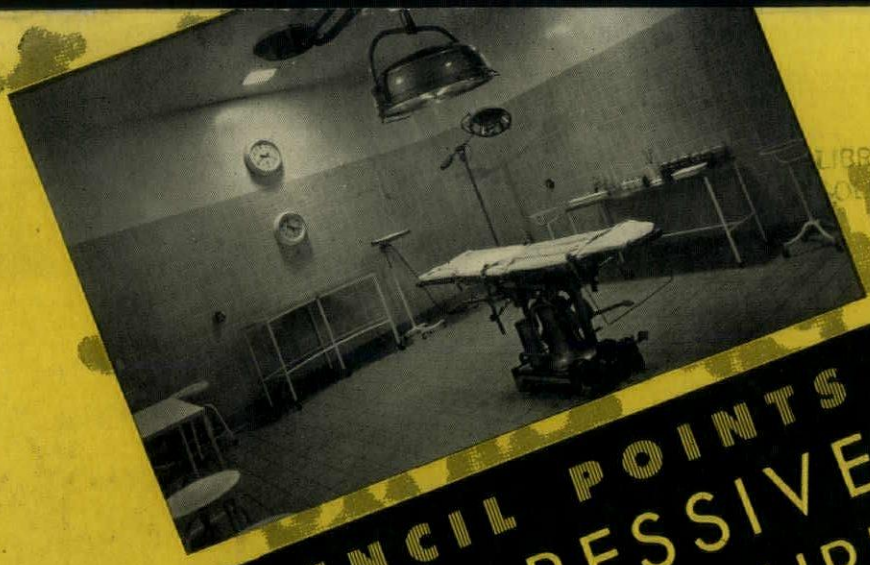
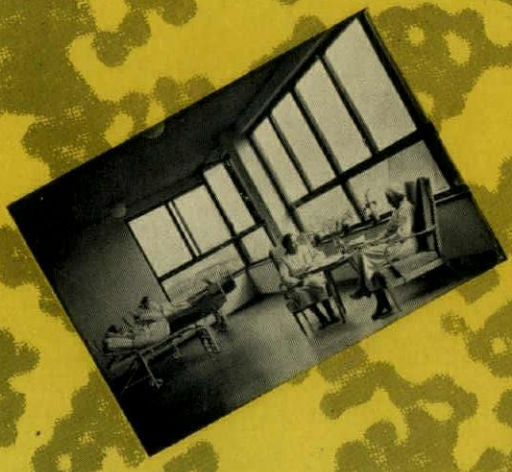


