual Convention, New Jersey Chapter, A.I.A., and New Jersey Society of Architects — Berkeley-Carteret Hotel, Asbury Park, N. J.

June 21-24: Sixth Midyear Meeting, Building Industry Employers of New York State — Whiteface Inn, Lake Placid, N. Y.

June 24-27: 1951 Conference, National Industrial Advertisers Association — Waldorf-Astoria Hotel, New York City.

June 25-29: Summer General Meeting, American Institute of Electrical Engineers — Royal York Hotel, Toronto, Ont.

July 1-Sept. 1: Fountainebleau School of Fine Arts and Music. Details available from: Fountainebleau Association, 122 E. 58th St., New York City.

July 4-Sept. 3: Exhibition of Frank Lloyd Wright Johnson Wax Company buildings in color reproductions at the Museum of Modern Art, New York City, has been postponed. New dates to be announced.

July 21-Aug. 4: Oxford Summer School on Architectural History and Measured Drawing, held in connection with the Festival of Britain. Details available from: J. Brosgall, Shire Hall, Reading, England.

Aug. 2-5: Midsummer Conference, Michigan Society of Architects — Grand Hotel, Mackinac Island, Mich.

Aug. 13-25: Special Summer Course in Swedish Decorative Arts and Architecture — Swedish Institute, Kungsgatan 34, Stockholm 3, Sweden.

Aug. 14-16: National Conference on prestressed concrete — Massachusetts Institute of Technology, Cambridge, Mass.

Aug. 20-23: Pacific General Meeting, American Institute of Electrical Engineers — Multnomah Hotel, Portland, Ore.

Aug. 27-30: National Technical Conference, Illuminating Engineering Society — Hotel Shoreham, Washington, D. C.

Sept. 1-Oct. 6: Architects' Fall Trek to Europe under leadership of Clair W. Ditchy, F.A.I.A.

Sept. 11-20: Building Research Congress, with headquarters at Institution of Civil Engineers, London. Details from: The Organising Secretary, Build-

(Continued on page 256)



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FOR BETTER CORRIDORS

ALL WALLS TILED WITH
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In Hospitals, Schools, Public Buildings of all kinds, ROMANY Real Clay Tile not only assures attractive appearance, but provides a most durable wall covering that is easiest to clean, easiest to keep sanitary. ROMANY enjoys the fullest confidence of leading architects and contractors. No better tile is available. ROMANY is worthy of your specification by every evaluation.

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—the silent, fingertip flush door
for passage ways and closets

—developed through two years of
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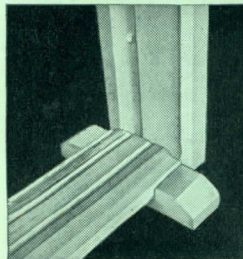
This is a hollow core, flush door—regularly sold in unselected gum, paint grade—which can be painted or stained for many beautiful effects—Black Walnut, African Mahogany, Birch, Red or White Oak.

Nova Roller Doors are light, strong and warp-resistant. They are ideal for closets, basement storage, garage storage, storage walls and removable partitions.

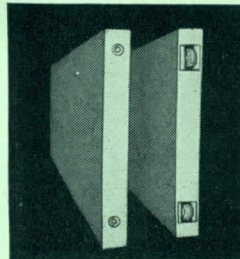
The closet may be one of the standard sizes—or extend the width of the room. Two or more doors enclose it entirely. Instead of opening only part of the closet, as with a swinging door, you have full access. And—you don't waste the valuable floor space needed to accommodate a swinging door.

The Nova Roller Door comes cartoned with special side jambs, head and floor tracks and all hardware installed. In less than one hour's time, one man makes the complete installation. *Nine standard opening sizes: 32", 36", 40", 48", 56", 60", 72", 84", and 96". Three standard heights: 6'0", 6'6" and 6'8".*

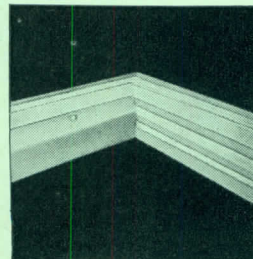
We urge you to write today for the full details. *Kindly include the name of your lumber dealer.*



The oak floor track, laid on the finished floor, sets the proper distance between jambs at the bottom. Note rubber bumper on jamb.



Revolving roller guides operate in head track; vulcanized rubber rollers in floor track — assuring silent, fingertip control.



Side jamb (left) is routed to receive the door; head track (right) is accurately machined for perfect operation of revolving roller guides.

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ing Research Station, Bucknalls Lane, Garston, Watford, Herts, England.

Sept. 23-30: Second Annual Congress, Union Internationale des Architectes — Rabat, Morocco.

Sept. 29-Oct. 9: Building and Decoration Exhibition, sponsored by N. V. Standaard Boekhandel — Antwerp, Belgium.

OFFICE NOTES

Office Openings

• Gordon Ryan Arnott, Architect, M.R.A.I.C., has announced the opening of his own office for the practice of architecture at 3-611 Seventh Ave. W., Cal-

gary, Alberta, Canada. Mr. Arnott was formerly with Rule, Wynne & Rule, Architects.

• Alfred Clauss, formerly with George Daub, Architect, of Philadelphia, has opened his own office for the practice of architecture in Wallingford, Pa.

• M. Warner Kley, former head of the department of store planning and design in the New York office of Raymond Loewy Associates, has announced the opening of architectural offices at 50 E. 86th St., New York City. Mr. Kley, who had been with Raymond Loewy since 1940, earlier was consulting architect to the U. S. Public Buildings Administration in the design of the War Department Building, now used by the State Department, and was also responsible for the design of the federal buildings at the New York World's Fair.

• Alvin Lustig announces the opening of his office for the practice of design at 16 E. 40th St., New York 16, N. Y.

New Firms, Firm Changes

• Biberstein & Bowles, Inc., Architects & Engineers, have announced a change in the corporation's name to Biberstein, Bowles & Meacham, Inc. Offices of the firm are at 1600 Elizabeth Ave., Charlotte, N. C.

• A. F. Bordleau and James B. Pannell have formed a partnership to be known as Bordleau-Pannell, Architects, with offices at 410 8th St. N., P.O. Box 1163, Great Falls, Mont.

• Ramey, Himes & Buchner, Architects, have announced that the firm will now be known as Ramey and Himes, Architects, with offices at 1206 E. Waterman, Suite 210, Wichita 2, Kas. Mr. Buchner has established his office at Tulsa, Okla.

• Walter Sanders and Arthur Malsin announce that Don Reiman has become a partner in the firm, which will be known as Sanders, Malsin & Reiman, with offices at 1 E. 42nd St., New York City, and 309 S. State St., Ann Arbor, Mich.

• Richard L. Tully, A.I.A., and Frederick H. Hobbs Jr., A.I.A., have announced the formation of a new partnership for the practice of architecture. The firm will be called Richard L. Tully and

(Continued on page 258)

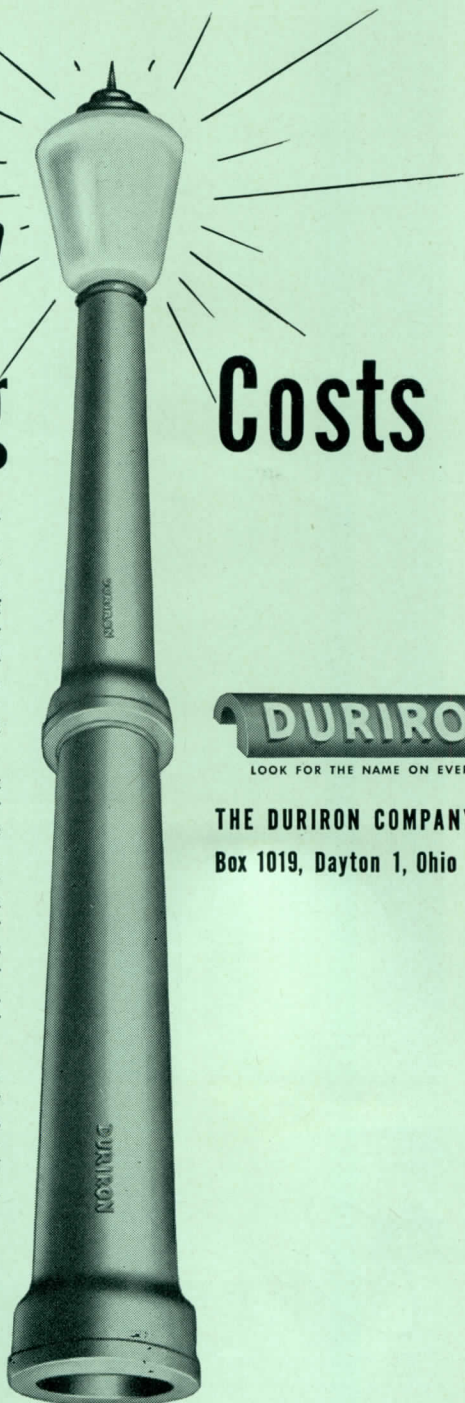
Let's shed a little light on

Piping Costs

When installing drain pipe for handling corrosives, there are three cost factors to consider: (1) the original cost of the pipe, (2) the labor cost of installation, and (3) the number of times, in the life of the building, these costs will occur.

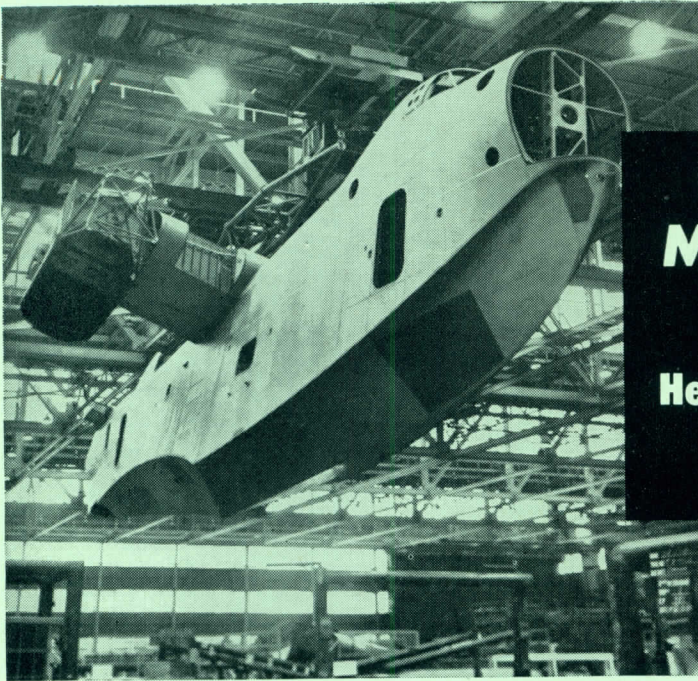
With non-permanent pipe, replacement may be necessary if corrosive conditions are severe. With DURIRON acid-proof drain pipe, which does cost more, the labor cost of installation is exactly the same as for less permanent pipe . . . and this money never has to be spent again.

This permanence offers long-term economy . . . the kind that makes your service most valuable. Specify DURIRON Acidproof Drain Pipe. Write for full details.



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Designed and built by The Glenn L. Martin Co. for destruction of enemy denizens of the deep, this P-5M-1 Marlin anti-submarine sea-plane is one of many being readied for use by the U. S. Navy.

Over 90,000 sq. feet Glazed in Three Exposures in Glenn L. Martin Buildings

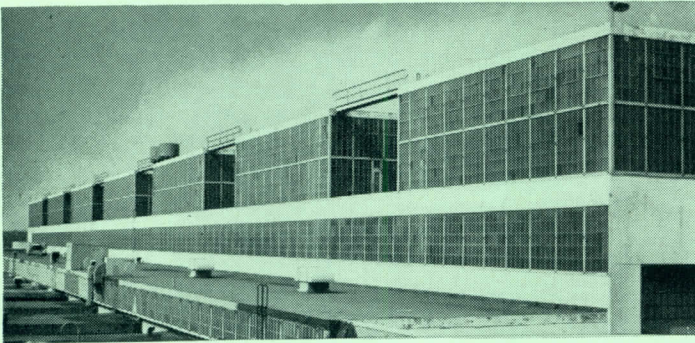
Appreciation of the vital role played by regulated daylighting in keeping production at high level prompted management of The Glenn L. Martin Company to explore thoroughly the advantages of heat absorbing and glare reducing glass for its huge plant in Baltimore, Md.

Following conclusive tests, Coolite was specified in "B" and "C" buildings where it has since demonstrated its ability to control sunlight and solar heat to meet exacting requirements.

According to Martin Company executives, Coolite, Heat Absorbing and Glare Reducing Glass admits maximum natural light while excluding blinding sun rays that cause eye fatigue and lead to inefficiency and production declines.

In buildings glazed with Coolite, glare reduced, there have been no complaints from workers due to sunlight glare. Yet on bright days electric lights can be completely shut off in the final assembly areas. As a result, the company considers Coolite glass indispensable in all the south, west and east exposures of its buildings.

Like many others you too may find that whether used in new construction or modernization, Coolite, Heat Absorbing and Glare Reducing Glass can provide increased efficiency and economy. For details, see your nearby Mississippi Glass distributor.



West elevation of The Glenn L. Martin Co's "B" building glazed with Coolite, Heat Absorbing and Glare Reducing Glass.



Interior view of Coolite in a southern exposure. Note even distribution of soft, comfortable daylight.

Rolled, Figured and Wired Glass by Mississippi is "Visioneered" for better daylight illumination. Available in a variety of patterns and surface finishes, all scientifically designed to distribute light to best advantage.



Send for free catalog, "Coolite Heat Absorbing and Glare Reducing Glass." Samples on request.



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THE RECORD REPORTS

(Continued from page 256)

Frederick Hobbs Jr., Architects, and offices are at 582 Oak St., Columbus 15, Ohio. The partnership of Tully, Hobbs & Hansen, Architects, has been dissolved.

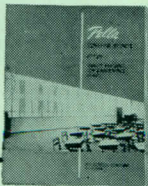
• Richard E. Dougherty, former vice president of the New York State Realty & Terminal Company, in charge of Grand Central Terminal real estate, has

left New York Central to engage in private practice as a consulting engineer. He will act as consultant for the firm of Seelye Stevenson Value & Knecht, consulting engineers, and will have offices with them at 101 Park Ave., New York City. Mr. Dougherty was president of the American Society of Civil Engineers in 1948 and president of Engineers Joint Council in 1949.



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VENETIAN BLINDS

Neat, efficient Pella Venetian Blinds are the logical choice in blinds for commercial and institutional use because Pella's many quality features minimize maintenance problems. Highest standards in the selection of materials, ingenious designing and expert workmanship combine to make Pella Venetian Blinds the preferred choice of architects today.



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New Addresses

The following new addresses have been announced:

Altenhof and Bown, Architects, 1226 Park Bldg., 351 5th Ave., Pittsburgh 22, Pa.

Barovetto and Thomas, Architects, 718 Alhambra Blvd., Sacramento, Calif.

Jorge Christlieb, Architect, Salvatierra 65, Mexico, D.F., Mexico.

H. C. Clepper, Architect, 5316 Ellsworth Ave., Pittsburgh 32, Pa.

Arthur Deimel, Architect, Jamestown Rd., South Charleston, Ohio.

O. J. Gette, Architect, 18 S. Broadway, Yonkers, N. Y.

Arthur Heeney, Jr., Architect, 262 Beresford Ave., Toronto, Ont., Canada.

Jyring & Jurenes, Architects, 1932 5th Ave. E., Hibbing, Minn.

Damon Runyan, Consulting Engineer, 8592 W. Colfax, Longmont, Colo.

Weneslao A. Sarmiento, Architect, Camana 631, Of. 611, Lima, Peru, South America.

George Herbert Smith, Architect, 440 Franklin St., Buffalo 2, N. Y.

Walter Wisznia, Architect, 2709 Swantner Dr., Corpus Christi, Tex.

Victor L. Wulff, Architect, 1526 W. Riverside Ave., Spokane, Wash.

York Engineering and Construction Co., 951 Penn Ave., Pittsburgh, Pa.

Hare and Hatch, Architects, 125 Broad St., New York 4, N. Y.

AT THE COLLEGES

Institute for Urban Studies Is Founded at Pennsylvania

Basic research on cities and their problems generally and community service through specific studies of the Philadelphia area are the dual aims of the University of Pennsylvania's new Institute for Urban Studies.

The Institute has been formed of faculty members drawn from many departments of the University. Its work will begin at the start of the school year next September, when the University's program of professional instruction in city planning also will be inaugurated.

