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DEMOCRATIC MONUMENTS

Many people have worried about the problem of finding a monumental architectural expression which is appropriate to our time. Obviously, important public structures should express dignity and sobriety. Obviously also, the repetition or modification of classic forms is not a final answer. The TVA structures perhaps come closer to a satisfactory solution than any others which have been built. They are contemporary; they are impressive, dignified, and sober. There is nothing awesome here, and yet the beholder is conscious of restrained power. There is nothing sensational, and yet there is a majesty which is consonant with the terrain and with the purpose of the structures.

The reason for this is not hard to find—here is "monumental" architecture for the first time designed for the use of all the people. This isn't a monument to a ruler or a god or a war. It is a monument to the initiative, the imagination, the hopes, and the ambitions of a nation of free people.

It is to the everlasting credit of the designers who have been connected with TVA that they have succeeded so well in capturing that difference between past monumentality and present democratic purpose. Scale has something to do with the successful result. There has been an intelligent handling of materials. There are subtle contrasts of size, of light and shadow, of natural hills and mass concrete. Yet we feel sure that the most important ingredient has been a real understanding of and sympathy for the problem and all of its implications. Fontana couldn't have been designed with a tongue in the cheek.

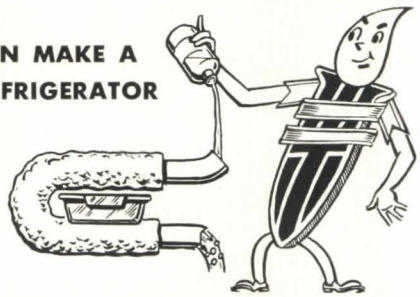
The Editors

Stays Silent-Lasts Longer

LIQUIDS COOL ON EVAPORATION

When you pour alcohol on your skin and blow on it, it will feel cool. That's because liquids draw heat from the surrounding area as they evaporate. You could test this for yourself with a thermometer. Both gas and electric refrigerators operate on this principle . . . but there's a *big* difference in the application. Study the following illustrations and you'll see why Gas Refrigeration's method is superior.

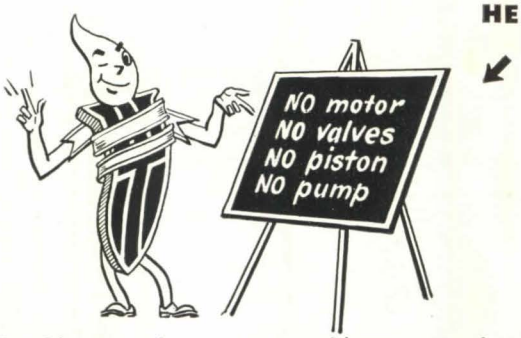
YOU CAN MAKE A SIMPLE REFRIGERATOR



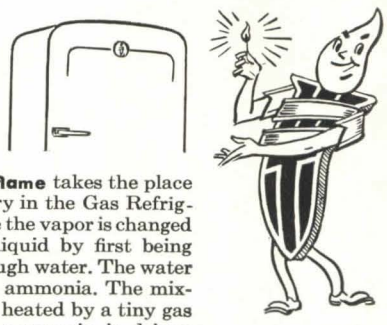
All you would have to do would be to pour continuous streams of ammonia or any other refrigerating liquid and air through a bent metal tube. As the ammonia evaporates on the inside, the outside of the tube cools . . . which causes refrigeration. The evaporated ammonia is then passed off in the form of vapor gas. However, in practical refrigeration, allowing this vapor gas to escape would be wasteful. It must be recovered and used again.

ONLY ONE HAS NO MACHINERY . . . A TINY FLAME DOES THE WORK

HERE'S HOW



All refrigerators but one use machinery or moving parts to change the vapor back to a liquid and circulate it for re-use. Only the Gas Refrigerator makes cold and ice with no motor, no pump, no valves, no piston or compressor.

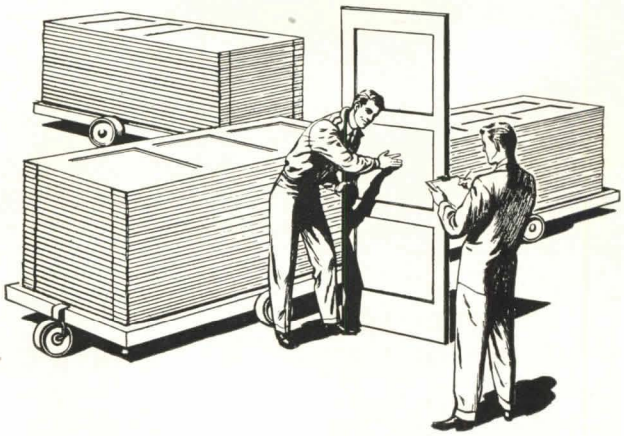


A tiny gas flame takes the place of machinery in the Gas Refrigerator. Here the vapor is changed back to a liquid by first being passed through water. The water absorbs the ammonia. The mixture is then heated by a tiny gas flame. The ammonia is driven off in the form of vapor. Cooled by passing through pipes, it condenses again into a liquid. *Not a single moving part is needed.*

● **Shown above** are the basic principles on which all refrigerators freeze ice and produce cold. Perhaps you're ready to order refrigerators for new apartments or a housing development . . . or planning to buy replacements for your present apartments. Either way, it is important to know the difference between refrigerators.

As you'll note, there are two types of automatic refrigerators. One uses machinery. The other—a different, simpler refrigerator—operates without moving parts. In their place a tiny gas flame does the work, silently, efficiently. This is the Servel Gas Refrigerator.

Because it freezes with no moving parts, you'll never hear a sound from Servel. No hum of stopping and starting. And it won't lose its efficiency or run up costly repair bills. More than two million families are enjoying this basically different refrigerator right now. Servel, Inc., Evansville 20, Ind.



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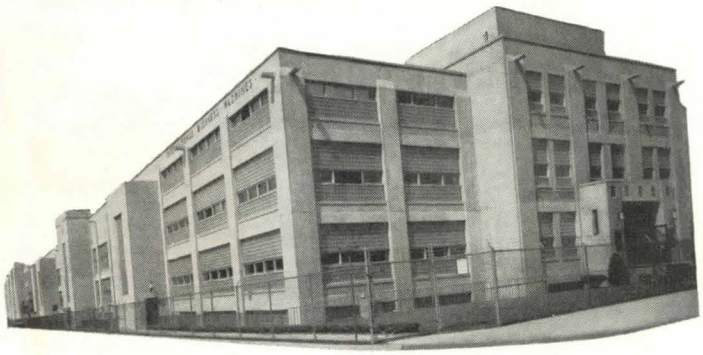
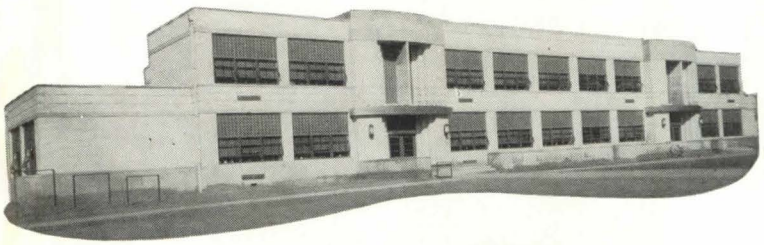
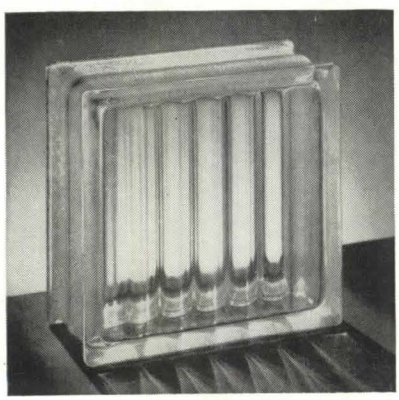


The panels of PC Glass Blocks in this big modern plant admit plenty of clear daylight into extensive shops, work rooms and offices. By directing good working light to remote desks, machines and benches, in all sorts of buildings, PC Glass Blocks prevent waste of valuable floor space and reduce artificial lighting costs—economies your clients will find important.



The use of PC Glass Blocks in school buildings means lighter, brighter classrooms, where students can see clearly and do better work. Corridors and stairs can be better lighted, for greater safety. The insulating value of the glass block panels prevents excessive heat losses, increasing the comfort of students and instructors, reducing fuel cost. Easily cleaned, PC Glass Blocks seldom if ever need repairs or replacements. All these features ease the financial load. Overend and Boucher, Architects.

The architect gave this fine modern store more "buy appeal" by his smart use of PC Glass Blocks. They also bring plenty of clear daylight into salesrooms, showing off goods on sale at their colorful best. Harmful dust and grit cannot infiltrate through the solid wall of glass, so damage is prevented, cleaning minimized. PC Glass Blocks help to pay for themselves in increased sales and profits. Stiles O. Clement, Architect.



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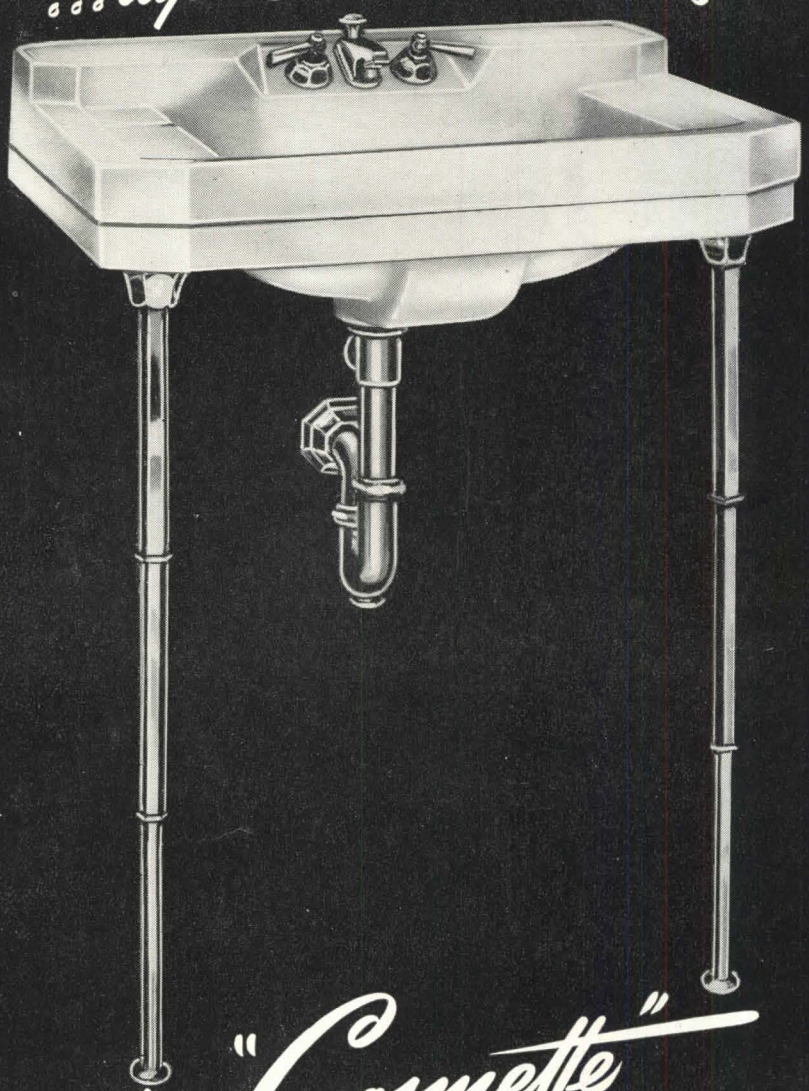

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Standardized Fencraft Combination Windows in Annie M. Warner Hospital, Gettysburg, Pa. Windows in the waiting room included a center fixed light. Windows in bedrooms consisted of two vertical vents and one horizontal sill vent for controlled fresh-air ventilation. Architect, John B. Hamme; Contractor, Earl L. Cump.

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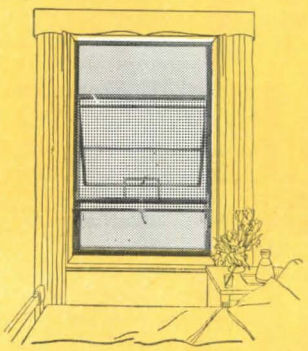
For complete information, see Sweet's (Section 16a-9). Or mail the coupon.



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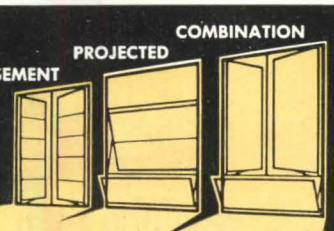

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VIEWS

ART IS EVERYWHERE

Dear Editor: It was my privilege recently to see in preview the 58th Annual of the Chicago Art Institute which has since opened (November 6—January 11) under the title, "American Abstract and Surrealist Art." This is the most thoroughgoing investigation of the state of artistic inclination that has ever been undertaken in America, so far as I know. It is an exhibition to end all doubt of the extent and strength of the modern idiom in painting and sculpture in the U.S.A.

If rumor had it that a wave of reaction was sweeping the country, and if designers have been considering retrenchment in the face of a new conservatism, you can tell them to "come out now." Chicago shows painting and sculpture from 29 states, handpicked by two museum staff members who went out seeking for a year, and visited 76 cities in search of first-class talent. The gathering was confined this year to abstract and surrealist works, but the Art Institute plans to scout further, under different themes, until it has reported on all American movements in art: Traditionalism and Realism, Expressionism and Romanticism, following the same system of invitation.

The system employed was not easy but because of its successful outcome will probably continue in use at this Institute. Since all available invitation lists are composed of previous exhibitors only, and as the museum wanted as much virginal material as possible, its representatives called at thousands of doors and left invitations with 256 artists, one-third of whom had not shown before in a major museum annual.

The evidence is upon the walls and in the catalog notes that painters and carvers in remote sections employ the idioms of abstraction and surrealism with as much understanding as those in urban art and education centers. There are mystics and dreamers and men of highly developed design sense on top of a mountain far removed from a city, in a brick factory, on carpenter benches, in sawmills, and in kitchens. The lack of strict adherence to the once-stated boundaries of these two schools of expression is quite general throughout the show. Variations within the two forms are there without end, whether the product of sophisticated circles or springing forth from somewhere along the 24,000 miles of roads traveled by the curators. There are individuals at work with paint and chisel to whom tradition, rule, and rote are no longer considered the tools of a painter's or sculptor's craft. And while originality is paramount in this extensive exhibition which fills nine spacious daylight galleries at the Art Institute, discipline is also markedly evident in the use of paint and comprehension of design. The rather remarkable dignity of the exhibition is due no doubt to the segregation of this imaginative and emotional art from subject and model painting with which it is usually hung in an annual of this size. Such an arrangement is to the eye of an art critic what an entire modern building development would be to that of an architect. No jolts. Clean lines and space, well placed color, sharp, tasteful decision on every hand.

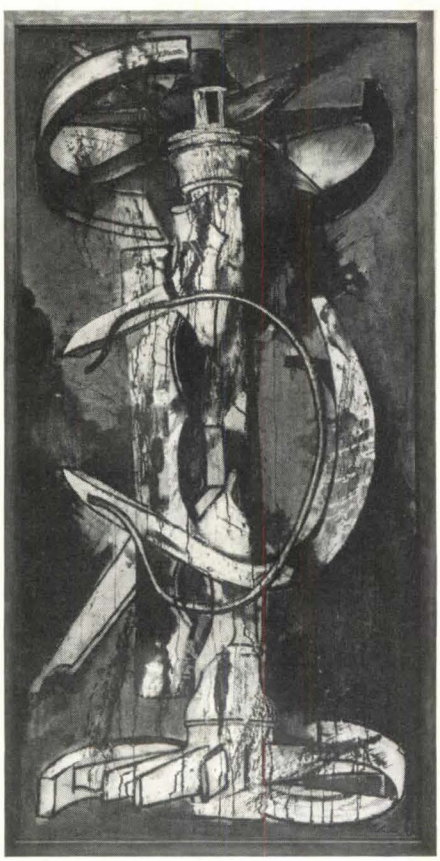
The question was paramount, when I left Chicago, whether or not Chicagoans will shout down its most daring exhibition to date. Is the public, like the press, unready to meet art on advanced terms even when presented by its well loved and well attended Art Institute? One Chicago newsman feared so. He had been sent by his paper to cover the exhibition in preview. Camera in hand, he was obviously nonplussed. He was shown a curvaceous marble abstraction of a shellfish made by a man who had fired bricks all his life; abstractions in brass, in polished California redwood, in Grand Rapids maple, in hammered, welded, and brazed steel; a cardboard collage of remarkable precision and nicety by a Chicago housewife.

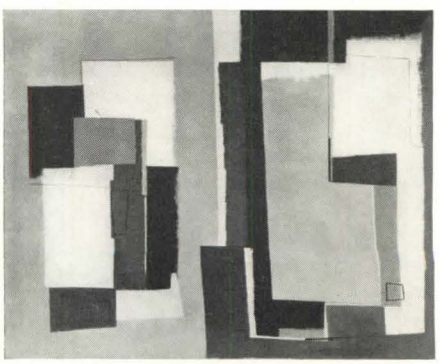
The reporter had inspected the prize winners, only eight out of the 13 bearing names he could possibly have encountered before. All of the paintings were new, even when artists were known to him. . . . He sought a way out. . . . Asked permission to bring in a passer-by and photograph his confusion.

Granted this permission, the newsman picked up at the front entrance an oldish man in cap and overcoat, carrying a carpetbag. Invited into the closed-off special galleries, he was asked to pose for the camera before a tall panel, which he was not told was a first-prize winner. Rico Lebrun's "Vertical Composition," the jury's first choice for awards in the distribution of medals and a purse of $5300, is an abstraction, a rather powerful re-do of a broken axle and wheels stacked up into a crackling arrangement, tugging to be off in all directions. But it is controlled and subtly colored, thinly painted, trickles allowed to run, and much of the canvas left bare. The painting is typical of the dynamics displayed, and a departure from the anatomical classicism of this artist's former works.

The camera's subject looked long at the painting and did not move. "Take off

(Continued on page 10)





The 58th Annual American Exhibition at Chicago Art Institute (Nov. 6—Jan. 11) is notable for inclusion of works by a number of artists who have never exhibited in any public museum or gallery before, such as John R. Baxter, firebrick factory worker of Walnut Creek, Calif., whose sculpture in marble, "Shellfish," is shown at left. The jury's choice for first prize was "Vertical Composition" (center) by Rico LeBrun of Los Angeles, a recognized painter. Among other prize winners was architect Serge Chermayeff, director of Chicago Institute of Design, whose "New York, No. 2" is shown at right.

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VIEWS

(Continued from page 8)

your cap and scratch your head," ordered the photographer. "I will *not*," exploded the man who was the public. "I will not ridicule that painting. It is a grand picture!"

I am enclosing for your readers' judgment a photograph of the Lebrun painting; also other prize winners and a selection of sculptures and painting by newly scouted talents, some of whom took liberties with architecture in the name of surrealism. I thought the latter might make you scratch your editorial head in confusion. No?

MAUDE KEMPER RILEY
New York, N. Y.

P.S. The jurors were: Alfred Barr, Director of Research in Painting and Sculpture at Museum of Modern Art; Henry R. Hope, Chairman of the Art Department, Indiana State University; and Gyorgy Kepes, Professor of Design at Massachusetts Institute of Technology.

NO TRICK WORDS

Dear Editor: You asked for my comment on "Modular Gardens" (September and October 1947 PROGRESSIVE ARCHITECTURE). I am not very fond of trick words; therefore I do not care for the term "modular." The plans are most interesting and I think very helpful. I am not very enthusiastic about "chicken shed" architecture or the carrying of angular design to the extreme. Some of it looks very nonsensical. Some medium ground between the informal and modular garden types might be safer in the long run.

After being in this work for 34 years I can now say that to put the emphasis on Latin names for plant material is ridiculous. I like the other way around so that more people will be interested in plant material—placing emphasis on the common name when possible and using the Latin name for positive identification. Otherwise, I think the plant lists are excellent.

CHARLES HAYES DIGGS
Orange County Planning Director
Santa Ana, Calif.

LEISURELY APPROACH

Dear Editor: I am going to suggest that for my own personal use a new department be created in your magazine to be known as "The Great Houses." The function of this department would be the publication once each month of a complete story on a single house. These houses would be selected by a board of the outstanding architects in the residential field. No house would be eligible for consideration that had been built less than five years, since a certain perspective is absolutely essential in the evaluation of work to receive this high honor. There should be new photographs with established planting, a critical analysis by some eminent authority, complete construction details, an outline of the building materials used, no biographical notes or photographs, but merely the name of the architect.

These portfolios would be presented on a special stock which could be removed from the magazine intact, and would, in the course of a few years when there were no more houses to publish in the series, furnish the profession with a most inspiring and valuable book. In most cases these houses will have been previously and hurriedly published and this thorough and leisurely approach should give a much finer concept of the subjects selected. By removing the responsibility of the selection of this material from your editorial staff, you could avoid the resentment of any architect whose work was not so signally honored.

As examples of the general type of house that I have in mind I would like to mention Falling Water, the Clara Fargo Thomas house, John Funk's

(Continued on page 12)

Bronze doors and grille work provide simplicity and elegance. Extruded shapes are employed for door trim and frames. Grilles are formed from special shapes, tubes and bars.

Cram and Ferguson, Architects
Turner Construction Co., General Contractor

Dignity, Performance, Utility

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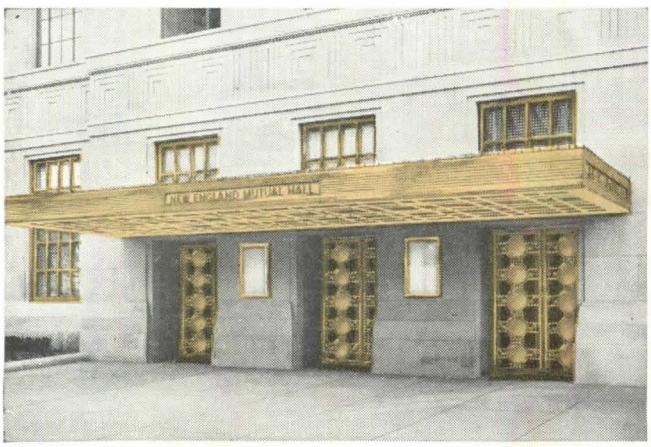
IN THE strikingly handsome home office building of the New England Mutual Life Insurance Company of Boston, the architects and builders have made fullest use of bronze for its utilitarian advantages, its reduction in maintenance cost as well as its impressive beauty that is enhanced as time goes on.

Main entrance doors and grille work, the auditorium marquee, ornamental work in general and window frames throughout the building were fabricated by the General Bronze Corporation from Anaconda Architectural Bronze.

Added to the obvious advantages of this rustless, traditionally beautiful metal, is long run economy over less durable metals. This is exemplified particularly in windows which require little maintenance, operate smoothly, will never bind or cause panes to fracture through rust accumulation in the channels.

4717



The face of the marquee is formed of sheet bronze, the glass lighting panels are supported in a frame of extruded shapes. Directory boards are also framed by extruded shapes.

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VIEWS

(Continued from page 10)

house at Modesto, the Harris house in Fellowship Park, Taliesin and Taliesin West, Stone's house for Goodyear, etc., and etc.

HARRIS ARMSTRONG
Kirkwood, Mo.

GO WEST . . . GO WEST

Dear Editor: You are to be congratulated on the issue of October 1947. You are actually portraying progressive architecture in your magazine when you give the facts regarding the architects' own offices, for there is a truthful and functional beauty in them as they were designed without the dictates of outside influences. You will realize the exception to your findings on a recent trip wherein you reported that architects' offices resembled the back entrance to a lumberyard. Unfortunately, you only reported on a few of the beautiful offices in the Los Angeles area, and you would be doing a great justice to the profession if you reported on a few of the old well established offices, similar to A. C. Martin, John Austin, Gordon B. Kaufmann, which represent a beautiful and truthful example of what is actually the architect's business problem solved by his own answer to the functioning of his business.

In "Observations" we see that you ventured as far west as Kansas. Why not take a look at Frank Lloyd Wright's Arizona Biltmore Hotel and look over Los Angeles' and San Francisco's recent buildings, with the idea of giving the United States fuller geographical coverage?

JAMES CHARLES RICE
Los Angeles, Calif.

AS AN ARCHITECT SEES

Dear Editor: I have been a subscriber and a keen reader of your magazine PROGRESSIVE ARCHITECTURE for the past two years and in that time have reaped considerable benefits from its professional contents. There is a small criticism I would like to ventilate, however, and it is this opinion that prompts my letter.

In the letter section of certain back numbers of your publication I read with interest the cry of certain architects at the dearth of renderings, sketches, etc., from the pages of your magazine, and it is on this subject that I wish to add my quota. While I have only praise for the excellence of your photographic work, I do not think your magazine was ever intended, judging from your many inculcations, for either the lay mind or the prospective house-owner. Why then can't we have more material from the architect's board—sections, elevations, perspectives, renderings—elucidated by one or two good pictures, rather than pages of photographic shots that tell only half the story.

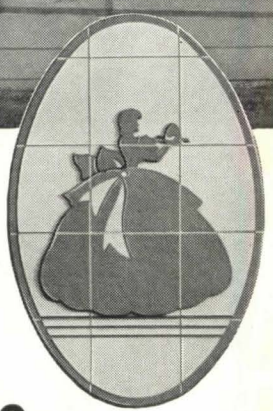
We are not interested in beautiful panoramas or mountain sceneries; we want to see what goes on behind that wall, that ceiling, or that abnormal roof, not as the cameraman but as the architect sees it. I am not alone in my convictions and await with interest your reaction to my above views.

ARNAUD DE VERTEIUL, JR.
Port-of-Spain, Trinidad

MOST OUT OF SUBJECT

Dear Editor: Basically the present editions of PROGRESSIVE ARCHITECTURE are filled with information directly helpful to the practicing architect, and, personally, I found from a speech you made in Memphis several months ago what your aims were toward modern architectural progress and thinking. Heretofore, I could not understand why your magazine was devoted entirely to so-called modern or present-day progress made in architecture. Nevertheless, having studied in the modern school, I am quite pleased in every respect with the publication.

ALFRED H. ABERNETHY
Cardwell & Abernethy
Johnson City, Tenn.



COSTA'S ICE CREAM PLANT, ROUTE #1, WOODBRIDGE, N. J.

Albert F. Weber — *Architect*
John N. Wester and Son, *Builder*

The parapet, permanently displaying the Costa trademark, is in warm buff Enduro Architectural Terra Cotta, with projecting lettering and design in blue. Base course, sills and coping are of blue matte glaze Enduro Terra Cotta, with the fields of the building in buff brick. This same theme is carried out in the entrance to the building, with warm buff matte glaze Enduro ashlar field and deep curved reveal in blue. All display areas of the interior (not shown)—the ice cream processing room, reception room, and lobbies—are faced with Enduro Architectural Terra Cotta in buff ashlar field and blue stencil polychrome cap.

ENDURO

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THE design of industrial buildings today often involves the combined problems of function, practicality, and display. In the recently-completed building presented here, a satisfactory solution to these demands is met.

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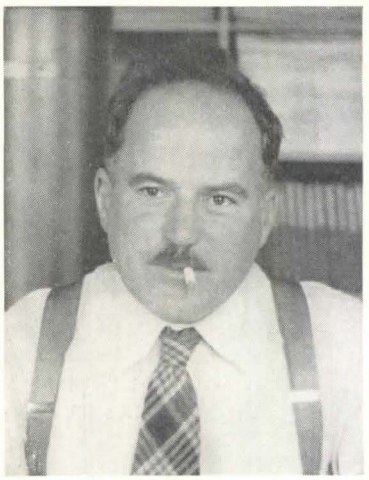
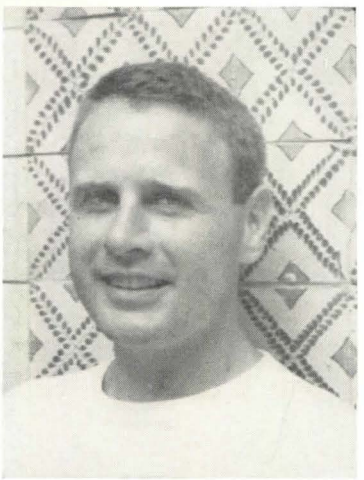
THIS MONTH

WILLIAM WILSON WURSTER



THEODORE C. BERNARDI



DONN EMMONS

HOWARD M. NUGENT

WILLIAM H. EASTON, JR.

Featured in this issue is the Fontana Dam, newest and largest of the Tennessee Valley Authority storage dams, designed by TVA architects and engineers.

The office of the Schuckl Canning Company in Niles, California, were designed by the well known San Francisco firm, Wurster, Bernardi & Emmons. The senior member, **William Wilson Wurster,** needs no introduction to our readers. He is at present dean of the School of Architecture & Planning at M.I.T. but still manages to keep in close contact with the work in his office, his partners say, and "commutes" between Cambridge and San Francisco. Although born on the Dalmatian coast of the Adriatic, **Theodore C. Bernardi** was brought to this country at an early age and has lived in California ever since. (An exceptionally loyal "native" of the state, he made his first trip to the Atlantic coast only this past summer!) He graduated in 1924 from the University of California, having majored in architecture, and then worked with several firms before going into Wurster's office (established in 1924) ten years later. For the next eight years he carried a major share of the operation of the office, and when Wurster went to study city planning at Harvard in 1942, Bernardi took over the office and did Government housing projects with various associates during 1942-1944. In 1944 the firm of Wurster & Bernardi was formed. The firm name was changed again to include the name of **Donn Emmons,** upon his release from service at the end of the war. He first entered the Wurster office in 1938 after studying architecture at Cornell and the University of Southern California, and gathering a few years of experience

(Continued on page 16)

NEXT MONTH

● The basic purpose of the January 1948 issue will be to supply our readers information on the latest building materials and equipment. This issue will be unique, however, for in addition to extensive lists of new, reintroduced, or redesigned products, we will also show examples of buildings whose designs were conspicuously influenced by the materials or equipment.

● To demonstrate the importance of building materials in design there will be: a church for Manila, P. I., by Antonin Raymond, architect; a house in Los Angeles by Gordon Drake, designer; the town hall, Clichy, France, by Beaudoin & Lods, architects; Town Theater, Long Beach, California, by Hugh Gibbs, architect; Cambridge Diesel Generating Plant in Minnesota, by Long & Thorshov, architects; and an example of the new Durisol construction. As examples of structures in which equipment has been the prime factor in the design solution: General Motors Diesel Equipment Plant, Grand Rapids, Michigan, by Allen & Kelley, architects; a New York house by Sargent, Webster, Crenshaw & Folley, architects; a retail men's store, Washington, D. C., by Berla & Abel, architects; a washroom in the Fairbanks-Morse Office Building, Chicago, by George Senseny and J. Stewart Stein, architects; and "the largest service station in the world," Los Angeles, by William Hempel, architect.

New Los Angeles Airport now ready for heaviest air and foot traffic . . .

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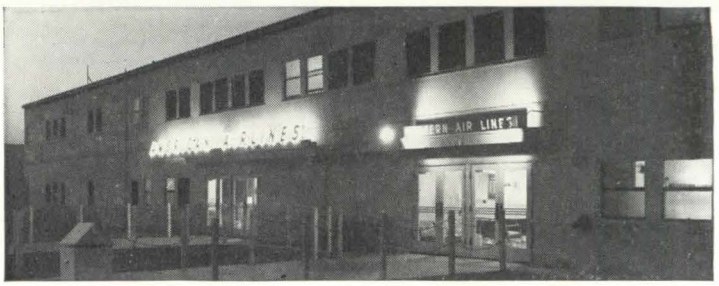
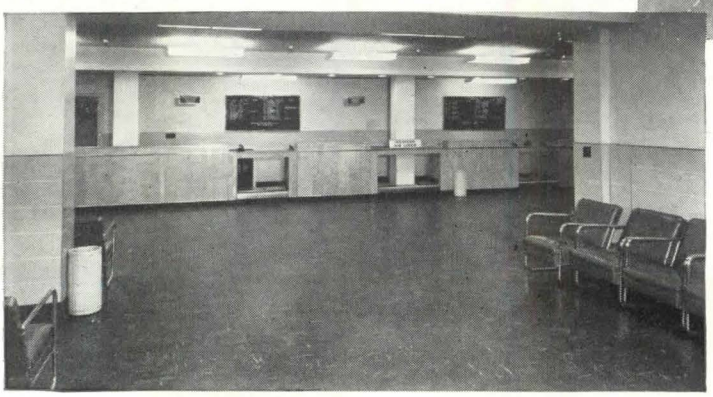


One of three new passenger terminals at the Los Angeles Airport. All floor areas are surfaced with foot-easy Tile-Tex Asphalt Tile.



The new Los Angeles Airport was designed by N. M. Cirino, Architect for the Bureau of Engineering, City of Los Angeles. Notice (above) how all the facilities for handling busy air travelers have been compactly arranged for maximum customer convenience. Notice, too, that the brown Tile-Tex floor is marbleized so dust is less noticeable, maintenance is cut to a minimum.

Comfortably resilient Tile-Tex and the acoustical ceiling team up (left) to lessen noise and confusion in this busy terminal.

Asphalt TILE-TEX CO. INCORPORATED Tile

Tile-Tex Asphalt Tile

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THIS MONTH

(Continued from page 14)

in Southern California. He went into the Navy in 1942 as a gunnery officer and in 1944 was assigned to the "fabulous" Special Devices office under Admiral de Flores to design exhibits for the Bureau of Aeronautics and the Office of Research and Inventions.

Attention in the Materials and Methods section this month is focused on a discussion of "Apartment House Elevators," written by two authorities on the subject, both consulting engineers with the Otis Elevator Company. This article is a condensation of one chapter of *Apartment Houses*, the latest addition to The Progressive Architecture Library series (scheduled to come off the press this month). **Howard M. Nugent** has been associated with the Engineering Department at Otis for many years, and was at one time an assistant to the late D. L. Lindquist, chief engineer of Otis and well known elevator engineer. He has made a special study of the elevator traffic requirements of various types of buildings and in the course of his career has done analyses of such requirements for many noted buildings constructed both here and abroad. A professional engineer, Nugent is a graduate of Stevens Institute of Technology and a member of the American Institute of Electrical Engineers. **William H. Easton, Jr.**, is a relative newcomer to the fields of architecture and building, and has been with Otis only a short while. During this time, however, he has devoted his energies to elevatoring buildings and applications of automatic elevators. Before joining the Otis staff, Easton was connected with several manufacturers as a metallurgist. He is an engineering graduate of University of Kansas and was formerly associated with the American Institute of Mining and Metallurgical Engineers.

ALONZO J. HARRIMAN

We are also presenting this month, in the feature section, a group of overnight cabins in South Yarmouth, Massachusetts, designed by **David Fried** of Boston. For biographical notes on the architect, see June 1947 PROGRESSIVE ARCHITECTURE.

The new arts and science building of the Ricker Classical Institute in Houlton, Maine, comes from the architectural-engineering office of **Alonzo J. Harriman**, of Auburn, Maine. Born and bred in Maine, Harriman attended the University of Maine, where he graduated with a B.S. in mechanical engineering in 1920. He originally intended to be a shipbuilder and his studies were all directed to that end. Finding a dearth of work in that field his first year out of school, however, he shifted to building design and construction. He worked for five years in structural engineering and then decided that he preferred to be an architect-engineer rather than just an engineer, and went on to Harvard to gain his M.A. in architecture. A partnership with Harry S. Coombs lasted from 1928 to 1939, when he established his own firm, an office then consisting of two men and a secretary. By 1942 the firm had expanded by reason of war commissions to 100 persons, with offices in several cities. The work of the firm has been mainly in housing projects and industrial plants.

(Continued on page 18)

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THIS MONTH

(Continued from page 16)

Maynard Lyndon, whose men's wear shop in Beverly Hills, California, we present this month, is a midwesterner by birth. He received his architectural training at University of Michigan, and spent the years 1935-1942 in Detroit doing schools and public housing as the architect member of the firm, Lyndon & Smith. His experience also includes work for the Department of Interior in Washington, D. C. He has been in private practice in Los Angeles since 1942, concentrating on schools and public and commercial work.

William V. Kaeser, architect of Madison, Wisconsin, writes, "I came to Madison in 1935 to build a couple of houses and have been here ever since." One of these houses, in nearby Whitewater, is presented in this month's issue. After receiving his B.S. in architecture at University of Illinois in 1931, Kaeser went on to M.I.T. for his master's degree. He also attended Cranbrook, where he studied city planning as well as architecture for a year and a half under Eliel Saarinen. The city planning study was borne out in the three years he worked on the City Planning Commission in Madison while maintaining his own office. His work has been mostly residential, although being located in the middle of the dairy belt, he has also done some specialized work on milk processing buildings.

MAYNARD LYNDON

WILLIAM V. KAESER

The second part of the streamlined specification for hospital casework, by **Ben John Small,** concludes the technical section this month.

NOTICES

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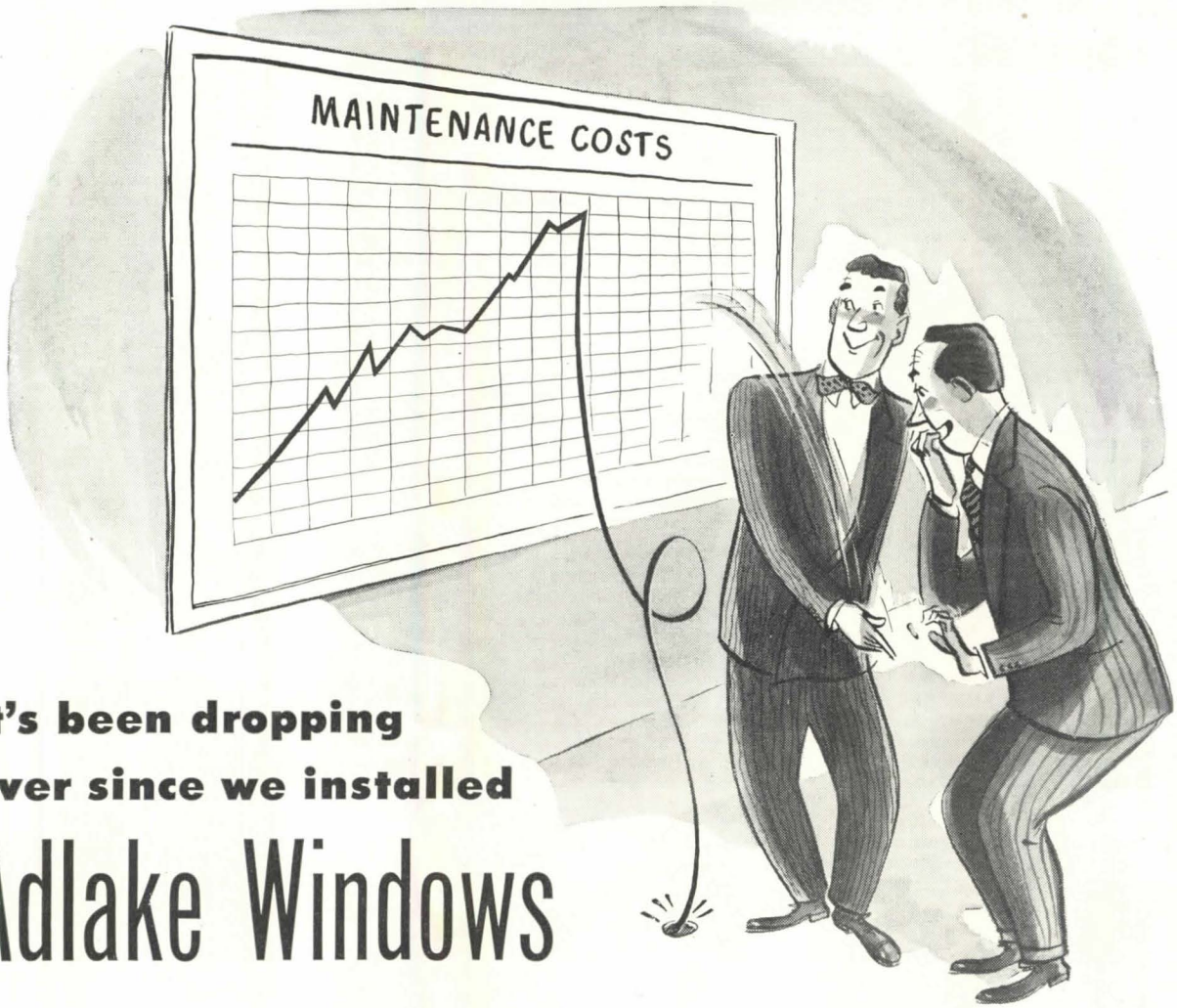

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PROGRESS REPORT

FORM STILL FOLLOWS FUNCTION

In Hanover, New Hampshire, a man named Adelbert Ames has been working quietly for some years on a series of visual experiments which may have an important effect on architectural design. The Dartmouth Eye Institute has attracted the excited attention of philosophers, psychologists, sociologists, and doctors; the only contact architects have had with the studies was at the Princeton Conference last spring, when Professor Ames and his story were lost in the distinguished gathering. Although the study of visual sensations may seem like a dull subject on which to report progress, every progressive architect should at least know that these important studies are going on. Ames himself insists that a brief summary of his findings cannot be made, and that a complete understanding of what he is doing can come only through "the personal experiencing of numerous phenomena through laboratory experiments." However, the architectural implications might be summed up as follows:

1. Visual sensations are not inherent in the external "things" at which we are looking.

2. These visual sensations are derived entirely from our own experiences, personal and inherited.

3. These sensations are directives for action "in furtherance of our purposeful values."

4. We recognize the value and purpose of an object, a building, or a town, by an intuitive "value sense," which, Ames insists, is what we know as the esthetic experience.

●

What does this mean, literally, to a practicing architect? It seems to mean that a building should be designed so that its use can be immediately recognized. It will then be good to look at, because the observer will recognize its use ("purposeful value") **to him.** Apparently this can't be gained by styles or clichés; it isn't a matter of intellectual functionalism; it isn't a vague emotional or esthetic content added to a structure. For a non-architect, Ames makes a statement which makes startling architectural sense when he says:

> "From my very limited knowledge and experience in architecture I presume that the characteristics of a building, impingements from which are related to this value-sense, may be **(1) in the form and relationship of its parts that denote its function; (2) in the unequivocalness with which these functions are suggested —this should be related to the degree of the sense of surety as against the degree of sense of lack of surety—; (3) in architectural detail or particular relationship of parts that the observer has experienced before and to which in his prior experiences he had related experienced value-sense."**

A quick reading of this third "characteristic" might lead to a false conclusion: that repetition of well known details is necessary, in order to produce a sense of value—an acceptance—in the beholder. While it is true that Ames' experiments point to the need for recognizable forms, they must be forms—and details—which are recognizable as **related to the purpose,** and not in any sense incongruous. Repetitious use of a Roman facade to denote a bank does not necessarily give that form, used for that purpose, "value-sense." To put it in Ames' own words: "It would seem . . . apparent that this third characteristic must be related to the purposes that are intellectually and logically undersood by the beholder. *Still further it would seem apparent that if the value-senses suggested by 'pure form' were incongruous with the intellectual purposes that it would be worse than if no value-sense were suggested at all."*

●

The experiments which lead up to this conclusion are simple enough to experience, but difficult to describe. One elemental series relates to the nature of what is "real." A lot of strings, arranged in different ways, at different distances, in different planes, look to an observer peeking through a hole as though they were chairs. What causes this misreading of facts? Ames goes through many experiments which indicate the well known "clues" that lead to our visual sensations: brightness, color, size, perspective, shadow, softness of edge, parallax, overlay, etc. He studies the sense of distance between things, the sense of distance from the observer, so-called "objective characteristics," relation of characteristic to distance, etc.

Many of the experiments study one's emotional, as well as esthetic, reactions to illogical sensations. One feels very much upset to discover that certain objects are not what they seem to be; it is astonishing the **physically** sick feeling one can experience as a result of visual dishonesty.

Up to this point the experiments seem merely scientific support for the architectural truth that Louis Sullivan expressed poetically: *"That which exists in spirit ever seeks and finds its physical counterpart in form . . . the building, to be good architecture, must, first of all, clearly correspond with its function, must be its image . . ."* But the Dartmouth experiments go on from here and point to the active **results** of visual sensations. Not only is the beholder's sense of surety established by a form which is related to its function (it's "purposeful value"); there is **action** which results from the visual experience. The implication is that the buildings and the cities which we design can lead to purposeful action and can help destroy—or prevent—the fear and prejudice that come through a lack of surety.

●

This relation between sensations and actions becomes apparent in a simple demonstration based on a room which is **constructed in perspective.** Floor, ceiling, walls, and windows all are built in a distorted fashion, so that the upper right corner is closer to the observer than the upper left corner, for instance. Since the perspective is correct, if you look at the room with one eye from one exact point, the room seems rectilinear. Special glasses can also give you this effect.

With a pointer, the observer is asked to touch a spot in the upper left corner and then immediately touch a spot in the upper right corner. It can't be done; on a second try, you'll come closer to succeeding. And so on.

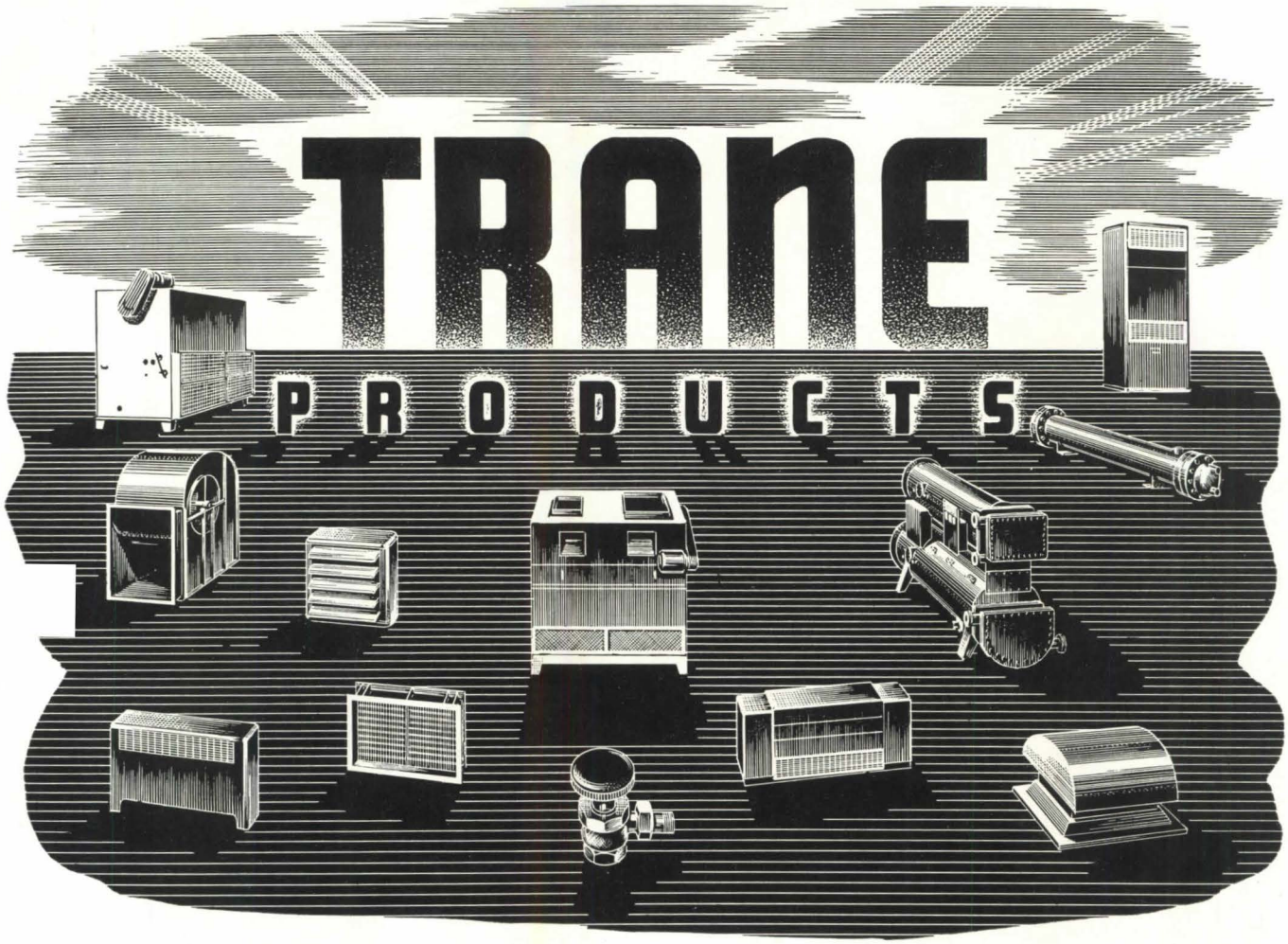
The conclusions? As stated, in terms of architecture, above, it seems to be true that your sensations, and not your knowledge, determine your action; experience, if it is always related to the same purpose (moving the stick, in this case) will have a determining effect on sensations.