PENCIL POINTS PROGRESSIVE ARCHITECTURE

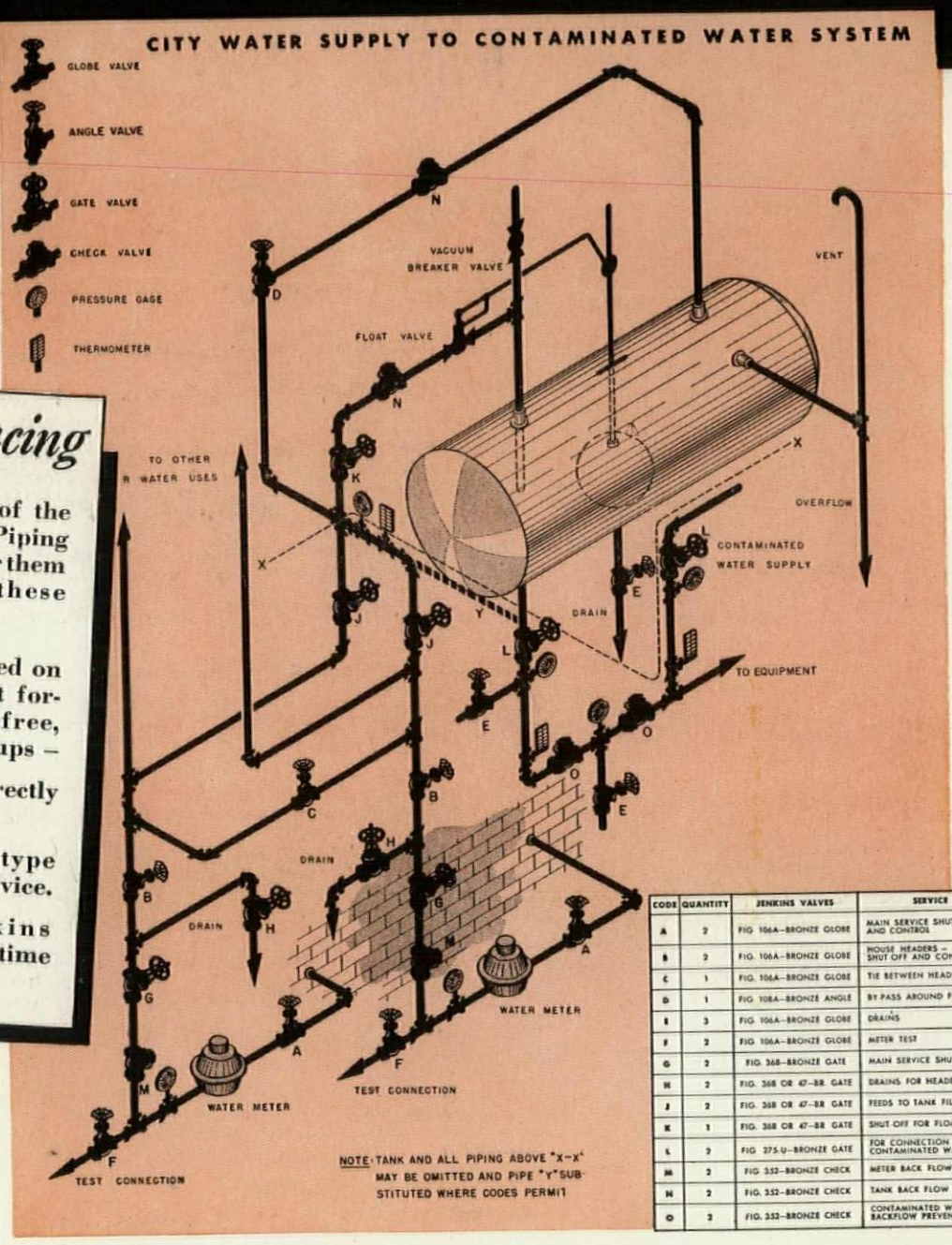
8

August 1945



Jenkins PRACTICAL PIPING LAYOUTS 1

CITY WATER SUPPLY TO CONTAMINATED WATER SYSTEM



CODE	QUANTITY	JENKINS VALVES	SERVICE
A	2	FIG. 106A–BRONZE GLOBE	MAIN SERVICE SHUT-OFF AND CONTROL
B	2	FIG. 106A–BRONZE GLOBE	HOUSE HEADERS – SHUT OFF AND CONTROL
C	1	FIG. 106A–BRONZE GLOBE	TIE BETWEEN HEADERS
D	1	FIG. 108A–BRONZE ANGLE	BY-PASS AROUND FLOAT VALVE
E	3	FIG. 106A–BRONZE GLOBE	DRAINS
F	2	FIG. 106A–BRONZE GLOBE	METER TEST
G	2	FIG. 368–BRONZE GATE	MAIN SERVICE SHUT-OFF
H	2	FIG. 368 OR 47–BR. GATE	DRAINS FOR HEADERS
J	2	FIG. 368 OR 47–BR GATE	FEEDS TO TANK FILL LINE
K	1	FIG. 368 OR 47–BR GATE	SHUT-OFF FOR FLOAT VALVE
L	2	FIG 375-U–BRONZE GATE	FOR CONNECTION FEEDING CONTAMINATED WATER SUPPLY
M	2	FIG. 352–BRONZE CHECK	METER BACK FLOW PREVENTION
N	2	FIG. 352–BRONZE CHECK	TANK BACK FLOW PREVENTION
O	2	FIG. 352–BRONZE CHECK	CONTAMINATED WATER SUPPLY BACKFLOW PREVENTION

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City and State Laws require that contamination of city water be made impossible when a secondary, impure source of water is used for cooling, boiler feed, etc. This layout presents an economical hookup to meet all requirements. Local codes vary, and obviously could not all be allowed for. Jenkins recommends consultation with accredited engineers and con- ctors when adapting these sugges- s to your specific requirements. of This Layout No. 1, en- e details of all furnished gineers.