Forming the nucleus of the Institute will be the faculty of the University's new Department of Land and City Planning. Robert B. Mitchell has been named chairman of the Department, professor of city planning and director of the Institute programs. Mr. Mitchell, who was

(Continued on page 260)



New Apartment Hotel in New York — This 15-story-plus-penthouse apartment-hotel, occupying the west blockfront of New York's Madison Avenue between Sixty-first and Sixty-second Streets, is known as The Carlton House. It has 166 apartments, each equipped with serving pantry and service vestibule. It has a cocktail lounge, men's bar, and dining facilities. In some respects The Carlton House is patterned after the old Ritz-Carlton Hotel, and it has virtually the same staff which operated that famous structure. Its limestone and red-brick exterior covers a steel framework of Bethlehem Structural Shapes. *Contractor:* John Lowry, Inc., New York; *Architect:* Kenneth B. Norton, New York; *Structural Engineer:* Sydney Frieman, New York; *Steel Fabricator and Erector:* Lehigh Structural Steel Co., Allentown, Pa.



THE RECORD REPORTS

(Continued from page 258)

from 1942 to 1948 executive director of the Philadelphia City Planning Commission, has been research professor at the Institute for Urban Land Use and Housing Studies, Columbia University. He was formerly head of the urban section of the National Resources Planning Board.

Also active in the program will be Dean G. Holmes Perkins of the School

of Fine Arts. Dean Perkins, who went to Pennsylvania last February from his post as chairman of the Department of Regional Planning at Harvard, was instrumental in establishing the new department and the Institute.

Others who will contribute to the new undertaking include Lewis Mumford, professor of regional planning, author of "Sticks and Stones," "Culture of Cit-

ies" and other works and for many years an architectural critic for the *New Yorker*, and Miss Blanche Lemco, as an instructor in city planning.

Dr. Eric A. Walker Is Named Penn State Engineering Dean

Dr. Eric A. Walker has been named dean of the School of Engineering at the Pennsylvania State College.

Doctor Walker, who has been executive secretary of the Research and Development Board of the Department of Defense, succeeds Dr. Harry P. Hammond, dean of the school since 1937. Doctor Hammond will retire with emeritus rank on September 1.

For the past year, Doctor Walker has been on leave from his position as director of the Ordnance Research Laboratory at Penn State and professor and head of the Department of Electrical Engineering at Penn State.

Dean Hammond had taught for 24 years at Polytechnic Institute of Brooklyn before his appointment to Penn State in 1937.

California Polytechnic Names Architect as Engineering Dean

Ralph B. Priestley, head of the department of architectural engineering at California State Polytechnic College, has been appointed dean of the school's Division of Engineering.

Mr. Priestley, a graduate in architectural engineering of the University of Illinois in 1936, has headed the college's department of architectural engineering since 1948.

Mr. Priestley was responsible for planning of the postwar building programs for Cuneo Press, Inc., one of the nation's largest printing companies.

Awards

• William Stoutenburg of the University of Illinois, Urbana, Ill., has been awarded the 1951 Lloyd Warren Scholarship, representing the 38th Paris Prize in Architecture.

The award, announced by the Committee on Scholarships of the Beaux-Arts Institute of Design, carries a stipend of \$5000 for study of architecture abroad and in the U. S. Kirk R. Craig of Clemson Agricultural College, Clemson, S. C., was named as alternate.

The award is based on a nationally conducted competition in three stages.

(Continued on page 262)

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With Premium Quality, Grease Resistant

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The through-and-through beauty of AZPHLEX grease-resistant asphalt tile won't fade or wear away, even after years of hard and constant service. Pigmentation is all the way through every tile, from top to bottom—protected by the tough, fine texture that gives AZPHLEX its remarkable resistance to indentation and abrasion.

AZPHLEX demands nothing more than routine maintenance to keep its new-floor beauty through many long years.

Highly Resistant

to greases, fats, oils, soaps and compounds

Tough Surfaced

for increased resistance to indentation and abrasion

Wide Color Range

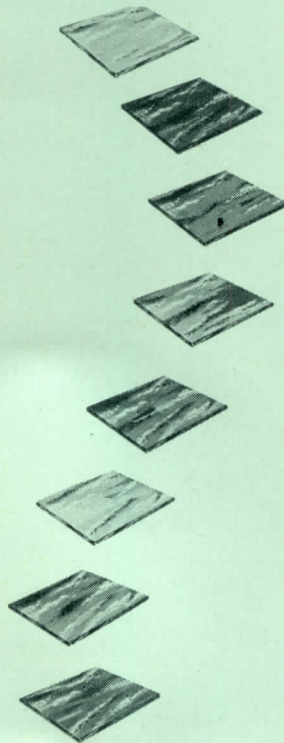
15 clear, permanent colors

Moderate Price

is only a few cents more a square foot than ordinary asphalt tile

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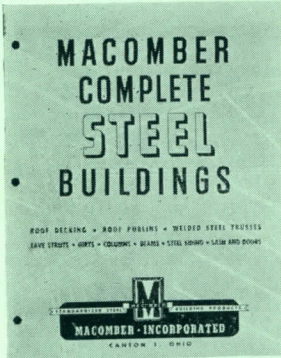
SEE SWEETS' 1951
CATALOG FOR
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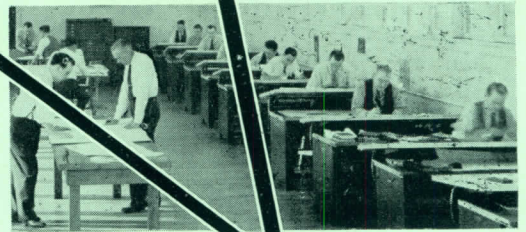
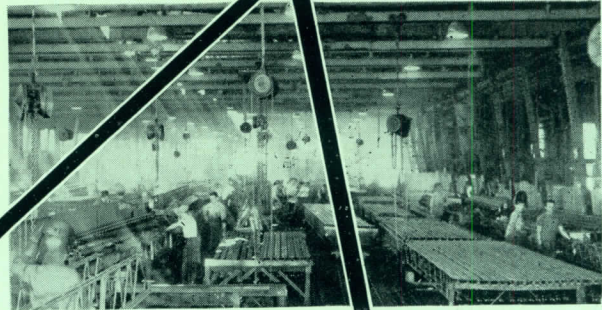
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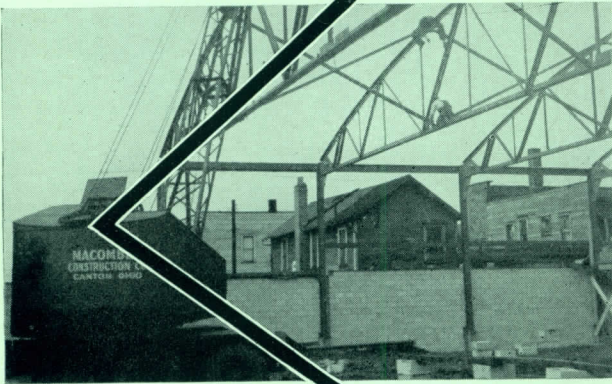
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Men, long in the construction industry, like the way Macomber handles **THE STEEL**. Call us.



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V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

THE RECORD REPORTS

(Continued from page 260)

Subjects of this year's competitions were a college art museum (24 hours), a furniture showroom (48 hours) and a bus terminal (one week).

- Ludwig Mies van der Rohe, director of the Department of Architecture at Illinois Institute of Technology, has been awarded an honorary doctor of engineering degree by the Technische Hochschule of Karlsruhe, Germany. The degree was

presented at ceremonies in Chicago by Konrad Wachsman, professor of advanced building research at Illinois Tech's Institute of Design.

- David B. Steinman, engineer who designed the Triborough and Henry Hudson bridges in New York City and the Thousand Islands International Bridge across the St. Lawrence River among many others, has been awarded the



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ARCHITECTS and their engineers are invited to make full use of the experience of RCA Sound System engineers and the great RCA research and engineering laboratories, in planning and engineering sound systems.

You can get practical help on sound systems for every type of building: Schools . . . Hospitals . . . Hotels . . .

Factories and Offices . . . Churches . . . Department Stores . . . Airports and Terminals . . . Warehouses and Garages . . . Auditoriums . . . Recreational Centers . . . Institutions . . . Stadiums.

Call on RCA Sound System engineers while your plans are still in formative stage. *No obligation, of course.*



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Please have one of your sound system engineers call on us.

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STATE _____

Egleston Medal for 1951 by the Engineering School Alumni Association of Columbia University.

Faculty Appointments

- The Department of Architecture of the University of Pennsylvania School of Fine Arts has announced the following additions to its staff: Robert L. Geddes, instructor; Leon Loschetter, assistant professor; Mrs. Matthew Nowicki, assistant professor in charge of a new course in basic design.

- Among promotions recently announced on the faculty of the Massachusetts Institute of Technology were these: Lloyd Rodwin, department of city and regional planning, from assistant professor to associate professor; Werner H. Gumpertz and Herman C. Fischer, both of the department of building engineering and construction, and Robert B. Newman of the department of architecture, to the rank of assistant professor; and Frederick J. McGarry, department of building engineering and construction, to the rank of instructor.

ELECTIONS APPOINTMENTS

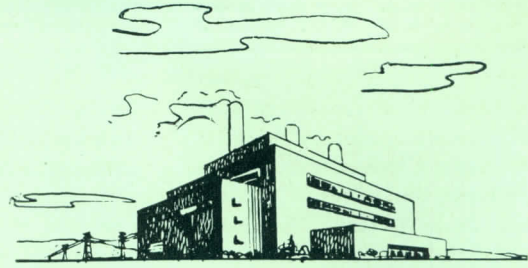
- The following architects have been elected to associate membership in the National Academy of Design: Alfred Geiffert Jr., New York; Albert Harkness, Providence, R. I.; George Howe, New Haven; Frederic R. King, New York.

- Wallace K. Harrison, Architect, was among five new trustees recently elected by the Twentieth Century Fund, a non-profit foundation for scientific research and public education on current economic problems.

- Carlton S. Proctor of New York has been nominated for 1952 president of the American Society of Civil Engineers. Mr. Proctor, a member of the consulting firm of Moran, Proctor, Freeman & Mueser, is chairman of the Construction Division of the United States Chamber of Commerce.

- Appointment of I. W. Cotton, president of the I. W. Cotton Co., Inc., of Indianapolis, Ind., as chairman of the committee on research of the American

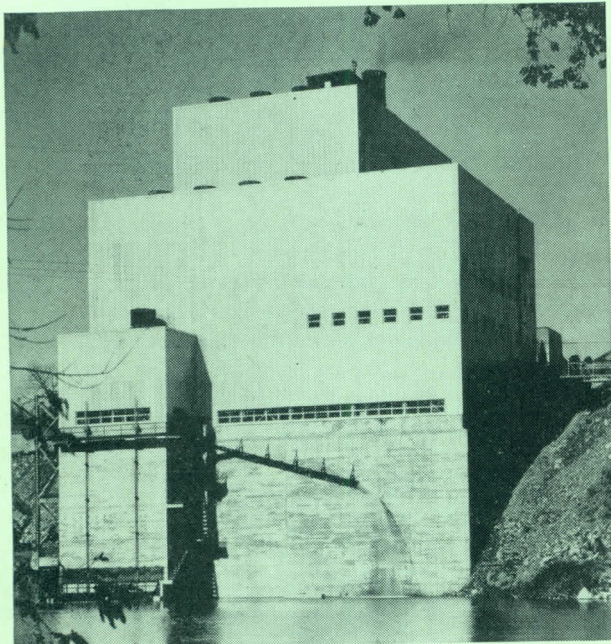
(Continued on page 264)



Q-PANELS

PERFECT FOR POWERHOUSES

Northern Virginia Power Co., Riverton, Va.
 Designed and built by Sanderson & Porter, Inc. Chapman, Evans
 & Delahanty, Associate Architects.



Every feature of a Q-Panel is a desirable feature for powerhouse construction . . . which explains why Q-Panels have captured the powerhouse market.

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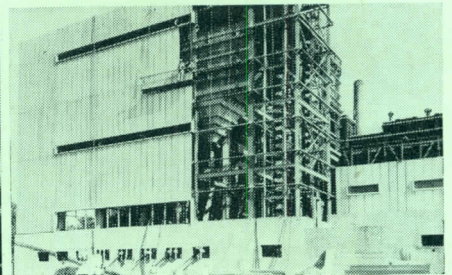
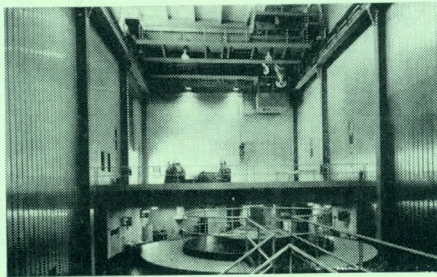
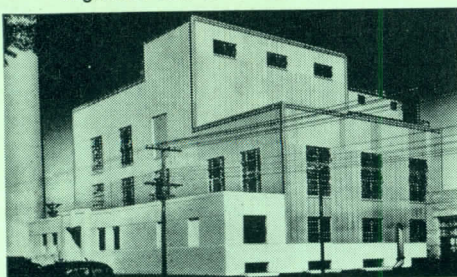
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Note clean, quick, dry, safe,
 curtain-wall construction.



(Continued from page 262)

Society of Heating and Ventilating Engineers has been announced by President Lauren E. Seeley. The committee plans and supervises the society's research program at its laboratory in Cleveland and at cooperating colleges and universities where the A.S.H.V.E. has made a grant of funds or established a fellowship. Richard S. Dill, chief of the Heating, Ventilating and Air Conditioning

Section, National Bureau of Standards, Washington, D. C., was reappointed vice president of the committee.

- Herbert M. Leppich has been named project engineer for construction of the chemical processing plant at the Reactor Testing Station and Idaho Operations Office of the Atomic Energy Commission.

- The Walker Art Center of Minneapolis has announced that William M. Friedman, assistant director, has been appointed acting director. D. S. Defenbacher, the director, is on leave of absence for one year from April 1.

- Commissioner Franklin D. Richards of the Federal Housing Administration has announced the appointment of David W. Cannon as state director for Utah, succeeding Gordon Weggeland, resigned, and the appointment of Patterson B. Walker as acting director for Kentucky to succeed Roscoe R. Dalton, who has also resigned.

- Vice Admiral John J. Manning (CEC), USN, Ret., has been elected president and director of James Stewart & Co., Inc., engineering and construction firm with offices in New York, Chicago, Washington and Dallas. He will be in charge of all operations of the 107-year-old organization, which was recently purchased by M. Seth Horne and Associates. Admiral Manning was formerly chief of civil engineers and chief of the Bureau of Yards and Docks of the Navy Department.

- Merritt-Chapman & Scott Corp. has announced three executive appointments of veteran employees: William Denny, to be vice president in charge of the company's Marine and Heavy Construction Division; Alfred M. Heaton, to the newly-created post of resident vice president, in charge of operations in the New England area; and Fletcher Martin, to the post of secretary.

- Faye Evans of New York, construction engineer, has been appointed vice president of John W. Harris Associates Inc., builders. Mr. Evans will be in charge of European operations for the Harris organization and will make his headquarters in France.

- Chairmen of six regional committees were announced recently by the National Constructors Association, an organization composed of firms engaged in the design and construction of chemical plants, steel mills and oil refineries on a large scale.

The chairmen and the companies with which they are associated are: J. F. O'Neill, Chemical Construction Co.,

(Continued on page 266)



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FOR
EXHIBIT
CASES
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These cases are designed for maximum visibility; to enhance the appearance of exhibits; to eliminate handling and theft as well as the ingress of dust, vermin and moisture. They are made in a wide variety of styles (table, aisle, wall, corner, suspended and recessed) and in any practical size to take care of virtually all exhibit requirements. If it is necessary to meet specific needs, Michaels will design and build special cases to your specifications. "Time-Tight" Cases are used extensively in museums, art galleries, libraries, universities, colleges, schools, clubs, banks, federal, state and municipal buildings, laboratories, institutions and various industrial and related types of display rooms. Write for literature.