●

All of this may mean a new approach to esthetics. It certainly points to the architect's responsibility in establishing a recognizable sense of surety or lack of surety resulting from our sensations. When there are "multiple indications which supplement one another," there is a sense of surety. "Multiple indications in conflict with each other" result in a sense of lack of surety.

Here is an actual challenge: this thesis indicates that "design" is more than a matter of casual choice; it is a potent factor in building up a sense of surety and directing a course of purposeful action in the community.

By identifying the "esthetic experience" with "value-sense," the experiments would seem to banish forever the eclectic theory that esthetic content is something to be added to a building form. It is that form, in the sense of its clear expression of its function. Then each **part** of the form, each detail, each bit of ornament, must be one of the "multiple indications that supplement one another." There could not be a clearer, more rational call for architectural design which is esthetically, emotionally, spiritually appropriate to our times and our people.



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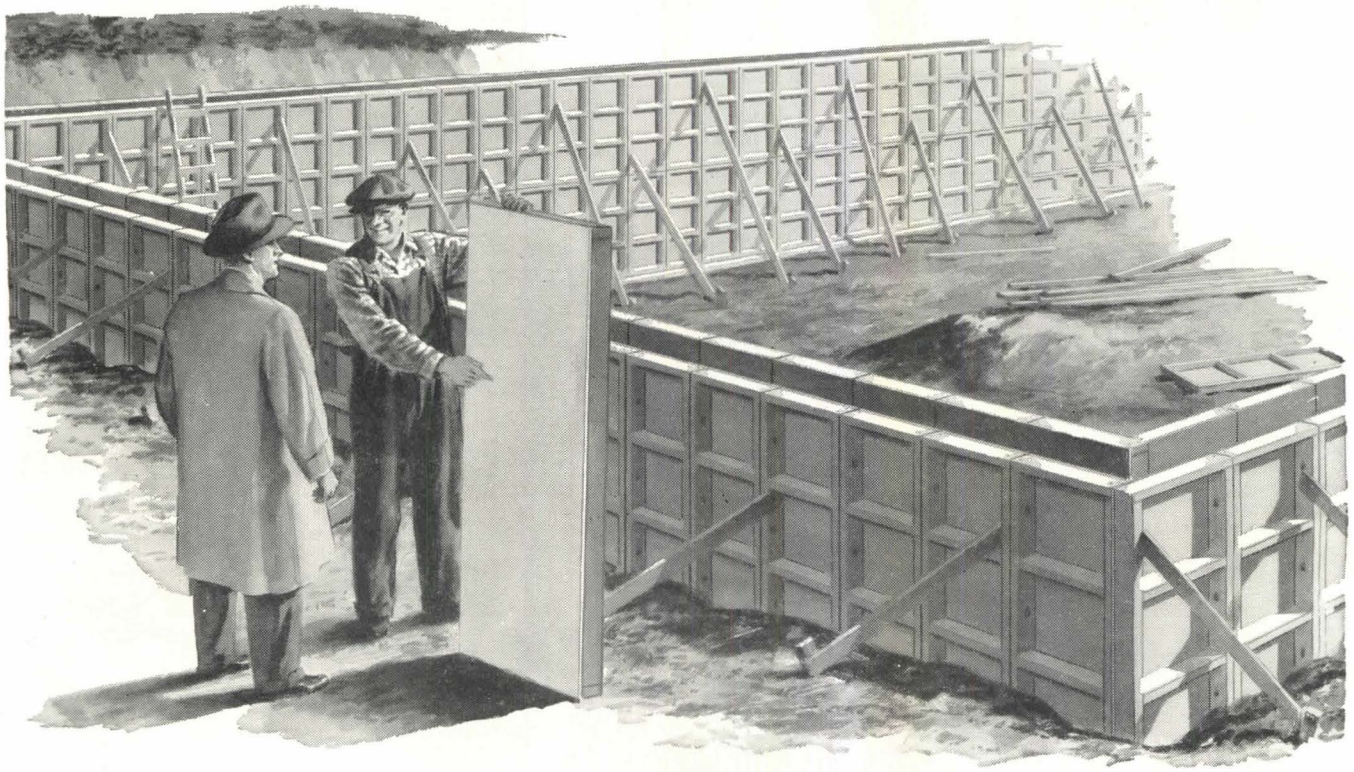

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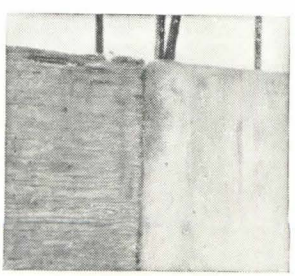

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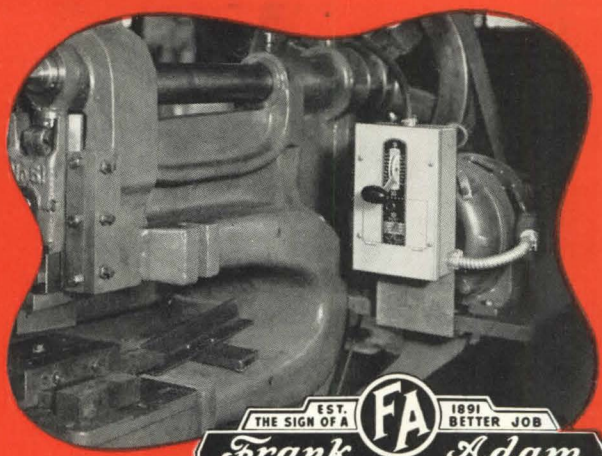

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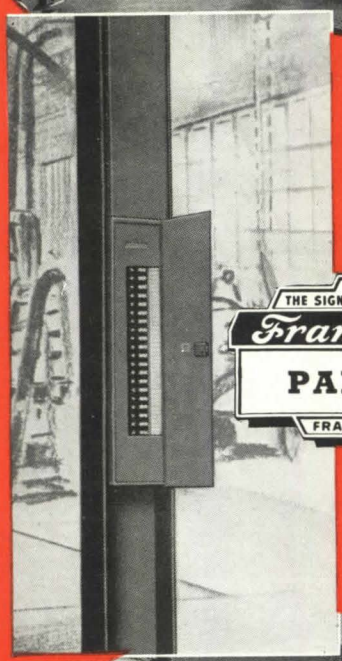


EST. 1891 — THE SIGN OF A FA BETTER JOB

Frank Adam

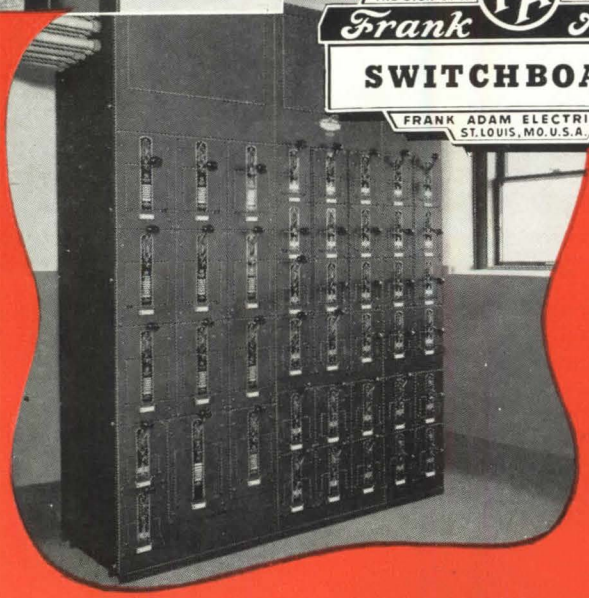
PANELBOARDS

FRANK ADAM ELECTRIC CO. ST. LOUIS, MO. U.S.A.

The Ⓕⓐ Trade Mark has been a sign of quality in the electrical world for more than 56 years. To the Architect, this Ⓕⓐ quality means modern, product design . . . to the Contractor, Ⓕⓐ quality means dependability and ease of installation . . . to the Engineer, Ⓕⓐ quality is a down-to-earth expression meaning less maintenance and longer-lasting service.

You'll find quality in all Ⓕⓐ products whether they are safety switches or switchboards, panelboards or busduct. So for a quality job, specify Frank Adam.

Bulletins on all Ⓕⓐ Products are available . . . send for your copies.



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ST. LOUIS, MISSOURI

Have you investigated this FLEXIBLE Air Conditioning system ?

- ✓ ***IT GIVES YOU INDIVIDUAL TENANT CONTROL OF TEMPERATURE.***
- ✓ ***IT FILTERS ALL THE AIR.***
- ✓ ***IT CAN PROVIDE VENTILATION AIR TO FIT THE REQUIREMENTS OF EACH SPACE.***
- ✓ ***IT IS EASILY COORDINATED WITH YOUR BUILDING DESIGN.***

HERE IS an air conditioning system . . . a General Electric system . . . that is easily fitted to the requirements of your building.

Individual rooms can be cooled or heated to individual taste . . . at the turn of a switch, or by thermostatic control. Fresh air can be introduced directly through room units, or by hall ducts, or by a central plant system . . . depending on your preference and needs.

A simple piping system, served by a central plant in the basement, provides each room with cooling in summer, heating in winter. Ventilation air can be introduced in the manner and volume required.

If you want a Personal Weather Control System . . . *or any other type of air conditioning*, a General Electric air conditioning specialist will be glad to work with you and the consulting engineer.

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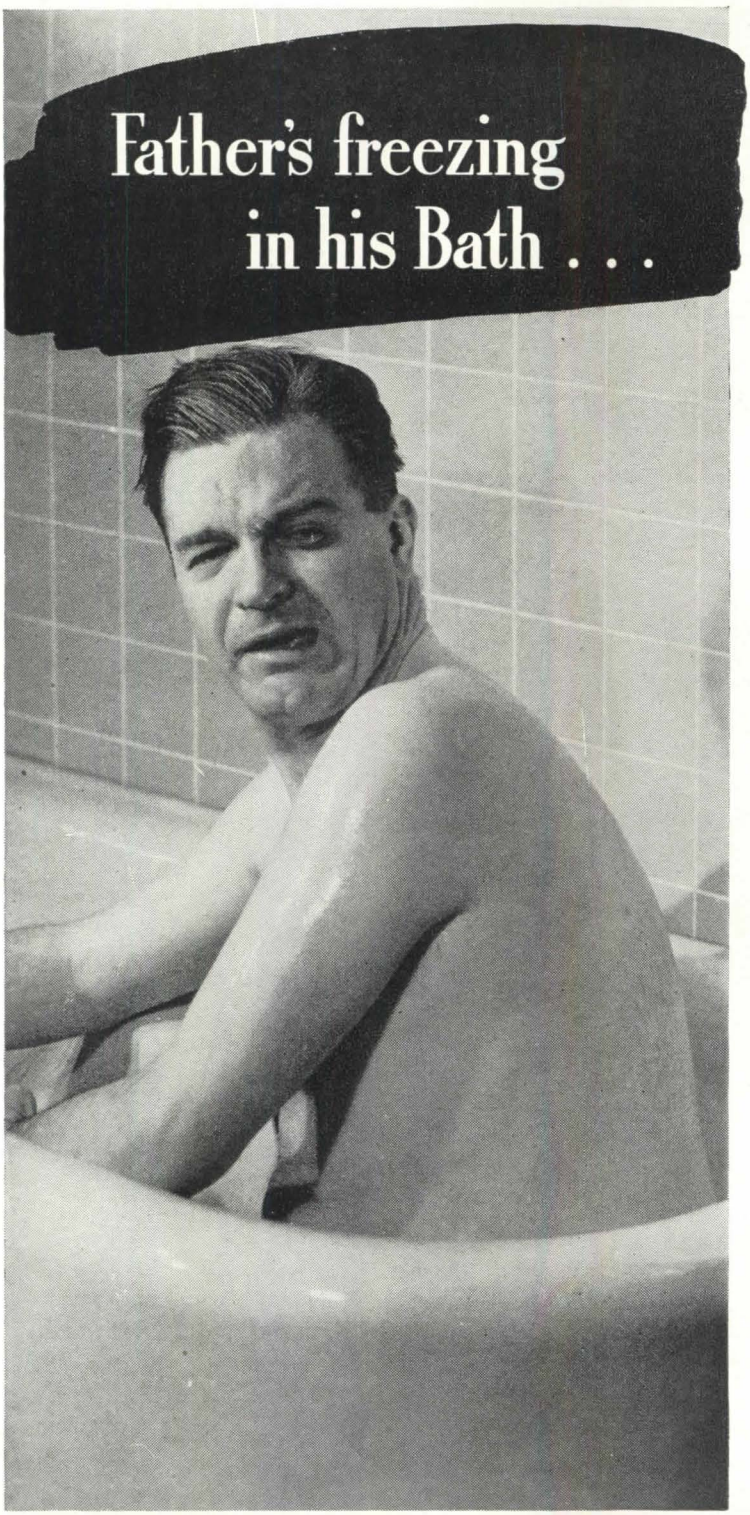
GENERAL ELECTRIC

Better Air Conditioning



INSTALL STEEL PIPING
ADEQUATE FOR TOMORROW'S NEEDS

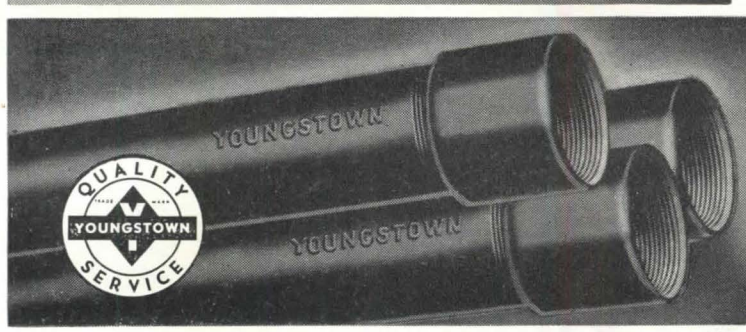
Because Mother's washing dishes!

EVERYTHING was lovely until "the boss" downstairs started scalding the dishes. That's when the hot water stopped.

Perhaps Father doesn't understand why his family can't have hot water upstairs and down at the same time. Maybe he doesn't know that the pipes were too small in the first place, and that the city water pressure cannot deliver a good healthy stream of water upstairs when somebody's using the water downstairs.

Don't blame Father for his ignorance of proper water pipe diameters. He has to be shown why he should pay a little more for adequate-size pipe when he builds that new house or modernizes the old one. He will see the advantage of providing for all those extra fixtures and extra outlets.

Always remember this: No more water can be delivered than pipes can carry under existing city pressures. To get more water, use larger diameter pipes and larger meters, too. The best protection to insure an adequate flow is to use adequate-size steel pipe.



YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY
YOUNGSTOWN 1, OHIO
Manufacturers of
CARBON, ALLOY AND YOLOY STEELS

PIPE AND TUBULAR PRODUCTS · CONDUIT · BARS · RODS · COLD DRAWN CARBON STEEL ROUNDS
SHEETS · PLATES · ELECTROLYTIC TIN PLATE · COKE TIN PLATE · TIE PLATES AND SPIKES

You provide many satisfactions when you specify KOHLER PLUMBING

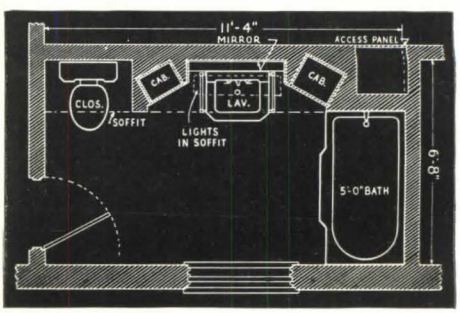
AN arrangement of Kohler fixtures like the one in the bathroom above has lasting practical advantages that home owners want.

The Cosmopolitan Bench Bath is non-flexing because it is made of enameled cast iron. Cast iron is the time-tested base for the heavy coat of lustrous, pure white Kohler enamel which resists cracking and crazing. The Triton Shower Mixer is efficient and simple to operate. The Gramercy vitreous china lavatory has a roomy shelf. The Wellworth close-coupled closet works smoothly and quietly. All Kohler fixtures are attractive and matched in design, with surfaces that are easy to clean.

The fittings are of chromium plated brass—durable, and built especially for the fixtures they serve. Your customers know the name "Kohler" means first quality in every detail.

Shipping crates have been carefully designed for each Kohler fixture, to assure delivery in perfect condition. Kohler products are made in one plant under one supervision. Write for further information.

Kohler Co., Dept. S, Kohler, Wisconsin. Established 1873.



This compact, practical plan, with Kohler fixtures all on one wall, simplifies piping and allows convenient access to fixtures and storage facilities.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS

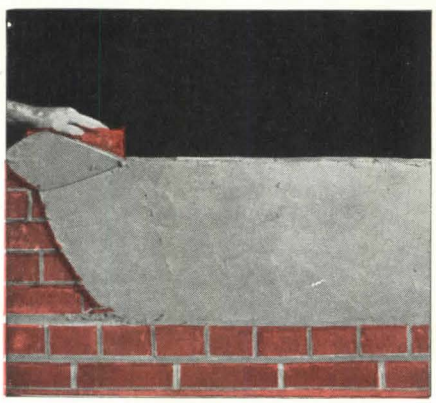
BRIXMENT Encourages BETTER WORKMANSHIP!

Really first-class brickwork calls for parging or tooling the inside surface of the face brick, as a final protection against the possibility of leakage. The photographs below give full details for both procedures.

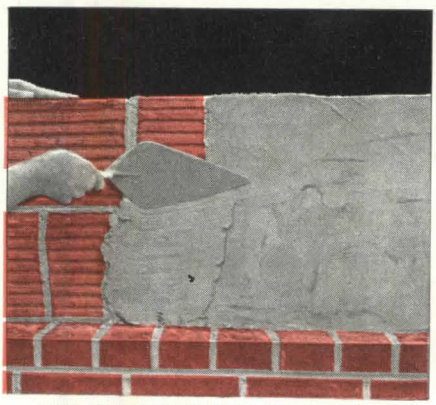
No. 6 OF A SERIES—

PARGING OR TOOLING THE BACK OF FACE BRICK

PARGING



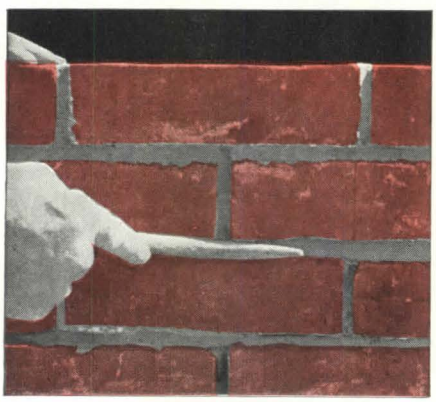
The face brick should be back-plastered with not less than ⅜" of mortar before the back-up units are laid.



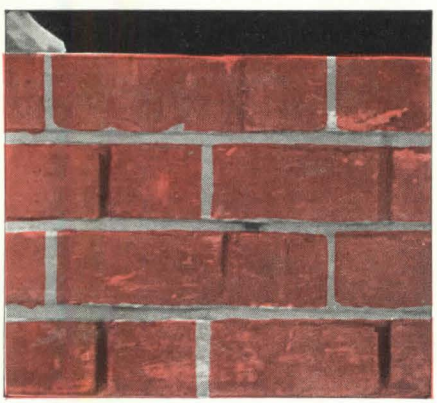
Or if the back-up units are laid first, the front of the back-up units should be plastered in the same way.

Before backplastering, however, all mortar joints should be cut flush. Parging should not be attempted over protruding mortar joints.

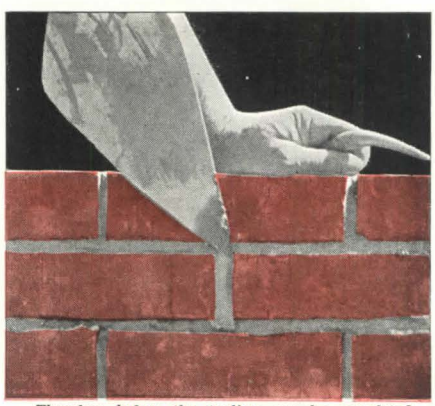
TOOLING



As an alternate for backplastering, the joints on the back of the face brick may be tooled to give concave finish.



This encourages the bricklayer to fill the head joints, since proper tooling cannot be done if mortar is lacking.



Therefore before the tooling can be completed, it is necessary for the bricklayer to point up the open joints.

Because Brixment is more plastic and works easier, it actively encourages the bricklayer to do *better work.* The brick are bedded more quickly, with full joints, and without excessive tamping. Parging and tooling are done in minimum time, with minimum effort.

In addition to greater plasticity, Brixment also has higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

A STORY FOR ARCHITECTS AND DECORATORS from McGuffy's ancient "First Reader"

It seems the bus boy persuaded the chef to let him sculp a lion out of butter for a centerpiece. When the prince saw the masterpiece he said "Junior, you are too good to waste your skill on ephemeral butter, and you shall carve lions in stone to flank my drawbridge and I shall pay you well."

Most modern decorative materials are more substantial than butter, but your skill is largely wasted on some of them. Why?

Often the colorful surfaces you create receive hard usage. They receive poor upkeep, infrequent renewal, and scant cleaning. Sometimes they fade. A few years after you finish a building it has lost the colors you gave it, and it doesn't give a prospective client the right impression of your artistry.

Such things can't happen to a Formica surface. Formica is as hard and smooth as a china dish. It cleans as easily. It will not chip, crack, check, or blister. Food and alcohol and cigarettes won't damage it. It sheds dirt. The lovely colors never fade. Simple cleaning brings out their pristine richness after decades of use.

FORMICA
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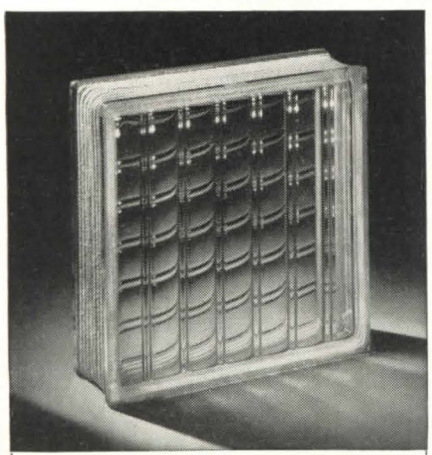
THE FORMICA INSULATION COMPANY
4621 SPRING GROVE AVENUE CINCINNATI 32, OHIO

Bright, modern living room shows how Insulux Glass Block brings daylight far into living room; relieves corner darkness. Occasional washing is only maintenance required by Insulux.

Curved panels of Insulux Glass Block bring daylight with privacy to tenants of eight-story apartment building. Architect: Berla & Abel, Washington, D. C.



OWENS-ILLINOIS

INSULUX

GLASS BLOCK

Insulux is made in three sizes—many attractive and functional patterns. Investigate this modern material that has solved many complex architectural problems.

Here's enlightened living for city dwellers!

NO NEED for apartment houses to be dark and dreary places . . . let Insulux Glass Block light the way!

Versatile Insulux combines a gracefulness of design in modern buildings with the functional ability to insulate against summer heat and winter cold.

Insulux permits new flexibility and originality in architectural planning and execution. It's ideal for bringing light deeper into rooms; for spreading daylight over wider interior areas. Wherever daylight with privacy is desired—there's a place for Insulux!

Widely used by many outstanding architects for residences, apartments and commercial establishments, Insulux Glass Block is installed in a manner similar to brick. Once in place, panels are permanent, require no painting, won't rot, rust or corrode.

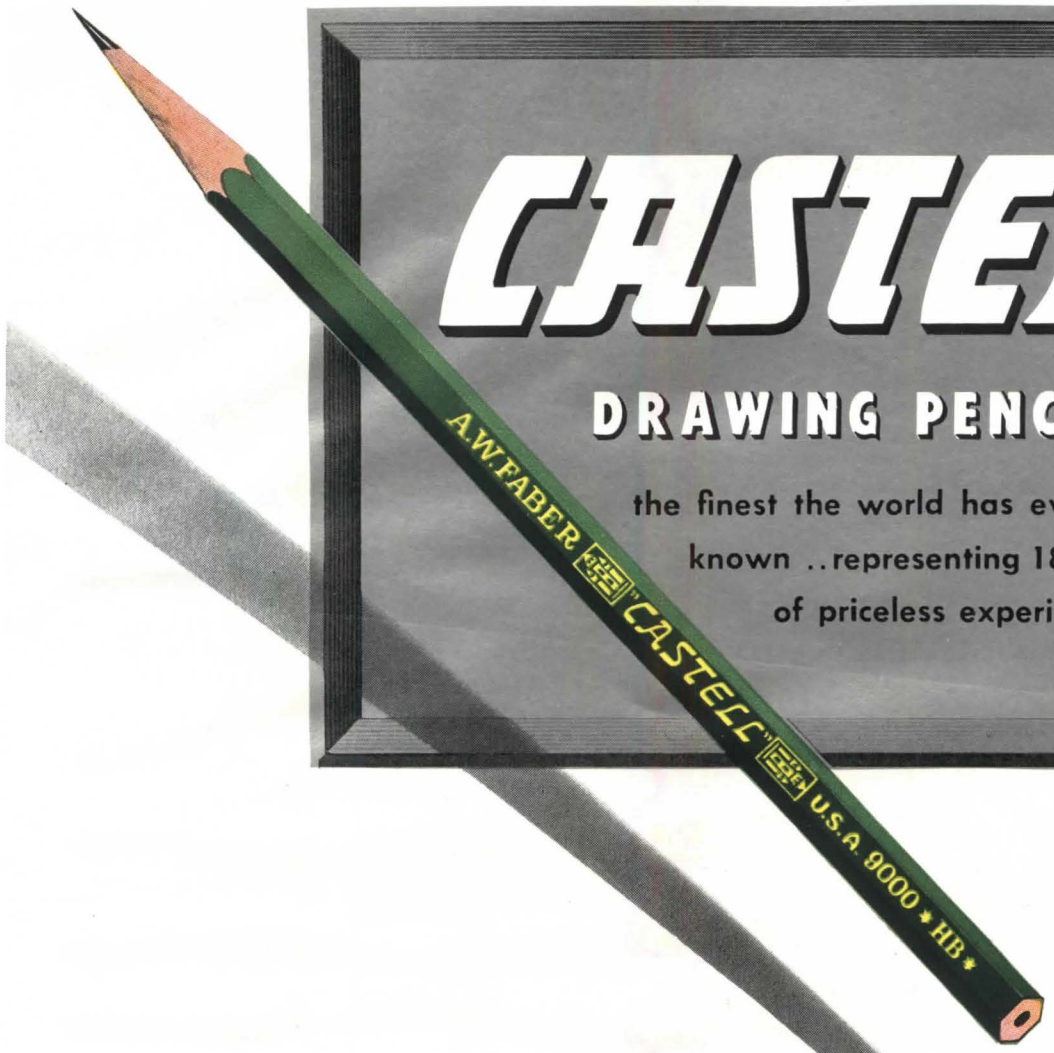
For complete technical data, specifications and installation details, see the "Glass" section of Sweet's Architectural Catalog, or write Dept. D-36, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

Answering the Question thousands have been asking....

CASTELL

DRAWING PENCIL

the finest the world has ever known ..representing 186 years of priceless experience



is back!

Yes, CASTELL is back.

Since 1761 the little town of Stein, in Bavaria, has been the world center of pencil craftsmanship.

And now the incomparable Bavarian Craftsmen are again compounding and milling CASTELL graphite according to the original secret micrometric process of the world-renowned House of A. W. Faber.

CASTELL, the standard by which all other pencils are judged . . . unbelievably smooth, grit-free, easily-sharpened, uniformly graded CASTELL . . . is now being imported with the sanction and approval of the U. S. Military Government in Bavaria.

In our own country American production genius teams up with inimitable old-world skill. Here this unexcelled CASTELL graphite is encased in choice, nature-seasoned aromatic Southern cedar—each pencil stamped in gold with the certification of original CASTELL quality, the favorite of American Professional Men for generations . . .

the Drawing Pencil of the Masters

A.W. FABER-CASTELL
PENCIL COMPANY INC., NEWARK 4, N.J.

MATURE PROFESSIONAL MEN... you who depended on the undeviating excellence of CASTELL year after year . . . we know how you must thrill to the dramatic news—"CASTELL is back!"

YOUNGER PROFESSIONAL MEN... you who heard echoes of CASTELL'S fame in the wistful conversation of your seniors . . . now *you* will be privileged to use the Drawing Pencil of the Masters.

Now you will know the singular satisfaction of using a pencil that translates gray matter into black, that gives free-flowing expression to robust ideas with a rich, graphic opacity no other pencil in the world can match.

DEALERS... We of the House of A. W. Faber-Castell thank you for your patience. This is a proud announcement for us as it must be a great day for you. Thousands of your customers engaged in the arts, the professions and in business—artists, architects, engineers, designers, draftsmen and executives—are waiting for

CASTELL

the Drawing Pencil of the Masters

In 18 matchless degrees of black . . . . . **7B to 9H**

15c each . . . less in quantities

WRITE, WIRE OR TELEPHONE

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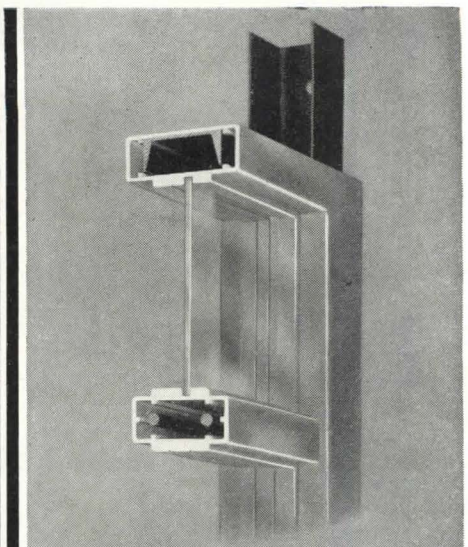
New · Unique

HERCULITE

DOOR-FRAME ASSEMBLY

by "Pittsburgh"



Made of extra-heavy extruded aluminum, highly polished and anodized, the frame is heavily reinforced with steel channels and tie rods, as partially shown here.

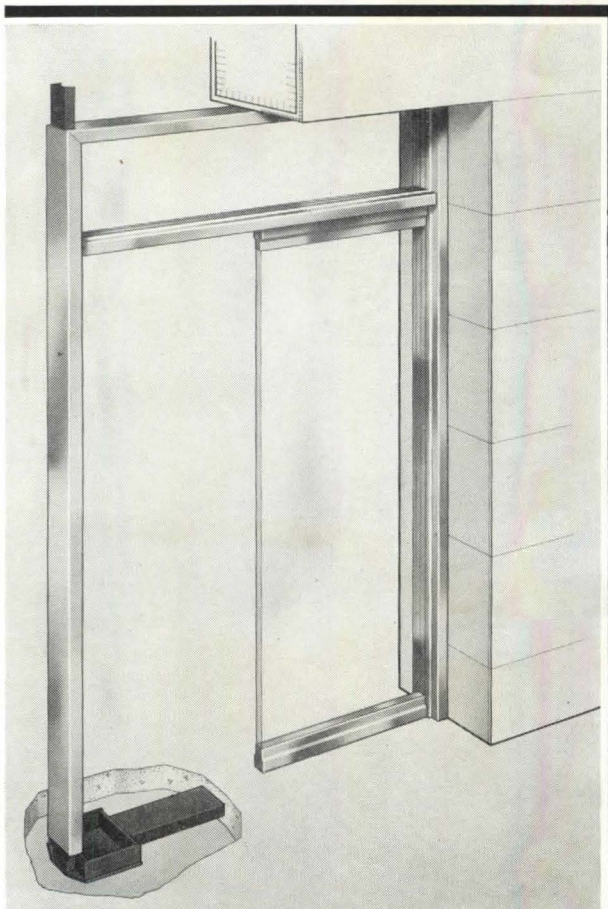


Diagram of assembly, showing continuous steel channel under the floor, with hinge and mounting box as supplied by the factory.

. . . affords great simplicity of installation

A "PACKAGED" construction, in one unit, this handsome, rugged and easily installed Herculite Door-Frame Assembly by "Pittsburgh" entirely eliminates all problems of setting and fitting; does away with bothersome details of clearances and many other time- and labor-consuming matters. It replaces the complicated custom-made frames which required scores of different materials and the services of various trades to install.

"Pittsburgh's" Herculite Door-Frame Assembly is available in twelve standard styles to satisfy almost any requirement. It is built to accommodate standard Herculite Tempered Plate Glass doors. It is supplied complete with checking floor hinges and top pivots—ready to bolt into the rough building opening. All clearances on the frame and doors are controlled by accurate factory gauges. These features combine to make possible the greatest simplicity of installation. When the building is ready to receive the doors, they are simply set on the hinge pivot, the top pivot is dropped into the top channel, and the entire structure is complete. Nothing else is necessary.

Further detailed information will be supplied you without charge or obligation upon receipt of the coupon below. Why not send it today?

Pittsburgh Plate Glass Company
2391-7 Grant Building, Pittsburgh 19, Pa.
Without obligation on my part, please send me your descriptive literature on "Pittsburgh's new Herculite Door-Frame Assembly.

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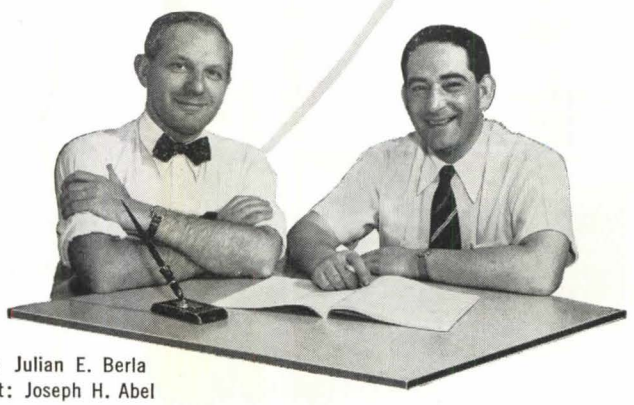
PITTSBURGH PLATE GLASS COMPANY

Berla & Abel design an apartment . . .

Mesker Steel Windows

"Design for modern living is encouraged by steel windows. Their versatility, graceful lines and inherent strength make possible effects attainable in no other way."

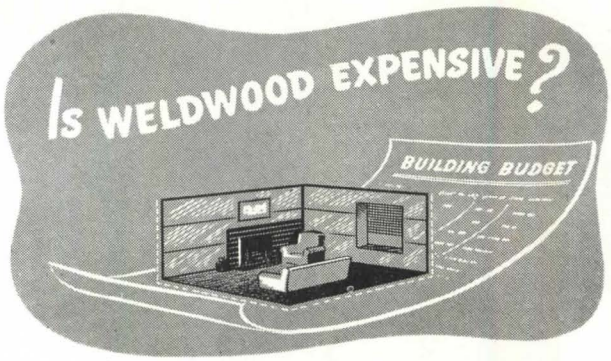
Architects
BERLA & ABEL
Washington D. C.



Left: Julian E. Berla
Right: Joseph H. Abel

For your copy of the Mesker Book of Apartment Windows write to Mesker Brothers, 4340 Geraldine, St. Louis 15, Mo.

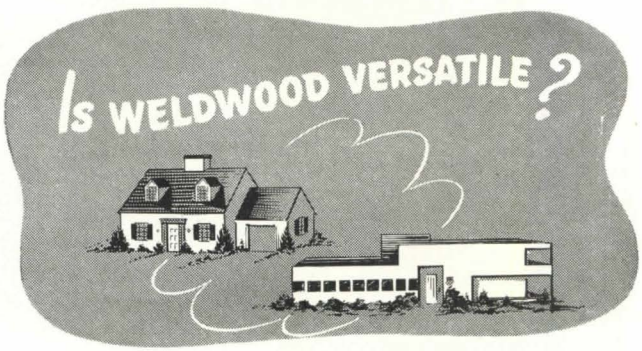
MANY OF YOUR CLIENTS CAN ANSWER THESE QUESTIONS...CAN YOU?



No. We'll readily admit a Weldwood-paneled room looks like a million. But when maintenance expense over the years is considered, a room paneled in Weldwood compares favorably in cost with ordinary plaster, paint and paper... both for new construction and remodeling.

Fact is, you can do a 12 x 18 room in Birch Weldwood for less than $300**. . . materials *and* installation. Stop and think how little that adds to monthly FHA payments, with a home improvement loan.

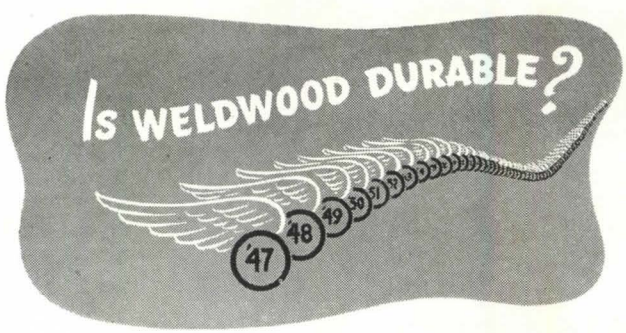
Many of your clients know this!



Yes, indeed. Choose your style, then choose Weldwood for the interior. There's a wood for every mood. You'll find exactly what's needed for traditional effects; also beautiful woods for sleek, modern twentieth-century surroundings. Use Weldwood in several rooms, or just one. Do all four walls, even one wall, or simply the dado.

And you can work many clever, "built-in" miracles with Weldwood, for it provides structural strength as well as decorative beauty.

Many of your clients know this!

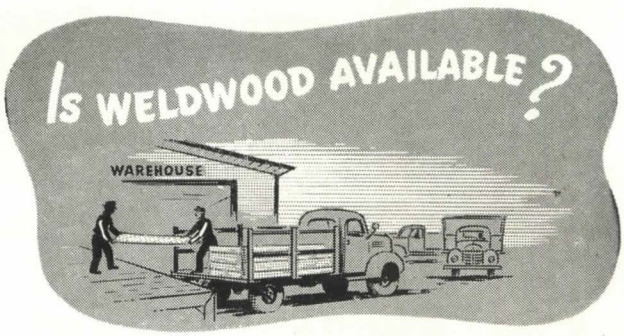


It is. Weldwood Plywood Panels are guaranteed for the life of the building in which they're installed.

And they'll remain luxuriously beautiful with a minimum of maintenance. No recurrent expense for papering and painting.

Durability like this makes Weldwood a good investment. Either in a new home or for remodeling, it adds a *permanent* value.

Many of your clients know this!



Yes, right now. Most grades and varieties of Weldwood . . . especially the decorative hardwoods . . . can be obtained immediately in the most popular sizes and thicknesses.

Fine domestic woods such as birch, oak, walnut, knotty pine and vertical grain cedar. Rich imported woods like de oro, mahogany, primavera. There's a wood to fit every taste and every pocketbook in the Weldwood line.

Many of your clients know this, too!

Why do your clients know these things? Because, in recent years, we've maintained a steady advertising program to tell them. We've hammered home the advantages of Weldwood in ad after ad.

Beauty. Durability. Versatility. Ease of installation. And *Economy.*

Has our effort had any effect? Well, a recent independent survey indicates that 1 out of every 3 home-minded Americans wants wood-paneling in at least one room.

And Weldwood gives it to them at a price they can afford to pay.

Take advantage of this acceptance. You'll find a warm reception for plans that include Weldwood Walls. We'll be glad to send complete data.

**Prices may vary slightly in different sections of the country, due to local conditions.

Weldwood* Hardwood Plywood
Douglas Fir Weldwood
Mengel Flush Doors
Douglas Fir Doors
Overhead Garage Doors
Molded Plywood
Armorply* (metal-faced plywood)
Tekwood* (paper-faced plywood)
Flexmetl
Weldwood Glue* and other adhesives
Weldtex* (striated plywood)
Decorative Micarta*
Flexwood*
Fiexglass*
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WELDWOOD Plywood

Weldwood Plywood and Mengel Flush Doors are products of

UNITED STATES PLYWOOD CORPORATION
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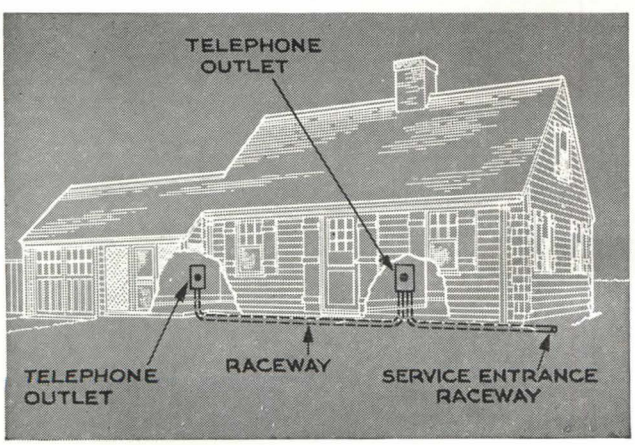
Distributing units in Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, Fresno, High Point, Los Angeles, Milwaukee, Newark, New York, Oakland, Philadelphia, Pittsburgh, Rochester, San Francisco, Seattle. Also U.S.-Mengel Plywoods, Inc., distributing units in Atlanta, Dallas, Jacksonville, Louisville, New Orleans, Houston, St. Louis. *In Canada:* United States Plywood of Canada, Limited, Toronto. *Send inquiries to nearest point.*

Weldwood

Weldwood Plywood is made in both Interior and Exterior types, the former bonded with extended urea resins and other approved bonding agents; the latter with phenol formaldehyde synthetic resin.

Architect, George R. Paul, Abington, Mass.

EVEN SPACE-SAVER PLANS CALL FOR TELEPHONE RACEWAYS



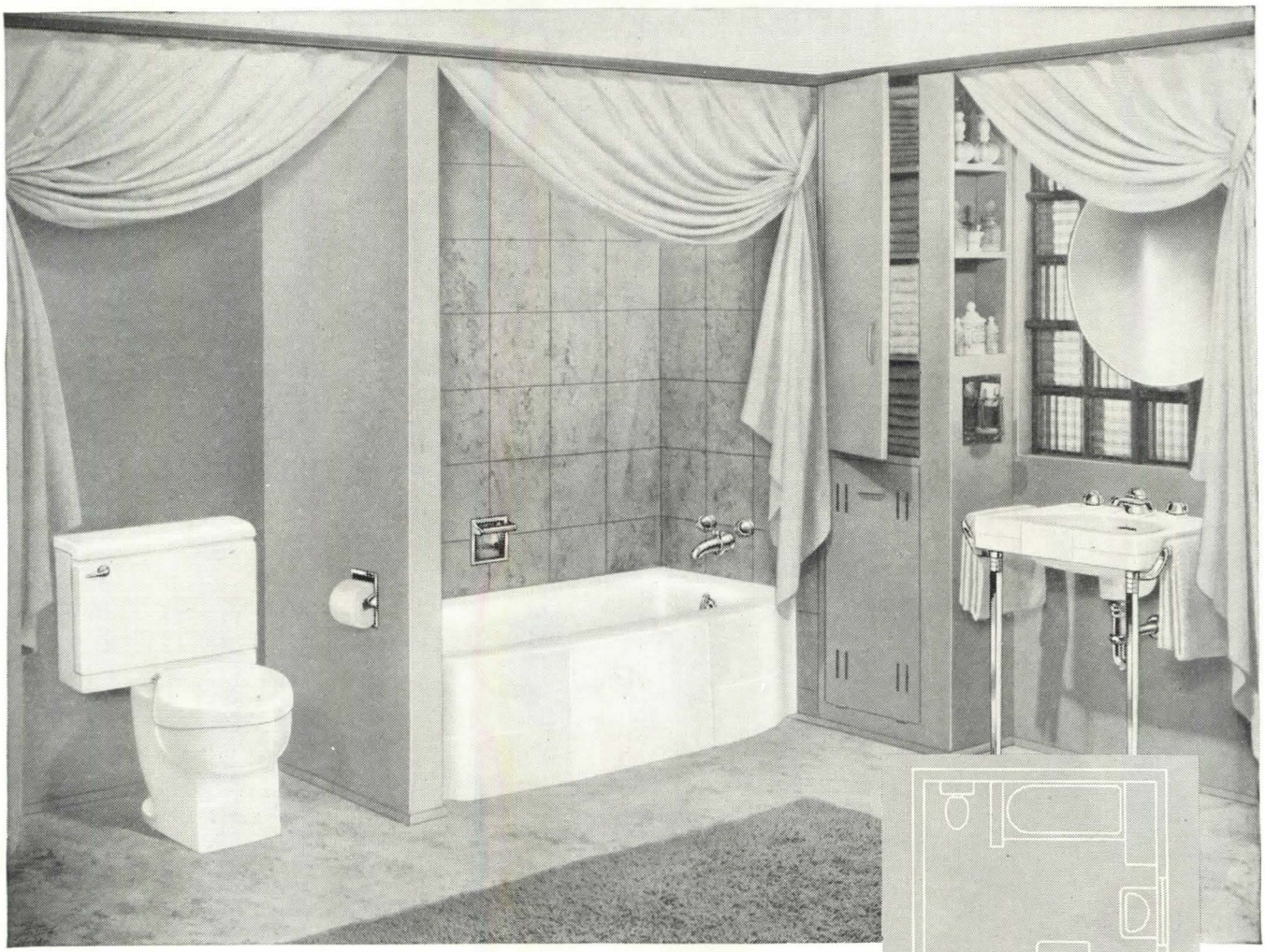
Little homes can be just as livable as big ones—if the same attention to detail goes into their plans. Among modern conveniences, a raceway for telephone wires gives a lot of value at little extra cost.

A few sections of pipe or electrical tubing, installed by the builder while the house is under construction, carry telephone wires into the house and within interior walls to pre-planned outlets.

In homes with finished basements, a telephone raceway avoids exposed wires in the basement as well as on the main floor. It also assures the convenience of built-in telephone outlets for the owner.

Your Bell Telephone Company will be glad to help you plan wiring facilities for small as well as larger homes. Just call your Telephone Business Office and ask for "Architects and Builders Service."

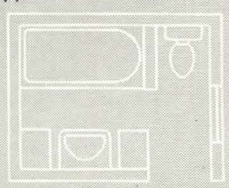
BELL TELEPHONE SYSTEM



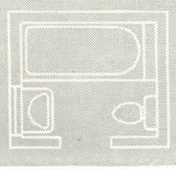
Approx. Size: 9′ 10″ x 6′ 9″

Above is the floor plan of the bathroom shown. Of course, the Crane Criterion Group lends itself to small arrangements, as suggested in the two layouts below.

Approx. Size: 8′ 2″ x 6′ 3″



Approx. Size: 5′ 6″ x 5′ 3″



For your better homes...

the *Criterion* bathroom

Here is the answer to the home owner who wants a truly luxurious bathroom . . . here is Crane's finest.

Each piece in the Criterion Group is styled to complement the finest of homes. The careful design of every last detail . . . the gleaming whiteness of the finish . . . the finger-tip *Dial-ese* controls . . . all bespeak the quality that has made Crane the best-known name in plumbing.

Of course, this same Crane quality carries through a wide range of bathrooms, including several groups priced for modest budgets. In kitchens, too, Crane offers a complete selection for every taste and every purse.

For home heating, Crane supplies complete systems of all types . . . for steam, hot water, or air . . . for coal, coke, oil, or gas. See the Crane line in your copy of "Crane Service for Architects." If you do not have a copy, your Crane Branch will supply one.