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PROGRESSIVE ARCHITECTURE

August, 1945

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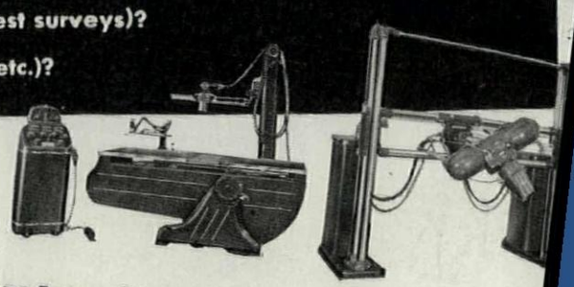
hospital x-ray planning is a tough nut...

10 points to weigh in x-ray planning

1. Space required in relation to bed capacity?
2. Easy accessibility from all parts of hospital plant?
3. Separate rooms (or departments)? . . . therapy, radiography, fluoroscopy, G. U., fracture?
4. Separate out-patient x-ray department? Easy access for out-patient emergencies? (Important in traffic accidents).
5. Safety: (lead-lined walls . . . what kind, how much)?
6. Adequate power supply?
7. Provision for built-in equipment (controls, etc.)?
8. What specialized equipment required? (Sanatorium, orthopedic, children's, etc.)
9. Provision for future expansion (as for mass chest surveys)?
10. Darkroom facilities (tanks, dryers, pass boxes, etc.)?



PICKER sets the pace in x-ray . . . sixty-five years service

here's how we can help you crack it

Now is a good time to take a look at the changing x-ray picture, as it directly concerns your planning for the pent-up flood of new hospital construction now awaiting clearance.

The important fact to bear in mind is this . . . *the use of x-ray in hospitals has grown and is growing so rapidly that this department has become a primary rather than a secondary factor in hospital design.* The day is gone when X-ray could be treated as an afterthought, to be tucked into any odd space otherwise unoccupied (even in the basement, if hard-pressed).

There are many reasons for this shift in emphasis. For one thing, in routine diagnosis, fluoroscopic and radiographic x-ray is today the rule rather than the exception. X-ray's therapeutic applications, both superficial and deep (as in irradiation treatment of cancer) have grown apace.

Hospitals are entering a New Era

Hospitals today stand on the threshold of a rapidly expanding era of increased service to the community. Comprehensive mass x-ray survey programs, looking toward the ultimate elimination of tuberculosis, are being projected on a grand scale through cooperative grants by the U. S. Public Health Service. This program, as it develops, will undoubtedly enlist hospitals to an extent hardly dreamed of today.

Beyond that lies the probability of x-ray screening of all patients on hospital admission. Experimental work already done in this direction has demonstrated diagnostic benefits of such scope as to justify the prediction that the practice will be generally accepted by all hospitals as routine procedure in the near future.

Moreover, changes in the nature of x-ray equipment growing out of new knowledge of electronics and similar technical advances, must also be foreseen. These improvements will require flexibility of layout to permit their adoption. Your overall planning must make provision for such future expansion.

How we can help you

It is evident from the bare recital of these considerations that planning for X-ray in hospitals is a problem beset with pitfalls. Efficient layout calls for a background of mature experience, an awareness of current developments. and a "feel" for future trends. Such a background is available to you through the Picker X-Ray organization. For over half a century, we have been serving the Medical Profession, and working with Architects in providing advanced equipment and planning efficient layouts for hospital x-ray departments.

Many ranking architects look upon this Picker service as indispensable: they call upon us at the very outset to discuss all angles of the problem before it goes on the board. Picker X-Ray Corporation branches are located in all principal cities. Capable men, thoroughly experienced in the work, are always available for consultation and assistance. Call them in on that next hospital job.

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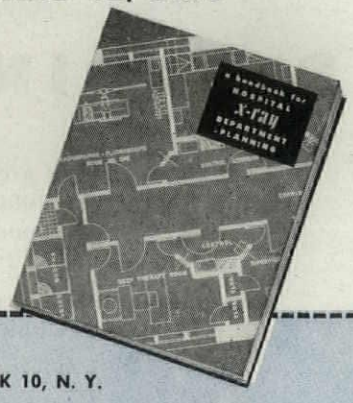
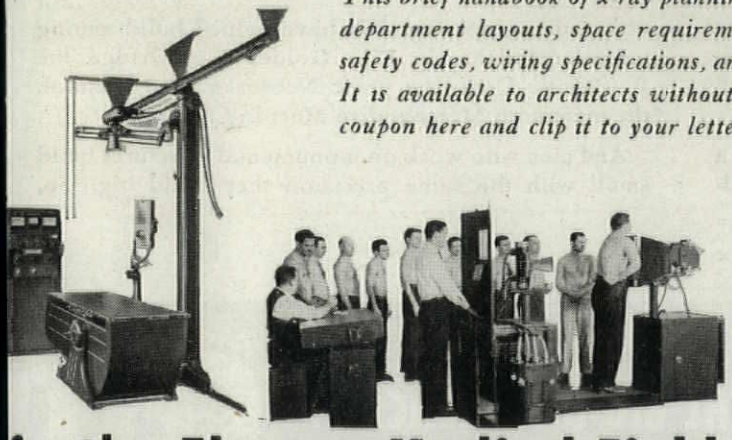