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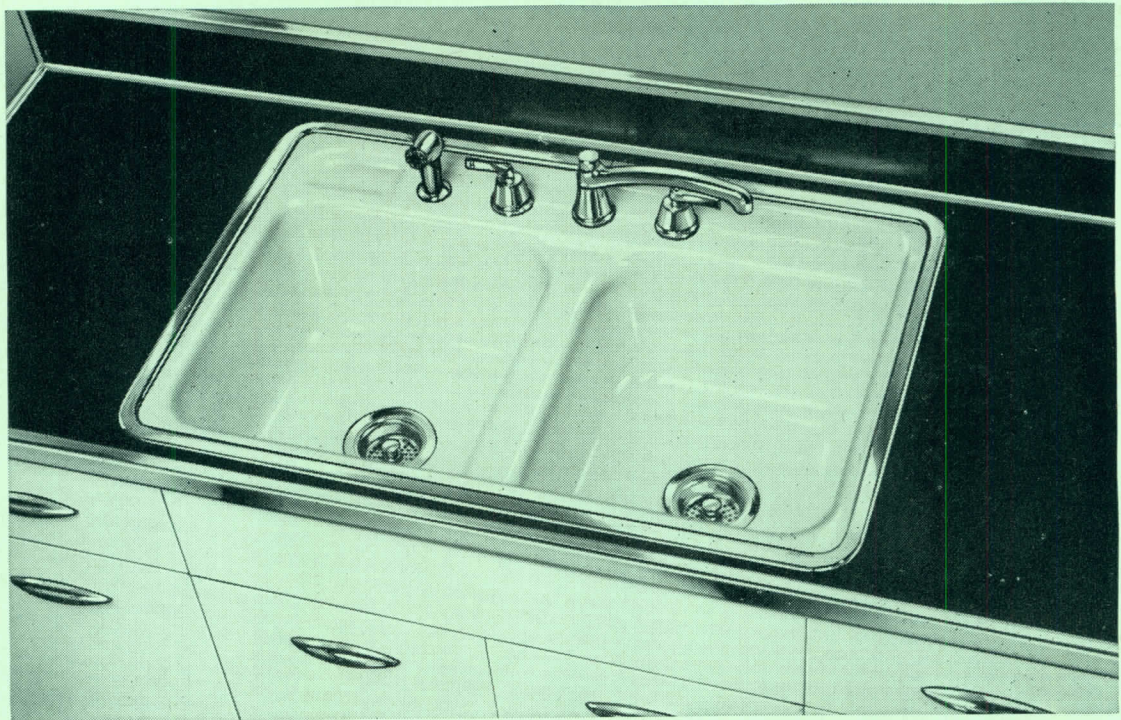
Michaels cases offer Innerlocking Frames, an exclusive feature; fully mitered intersections; no screws exposed on face of frames, and other structural advantages.

MUSEUM CASE DIVISION OF

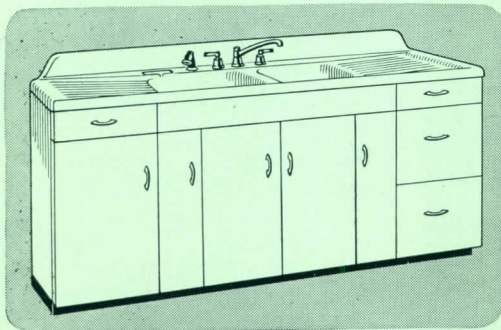
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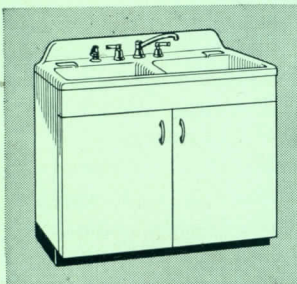




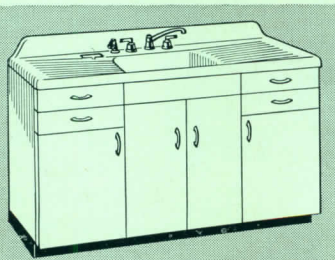
DELAFIELD K-5610-A.
32 x 21", 42 x 21".



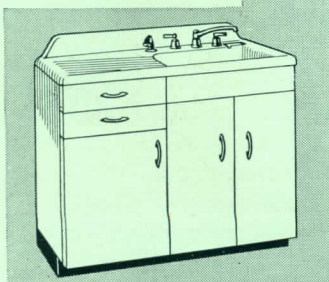
WILSHIRE K-5505-A. 60 x 25", 72 x 25".



WELLWIN K-5595-A.
42 x 25".



CAMBERLEY K-5555-A.
54 x 22", 54 x 25", 60 x 25".



CYMBRIA K-5576-A. 42 x 22",
42 x 25". (Sink at left, K-5575-A.)

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The Delafield, popular for average homes and apartments, has a flat rim for building-in, roomy basins; the Wilshire, Wellwin, Camberley and Cymbria offer choice of double or single compartment sinks with or without drainboards, in various sizes. All have convenient full-length ledges with integral soap dishes, swing spout mixing faucets, lever-control sprayers. Duostrainers with removable cups assure positive drain control.

Kohler sinks are of non-flexing iron, cast for rigidity, coated with acid-resisting, easy-to-clean enamel. Fittings are of chromium-plated brass, engineered for long life.

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AIR-COOLED ENGINES • PRECISION PARTS

(Continued from page 264)

East Coast Regional Committee; W. S. Scherffius, Koppers Co., Engineering and Construction Division — Great Lakes; L. N. Burke, Lummus Co. — Gulf Coast; J. E. Baugh, Ford, Bacon & Davis Construction Corp. — Mid-Continent; F. R. Stevens, Stone & Webster Engineering Corp. — Southeast; and J. F. O'Connell, Bechtel Corp. — West Coast.

AWARDS

• Two gold medals instead of the customary single prize were presented by the Architectural League of New York at its Gold Medal Mural Painter's dinner last month.

Dean Cornwell received one of the awards in recognition of his overall work

— “for his intelligent enhancement of many public buildings that has been carried out with brilliant draftsmanship and talent for inventive composition.”

Sante Grazziani of North Haven, Conn., received the other award, which has been presented only once before since it was established in 1909. Mr. Grazziani's medal was for his composition of a painting in the Museum of Fine Arts at Springfield, Mass. The citation praised the painting as having achieved “through the masterly organization of form, line and pattern, an elevation of spirit, and made it truly distinguished.” The painting shows grouped figures symbolizing the cultural activities of the community as sponsored by the museum.

Mr. Cornwell has executed murals for the Lincoln Memorial in California, the county courthouse of Nashville, Tenn. and the Eastern Air Lines Building in New York, among many others. Mr. Grazziani is an instructor at the Yale University Art School and dean of the Whitney School in New Haven. He has executed post office murals in Iowa and Ohio and is now at work on paintings for the public library in Holyoke, Mass.

Paintings of the two award winners and of six other artists who were finalists in the competition were on exhibit at the League for three weeks following the awards. Besides the winners, finalists were Pierre Bourdelle, R. H. Ives Gammell, Lucia Wiley, Lumen Winter, Joseph L. Young and Buell Mullen.

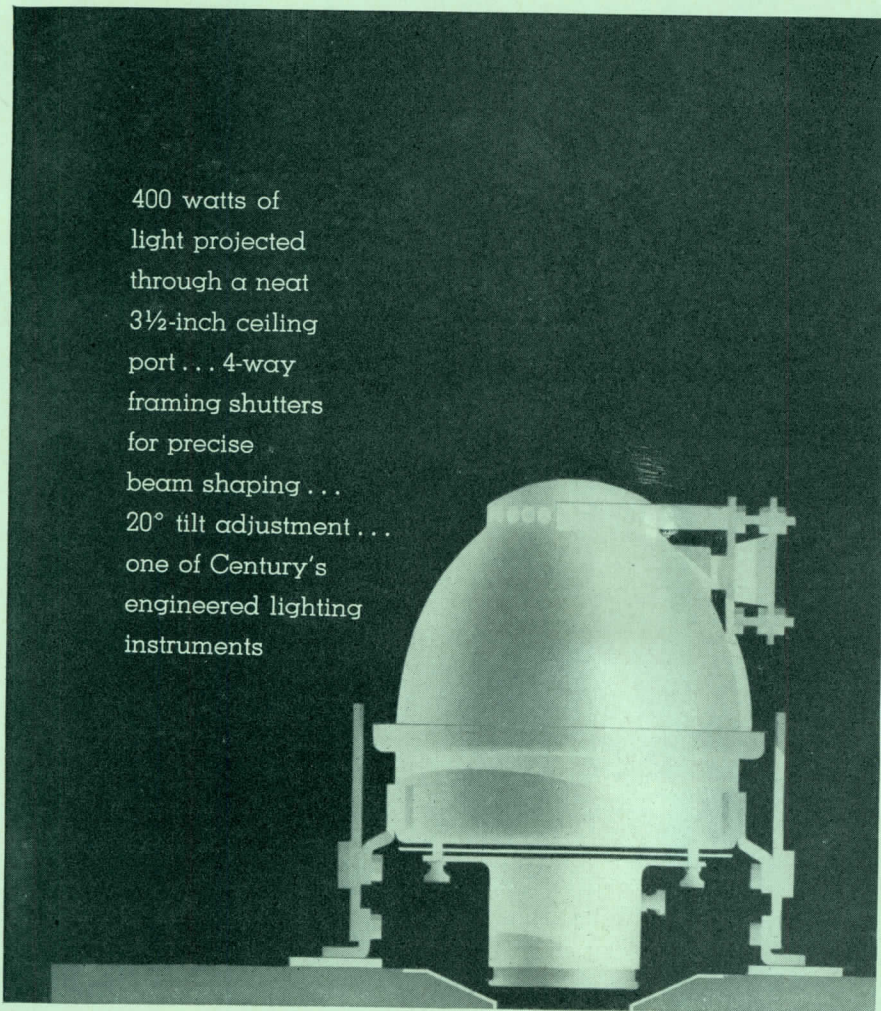
• The American Institute of Decorators gave four Citations of Merit in the 1950 version of the good design competition for home furnishings products it sponsors each year. No award was given in a fifth category — wallpaper.

Harry Lawenda of San Francisco won the furniture award for a sofa with iron frame and sponge rubber upholstery, executed by Kneeder-Fauchere, San Francisco. The floor covering award went to Virginia Hamill of New York, for a nylon Wilton weave broadloom carpeting, executed by Nye-Wait Co., Inc., Auburn, N. Y. Paavo Tynell of Helsinki, Finland, won the lighting award for a brass ceiling fixture imported by Finland House, New York. Karl Laurell of Poughquag, N. Y., designed and executed the winning material, a hand-loomed nylon, linen, silk and Cellophane casement fabric.

The awards were presented at a dinner at the 20th anniversary conference of the A.I.D. in Grand Rapids May 1. The

(Continued on page 268)

400 watts of
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through a neat
3½-inch ceiling
port... 4-way
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for precise
beam shaping...
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ANOTHER CASE OF *Copper where it Counts!*

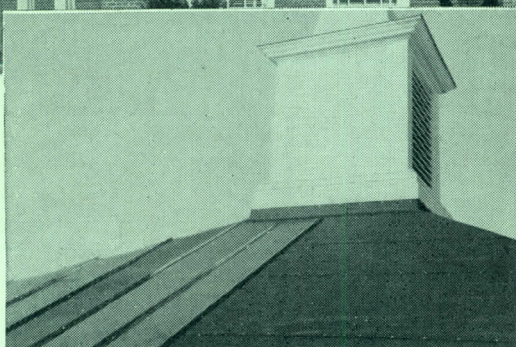
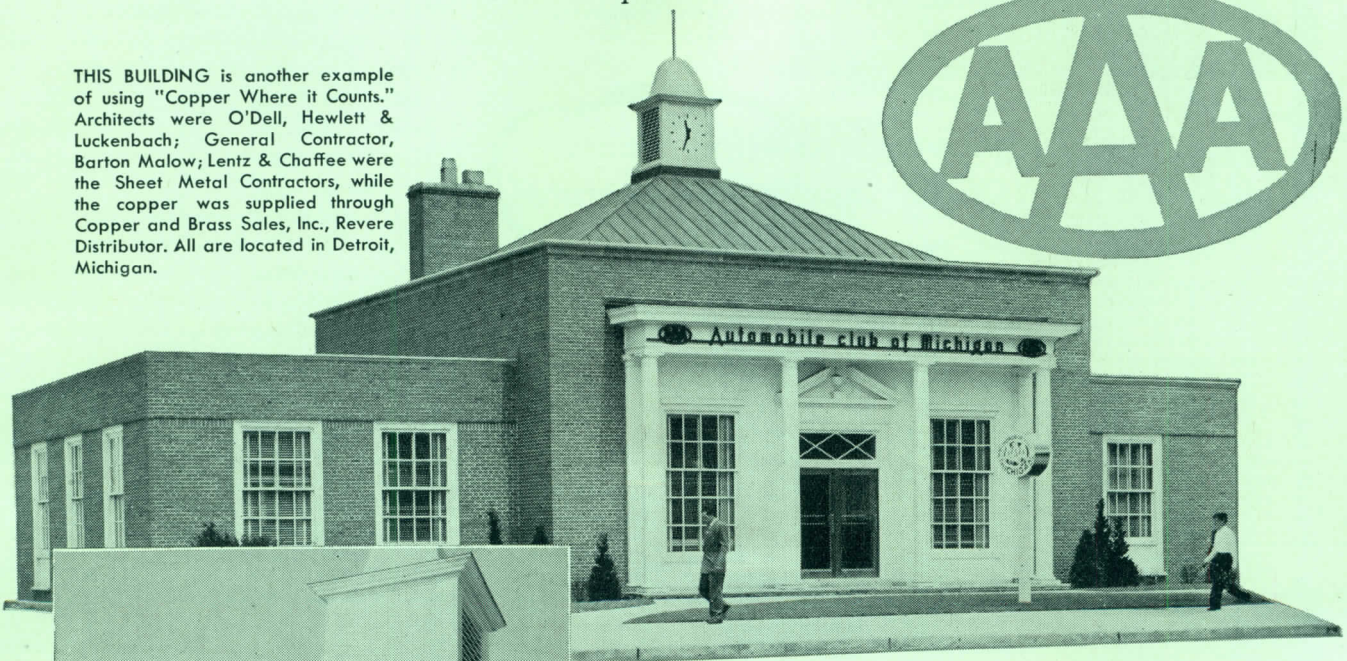
• Copper doesn't "happen" to be specified for roofs like the one on this building of the Automobile Club of Michigan. Copper gets the call over other materials because it has been proved, down through the centuries, that it endures, is easily worked, requires little if any maintenance and when aged adds a touch of distinction to the building it shelters.

While utility was the prime consideration for the material to be selected, for the central roof section, beauty of design and how it would look after years of service, also entered into the picture. For, this building was to be erected in a fine residential neighborhood and it couldn't be labeled "commercial." Copper filled these specifications.

Although copper cannot now be used for roofing, we use the Automobile Club of Michigan installation as a means of reminding you of the merits of Revere Copper over other materials so that when copper once more is permitted for roofing you will again use it, and with confidence. Meantime remember, while limited, you can still get Revere Sheet, Strip and Roll Copper for flashing. For through-wall applications ask the Revere Distributor about Revere Keystone Thru-Wall Flashing.* He also will advise you of the availability of materials and put you in touch with Revere's Technical Advisory Service in the event you wish to discuss your technical problems.

*Patented

THIS BUILDING is another example of using "Copper Where it Counts." Architects were O'Dell, Hewlett & Luckenbach; General Contractor, Barton Malow; Lentz & Chaffee were the Sheet Metal Contractors, while the copper was supplied through Copper and Brass Sales, Inc., Revere Distributor. All are located in Detroit, Michigan.



ABOVE CLOSE-UP of the central roof section of the building housing the Automobile Club of Michigan, Grosse Pointe Park Division, shows how enduring Revere Copper was applied.

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(Continued from page 266)

winning entries, plus those awarded honorable mentions and 32 others, then were put into a traveling exhibit with 1950 winners in two other A.I.D. annual competitions.

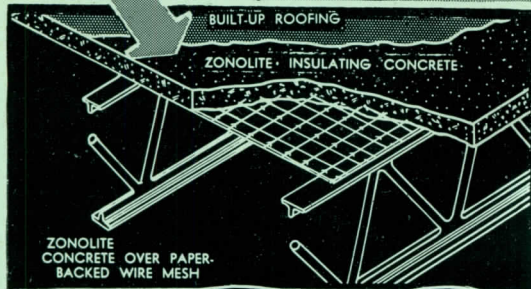
Two architects were on the seven-member jury. They were Robert Carson of the architectural firm of Carson & Lundin, New York, and George Howe, chairman of the Department of Architecture, Yale University. Other jury

members were Nancy V. McClelland, New York interior designer, foreman; Everett Brown of Everett Brown Associates, Chicago designer and decorator; G. M. Halverson, senior merchandise manager of the Home Store, L. S. Ayres & Co., Indianapolis; William MacArthur, designer and decorator, Milwaukee; and Robert R. Young, Division of Education, Carnegie Institute, Pittsburgh.

• Carl A. Menzel of the Portland Cement Association has been given the 1951 award of the Concrete Reinforcing Steel Institute "in recognition of noteworthy contributions to the advancement of reinforced concrete construction." Mr. Menzel received the award for his research and development work on a new type of deformed reinforcing bar, which has a substantially greater bonding strength than plain bars or conventional deformed bars. Mr. Menzel's work resulted in ASTM Specification A305 — the first recognized standard on reinforcing bar deformations.