CRANE

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FIRST point of SAFETY . . .

SAFETY—now stressed in public buildings as never before—begins with the door, most used part of any building. For either remodeling or new construction, an International Van Kannel revolving door is the most efficient entrance you can buy. Under normal conditions it provides automatic traffic control. In emergencies, or whenever excess pressure is applied, an exclusive panic-action mechanism allows the wings to swing free, thus permitting as much free exit space as any two standard doorway widths. In most models an added feature allows the collapsed wings to be rolled completely out of the way quickly and easily.

For safety, plus other advantages outlined below, revolving doors by International are unequalled. Your inquiry will bring detailed literature and a list of nearby installations so you can see firsthand how completely a revolving door will solve your entrance problems, no matter how tough.

REVOLVING
INTERNATIONAL VAN KANNEL
DOORS

When Considering Doors, Ask These Questions About Revolving Doors

1. WHAT SPECIAL SAFETY FEATURES SHOULD THEY HAVE? First, immediate and unimpeded egress in emergencies. With International Van Kannel Revolving Doors, slight excess pressure on any two wings in opposite directions causes the wings to open outward. International's exclusive, adjustable tension, ball-and-socket mechanism assures years of dependable service with a minimum of upkeep.

2. HOW ABOUT HEATING AND COOLING COSTS? International Van Kannel Revolving Doors provide savings in heating and cooling up to 25% . . . in many instances more.

3. WILL REVOLVING DOORS INCREASE OR DECREASE USABLE FLOOR SPACE? International Van Kannel Revolving Doors, by eliminating drafts and controlling warm air loss, allow counters and work areas right up to the door itself, thereby materially increasing "pay" space in the building.

4. CAN THEY HANDLE DAILY TRAFFIC EFFICIENTLY? Elimination of cross traffic reduces confusion, speeds up crowd handling. Revolving Doors by International can handle up to 2880 passages per hour smoothly and safely . . . with surprisingly small air-loss.

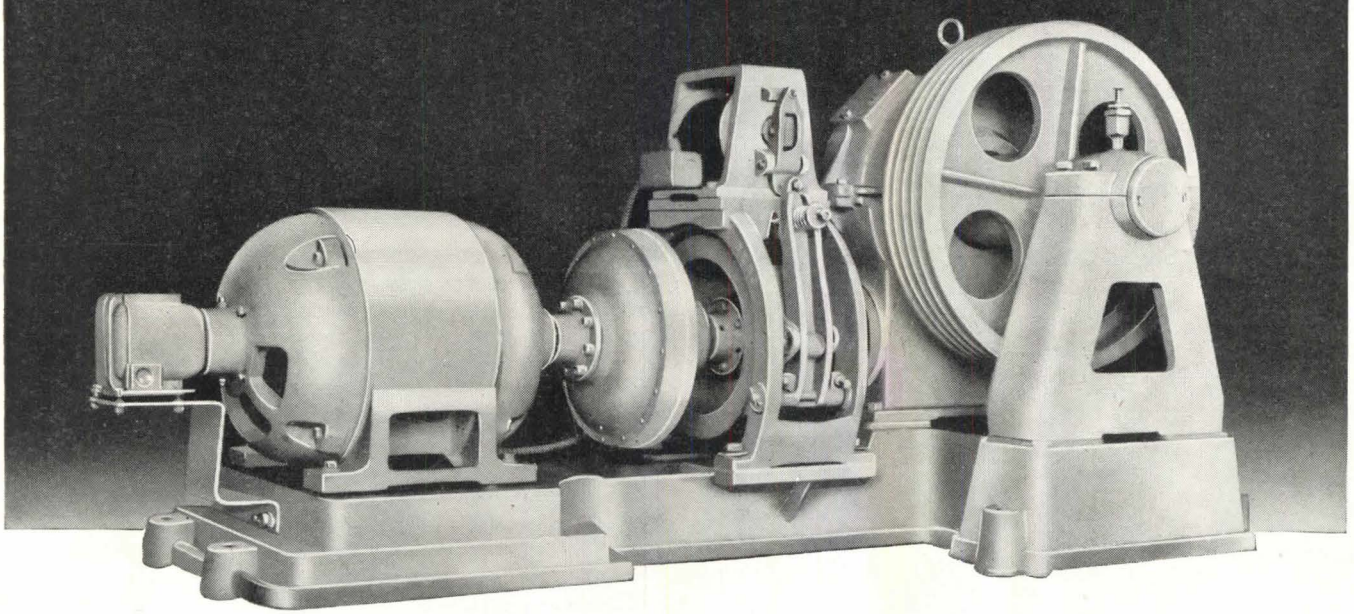
5. HOW ABOUT DUST, DRAFTS, NOISE, ESPECIALLY IN HIGH WINDS? Tall buildings are like chimneys. Suction drafts (up to 60 m.p.h.) make swing door operation almost impossible. Revolving Doors are balanced. High winds do not affect their efficient air-seal, which keeps out dust and disagreeable outside noise.

6. HOW ABOUT COST? First cost of International Van Kannel Revolving Doors is actually less than swing door entrances of comparable traffic capacity . . . and they are far superior in economy of maintenance and length of service.

FOR COMPLETE INFORMATION, WRITE INTERNATIONAL STEEL CO., REVOLVING DOOR DIVISION, 1537 EDGAR ST., EVANSVILLE 7, IND.

Announcing...

"GYROL" FLUID-DRIVE ELEVATORS



Successful Automotive Principle Applied for First Time to Elevators. Result:

8 MAJOR ADVANTAGES

1. Elimination of complicated control equipment otherwise required for comparable service.
2. Lower power demand . . . motor starts with no load.
3. Smooth, positive acceleration and retardation.
4. Accurate leveling with single-speed motors.
5. Smaller control equipment . . . requires less space.
6. Low initial cost.
7. Low maintenance cost . . . both electrical and mechanical.
8. Applicable to present elevators in need of modernization . . . or for new installations.

Over twenty years of experience by the manufacturers of fluid-drive equipment . . . and its successful application in modern automobiles . . . has assisted us in proving the value of fluid coupling in elevator service.

To *see* the new "Gyrol" Fluid Drive . . . to *ride* on it . . . to *compare costs* . . . contact your nearest Warsaw representative, or write to us directly.

Branch offices and distributors throughout the United States.

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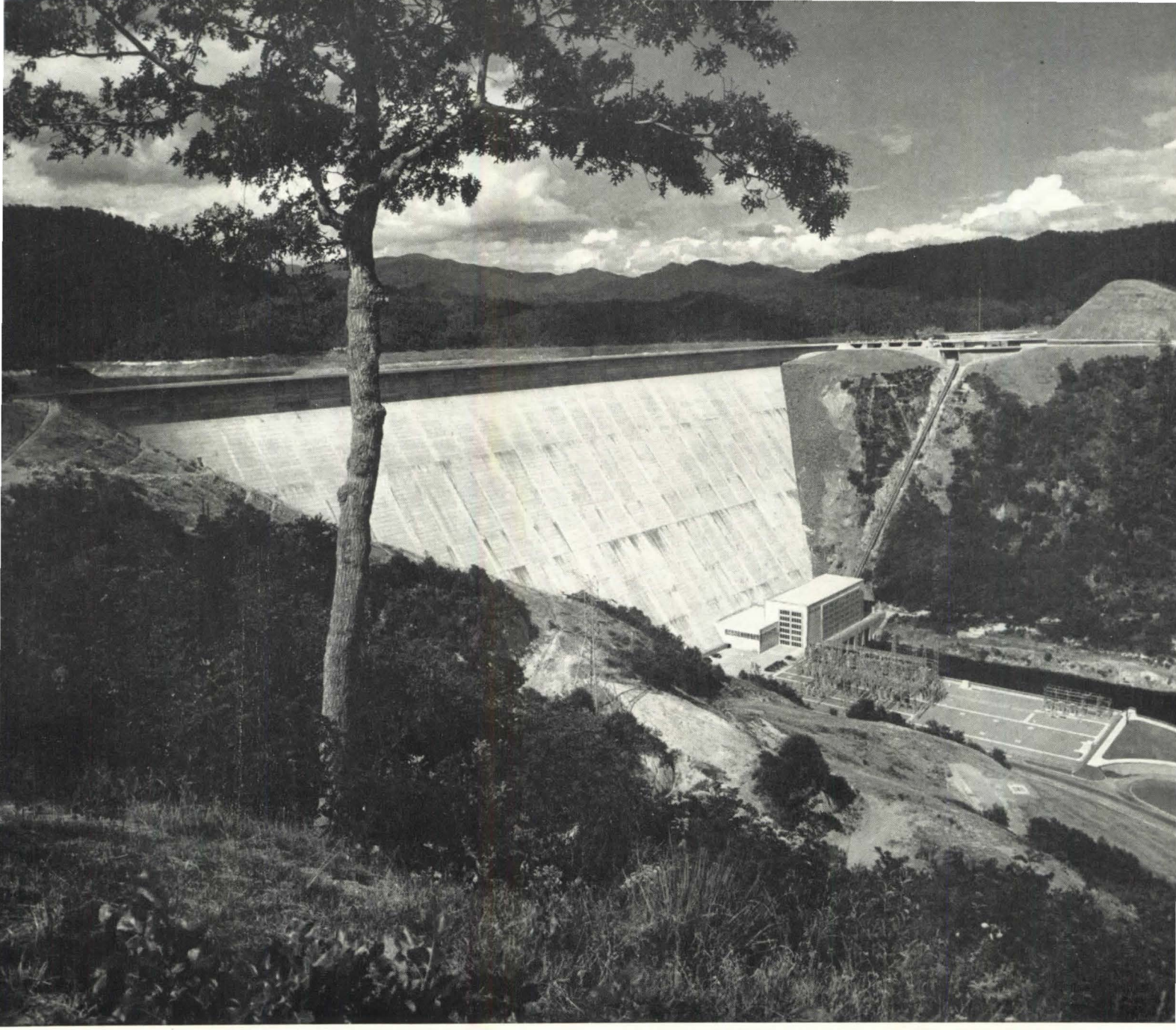
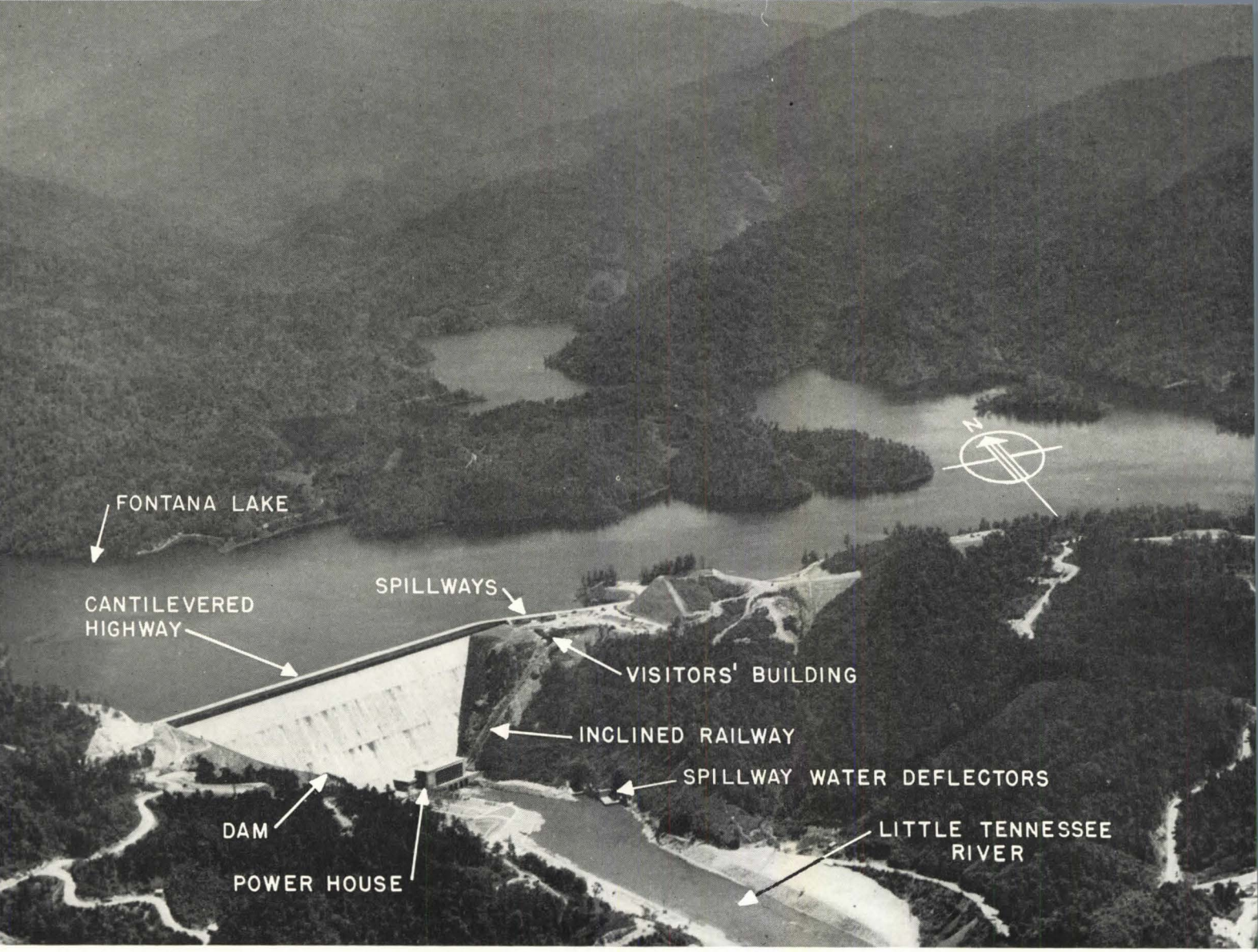


TVA Photos

TVA DAM FONTANA, TENNESSEE

Designed by ARCHITECTS & ENGINEERS of the TENNESSEE VALLEY AUTHORITY

Progressive architecture in itself, this most recent of the TVA storage dams is even more significant as an integral unit of a regional plan. Fontana is related in design to developments in the immediate neighborhood; these, in turn, are coordinated with the plan for a vast region, and the goal of the entire navigation-flood control-electric power undertaking is nothing less than human welfare and betterment.



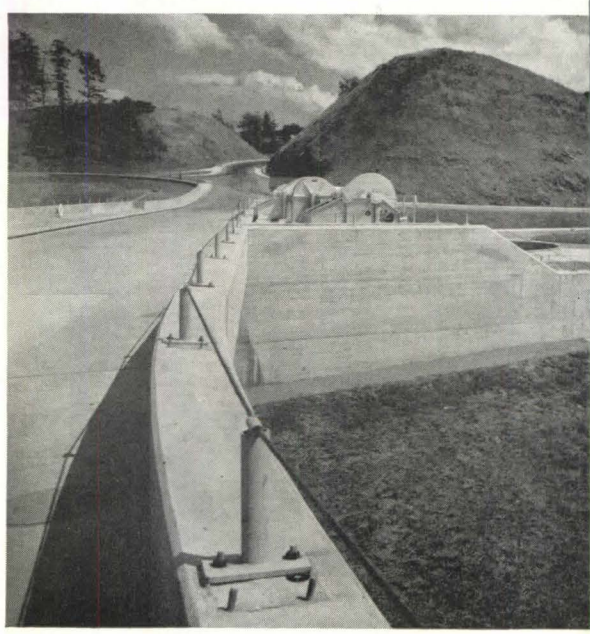
AIR VIEW from the southwest. The Great Smoky Mountains in the background.

TVA DAM

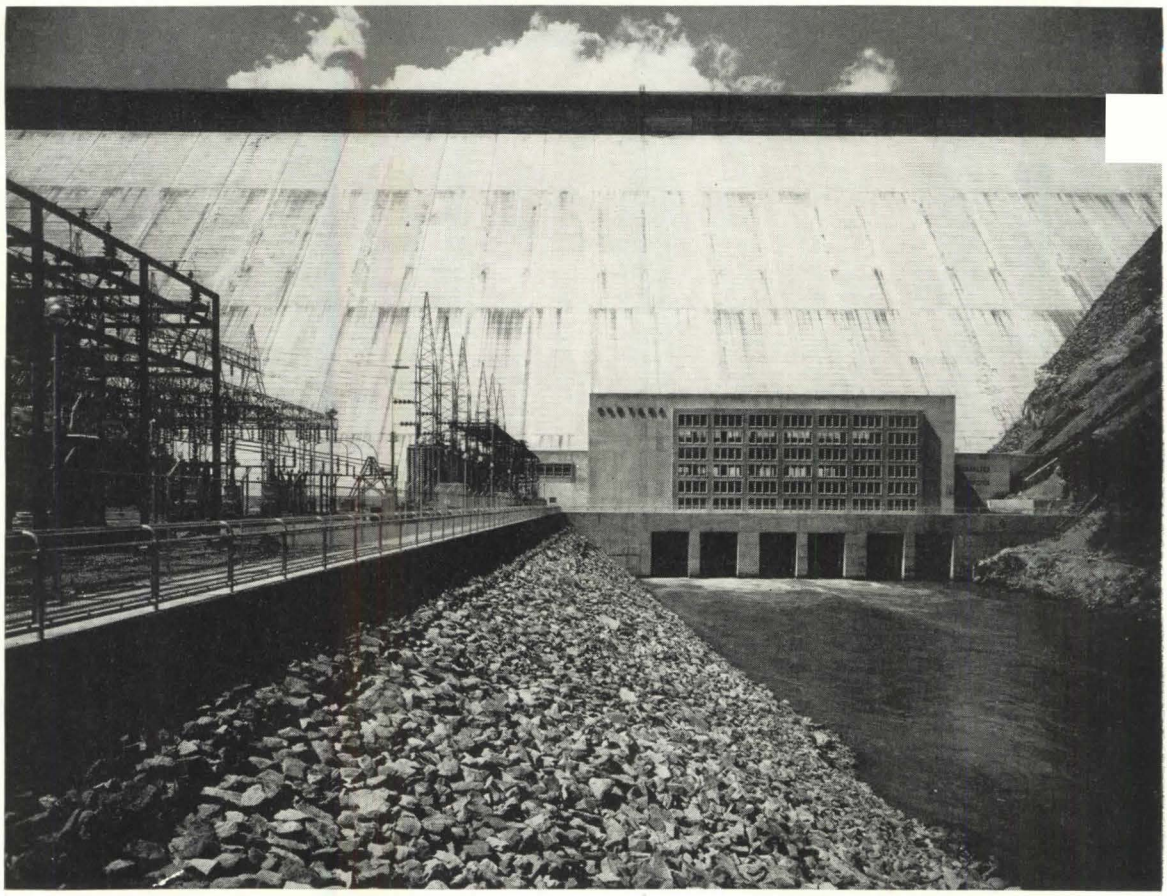
FONTANA, TENNESSEE

FACTS AND FIGURES

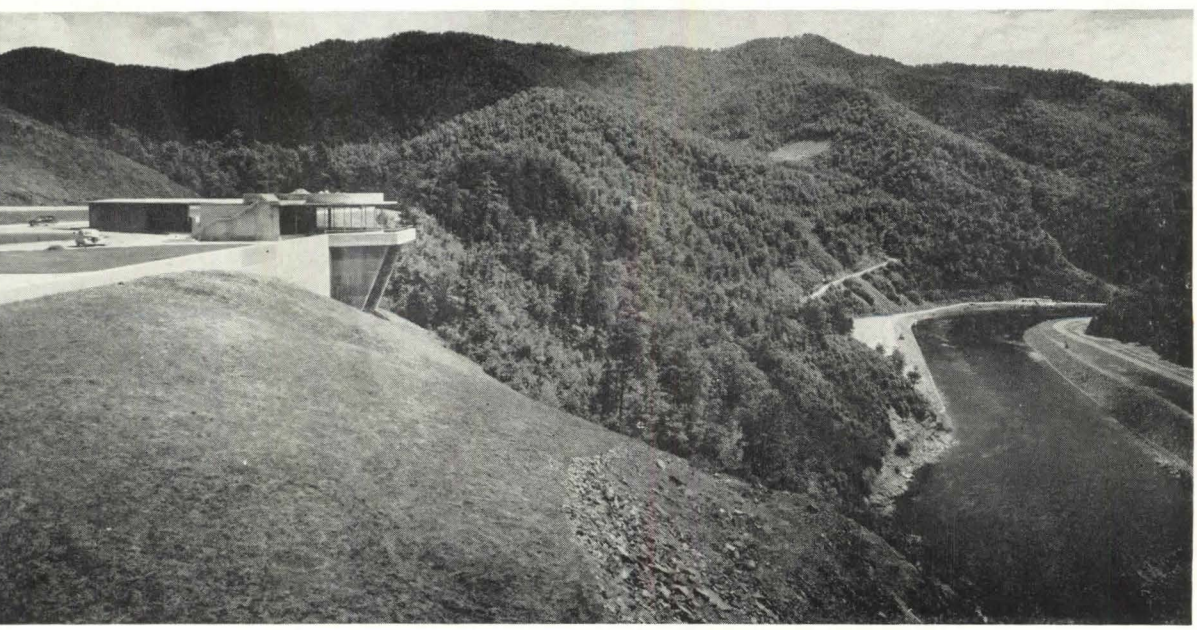
Authorized by Congress, December, 1941. Closure effected, November, 1944. Highest dam east of the Rockies; fourth highest (and largest in volume of concrete—2,800,000 cu yds) in the world. 480 feet high; 2,365 feet long; 377 feet thick at its base. A gravity type structure, the dam extends straight across the river gorge and seals against rock. Along its *eastern* extension (toward the visitors' building) is the spillway gate structure, which feeds into two sloping 34-foot-diameter discharge tunnels drilled through the eastern embankment. These empty into the river below through upturned, bucket-shaped, concrete deflectors that throw the water upward and outward, thus dissipating the kinetic energy of the more than 400-foot fall, to minimize scouring action. Alongside the spillway gate is the visitors' building. This is connected to the powerhouse at the base of the dam by an incline railway.



VISITORS' BUILDING overlooking the project and the river

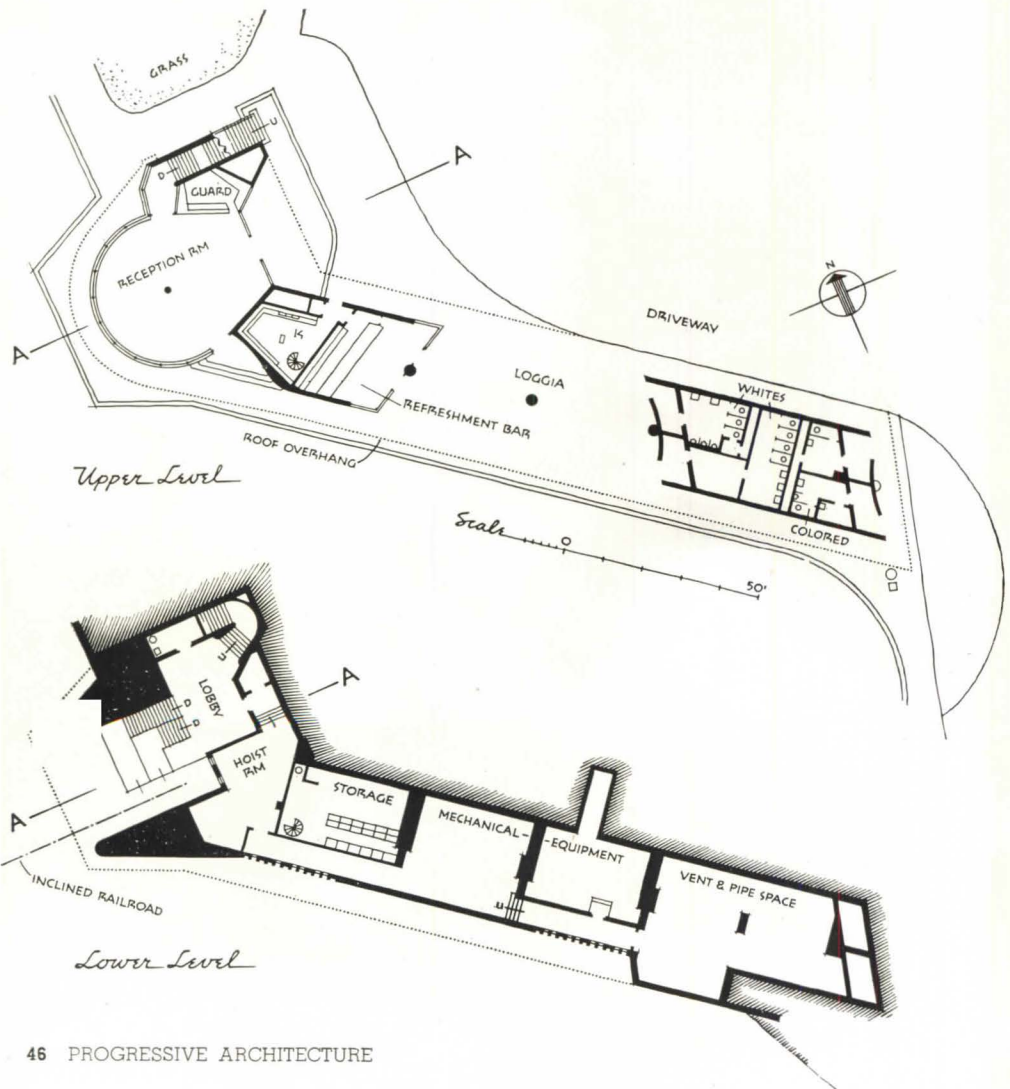


POWERHOUSE from the south. Note cantilevered roadway at top of dam.



below. At far left of photo, spillway-gate structure.

LOGGIA connecting the two ends of the visitors' building

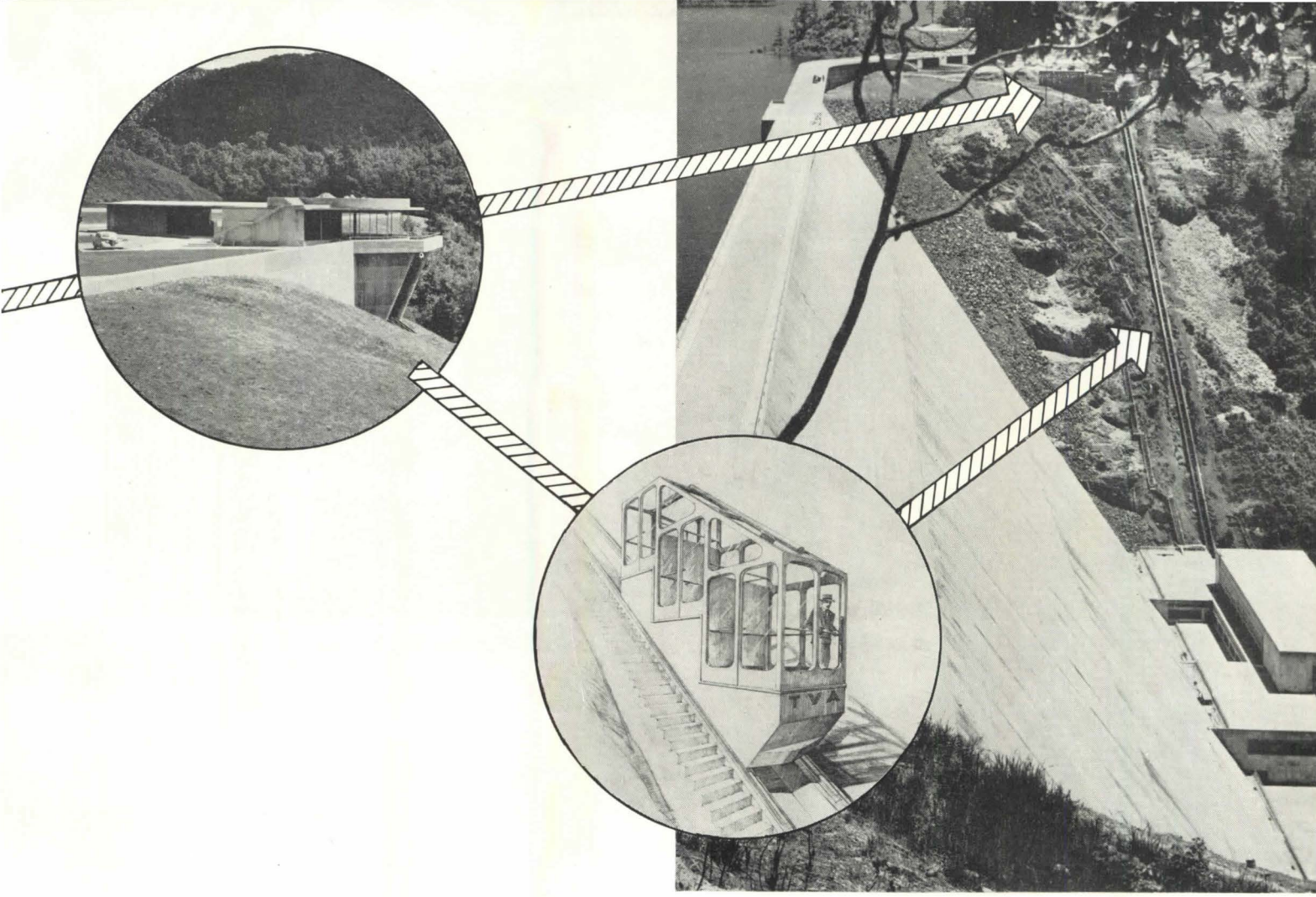


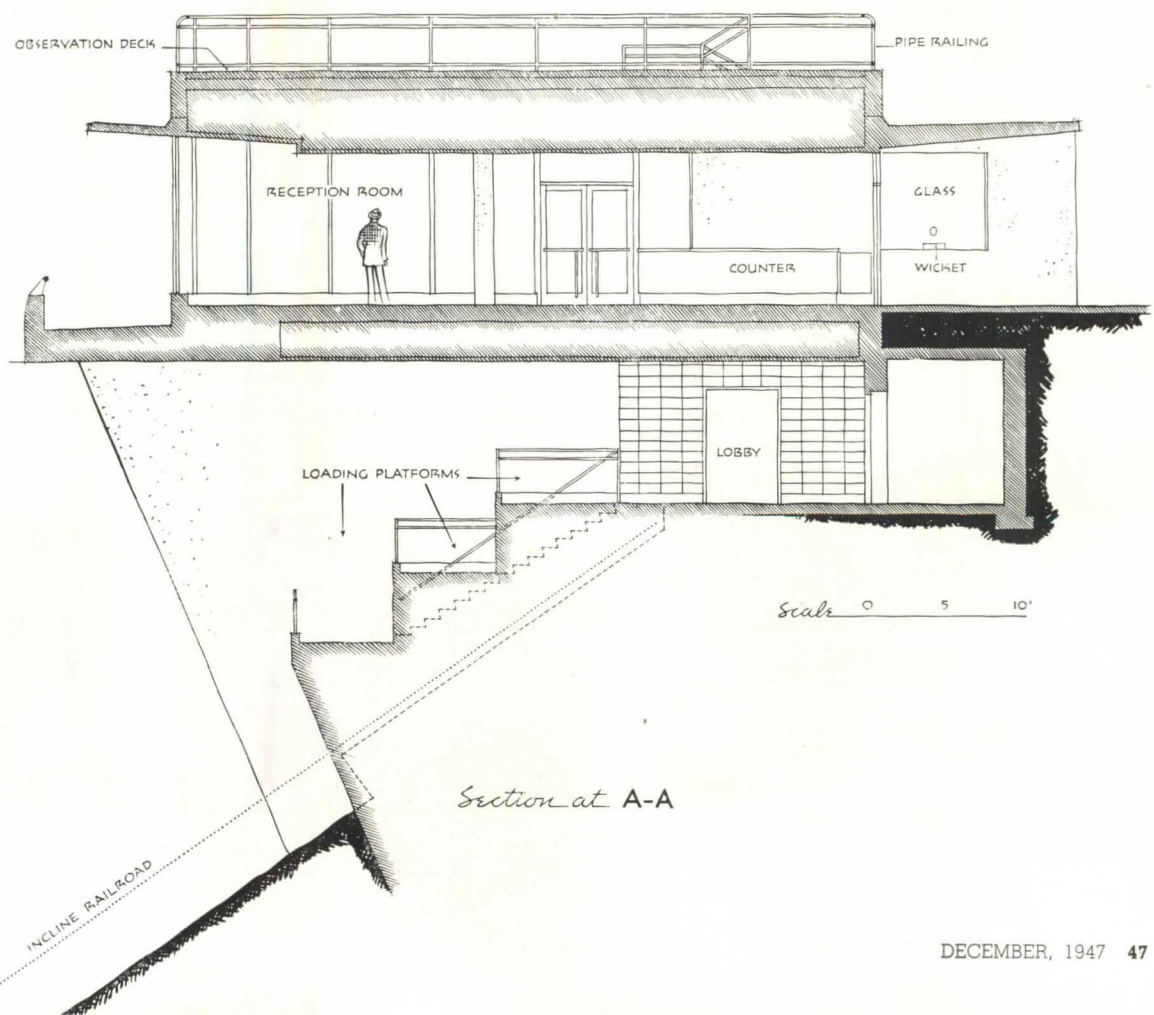
TVA DAM

FONTANA, TENNESSEE

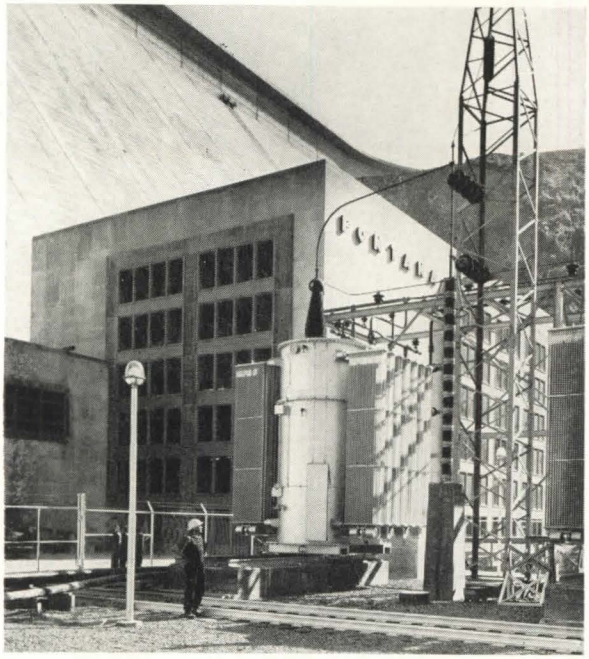
VISITORS' BUILDING

At the eastern end of the roadway across the top of the dam, beyond the spillway openings, is the visitors' building, which includes a large circular reception room with information booth, concession space, and toilet facilities. The cab that will take visitors down the incline railway to the powerhouse is entered from platforms at three levels. Like the powerhouse, the reinforced concrete visitors' building is faced with limestone. While the whole Fontana installation is vast in proportions, the design approach is unostentatious. Emphasis is appropriately given to elements that express the strength and power of the project—aspects that may evoke understandable pride in the visiting citizen-owner—but the design is simple and bold rather than fussy or imposing.

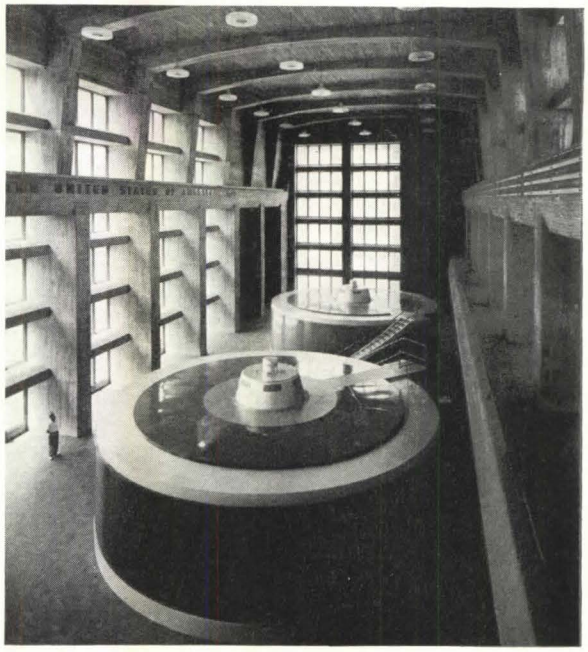




Section at A-A



WESTERN END, as seen from the switchyard



GENERATOR HALL viewed from the visitors' gallery

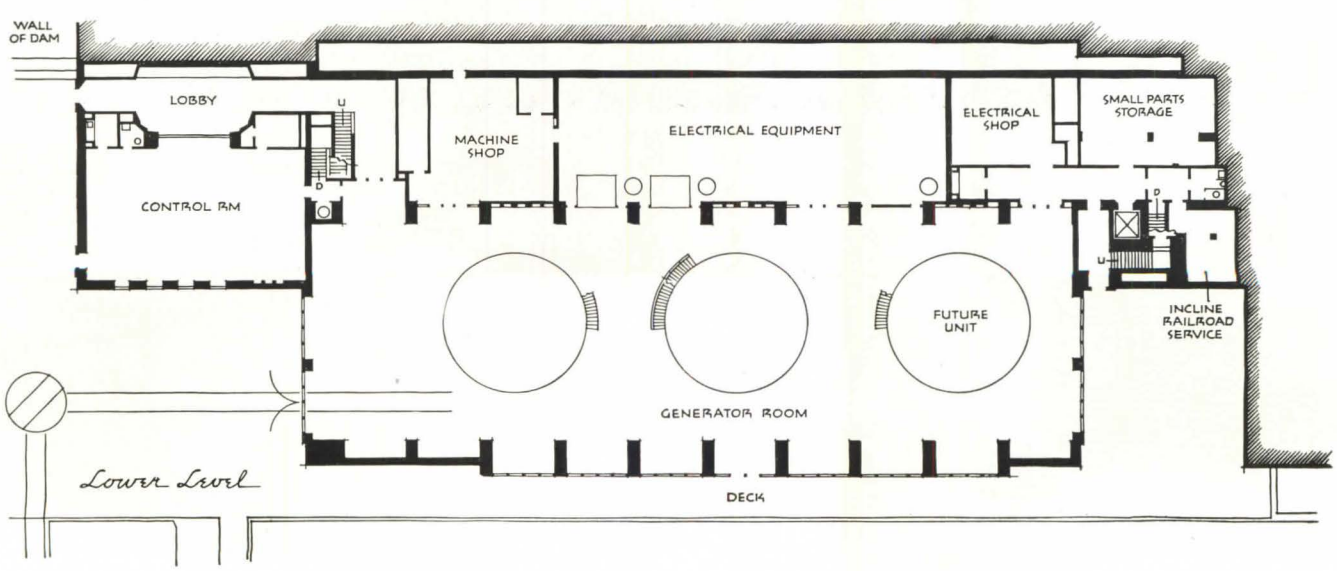
TVA DAM

FONTANA, TENNESSEE

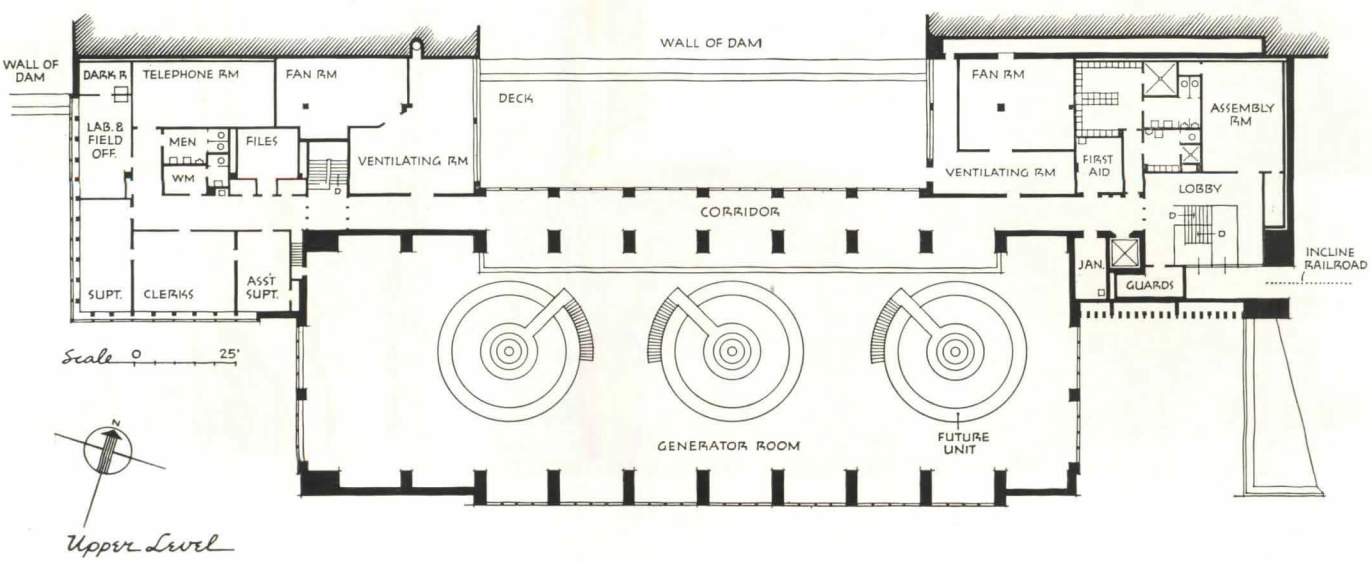
POWERHOUSE

The powerhouse is a reinforced concrete structure surfaced on the exterior with limestone. The roof is covered with precast concrete slabs. The massive concrete piers that support the crane rails within become the basis for the design of the southern wall of the building, with heat-absorbing glazing installed between the frame members. Inside the building, the concrete structure is left exposed; the floor of the generator hall is gray ceramic tile, and the generator casings are finished in terra cotta red and gray.

The station is designed for three 67,500-kilowatt generating units.



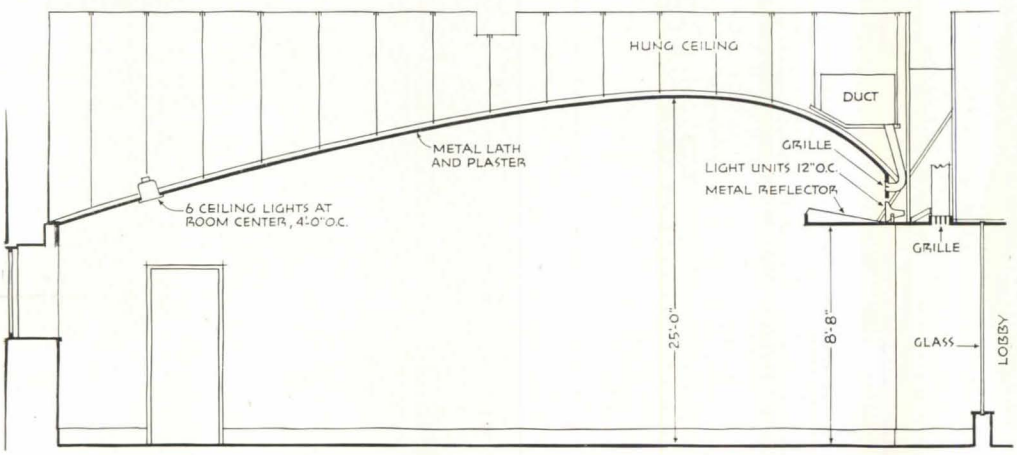
THE POWERHOUSE is located in the natural river bed at the toe of the dam.



TVA DAM FONTANA, TENNESSEE

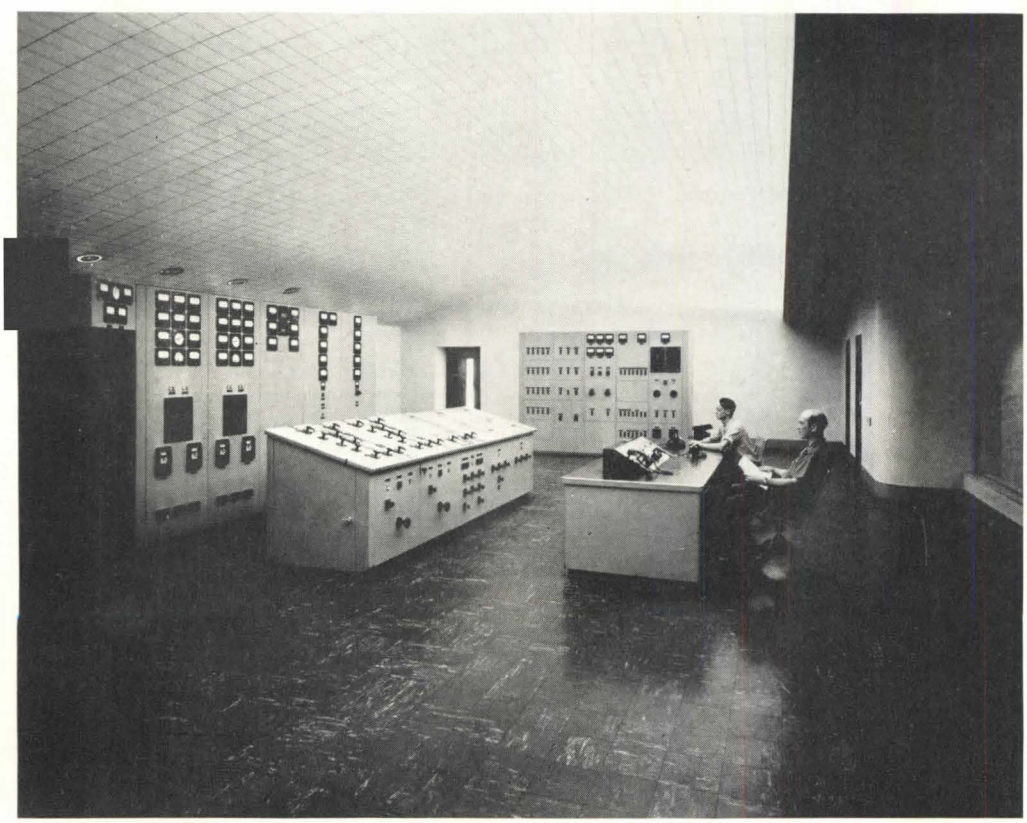
CONTROL ROOM

The powerhouse control room is designed to facilitate the precise activities which go on within it. Approximately 33 by 55 feet in area, it has a parabolic-curved ceiling with a maximum height of 14 feet, providing optimum light reflection from the indirect source to the instrument panels with minimum glare. The suspended ceiling is covered with acoustical tile. Walls and light soffits are sand-finished plaster; the floor is asphalt tile. Visitors view the room through a large plate glass window beneath the light trough.