This brief handbook of x-ray planning procedure contains typical department layouts, space requirements, equipment description, safety codes, wiring specifications, and similar technical material. It is available to architects without charge: merely fill out the coupon here and clip it to your letterhead.



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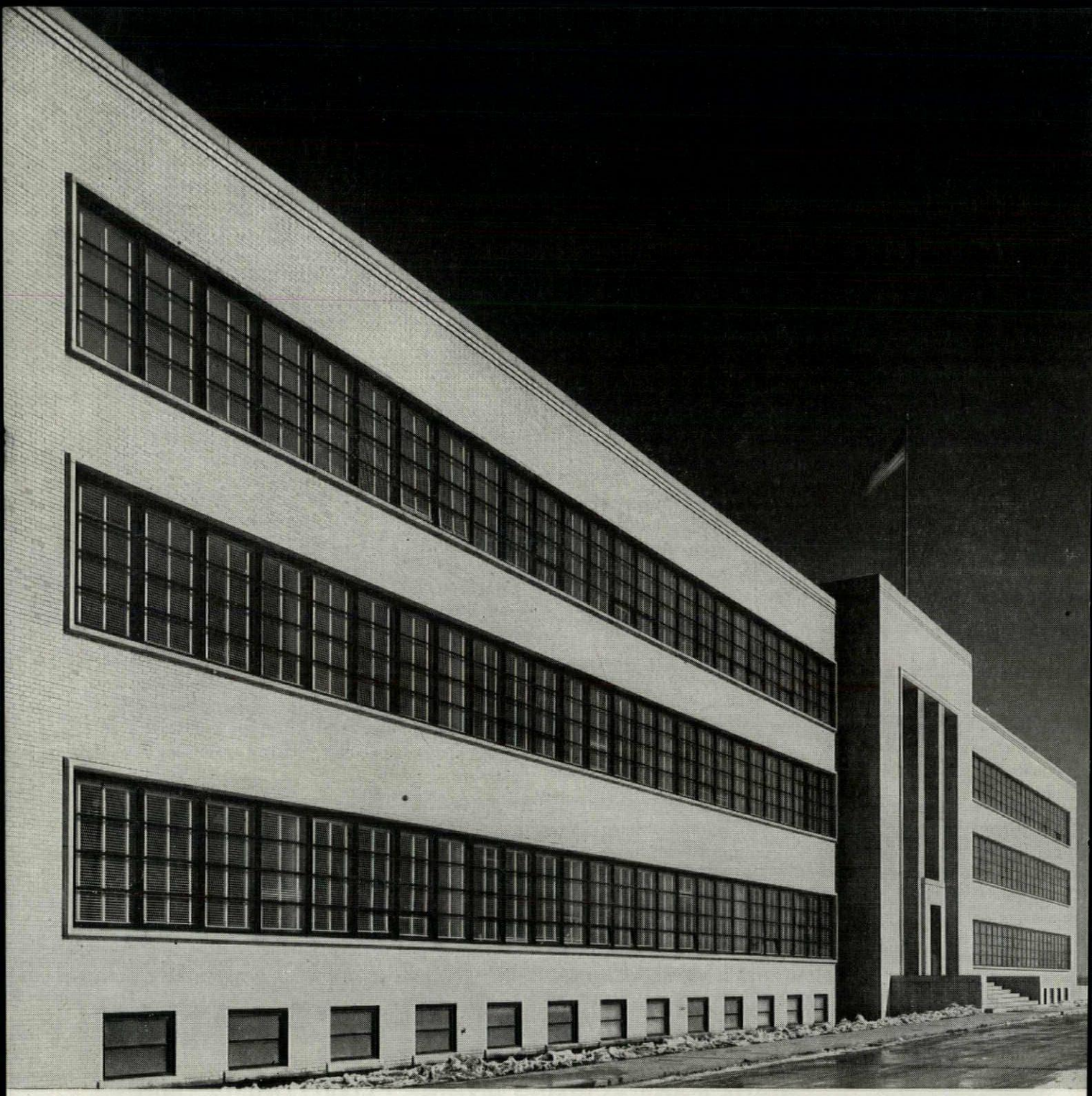