• E. Vincent Harris, O.B.E., R.A., has received the 1951 Gold Medal of the Royal Institute of British Architects.

Combine Roof Deck and Insulation—in One Operation



Construction details of the H. L. Green Dept. Store roof in Columbus, Ohio. Paper backed wire mesh was laid across the structural members and 3" of Zonolite vermiculite concrete poured over it. No other reinforcing was required.



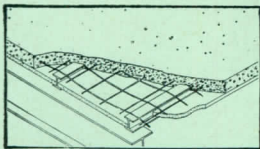
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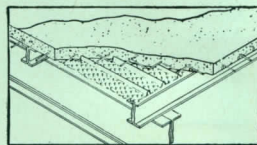
sand-and-gravel concrete. This amazing saving in weight makes possible additional economies in structural steel and other critical materials. Equally important, Zonolite roofs are unaffected by water, vermin, fungus, heat or fire . . . once installed they last the life of the building.

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COMPETITIONS

• Closing date for the Builders' Competition for the Parents' Magazine Merit Awards for the 1950 Best Homes for Family Living has been extended to July 1.

Awards will be given for the best entries in two price classifications — under \$16,000 and \$16,000 to \$25,000 — for each of five geographical regions. From these ten Merit Awards two will be selected, one from each price classification, for the 1950 National Merit Awards.

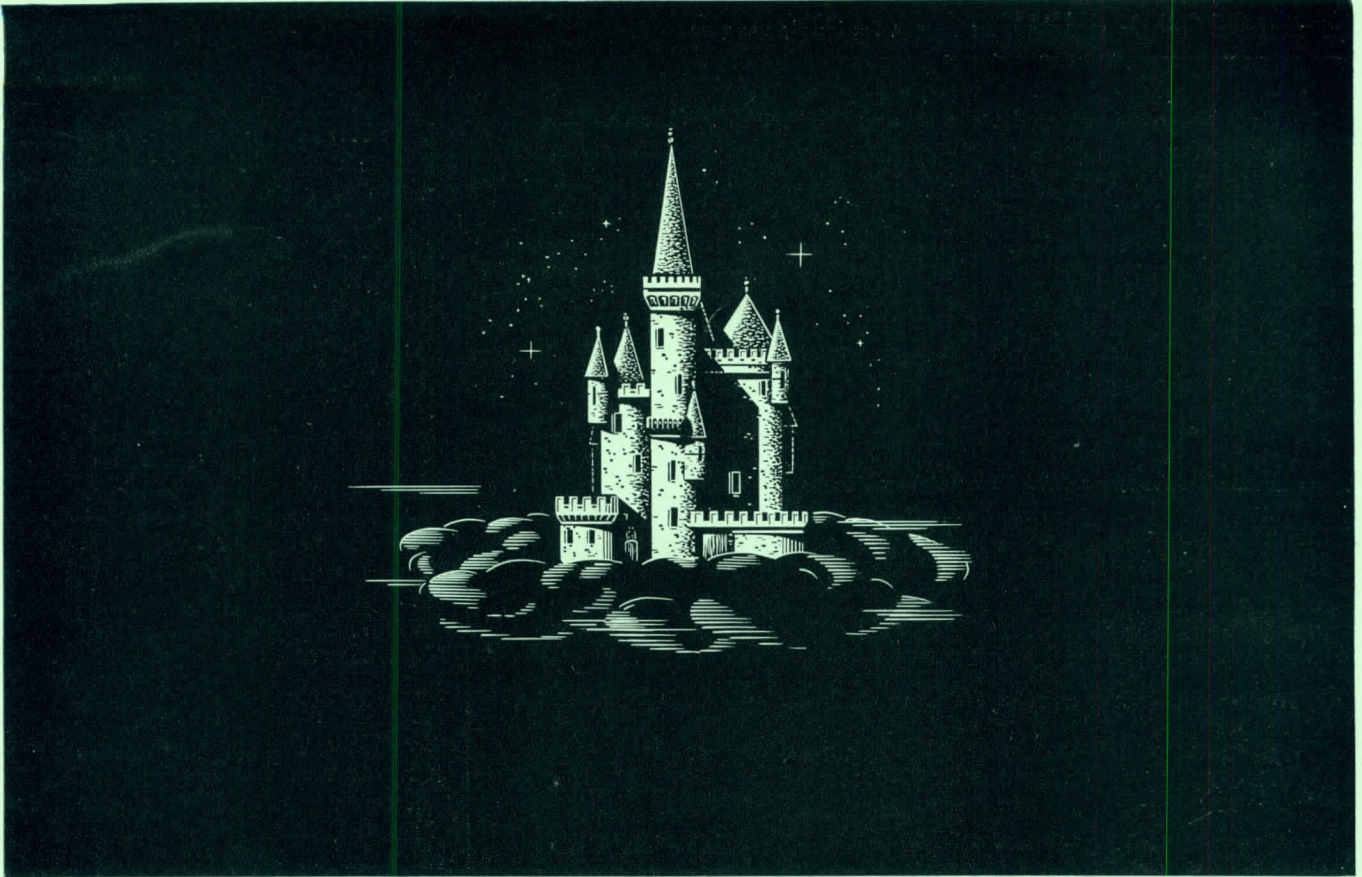
Criteria include excellence of plan, in terms of arrangement, use of space, etc.; orientation on site and usefulness of site for family outdoor activities; intelligent use of manufactured materials and products; structural soundness and quality of workmanship.

The Jury of Award will include Richard Bennett, A.I.A., of Loeb, Schlossman & Bennett, Architects; the president of the National Association of Home Builders, William P. Atkinson; William H. Scheick, A.I.A., executive director of the Building Research Advisory Board of the National Research Council; Mrs. Maxine Livingston, Family Home editor, *Parents' Magazine*; and five regional advisers to be announced later.

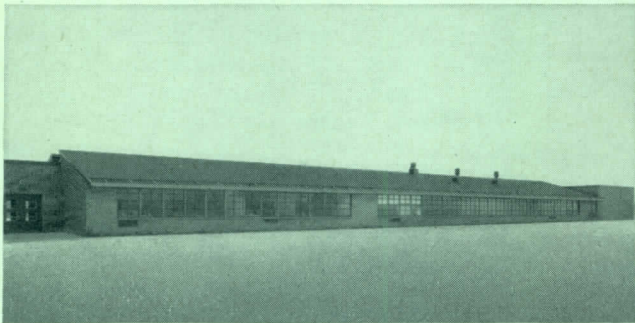
Queries should be addressed to Builders' Competition for Merit Awards, *Parents' Magazine*, 52 Vanderbilt Ave., New York 17, N. Y.

• Seven architects have been chosen from the initial competition among 34

(Continued on page 270)

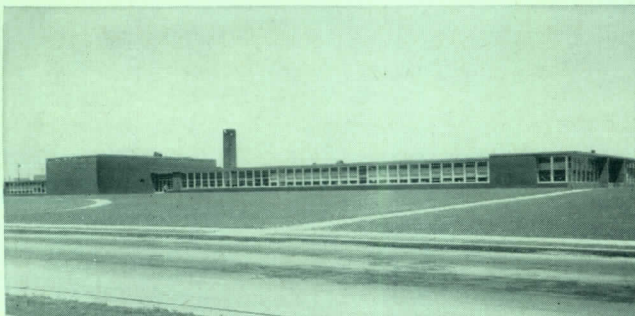


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(Continued from page 268)

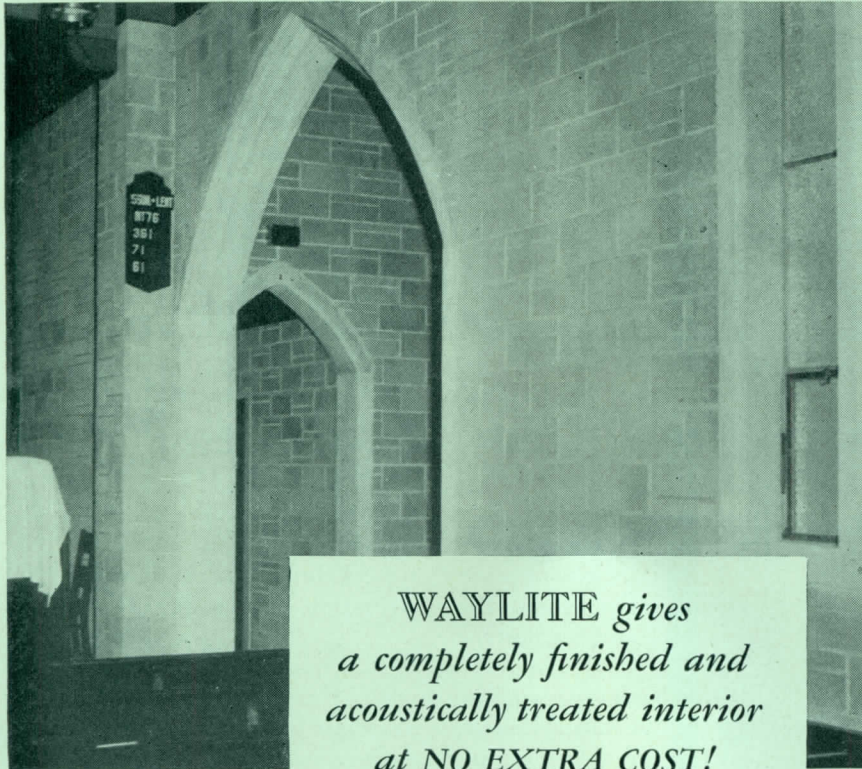
applicants to be the paid competitors in the Virginia War Memorial Competition. Others may still compete, without reimbursement for expenses, by addressing queries to Leslie Cheek Jr., of the Virginia Museum of Fine Arts, Boulevard and Grove Ave., Richmond 20, Va., professional adviser for the competition.

The seven chosen as paid competitors

are: Robert M. Carrere, Roanoke; Charles M. Goodman Associates, Alexandria, Va.; Milton L. Grigg, Charlottesville; Clarence W. Huff Jr., Richmond, with James C. MacKenzie, New York; Merrill C. Lee, Richmond; Joseph H. Saunders Jr., Alexandria; J. B. Violette, Fredericksburg, with Edward H. Glidden Jr., Baltimore; and Marcellus Wright & Son, Richmond.

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**JAMES OTIS POST DIES;
50 YEARS AN ARCHITECT**

James Otis Post, an architect in New York City for 50 years, died April 21 in Waltham, Mass., after a long illness. He was 77 years old.

Mr. Post, a Fellow of the American Institute of Architects, had studied architecture at Columbia University and later received a diploma from the Ecole des Beaux Arts in Paris.

In 1901 he joined George B. Post & Sons and became a partner three years later. He had directed the New York and Cleveland offices for many years.

Buildings designed under Mr. Post's direction include the Wisconsin State Capitol; the Roosevelt Hotel in New York City; the town of Craddock, Va., for the United States Housing Bureau; the National Town and Country Club in Cleveland; the Massena (N. Y.) Municipal Hospital; Samaritan Hospital in Troy, N. Y., and St. Mary's Hospital for Children in Bayside, Queens, now under construction.

Also the Cleveland Trust Company's home office; the Stillman Theater in Cleveland; the International Magazine Building, New York City; the Statler Hotels in Cleveland, Detroit, St. Louis, Boston and Buffalo; Warwick Hotel in New York; Stamford, Conn., Hospital; and Mount Sinai Hospital in New York.

Mr. Post was a leader in programs for educating draftsmen. He was chairman of the Committee on Education of the Society of Beaux Arts Architects and a founder and first president of the Beaux Arts Institute of Design.

**KONRAD WITTMANN; HEADED
PRATT'S INTERIOR DESIGN**

Konrad F. Wittmann, professor of design and head of the Department of Interior Design at Pratt Institute, died April 16. He was 60 years old.

Mr. Wittmann was born and educated in Germany, graduating from the School of Architecture of the Technische Hochschule, Munich, in 1917. From 1919 to 1938 he was city architect of Hannover, Germany, and from 1924 on was also engaged in private practice. He was for 10 years editor of the architectural magazine *Deutsche Bauhuelle* in Hannover.

Mr. Wittmann came to the United States in 1938. A year later he became a registered architect in New York State and a member of the New York Chapter of the American Institute of Architects. Later he became an American citizen.

Marching to Market

Three Important Questions . . . and Three Factual Answers:

1. How active is the 1951 custom-built housing market?



Extremely active! Matter of fact: A survey of current custom home-planners tells the true tale . . . the market is 98% active. Sure, a sprinkling are changing their plans because of prevailing conditions. But are they abandoning home-building plans? No! Are they postponing their plans? Not appreciably!

They take their time thinking over and solving today's problems, but their plans are not being delayed to any great extent.

2. How vital is this market to you?



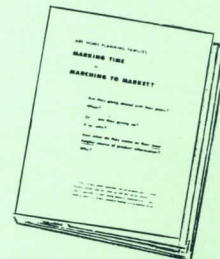
Very, very vital! Every custom home-planner must buy or specify building materials, insulation, roofing, windows, plumbing and heating equipment, floor coverings, appliances, furnishings, and 1,001 other new-home products. Every custom home-planner located, screened and bombarded by HOME OWNERS' CATALOGS is in the market for new-home products right now. And every custom home built today is a model for the millions of homes to be built tomorrow. Home-planners are fully aware of existing difficulties—rising prices, government controls, scarcity of some materials—but they are going right ahead with their home-building plans.

3. How can you sell this market . . . effectively and economically?



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**1950 Housing Review Notes
Break in Postwar Increase**

Reviewing 1950 housing developments in its quarterly summary, *Housing in Canada*, Central Mortgage and Housing Corporation notes that for the first time since the end of World War II, the annual volume of house building activity showed no appreciable increase over the preceding year. The number of houses started and completed in 1950

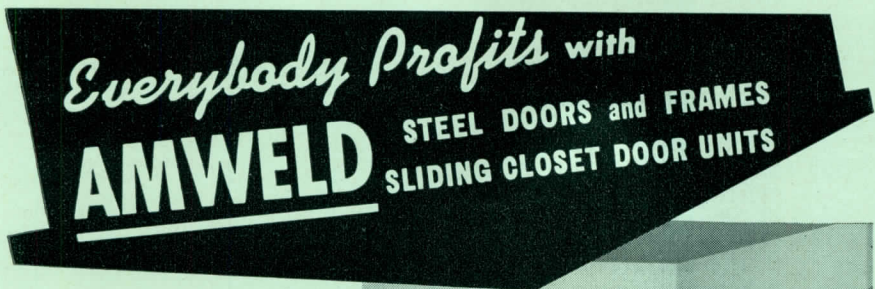
remained about the same as in 1949, involving 95,000 and 92,000 units respectively.

As a result of defense expenditures and other non-residential construction, house building met with increasing competition in the demand for labor and materials. The value of new residential construction in 1950 compared with 1949 showed an increase of only five per cent.

Commenting on the production of building materials during 1950, the report states that output increased eight per cent over the 1949 figure. At the same time, domestic absorption of construction materials showed a gain of nine per cent. During the last half of 1950, as construction output was increasing, domestic disappearance was 16 per cent higher than in the last half of 1949. *Housing in Canada* suggests that this increase was caused by material stockpiling at the dealer and builder level, as well as the general over-all increase in construction activity.

Building costs advanced steadily during the year. The combined index of prices of residential building materials and wage rates in the construction trades, which rose less than one per cent during 1949, increased by 12 per cent during 1950. The increase reflects a rise of 16 per cent in material prices and five per cent in wage rates during the period. On the average throughout 1950, the combined index was six per cent higher than in 1949.

(Continued on page 276)



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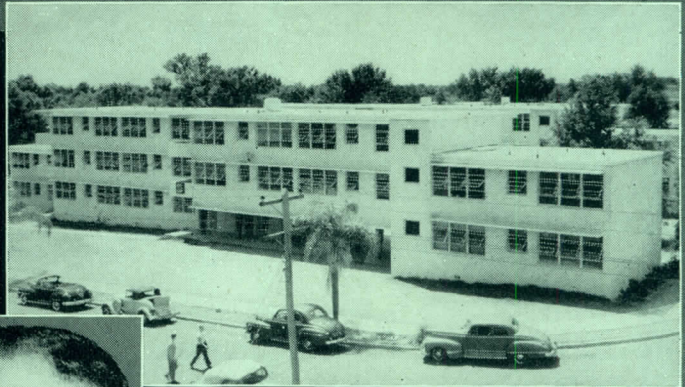
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William Frederick Gardiner of Vancouver was architect for this Bank of Toronto branch, with its large glass areas, at Marpole, B.C.