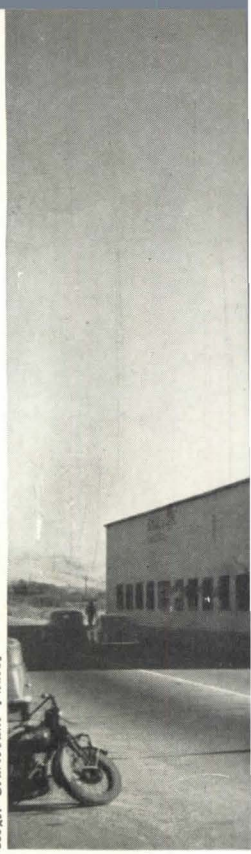


Section thru Control Room

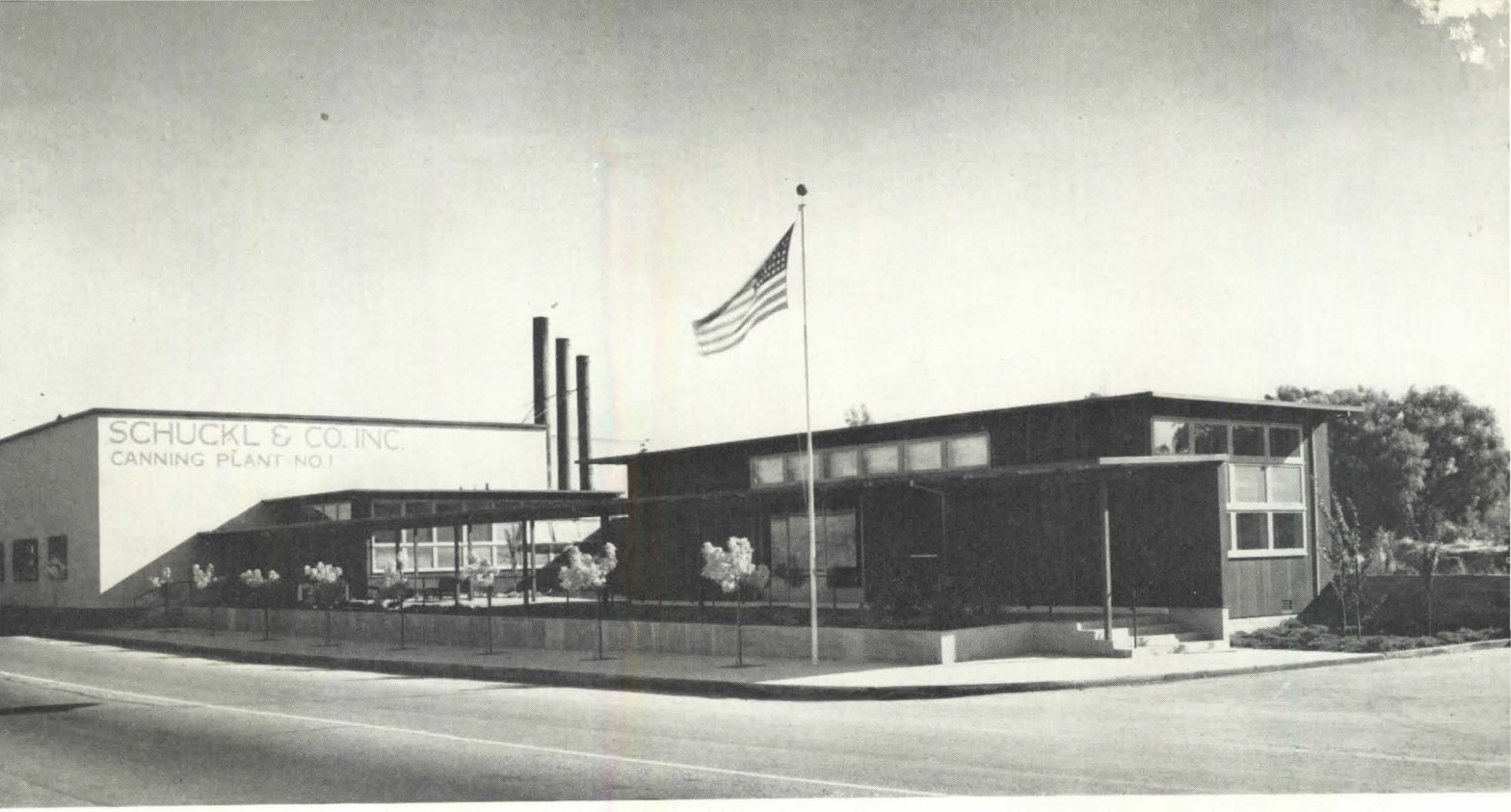
SELECTED DETAIL showing how light and air are controlled.



CONTROL ROOM general view; visitors' window at right.



Roger Sturtevant Photos

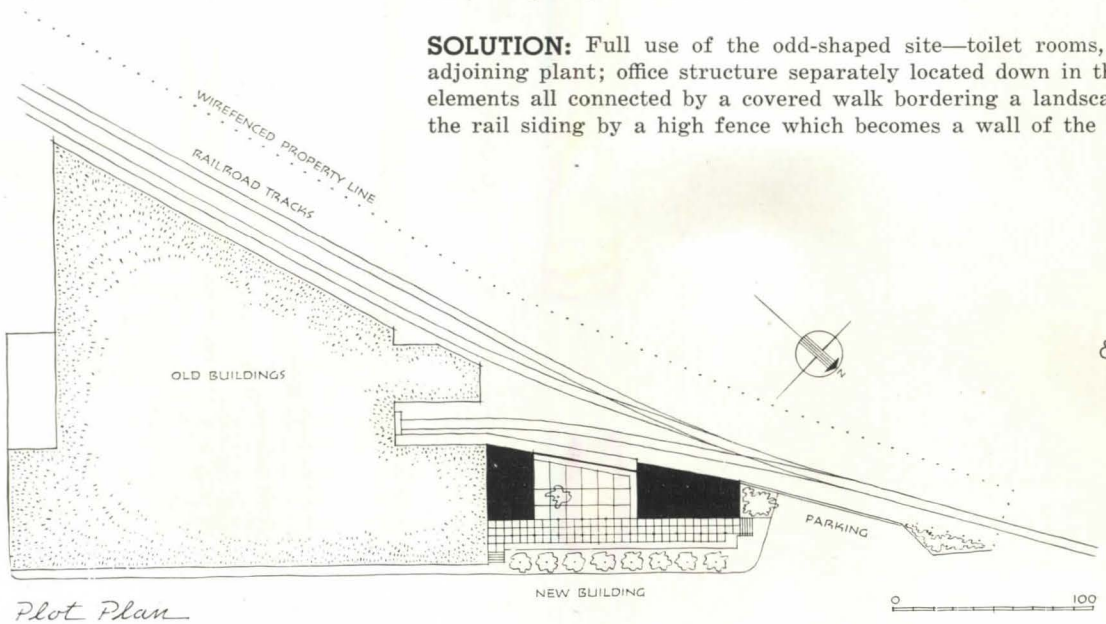


INDUSTRIAL OFFICES NILES, CALIFORNIA

PROBLEM: To provide offices, first-aid room, and toilet facilities for a branch plant of the Schuckl Canning Company. Job involved replacement of obsolete existing structures.

SITE: The narrowest corner of a flat, triangular plot, with a railroad siding on one side, a highway on the other.

SOLUTION: Full use of the odd-shaped site—toilet rooms, etc., placed immediately adjoining plant; office structure separately located down in the angle of the property; elements all connected by a covered walk bordering a landscaped patio, screened from the rail siding by a high fence which becomes a wall of the loading dock at the rear.



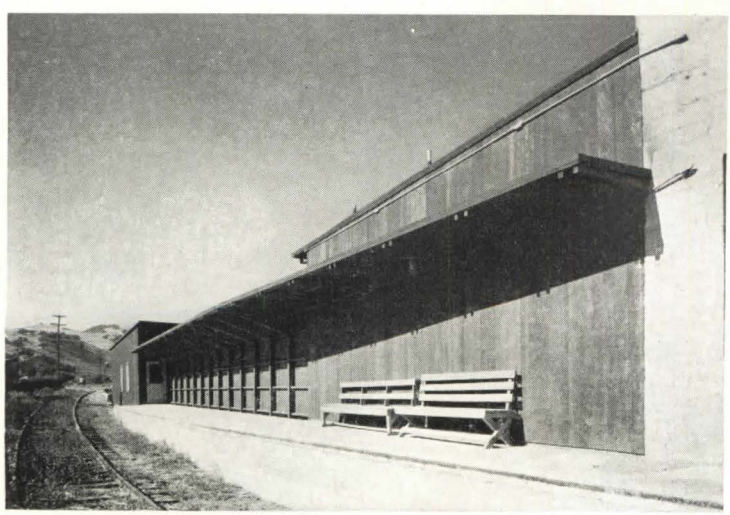
Plot Plan

WURSTER, BERNARDI & EMMONS, Architects

STREET VIEW

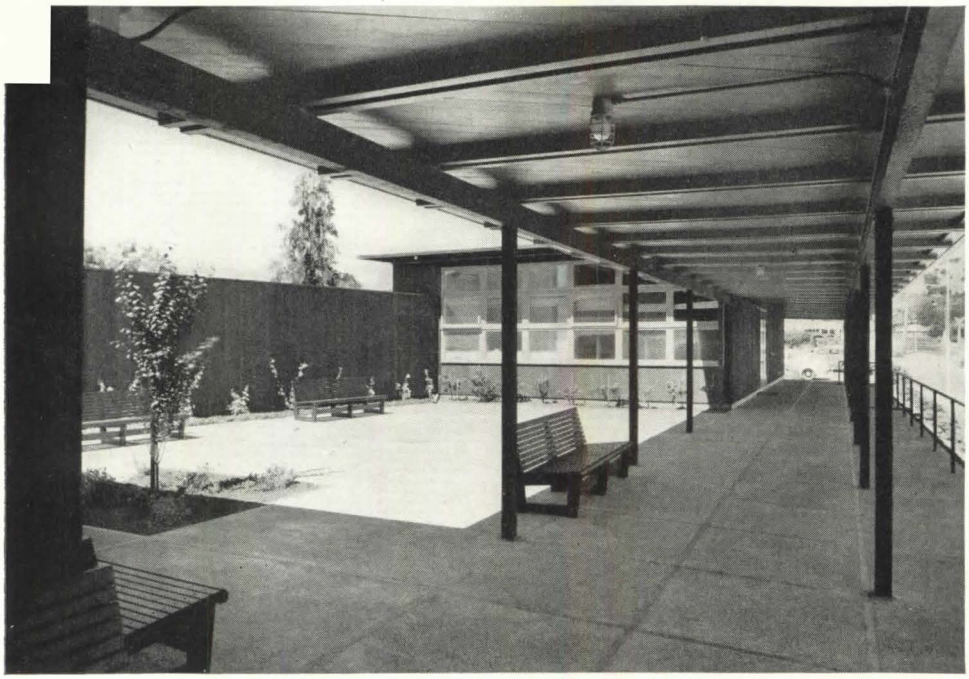
INDUSTRIAL OFFICES

NILES, CALIFORNIA



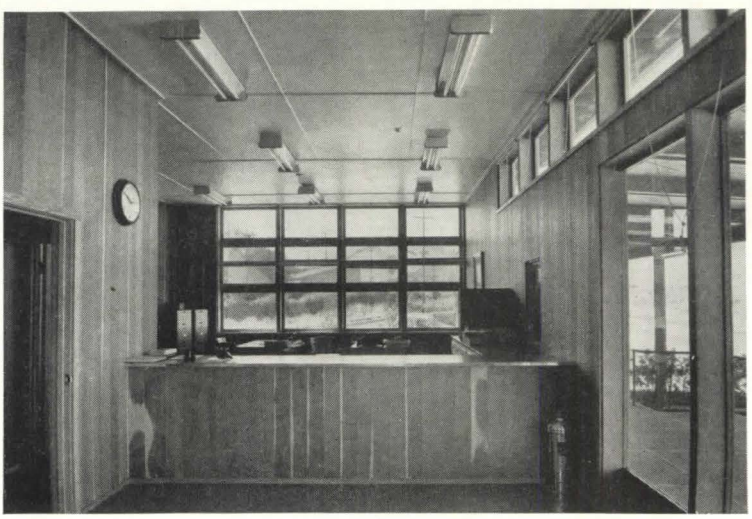
LOADING DOCK. Door to laboratory at far end.

In studying the plan approach to the new facilities to take fullest advantage of the wedge-shaped site, it developed that, while wash and locker rooms had to open directly into the plant work area, there was no need for the offices themselves to be housed within the cannery, so long as they were readily accessible. From this fact grew the parti of the dual structure with covered walk and patio between. In addition to providing a pleasant place visually, the patio also serves as an outdoor lunchroom for employees. A simple wood structural system proved both economical and appropriate to the comparatively rural location. Details of a wall of the building are shown in the Selected Detail on Page 54.

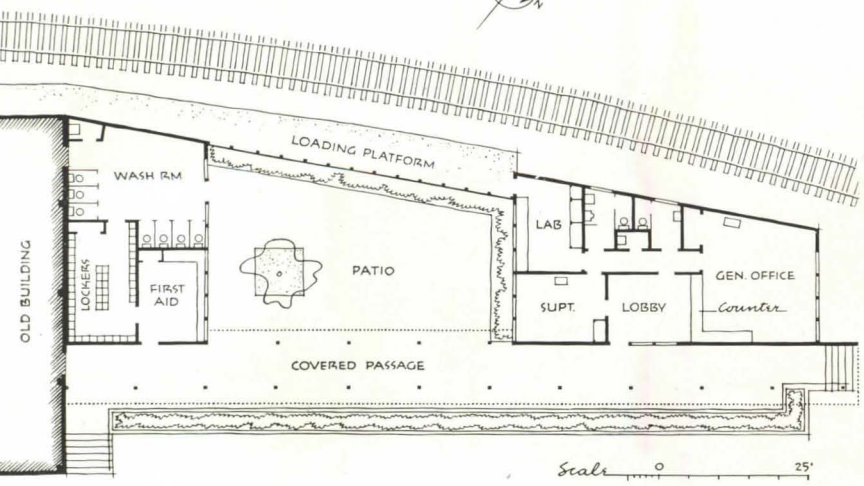


PATIO

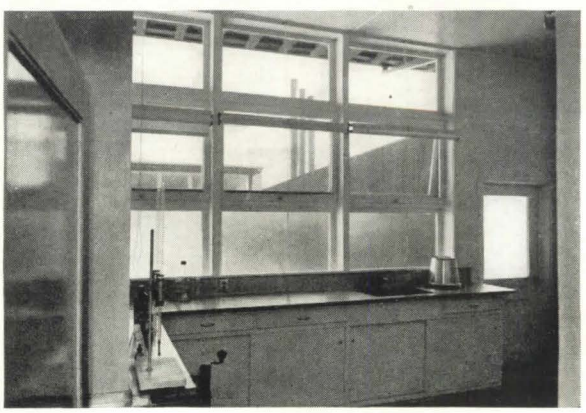
WURSTER, BERNARDI & EMMONS
Architects



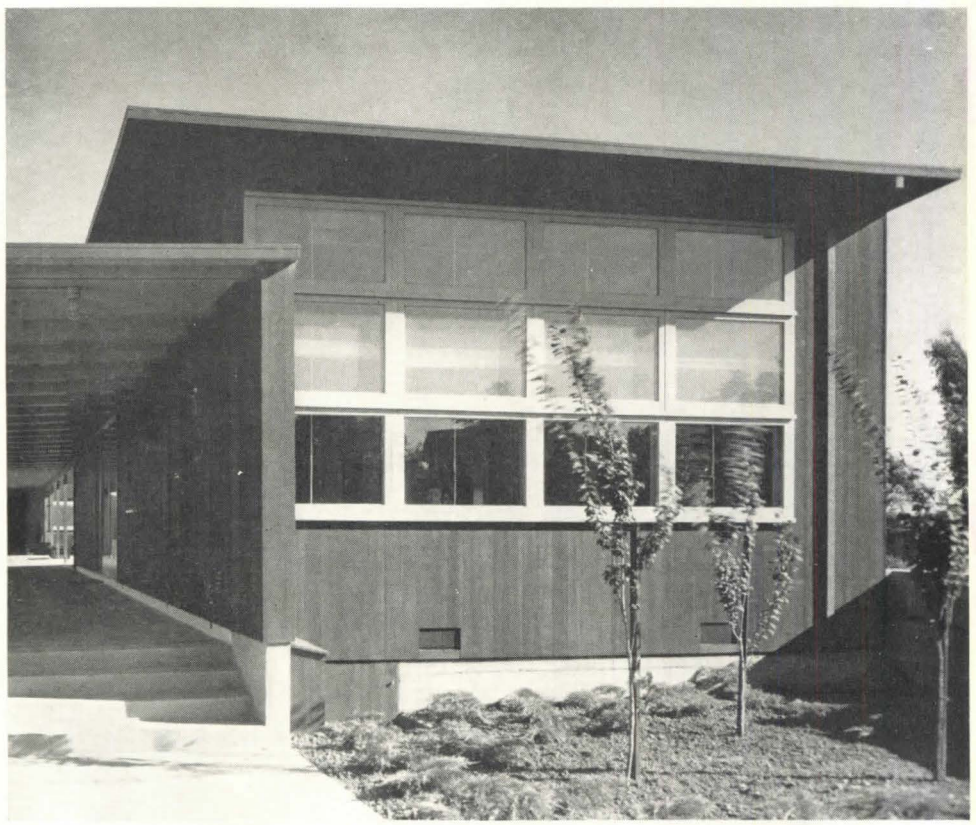
FRONT OFFICE

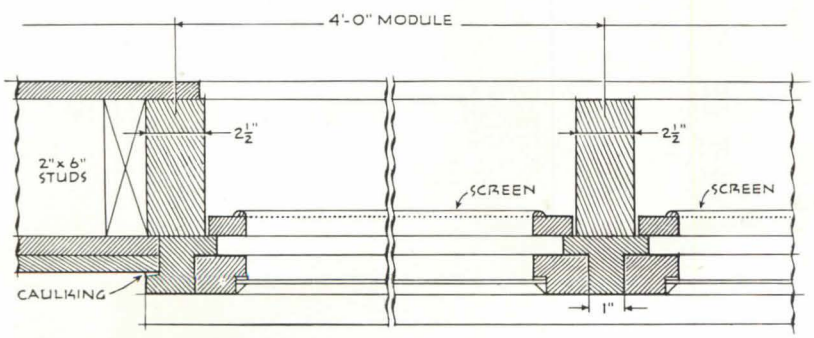


Floor Plan



LABORATORY





Plan thru Window 1 1/2" SCALE

Window Section
1 1/2" SCALE

WINDOW WALL

INDUSTRIAL OFFICES, NILES, CALIFORNIA

WURSTER, BERNARDI & EMMONS
Architects

Haskell

Cabins SOUTH YARMOUTH, MASSACHUSETTS

DAVID FRIED, Architect

PROBLEM: To design as a related group six rental cabins with two sleeping rooms each that would offer guests relative privacy and opportunity for quiet relaxation in a choice resort area of Cape Cod.

SITE: A bluff overlooking the tidal Bass River toward the east, with pine woods to the north and west.

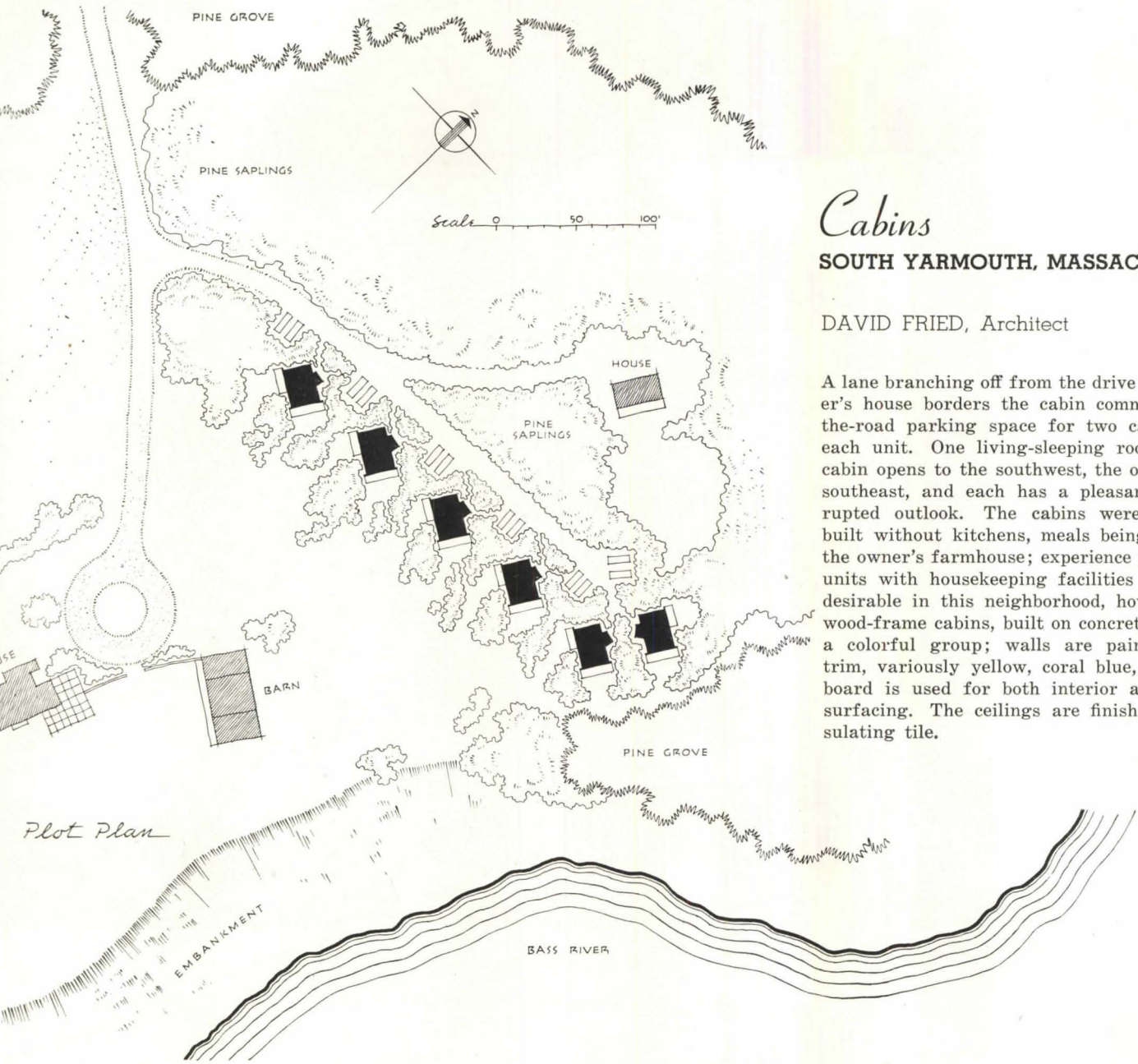
SOLUTION: Staggered alignment of the six cabins in such a way that big window-doors in living-sleeping rooms all enjoy the view, instead of looking at the wall of the cabin next door.

Cabins

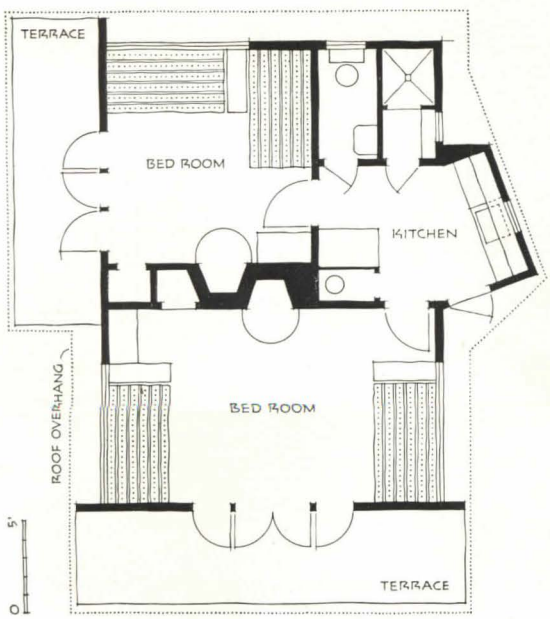
SOUTH YARMOUTH, MASSACHUSETTS

DAVID FRIED, Architect

A lane branching off from the drive to the owner's house borders the cabin community; off-the-road parking space for two cars adjoins each unit. One living-sleeping room of each cabin opens to the southwest, the other, to the southeast, and each has a pleasant, uninterrupted outlook. The cabins were originally built without kitchens, meals being served in the owner's farmhouse; experience proved that units with housekeeping facilities were more desirable in this neighborhood, however. The wood-frame cabins, built on concrete slabs, are a colorful group; walls are painted white; trim, variously yellow, coral blue, etc. Wallboard is used for both interior and exterior surfacing. The ceilings are finished with insulating tile.



Plot Plan

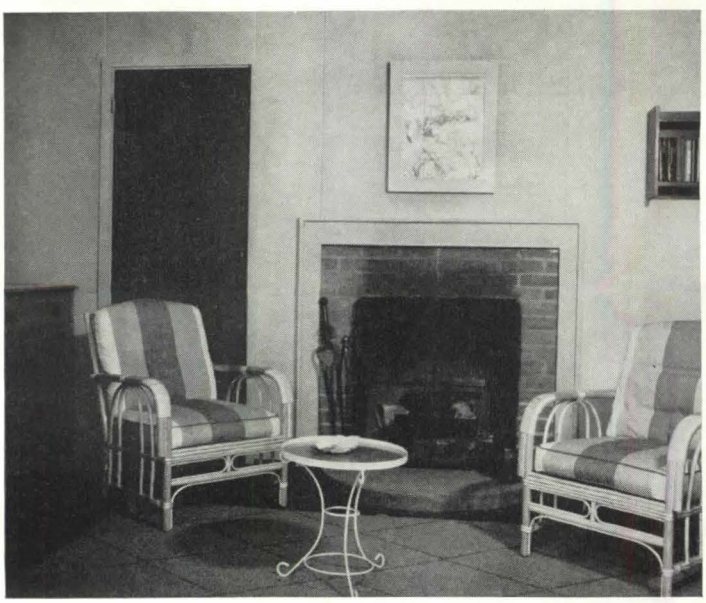


Typical Floor Plan

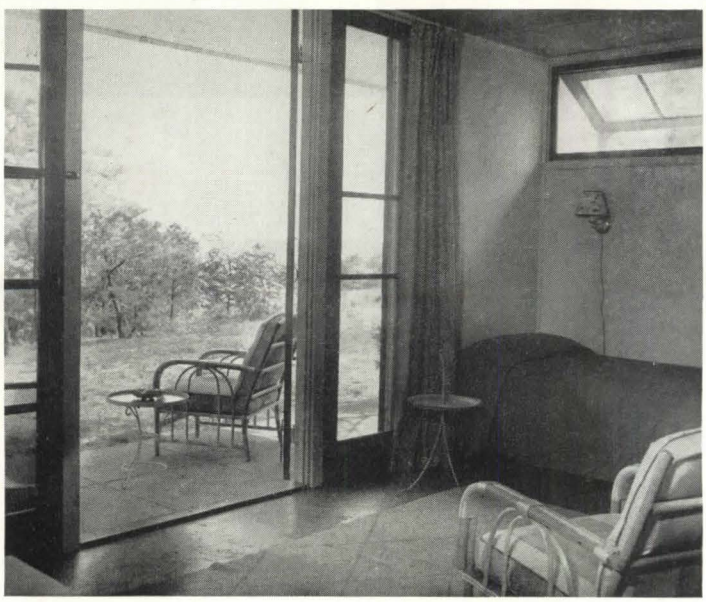
Pati and Bob Meservey Photos

VIEW FROM SOUTH showing the two guest terraces

PROJECTING FENCES give privacy to each terrace.



TYPICAL FIREPLACE

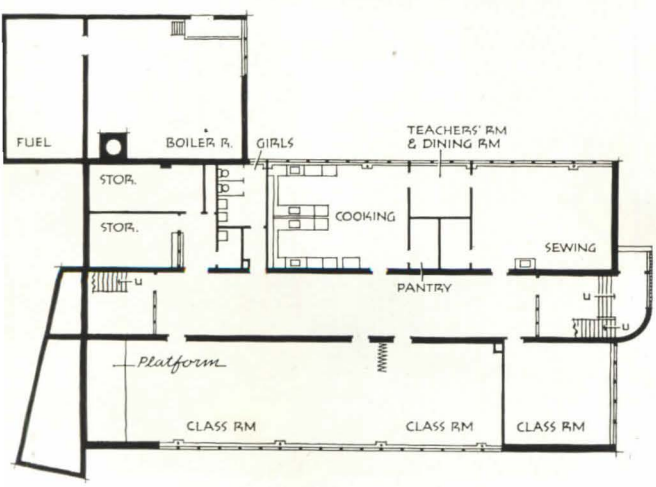


A TERRACE adjoins each living-bedroom.

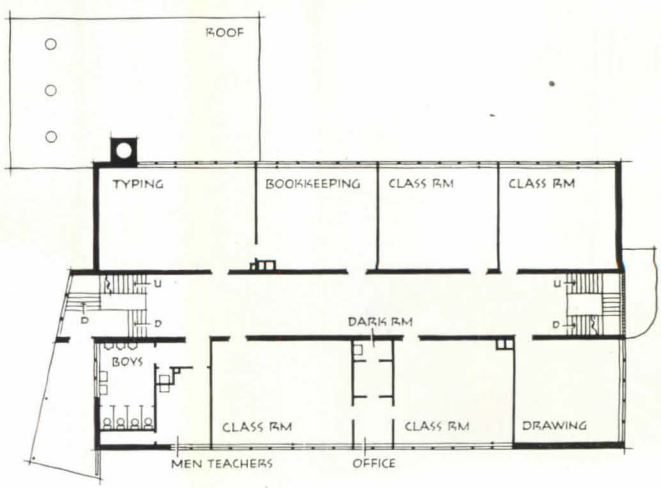
THE SOUTH STAIR, with clear glass wall, provides a striking visual contrast between the old and the new.

P. A. Dearborn Photos

ARTS



Ground Floor

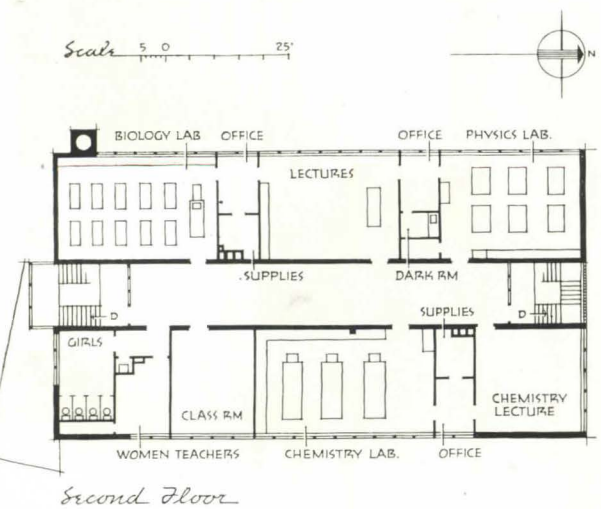


First Floor

THE BUILDING takes advantage of the sloping site to provide three levels of above-grade classrooms. The entrance comes at an intermediate level.

AND SCIENCE BUILDING

RICKER CLASSICAL INSTITUTE, HOULTON, MAINE



ALONZO J. HARRIMAN, Architect

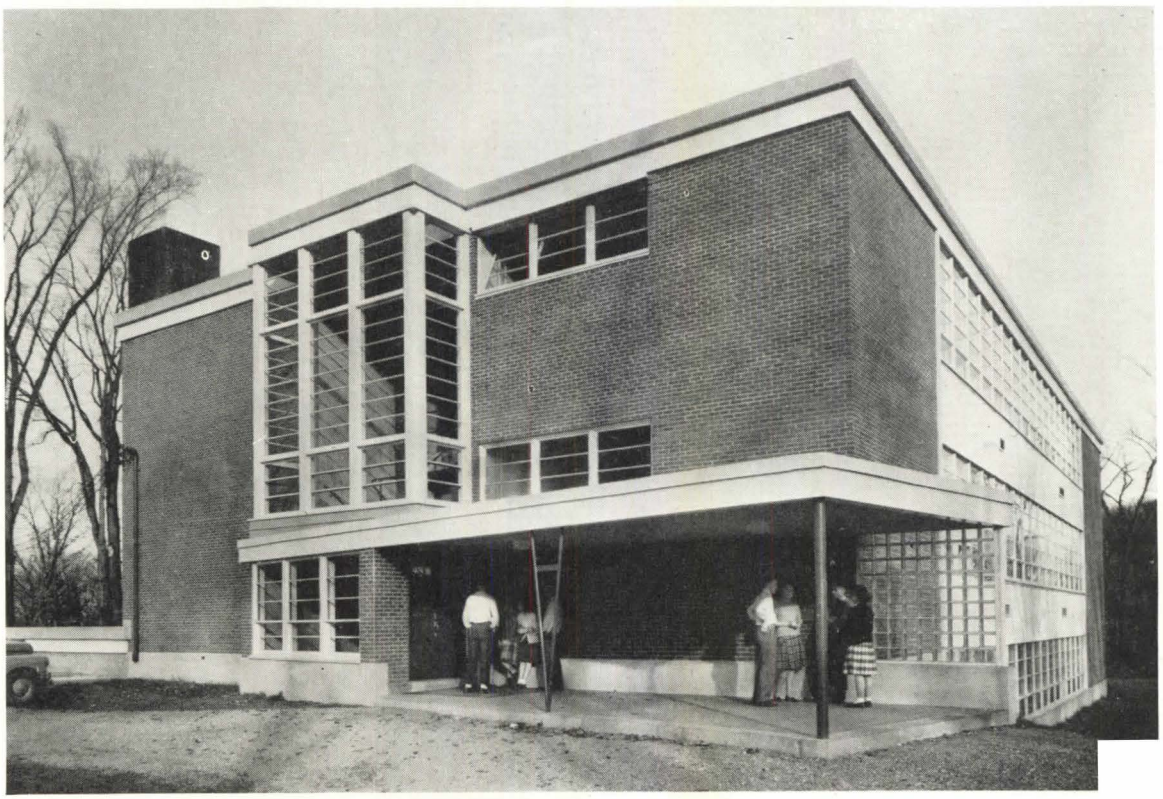
PROBLEM: To replace an old classroom building that was destroyed by fire with an easy-to-maintain, modern structure with movable-type partitioning for plan flexibility, and classrooms with near-maximum natural illumination.

SITE: A slope, adjacent to the location of the old building, chosen because the natural contour made it possible to provide full-height classrooms on the level below the entrance grade.

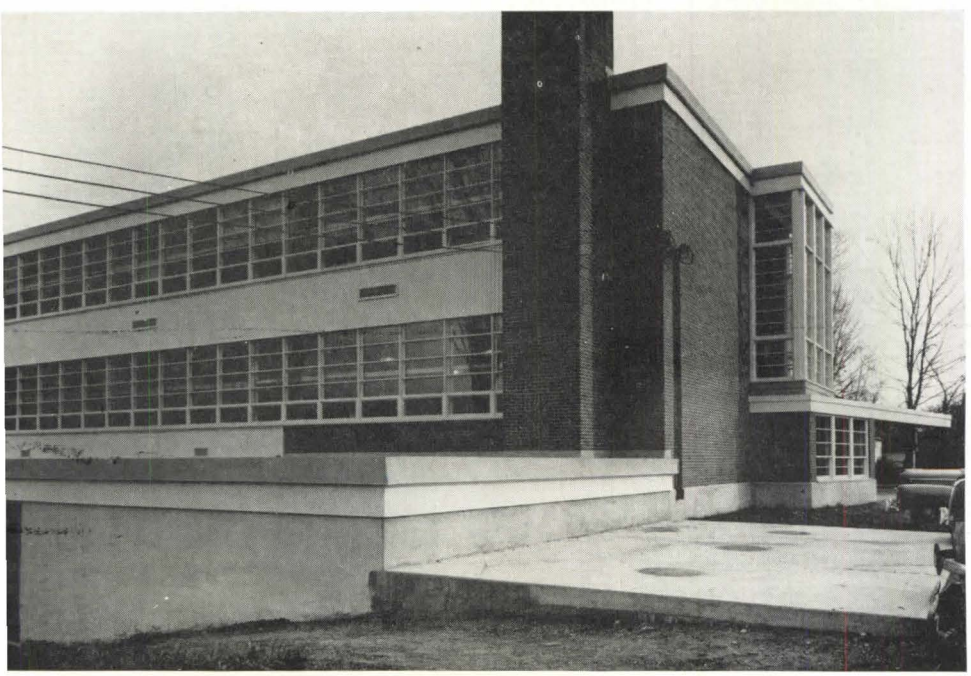
SOLUTION: Extremely simple, direct plan with central corridor and most classrooms facing east or west; corridor daylighted by glazed stair wells at either end.

ARTS AND SCIENCE BUILDING

RICKER CLASSICAL INSTITUTE,



ENTRANCE CANOPY at south end of building



VIEW FROM SOUTHWEST. Heater room structure, foreground.

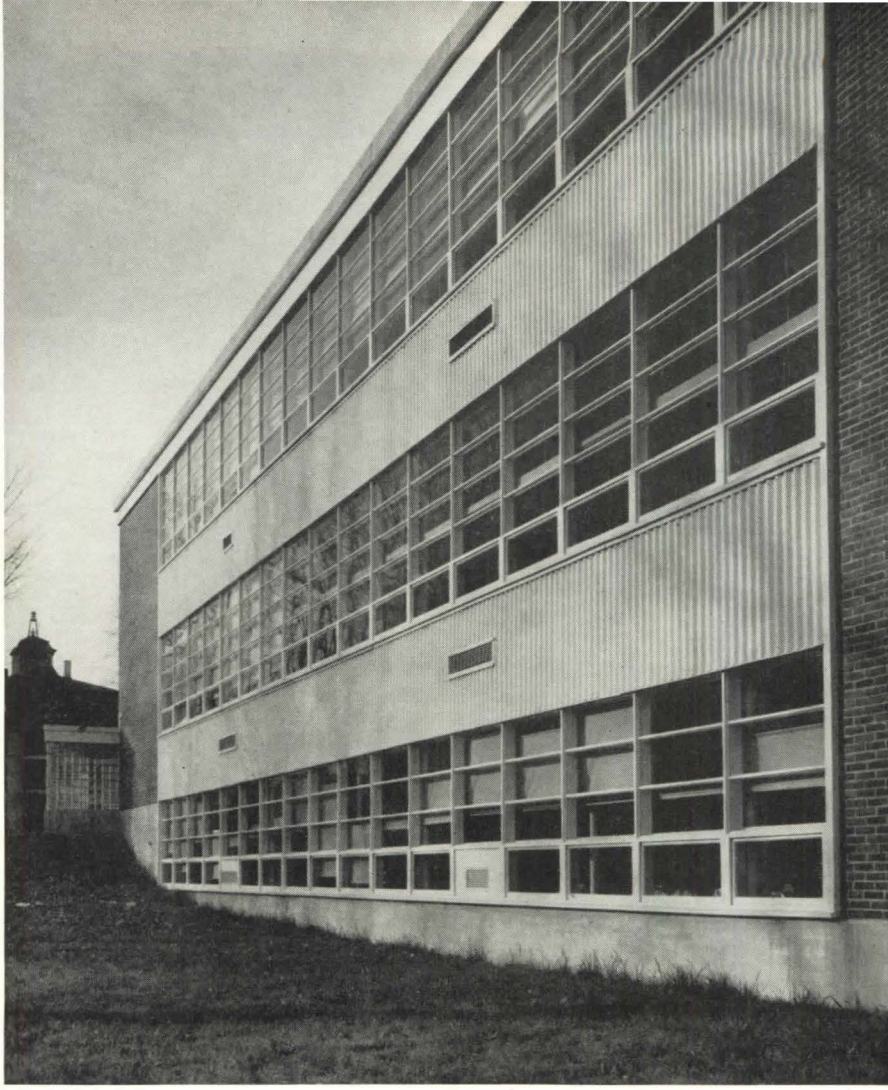
SOUTH STAIR WELL

HOULTON, MAINE

ALONZO J. HARRIMAN, Architect

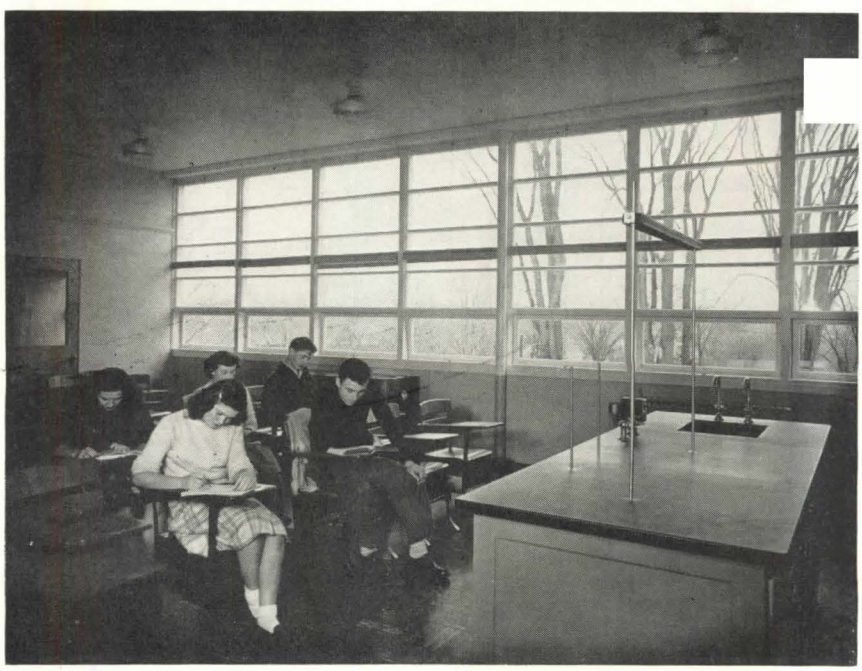
Three of the classrooms—Drawing, Chemistry-Lecture, and one small room —have north light; all others face due east or west. The big wall-to-wall windows are of double glass, except for ventilating units at the base. Artificial lighting of classrooms is indirect, from an incandescent source. Ceiling and floor finishes are continuous so that the partitioning can be relocated to provide for any future changes in curriculum.

The main walls of the building are of masonry-brick over cinder block backup. Floors and roof are concrete supported on lightweight steel joists. Above and below the bands of wood sash, a light steel frame structure is used, surfaced outside with corrugated asbestos and inside with cement-finish structural board. A low-pressure steam system heats the building.



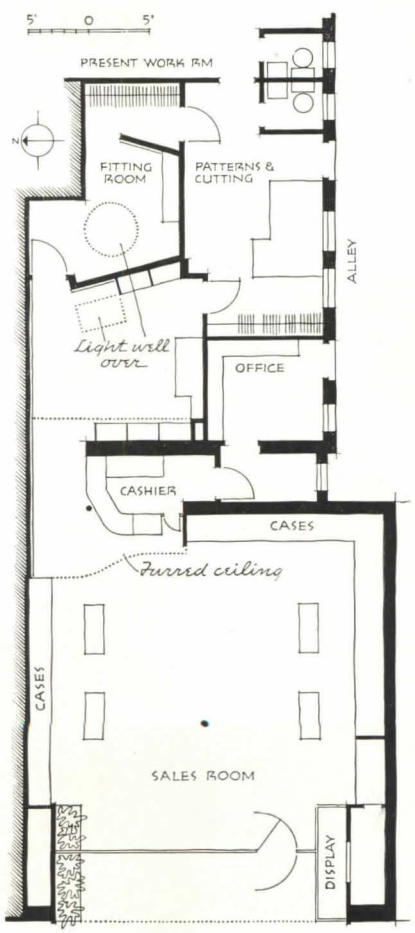
EAST WALL

NORTH STAIR WELL



TYPICAL CLASSROOM

SHOW-WINDOW FRONT is of ½-inch plate glass set with flush stops and 1/16-inch clear opening between glass panels.



Floor Plan

Alterations to

MEN'S WEAR SHOP

BEVERLY HILLS, CALIFORNIA

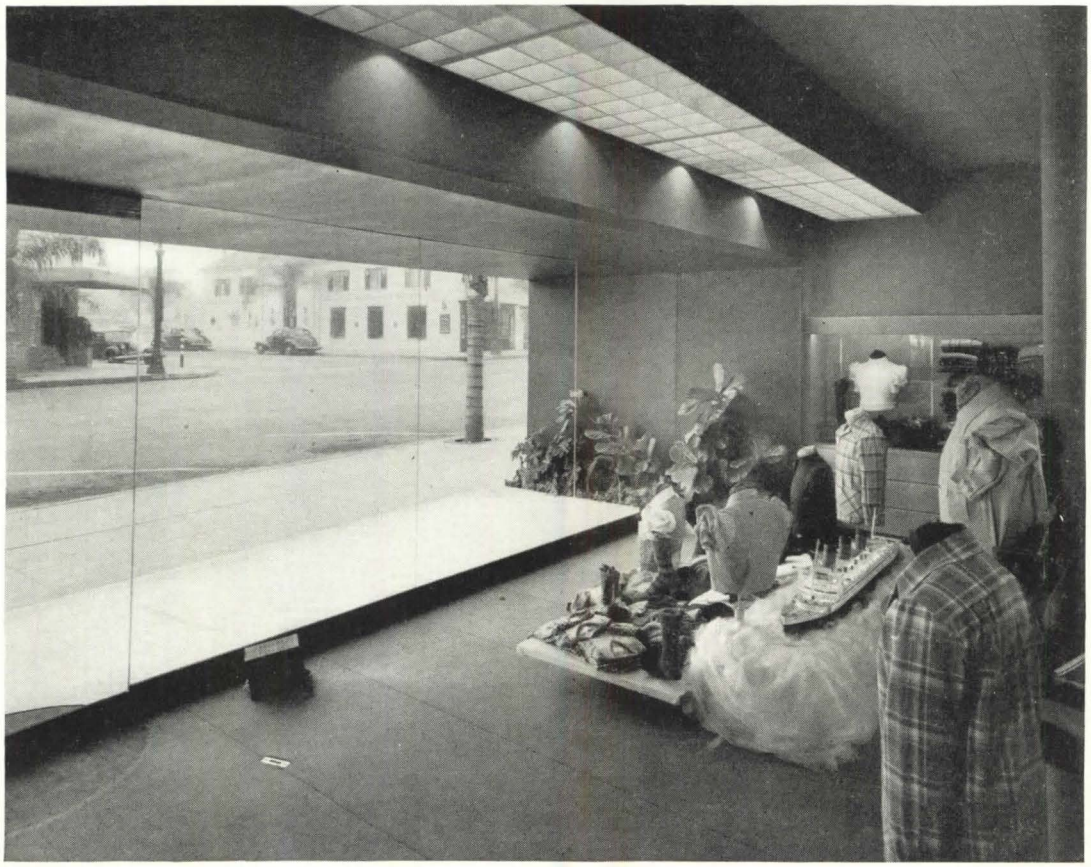
MAYNARD LYNDON, Architect

PROBLEM: To remodel an existing building into a quality retail shop supplementing an established tailoring business.

SITE: An interior block property facing west.

SOLUTION: Deeply recessed front to cope with afternoon sun; open scheme to place the shop as well as the merchandise on display.

The space from front to back is organized around four use areas—the arcade-type front providing comfortable off-sidewalk window shopping; the forward sales portion of the shop itself; an intermediate area (skylighted above the mirror) for consultation and preliminary selection; and the generous skylighted fitting room, arranged to spotlight the customer. The color scheme throughout is muted to serve as a background for both merchandise and customers—all-over green carpet, oak casework, natural plywood on walls, and acoustical tile on the ceiling. Cold cathode tubes, concealed above wall cases, illuminate the wall as well as the cases.

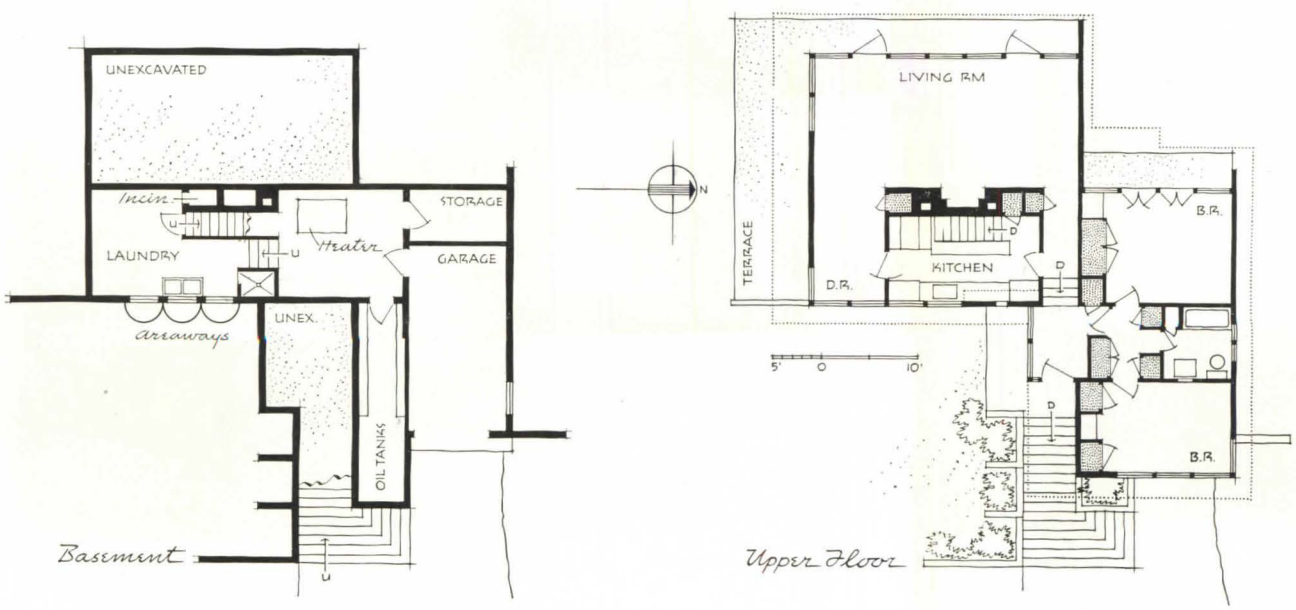


DISPLAY at front is flexibly handled on low platforms that may be arranged in numberless ways.