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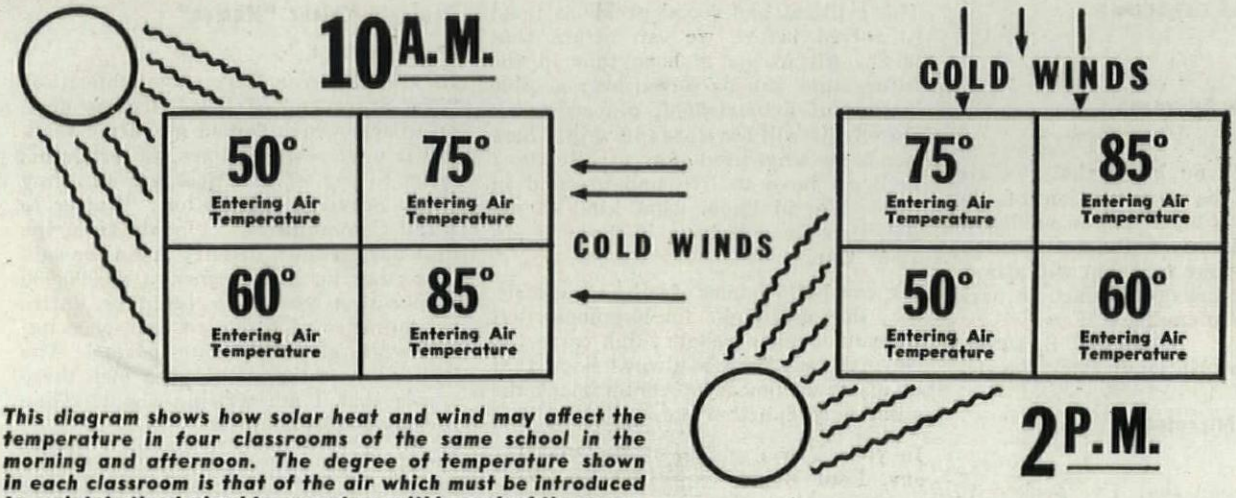
ENGINEERING MAKES THE BIG DIFFERENCE IN CECO

shows school authorities system of ventilation . . .



This diagram shows how solar heat and wind may affect the temperature in four classrooms of the same school in the morning and afternoon. The degree of temperature shown in each classroom is that of the air which must be introduced to maintain the desired temperature within each of the rooms.

for classrooms provides the INDIVIDUAL CONTROL required to meet these changing conditions in each room of a school without adversely affecting the air conditions in other rooms.

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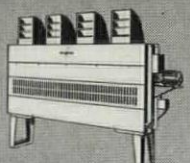
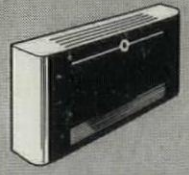


Herman Nelson Blower-Fan Type Unit Heaters

Herman Nelson De Luxe Unit Heaters



Herman Nelson Unit Ventilators

Views

Opinions from readers

Remarks from the editors

Changes of address

Comprehensive Approach

Dear Editor:

I want to let you know that we are pleased with the presentation of the Denison Dam Study that you published in the June issue of PENCIL POINTS. I believe that your write-up will stimulate a comprehensive approach to park and recreation planning.

NEWTON B. DRURY
Director, National Park Service

Not Afraid of Miracles

Dear Editor:

Most of the men that I've spoken to have convinced me you have nothing to fear regarding their acceptance of the more progressive ideas about architecture. When we've been living under adverse conditions for months on end, the longing for the way of life most of us have been accustomed to becomes ingrained, especially when that way has had all the simple comforts and conveniences of good living.

For the immediate future, after V-J day, most of us will be content to live as before. But later on we're expecting miracles, for just one reason: when billions have been spent for destruction, billions can be spent for construction. The scale must be tremendous! Everything we've done has been done at that scale. You, at home, must make all your readers conscious of that feeling. You must let your imagination dwell on that thought as long as you possibly can. We in the architectural profession are supposed to have imagination. Let's use it on a constructive scale.

There's no doubt in my mind that our way of life can make for good living for everyone. Our job is to apply all our ingenuity towards that end.