Famous Contractors Approve when The THORO System Products are— *Specified*

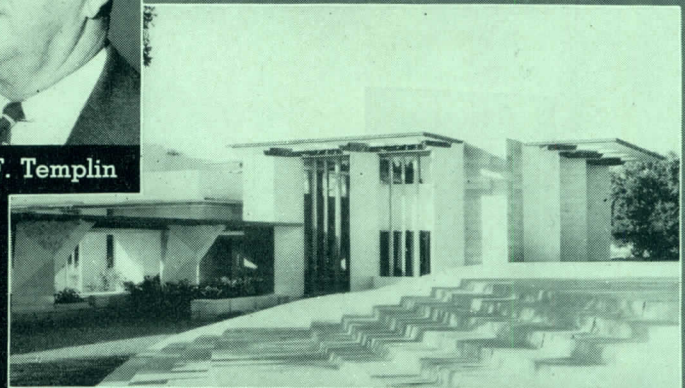
Here's what John F. Templin,
outstanding General Contractor,
Lakeland, Florida, has to say . . .



Showing 1 of 18 buildings constructed for Lakeland's Florida Southern College. All with Thoroseal on exterior surfaces. John F. Templin, General Contractor.



John F. Templin



Thoroseal Protection, Architect, Frank Lloyd Wright. General Contractor, John F. Templin.

TEMPLIN'S, INC.

General Contractors
940 EAST MAIN STREET
LAKELAND, FLORIDA

Mr. Bert J. Long,
Standard Dry Wall Products,
New Eagle, Penna.

November 16, 1950

Dear Mr. Long:

Prior to 1944 we tried numerous kinds of materials for waterproofing masonry construction. Since we began using Thoroseal and Quickseal six years ago we have been entirely satisfied. Not only have all of our applications been highly satisfactory, but their use is economical.

Your distributor for central Florida, Mr. Thomas N. Morrison, Lakeland, has proven himself to be as reliable in representing your merchandise as are the products themselves.

On the basis of our experience with Thoroseal and Quickseal we gladly recommend them for waterproofing and for beautification.

Sincerely Yours,

TEMPLIN'S, INC.

By *John F. Templin*
John F. Templin

JFT-k

"Weathering the elements of Florida has been a continuous battle for years for most contractors in a climate of heavy rains, boiling sun and hurricane winds. That's why you'll find leading builders recommending the

famous Thoro System Products. For over 39 years, these materials have been given a rugged test that shows them tops on most home builder's programs."

"The range of colors and the lasting brilliance of Thoroseal and Quickseal makes them a number one sales feature for the contractor who emphasizes quality at minimum cost."

39 YEARS OF SOUND BUSINESS REPUTATION

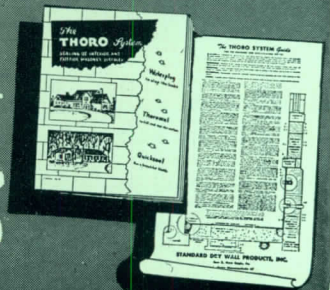
EXPERIENCE, in the preparation of materials for masonry protection and maintenance,—in every case means, success or failure!

With THORO System Products, the designer secures 100% protection by complete sealing of the surface, combined with exceptional beauty and color.

Write today for our new 20 page brochure 17-A and designer's wall chart.

Standard Dry Wall Products

NEW EAGLE PENNSYLVANIA



THE RECORD REPORTS

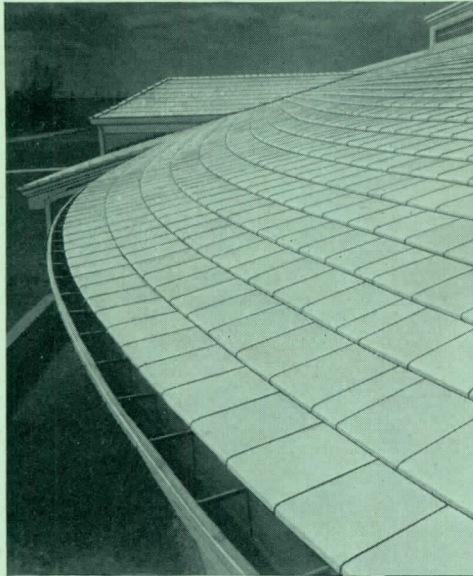
CANADA

(Continued from page 274)

Now under construction is this apartment house of 55 suites and two penthouses in Toronto. The building is structural steel with brick curtain walls, reinforced concrete roof and floor slabs. Gordon S. Adamson of Toronto is the architect



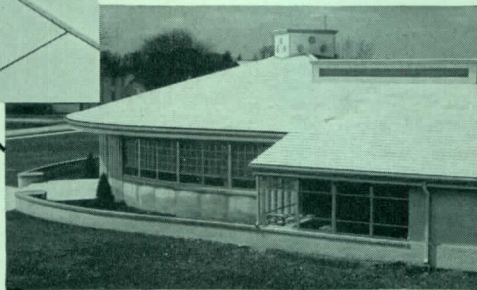
Ludowici Tile Roof on modern school



Tilton Grade School, Rochelle, Ill. Raymond A. Orput, Architect, Rockford, Ill.

Roof is laid with Ludowici light-weight smooth white interlocking shingle tiles.

THE LUDOWICI white tile roof on this new school is unusually pleasing against the verdant green of the land or the warm colors of the seasons. It will last long and shelter many generations of children. It will require no maintenance and because it is tile, and imperishable, it has all the elements of protection. This beauty and economy is available for many kinds of roofs.



LUDOWICI-CELADON COMPANY

104 South Michigan Avenue, Chicago 3, Illinois

NOTE: Full information is available to architects and builders about all of the colors, surfaces and patterns of Ludowici tile. We will be glad to furnish samples, details, specifications and architectural service on request.

New York 17, New York
565 Fifth Avenue
Washington 5, D. C.
740 15th Street, N. W.
Cleveland 20, Ohio
12734 Woodland Avenue

1951 First Quarter Shows Housing Drop; March Gains

Residential contracts awarded in March showed a \$2 million increase over March 1950; but the rise was not enough to offset a bad January and the total for the quarter was under last year's figure.

But MacLean Building Reports figures showed an increase of \$176 million, or 135 per cent, over March 1950 for all construction contracts awarded. All categories "rolled with the punch" so far delivered by government controls and regulations and scored startling gains. Cumulative total for the first quarter of the year is \$457 million, a healthy increase of 132 per cent over 1950's \$261 million at this time.

The construction cost index for March showed only a tiny change compared with that for February. From 231.7 (1935-39:100) in January, the index rose to 237.3 in February, slipped to 237.2 in March.

In the commercial category, types of buildings which failed to gain were — as might have been expected — hotels, clubs, theatres and warehouses. On the other hand, hospitals, schools and public buildings (which include some defense jobs) were up very considerably. In the engineering category, contract totals for all types of work were ahead of last year. Power and communication projects were up over \$6 million, sewerage and waterworks over \$5 million, and roads and streets over \$2 million.

Department of Labor Takes Inventory of Technicians

As part of its stocktaking of manpower resources, the federal Department of Labor is currently swelling the mail of technical personnel.

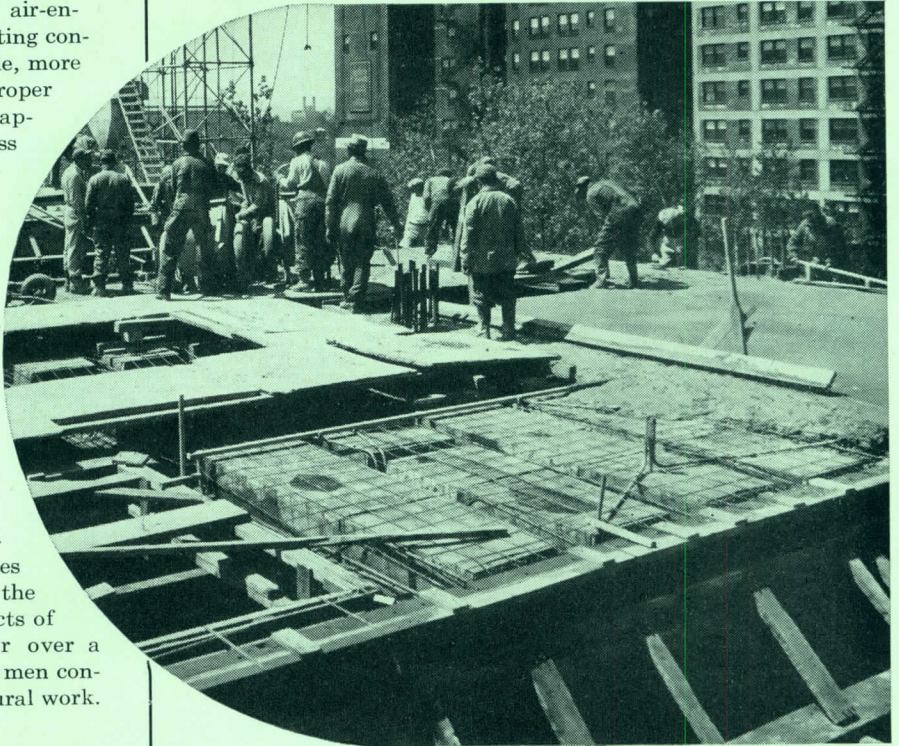
New records, to supersede those assembled during World War II, will be compiled by means of a questionnaire

(Continued on page 278)



Better for structural work

Less mixing water is required for a given slump when you use Duraplastic air-entraining portland cement. The resulting concrete is more plastic, more workable, more cohesive and uniform. This aids proper placement and improves surface appearance of both structural and mass concrete jobs. This is especially important when columns are heavily reinforced as shown in photograph.



Makes more durable concrete

When Duraplastic is used for structural concrete, billions of tiny entrained air bubbles minimize water gain and segregation. Thus the finished concrete is fortified against the effects of freezing-thawing weather. That's why, for over a decade, an increasing number of construction men continue to specify Duraplastic for their structural work.

YET DURAPLASTIC* COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

OFFICES: Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

*"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

AR-D-123



Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network

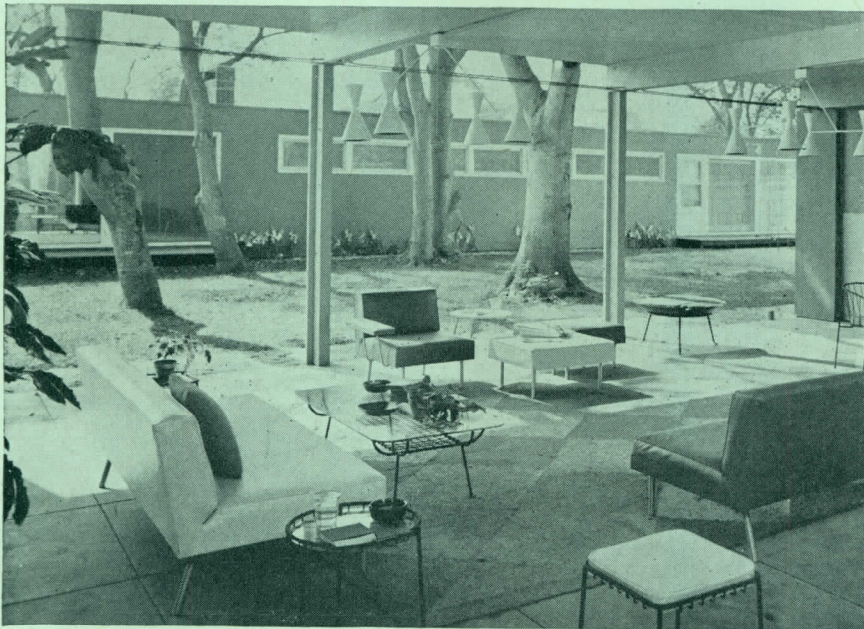
THE RECORD REPORTS

CANADA

(Continued from page 276)

sent to every architect, engineer and scientist in Canada.

A unique feature of the survey: each respondent is responsible for classifying his own ability and the record is filed in accordance with his selection.



HOLIDAY HOUSE ENCHANTS the eye with its glowing, colorful freshness—beautiful today and for years of tomorrows. It features wall coverings of U. S. Naugahyde as well as furniture upholstered with this "Everlasting" plastic.

Yes, modern deserves modern U. S. Naugahyde upholstery —washes clean with a whisk!

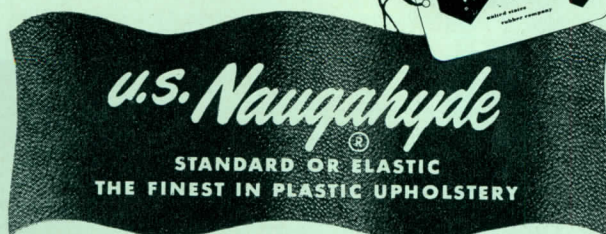
Beautiful colors, rich textures that welcome family use—that's U. S. Naugahyde. It laughs at abuse—stays beautiful years longer. It won't split, peel, chip or scratch. It washes clean from spills and stains. It's sun-fast.

Always a joy without being a care—Naugahyde "belongs" with the simple, functional beauty of "Modern" at its best.

LOOK FOR THIS LABEL



Scores of
Everlastingly
Rich Colors
and Textures



UNITED STATES RUBBER COMPANY
MISHAWAKA, INDIANA

Rule, Wynn & Rule of Edmonton were architects for this bus terminal for Canadian Greyhound Ltd., Edmonton, Alberta. It has facilities for a number of other bus lines as well as shops, a restaurant and a second floor planned as rental office space

House Building Could Rise 27 Per Cent Within Decade

We can build 115,000 houses a year by 1960, and a continuously increasing number thereafter, if we devote the same proportion of our resources to this activity as in 1949. So claims O. J. Firestone, economic adviser to Central Mortgage and Housing Corporation, in a new book, "Residential Real Estate in Canada."

Production in 1949 was 91,000 units. The increase forecast is therefore 27 per cent. Such an increase is of course contingent on there being no third World War or radical change in building methods and designs.

Dr. Firestone does not presume to say that production of 115,000 houses a year will be adequate. He merely comments: "Whether or not this capacity will actually be developed and used depends on whether effective demand for such a number of houses can be maintained over a long period of time by some combination of private initiative and public assistance."

Lack of bias distinguished the book. Avoiding taking sides, the author is content to give facts, document them, and forecast where present trends—qualified by past events—are likely to lead. Exponents of home ownership as the sole solution to the shelter problem, and those who see housing as primarily a social welfare need, will both find much to substantiate their views. Simultaneously, they cannot fail to gain better understanding of all the complicated issues involved.

Barcol WARDROBE door

FOR CLASSROOMS

OPERATES
VERTICALLY

SAVES
SPACE

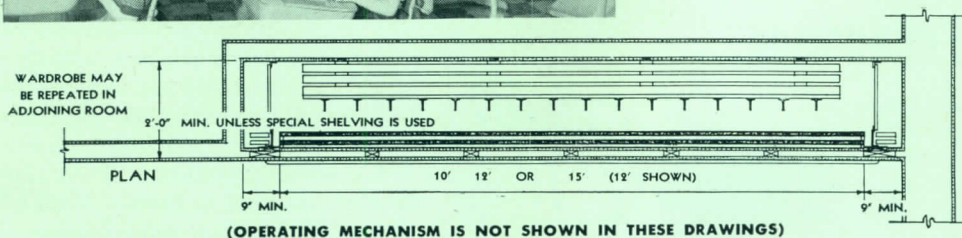
OPENS
FULL WIDTH

OPERATES FREE
OF CLOTHING

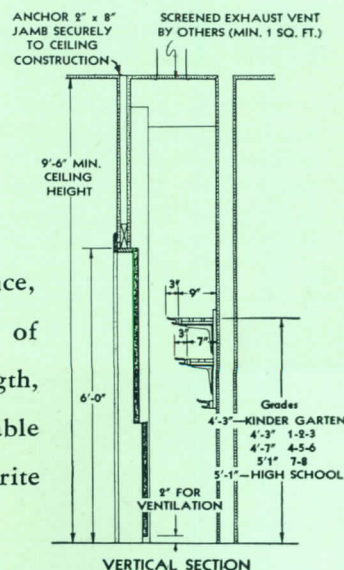
CHALK BOARD
AVAILABLE



**TWO-SECTION VERTICAL DOOR
OFFERS IMPORTANT SAVINGS
AND OPERATING ADVANTAGES
FOR MODERN SCHOOLS**



(OPERATING MECHANISM IS NOT SHOWN IN THESE DRAWINGS)



This new door opens *upward* . . . the operating mechanisms at the ends are positively *tied together* — resulting in an easy-working door that cannot tip or jam. This all-vertical arrangement takes *no* floor space in the room. Space-saving, conve-

nience, easy operation, neat appearance, concealment of clothing, protection of personal property, adaptability, strength, durability, high safety factor, reasonable cost — you get all these advantages. Write for Bulletin F-4644.