Merge Studios Photos

GENERAL VIEW from inside show window toward rear of store

FRONT, facing east



Hedrich-Blessing Photos

ENTRANCE DETAIL, with setback plant bays bordering steps

HOUSE

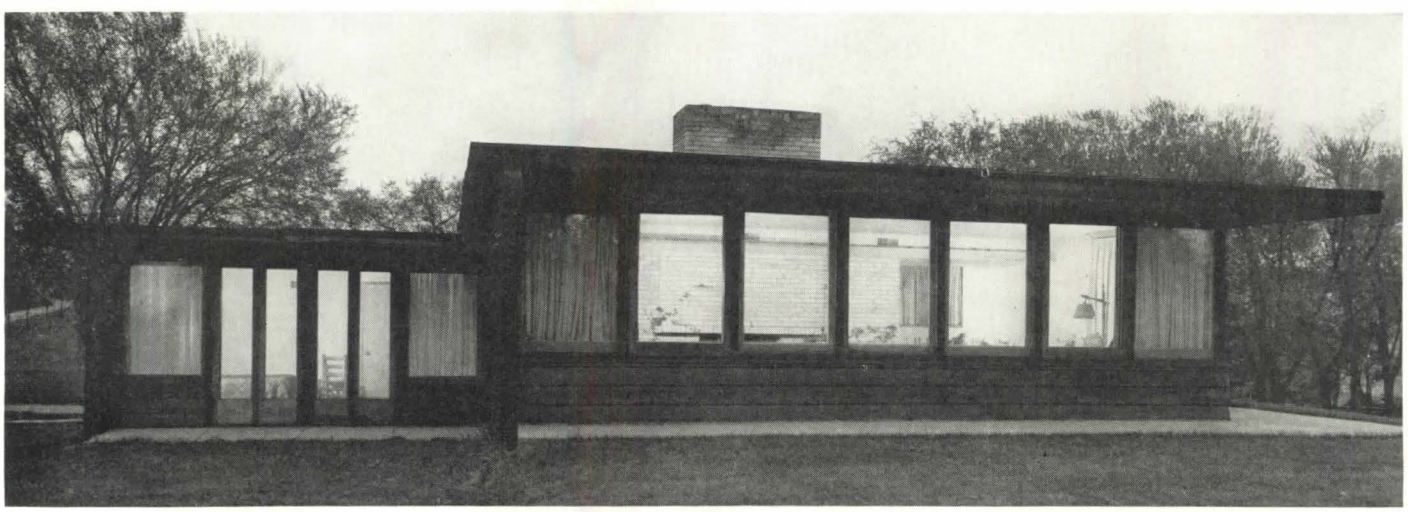
WHITEWATER, WISCONSIN

WILLIAM V. KAESER
Architect

PROBLEM: To design the home of Professor and Mrs. Cord O. Wells who both teach and who like to have groups of students congregate for a discussion or buffet supper. Other specific space needs were a kitchen, two bedrooms, a bathroom, and a one-car garage.

SITE: A hillside on the west side of the street.

SOLUTION: A two-level plan, with garage, daylighted laundry, and storage space on the lower level; a long living room, large enough to accommodate student gatherings; neatly planned circulation, with privacy for the living room and bedroom wing, and direct access to all main living areas from the entrance hall.



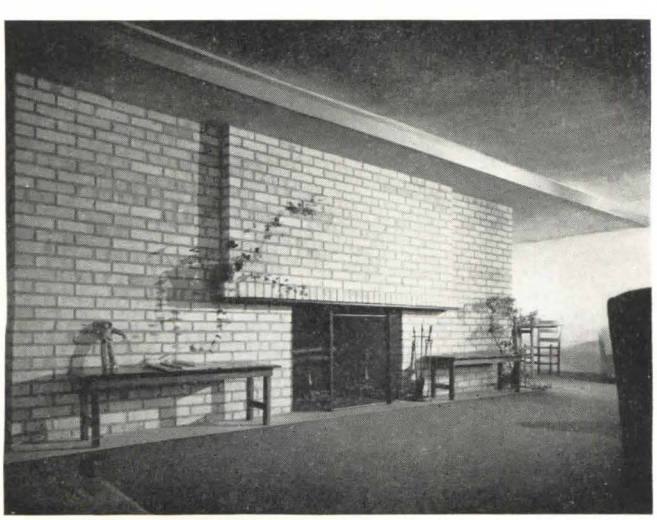
WEST SIDE. The owners report lighting bills are low "because of added light we get during morning and evening hours."

LIVING ROOM. "Our favorite spot," say the owners. "We take time out to watch the sunset practically every evening."

HOUSE

WHITEWATER, WISCONSIN

WILLIAM V. KAESER, Architect

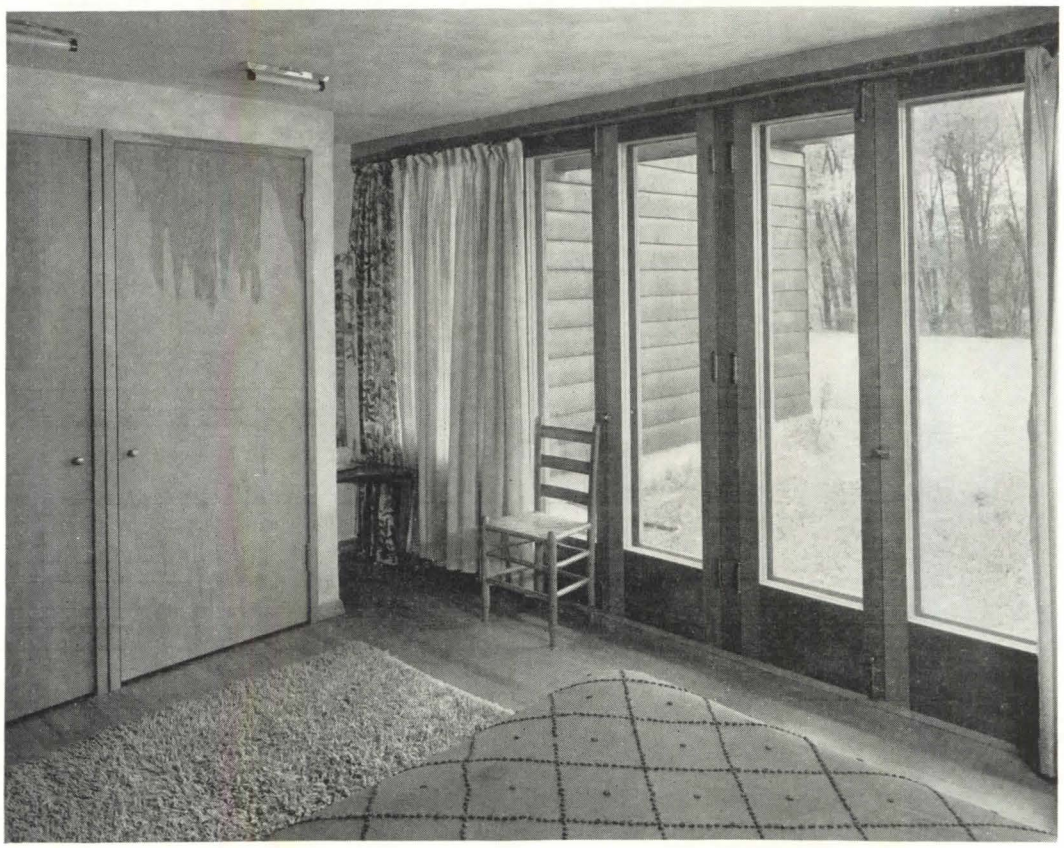


LIVING ROOM FIREPLACE

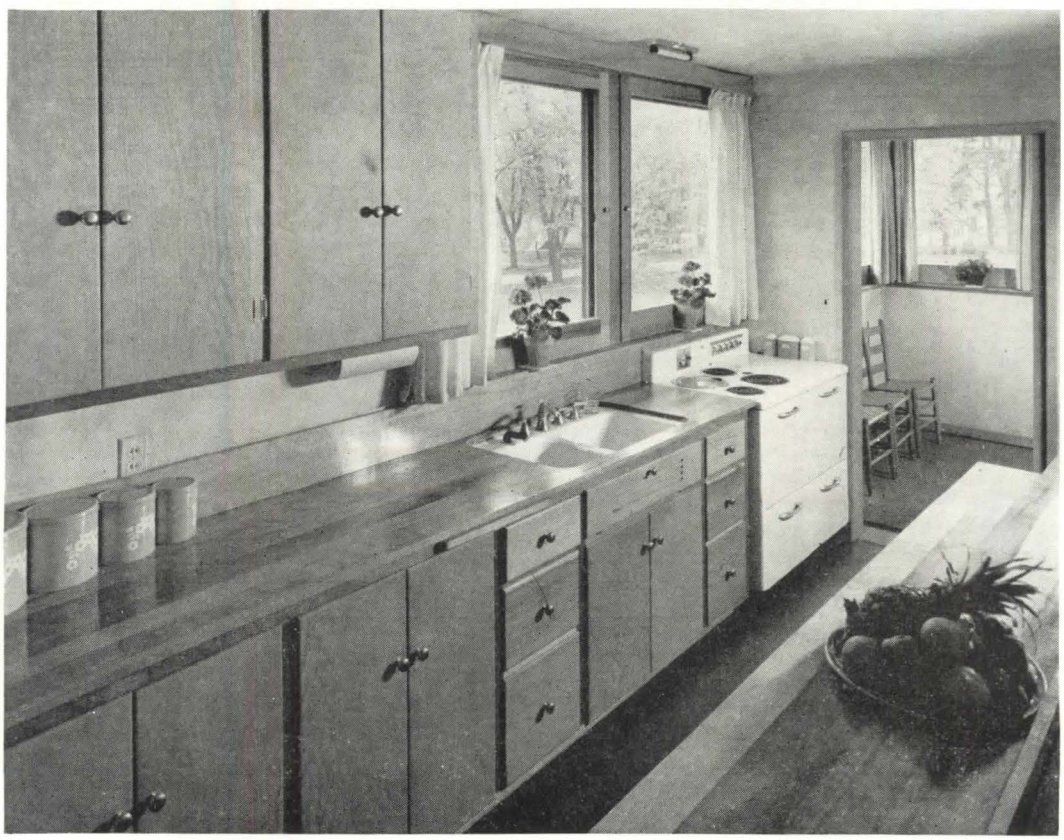
The owners' opinion is that "we have the house that best suits our way of living. . . . We have had many visitors . . . the majority are enthusiastic, particularly young people. Our own opinion is that it is just a fine place in which to do a lot of living."

STRUCTURE

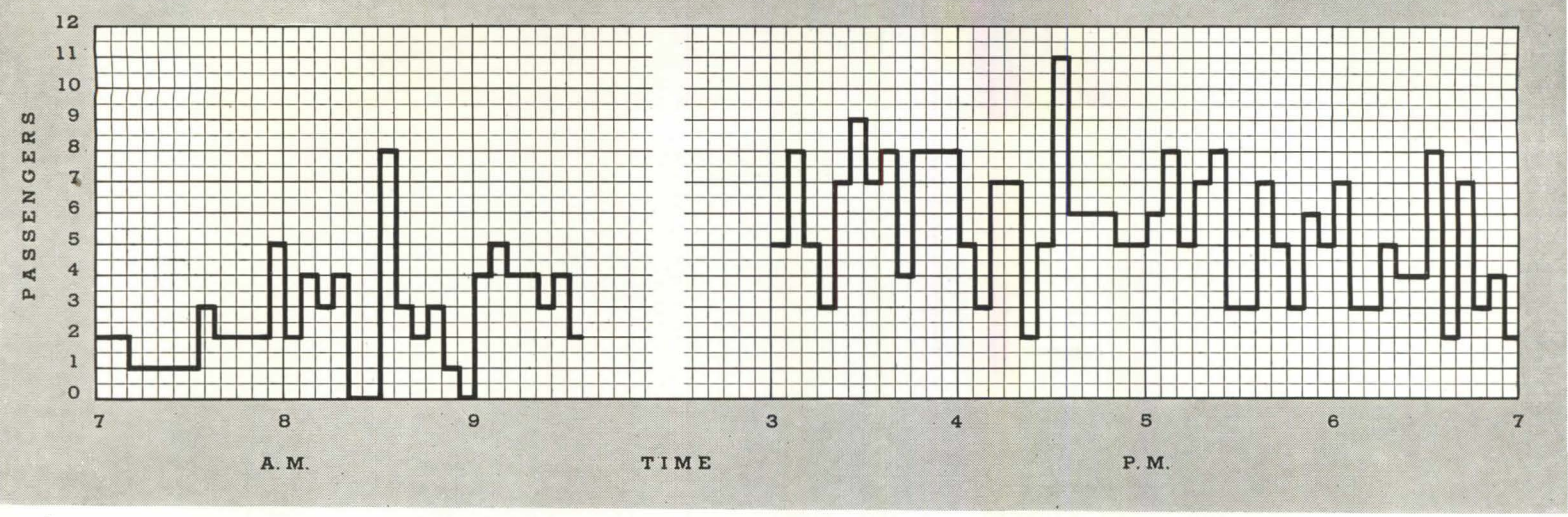
The house is of wood frame, arranged around a 4-foot module. Exterior walls are of natural redwood siding; inside the house, walls are finished with plaster. Doors and trim are of white pine; floors are red oak, except for the hall floor which is poured concrete. The brick of the fireplace is yellow-cream in tone.



BEDROOM. "Heating is not a problem," the owners tell us. "Some heat is lost because of the large glass area, but more is gained from the sunlight."



KITCHEN. "We like the beautiful light effects at all hours of the day—in the living room, bedrooms, and kitchen." On fine days the kitchen is flooded with morning sun.



APARTMENT HOUSE

By H. M. NUGENT
and W. H. EASTON, Jr.
Consulting Engineers
Otis Elevator Co.

PROGRESSIVE ARCHITECTURE presents a discussion of the fundamental considerations which influence choice of elevator equipment for apartment buildings. The detailed solution of vertical transportation problems is so specialized that many architects prefer to leave it to a reputable manufacturer. However, no architect can afford to be completely dependent upon a manufacturer for his decisions, nor entirely ignorant of the choices available. This article is a condensation of one chapter of "Apartment Houses," the latest book to be added to The Progressive Architecture Library.

When Are Elevators Required?

The building laws of many localities require that apartment buildings of six stories or over have elevator service. For example, a New York State law: "Every multiple dwelling hereafter erected exceeding in height 6 stories or sixty feet shall be equipped with one or more power passenger elevators operated or capable of being operated at all times, at least one of which is accessible to each apartment above the entrance floor."

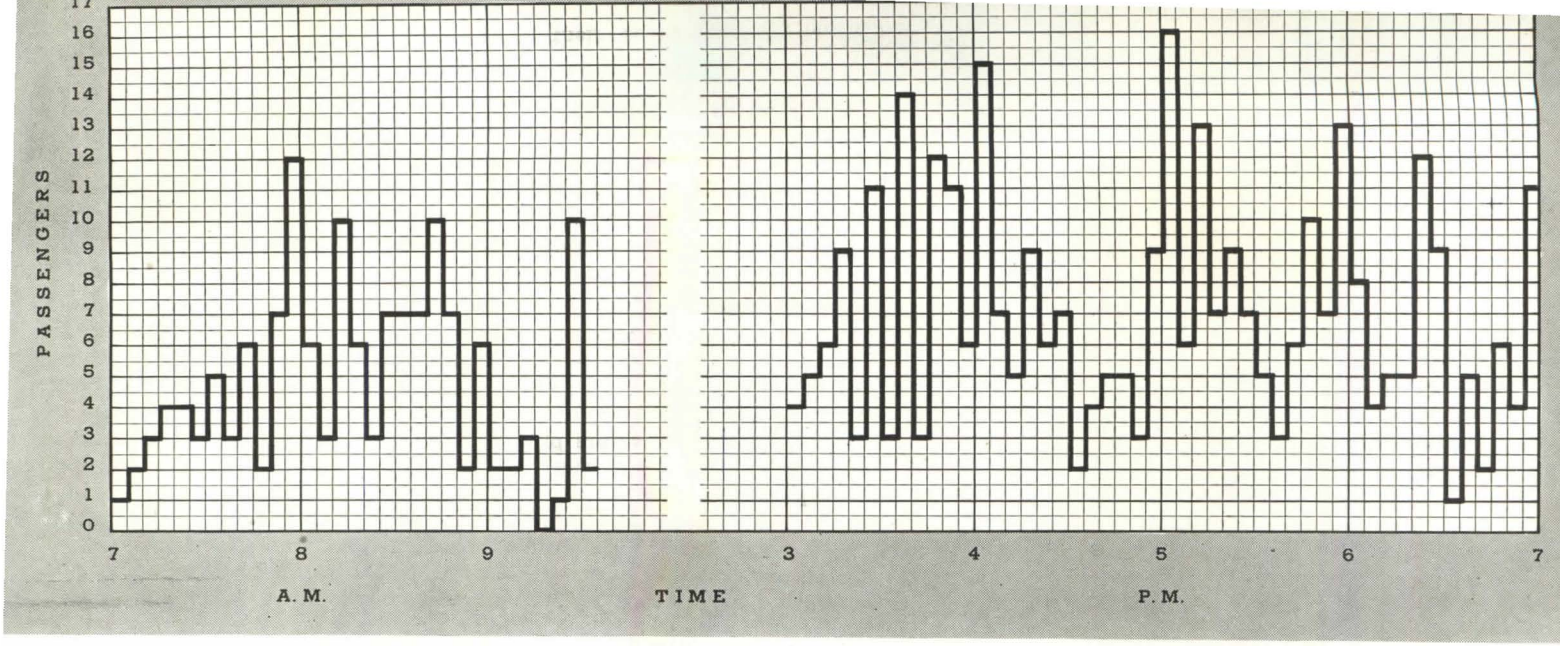
This is a good law but a poor rule. All apartment buildings of four or more stories should be served by elevators, and many three-story apartment houses are being so equipped. Whether or not elevator service should be provided in a three-story building depends partly on the type of tenants expected. The decision is also influenced by the fact that with elevators, upper floor apartments become more desirable and bring higher rents than lower floor apartments.

How Many Elevators Are Required?

One elevator will serve adequately the 50 to 70 apartments in an average-rental building not over six stories high, handling both passenger and service traffic. Even in high-rental buildings of six stories or less there is seldom a second elevator; if there is, it is more likely to be for service than for passengers.

Two elevators are normally adequate to serve buildings more than six stories high. Six stories is the maximum which healthy tenants can be expected to climb without hardship, even in emergencies; hence even when the traffic does not appear to warrant them, two elevators are needed so one will be available while the other is being serviced. Usually, both are located in a single bank near the building entrance, one being used for freight and service during part of the day, and for passengers during periods of increased traffic. Sometimes the second car is strictly a service (and "standby") elevator, located near the service entrance.

There are two important exceptions to this two-elevator rule. First, in



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TRAFFIC FLOW: The number of elevators needed in a building depends upon volume and time distribution of elevator traffic. Data on traffic behavior are usually obtained from traffic-flow charts. The number of passengers handled during each five-minute period of the day is counted; results are plotted against time. The charts illustrated were made from surveys conducted in the Metropolitan Life's Parkchester development in New York. *Chart 1* illustrates how traffic behaves in a building unit containing 67 apartments and populated by 174 persons, all served by one elevator. *Chart 2* is from data collected in a two-elevator building unit containing 98 apartments and a population of 281. The traffic-flow pattern exhibited is typical of many apartment buildings tenanted by families of medium-salaried office workers.

Apartment house elevators are usually busy throughout the day, and are not subject to as pronounced traffic peaks as they would be in office buildings. Traffic does increase in the morning when tenants leave for business, in the afternoon when children return from school, and in the evening when tenants return from work, but these periods are spread out because tenants and their children work and attend school at various distances, and leave at different times. Usually the evening increase, the greatest, seldom exceeds 6% of the building's population during any five-minute period. As a result, passenger-handling capacity of the elevators during peaks or maximum traffic-flow periods is not the major consideration in planning apartment house elevators.

ELEVATORS

high-rental buildings it is sometimes desirable to provide two passenger elevators and a third for freight and service. Second, the apartment hotel type of building, characterized by many small apartments and single-room suites, needs elevator service similar to that of a hotel, and may require more than two passenger elevators. These cases must be given special study.

What Floors Should Elevators Serve?

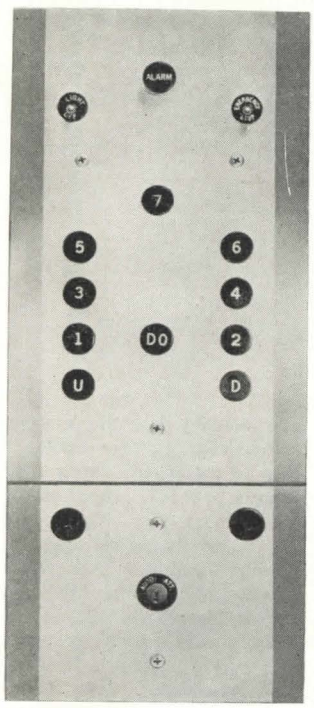
One type of arrangement, known as "skip-stop," in which elevators serve alternate floors, was originally proposed as a minimum for high-density buildings at the lowest possible cost, and has been specified for a few low-rental housing projects. It does reduce initial cost of elevator installations, principally by eliminating alternate hoistway entrances, but does not provide good elevator service.

The elevators in an apartment house should serve *all* floors on which there are apartments. They should also serve the basement, if there is one, particularly if it is used for laundry and tenant services. In apartment buildings where the roof is used for sun bathing or recreation one elevator may serve the roof, but this is a rare provision except in very large metropolitan installations. Normally, each passenger elevator in an apartment building has hoistway entrances on every floor from basement to top floor.

What Type of Control?

Two basic types of control are used with modern passenger elevators: *signal* and *collective*. In apartment installations the fundamental difference between the two is that signal control elevators require an attendant, while collective control elevators can be operated by either the passenger or an attendant.

The present trend is toward collective control elevators for even the highest-rental apartment buildings. This type of operation provides re-



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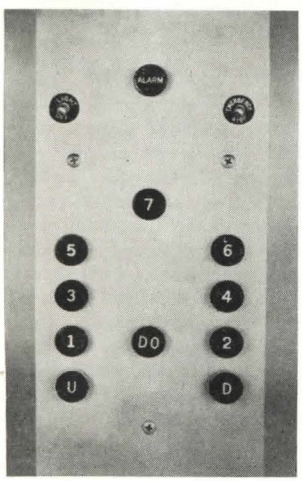

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ATTENDANT OPERATION PROVISIONS: Collective control elevators may be obtained with or without the attendant operation feature, but attendants should be provided for if there is a reasonable probability of their being needed. Typical car control panels for elevators with *(Fig. 3)* and without *(Fig. 4)* the "attendant" provision are shown. Provision for attendant operation consists of an auxiliary panel containing a key switch marked "attendant" and "automatic." When the elevator is to be passenger-operated, the switch is locked in "automatic" position and the elevator functions as an automatic, full collective control elevator. When an attendant is in the car, he turns the switch to "attendant" position, after which, in operating the car, the attendant presses floor buttons for the passengers, closes the car door, and starts the car.

liability which is independent of the availability of labor and which lacks nothing in prestige or security. Elevator attendants and doormen can be used with these elevators when desired, yet they can be dispensed with when not available. In many apartment houses it has been found that unattended collective control elevators plus a doorman provide better elevator service and greater security at much less cost than attended elevators without a doorman.

A collective control elevator is fully automatic and requires no attendants, yet it responds to car and landing calls in the order in which the landings are reached, rather than in the order in which the buttons are pressed. It also differentiates between *up* and *down* calls, answering only *up* calls when traveling upward and only *down* calls when traveling downward. When two collective control elevators operate as a bank to serve a single building unit, their operation is usually coordinated so that calls registered from landing buttons are answered by only one car—the one which is in a position to arrive at the landing first, traveling in the appropriate direction. This type of operation is often referred to as "duplex" collective. Each car answers all calls made on its own operating panel; either car can be detached from the system and operated individually as a service elevator if desired. Sometimes if one elevator is to be used regularly as a service car, a separate riser of "service" landing buttons is provided.

Another type of automatic elevator control formerly very popular and still used occasionally is the "single automatic push button" type. With this control, the elevator answers only one call at a time; when answering a call it will neither respond to nor "store up" other calls. This type of control is no longer recommended for new construction. Why install equipment that is obsolescent now in buildings whose useful life is expected to be 50 years or more?

Signal control elevators are occasionally used in tall, high-rental apartment buildings in large cities. This type has definite advantages wherever heavy passenger traffic is to be handled; however, before choosing signal control elevators for any apartment building, the owner and architect should be sure that they will have no use for the automatic, self-service features of a collective control installation. When used in apartment houses, signal control elevators should be equipped with the "night service" feature which permits untrained persons to operate the elevator in emergencies.

Speed

The optimum speed for an apartment house elevator depends primarily upon the building height. In a low-rise installation (up to six stories) elevator speed has little effect upon the average interval which passengers must wait for the elevator, because loading, starting, and stopping require more time than traveling. Elevator speeds of about 200 fpm are commonly recommended for such installations. For high-rise installations the reverse is true; higher elevator speeds materially reduce the waiting interval. For buildings of 10 or more stories, speeds of 400 fpm or more are recommended. For buildings of six to 10 stories, the optimum speed is not well defined, but usually is approximately 300 to 350 fpm.

The public is somewhat less critical of waiting time in apartment houses than in office buildings. For example, a 60-second interval in a busy office building would not be tolerated, whereas an interval of a minute may not be excessive in an apartment building. Nevertheless, an excessive interval—particularly an irregular interval to which attendants contribute by inattention—will be a source of annoyance and complaints, and should be avoided.

Load and Platform Size

In order to minimize the danger of overloading passenger elevators, car platform area is limited by the load it is designed to carry, as specified in the *American Safety Code for Elevators*. A given area may be obtained by an infinite combination of dimensions, but the major elevator manufacturers, working through the National Elevator Manufacturers' Industry, have standardized upon a limited number. From these standard sets of dimensions all passenger platforms should be chosen.

Of the several platform sizes considered standard for passenger elevators, only four find extensive application in apartment buildings. These are all relatively small since high passenger-handling capacity, even during periods of increased traffic, is not a factor in selecting apartment elevators. Recom-

mended platform dimensions, together with their respective passenger capacities, are as follows:

TABLE I—Platform Dimensions

Rated Load	Passenger Capacity	Platform Size Width	Depth
1,200 lb	8	5'-0"	4'-0"
2,000 lb	13	6'-4"	4'-5"
*2,000 lb	13	6'-4"	4'-8"
2,500 lb	16	7'-0"	5'-0"

*For 400 fpm speed and over

The 1200-lb platform is large enough to handle passenger traffic in most installations, but too small to accommodate furniture. It is frequently used in small three- and four-story apartment houses, but it is not recommended for larger installations. The 2000-lb platform will satisfactorily accommodate furniture and is therefore widely used in apartment houses of all sizes. The 2500-lb platform is used where extra service and spaciousness are factors.

Service Elevators

The preceding discussion of control, speed, and size is based principally on passenger-handling requirements. It applies equally well, however, to apartment building elevators which are to be used for *both* passenger and service purposes. Removable wall pads are recommended for protecting the finish of the car when furniture or bulky freight is being handled.

When a separate service elevator is provided, it should be located near the building's delivery entrance, and should have a 2500-lb platform, or larger, to accommodate bulky furniture. Its control should be of a type which does not require full time attendant operation—collective control with the attendant feature is generally employed. Speeds of from 150 to 350 fpm are commonly specified for service elevators.

Hoistway Size

Hoistway size is governed by the size of the platform and the clearances required on all sides, to provide room for car guide rails, counterweights, counterweight guide rails, hoistway wiring, hoistway doors, switches, interlocks, etc. Due to the standardization program referred to above, values shown in the following table are approximately applicable to many makes of elevators, although in practice the only safe procedure is to obtain data and dimensions directly from the manufacturer of the particular equipment used.

TABLE II—Hoistway Sizes

Rated Load	Platform Size Width	Depth	Hoistway Size Width	Depth
1,200 lb	5'-0"	4'-0"	6'-4"	5'-3"
2,000 lb	6'-4"	4'-5"	7'-8"	5'-9"
*2,000 lb	6'-4"	4'-8"	7'-8"	6'-0"
2,500 lb	7'-0"	5'-0"	8'-4"	6'-4"

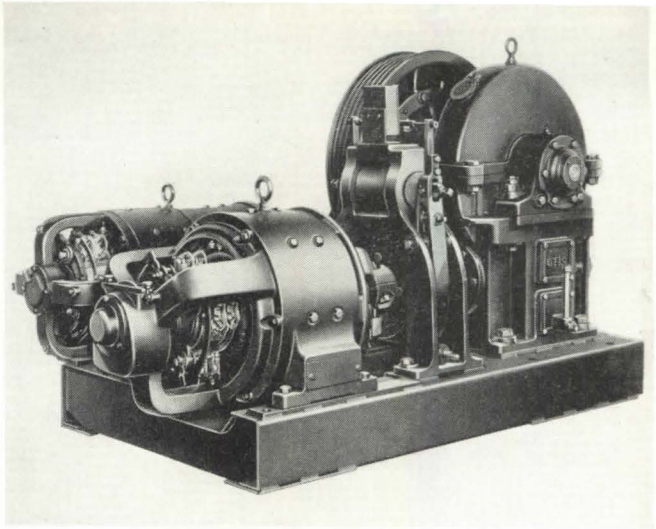
*For 400 fpm speed and over

Pit Depth

Depth of the pit (distance from lowermost landing to bottom of hoistway) is governed by the speed of the elevator and by the local building code. It must be sufficient to allow for overrun of the car, for installation of a buffer, and for other necessary pit equipment. Allowances generally range from approximately 4½ ft when the speed is 100 fpm or less to 12½ ft for 600 fpm.

Overhead Clearance

Overhead clearance (distance from uppermost landing to top of machine supports) is also dependent upon elevator speed and local code requirements. This clearance must provide for height of the car frame, for a



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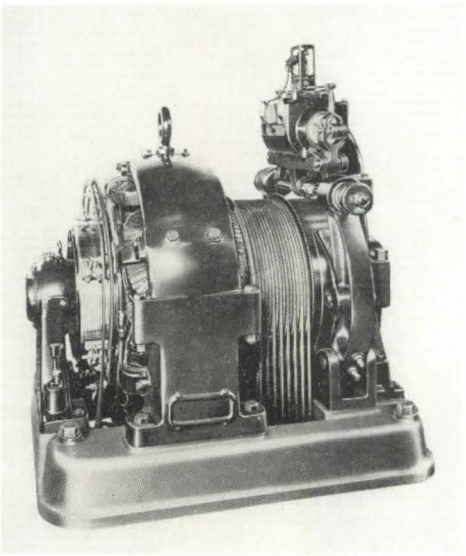

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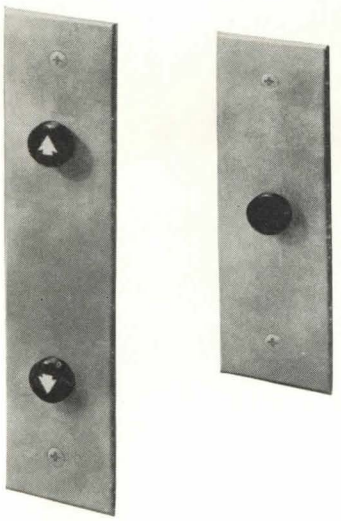
TYPES OF MACHINES: Geared machines *(Fig. 5)* employ a worm and gear between driving motor and hoisting sheave, which reduces speed of the sheave and increases lifting power of the motor, making possible driving motors which rotate at speeds of from 600 to 1800 rpm. This type is used for low-speed installations. Gearless machines *(Fig. 6)* have driving sheave mounted directly on the motor shaft; no gears are employed, so the motor must necessarily be designed to operate efficiently and deliver high torques at low speeds. This type is used for medium- and high-speed installations. Both examples have DC motors.



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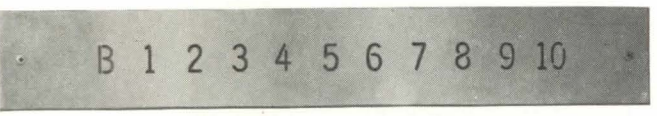

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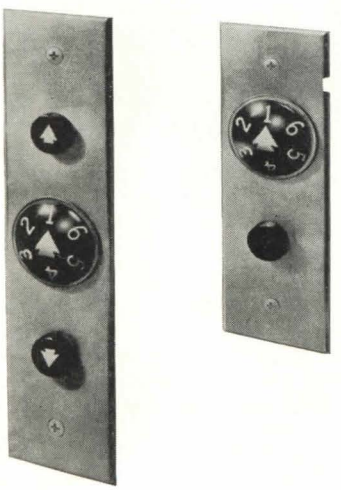

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HALL FIXTURES used in apartment buildings with collective control elevators usually consist of *up* and *down* push buttons *(Fig. 7)* at each floor (except topmost and lowest, where there is only one button) and a hall position indicator mounted over the door at the main lobby landing *(Fig. 8)*. Position indicator is usually omitted in low-rise installations or when economy of first cost is paramount. An improvement consists of a small dial indicator mounted in the push button faceplate *(Fig. 9)*, to indicate car position and show prospective passengers that the elevator is moving.

Passengers will wait with considerably less impatience and for appreciably longer intervals if they can see some indication of action, whereas they quickly become restless if they press a button and nothing happens. For this reason, the dials are sometimes recommended in low-cost installations where the interval is long but an additional elevator is impractical. In more expensive installations, electric position indicators are sometimes used over each hoistway door at each landing.

run-by allowance, and for whatever overhead machinery projects below the machine beams. It will vary from about 15½ ft for a 100-fpm elevator to about 25 ft for 600 fpm.

Because the type of equipment and local code requirements influence pit and overhead dimensions, it is not always possible to fix these in the preliminary planning stage; architects should remember that pit and overhead allowances may have to be changed when the equipment is finally decided upon.

Should the Machine be Above or Below?

Wherever possible, the machine and its control equipment should be mounted above, directly over the hoistway. When the machine is mounted below, overhead loading is materially increased, the number of auxiliary sheaves is increased, and length of the hoisting ropes is nearly doubled. All these disadvantages involve increased maintenance and installation costs, so that any saving in penthouse construction is more than offset. It was formerly believed that mounting the machine below eliminated noise in top-floor apartments, but with the advent of sound isolation for machines and quiet switches for controllers, this argument is no longer valid.

Type of Machine

Two types of elevator hoisting machines are commonly used with electric passenger elevators: *geared* and *gearless* (Figs. 5 and 6).

Where they can be used, gearless machines are generally considered superior to geared since between a gearless and a geared machine, equally well designed and constructed and operating under identical conditions, the gearless machine will consume less power for the same number of trips and stops, will operate more smoothly over a longer period of time, will stay in adjustment better and be quieter, will require less replacement of parts, and will have a longer over-all life than the geared machine. This is because the worm and gear of the geared machine involve areas of friction and wear which are not present with the gearless machine. On the other hand, initial installation cost for a gearless machine will probably exceed that for a geared machine.

Thus it might appear that gearless machines should be superior to geared machines for all installations. From a practical standpoint, however, this is not the case. As the rated speed of a direct current motor decreases, size and weight of the motor increase, because more iron is required to conduct the increased magnetic fields of slow-speed motors. In effect, this means that the practical application of gearless machines is limited to medium- and high-speed elevators, and that geared machines must be used for low-speed installations. Just what is the critical speed above which gearless machines are preferable and below which geared machines should be used? This is a highly controversial subject. Gearless machines are seldom used for elevator speeds below 300 fpm; most manufacturers provide gearless machines for all speeds above 400 fpm. Between these limits, however, the relative merits of the several sizes of geared and gearless machines offered by various manufacturers are not clearly defined.

In most cases, the choice between geared and gearless machines will be made by the manufacturer on the basis of height of the building, duty of the elevator, and kind of service to be furnished. For apartment buildings 10 stories or less in height, geared machines are generally considered adequate. For higher apartment buildings, gearless machines are usually recommended.

Alternating vs. Direct Current Motors

All gearless elevator machines, and most geared machines designed for use with elevator speeds greater than 100 fpm, are equipped with direct current motors. Direct current is preferred to alternating because it makes possible motors having better starting and stopping characteristics, with speed more easily controlled over wide ranges.

The direct current required is usually supplied by motor generator sets, a separate set for each elevator. From a service standpoint, although first cost of an AC motor may be less, the advantages of a DC driving motor, properly controlled, are measurable in terms of smoother riding cars, lower starting current, dynamic braking, and a generally higher quality of operation. Thus, wherever AC and DC machines are both available for the same elevator speed, the choice must be made between quality and first cost.

This overlapping of speed and consequent choice of machine lies between speeds of about 100 and 250 fpm. For elevators whose rated speed is 100 fpm or less, and where traffic is expected to be very light, there are fewer opportunities for the higher quality of DC installations to demonstrate themselves, and AC motors are generally used. These function very satisfactorily on low-rise, low-speed installations where the extra cost of DC cannot be justified.

Machine Room Dimensions

Minimum inside dimensions of the machine room required for apartment building elevators vary from about 7½′ x 11′ for a single low-speed elevator to approximately 17′ x 22′ for two "duplex" high-speed elevators. If efficient utilization of space is important, it is advisable to obtain exact dimensions from the manufacturer before completing the machine room design.

Leveling

Apartment house elevators should be self-leveling. All automatic elevators will stop within a short distance of the landing due to the action of the automatic stopping equipment; but unless the car is self-leveling its platform may be several inches above or below the landing when the car comes to rest.

Many non-leveling automatic elevators have been installed in apartment buildings in the past, but they cannot be considered up-to-date or desirable. In apartment houses, where the passengers are often laden with babies and bundles, the importance of having the platform level with the landing is obvious; tripping accounts for an appreciable number of all accidents which occur at elevator entrances.

Door Openings

There is an optimum width of door opening for each of the platform sizes recommended for apartment house use. Chosen from a passenger-handling standpoint, the following have been found most efficient for use with their corresponding platform widths and have been accepted as standard:

TABLE III—Standard Door Opening Widths

Duty Load	Platform Size	Door Openings
1,200 lb	5′-0″x4′-0″	2′-8″
2,000 lb	6′-4″x4′-5″ or 4′-8″	3′-0″
2,500 lb	7′-0″x5-0″	3′-6″

Car and Hoistway Door Operation

Both car and hoistway doors should be power-operated in all installations which employ the 2000-lb car with 3′-0″ door opening or the 2500-lb car with 3′-6″ door opening. With collective control elevators, a moderate-speed operator (Fig. 10) is used which opens the car and hoistway doors simultaneously.

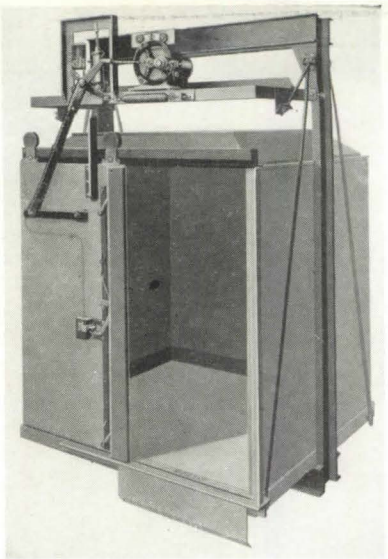
Whenever a moderate-speed electric door operator is used on an automatic elevator, the car door should be equipped with a safety shoe, which consists of a flexible rubber section mounted on the front edge of the door. If it touches a passenger or obstruction, the projecting shoe yields and makes an electrical contact which causes both car and hoistway doors to reverse to the open position. High-speed door operators are not recommended for automatic elevators.

For small buildings with low-rise elevators, where 1200-lb cars are used, hoistway doors may be manually operated. Fig. 11 shows details of this arrangement, which usually includes a single-swing door.

Door Types

In addition to the single-swing door, three types of horizontal sliding car and hoistway doors are used in apartment buildings: *single-slide*, *two-speed slide*, and *center-opening*.

The single-slide type is satisfactory for door openings up to and including 3′-0″ and is widely used with the 2000-lb, "all-purpose" apartment building elevator. Fig 13 is a plan of this type of installation.



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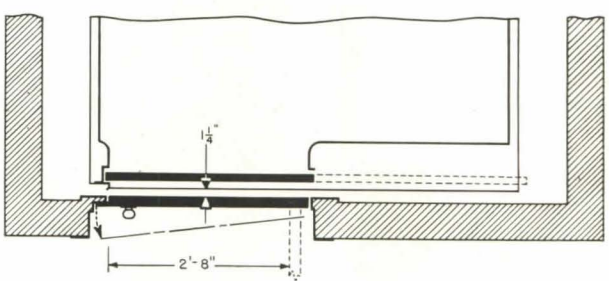
MODERATE-SPEED DOOR OPERATOR *(collective control):* When elevators are on "automatic" operation, doors open as a landing is reached and remain open for a predetermined interval (about 5 seconds). When elevators are being operated by an attendant, doors open as the landing is reached, and remain open until caused to close by the attendant. This same type, modified, is used with center-opening and two-speed slide doors as well as the single-slide type shown. Note safety shoe on front edge of door. For signal control elevators, a high speed door operator is usually recommended.



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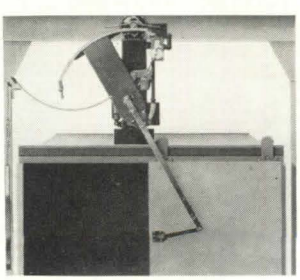
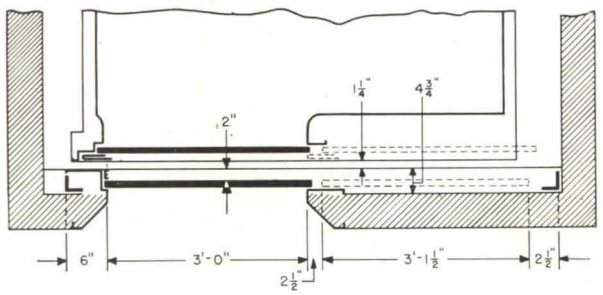


12

SLOW-SPEED DOOR OPERATOR: Car has a single-slide door, closed and opened by a slow-speed electric operator, and the hoistway has a single-swing door at each entrance. The car door opens when the car arrives at a floor, and the hoistway swing door at that floor can then be manually opened from either side. Before the car leaves a landing, the hoistway door closes itself by spring action, and the car door closes by power after the hoistway door is closed. *Fig. 11* (plan) and *Fig. 12* show one type of slow-speed door operator commonly used with 1200-lb cars in small buildings. Because the car door does not close until the swing hoistway door is closed by hand, no safety shoe is needed.



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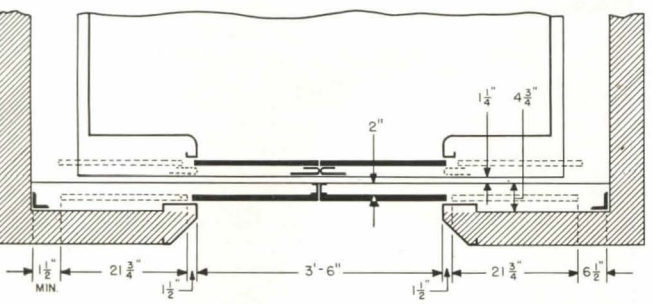

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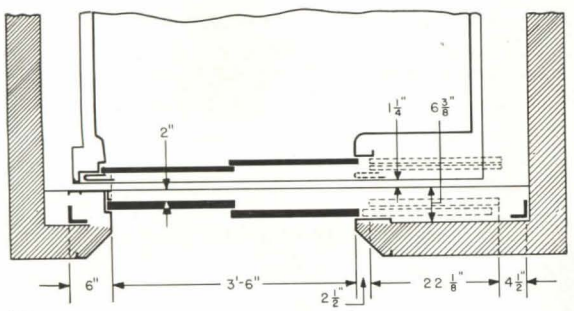

15

TYPES OF HOISTWAY AND CAR DOORS: *Fig. 13* shows single-slide car and hoistway doors, commonly used for openings up to 3'-0" wide. *Fig. 14*, center-opening doors, requires more space than other types but provides superior service; usually used for openings wider than 3'-0". *Fig. 15*, two-speed doors, requires one leaf of the *door to travel* twice as far, twice as fast, as the other.

With the 2500-lb car (3'-6" door opening) either center-opening or two-speed car and hoistway doors can be employed (see Figs. 14 and 15). Center-opening doors require more space but are usually recommended wherever they can be employed. The two-speed arrangement, in which one section of the door travels twice the distance at twice the speed, is used where space limitations prohibit center-opening doors.

Door Safety Devices

Because an overwhelming proportion of all serious elevator accidents involving the riding public occur at hoistway entrances, the importance of adequate door safety devices cannot be over-emphasized. Electrical-mechanical interlocks to prevent hoistway doors from being opened when the car is not at the landing are required by all building codes and should never be omitted. These interlocks must also prevent movement of the car while the hoistway doors are open. Car doors should be equipped with electrical contacts which prevent the car from moving unless the car door is fully closed.

Layouts

When the number and type of elevators have been decided upon, the manufacturer prepares a "layout" showing the proposed installation in plan and elevation. It is based upon the building plans, and provides all information required by the architect and building contractor.

For preliminary studies such detailed layouts are not generally available; but most manufacturers will furnish on request preliminary "typical layouts" for any standard type of elevator installation. A typical layout provides sufficient dimensions and other information for preliminary design purposes, but all typical layouts must be used with caution, as local codes and other considerations may alter the dimensions shown.

Reactions on Supports

The architect can obtain complete solutions for vertical transportation design problems by consulting a reputable elevator manufacturer. The solution, as worked out after consultation with the architect, will be presented in the form of a final layout, amplified by a specification in a contract. However, there is one responsibility in connection with elevator installations which the manufacturer will *not* assume. The architect, engineer, or builder must be responsible for the design of the building structure to withstand the stresses which the elevator will induce in it.

In designing a building to receive an elevator, proper support must be provided for the elevator and its machinery. Walls, or beams capable of supporting the weight of the machine, the loaded car, and the counterweight, plus an allowance for impact loading, must be provided at the top of the hoistway. Also, firm supports must be provided at each floor for brackets to support the guide rails.

Table IV indicates the approximate order of magnitude of overhead loading for some typical apartment house elevators. Specific reactions to be provided for, and their points of occurrence, are always computed for each individual installation and furnished to the architect by the manufacturer, based upon the equipment selected.

TABLE IV—Approximate Reactions on Supports

Rated Load (lb)	Rated Speed (fpm)	Sum of Approximate Reactions on Machine Beam Supports: Counterweight Side of Hoistway (lb)	Sum of Approximate Reactions on Machine Beam Supports: Entrance Side of Hoistway (lb)
1,200	100	8,500	7,000
2,000	100	15,000	10,000
2,000	200	16,500	12,000
2,000	250 to 350	17,500	13,000
2,500	200	18,000	17,000
2,500	250 to 350	20,000	18,000
2,000	400	25,500	17,000
2,000	500	27,000	18,000

Typical Streamlined Specifications for

METAL CASEWORK FOR HOSPITALS – PART II

BY BEN JOHN SMALL, A.I.A. **Associate, Alfred Hopkins & Associates, Architects; and co-author (with C. H. Cowgill) of the new book, "Architectural Practice"**

PROGRESSIVE ARCHITECTURE presents the second and concluding portion of this specification on hospital "furniture," which is one of a series of examples of streamlined specifications. Together with the first portion (published November 1947) this should prove to be a valuable and reliable document for the hospital architect.