The political and social problems must be solved before we can attain that ideal. All we do is hope that in the future they can be solved over a table instead of a battlefield; otherwise, all our efforts will have been in vain. There won't be any need for architecture: we'll all have to live underground in fear. We all know what kind of destruction we will have if there is another war.

We can build homes, factories, schools, etc., that can make for happiness, but we cannot make people think correctly. Nevertheless there's always hope that in an environment of contentment the mind may function correctly.

In your Views section of the April issue, Paul Bogen expressed my sentiments on designing for "construction" and your editorial, "Bystanders Are Not Innocent," merits my applause. But Noel E. Thompson's article doesn't please me one bit. I wonder whether Thompson remembers the plight of architects during the depression; especially the draftsman, who was kicked around from one corner to another till he had to eat the apples himself to keep from starving. I was caught in that maelstrom—and now two years are wasted away in this mess. There are a few others like me, in the same boat, over here, who will probably have to go to Herr Thompson for a job. And if he thinks we're excess we'd better look to some other field. A swell thought for us over here—to have men like him expressing their opinion, to the detriment of the few still depending on architecture for their livelihood.

(Aside to Eugene Raskin: Nice rebuttal! I'm behind you one hundred percent. If you can keep pounding away with your thoughts on the subject, you may be able to convince some other men of his ilk.)

JACK SILBERMAN
Strasbourg, Germany

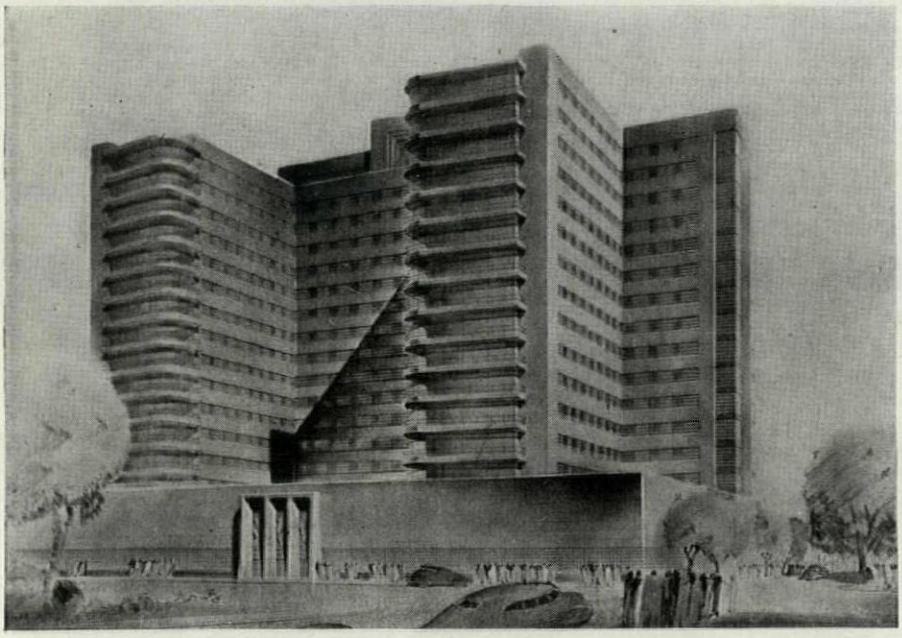
Protests Kaiser "Homes"

Dear Editor:

In reading over the army publication, "The Stars and Stripes," I came upon an article which forced me, after reading it over several times, to write this letter to you. The article was an Army News Service contribution: "Kaiser to Build Communities." I quote from the first paragraph: "Henry J. Kaiser said yesterday he had formed a $5,000,000 corporation to start building entire communities of homes at once on a nation-wide *assembly line basis.*" The italics are mine. It is the last three words that I am writing about. They are my subject.

Before I go into a discussion of this article I would like to give you a little of my background so that you will understand my objections. I am not an architect, as yet. I studied a year and a half at the University of Southern California, and studied engineering under the Army Specialized Training program for a period of six months. My training and experience are not complete, and I probably have no cause to write you complaining of the views of "better men than I." However, I cannot restrain myself. The basic ideas which are indicated by this plan, as proposed in the article, are so alien to my nature that I could not prevent my indignant objection. I intend to return to the University, upon discharge, and I also intend to practice architecture on a large scale after training. My father is a Southern California architect, with

(Continued on page 10)



Kahler General Hospital, to be built at Rochester, Minn., has been designed by Ellerbe & Company, Architects and Engineers, St. Paul, as an all-welded continuous structure, discarding riveted construction entirely, according to Lincoln Electric Company which announces the hospital will be the first of its type in this country. The building is to be 150′ x 270′.