FACTORY TRAINED SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY
102 MILL ST., ROCKFORD, ILLINOIS

A.I.A. CONVENTION

(Continued from page 14)

Prince, New York Chapter president, agreed that in most cases communal shelters would not offer effective protection. Most people in cities, they felt, would have to find protection in existing buildings — corridors, fireproof stairwells and specially designated and reinforced basement areas. The importance of skilled architectural and engineering advice to meet the individual problems of each building was stressed.

Accelerated decentralization of American factories and homes was described at the second session on civil defense as the only means of safeguarding industries and populations now concentrated in metropolitan target areas.

Dr. Ralph E. Lapp, atomic scientist and former head of nuclear physics for the Office of Naval Research, and Prof. William L. C. Wheaton of Harvard both were critical of government policies and

government agencies for "unpreparedness and inaction."

Doctor Lapp said no further vital defense construction should be permitted in key target areas and that vital factories operating in such centers should be gradually dispersed.

Professor Wheaton called for a vast Federally-sponsored program to channel new urban growth into new towns clearly separated by permanent open spaces and linked by superhighways.

Vernon deMars of the School of Architecture of the University of California noted that the progress of planning which promises extensive reshaping of many large American cities can also have the effect of making cities safer.



Firm Educational Foundation:

Offering a marble-hard, concrete-durable floor for scholastic endeavor, TERRAZZO gives maximum value per dollar invested. Long a favorite for hospital, institution, and school, it repays planners' foresight with long-range economy and easy daily maintenance.

Terrazzo

SPECIFY TERRAZZO FOR THESE REASONS

1. ECONOMY. Initial cost *plus* no repairs . . . no replacement . . . minimum upkeep over a period of years, for Terrazzo equals—usually is less than—initial cost *plus* repairs . . . and replacements . . . and higher upkeep for other types of floors.

2. COMFORT. Finished Terrazzo is *easy to walk on*. It is less slippery than any waxed surface. Furthermore, Terrazzo can save you enough money to acousticate your ceiling, thus giving you a very low noise level.

3. CLEANLINESS. Terrazzo can be sealed so as to be practically non-absorbent. Its smooth,

jointless surface *cleans easily* . . . can harbor no accumulation of germs. It is aseptic.

4. COLOR AND DESIGN. Terrazzo has warmth and beauty. You may specify *any design* you wish—pictorial or geometric—in virtually *any combination of colors*.

5. DEPENDABLE INSTALLATION. This Association's objective is to see that your Terrazzo installations *turn out exactly as you want them*. Write us today for complete information on the above points or see our advertisement in Sweet's Catalog for basic technical data.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

711 14th Street, N. W.

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Washington 5, D. C.

"Building under Controls"

The sharpest attacks on government policies came in the session on building under controls.

Walter C. Skuce, assistant administrator for production controls of the National Production Authority, and Richardson Bronson, assistant general counsel for NPA, were pressed for estimates on the probable level of construction operations next year; but they could give no definitive answer.

Mr. Skuce said the amount of work in 1952 would have to be based on "supply and demand factors" not yet available.

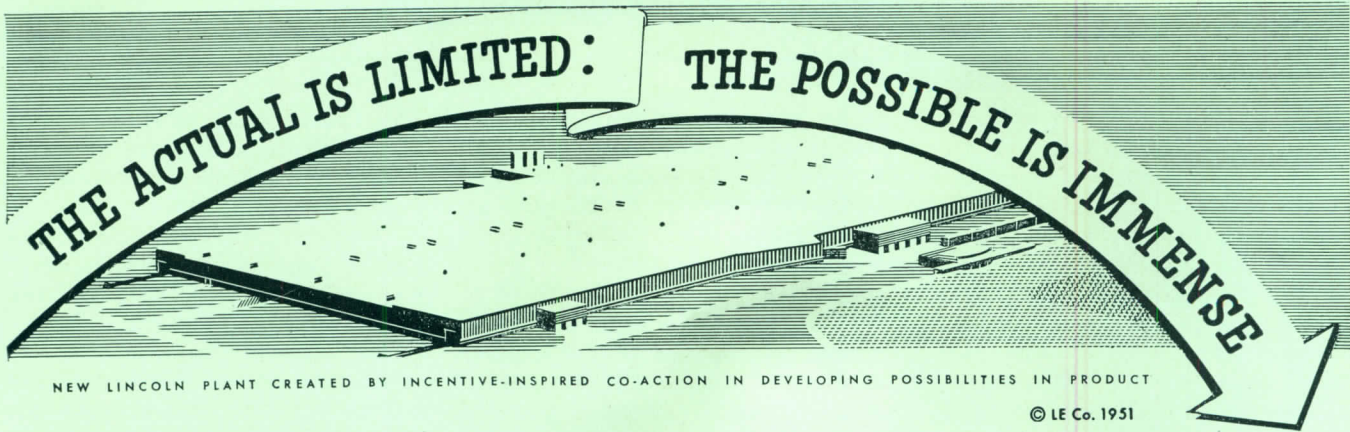
Ralph Walker called the whole principle of inventory controls impractical and said it leads only to black markets.

Henry C. Turner Jr., head of the Turner Construction Company of New York City, felt the May 3 amendment to M-4 (establishing a permit system for all buildings that use as much as 25 tons of steel) was ill advised and deplored the fact that the industry was becoming more and more "enmeshed in controls."

Regulation of building credit was condemned by Arthur C. Holden, F.A.I.A., of New York as "an ineffective and illogical" way to control building activity and combat inflation in the industry.

Mr. Bronson denied assertions that NPA has ignored industry advisory committees in formulation of policies. He said it was industry advice that had decided NPA to keep the \$5000 ceiling on exempted building jobs instead of reducing it to \$2000 and to retain hotels and lofts in the "permit" category instead of transferring them to the list of completely banned types. NPA has no intention of discouraging or prohibiting any building projects that are essential to public health, safety or welfare, he insisted.

(Continued on page 282)



WELDED FRAMEWORK SAVES 36 TONS OF STEEL

By **J. R. Braun**, Vice President
Byrne Organization, Inc.
Engineers and Contractors
Washington, D. C.

WELDED design is cutting 5% from the labor costs of fabricating and erecting the 11-story Edgewater Apartments at Cleveland, Ohio. Simpler details of frame connections, made possible only with welded designs, are also helping to effect savings of 25% in weight of connections and a 3% reduction in total weight of this 1200 ton framework.

Each design detail utilizes the full economies of welded construction. Connections are so engineered as to allow fast, low cost shop fabrication and yet permit flat position field welding on every joint.



Fig. 3. 11-Story All Welded Framework for the Edgewater Apartments, Cleveland, Ohio. Fabricators and Erectors: Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa. Inset shows welded steel bar joists set on 24" centers and welded in position.

SIMPLER COLUMN SPLICES

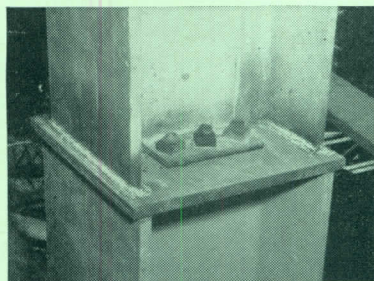


Fig. 1. Typical Welded Splice of all columns 12 to 12 and 12 to 14 WF column. Bearing plate is shop welded to lower column... clip angle for erection bolts is shop welded to upper column. All field welds are made in fast, easy downband position.

FASTER BEAM-TO-COLUMN CONNECTIONS

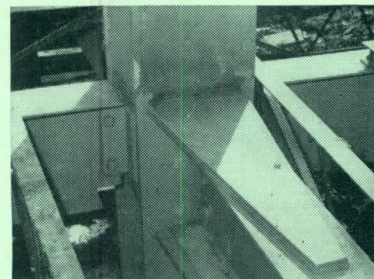
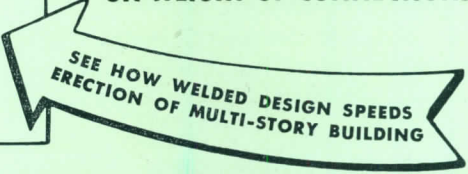


Fig. 2. Simpler Detail Speeds Erection. Clip angle is shop welded to column for bolting beam in the field. Outside cover plates are then field welded to top and bottom flanges and the top plate to column in flat position with Lincoln "Fleetweld 5" electrodes. Bottom plate is shop welded.

WELDED DESIGN SAVES 25% ON WEIGHT OF CONNECTIONS



Studies in Structural Arc Welding free on request. Designers and engineers write on your letterhead to Dept. 162,

THE LINCOLN ELECTRIC COMPANY
CLEVELAND 1, OHIO

Modular Planning Lauded

C. E. Silling of Charleston, W. Va., A.I.A. regional director, told a modular coordination session that modular coordination as practiced in his office has "ordered our production methods in the drafting rooms, clarified the exposition of our drawings, speeded up our work materially, and furnished handsomely added profits we share with our men."

It was agreed in the meeting that one

of the most pressing needs is a program of education among builders; and William Demarest Jr., A.I.A., secretary for modular coordination, was receptive to the suggestion.

Honor Awards in Architecture

First Honor Award in the Industrial Building classification of the A.I.A.'s third annual program of Honor Awards in Architecture was given for the Coca

Cola Bottling Plant at Houston, Tex. (ARCHITECTURAL RECORD, February 1951). The architects were Stone and Pitts of Beaumont, Tex.

An Award of Merit went to F. J. McCarthy, San Francisco, for an electronics plant in San Carlos, Calif., for Frank C. Blecher.

The jury was deadlocked over top spot in the residential classification, and no First Award was given. Eight Awards of Merit were given, as follows: Maynard Lyndon, Los Angeles — own house, Point Dume, Malibu, Calif.; Raphael Soriano, Los Angeles — house for Mrs. Allan Olds (for *Arts & Architecture*); Alexander S. Cochran, Baltimore — own house, Baltimore; Coche, Bowman & York, Harlingen, Tex. — Ulhorn house, Harlingen; Richard J. Neutra, Los Angeles — Bailey house, Pacific Palisade, Calif.; Sherlock, Smith & Adams, Montgomery, Ala. — Lyon house, Mary Esther, Fla.; Wurster, Bernardi & Emmons, San Francisco — Isador Schuman house, Woodside, Calif.; Anshen & Allen, San Francisco — house for Sonya Silverstone, near Taxco, Mexico.

The Clearwater County Hospital at Bagley, Minn., took top honors in the third category. Thorshov & Cerny, Inc., Minneapolis, were the architects.

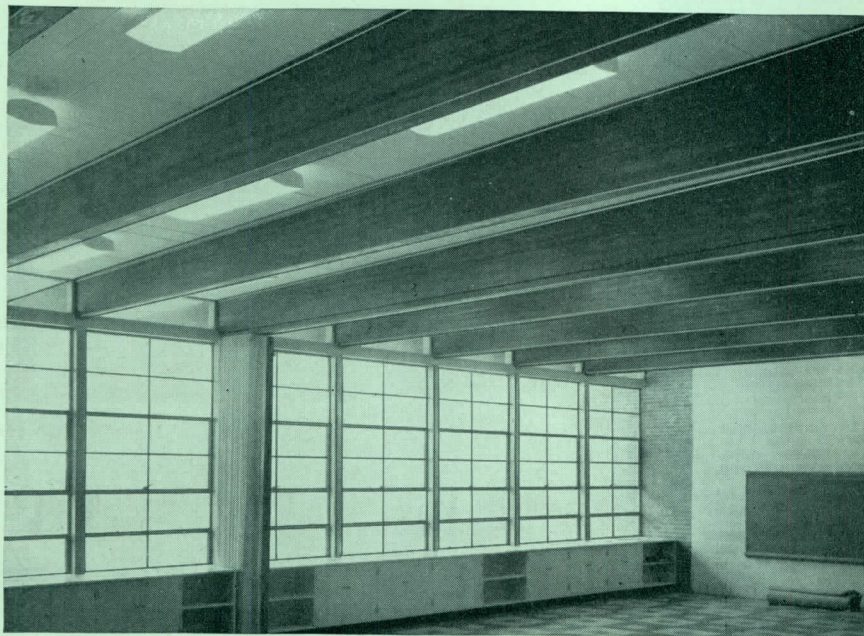
There were nine Awards of Merit for hospital buildings. These were given as follows: Pohlmeier & Pohlmeier, Fort Wayne, Ind., architects, and Skidmore, Owings & Merrill, New York, associated architects — Northern Indiana Hospital for Crippled Children, South Bend, Ind.; Stevens & Wilkinson, Atlanta, Ga. — Georgia Baptist Hospital, Atlanta; Sherlock, Smith & Adams, Montgomery, Ala. — Perry County Hospital, Marion, Ala.; Allison & Rible, Los Angeles — Goodyear Memorial Pavilion (maternity), Ventura, Calif.; Schmidt, Garden & Erikson, Chicago — Xavier Hospital, Dubuque, Ia.; Golemon & Rolfe, Houston — St. Francis Cabrini Hospital, Alexandria, La.; Kelly & Gruzen-Isadore Rosenfield, Architects-Engineers, New York — U. S. Veterans Hospital, Wilkes-Barre, Pa.; Giffels & Vallet, Inc., Detroit, architects, and A. N. Strauss, Fort Wayne, Ind., associated architect — U. S. Veterans Hospital, Fort Wayne, Ind.

Members of the Honor Awards juries, serving under Albert F. Heino, chairman of the awards committee, were:

Industrial Buildings — Fred L. Mark-

(Continued on page 284)

ECONOMICAL SCHOOL CONSTRUCTION



with efficient and decorative
RILCO BEAMS

Here's the economical and practical member to specify for modern, one-story school construction. Rilco Beams, adaptable to every architectural style, allow wide opportunity for individuality of attractive design.

Rilco Beams and Columns are custom fabricated from finest quality, kiln dried lumbers. They are

not subject to checking, warping or twisting. Members are smoothly surfaced, cut to length and drilled for assembly hardware. They offer important savings in material costs and erection labor.

Rilco field representatives will gladly consult with you about your specific requirements or you may write for literature.

RILCO

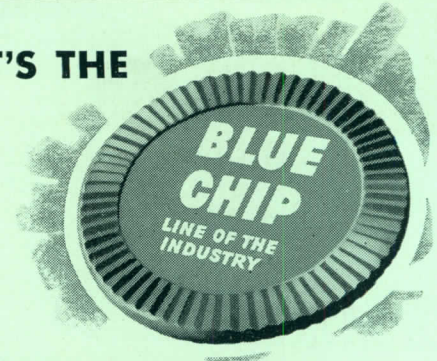
**WORKS WONDERS
WITH WOOD**

Laminated
PRODUCTS, INC.

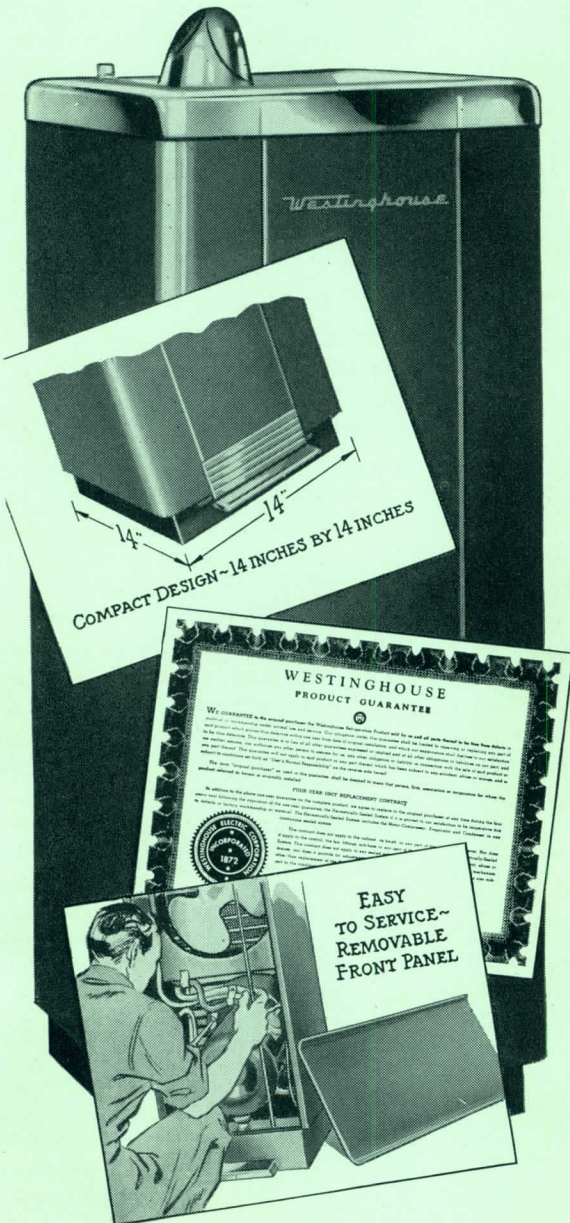
2518 First National Bank Building, St. Paul, Minn.