FURNITURE STEEL CONSTRUCTION

(continued)

I) **Access panels.** End of all free standing tables: equipped with removable panels filling open space between rear edge of two rows of pedestals. Panels: 16 gage steel, have series of louvers punched in same, fastened with oval head screws to angles secured to rear of pedestals between which they are installed. Panel top and bottom edges reinforced with ½" by 1" angle welded to inside surface. Panels: installed flush with finished end pedestal panels.

J) **Legs, where required:** 18 gage steel tubing, 2" square, provided with adjustable bronze shoes, chromium plated.

3. BOX DRAWERS:

A) **Outside head:** flat, 20 gage steel. Edges: formed with ½" box channel section with 1/16" bevel; corners: oxy-acetylene welded to prevent opening at joints, ground to slight radius to eliminate sharp corners. Provide rubber bumpers on drawer head strike. Inside head: 22 gage steel formed on all edges, snapped into place after hardware is applied. Drawer backs: 20 gage steel, spot welded to flanges of drawer body. Drawer bodies: 22 gage steel with bottom and sides bent up in one piece, with top edges formed into head for stiffness.

B) **Drawers of front area exceeding 60 square inches:** equipped with progressive suspensions herein described. Others: equipped with channel suspensions.

4. CARD INDEX AND VERTICAL FILES:

A) **Construction:** similar to box drawers excepting that drawer sides shall not be full height and drawer bottoms struck down to form groove to receive compressor channel. Provide files with positive lock compressor.

B) **Where called for, drawers:** have round rod in compressor channel. Provide rubber bumpers on drawer head strike. Card index drawers: have cast bronze hood type combination pulls and label holders, chromium plated.

5. DRAWER HARDWARE:

A) **Drawer suspension—progressive type:** where drawers are indicated or specified to have progressive roller suspensions, drawer: equipped with progressive type slides which will permit drawer being withdrawn full depth from case and remain suspended in horizontal position, with automatic closing device which will operate when drawers are 3" from closed position. Suspensions for each drawer: have 8 ball bearing rollers 1" in diameter. Case member: 14 gage cold rolled strip steel, securely welded to case upright.

B) **Drawer member:** 14 gage cold rolled strip steel securely welded to side of drawer body. Sliding or floating member: 14 gage cold rolled strip steel, with necessary formations to engage into case and drawer members, be properly rustproofed. Slides: travel easily, smoothly with drawer.

C) **Drawer suspension—channel type:** when drawers are indicated or specified to have channel suspension, drawer: have 14 gage steel case channels, drawer channels of 18 gage steel, welded to drawer side and to case upright. Drawers: have side swing bale stop.

D) **Drawer pulls:** cast white bronze; have threaded studs with nuts and lock washers for fastening to drawer head. Drawer pulls: chrome plated, to match other hardware.

E) **Drawer lock—pedestal type:** where three or more drawers are included in any one pedestal in vertical rows: equip with plunger type automatic locking device locking all drawers at one operation, controlled by one key. Locking plunger: installed in top member of pedestal. When in extended position, drawers: unlocked; when pushed in to flush position, drawers: locked by this one operation. Lock: contained within plunger, 4 pin tumbler grooved key type.

F) **Label holders:** unless otherwise specified, drawers: have cast bronze, chromium plated, label holders, approved size.

6. DOORS:

A) **Solid panel type—hinged.** Doors: either solid, ventilated or louvered panels as indicated or specified. Doors, unless otherwise specified: flush panel type, double wall construction, having overall thickness of 11/16". Outer panel: 18 gage steel, formed into box channel section. Inner panel: formed into 20 gage steel pan; both panels welded together with air space between. Inside of both panels: covered with approved type of felt sound deadening material. Doors with more than 8 square feet of surface: reinforced by 18 gage steel box brace to which outer and inner panels are flash welded. Where doors are hung in pairs, overlapping effect: provided on back of left hand to cover vertical center joint. Doors: hung so as to be flush with cabinet face. Doors which project or overlap cabinet face: not permitted. Provide doors with rubber bumpers.

B) **Solid panel type — ventilating.** Ventilated doors: have either round vent holes or louvers in top or bottom, or both top and bottom of door panel as indicated. Doors indicated with round vents: have ½" diameter holes drilled or punched thru panels with box stiffeners placed between panels both above and below vent holes to reinforce panels. Panels: reinforced together with steel tubing provided to fit vent holes. Doors indicated with louvers: have standard louver perforations. Each louver: have not less than 6 louver perforations.

C) **Glass doors—hinged.** Doors shown equipped with glass: stiles and rails formed of 18 gage steel. These members: not less than 11/16" thick with face not exceeding 2¼" wide; have rounded ¼" return flange on back for attaching separate and removable glass retainer strips also rounded to meet glass panel. Where stiles and rails join: neatly mitered, reinforced, welded flush, smooth. Where doors are hung in pairs provide overlapping effect on back of left hand door to cover vertical center joint. Doors: hung so as to be flush with cabinet face. Doors which project or overlap cabinet face: not permitted. Provide doors with rubber bumpers.

D) **Glass doors—sliding.** Stiles and rails for sliding glass doors: as specified for hinged doors, arranged as double or triple sliding according to width of opening and as indicated. Run doors on bronze track installed within channel at bottom; support doors with two ball bearing sheaves for each door. Provide doors with rubber bumpers. Equip doors with cast bronze, chromium plated countersunk pulls set flush with stile face. Equip doors with locks as specified herein.

7. DOOR HARDWARE:

A) **Hinges:** Equip doors with dual axis concealed hinges operating in unison thru continuous channel member intermembered with hinges and effectively sealing opening between door and frame. Continuous channel: flush with door back. When doors are closed, no part of hinge: visible. Hinges: swing open to full 180 degrees. As alternate to above, Contractor may use olive knuckle type, 3" in size, having bronze bushings between knuckles and leaves of both sections, recessed flush in doors and casework pilasters. Hinges: chromium plated.

B) **Knobs:** solid bronze or white metal alloy, oval type, die cast to accurate dimensions. Active knobs: operate against rose on door face. Where locks are indicated: contain within door knob. Knobs: chrome plated to match hinges in finish. Cabinet knobs: not exceed 72" from floor.

C) **Door bolt mechanisms.** Latch bolt mechanisms: furnished for single door cupboards and right hand door of double door cupboards. Left hand door of double door cupboards: have dummy knob, astragal. Doors, whether single or double: have three-way bolt mechanisms. Latch bolt mechanisms: steel, dull cadmium plated, entirely concealed within door leaving rear of door flush. Small cover plate: provided on door back for access to mechanism. Door bolts: actuated directly by active knob. Bolts: ¼" round, operate in and out at right angles to door edge thru which they protrude. Each bolt: received in opening in jamb. When bolts are withdrawn and door opened, it shall be impossible to again throw bolts until door is fully closed in order to prevent damage to case face boltwork. It will be permissible to substitute following described door bolt mechanism locking device: automatic spring type, built between walls of doors. Left hand door: have two way (top and bottom) spring bolts, striking and seating into Monel metal strikes. These: released by white metal, chromium plated spring latch mounted on door inside, near front edge. Right hand door: have single automatic spring locking device striking into left hand door. This device: built between double walls of door, operated by combination T-handle and lock. Strikes: placed so as to engage spring bolt at case top and bottom for left hand door locking device and in center of left hand door to engage spring bolt of right hand door.

D) **Friction catches.** Doors not required to be equipped with up and down bolt latching mechanisms: equipped top and bottom with cadmium plated bullet catches.

E) **Locks, where indicated or specified,** 4-tumbler paracentric type: made by Sargent & Co., Yale & Towne, National Lock Co. or P. & F. Corbin Co. Locks for sliding doors: similar to Yale & Towne 1732, set flush in each door, engaging in case member. Where there are three or more doors in one opening, aforementioned locks: installed on end doors and push bolt cylinder lock similar to Eagle 02291 installed on intermediate doors. Combination locks where indicated: similar to Yale & Towne, with black and white enamel dial OC-7, Series W3, hand changing tumblers. Barrel nose of all locks: plated to match other casework hardware.

F) **Keys.** Locks within items of metal equipment within room or space: keyed alike, but differently from each other room or space. Each department: separately master keyed. Building grand master keyed. Each room or space having up to and including 6 locks in all items of metal equipment:

equipped with three keys; each room or space having 7 locks or more: equipped with 6 keys. Each department, as per approved lock schedule: equipped with 6 master keys. Provide 6 grand master keys. Each key: die-stamped with lock it passes, using designations as approved. Provide lock schedule with lock numbers for approval.

8. SUPPORTS:

A) **Support wall hung cabinets** on 2" by 1" steel channels, securely fastened to walls or partitions by means of toggle or expansion bolts as required. Provide two such channels for full width of each cabinet.

9. HOOKS FOR BROOM CLOSETS:

A) **In broom closets** provide two steel strips each fitted with three hard rubber grips for holding mop handles, "Tigrip Janitor Tool Holder" as made by White Mop Wringer Co. of Fultonville, N. Y.

10. INSTRUMENT CABINETS:

A) **Instrument cabinets:** dimensions as indicated. Internal corners: coved, equipped with glass shelves. Door: equipped with glass panels, latching mechanism.

11. DRILL AND REAMER CABINETS:

A) **Drill and reamer cabinets:** constructed same as specified for other cabinet work. Interior: provided with 6 sloping and one level shelf. Each sloping shelf: equipped with 5 adjustable dividers, 3" high bin fronts.

12. TILTING BINS:

A) **Tilting bins:** double wall construction, with outer head of 16 gage steel; inner head: 18 gage steel. Door: hinged to case work at bottom with 4" wrot bronze hinges, chromium plated. Provide continuous 14 gage reinforcements within door and case base for hinge fastenings. Hopper: 18 gage steel, pivoted for support at bottom near center of balance with round bronze rod carried in bronze journals fastened to case work side walls. Hopper: attach to inside head of door with heavy clip which slides within angle attached to inner head at each side. (This permits both door and hopper to pivot altho pivoting upon different points.)

13. PASS BOXES:

A) **Pass boxes:** furnished and set complete with 14 gage metal bucks. Pass boxes: double wall construction, insulated completely between metal sheets on all sides, top and bottom including doors with lead of same thickness as that in enclosing partitions. All parts of boxes: reinforced, sound deadened with sound deadening material as hereinbefore specified for this purpose. Doors: hinged with piano type hinges, approved handles. Place rubber bumpers on outside of hinged covers; extend rubber strips around, securely fastened to hinged door stops. On metal bottom inside of pass boxes: securely cemented 1/4" thick rubber pads. Pass boxes: fitted into wall bucks in manner to rigidly hold same in place with joints between buck and pass box made lightproof.

14. NURSES' MEDICINE UNIT:

A) **Nurses' stations:** arranged as indicated, consist of upper cabinet with glazed door containing three 1/4" plate glass shelves. Intermediate recess section: stainless steel top and sink. Recess sides, back, work top, sink: 16 gage stainless steel. Recess ceiling: steel, finished same as upper cabinet. Lower section: consist of undersink single door cupboard with lock, containing adjustable shelf, narcotic drawer with lock. Narcotic drawer lock: 4-pin tumbler, paracentric key type, different from all other locks in building. Nurses' stations: equipped with over-lap type trim 2 1/2" wide, extending around two sides and top. Sink: constructed in accordance with specifications for stainless steel sinks. Sink dimensions: 12" wide, 12" long, 7" deep. Sink compartment: ventilated by 4 louvers formed in sink apron.

15. NARCOTIC LOCKER:

A) **Narcotic locker:** constructed with single plates at back, sides, top, bottom and door. Plates: 1/4" thick, open hearth steel in body of locker and 1/2" in door. Doors; single or double as indicated, hung on two 3" fast pin steel hinges. Locker corners: reinforced with 1 1/2" by 1 1/2" by 1/4" steel angles. Doors: locked by two cross bolts 1" in diameter operating thru 1 7/8" by 2" by 3/16" angle bolt frame and have 1/16" steel cover plate over bolt work. For double door lockers, left hand door: equipped with one up and down bolt. Bolt work on both doors: operated by individual lever handles, equipped with locking dogs on rear. Bolt work: checked with 4 tumbler Yale & Towne combination lock with black and white enamel dial.

16. FILM TRANSFER TABLES:

A) **Film transfer tables:** construct as indicated. Tops: pitched toward dividing partition. Film transfer drawer: constructed so that it can be opened into indicated rooms. Both drawer and drawer opening: made lightproof when drawer is in either closed or open position. Film storage bins: constructed as herein specified for tilting bins. Hopper interior: constructed of stainless steel with film pockets of sizes as directed. Casette stalls: of proper sizes to accommodate casettes in use and as directed. Dividing partitions: 16 gage steel with all exposed edges rounded, with hand holes for easy removal of casettes.

17. CLOTHES LOCKERS:

A) **Clothes lockers:** of indicated dimensions. Sides, backs, tops, bottoms: 20 gage steel, formed same as specified for cabinet work with full rebated formation on all 4 sides at front to take doors. Doors: 18 gage steel with 4 edges box shaped 3/4" by 2", with returned face formed backward to inside door face to which it shall be securely welded. Doors: equipped with three way latching mechanism of same design and construction as specified for cabinet work, but set exposed on door inside. Hinges, knobs: same as specified for cabinet work, equipped with 4 tumbler grooved key locks, keyed as directed. Where lockers are in continuous rows: construct in groups of not more than three, with common partitions between for easy removal. Where it is necessary to furnish them in single or double formation, reinforce where necessary to make them rigid. For mechanically ventilated lockers: louvers in door bottom only, and in top and bottom of others. Lockers: provided with sloped tops with closed ends, in continuous lengths. Where lockers are mechanically ventilated, top plate: perforated for air circulation into sloped top. Where lockers are placed back to back, rear vertical member of sloping top: omitted, thus forming two sloped members into duct. Provide flanges and collars for mechanical connections. In ventilated lockers, hat shelves: 10 gage round wire woven into 1 1/2" diamond mesh set in 1/2" channel or angle frames, bolted to locker sides.

B) **Lockers:** supported on 16 gage bases constructed in as long lengths as practicable. Provide reinforcements in locker sides, at end of runs, where required, to receive mirror frames. Where lockers are not to be ventilated, shelves: steel sheets, formed same as specified for cabinet work. Provide 3/8" diameter steel coat rod in each locker flanged to each side, two steel ball tipped single coat hooks. Locker door heads: equipped with plated brass number with black numerals 1/2" high, numbered as directed. Each single exposed end panel: have label holder approximately 4 3/8" by 2 3/4".

18. MATTRESS RACKS:

A) **Frames for mattress racks:** 1 1/2" by 1 1/2" by 1/8" angles, securely welded together, cross braced, made rigid, equipped with angle shelf supports. Shelving: 16 gage steel, with rolled front edge, 1 1/2" in diameter reinforced on underside with two channel stiffeners of 11 gage steel, each 3" in width by 1" deep, continuous for entire length of shelves, securely welded to underside of same. Shelving, frames: galvanized iron.

19. CLOTHING STORAGE RACKS:

A) **Shelves** for clothing storage racks: 20" deep, two fixed shelves, supported on brackets, spaced as indicated. Shelves: 18 gage steel, flanged down 1 1/4", back 1/2", up 1/2" on all 4 sides for reinforcement. Shelves more than 36" long: fitted with box stiffeners of 16 gage steel, 3" wide, with 3/4" returns securely spot welded at close intervals to shelving underside. Pipe post uprights: have cup flanges at floor and expansion fittings at top. Shelves: supported on pipe post uprights with cast iron brackets. Brackets: have openings to permit thru passage of 1" pipe rail as indicated. Rack parts: galvanized iron.

20. LADDERS AND TRACKS:

A) **Ladders:** rolling type, with steel track 1" in diameter, straight grained hardwood, finished with one coat of shellac, two coats of varnish. Overhead trolley: have 4 ball-bearing wheels; floor runners: consist of 2 rubber tired ball-bearing wheels.

21. SHELVING:

A) **Angle type.** Construction used: one in which each unit is independent from others adjacent to it, which will allow removal of any unit without disturbing adjoining units or requiring use of additional material to make unit complete. Units: constructed with two uprights, each consisting of two 1" by 1 3/4" by 3/32" angles. Both legs of angles: have holes punched on 1" centers for shelf adjustment. Shelves: 18 gage steel, formed on all 4 sides into channel shape with vertical web 1 1/8" deep, with 5/8" return flange parallel with top surface. At front and rear 1/8" of 5/8" flange: folded over flat to insure smooth edges, punched with 2 holes for 14-20 bolts at each corner, thus providing 8 point shelf suspension. Shelves over 6" deep: punched on 2" centers for adjustment of bin dividers. Partitions, backs: single sheet 22 gage steel, securely fastened to uprights in manner to eliminate bulging or rattling. Bases: 18 gage steel, formed in channel shape, punched at ends for bolting to 1" leg of upright. Bin dividers: 20 gage steel, with 1" flange on top, bottom, back edges. Front edge: have 3/8" bead. Top, bottom flanges: have holes for bolting to shelves. Bin fronts: 18 gage steel with 5/8" bead both top and bottom, holes at ends for bolting to uprights. Optional angles where required for reinforcing of shelves: 1" by 1" by 1/8" hot rolled angle inserted into flange of shelves, bolted to uprights with same bolts that support shelves. Cornice shelves: 18 gage steel formed into cornice shape extending out 13/16" from upright face, down 1 3/4". Ends, backs: flanged down straight. Cross bracing where required: 1" by 1/8" flat bars, securely bolted diagonally to uprights to eliminate sway. Where indicated, angle type shelving: galvanized iron of above mentioned gages, construction.

B) **Beaded type.** End uprights: in two parts, 18 gage steel, with front edge formed into channel section with 1" flat face, secured to inside beaded uprights. Intermediate spacers: single sheet 18 gage steel with 1 1/4" wide flange at rear, two rows of 9/32" diameter adjustment holes spaced 2" on centers, extending full height of uprights with front formed into 3/4" bead, run continuously from floor to underside of top; spacers: positioned not over 3'6" on centers, unless otherwise indicated. Uprights inaccessible from outside: tapped for steel screws to permit ready adjustment. Backs: 20 gage steel, flanged for reinforcement, securely fastened to uprights and top plates. Cornice shelves: 18 gage steel, have 1" overhang at front, reinforced as specified for shelves. Bases: 18 gage steel, with flanged top set back 5/8" for bead clearance and for reception of bottom shelf, flanged at floor, to indicated heights. Bases: in one piece for each unit, with closed ends at extreme ends of unit assembly. Shelves: 18 gage steel, flanged down at front edge 1 1/4", under 1/2", up 1/2" to shelf underside on 4 sides for reinforcement. Provide holes punched to align with adjustment holes in uprights. Shelves more than 36" long: fitted with 16 gage steel box, 3" wide with 3/4" returns, securely spot welded at close intervals to shelf undersides. Second and third shelves in units: reinforced with 1" by 1" by 1/8" hot rolled angle placed inside front flange of shelf, attached to uprights with same bolts that support shelf. Shelves: supported by 4 bolts. Fillers: 18 gage steel, flanged as required, neatly scribed around beam drops, column facings, and as required. Bolts, nuts: standard 14-20 size, with special flat head, tested to shearing value of 1,150 pounds, gun-blued to prevent rust. Shelves, pigeon holes: equipped with formed steel label holders 4" long, 24 gage, fastened to shelf faces, of snap-on type.

C) **Library shelving:** standard library slotted shelf type, with shelves adjustable without use of tools. Shelf fronts: equipped with snap-on label holders, 5" long, two to shelf. Each single exposed end panel of stacks: have label holder for cards approximately 4 3/8" by 2 3/4".

D) **Shelves and brackets.** Shelves not in items of metal equipment: of furniture steel where required, in as long lengths as practicable,

with rounded and splayed ends where indicated. Shelves: rigidly supported on brackets, 1" clear of enclosing partitions, as described under "Shelves and Brackets," "Carbonized Birch Construction."

22. CUBICLE PARTITIONS:

A) **Cubicle partitions:** flush wall type, 2" thick, 16 gage steel panels, 16 gage interlocking stiffeners, located on 16" centers. Space between walls: filled with fibre board insulation, 1 7/8" thick, compressed tightly against steel panel walls, by steel reinforcing members. Exposed joints: continuously welded, ground flush.

B) **Curtain rails:** 16 gage steel tubing, 2" square, with continuous flanged opening on bottom face providing V-shaped track for brass curtain slides. Top front corner of cubicle: notched to receive square tubular socket made from 14 gage steel, into which curtain rails are fitted and attached securely with 1/4"—20 flat head screws thru top and inner sides of steel socket member, securely welded to cubicle partition.

C) **Provide continuous slot** in cubicle partition top to receive flat type picture hooks. Curtain hooks, slides: brass, chromium plated, have bearing surface rounded to slide easily on flanged tracks formed in curtain rail. Cubicle front: attached to floor thru cast white bronze foot, equipped with electric light fixture, receptacle with louvered plate arranged to provide floor lighting. Cast white bronze footing, wall flanges: provided for anchoring cubicle rear to floor and wall.

D) **Furnish chase** with removable cover at cubicle bottom suitable for installation of electrical conduit and wiring of lighting fixture in cubicle front footing. Heavy anchor bolts suitable for floor and wall materials: used in installation of cubicles.

23. BLANKET WARMERS:

A) **Blanket warmers:** double wall construction thruout including sides, tops, backs, bottoms with 5/8" space between walls. Inside walls: 18 gage steel; outer walls: 20 gage steel. Install between walls continuous channel or Z-bar stiffeners of 18 gage steel, securely welded to both inner and outer walls. Shelves: 16 gage stainless steel, perforated with 1" holes placed 3" on centers in rows.

B) **Cabinet bottoms:** made removable for access to control valves, traps. Continuous baffle partition 2" less in width and height than corresponding dimensions of cabinet interior: rigidly suspended in front of heating coils. Baffle: removable, perforated. Doors: double wall construction hereinbefore specified for cabinet work with concealed up and down bolt latching mechanism. Doors: insulated with aircell asbestos material. Inside cabinet walls: painted with aluminum paint; outside: finished same as specified for other cabinet work.

C) **Valves, traps:** furnished and installed under other Sections. Steam coil: formed from one piece of 3/4" diameter copper tubing, furnished as part of cabinet work. Field connection: under other Sections.

24. BED-PAN WARMERS:

A) **Bed-pan warmer cabinet:** double wall construction thruout including sides, top, back, bottom, with 5/8" air space between walls. Inside walls: 18 gage steel; outer walls: 20 gage steel.

B) **Install between walls continuous reinforcements** of 18 gage steel, welded to both inner, outer walls. Bed-pan racks, irrigator hooks: 16 gage stainless steel attached to inside perforated back, made from 18 gage stainless steel. Perforations: 1" diameter holes placed 2 1/2" on centers in rows. Cabinet bottoms: made removable for access to control valves, traps. Door: double wall construction, 3/4" thick, insulated with rock wool, aircell asbestos or other approved insulation. Cabinet inside walls: painted with aluminum paint; outside: finished same as specified for cabinet work. Hinges, hardware, cabinet construction: as specified for other cabinet work.

C) **Valves, strainers, temperature regulators:** furnished and installed under other Sections. Steam coil: formed from one piece of 3/4" diameter copper tubing, furnished as part of cabinet work. Field connection: under other Sections.

25. SALINE SOLUTION WARMERS:

A) **Saline solution warming cabinets:** double wall construction thruout including sides, top, back, bottom, with 5/8" cellular asbestos insulation between walls. Inside walls: 20 gage steel. Strip heaters: furnished with heating capacity to maintain temperature of 98 degrees inside cabinet with outside temperature of 32 degrees. Inside temperature: controlled by Mercoid thermostat set to maintain temperature of 98 degrees. Cabinet wiring: equipped with switch conveniently located.

B) **1/4" plate glass inspection panel:** built into door at point convenient for inspection of thermometer on thermostat. Hinges, hardware, cabinet construction: same as specified for other cabinet work.

26. FILM ILLUMINATOR CABINETS:

A) **Cabinets:** recessed and surface mounted types as indicated. Size: accommodate 14" by 17" film, as approved.

B) **Recessed type:** 18 gage steel; bottom, top sides: have removable 20 gage steel covers forming raceway for electrical conduits, wires. Frame: have vent holes in top, bottom. Door: 18 gage steel, hung on continuous piano type hinge, have lock, glazed with double strength blue opal glass. Provide three roller type clips for each door. Provide drip gutter positioned at bottom of glass and required cutouts in cabinet for conduits, wiring and the like. Furnish each cabinet with lamp sockets and two 60 watt "Lumiline" lamps.

C) **Surface type:** same as described above for recessed type excepting for sloping top. Provide vent holes in top and bottom of cabinet.

D) **Finish:** baked prime factory finish.

E) **Electrician will provide switch** upon wall immediately below each cabinet to operate separately light in each cabinet; he will also furnish and install electrical wiring to and within each cabinet.

STAINLESS STEEL CONSTRUCTION

1. COUNTER TOPS AND BACKS:

A) **Stainless steel counter tops, backs, curbs:** 14 gage, with exposed edges formed downward 1 1/4", flanged backward and upward, with suitable stainless steel reinforcements. Where indicated, counter top backs: coved to 1/16" radius where they meet tops, shall extend upward to indicated heights. Tops, backs: continuous, in as long lengths as practicable. Where joints occur: backed up on underside 14 gage stainless steel with splicing strip.

B) **Joint welding:** smoothly done, ground to invisible joint having strength, finish of solid metal. Where joints in tops are necessary due to field conditions, splicing strip: shop welded to one end only, with 2" overhang for engaging other top. Under side of this second top: have welded to its underside splice strip made to fasten splice strip of first section in approved manner. After tops have been set in place these two splicing strips: drawn up, firmly screwed together on underside. Surface screws for joining tops: not permitted.

C) **Where required to provide holes** in tops or backs to accommodate mechanical or electrical work, do such drilling in field.

2. SINKS:

A) **Sinks:** 14 gage sheets with bottom, vertical corners formed to 1" radius. Joints: ground smooth, polished.

B) **Sink top edges:** reinforced with stainless steel angle of same gage as sink bowl; horizontal flange of this angle: welded to stainless steel top after which sink and top be continuously welded to produce equivalent of one piece construction.

C) **Welds, edges, corners:** polished. Completed unit: free from imperfections. Sink bottoms: pitched to drain; each sink bowl: equipped with strainer, 1 1/2" diameter tail piece except when other types of fittings are specified. Sinks: have heavy coat of sound deadening applied to underside.

3. DRAINBOARDS:

A) **Where drainboards are indicated in conjunction with sinks:** of length indicated, have sunken portion with smooth bottom, pitched toward sink. Leave border of at least 2" flat around countersunk portion at rear end and front. Joints necessary to form countersinking: welded, ground smooth.

4. SHELVES AND BRACKETS:

A) **Shelves:** of lengths indicated, 16 gage stainless steel, plain and perforated as indicated. Supporting brackets: 16 gage stainless steel, placed 30" on centers; have 2" flange at rear for fastening to walls. Shelves: have 2" radius round formation at front, 2" high flange at rear placed 1" clear of partitions.

5. DRAIN TROUGH COVERS:

A) Provide 16 gage perforated stainless steel cover plates with edges flanged 1 1/4", set in soapstone rebates, flush with tops; make removable.

6. BINDING STRIPS:

A) Where counter tops, ledges or sliding shelves are indicated to be covered with linoleum or rubber, exposed edges of same: bound with 16 gage stainless steel strip, full height of counter top front edge. Binding strip top edge: have slight radius to engage linoleum or rubber edge. Bottom edge: have 5/8" return for fastening to underside of counter top flange with countersunk oval head machine screws. Screws on front face of binding: not permitted. Binding: have 4 finish.

7. ANIMAL OPERATING TABLES:

A) **Animal operating tables:** 20 gage stainless steel top, 48" long, 16" wide, sloped on 4 sides to center, fitted with 1 1/2" solid stainless steel plug. Top: have 4" curb on outside face, 1" on inside; supported on 4 posts, cross bracing, rubber shoes, as specified hereinbefore for similar work; equipped with flanged steel apron, 3 3/8" high, pierced on longitudinal sides for 10 1/2" by full depth 18 gage stainless steel sliding shelves, one set directly above other.

B) **Provide top with enclosed overhang,** project over apron 2" on all 4 sides, reinforce with channel and Z-shaped members. Apron: have two rubber bumpers on inside faces where shelf strikes same when in closed position. Sliding shelves: operate in steel channel guides, have 7/8" downward flange with 1 1/2" return at perimeter, front flanged over channel reinforcement. Shelf undersides: have angle stops equipped with rubber bumpers.

8. CRACKED ICE DRAWERS:

A) **Cracked ice drawers:** stainless steel; outer walls: 18 gage; inner walls: 20 gage. Space between outer and inner walls: filled with insulation 2" thick. Drawer body: 20 gage, welded to inner drawer head; welds: continuous, ground, polished smooth, providing water-tight compartment for cracked ice storage. Space between inner and outer drawer heads: filled with insulation 2" thick. Drawer: equipped with double suspension, consisting of two sets of progressive ball bearing roller suspension members of stainless steel, conforming to specifications for progressive drawer suspensions. Drain outlet: located in back of ice compartment, so arranged that it will drain into water pan built into cabinet bottom, equipped with drain outlet to exterior located on front, left end or right end as directed to provide drainage to floor drain. Drawer: have positive stops, be equipped with solid bronze pull with thumb latch.

9. CRACKED ICE BINS:

A) **Cracked ice bins:** tilting bin type, constructed entirely of stainless steel. Door: 18 gage; inner head: 18 gage with 2" insulation between. Door: hinged to case work at bottom with 4" wrot bronze hinges, chromium plated. Provide continuous 14 gage reinforcements within door and case base for hinge fastenings. Body case: double wall construction. Outer and inner walls: 18 gage, with 2" insulation between. Ice hopper: 16 gage, independent of case work and door, pivoted for support at bottom near center of balance with round bronze rod carried in bronze journals fastened to side walls of case work.

B) **Ice hopper:** removable, attach to inside head of door with heavy clip which slides within angle attached to inner head at each side. (This permits both door and hopper to pivot altho pivoting upon different points.) Ice hopper: watertight, excepting for series of drain holes drilled in bottom. Case bottom: pitched to drain outlet connected by 1" brass or stainless steel tubing outward thru front of case base and arranged to drain into but not to be connected to floor drain.

THIS MONTH'S PRODUCTS

AIR AND TEMPERATURE CONTROL

Unit Heater Thermostat. A unit heater thermostat for either heating or cooling. Normal duty ¼ hp at 115/230-v AC. Heating range 40-80F; cooling range 55-95F. Contact rating 110 amp at 115 v. noninductive load. Size 2" x 4" x 1½". Barber Colman Co., Rockford, Ill.

Hydrotherm Heating Plants. Two large size, automatic, gas-fired central heating plants: model 2½HW 3, capacity 600 sq ft; model 2½HW 5, capacity 1000 sq ft for manufactured, natural, and mixed gas; also butane, propane, and butane air mix. Used for heating large residences. Volume water heating for apartment houses, hotels, laundries, commercial buildings, etc. Occupies little space. Hook & Ackerman, Inc., 18 E. 41st St., New York, N. Y.

Sno-Breze Evaporative Cooler. Fan-type model air cooler for small plants, offices, homes, motels, large house trailers. Can be mounted in window or outer wall. Features water regulating valve and switch; rustproof cabinet with quick change filter pad louvers; clogproof; recessed adjustable air grill. Delivers approximately 3000 CFM; 32" high, 28" wide, 28" deep. Palmer Manufacturing Corp., Phoenix, Ariz.

Winco Window Ventilators and Fans. Ventilators and fans to be inserted in glass block panels; one, two, and three blocks high; four stock sizes. Assure privacy, keep out drafts, rain, etc. Silent aluminum fans. Winco Ventilator Co., Inc., 6063 Maple Ave., St. Louis 12, Mo.

DOORS AND WINDOWS

Removable Pane Window. Three-sash window with removable center sash. Facilitates washing of whole. Has screens on top and bottom panes. Center sash is stationary, requires no screen. Hines-Frederick Corp., 1026 17th St., N.W., Washington 6, D. C.

Protecto Automatic Window Lock. A window lock for double-hung window which locks automatically when windows are closed. Zinc-plated; rust-proof. New Product Co., 19 W. 44th St., New York 18, N. Y.

Preslok. A keyless door lock which closes at flick of a lever; opens as proper combination is tapped out on four small buttons. May be installed in standard 1¾" wood door. Said to afford greater security than ordinary door lock. Security Lock Corp., Walden, N. J.

Tenite Door Stops and Plates. Made of lightweight plastics. Door stops, "push" and "pull" plates. Tarnishproof and dirt-resistant. Tennessee Eastman Corp., Kingsport, Tenn.

ELECTRICAL EQUIPMENT AND LIGHTING

Colorlighting Clips. Lightweight spun aluminum color clips fit over standard reflector bulb, have color filter which prevents escape of heat. For spotlights and floodlights in 17 standard colors. Amplex Corp., 87 Columbia St., Brooklyn 2, N. Y.

Onan 5CK-115M Electric Plant. A high-capacity, aluminum electric generating plant for heavy duty service. Available in 60 or 50 cycle AC (2000 and 3000 watts); DC (5000 and 3500 watts battery charger). Stationary or portable models; manual or electric starting. D. W. Onan & Sons, Inc., 43 Royalston Ave., Minneapolis 5, Minn.

Electrical Conversion Set. Complete conversion set shields and alters appearance of electrical fixtures by substituting either glass-paneled or louvered models without dismounting original fixtures. Sylvania Electric Products, Inc., 500 5th Ave., New York 18, N. Y.

FINISHERS AND PROTECTORS

Resistall. A fire-retardant paint applicable as prime or finish coat; reduces with any common thinner; tints with regular oil colors. Will not flash, flame, or burn; also resists weather, moisture, salt air, water. Brytenu Chemical Mfg. Co., 408 Madison St., New York, N. Y.

Mercotone Deep Colors. Oil paints available in seven basic shades: yellow, blue, red, maroon, green, brown, and deep blue. May be used in tinting enamel and semi-gloss paints. M. J. Merkin Paint Co., Inc., 1441 Broadway, New York 18, N. Y.

Chartex. Cloth backing for mounting maps, charts, photographs, documents, etc., by passing a heated flatiron over the sheet. Available in cut sheet sizes as well as in roll form. Seal, Inc., Shelton, Conn.

INSULATION (THERMAL AND ACOUSTIC)

Arrestone. A non-combustible, metal-pan acoustical unit with a noise reduction coefficient of .85. Pans snap on "T"-runners and can be removed for washing, painting. Has baked-on enamel surface; 12" x 1¼". Thermal properties. Armstrong Cork Co., 1010 Concord St., Lancaster, Pa.

Celanese Vimlite. Weather shields said to be more effective than tarpaulin in winterizing new construction by raising temperatures 15° without shutting out daylight. Consist of plastic-coated wire (or plastic) mesh. Can be stored for re-use and do not constitute a fire hazard. Rolls 36" and 28" in width. Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y.

LOAD-BEARING STRUCTURAL MATERIALS

Alumi-Drome. A 36" x 60" aluminum, unit-type arched roof, self-supporting, prefabricated building for use as crop storage, barn, tool house, workshop, store, garage, etc. Concrete foundation extends one ft above ground. Said to provide excellent natural insulation. Vermin-proof. Two windows at each end; twin louvers at top. Maximum interior height, 19 ft. Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.

NON-LOAD BEARING STRUCTURAL MATERIALS

Amcolun Safety Tile. Shock-resistant, lightweight, non-slip tile which can be applied over existing wood, concrete, or steel floors. Said to be resistant to water, oil, fire, and commercial acids and alkalies; also relatively unaffected by weather. Comes in red and green. American Abrasive Metal Co., Irvington, N. J.

SANITARY EQUIPMENT, WATER SUPPLY, AND DRAINAGE

Balanced Flow Water Pump. A tankless, self-adjusting domestic water-supply pump which provides fresh water for one or more outlets. Compactness of unit makes installation possible under kitchen sink or in any corner which provides protection from freezing. Gould Pumps, Inc., Seneca Falls, N. Y.

"Packaged" Sink Frame. Sink frame which permits installation without use of special tools. Can be used with standard plywood top. Sink or frame can be removed any time without damaging or altering cabinet top. Comes in 15 stock sizes; anodized or alumilited finish. Walter E. Selck and Co., 223 W. Hubbard St., Chicago 10, Ill.

Rudy-Gilcor Boiler. An automatic oil-fired hot water supply boiler shipped completely assembled. Recommended for farms, small commercial buildings, restaurants, gasoline stations, or wherever manually controlled tank heaters are necessary. Rudy Furnace Co., Dowagiac, Mich.

Thermador Bilt-in Electric Range. A stainless-steel range which can be fitted into any floor plan at any desired height. Consists of 2 basic and 3 auxiliary units: cooking faces and master oven, secondary oven, griddle, and heat-fan. Makes maximum use of available space. Thermador Electrical Manufacturing Co., Los Angeles 22, Calif.

SPECIALIZED EQUIPMENT

Duplex Speaker. Two-way speaker which reproduces entire FM range without distortion. Available in top-quality radios or by custom installation. Altec Lansing Corp., 250 W. 57th St., New York 19, N. Y.

Oasis Model OB-4. A bottled-type electric water cooler for use where plumbing is not available. Serves 80 persons per hour. Ebco Manufacturing Co., Columbus, Ohio.

Bed-Oir. A cabinet for use with roll-away box spring beds of any standard size. Has eight drawers and center chest; storage space equals ordinary dresser. Sands Furniture Co., 5401 Sweeney Ave., Cleveland, Ohio.

The Ranger DC Welder. A flexarc engine-driven DC welder, complete with electrode leads, helmet, and electrode holder. Generator is connected to Hercules IXB engine. Welding current has a range from 30 amp at 20 to 250 amp at 30 v. Portable or stationary models available. Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

SURFACING MATERIALS

Cedro Macho. Wood having many mahogany characteristics now imported into the United States from Costa Rica. Widely used in Europe for marine and furniture construction. Said to be completely resistant to expansion in water and contraction under the sun; also laminates well. Straight-grained, strong, and durable. Don B. Wallace & Co., Detroit 26, Mich.

Decorative Micarta. The well-known laminated plastic, manufactured by Westinghouse, is now being sold by U. S. Plywood Corp., 55 W. 44th St., New York 19, N. Y.

MANUFACTURERS' LITERATURE

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

PROGRESSIVE ARCHITECTURE—330 West 42nd Street, New York 18, N. Y.
I should like a copy of each piece of Manufacturers' Literature listed.

We request students to send their inquiries directly to the manufacturers.

No.	No.	No.	No.
No.	No.	No.	No.
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No.	No.	No.	No.

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12/47

Air and Temperature Control

1-143. *Breidert Air-X-Hauster,* 8-p. illus. booklet on a roof ventilator which employs venturi action of outdoor air currents to exhaust air from residential, commercial, industrial buildings; also for marine installation, etc. Explanation of principle; advantages; test results. G. C. Breidert Co.

1-144. *Type C Worm-Feed Stokers, AIA 30 C-1, (Bul. S-70—2nd Edition),* 8-p. illus. bulletin on a line of worm-feed stokers which feed up from below fire. Eliminates soot and smoke; prevents blowback of smoke fumes. Three rates of speed; safety cut-out switch; also automatic air volume control. Construction data; standard sizes; details. List of other products. Brownell Co.

1-145. *The New Bryant Hevigage Steel Heat Exchanger (SA-3388),* 6-p. illus. brochure on an electrically-welded steel heat exchanger which moves air horizontally through one set of passages, hot gasses vertically through other passage. Details of construction. Advantages. Heating equipment which incorporates heat exchanger. Bryant Heater Co.

1-136. *Dunkirk Boilers and Radiators,* Dunkirk Radiator Corp. Reviewed November.

1-130. *Refrigerating, Ice-Making and Air Conditioning Equipment (Bul. 80-B),* Frick Co. Reviewed November.

1-137. *Kewanee Type-C Steel Boiler (Bul. 97) AIA 30 CI,* Kewanee Boiler Corp. Reviewed November.

1-138. *Rempe Engineering Data Book,* Rempe Co. Reviewed November.

From Surface Combustion Corp. Reviewed November:
1-139. *Gravity Warm Air Heating System (Form QGP 46-5-A), AIA 30-B.*
1-140. *Winter Air Conditioning (Form QGP 46-5-B), AIA 30-B.*

1-141. *The Van Packer Chimney,* Van Packer Corp. Reviewed November.

1-142. *Webster System Radiation,* Warren Webster & Co. Reviewed November.

Doors and Windows

4-110. *Model C Radio Control AIA 27-C 3 (F 1445-4 500 9-47),* 4-p. illus. brochure on a radio device for controlling garage doors and lights from instrument board of car. Explanation of principle involved. Construction details and drawing. Barber-Colman Co.

4-107. *Electronic Serviceman,* Federal Industries. Reviewed November.

4-111. *Kinnear Motor Operated Doors AIA 16-D-13 (Bul. S-17-4-47),* 8-p. illus. bulletin on an electric control bracket- or wall-mounted. For use on rolling doors; also supplied with emergency hand chain. Details of construction; advantages; specifications. Kinnear Mfg. Co.

4-108. *"Mecco" Doors,* The Moeschl-Edwards Corrugating Co., Inc. Reviewed November.

★ **4-112.** *NuEra Double Hung Aluminum Window,* 6-p. illus. folder on double hung aluminum window with movable jamb member which permits removal of sash for cleaning. Combination of jamb member and sash lock gives burglar-proof protection. Extremely narrow sash frames, muntins, etc., to reduce interference with vision. Illustrations of operating method; installation data; construction details and drawings. Dimension tables. NuEra Window Co.

4-113. *Safe Builders' Hardware (Cat. 19),* 80-p. booklet illustrating line of door locks, push and letter plates, knockers, knobs, hinges, cabinet hooks, handles, etc. Alphabetical and numerical index; also finish symbol prefixes. Dimensions; weights; specifications. Safe Padlock & Hardware Co.

4-109. *Truscon Steel Windows and Industrial Doors,* Truscon Steel Co. Reviewed November.

4-114. *Truscon Steel Doors (1947 Edition),* 35-p. illus. booklet on line of manual- and motor-operated steel doors for hangars and industrial buildings. Operation data on straight slide, curved track, braced and unbraced canopy, vertical lift canopy, turnover, and lift-swing doors. Construction detail drawings. Specifications; dimensions; details. Truscon Steel Co.

Electrical Equipment and Lighting

5-102. *Display Window Lighting, AIA 31F,* 6-p. folder on window reflectors, disc louvers, spot light sockets, trough reflectors for display windows. Illustrations; descriptions; features; dimensions. Claude Banks Co.

5-103. *Mercury Lamps in Industry (Y-729),* 8-p. illus. booklet on General Electric Mercury lamps. Photographs of typical installations. Advantages. Data on operation, color of light, etc. Types and sizes. Lamp Dept., General Electric Co.

5-98. *G. E. Lamp Bulletin (LD-1),* Lamp Dept., Engineering Div., General Electric Co. Reviewed November.

5-99. *Aluminum for Light Fixtures (Y-723),* Reynolds Metals Co.; and Lamp Dept., General Electric Co. Reviewed November.

5-100. *Hansen & Waldron, Furniture & Lamps,* Hansen & Waldron. Reviewed November.

★ **5-104.** *Electric Plants (Form A-138-20M-447),* 16-p. catalog on electric generating plants in alternate current models, direct current, and battery charging plants. Instructions on methods of choosing sizes, starting methods (manual, electric, remote, etc.). Illustrations and specifications of various models. Watts, volts, weights, and dimension tables. Application details. D. W. Onan & Sons, Inc.

5-105. *Powerstat Theatre Dimmers (Bul. 347),* 4-p. illus. folder on continuously tapped auto-transformers for theaters, school auditoriums, ballrooms, cocktail lounges, store windows, etc. Illustration of various types. Operating data; speed rating table. Also data on custom-built dimmers. Price list included. Superior Electric Co.

5-101. *Superior Voltage Control (Bul. 547),* Superior Electric Co. Reviewed November.

5-106. *The Grenadier (Cat. Section 9-47),* 8-p. folder on redesigned downward-illuminating louvered fluorescent fixtures with translucent white side panels which diffuse and mask surface brightness. Stem, canopy, and on-ceiling models. Construction details; specifications; installation data. Light computation; tables. Catalog specification. F. W. Wakefield Brass Co.

Finishers and Protectors

6-106. *Floor Finishes, AIA 25G,* The Hillyard Co. Reviewed November.

6-107. *Plastic Pene-Treat,* 4-p. folder on colorless, acid- and alkali-resistant plastic surface coating. Reduces moisture-vapor transmission. Advantages. Application chart and data on Pene-Treat series. McKeown Bros. Co.

Insulation (Thermal, Acoustic)

★ **9-82.** *Infra Insulation,* 16-p. illus. booklet on aluminum accordion-type insulation material for use where one layer remains exposed;

crinkle insulation for panels, floors, over-hung ceiling, etc. Installation data; details on physics of reflective insulation; conductivity. Specifications; details. Thermal insulation value table. Infra Insulation, Inc.

9-78. *An Analysis of Residential Fuel Savings Resulting from Insulation*, Insulite Div., Minnesota & Ontario Paper Co. Reviewed November.

9-79. *The Contribution of Vermiculite to Fire Protective Construction*, Universal Zonolite Insulation Co. Reviewed November.

9-80. *Zonolite Insulating Concrete Floors, AIA 37A*, Universal Zonolite Insulation Co. Reviewed November.

9-81. *Beauty and Quiet*, U. S. Gypsum Co. Reviewed November.

9-83. *Balsam-Wool Sealed Insulation*, 20-p. illus. booklet on a water-, fire-, and termite-resistant insulation. Purpose of insulation. Features; installation data. Cause and cure of condensation. Examples of savings effected; sound absorption value. Use as interior finish; also list of available insulating finish materials and characteristics. Wood Conversion Co.

Load-Bearing Structural Materials

12-132. *Besser Modular Standard Building Units, AIA 10-C*, Besser Mfg. Co. (Price $2.00 per copy; make check or money order payable to Besser Mfg. Co.) Reviewed November.

12-138. *The ABC's of Wrought Iron*, 20-p. illus. booklet explaining, in simple terms, the composition of wrought iron and why it resists corrosion. Properties; fabrication; uses. List of other available literature. A. M. Byers Co.

12-139. *Calcium Chloride in Concreting (Bul. 28, 1947 Edition)*, 64-p. booklet on use of calcium chloride in concrete to speed up stiffening, finishing, curing, etc. Application details. Practical experience reports. Technical abstracts. Tables; general recommendations; standard specifications. Calcium Chloride Assn.

12-133. *Inco Welding Materials (186C)*, International Nickel Co., Inc. Reviewed November.

12-134. *Nickel Alloyed Cast Irons; Engineering Properties and Applications of Ni-Resist*, International Nickel Co., Inc. Reviewed November.

12-135. *McKeown Church Trusses, AIA 19-B3*, McKeown Bros. Co. Reviewed November.

12-136. *Pittsburgh Steeltex*, Pittsburgh Steel Products Co. Reviewed November.

12-137. *Modern Homes by Modern Methods*, Prefabricated Home Manufacturers' Institute. Reviewed November.

★ **12-141.** *Waylite Aggregate For Lightweight Concrete*, 12-p. illus. booklet on lightweight aggregate for plain and reinforced concrete. Physical characteristics; design data; masonry wall properties; architectural treatment; construction features. Physical data tables. Illustration of concrete units with construction details. Floor and fill data; application as acoustical ceiling material. Specification. Waylite Co.

Non-Load-Bearing Structural Materials

14-50. *Natcor Extruded Metal Store Fronts*, 12-p. booklet illustrating extruded aluminum glass settings, division and corner bars, moldings, awnings, etc., for store fronts. Sections are built in square interlocking moldings which are interchangeable. Typical installations; details; list of distributors. Natcor.

14-49. *How Architectural Porcelain Enamel Produces Profits, AIA 15-H-2*, Porcelain Enamel Institute, Inc. Reviewed November.

Sanitary Equipment, Water Supply, and Drainage

19-169. *Duriron (Bul. 703), AIA 29b-81*, Duriron Co., Inc. Reviewed November.