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Views

(Continued from page 8)

views very similar to mine. My past and future are both centered around architecture and sound architectural practice. Because of the above, because of my profound interest, and because of my complete indignation I write this to you.

I am entirely in accord with the idea of building a million homes, two million homes, or as many homes as are needed. But, to build them on an "assembly line basis," with the science of architectural prefabrication in its present state of experimentation, is practically impossible. It is impossible in that the design, the material, the method of construction will be of an inferior grade, and understandably so. The theories of prefabrication are fairly well developed; at least they were the last time I was in the States and was reading of them; but as to practical application of these theories, I do not believe the architectural profession is ready. In the future it will be wonderful to see houses and other buildings come off an "assembly line" but not until we are ready. At present, the products that would come from the end of the line would be of improper design, and of improper construction.

It is impossible at present to build a "one-plan" house that could be lived in comfortably by a family chosen at random. They could of course "live" in it, but it would not fit them, it would not work for them, and it would not be *their* home.

Would it not be a better plan to organize an Architectural Commission consisting of a large group of professional architects and let them design a home which would fit the type of family that the home is being planned for. This is not as difficult as it first seems. The needs of families are similar in many ways. Could not a series of basic plans be developed that could be revised in the minor points to conform to the needs of the particular individual family? Let us say, a series of thirty or forty basic plans. The most suitable one could be selected upon the application of a prospective builder, and after interviewing the family involved and studying their requirements, this basic plan could be altered to conform to their needs.

It is true that parts of the house could be prefabricated for use with these basic plans, but let us not have a complete, disjointed house delivered to the building site by truck. Sectional Prefabrication is perhaps possible. For example, four- or five-foot floor sections, similar wall sections, and other small prefabricated units that could be adjusted to give a variety of designs and layouts. Wouldn't this be better than a stock house plan, for any and every family that wanted a home? To put it simply, let us build a "home" rather than a "house."

RICHARD I. MITCHAM,
Somewhere in Germany

Hitting the Nail on the Head

Dear Editor:

Bauer's letter appearing in the May issue of PENCIL POINTS is the most intelligent piece of reasoning that I have seen in an architectural publication in some months. He surely hits the nail on the head as to the Number One problem in housing: people trained in the "know-how" to do the job. There are plenty of experts or specialists in phases of housing, but there are damned few who know how to put all of the good practices together into an acceptable result.

I hope that Bill Wurster puts into practice the suggestions of his brother-in-law. If he does, I should like to help him.

CARL F. BOESTER
Purdue Research Foundation
Lafayette, Indiana

Photo by Frank C. Lempert

STONE AGE or 1945 ?

WRAP this woman in a tigerskin and you might think this a scene from the Stone Age. Actually she is a present-day Chinese peasant, snapped by a recent American visitor, doing her laundry at a polluted river-edge, her washboard a rough stone.

Why does she cling to her ancestors' primitive ways? Wash her clothes in a roily stream, choked with mud, garbage, and filth? YOU know the answer--because her humble home does not have the luxury of running water--neither cold, nor hot--made available because of steel pipe. Cleanliness and sanitation, convenience, comfort and health, all are dependent on the use of more and more steel pipe. No other metal or material can serve so well at such low cost.