For Industrial Mobilization...specify Westinghouse

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A SIZE AND TYPE FOR EVERY NEED



- *Air-Cooled* Water Coolers, Bottle and Pressure Types . . . 3 to 13-gallon capacities, for applications where the operating conditions and temperatures are normal.
- *Water-Cooled* Models, Heavy-Duty Pressure Types . . . 14 to 22-gallon capacities, for applications in hot, dusty, and lint-laden air—such as steel mills, foundries, and textile mills.
- *Explosion-Proof* Models . . . 8 to 14-gallon capacities, for hazardous locations.
- *Compartment-Type* Coolers, in Bottle and Pressure Models, with ice cube evaporator and refrigerated storage space.

Specification Features that Count!

COMPACT DESIGN . . . MINIMUM FLOOR SPACE

Westinghouse Water Coolers measure only 14 inches by 14 inches. This compact design increases their value where space is at a premium.

5-YEAR PROTECTION PLAN

Protected by a 5-Year Guarantee Plan with a standard 1-Year guarantee on the complete water cooler. An additional 4-year free replacement on the hermetically-sealed refrigeration system, which includes the motor-compressor, evaporator and condenser . . . not just the motor-compressor alone.

EASY TO SERVICE

By removing the front panel, adjustments or replacements of the stream-height regulator, temperature control, Thermoguard and automatic electric flow control valve may be easily made.

LET US HELP YOU WITH YOUR WATER COOLER PROBLEMS

For specific assistance on your water cooler problems, look in the yellow pages of your telephone directory for the Westinghouse Water Cooler Distributor. Take advantage of our factory-trained people because they can be of real help to you.

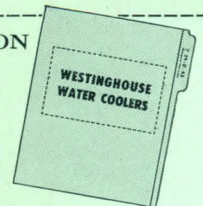
... of course, it's electric!


YOU CAN BE SURE..IF IT'S Westinghouse

WESTINGHOUSE ELECTRIC CORPORATION
Refrigeration Specialties Dept.
Springfield 2, Mass.

- Please send me a copy of Architectural File Folder.
- I am interested in securing further information on your Water Cooler line.

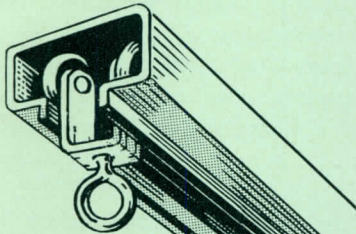
Name _____
Position _____
Firm _____
Street _____
City _____ State _____





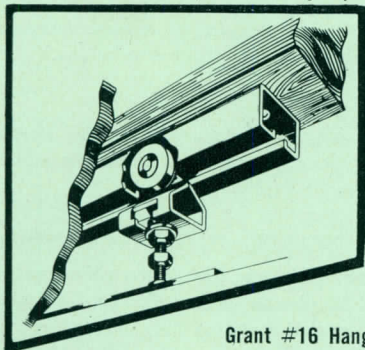
In a class room by itself

Along with the great strides being made in school construction has come an ever increasing demand for Grant Sliding Hardware. Architects specify Grant — certain that quality and dependability are inherent features of every Grant product.



#15 Traverse Track

Audio-visual rooms can be equipped with Grant curtain hardware... hardware which consistently assures easy and quick opening and closing of curtains. Grant traverse track enables ordinary school-rooms to be converted to motion picture rooms instantly.



Grant #16 Hanger

Grant silent sliding door hangers can be applied to teachers' supply closets, wardrobe doors and varied other types of school doors. Only Grant hangers feature three adjustments. Grant hangers are equipped with silent sliding nylon ball bearing rollers.

All Grant hangers are center hung. Grant hangers cannot jump the track or bind.

Write Architectural Division
For Complete Catalogue

GRANT PULLEY & HARDWARE CO.
31-83 WHITSTONE PKY., FLUSHING, N. Y.
Representatives in all major cities.
The foremost name in Sliding Devices

A. I. A. CONVENTION

(Continued from page 282)

ham, Provo, Utah; Carter E. Hewitt, Peoria, Ill.; C. Theodore Larsen, Ann Arbor, Mich.; Joseph Z. Burgee, Chicago; Dale Purves, Philadelphia, chairman.

Residences — Chloethiel Woodard Smith, Washington, D. C.; Florence Byerly of *Better Homes and Gardens*; Paul Schweikher, Chicago; A. W. Geller, New York City; and Prof. Milton S. Osborne of Pennsylvania State College, chairman.

Hospitals — Dr. Herman Smith, Chicago; Perry B. Johanson, Seattle; Prof. Harold Bush-Brown, chairman, Department of Architecture, Georgia Institute of Technology; Harrison Gill, Chattanooga, Tenn.; Addison Erdman, New York, chairman.

Product Literature Honored

The Anemostat Corporation of America and the Bettinger Enamel Corporation won Certificates of Exceptional Merit in the third annual Product Literature Competition sponsored jointly by the A.I.A. and the Producers' Council.

An increasing standard of excellence in products literature design and presentation was noted by the jury, which also gave certificates or commendations to 30 other firms.

Members of the jury were: Richard M. Bennett and Howard L. Cheney, both of Chicago; Harry R. Downswell, New York City; John C. Thornton, Detroit; and Lessing W. Williams, New York City, chairman.

Award-winning literature in the competition is listed below.

Class I (Basic Technical Information)

Certificate of Merit: Sound Absorption Coefficients — Acoustical Materials Association; Fundamentals of Light and Lighting — General Electric Company; Handbook — Bell & Gossett Company; Dry Brick Walls — Louisville Cement Company; Brick and Tile Engineering — Structural Clay Products Institute; Architectural Grade Weldwood Plywood Panels — U. S. Plywood Corporation.

Honorable Mention: Aluminum in Architecture — Aluminum Company of America; Care and Cleaning of Marble and Marble Forecast — Marble Institute of America; Facing Tile — Catalogue 51-C — Facing Tile Insti-

(Continued on page 286)

That New-Type ELDORADO Keeps Drawing Architects!

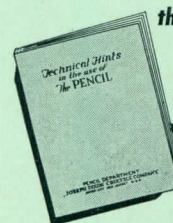


More architects than ever are using the great new-type ELDORADO

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The multi-use Community Room shown is in the Clyde L. Lyon Elementary School, Glenview, Illinois. Perkins & Will, architect-engineers, Chicago.

What's happened to the little dull Schoolhouse?

It's being flooded with daylight! The children love it—and a light, cheerful room is good for them.

Architects are opening up at least one whole wall—windows all the way to the ceiling and from wall to wall. This provides abundant daylight throughout the classrooms. It also reduces glare which is sensed when you just have little patches of bright light that contrast harshly with darker, shaded areas. Even illumination all around is easy on children's eyes.

These Daylight Walls of clear flat glass also make the rooms seem larger. Clear glass does not obscure vision. The eye can travel to the outdoors with an unbroken sweep.

Clear flat glass, used for an entire wall, has the advantage of economy, too. It is cheaper than any other form of glass, costs less to install, and admits

more daylight. Architects of these latest type schools find they can build a whole wall of glass cheaper than with non-transparent materials.

Can't all your clients take a lesson from the schoolhouse? No matter whether they need a new office or a factory, with Daylight Walls their employees will have a happier environment. Before you start to plan, check into the economy of a wall designed from the start with clear flat glass.

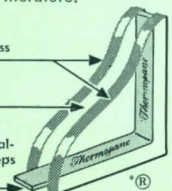
Write for our book, "Daylight Engineering for Schools". Libbey-Owens-Ford Glass Company, 1961 Nicholas Building, Toledo 3, Ohio.

FOR WINDOW INSULATION, THERMOPANE® insulating glass is widely and successfully used. THERMOPANE with 1/2" of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows in winter. THERMOPANE cuts air conditioning costs in summer by reducing the amount of heat that enters. Write for THERMOPANE literature.

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THAT DON'T OBSCURE VISION

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New terrazzo lobby, in \$1,700,000 Field House is Hillyard-treated for permanent beauty, and easy maintenance. Terrazine during construction for slow, hard-as-flint curing, Onex-Seal for a safe beauty finish. Super Hil-Tone for daily maintenance.

Gleaming gymnasium floor in Field House guarantees non-skid no-glare play . . . is sealed with Hillyard Wood Primer, coated with Star Gym, the finish for champions now in use on 15,000 gym floors. Needs only occasional Super Shine-All cleaning.



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A. I. A. CONVENTION

(Continued from page 284)

tute; Door Butts and Hinges, Hardware Metals and Finishes, and Directory of Builders Hardware Finishes — Hardware Consultant & Contractor.

Class II (Manufacturer's Products Literature)

Certificate of Exceptional Merit: Draftless Aspirating Air Diffusers — Anemostat Corporation of America.

Certificates of Merit: Architectural Literature (6 pieces) — Miller Company; U.S.G. Data Book — Lath and Plaster — U. S. Gypsum Company; American-Standard Plumbing Fixtures — American Radiator & Standard Sanitary Corporation; Copper Roofing Products — Chase Brass & Copper Company; Knoll Furniture — Knoll Associates, Inc.

Honorable Mention: Hermosa Tile Handbook — H-101 — Gladding McBean Company; Peelle Elevator and Dumbwaiter Doors — The Peelle Company; Alcoa Aluminum Industrial Building Sheets — Aluminum Company of America; Architectural Service Bulletin (2 books) — The Kawneer Company; Tracing Detail File — Wood Windows — Andersen Corporation; Fenestra Blue Book of Drafting Room Standards — Detroit Steel Products Company; Architectural Catalog — Hope's Windows, Inc.; Industry's New A-C Motor Control — Westinghouse Electric Corporation; How to Detect Acoustical Tile — Armstrong Cork Company.

Class III (Promotional Literature)

Certificate of Exceptional Merit: The Drawing Board and the Flame — Bettinger Enamel Corporation.

Certificate of Merit: Brick and Tile (12 pieces) — Structural Clay Products Institute; Bruce Floor Products — E. L. Bruce Company.

Honorable Mention: Free Flow Escalators — Otis Elevator Company; Ceiling Architecture — Anemostat Corporation of America; Trinity White Portland Cement — General Portland Cement Company; Flashing Expansion Joint and One-Piece Thru-Wall Copper Flashing — Chase Brass & Copper Company; Marlite — Architectural Catalog — Marsh Wall Products Company; Window Ideas — Andersen Corporation; The Mural Painters — National Society of Mural Painters.

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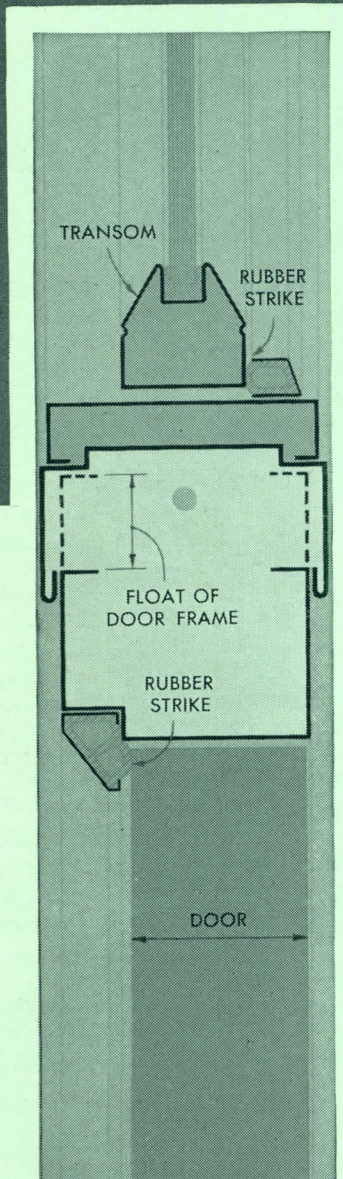
Write Today for Cabot's Stain Wax color card and complete information. Many of the shades are available from no other source. Samuel Cabot, Inc., 629 Oliver Bldg., Boston 9, Mass.

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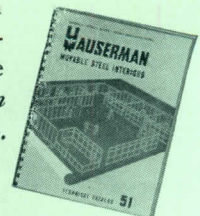


This is another Hauserman feature that assures better design, service and client satisfaction in buildings you lay out.

The Hauserman door and frame as a unit can be adjusted exactly to accommodate variations in floor levels, caused by floor coverings, thresholds and other similar factors. The necessary adjustments can be made by simply loosening the bolts on each side of the door frame. No necessity for cutting the bottoms of doors, or using makeshift methods.

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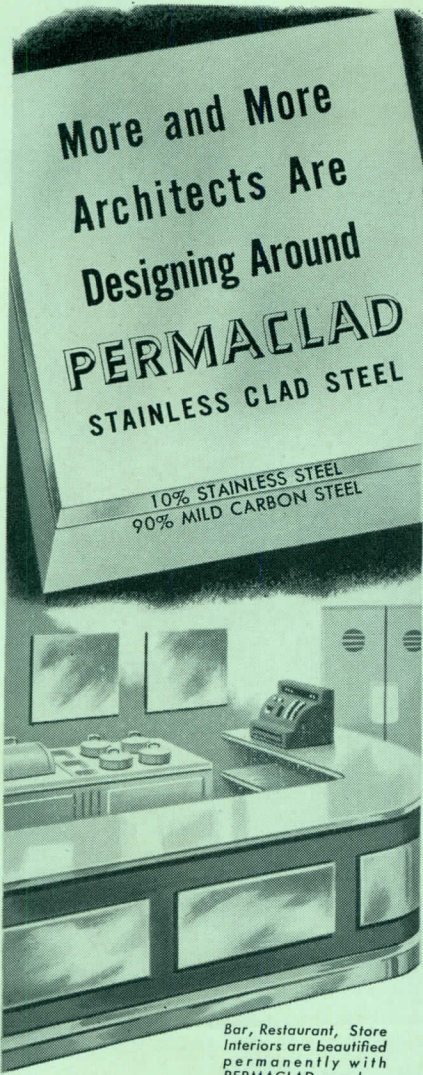
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REQUIRED READING

(Continued from page 32)

wide range of climatic conditions, that any categorical solution would be regrettable.

It really is an interesting, stimulating book. It clarifies one's thinking about the beginnings of a new era in planning for the needs of childhood. May the author continue to write more such.

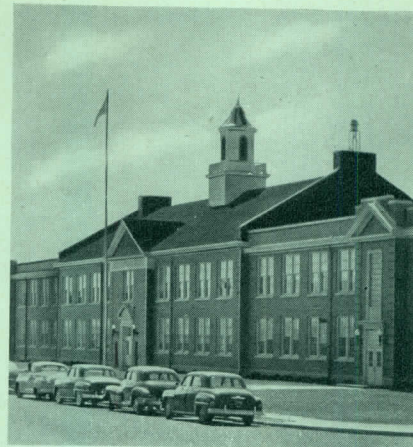
THE HOUSE OF COMMONS

Parliament House. By Maurice Hastings. The Architectural Press (London), 1950. 5 $\frac{3}{8}$ by 8 $\frac{1}{2}$ in. 200 pp., illus. 12s6d.

REVIEWED BY KEITH DE FOLO

Completed last year, the new British House of Commons preserves the architectural (and spiritual) link with the Commons' ancient home, the richly ornate 14th century St. Stephen's Chapel in Westminster Palace. Edward I, who built St. Stephen's, deliberately set out to surpass the Sainte Chapelle in Paris; among other things, he added a third story and extended the mullions of the windows right down to the ground. This introduced the 'Perpendicular Style' to English architecture; e.g., Gloucester Cathedral. Every detail of Edward's creation is vividly reconstructed by Dr. Hastings — from the thin Purbeck marble columns to the painted figures of the Royal family. "The whole building was ablaze with color, for hardly an inch of stonework was not painted or heavily gilded." Not so vivid (or convincing) is the author's insistence that St. Stephen's Chapel is responsible for the present character of the House of Commons. The fact that the Chapel's seating arrangement compelled past House members to face each other, resulting in two opposing groups, the Government and the Opposition, does not indicate the Chapel's character-molding influence. Or the "particular way in which English politics have developed." Better described is the stormy history of St. Stephen's: first the king's chapel, then a college and finally the House of Commons which was destroyed by the fire in 1834. During its 500-year career, St. Stephen's was 'classicized' by Christopher Wren who thought it a 14th century fantasy, and after the great fire was rebuilt in pseudo-Gothic. In 1941, a bomb blew the cheap Gothic to bits. The new Chapel is a handsome hybrid,

(Continued on page 290)



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See Sweet's for full product information about Minwax Caulking Compound and Minwax Weathercap for masonry joint protection; Minwax Clear and Colorless Protective Treatments; also Membrane and Spandrel Waterproofings.