19-170. *Thor Automatic Sink (Form 47-39)*, Electric Household Utilities Corp. Reviewed November.

19-177. *Radiiluxe, Sinks, Cabinet Tops and Other Sanitary Equipment*, 4-p. illus. folder on stainless steel sinks, cabinet tops, and sanitation equipment for domestic, industrial, institutional, marine installation, etc. Features; advantages; details. Just Manufacturing Co.

19-178. *Bathrooms and Kitchens by Kohler (Form P127-200-7-47)*, 16-p. illus. booklet on various types of baths, china and enameled cast iron lavatories, closet bowls, fitting, sinks, laundry basins, etc. Description; dimensions. Typical washroom and kitchen designs. Advantages; details. Also Kohler coal-burning boiler. Kohler Co.

19-179. *Youngstown Kitchens (9225-500 M 6-47)*, 20-p. consumer booklet illustrating various kitchen designs and equipment. Advantages. Mullins Mfg. Corp.

19-171. *Plibrico Portable Incinerator*, Plibrico Jointless Firebrick Co. Reviewed November.

19-172. *Hudee Ideal Sink Frame System*, Walter E. Selck & Co. Reviewed November.

★ **19-180.** *Speakman Showers and Fixtures (Cat. S 46)*, 117-p. illus. looseleaf booklet on showers for industrial, domestic, and institutional use; bath combinations, fixtures, accessories. Also hospital shower equipment, utility kits, flush valves. Illustrations; specifications; dimensions; cross-section drawings; installation and regulating details. Speakman Co.

★ **19-181.** *Carriers For All Makes of Wall Hung Fixtures, AIA 29C (Cat. 39)*, 25-p. illus. booklet on structural supports for wall-hung water closets; urinals; lavatories; sinks; slabs. Illustrations; description; installation data; detailed drawings; list price. Method of packaging. J. A. Zurn Mfg. Co.

Specialized Equipment

19-182. *Leigh Building Products (Cat. 47-L)*, 10-p. illus. catalog on line of ornamental shutters, dust chutes, built-in mailboxes, package receivers, clothes chute doors and ventilators. Descriptions and illustrations; dimensions; installation details. Air Control Products Inc.

19-164. *Pentrate for Making Wetter Water (A D 9-10)*, American-LaFrance-Foamite Corp. Reviewed November.

19-183. *Apeco Photocopy*, 16-p. illus. booklet on a photocopying machine which produces facsimiles of written, drawn, typed, photographed, or printed material. Uses and capacities; operation details. Supplies and accessories. American Photocopy Equipment Co.

19-184. *The Huntington Dispenser*, 6-p. folder (9" x 4") on stainless steel foot dispensers. Built to facilitate sterilization. Illustration of different models. Also information on liquid surgical soaps. Hospital Div., Huntington Laboratories, Inc.

19-185. *Bruning 7" Core-Fed Eraser (A 1042-50M-9-47)*, 4-p. illus. folder (6" x 3½") on an electric, lightweight, non-wobbling eraser; comes with 3 types of eraser tips. Charles Bruning Co., Inc.

19-165. *Mitchell Models*, Mitchell Models. Reviewed November.

★ **19-186.** *Surgical Equipment (July 1947)*, 24-p. bimonthly booklet on hospital equipment. In this issue: inhalation equipment surgical furniture, transfusion apparatus, etc. Applications; specifications; details of construction. List of other literature. Ohio Chemical & Mfg. Co.

19-187. *Wayne Drafting Tray*, 4-p. brochure on an instrument tray which can be moved to any position from one side of drafting table or drawing board to opposite side. Also ink, pencil, and brush holders. Illustrations; dimensions; prices; details. Wayne Products Mfg. Co.

Surfacing Materials

★ **19-188.** *Facing Tile (Cat. 48C)*, 35-p. illus. booklet on modular glazed and unglazed facing tile. Construction details; specifications. Tolerances, chippage, absorption, and compressive strength tables. Physical requirements and methods of testing. Finishes and colors. Applications. Illustration of tile facings and fittings. Dimensions; standard dimension tables. Facing Tile Institute.

19-190. *Wrightex Soft Surface Rubber Tile*, 4-p. illus. folder on colored, acid-, grease-, oil-, and burn-resisting utilitarian and decorative floor tiling. Characteristics; composition; maintenance data. Illustration of various colors. Dimensions. Taylor Mfg. Co., Wright Rubber Products Div.

19-177. *Decorative Micarta*, U. S. Plywood Corp. Reviewed November.

19-175. *Johns-Manville Corrugated Asbestos Transite (TR 45A)*, Johns-Manville. Reviewed November.

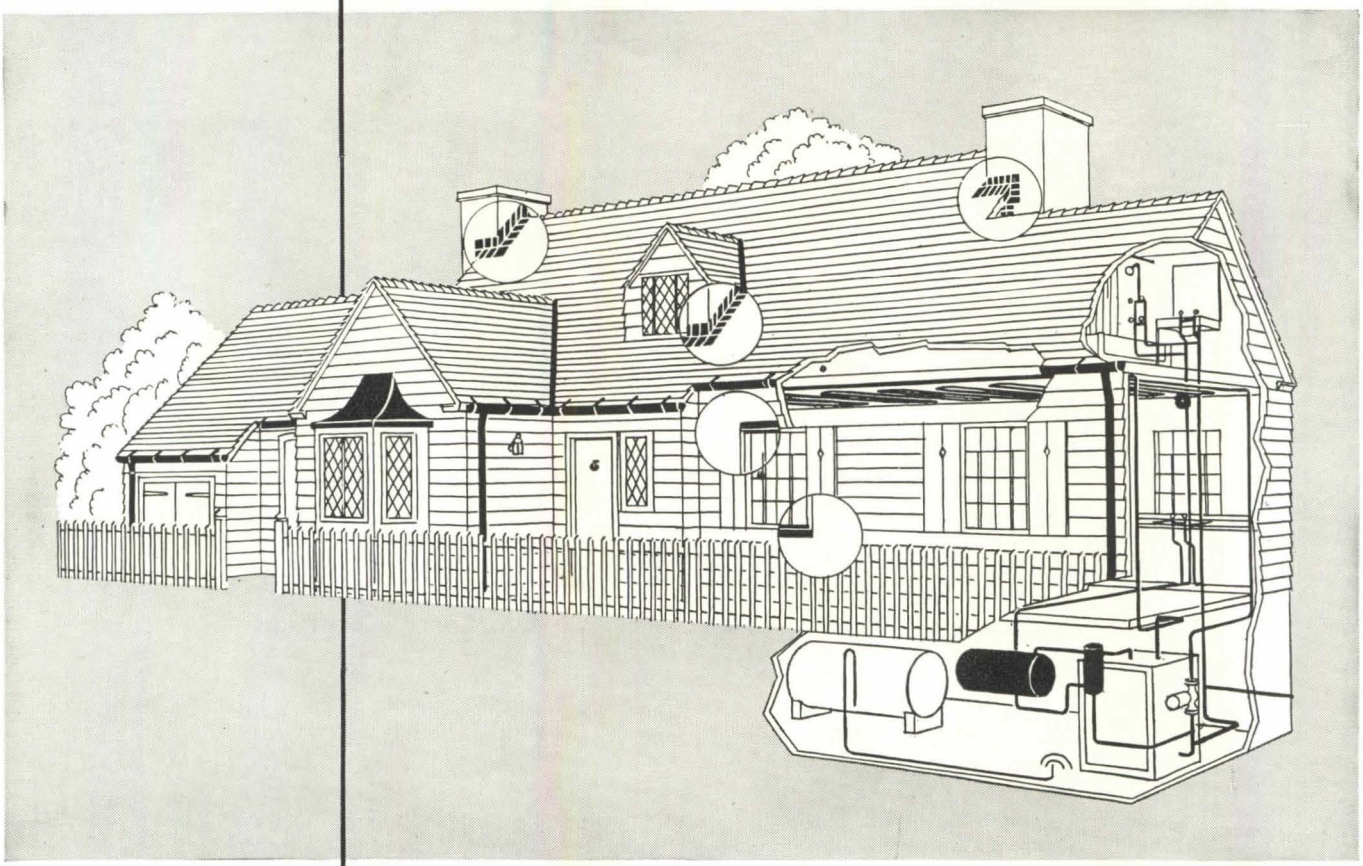
19-176. *Ma-Ti-Co Asphalt Flooring Tile*, Mastic Tile Corp. of America. Reviewed November.

Traffic Equipment

20-44. *Warsaw Equipment for Vertical Transportation*, 11-p. catalog on electric elevators (freight and passenger); machinery; controllers; voltage controls. Also motor-stairs; hydraulic elevators. Description; application; general construction; installation details. Dimension tables; capacities. Warsaw Elevator Co.

★ **20-45.** *"Gyrol" Fluid-Drive Elevators*, illus. brochure on an elevator drive employing a "gyrol" fluid-drive which simplifies control equipment; requires lower power demand. First use in elevator field. Advantages; details. Warsaw Elevator Co.

COPPER AND COMMON SENSE



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FLOORING

THE INSPECTION OF RESILIENT FLOOR INSTALLATIONS

It is common practice for the architect to inspect a resilient floor installation after the job is completed. However, a single inspection made at this time may fail to reveal unsatisfactory subfloor conditions. Subfloor inspection can be made easily and quickly prior to the installation of the resilient flooring material. Inspection should also cover some materials and workmanship which are most readily seen while work is in progress. Thus, it is wise for the architect to begin inspection with the subfloor and continue through the various phases of the flooring installation.

The following information and the factors outlined in the table at right should be helpful in the timing of inspections. In most instances, the installation of a resilient floor can be checked during the architect's routine inspection of general construction.

SUBFLOOR INSPECTION

The condition of the subfloor has an important bearing on the appearance as well as the life and serviceability of a resilient floor. A subfloor in poor condition may greatly shorten the life of the floor.

New Concrete Subfloors—It is important that all new concrete subfloors be thoroughly dry and cured to a hard, non-powdery finish. Dampness or a damp or powdery surface will prevent the bonding of the adhesive to the subfloor. A smooth subfloor is also important since any irregularities will show on the surface of the resilient flooring material and high points will receive excessive wear. Concrete subfloors should be free of expansion marks, trowel marks, and other imperfections.

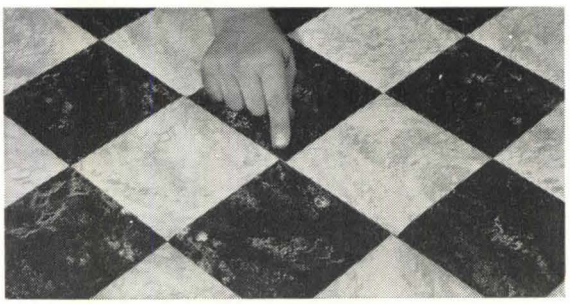


Fig. A.—All joint or seam lines should be symmetrical. Uneven lines, such as illustrated above, mar the appearance of both linoleum and resilient tile floors. This condition is more likely to occur in resilient tile installations. Armstrong's resilient tiles are die-cut to a perfect square which eliminates this condition provided the flooring mechanic has squared the room before starting installation.

Old Concrete Subfloors—Inspect for proper filling of holes, cracks, and the leveling of uneven areas. As in new concrete subfloors, the slab should be thoroughly dry and free from oil, paint, varnish, dirt, and other foreign matter.

New Wood Subfloors—Where resilient floors are to be installed over new wood subfloors, the architect should check his construction specifications against the manufacturer's recommendations as to construction in single, double, tongue and groove, or hardboard underlayment subfloors. Major changes from the manufacturer's recommendations may require individual recommendations for the proper installation of the resilient floor.

FACTORS IMPORTANT IN RESILIENT FLOOR INSPECTION

PRE-INSTALLATION INSPECTION

Type of Subfloor	Inspect for	Floor Should Be
New Concrete	Proper curing and drying Moisture or dampness	Free of expansion and trowel marks, grease, dirt, or foreign matter. Free of imperfections. Hard, dry, and non-powdery
New Wood	Compliance with flooring specifications of maker as to construction in single, double, tongue and groove, and hardboard underlayment	Smooth, dry, and free from grease, dirt, or foreign matter
Old Concrete Terrazzo Ceramic Tile	Soundness, dryness, and necessary repair	Level, free from cracks, holes, paint, varnish, and other finish. Also free from oil, dirt, and other foreign matter
Old Wood	Renailing, replacement of worn or damaged boards, necessary filling of holes and cracks	Sanded smooth, free of paint, varnish, oil, or other foreign matter

INSTALLATION INSPECTION

Type of Resilient Floor	Inspect During Installation for	Check Finished Floor for
Linoleum	Proper installation of lining felt Proper matching of pattern at seams Neat cutting and fitting around pipes and fixtures Thorough rolling	Over-all appearance Air bubbles caused by poor rolling Tight seams Proper cleaning and waxing
Asphalt Tile Rubber Tile Linotile	Symmetrical joint lines Tight joints Poor tile laying such as adhesive between tile joints Thorough rolling of rubber tile and linotile Neat cutting and fitting	Over-all appearance Raised joints Tight joints Loose tile Proper cleaning and waxing
Cork Tile	Symmetrical joint lines Proper sanding where unbeveled cork tile is used Thorough rolling	Over-all appearance Smooth surface Tight joints Proper cleaning and special waxing

Old Wood Subfloors—All loose boards should be renailed and all badly worn or damaged boards replaced. Uneven areas should be sanded or properly filled with a floor fill according to the resilient floor manufacturer's instructions. Sanded wood floors should be sealed to prevent warping from absorption of moisture from adhesives. As in concrete subfloors all previous finishes, oil, dirt, and foreign matter should be completely removed.

INSPECTION OF MATERIALS

Before the flooring contractor starts the job, all resilient flooring materials to be used on the job should be inspected for quality, color, and type as specified in the architect's flooring contract. Particular attention should be given to the types of lining felt and adhesives being used, especially if the contract agreement or the architectural specifications permit the use of adhesives and underlayments other than those recommended by the manufacturer. Resilient flooring troubles often can be traced to improper adhesives.

INSPECTION OF THE INSTALLATION

To insure quality workmanship, the architect should inspect the floors during installation. Shoddy workmanship, such as careless cutting and fitting, can be detected and corrected early in the job.

One of the most important operations in the installation of linoleum and Linotile® floors is the "rolling" process. During this process all air bubbles, ripples, and uneven areas are rolled out. This operation is also necessary to insure proper bonding of the resilient floor to the subfloor. To insure a satisfactory installation, the time required for proper rolling should not be shortened in order to speed the completion of the flooring installation.

In areas where Marbelle or patterned linoleum is being used, particular attention should be paid to seam matching during installation. (See illustrations B and C.)

In resilient tile installations, such as asphalt tile, rubber tile, Linotile, and cork tile, all edges of the tile should be tight to the floor. All joint lines should be symmetrical. (See illustration A.) To prevent undue indentation, radiator legs should rest on metal slugs.

Inspection of special installations—The preceding comments cover ordinary inspection details encountered in checking the installation of the most common types of resilient floors over wood and concrete subfloors. Details covering the inspection of resilient floors over other types of subfloors such as magnesite and metal depend upon individual circumstances. For such cases, Armstrong Cork Company will be glad to offer individual inspection recommendations. Inquire at any Armstrong office or write stating your problem to Armstrong Cork Company, 8912 State Street, Lancaster, Penna.

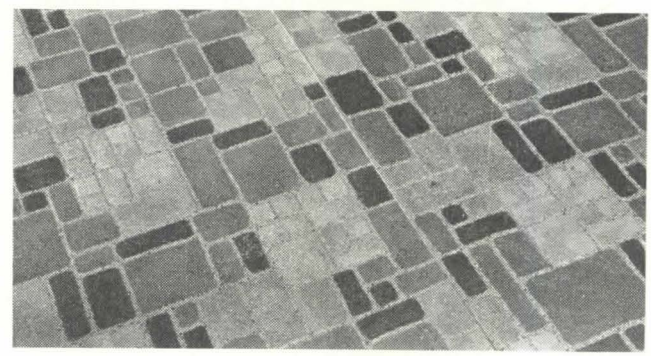


Fig. B.—An example of perfect workmanship in seam cutting and pattern alignment. The white line indicates the seam. Note how the over-all effectiveness of the floor design is greatly increased by proper matching of the design repeat.

Fig. C.—For the proper appearance of Marbelle linoleum installations, the strips should be "reversed" or turned end for end. This gives a continuous flow to the graining and eliminates the optical illusion of "raised seams" which may otherwise occur in large installations of Marbelle linoleum.

REVIEWS

ARCHITECTURAL PRACTICE

Clinton H. Cowgill and Ben John Small. Reinhold Publishing Corp., 330 W. 42nd St., New York 18, N. Y., 1947. 396 pp., illus. $12.00

If we could hand this book to a distinguished architect of the last century, his reactions of confusion and amazement would reflect the amazing strides that the profession of architecture has made in the last 50 years. Of course, some architects have not taken the trouble to keep abreast; others have tried in vain. The importance of this book, therefore, is that it gives the architect or student a means of knowing the fundamentals of architectural practice today.

The book frankly purports to be a textbook, and as such it will be a great boon to those young architects who are preparing for their state registration examinations. But such a collection of office forms, accounting systems, contract forms, and legal advice under one cover takes it out of the textbook class and makes it a valuable reference book for the architect and for his office. No student boning up for his state examinations will be able to absorb more than a small fraction of its meaty contents, but he will at least know where the material, advice, and data he wants can be found. For this reason it will also serve well in architectural schools, both in courses in architectural practice and specification writing.

Textbooks have a right to be dull. Often the results of the heavy, ponderous grinding of fine minds, transformed to the typed page, appear to be stilted and hard to read. The mature, easy, simple style of *Architectural Practice*, however, allows one to read on and on through rather unexciting subjects without a sense of time wasted or of boredom. There is enough change of pace, a touch of comedy thrust in just when the going is getting too tough, to save the reader. It is skillfully presented.

As a publishing job, this book is a treat to the architect who likes titles that are large and bold and with enough subheadings to provide a forecast of a change in subject. Running heads (not a medical term, but the term referring to headings at the top of each page above the text) might have been augmented with secondary headings, especially in sections such as that containing the various state certification requirements. Here, page after page looks much alike, and if the mind wanders one has to turn back to a page long past in order to become oriented.

This book is not limited to the casual, factual discussion of its main themes, but highlights them with pertinent observations in the realms of psychology, philosophy, ethics, and sociology, all of which serve to heighten the reader's interest.

You may question why the chapter, "A Negotiated Agreement Between Architect and Union," which takes up eight pages, is included. After reading it, perhaps you will decide that it is time for architects to know what the unions would demand should they control the architects' offices. If architects know what the unions want and provide that, or better, they will never be up against the labor problems which have beset so many businesses. Few architects' offices have any set standards governing holidays, sick leave, and overtime rates, all of which are included in the negotiated union agreement. The rules set down on the pages of this chapter might well be adapted as standards for any office.

Fee standards have recently been developed by various Chapters of the American Institute of Architects. These are fully reproduced in this book and are therefore up to the minute; they might well serve to encourage an acceptable all-American fee standard.

A full discussion of contractural agreements is one of the most important parts of the book. The Standard A.I.A. General Conditions of the Contract are printed one by one with an explanation of their intent directly following, offering the reader an excellent opportunity of understanding them clearly.

"Financing Building Projects" is in itself a valuable treatise on present-day finance. It skillfully sketches the whole gamut of our system, followed by a detailed discussion of building finance. There is a question as to the need for so much of this background; it is discursive and out of the realm of the book title. On the other hand, the accounting system for architects which is presented is most practical and useful.

Sins of omission from this monumental work are few. Under "Management" there might be included a "Guide to Office Routine or Procedure." Perhaps this omission was intentional; it would be impossible for one such "Guide" to serve the varying types, sizes, and characters of architectural offices.

The hand of the experienced and skillful specification writer is evident. The fine organization of a most complex and diversified subject, the clarity of expression, the unity of the sections and their orderly relation to one another, show that specification writing may be applied to a wider field.

The authors should be thanked by the profession for their painstaking and laborious research and for their time-consuming job of analysis and assembly. This book is a needed one and will be widely used.

HAROLD R. SLEEPER

U.N. ARCHITECTS' WORK

The Permanent Headquarters of the United Nations. *Report to the General Assembly of the United Nations by the Secretary General. United Nations Publications, Columbia University Press, Morningside Heights, New York, N. Y., 1947. 96 pp., illus. $2.50*

Here is the complete report on the work of the international design panel that has been watched with such interest by all architects. It includes a statement on the acquisition of the site, explains the program and the technical requirements, and presents the preliminary plans, sections, and visualizations that have been arrived at. The report and the book are excellently prepared; text is lucid and logical, illustrations and layout are handsome.

T. H. C.

FIRST CATHEDRAL BOOK

St. Paul's Cathedral. *Introduction by Margaret Whinney. Lund Humphries, London, England, 1947. 32 pp., illus.*

For the subject of the first in a series of booklets depicting English cathedrals the publishers chose St. Paul's in London. Of all the historic cathedrals it alone was built for the Anglican service and it alone was substantially completed during the lifetime of the architect. The story of the design and construction of St. Paul's as summarized in this booklet has many features familiar to architects. The client's difference of view and taste, shortness of funds, difficulty in getting materials, slow payment of the architect's fee were problems which Sir Christopher Wren also had to face. Partly because of them he produced a work of architecture trite in style and ornament, but despite them a work great in scope, scale, and effect.

LAWRENCE E. MAWN

WELL DUNN

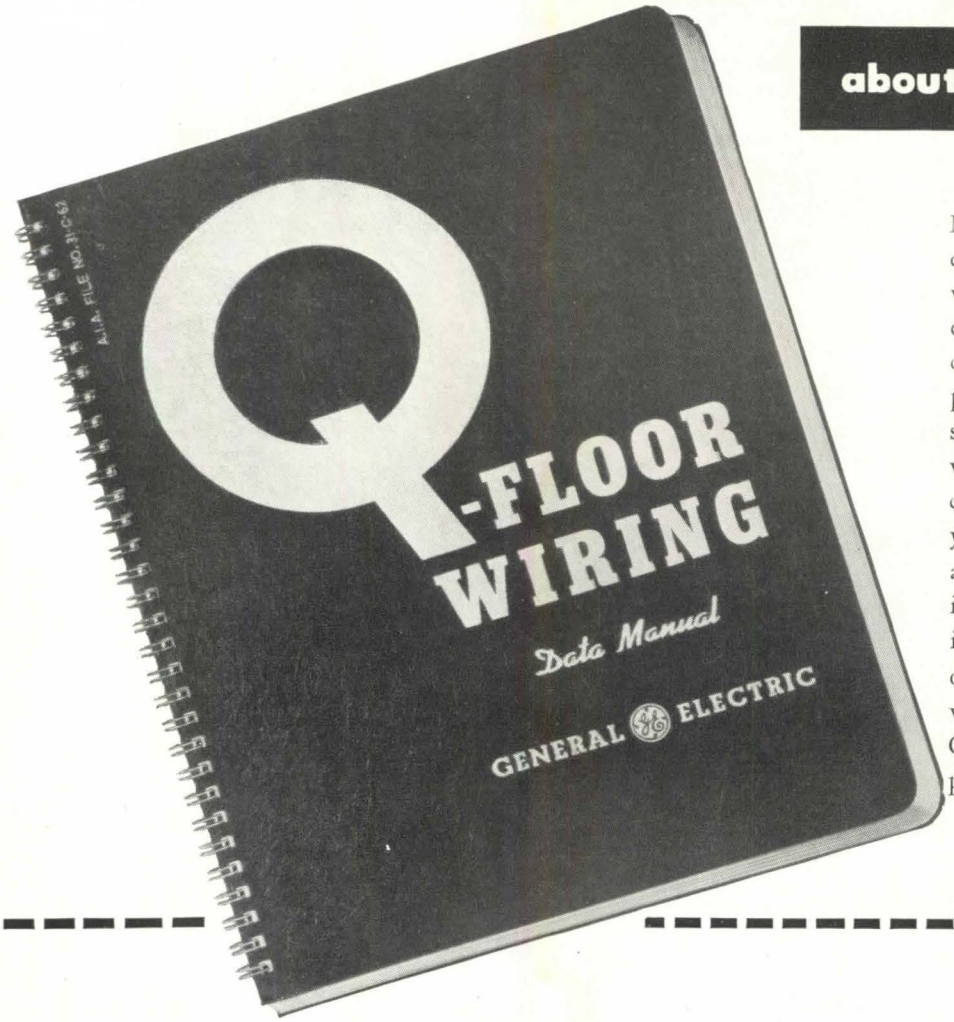
The Last Lath. *A collection of Alan Dunn cartoons. An Architectural Record book. F. W. Dodge Corp., 119 W. 40th St., New York, N. Y. $2.50*

In the daily traffic flow of architectural practice, time and space for humor are often lacking. The New York cartoonist Alan Dunn fills these voids in a very solid way. "I have associated with architects sufficiently," he says in a foreword, "to have found the subject a fruitful source of cartoon ideas." The subsequent 152 drawings, many of which originally appeared in *Architectural Record*, prove it. Only infrequently straining for a point, these droll comments from a knowing bystander stress the foibles of avowed Modern Stylists and penetrate, if not interpenetrate, the design clichés and private terminology of the more earnest theoreticians.

G.A.S.

(Continued on page 86)

EVERYTHING YOU WANT TO KNOW



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Installation Data—Details on construction requirements and on methods of installation.

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GENERAL ELECTRIC

REVIEWS

(Continued from page 84)

MONA LISA'S MUSTACHE

A Dissection of Modern Art. *T. H. Robsjohn-Gibbings. Alfred A. Knopf, Inc., 501 Madison Ave., New York, N. Y., 1947. 265 pp., illus. $3.00*

Terrific Terence has *not* done it again. Some three years ago the knowing author of *Goodbye Mr. Chippendale* almost hilariously expelled all sorts of musty furnishings and revered household junk to clear a place in our homes for contemporary furniture designed for Americans. He soon had a large following and gave fresh inspiration to many designers and decorators who had wearied of perpetuating hand-me-downs. He argued ably then for modern design, but in his newest book he cannot find a good word now for art of our time. There was reason to hope that he would slash down all the insane-to-vicious painting (including the domestic product that is nauseating even avant-garde critics these days) and clear the walls for honest American art. Moved instead to expose Black Art dabblings of European painters, sculptors, and architects who have been well publicized as "men of genius," Gibbings himself does not come out of the welter of magic, astrology, and portents (some political, as well as midnight hocus-pocus in dank caves) in time for more than a skipping dismissal, on his last page, of the whole structure raised by artists since the impressionists. Architects fare no better since the whole chapter, "Magic in Architecture," is devoted to the Bauhaus origins and isms without suggestion of any good results from the school's research and design experiments. This partly witty book is recommended reading for those who don't like modern art and artists anyway.

C. M.

SWISS WOOD HOUSES

Schweizer Holzhauser. *Paul Artaria. Wepf & Co., Verlag, Basel, Switzerland, 1947. 127 pp., illus. 10 francs*

An attractive picture book with some text, illustrating contemporary homes in Switzerland. The architecture has a distinct regional character, with plans fairly free and in most cases carefully studied. The editors of *Homes* applaud this Swiss counterpart.

T. H. C.

TOWARDS A NEW ARCHITECTURE

Le Corbusier. Translated by Frederick Etchells. The Architectural Press, 13, Queen Anne's Gate, Westminster, S.W. 1, London, England, 1947. 269 pp., illus. 15s

This is a new English edition of the classic work by the world's most articulate designer. It still reads well and, although the illustrations are the original ones used in the first 1923 French edition and are quaint in some instances, the points then made are still valid. It is easy to understand the influence of the book; but also easy to see how it has been misunderstood.

T. H. C.

19TH SCHOOL YEARBOOK

The American School and University. *American School Publishing Corp., 470 Fourth Ave., New York 16, N. Y., 1947. 650 pp., illus. $4.00*

The nineteenth annual edition of this yearbook contains articles in programming, planning, construction, lighting, heating. While its slant is toward administrators, architects new to the field could gain information from its 244 editorial pages and 406 advertising pages.

T. H. C.

(Continued on page 88)

GUESS: HOW MANY PRODUCTS CAN BE PRODUCED FOR YOU

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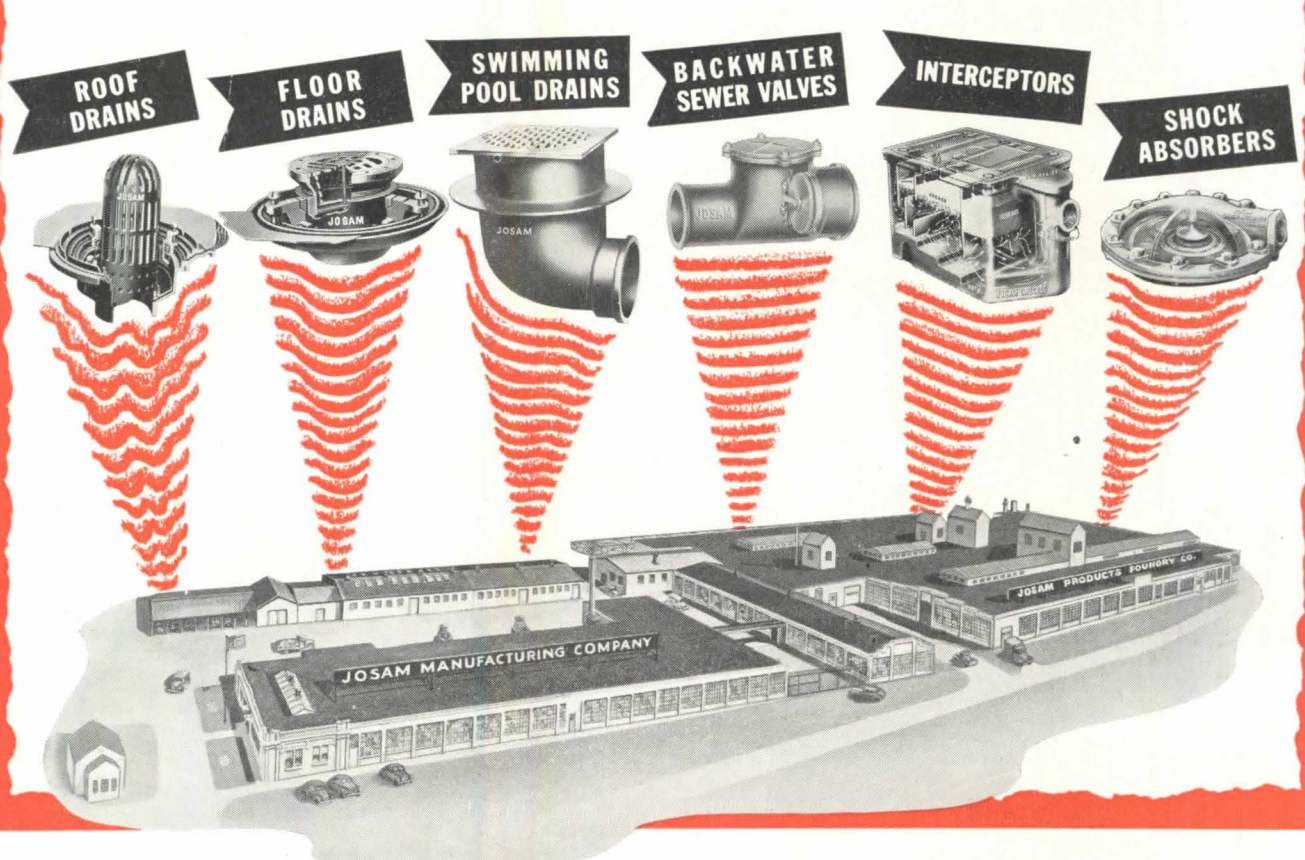

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REVIEWS

(Continued from page 86)

CONCERNING TOWN PLANNING

Le Corbusier. Translated by Clive Entwistle. The Architectural Press, 13, Queen Anne's Gate, Westminster, S.W. 1, London, England, 1947. 127 pp., illus. by the author. 10s, 6d

Never one to pass up an opportunity, Le Corbusier answers 18 leading questions on architecture and town planning posed by a projected English magazine. The magazine was dropped; Corbu goes on. A readable summary of the author's well established points of view.

T. H. C.

PRINCIPLES OF TILE ENGINEERING

Harry C. Plummer and Edwin F. Wanner. Structural Clay Products Institute, 1756 K St., N.W., Washington, D. C. 453 pp., 6" x 9", illus. $4.50

This is the first comprehensive handbook on the properties and use of structural clay tile, including facing tile. The authors, with a background in research for the Structural Clay Products Institute, have done a very thorough job. Material drawn from publications of the National Bureau of Standards and other research, as well as data from the various manufacturers, are clearly presented and generously illustrated.

Various structural systems are covered, including patented systems. Complete design data are given for spacing and reinforcing various types of slabs. Federal specifications applying to tile and mortar are summarized and specifications are given for erection of tile walls and piers and construction of various types of floors.

The arrangement of the book is convenient and attractive although the type is over-small. The illustrations (with few exceptions) are particularly complete and clear.

JOHN RANNELLS

THE GENERAL HOSPITAL

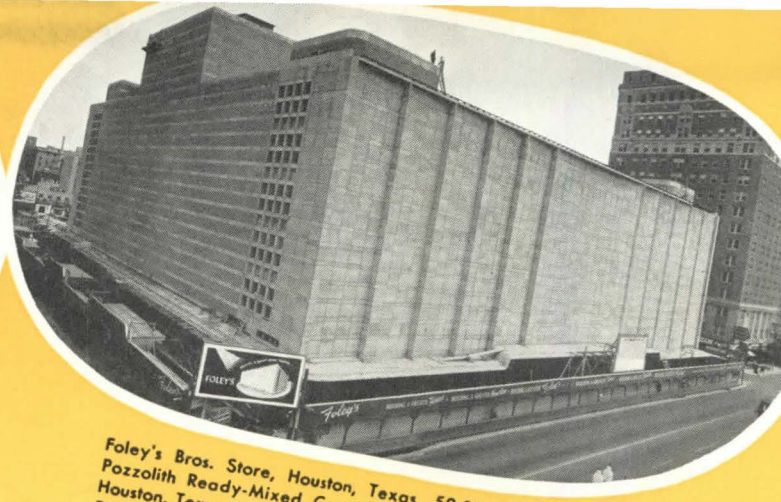
Hospital Care in the United States. *The Commission on Hospital Care. The Commonwealth Fund, 41 E. 57th St., New York 22, N. Y., 1947. 631 pp., illus. with charts and maps. $4.50*

This is a comprehensive study of the general hospital in this country, its function and functioning, its role as a socially useful unit, and its possible extension and improvement. Serious students of hospital planning should have the book.

T. H. C.

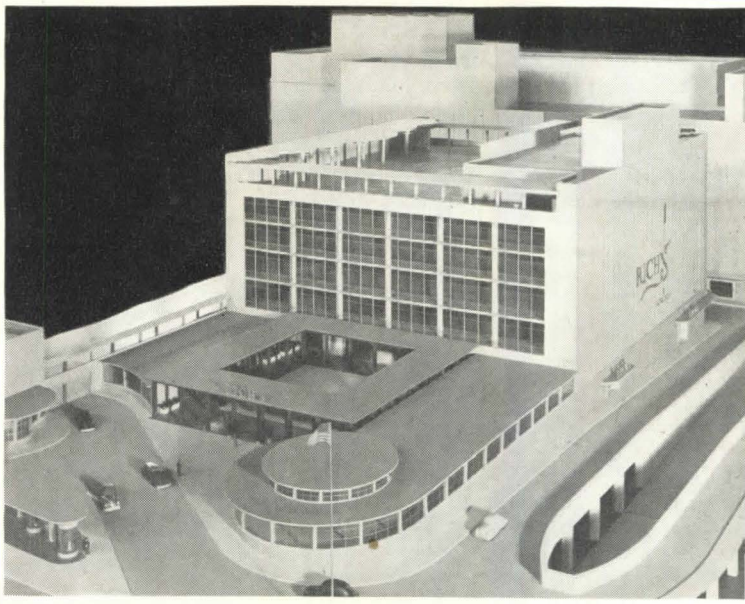
(Continued on page 90)

Sears-Roebuck and W. T. Grant Co., Stores, La Crosse, Wisconsin. Pozzolith Architectural Concrete. Building Owner—Dr. Frank Hoeschler. Archt.—Boyum, Schubert & Sorenson, La Crosse, Wis. Contr.—Theo. J. Molzahn & Sons, Inc., La Crosse, Wis.



Foley's Bros. Store, Houston, Texas. 50,000 cubic yards of Pozzolith Ready-Mixed Concrete. Archt.—Kenneth Franzheim, Houston, Texas. Contr.—Frank Messer & Sons, Cincinnati, Ohio. Ready Mixed Producer—Parker Bros. & Co., Inc., Houston, Texas.

Joseph Magnin Co., Inc., Sacramento, Calif. Pozzolith Architectural Concrete. Archt.—Harry J. Devine, Sacramento, Calif. Structural Engineer—Ernest D. Francis, Sacramento, Calif. Gen. Contr.—Swinerton & Walberg Co., San Francisco, Calif.



Rich's Department Store, Atlanta, Ga. 25,000 cubic yards of Pozzolith Ready Mixed Concrete. Archt.—Toombs & Creighton, Atlanta, Ga.; Engr.—W. B. Lamb owner's representative; Gen. Contr.—Capital Construction Co., Atlanta, Ga Ready Mixed Producer—Whitley Construction Co., Decatur, Ga.

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REVIEWS

(Continued from page 88)

VICTORIAN MODERN

Robin Boyd. Renown Press, Morton Ave., Carnegie, Melbourne, Australia, 1947. 70 pp., illus.

Published by the Architectural Students' Society of the Royal Victorian Institute of Architects (those incorrigibles who publish *Smudges*, the best student paper going), this book is a wise and witty review of the development of architecture in Victoria. The study leads logically to the contemporary expression, but its broad-minded approach can be judged from the subtitle—"One Hundred and Eleven Years of Modern Architecture in Victoria, Australia."

T. H. C.

NOTICES

SCHOLARSHIPS, COMPETITIONS

A scholarship and medal fund in the name of SIR CHARLES REILLY of the Liverpool School of Architecture, has been proposed by a committee of British architects. The fund will give an annual award for the student with the best solution of a design problem set and judged by the Liverpool School. Subscriptions and queries may be addressed to the Hon. Secretary and Treasurer, Mr. A. G. Sheppard Fidler, c/o Barclays Bank Ltd., 170 Fenchurch St., London E. C. 3., England.

Nelson A. Rockefeller, president of the Museum of Modern Art, has announced an INTERNATIONAL COMPETITION FOR THE DESIGN OF LOW-COST FURNITURE. The competition opens at the beginning of this month and will close eight months later with the award of prizes and grants totaling $50,000. Full information may be had by writing to Museum Design Project, Inc., 11 W. 53rd St., New York 19, N. Y.

The American Field Service has established a scholarship program whereby students all over the world may study in foreign countries. The 50 scholarships awarded annually are open to applicants of both preparatory and college age. Two of this year's winners, MILAN STAMM and VLADIMIR BRTAN of Czechoslovakia, are studying at the Wyoming Seminary in Kingston, Pa., and at the Choate School in Connecticut, respectively. Both expect to pursue courses in architectural engineering.

NEW ADDRESSES

STANLEY C. PODD, 391 Delaware Ave., Buffalo 2, N. Y.

REGIONAL OFFICE OF AIRPORTS AND BUILDINGS DIVISION, AMERICAN AIRLINES, 59 E. Monroe St., Chicago 3, Ill.

JAMES ROSE, 439 W. 21st St., New York, N. Y.

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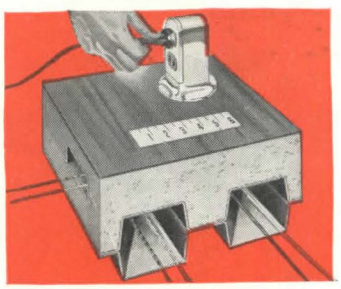
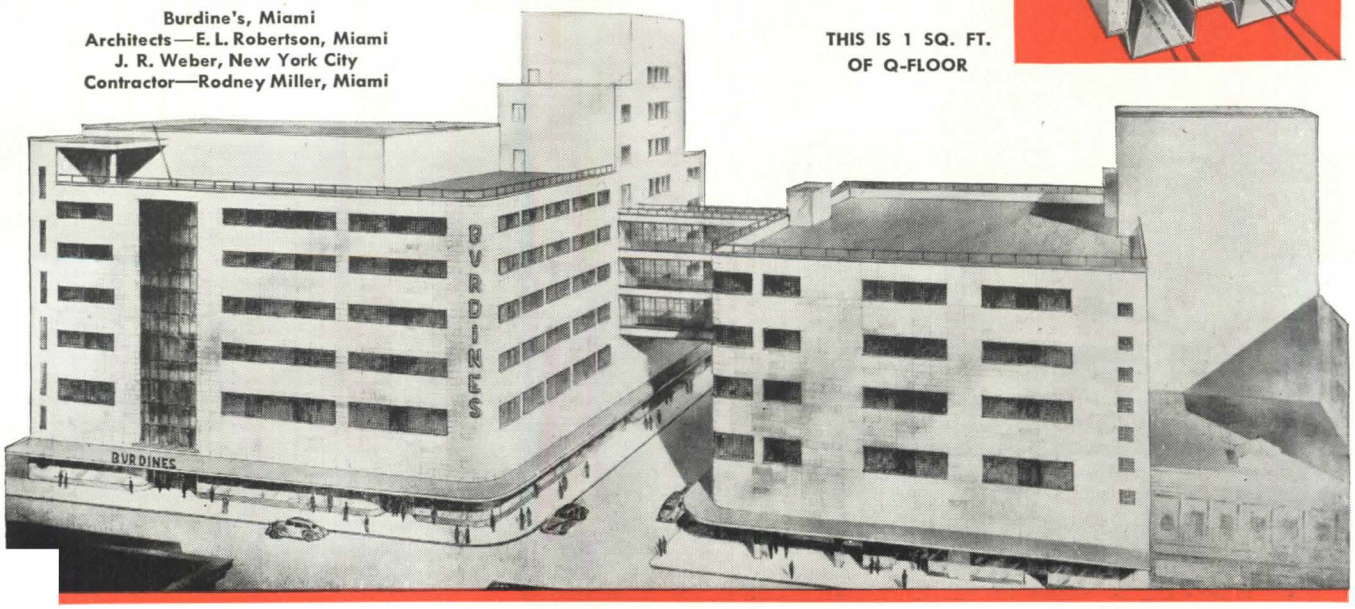


THIS IS 1 SQ. FT. OF Q-FLOOR

Burdine's, Miami
Architects—E. L. Robertson, Miami
J. R. Weber, New York City
Contractor—Rodney Miller, Miami



JOBS AND MEN

NOTICE: *Advertisements for this section must be addressed to* Jobs and Men, C/O PROGRESSIVE ARCHITECTURE, 330 West 42nd St., New York 18, N. Y. Legible copy, accompanied by check or money order for $3.00, will be accepted **not later than the 5th of month preceding publication.** Insertions may not exceed 50 words.

MEN WANTED

GRADUATE MECHANICAL ENGINEERING DRAFTSMAN — preferably one having several years' experience in design and drafting of plumbing, heating, and air conditioning systems. Salary commensurate with training and experience. Give full details in first letter. Colonial Williamsburg, Inc., Williamsburg, Va.

ARCHITECT — successful designer-contractor, fine stores and showrooms, will merge with architect expert in similar field. Must be capable handling jobs from sketches to completion. State experience, age, education, and if registered. Will also consider part-time association with objective of ultimate partnership. If not in New York, send sample drawing. I. Sarge Taffae, 353 Fifth Ave., New York 16, N. Y.

ARCHITECTURAL DESIGN DRAFTSMAN—at least three years' professional office experience. Salary according to experience and ability. Room for specialties. Write, giving details to Brookhaven National Laboratory, Upton, N. Y.

ARCHITECTURAL ASSOCIATE—needed by young, progressive office. Enthusiasm, talent, and good scholastic record of more importance than practical experience. Full opportunity for exposure in all categories of work and for advancement. Biggs, Weir & Chandler, Architects and Consulting Engineers, 224 N. Congress St., Jackson, Miss.

YOUNG ARCHITECT—highly experienced, capable of taking charge of office. Must be graduate of accredited school, good designer and delineator. Excellent opportunity, permanent, and an interest in the firm. W. H. Schumacher, A.I.A., 906-12 Petroleum Bldg., Oklahoma City, Okla.

ARCHITECTURAL DRAFTSMEN — excellent openings, permanent positions for qualified personnel. Good salaries and working conditions in ideal climate. Write P. O. Box 308, Santa Fe, N. M., stating qualifications in detail.

ARCHITECTURAL DRAFTSMEN AND SPECIFICATION WRITER — familiar various phases architectural drafting. Work upon diversified, interesting projects. Opportunity for permanent position with long established firm. State education and experience. Salary commensurate with ability. Chas. H. McCauley, Jackson Bldg., Birmingham, Ala.

ARCHITECTURAL DESIGNER — fully experienced on theatres, stores and industrial work. Must be capable of executing working drawings and details and of directing such effort. Permanent connection can be offered to qualified applicant in large architectural-engineering organization. Send record of experience and samples of work. Marr and Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

STRUCTURAL ENGINEER—with good experience who can design and make drawings for structural and reinforced concrete. Permanent position can be offerred to properly qualified applicant in large architectural-engineering organization. Send record of experience and samples of work. Marr and Holman, 701 - 703 Stahlman Bldg., Nashville, Tenn.

MECHANICAL ENGINEER — fully experienced in making designs, working drawings, and writing specifications for heating, plumbing, and air conditioning. Permanent connection in large architectural-engineering office can be offered to properly qualified applicant. Send record of experience and samples of work. Marr and Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

YOUNG ARCHITECT—with initiative and imagination. Five to ten years' experience, preferably commercial, industrial, and institutional work. Must have or be eligible for Pennsylvania registration. Excellent opportunity for permanent position and possibly membership in firm if mutually satisfactory. State education, experience, age, and salary desired. Location, northwest Pennsylvania. Box 68, PROGRESSIVE ARCHITECTURE.

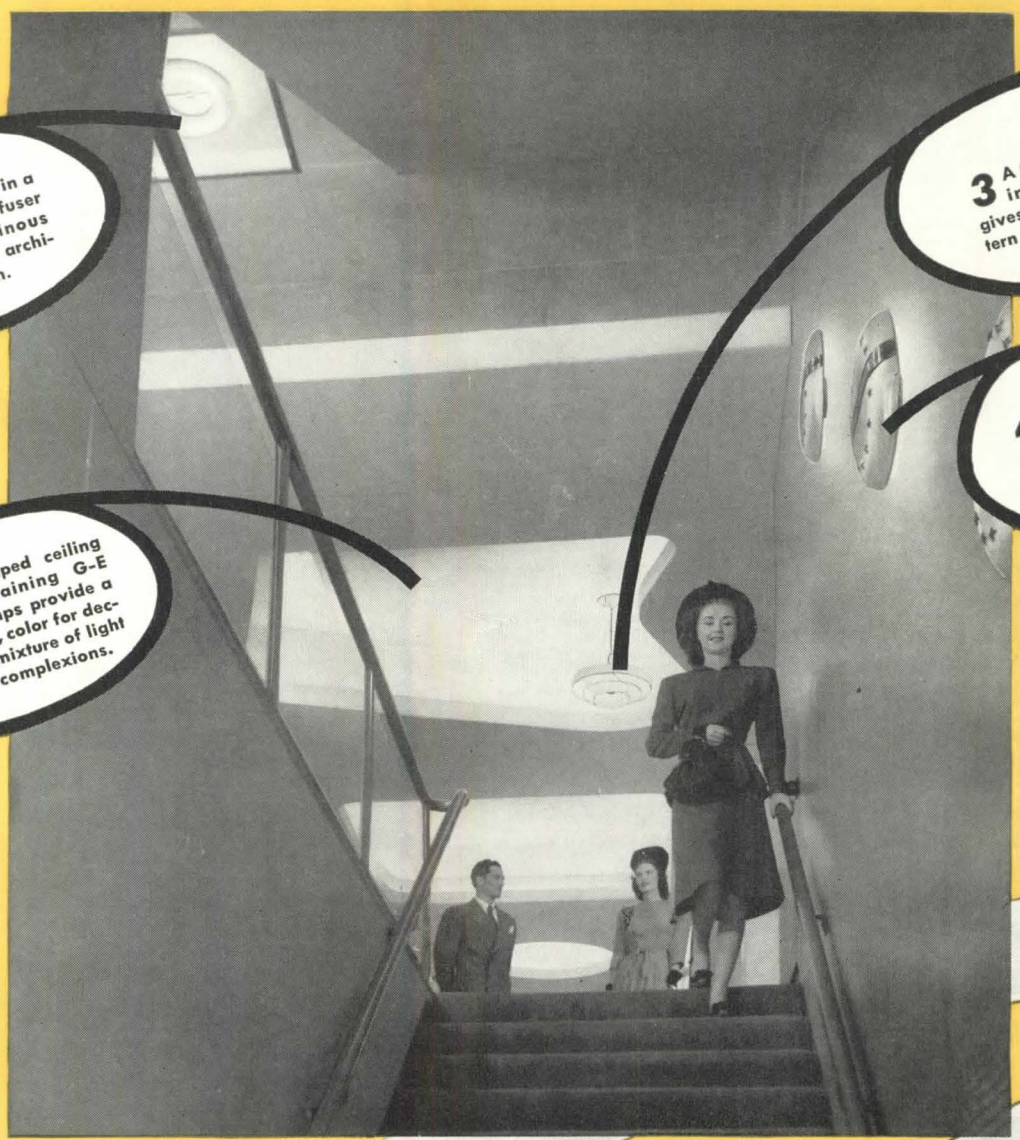
ARCHITECTURAL DRAFTSMAN — experienced, wanted by major oil company in New York City. 35-hour week. Advancement opportunity. Give full particulars on age, education, experience, individual duties performed, and salary expected. Box 73, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER—experienced, graduate architect interested in association and eventual partnership in firm doing all types of work, but specializing in institutional work. Office located in community of approximately 20,000 in extreme southern state. Please give references and full particulars in first letter. Box 74, PROGRESSIVE ARCHITECTURE.

(Continued on page 94)

4 steps to Modern Lighting

Here are four modern lighting designs . . . four new ways G-E Lamps may be used to combine beauty with the functional use of light. The scene is the stair leading from the registration center at General Electric's Lighting Institute at Nela Park, Cleveland.



1 A G-E Circline Lamp in a perforated metal diffuser combined with luminous panel above fits into architectural pattern.

2 Irregular shaped ceiling coffer containing G-E Fluorescent Lamps provide a change of pace, color for decoration and a mixture of light flattering to complexions.

3 A G-E Silverbowl Lamp in suspended fixture gives an accent in the pattern and additional light.

4 Decorative spots and stair illumination are the dual purpose of G-E Circline Lamps in perforated metal medallions on stair walls.

or all lighting urposes, specify G-E amps, so your clients et the benefit of the nstant research that orks to make G-E amps . . .

Stay Brighter Longer!

You are cordially invited to visit the General Electric Lighting Institute. You'll see the latest ideas in lighting and lamps for stores, offices, homes and schools.

G·E LAMPS

GENERAL ELECTRIC

JOBS AND MEN

(Continued from page 92)

SENIOR ARCHITECTURAL DRAFTSMAN — submit references, complete experience, educational record, age, salary. Box 75, PROGRESSIVE ARCHITECTURE.

ARCHITECT—established plastics manufacturer of eastern seaboard is seeking a young architect interested in application of new materials to store modernization and opportunity for creative development. First letter should contain complete information, including age, references, salary desired, and details of education and experience, particularly in store architecture. Box 76, PROGRESSIVE ARCHITECTURE.

ARCHITECT—excellent position open for young graduate architect or architectural engineer, with experience in industrial architecture. Large eastern Pennsylvania manufacturer. Write full details. Box 80, PROGRESSIVE ARCHITECTURE.

ARCHITECT — or experienced architectural draftsman. Wanted for permanent position with firm in Minnesota. Box 81, PROGRESSIVE ARCHITECTURE.

EXPERIENCED ARCHITECTURAL DRAFTSMAN—wanted by well established architectural firm in Minnesota employing about eight men. Top salary and opportunity of business participation. Housing in best district available. Box 82, PROGRESSIVE ARCHITECTURE.

JOBS WANTED

ARCHITECTURAL DESIGN AND DRAFTING SERVICE—free-lance services are available in architectural design and drafting by a well versed draftsman who has a college education with long experience in Government service. Sketches, perspectives, plans, details, and specifications prepared. W. Lawrence Clark, Box 5021, Knoxville, Tenn.

ARCHITECT-ARTIST AND DELINEATOR—of long experience, offers services for free-lance architectural renderings and perspectives, bird's-eye views of architectural treatment of engineering structures such as highways and bridges. Theodore A. de Postels, A.I.A., Studio at 644 Riverside Drive, New York 31, N. Y. AUdubon 3-1677.

ENGINEER — age 35, registered New York and New Jersey, seeks association with architect to take charge of engineering department. Well versed in all phases of office and field design and supervision. Now in own consulting practice. Will consider fee or percentage basis. Box 77, PROGRESSIVE ARCHITECTURE.

YOUNG ARCHITECT—A.I.A., 34, desires association with established architect in moderate sized midwestern city.

(Continued on page 96)

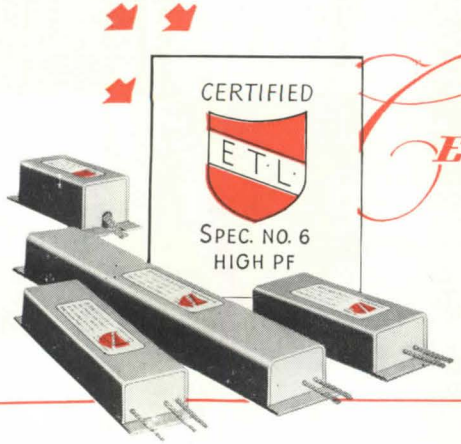
Nail down these three important facts about

Certified Ballasts:

★ They assure dependable operation of a Fluorescent lighting fixture

★ They are tested, checked and Certified by Electrical Testing Laboratories, Inc. as meeting rigid manufacturing specifications

★ Leading fluorescent lamp makers will guarantee lamp performance when Certified Ballasts are specified in a fixture



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JOBS AND MEN

(Continued from page 94)

Good education; experience in contemporary and progressive design and methods. Partnership practice prior to war. Officer, Navy Civil Engineer Corps during war. Presently in charge of design and plan production of large and important work. Box 78, PROGRESSIVE ARCHITECTURE.

CONSTRUCTION SUPERVISOR — Canadian, young, aggressive, extensive experience in residential construction and prefabrication (factory and field), moving to Los Angeles in November, desires position as supervisor or construction salesman. Not afraid of long hours or hard work. Would like chance for advancement. References and full information upon request. Box 79, PROGRESSIVE ARCHITECTURE.

MILLWORK DRAFTSMAN—now employed, desires part-time, free-lance drafting work. Thoroughly experienced in all phases of architectural millwork, from store fixtures to churches. Accurate, dependable work from rough sketch to finished drawing. Box 83, PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEER — desires sales agencies in building materials requiring engineering know-how. 15 years' broad experience in plant maintenance and consulting engineering work. Registered professional engineer. New England territory desired on commission basis. Box 84, PROGRESSIVE ARCHITECTURE.

ARCHITECT — 38, veteran, registered California, desires association or partnership with established firm for practice in western United States. Varied experience includes responsible charge of land planning, public works, industrial and large-scale community development projects. Box 85, PROGRESSIVE ARCHITECTURE.

NOTICES

NEW PRACTICES, PARTNERSHIPS

DONALD G. FUDGE and ALPHEUS F. UNDERHILL have announced their association with offices at 103 E. Woodlawn Ave., Elmira, N. Y.

FERRIS & ERSKINE have associated at 577 Larue Ave., Reno, Nev.

STANLEY A. MOE and NORMAN K. FUGELSO have formed a partnership at 4040 Wilshire Blvd., Los Angeles 5, Calif.

GEORGE L. EKVALL has opened an office in the Funk Bldg., Fifth and Capitol Way, Olympia, Wash.

ROBERT A. LITTLE has opened an office at 1303 Prospect Ave., Cleveland 15, Ohio.

J. ALONZO PLATER has announced a partnership with HOWARD H. MACKEY, with offices at 1611 N. Broad St., Philadelphia, Pa.

FREDERICK PERL, formerly of Berlin, Paris, and Rio de Janeiro, has opened an office at 12 E. 46th St., New York 17, N. Y.

GLEN M. DREW has announced the opening of his office at 505 Vine St., Poplar Bluff, Mo.

JULIUS STEIN has opened an office at 515 Madison Ave., New York 22, N. Y.

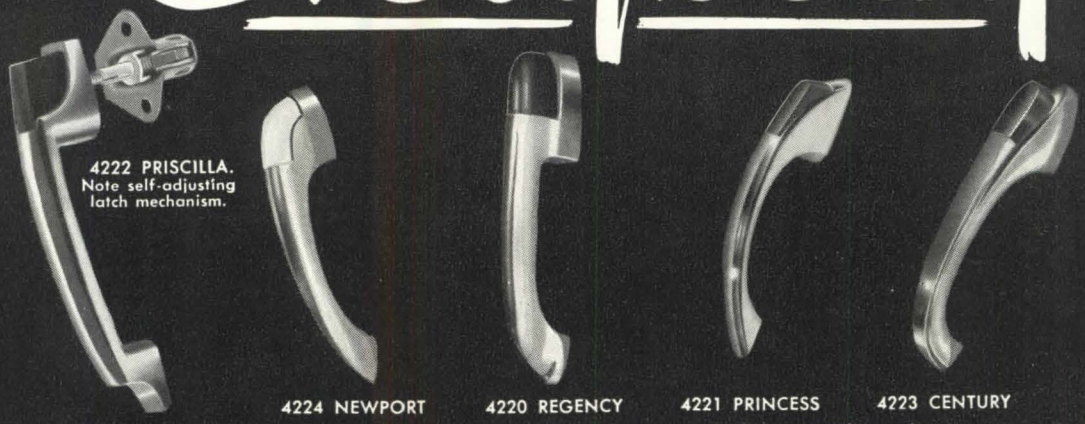
APPOINTMENTS

The Virginia Polytechnic Institute has announced the following appointments to the faculty of the Department of Architecture, all as associate professors of design: HEINRICH W. WAECHTER, HENRY H. WISS, and CHARLES S. WORLEY.

Pratt Institute has made some additions to its art staff. As design critics, HUSON JACKSON and ARTHUR MALSIN; as instructor in construction, RONALD ALLWORK.

The appointment of MORLEY JEFFERSON WILLIAMS as professor of landscape architecture has been announced by Edwin G. Thurlow, head, Department of Landscape Architecture, North Carolina State College of Agriculture and Engineering of the University of North Carolina.

Everybody



4222 PRISCILLA. Note self-adjusting latch mechanism.

4224 NEWPORT 4220 REGENCY 4221 PRINCESS 4223 CENTURY

Full-hand and knob pulls to match, in contrasting or matching colors.

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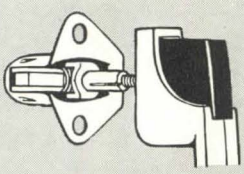
ARCHITECTS . . . *because it offers beauty, practical utility.*

BUILDERS . . . *because they save time and money installing it.*

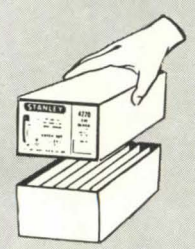
DEALERS. . . *because it is a clean, fast-moving line.*

MRS. PUBLIC . . . *because it's just what she has always wanted — in fact she helped design it.*



SELF-ADJUSTING LATCH. New "Trigger" latch design . . . automatically adjustable to doors from 3/4-in. to 1 1/8-in.

5-KNUCKLE HINGES. Five knuckles for strength. Raised barrel permits door to open full 180°.



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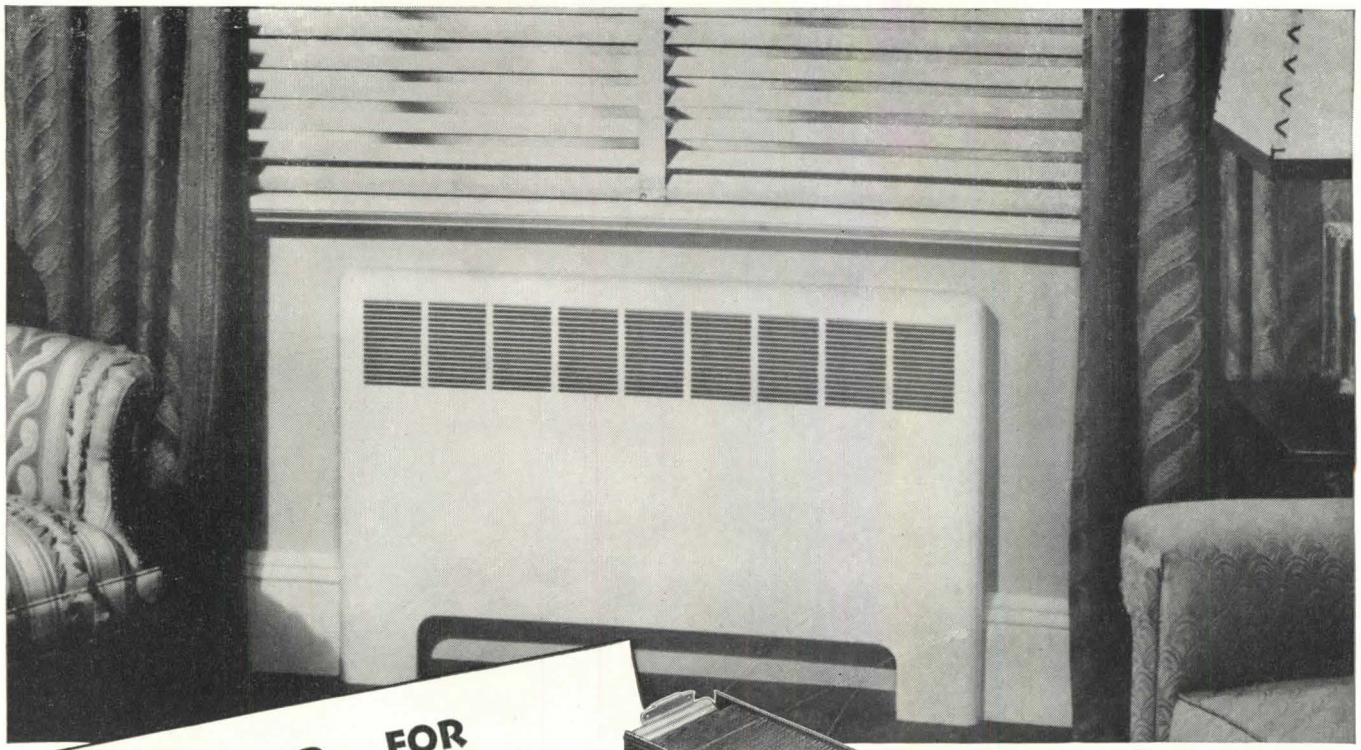
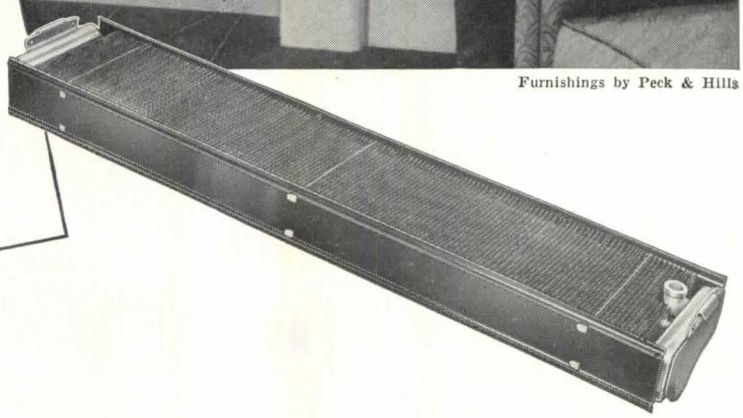


Furnishings by Peck & Hills

WHY COPPER... FOR CH* EFFICIENCY



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Because Today's Costs are NOT Out of Line . . .
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Ceco originated the removable steelform method of concrete joist construction. The company is first in the field—actually providing more services than all competitors combined. So, when concrete joist construction fits your need, call on Ceco, the leader over all. Thirty-five years of experience in the field, on the job, have given Ceco a sure grasp of all concrete joist construction problems. This fund of knowledge is yours to command, in 23 strategically located offices from coast to coast.

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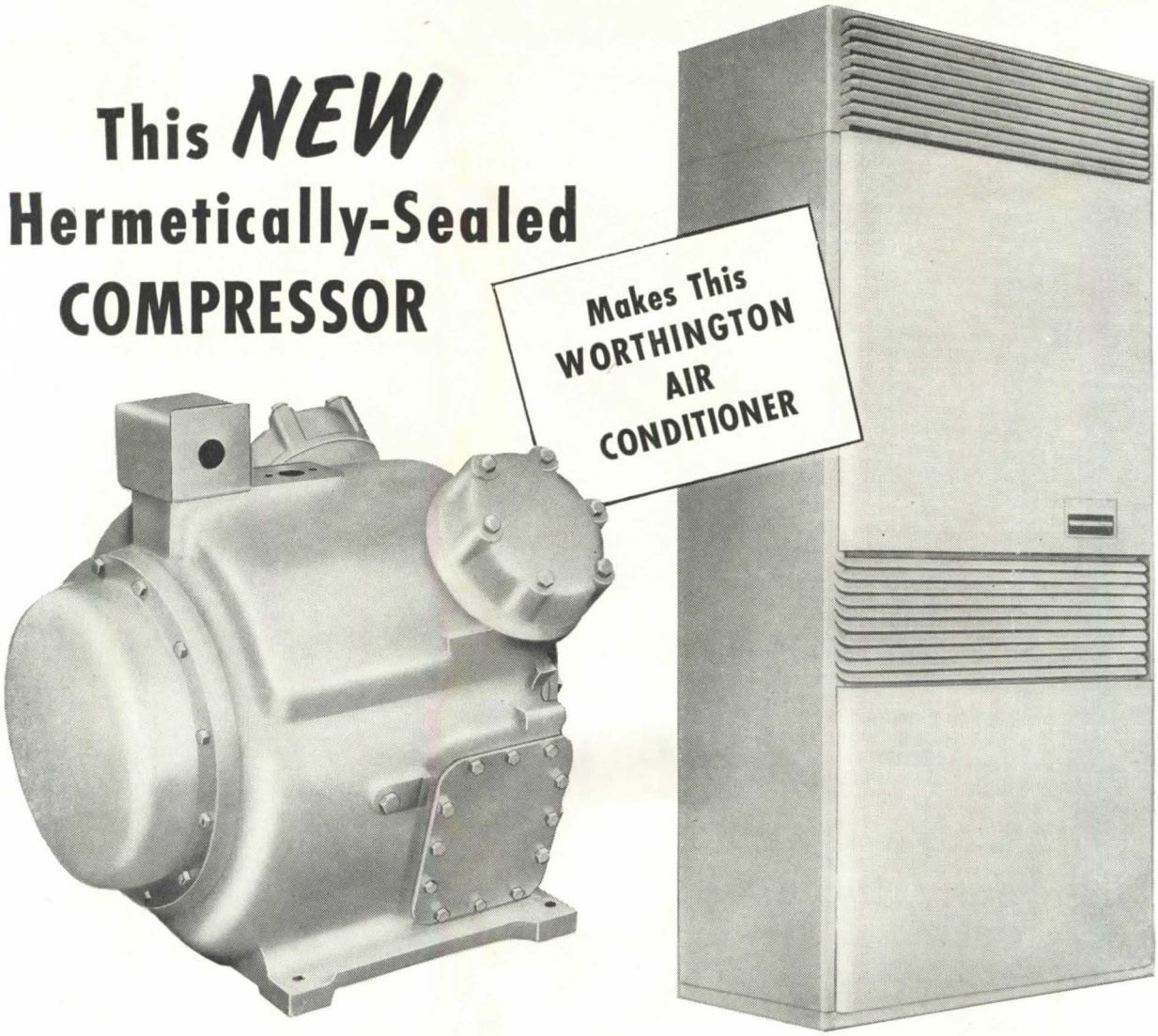

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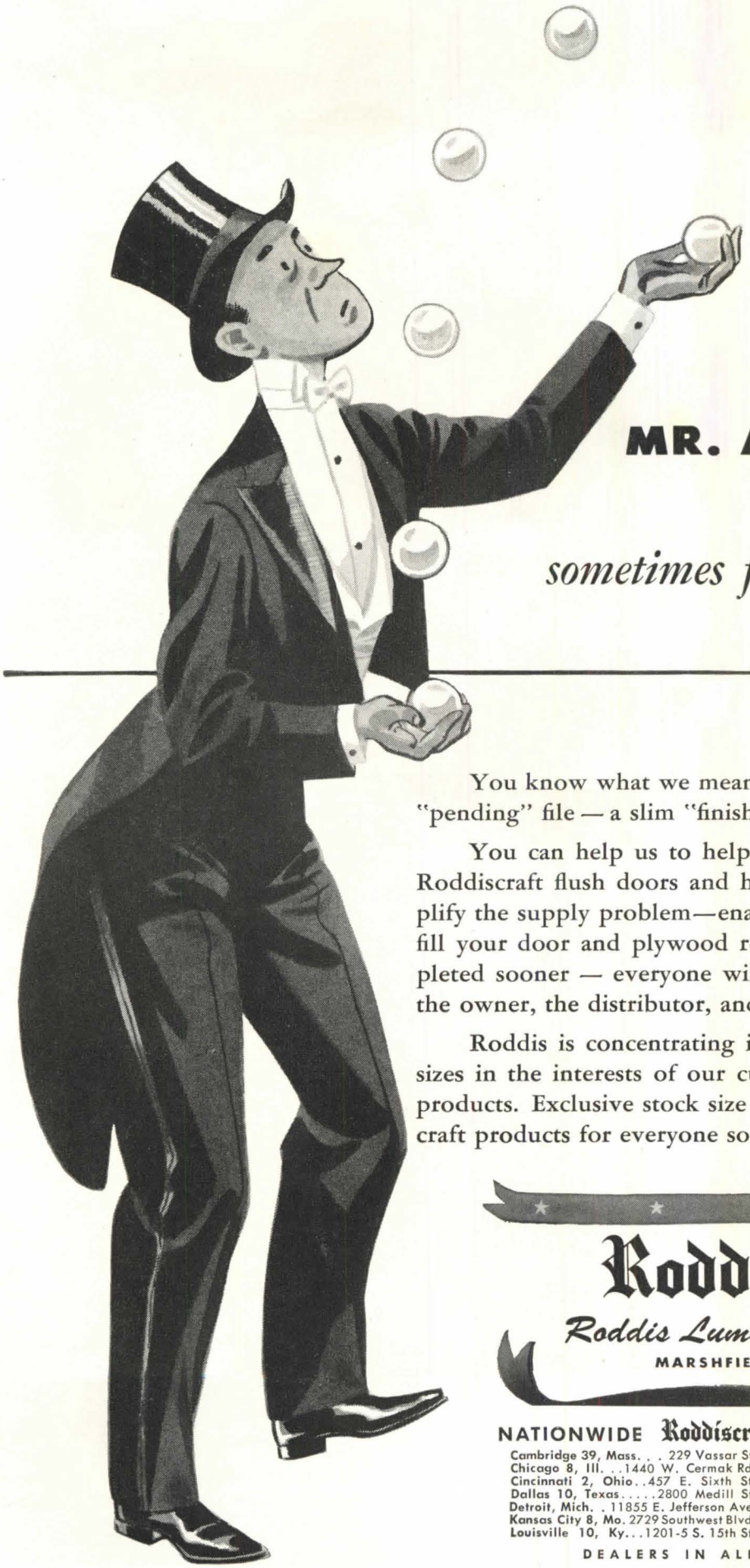

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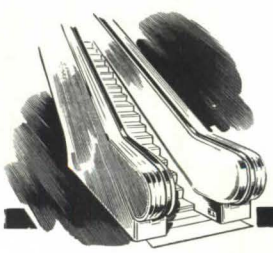

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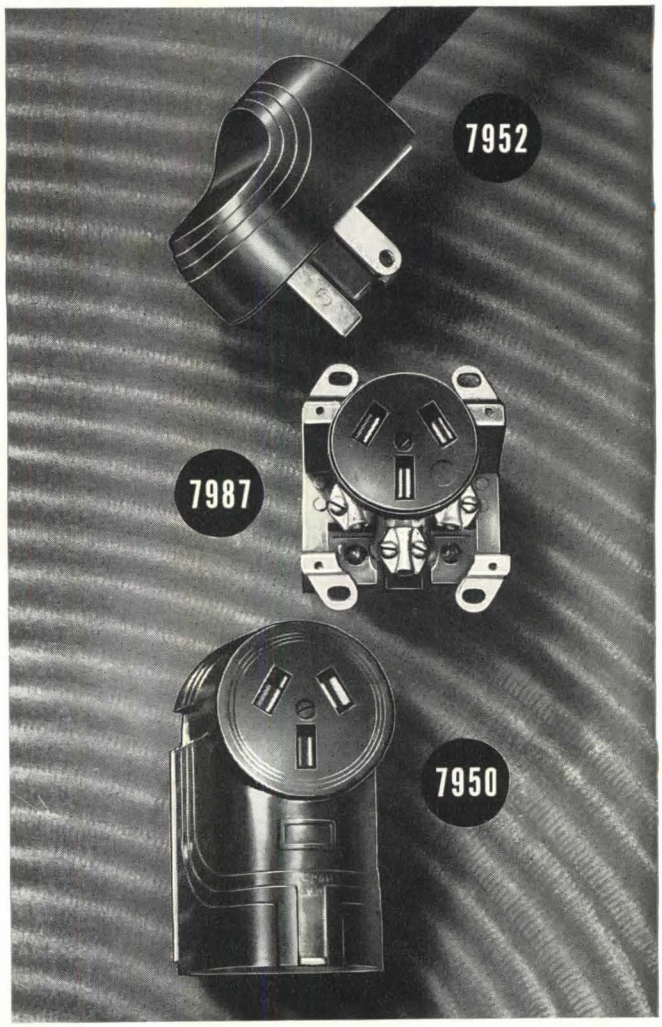

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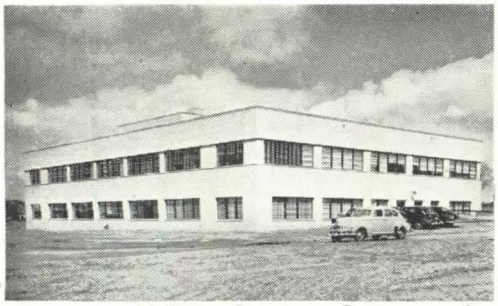
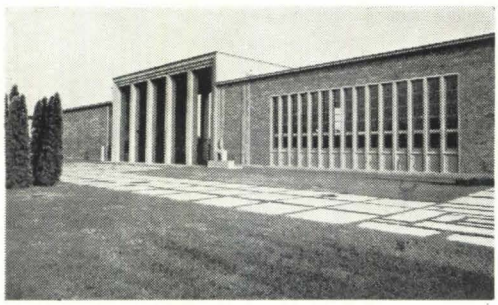


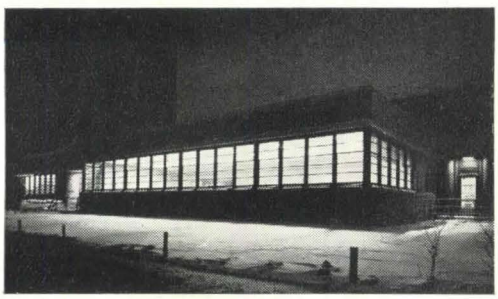
Minnesota Valley Canning Company, Le Sueur, Minnesota. Architect: The Austin Co., Chicago.

Thermopane in Visual Front of Kohl's Fine Foods, Milwaukee, Wisconsin. Architect: Walter F. Liebert, Milwaukee.

Detroit Steel Corporation. Architect: O'Dell, Hewlett & Luckenbach.



Library of Cranbrook School, Bloomfield Hills, Michigan. Architect: Eliel Saarinen, Detroit.



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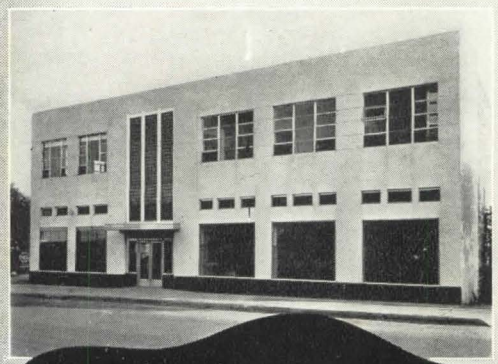
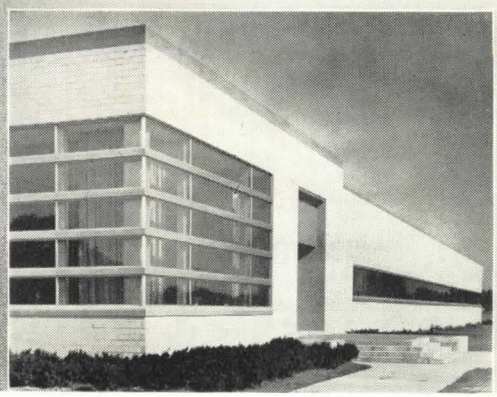
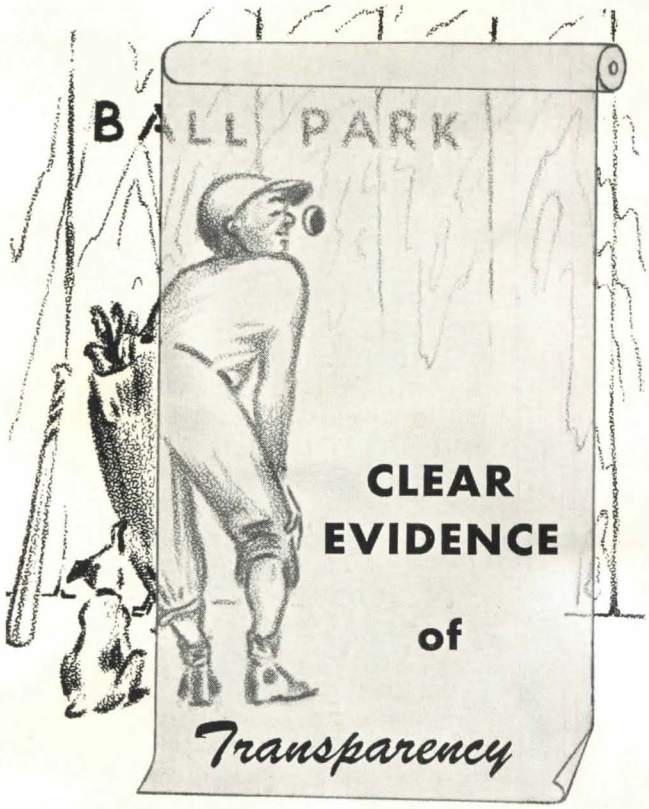


Coca-Cola Bottling Plant, Albuquerque, New Mexico.

Business Institute, Milwaukee, Wisconsin. Architect: Ebling & Plunket, Milwaukee.



Johnson & Johnson. Cranford, New Jersey. Architect: Ballinger Company, Philadelphia.



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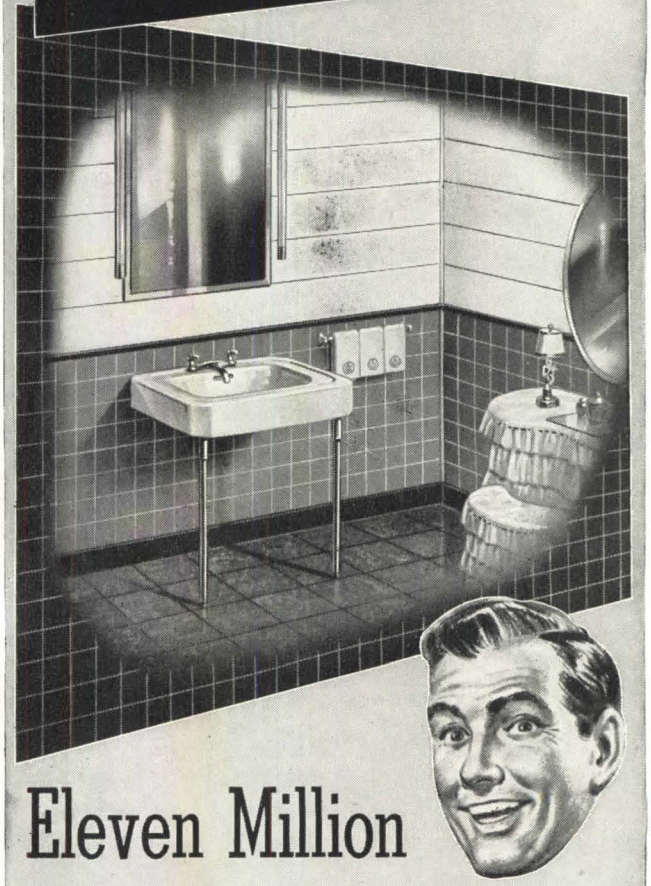

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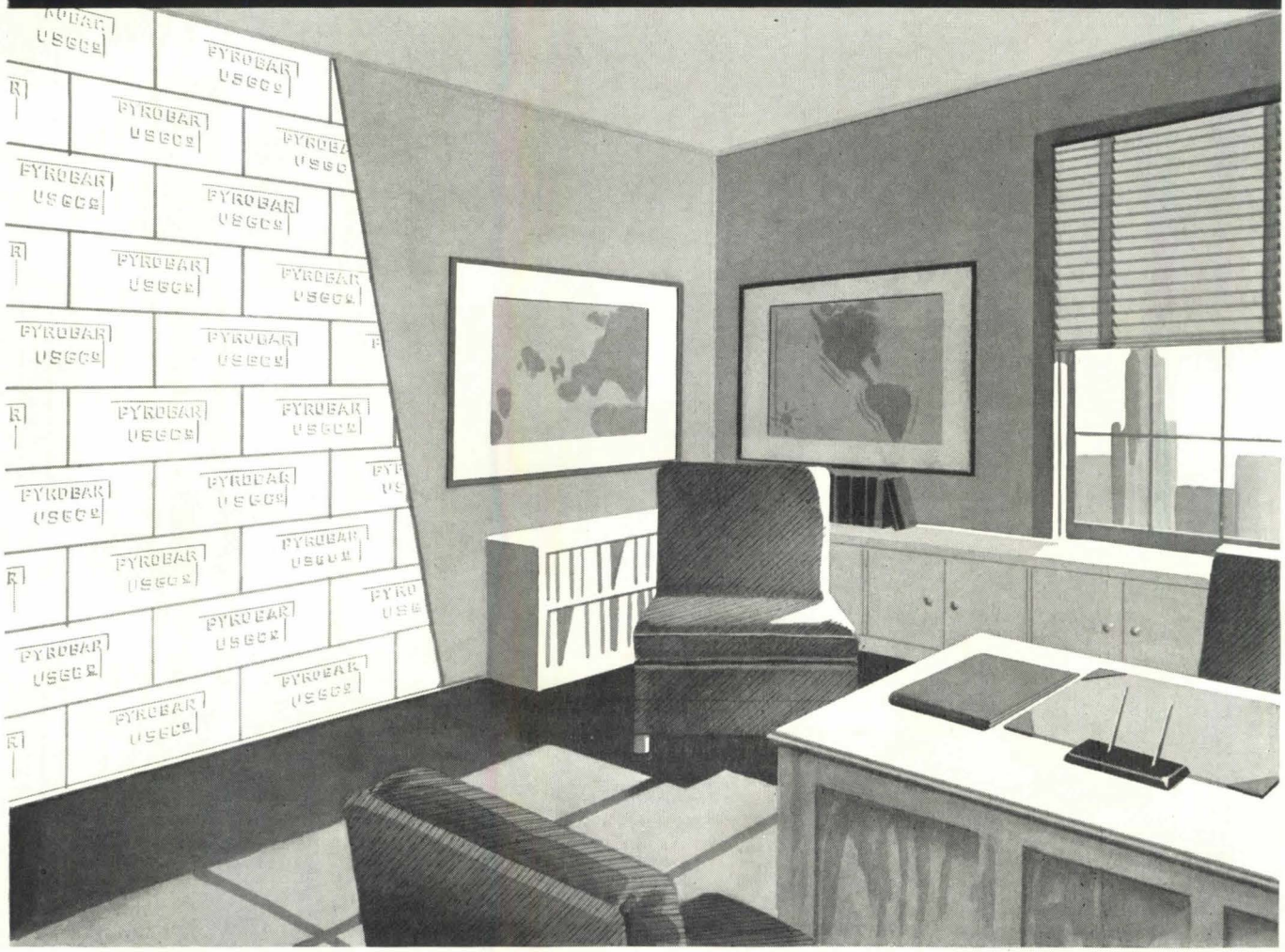

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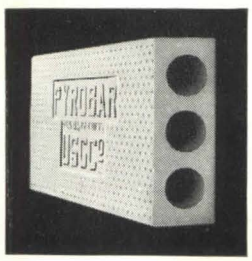

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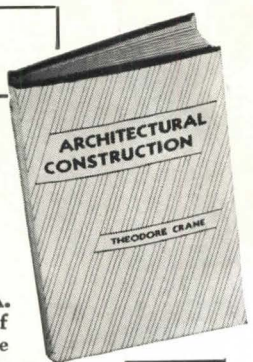

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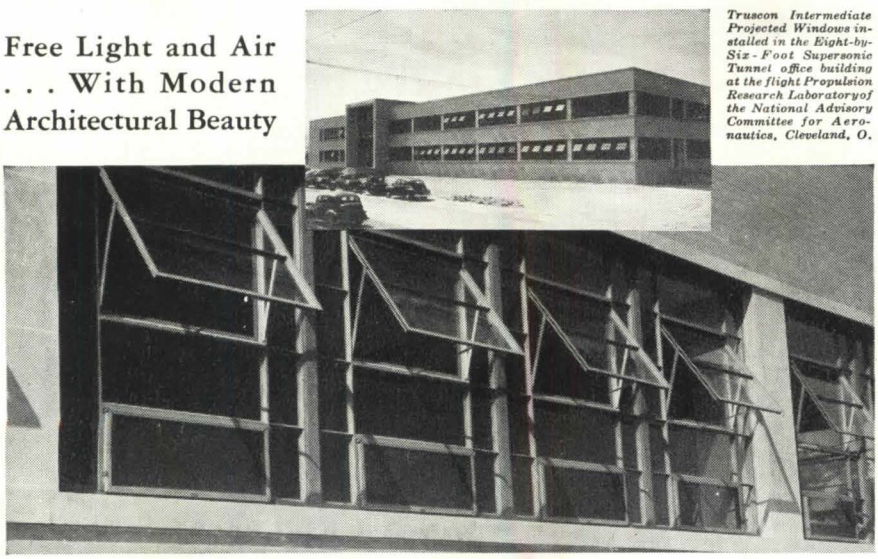

Truscon Intermediate Projected Windows installed in the Eight-by-Six-Foot Supersonic Tunnel office building at the Flight Propulsion Research Laboratory of the National Advisory Committee for Aeronautics, Cleveland, O.

The National Advisory Committee for Aeronautics is engaged in development work that is aimed at keeping and increasing America's leadership in air flight. At the Flight Propulsion Research Laboratory, Cleveland, Ohio, a supersonic tunnel is the scene of much development work that will influence aeronautics.

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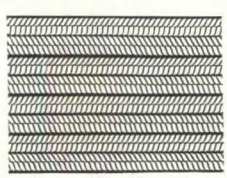

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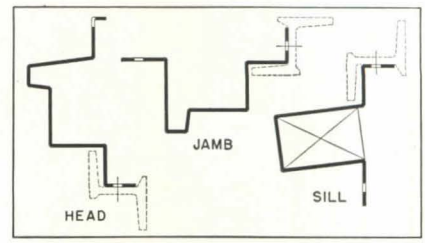
Truscon Formed Steel Surrounds

Truscon now offers formed STEEL SURROUNDS for use with Residential Casements. Made of 18 gauge electro-galvanized steel, bonderized and shop painted with a high quality baked-on primer, surrounds are now available for use where a wider and moulded frame appearance is desired. The members are formed to pleasing contours lending depth and character to the appearance of the window openings and at the same time facilitating installation and anchorage.



Of particular interest to builders in concrete block or similar standard masonry units, are the resultant modular dimensional opening widths when steel surrounds are used with the popular two, three and four light wide casements. The opening dimensions of 3′-4″, 4′-8⅛″ and 6′-0⅜″ work in closely with standard 16″ modular masonry units, thus permitting the masonry walls to be laid up around window openings with full-blocks and half-blocks at minimum cost.

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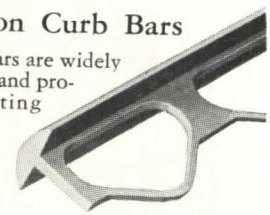

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Today's warm-air heating systems for many sizes and types of residential and *commercial structures* give this exclusive combination of values:

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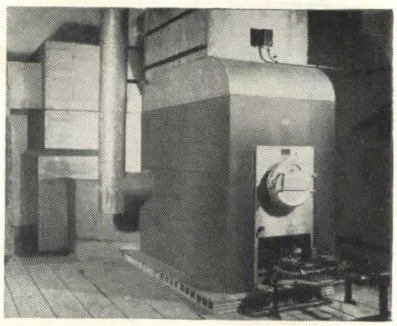
2. **CLEAN AIR.** Filtered at the heating unit, all heat delivered throughout the warm-air duct system is free of nuisance dusts, lint and most air-borne bacteria. Maintenance burdens are lighter because walls and furnishings stay clean longer.
3. **MECHANICALLY-CIRCULATED AIR** keeps warm air fresh and clean while providing the proper number of air changes per hour.
4. **HUMIDIFIED AIR** affords greater physical comfort at lower room temperatures.

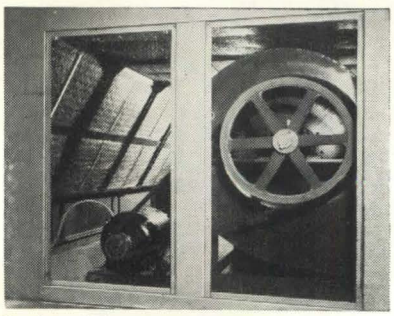
Architects, builders and contractors who specify and install modern warm-air systems, know that circulating air will be cleaned efficiently. For DUST-STOP Filters, a Fiberglas* product, are the choice of most manufacturers as original equipment. They're easy and economical to maintain, too, for replacement DUST-STOPS are readily available at low cost through suppliers in every community.

For complete information, see Sweet's Files or write: Owens-Corning Fiberglas Corporation, Dept. 827, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Toronto 1, Ontario.



The heating surface in this Jackson & Church "PoweRated" Heater is increased by the famous Jackson & Church tubular design.



Section of blower unit equipped with twenty 16" x 25" DUST-STOP Filters. Unit installed in attic space which otherwise would have been unusable.

OWENS-CORNING

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MEMBER NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION INDOOR COMFORT

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OBSERVATIONS

THE HOUSING PROBLEM HAS NOT BEEN SOLVED, DESPITE SOME EXTRAVAGANT CLAIMS THAT ALL IS NOW WELL. Not enough housing is being built, and what is going up is in most cases badly conceived and too expensive. It is heartening to see that the A.I.A. Committee on Urban Planning (Louis Justement, chairman) has come through with an intelligent analysis and constructive suggestions leading toward a program. Published in the September A.I.A. *Bulletin*, it will be voted on by the Board of the Institute at its December meeting. Constructive thinking of this sort is the architect's responsibility, and is in pleasing contrast to a release from the National Association of Real Estate Boards in which NAREB President Morgan L. Fitch is quoted as saying, "A formidable array of threats confronts the realtors . . . eighteen bills relating to housing, which were introduced during the first session (of the 80th Congress) will remain as live legislative proposals for action." Apparently to a realtor a "proposal for action" is a "threat"; to an architect it's a hopeful promise of better buildings.

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I APOLOGIZE TO JOHN BURCHARD. Last month I said I didn't know what he meant by "pseudo-science." I think I now know. I quote from a University of Illinois press release:

"A variety of home research projects, from coalbin to roof, will be carried on with a new house being built at the Small Home Research Center of the University of Illinois . . .

"The one-story, five-room house will have 768 square feet of floor space. This is considered a 'minimum house,' and one of the research projects will be to see how well a three-person family can live in it. The total area is only a little more than the floor space of two standard box cars, and is typical of the area of many small houses built today . . .

"In addition to the living-space study, seven other research projects will be carried on in the same structure . . .

"One of these is the study of a kitchen-utility room. University home economists want to answer the basic question of whether laundry should be done in the kitchen of a small home . . .

"In its construction, the house will try out three other new ideas. The roof is being made of aluminum shingles. An awning-type window is being placed along one side of one bedroom so that it can be compared with ordinary double-hung windows on other sides. Two new methods of applying asbestos siding are being used, together with the conventional method, to see which produces the best looking result."

Am I wrong when I think this sounds like nonsense? One family living in one house can't provide any general conclusions on "how well a three-person family" can live in the space of two box cars. One family's experience won't prove a thing about laundry planning. You don't have to build a special house to discover the "best looking" method of applying asbestos siding. This sounds like the kind of "scientific analysis" that produces cigarette advertising, not improved technology. Right now the profession wants and needs *real* research data, test results, technical information. Oh dear, I suppose I've stepped on a lot of toes again.

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THE CONVENTION OF THE NEW YORK STATE ASSOCIATION OF ARCHITECTS WAS HELD AT THE COMMODORE HOTEL, whose bar looks across 42nd Street toward a newsreel theater. During the three-day convention the theater was featuring two shorts, and its marquee read:

THIS IS AMERICA
I AM AN ALCOHOLIC

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I HAD LUNCH WITH JEAN LABATUT OF PRINCETON ONE DAY LAST WEEK, and he told me of the successful summer course at Fontainebleau which he helped conduct. The study was based largely on field trips, which were arranged so that visits would be paid, on the same day, to excellent historical examples and excellent contemporary examples of good design. Saint Chapelle and the modern church at Raincy, for instance: two illustrations, in different periods, of exciting design resulting from a use of modern materials in a modern manner. It occurred to me as we talked that France is the only country in the world where this lesson could be taught by means of examples so far separated in time, yet so closely related in purpose. It seems like a most intelligent use of the Fontainebleau facilities.

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I HAVE BEEN REREADING SULLIVAN'S "KINDERGARTEN CHATS," and it's slightly discouraging to realize that that man wrote almost everything that can be said about architecture 46 years ago. Discouraging, because here we are still arguing. It must be admitted, though, that most designers in this country now subscribe to the *theory* of an appropriate expression, even if they don't practice it.

Occasionally, however, we still get a letter insisting that we should publish traditionally-minded work. I wish the radicals who feel that way would stop trying to import foreign ideologies to our fair shores. We see too many magazines from all over the world not to recognize the sources of such un-American ideas. For instance, I've just received a copy of *New Times*, a weekly journal published in *Moscow, in which* one K. Alabyan reports his impressions of an international architectural meeting in Brussels. He says: "A keen discussion developed over the question of the trend of Soviet architecture. Some of our Belgian colleagues declared that classical architecture was reactionary. To this we said that we aimed at architecture which would constitute monumental art, and endeavoured accordingly to assimilate the cultural heritage of the past. The nihilistic trend in the modern Western architecture is, to our mind, not progressive, but decadent. The contemporary architecture of any European or American town is a regimented art, it has lost its artistic individuality." Confusing, isn't it?

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AN EDITORIAL NOTE IN A CAPTION REFERRING TO CAVITY WALLS IN P.A.'S OCTOBER ISSUE read, "Everyone we've talked to says 'Keep the cavity opens!'" Our technical editor talks to a lot of illiterates, apparently.

Thomas H. Creighton