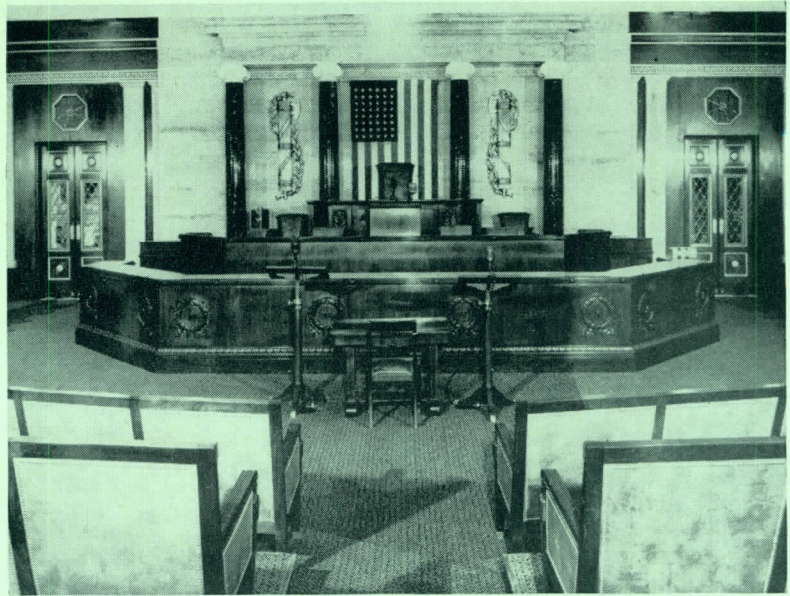


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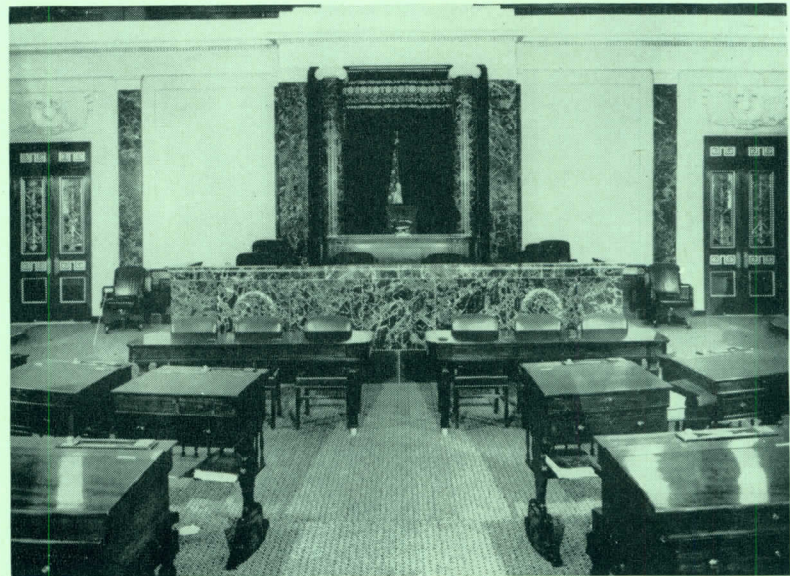
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REQUIRED READING

(Continued from page 288)

based on the previous designs but enlarged in detail. Nearly 100 excellent photographs and detailed drawings tell the architectural story of St. Stephen's and the Houses of Parliament even better than Dr. Hastings' rather stuffy, intricate prose.

NEW EDITIONS

SCHOOL ROUNDUP

The American School and University: 1950-51. 22nd annual edition. American School Publishing Co. (470 Fourth Ave., New York 16, N. Y.), 1950. 8¼ by 11 in. 904 pp., illus. \$4.00.

Probably no book is more generally useful to the school architect than THE AMERICAN SCHOOL AND UNIVERSITY, "a yearbook devoted to the design, construction, equipment, utilization, and maintenance of educational buildings and grounds."

This year's volume starts off with an article by its editor, Walter D. Cocking, on "Educational Building in 1949." An analysis of the schools erected in that year, Mr. Cocking says, shows that "approximately 70 per cent of them are one-storied structures. The modified campus type of plant is the rule rather than the exception. Classrooms are larger and the square classroom is becoming more and more the accepted shape. Special facilities are provided for adult and general community use."

"Trends in Planning Schools," by Walter W. Hook, Charlotte, N. C., architect, gives an illustrated report on the eight schools which received A.I.A. Merit Awards in 1949. Another article of particular interest is "Administering a Construction Program," by John C. Warnecke. Technical material includes articles on radiant heating, audio-visual facilities, school floors, sound systems, dry-joint masonry. And, as usual, there are many pages of pictures and plans of recently completed schools and college buildings. The editorial section as a whole stretches to 360 pages.

The second half of the book (some 500 pages) is a directory of building products and services, followed by the cumulative editorial and author indexes to the last 12 editions.

(Reviews continued on page 292)



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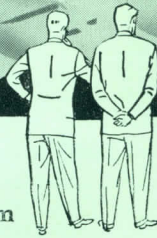
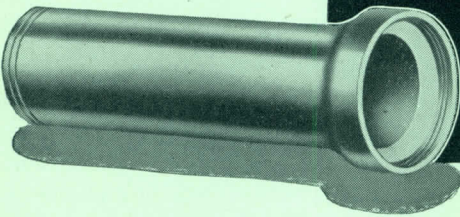
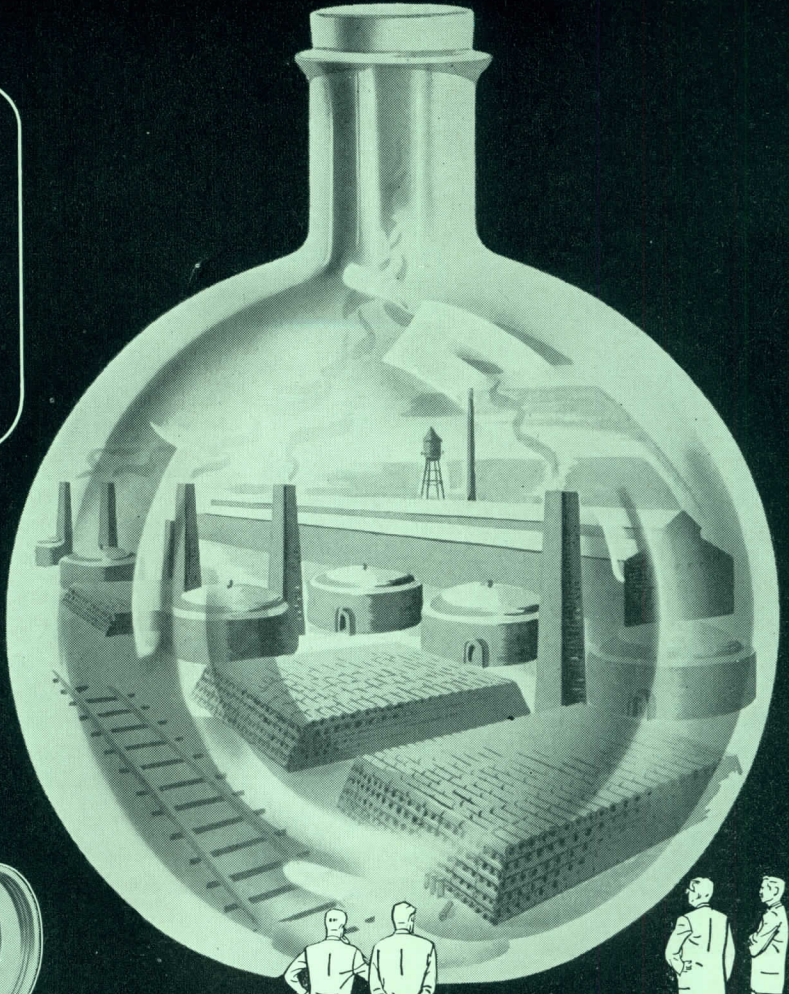
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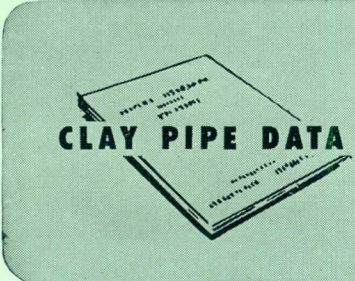


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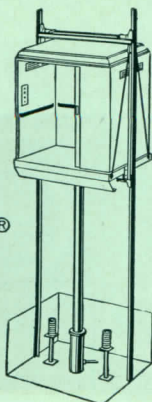
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REQUIRED READING

(Reviews continued from page 290)

BOOKS RECEIVED

Design in Sweden Today. Edited by Åke Hult and Eva Benedicks. Albert Bonnier, New York — Mostly ceramics, textiles, glass, furniture and silver in an excellent photographic presentation.

Building Modern Sweden. By Bertil Hullén. Penguin Books, Inc., Baltimore — Bricks, steel, glass, wood and mortar throughout Sweden in houses, factories, apartments, planned projects, etc.

Current Design, Vol. I, No. 1-4. A Quarterly Survey. Institute of Contemporary Art, Boston — Loose-leaf, cumulative presentation of contemporary domestic and foreign home furnishings; each product is shown and numbered consecutively.

Advertising Design. The Art School, Pratt Institute, Brooklyn — Brochure discusses scope and potentialities of design for commerce and industry.

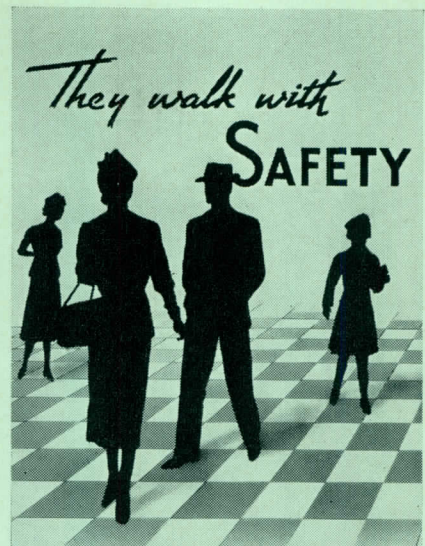
Practica E Tecnica Delle Pavimentazioni Stradali. By Umberto Bonzano. Antonio Vallardi, Milano — Detailed discussion of materials and tests and engineering techniques in paved road construction (in Italian).

Climate in Everyday Life. By C. E. P. Brooks. Philosophical Library, New York — Describes types of climate, effect of heat and humidity, heating, air conditioning, weather controls, etc.

Unterirdischer Städtebau. By Ernst Randzio. Walter Dorn Verlag, Bremen — Construction of underground facilities in city planning: transportation, service mains, tunnels, etc., with examples from greater Berlin (in German).

Construction and Equipment of the Home. By the American Public Health Assn. Committee on the Hygiene of Housing. Public Administration Service, Chicago — Symposium considers structural framework, air conditioning, illumination, noise control, sanitation, safety, legal and administrative standards.

Bricks and Mortals. Citizens' Housing and Planning Council, New York — Principles to guide large-scale residential development in New York City.



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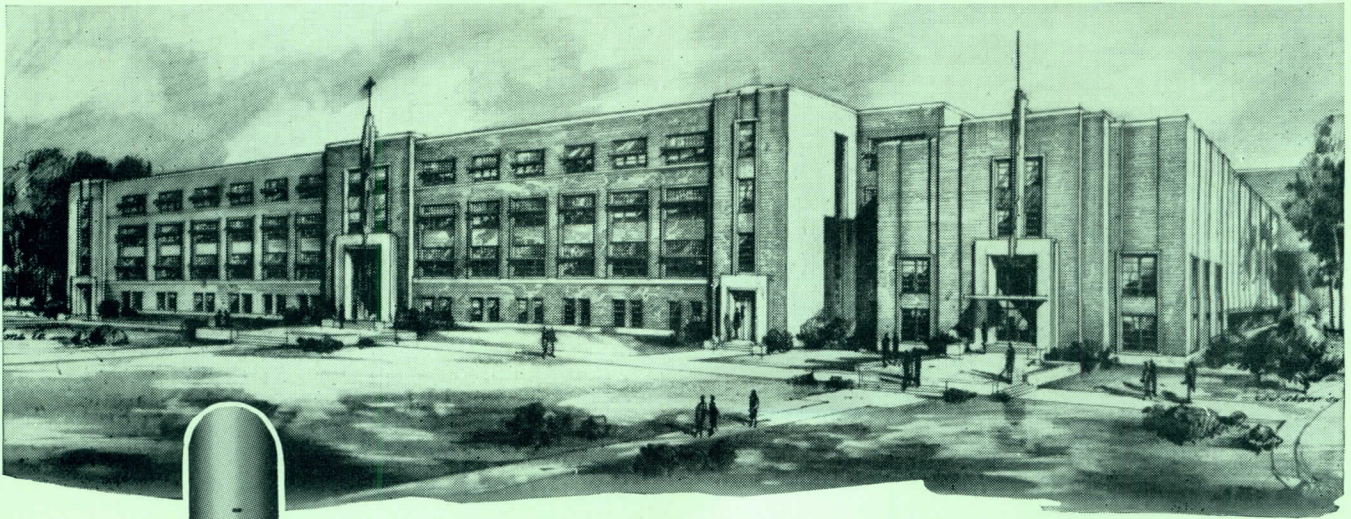
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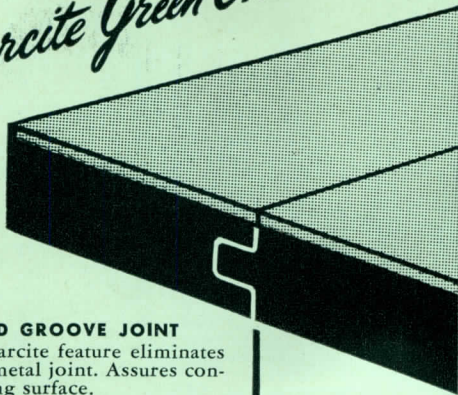
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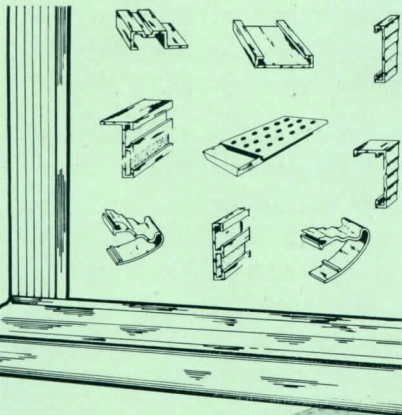
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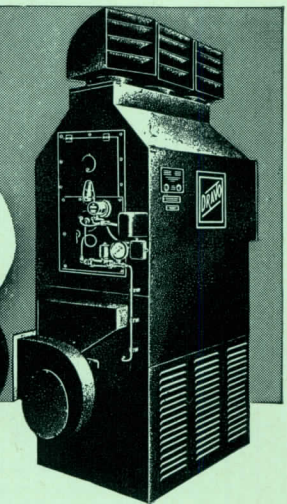
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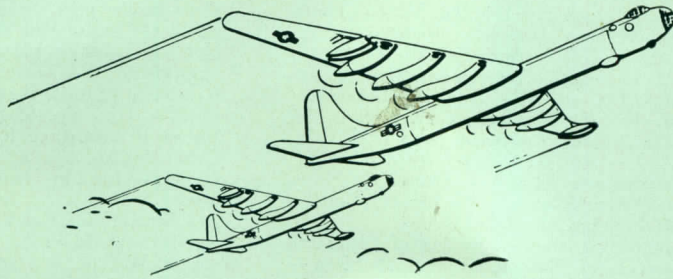
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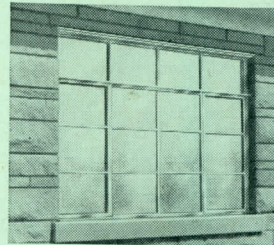


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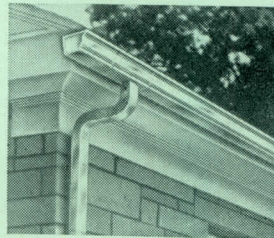
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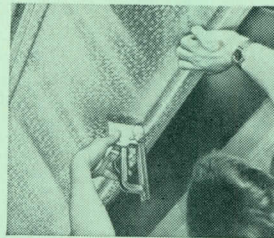
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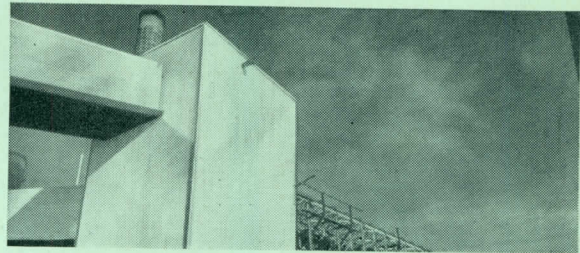
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