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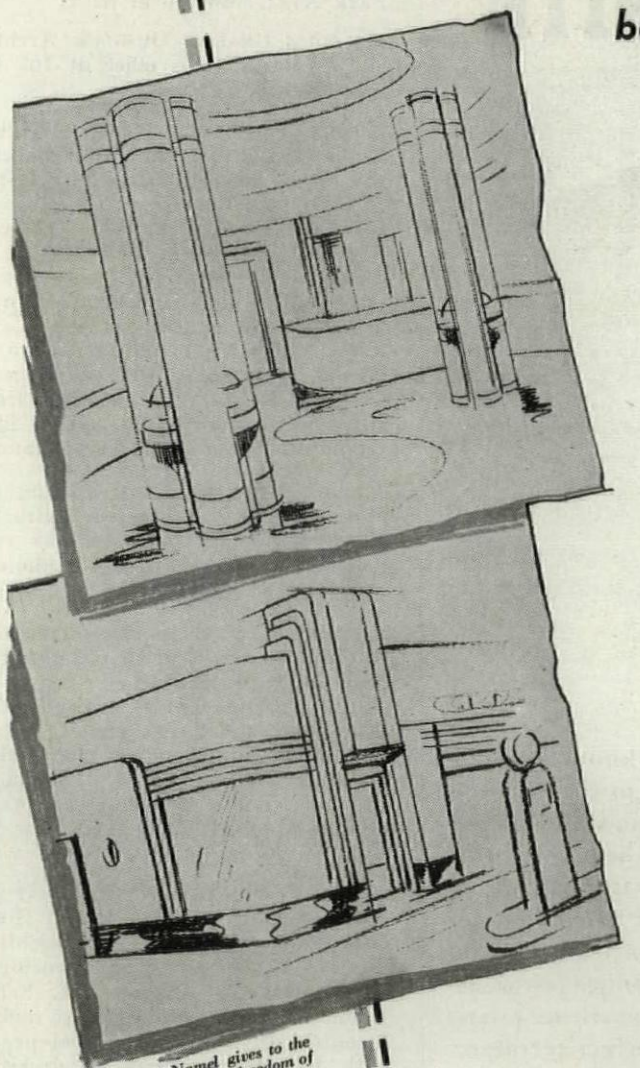
COMPETENT DESIGNER AND DRAFTSMAN wants position in Western office with good possibilities of partnership. Box 160, PENCIL POINTS.

(Continued on page 14)

2 New Advantages Added to Porcelain Enamel

Inland Ti-Namel—the result of intensive Inland research and field tests—offers architects an enameling base with two vital improvements.



Inland Ti-Namel gives to the designer maximum freedom of imagination in the use of large panels.

Architects can now design with large panels, taking advantage of the greater resistance to sag of the new enameling base—Inland Ti-Namel, the alloy enameling steel. Its exceptional resistance to sag not only assures better appearance, but also permits the use of lighter stock.

The second advantage of Ti-Namel is its high resistance to damage—the result of applying a thin finish coat, in white or any color, direct to the base metal.

Inland Ti-Namel assures architects, not only far greater resistance to sag and damage, but also all the other architectural advantages of porcelain enamel—beauty, permanency, strength, low maintenance, etc.

Write for the new Inland Ti-Namel bulletin!

Pending patent applications on the new enameling process and product made thereby are owned jointly by Inland Steel Company and Titanium Alloy Manufacturing Company under trust agreement.

Bars • Floor Plate • Piling • Plates • Rails • Reinforcing Bars
Sheets • Strip • Structurals • Tin Plate • Track Accessories

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INLAND TI-NAMEL

Views

(Continued from page 12)

ARCHITECT—40—with executive experience desires position leading to partnership in good organization. Educated in Middle West, Columbia University, N.Y.C., and abroad. Excellent designer. Winner of several recent competition awards. Licensed in New York and New Jersey. Interested in situation in any part of the country. Box 158, PENCIL POINTS.

ARCHITECTURAL ENGINEER, college graduate, Registered Architect (Illinois), age 29, desires connection with progressive office or corporation. Western location preferred. Wide experience in industrial work. Available immediately. Box 118, PENCIL POINTS.

NOTICES

JAMES M. SPAIN AND BOYCE H. BIGGERS announce the formation of a partnership for the general practice of architecture and engineering under the firm name of SPAIN & BIGGERS, Deposit Guaranty Building, Jackson, Miss.

The appointment of HAROLD W. LAUTNER of Washington, D. C., to the new post of assistant to SEWARD H. MOTT, director of the Urban Land Institute, has been announced.

EDMOND B. BUTLER has been reappointed to the New York City Housing Authority by MAYOR LAGUARDIA for a full five-year term.

ROBERT S. HUTCHINS has been appointed Director of Building Services for the United Service Organizations, Inc. A member of the firm of Moore & Hutchins, Architects, New York, he has been identified with the USO building and furnishings program as Associate Director.

THOMAS GREER COLES, A.I.A., Architect, has established his office at 101 Park Ave., New York, N. Y.

MALCOLM GRAEME DUNCAN, Architect, has established his office at 101 Park Ave., New York, N. Y.

MORRIS ROTHSTEIN & SON, Architects, announce the removal of their offices to 186 Joralemon St., Brooklyn, N. Y.

L. DURWARD BADGLEY has resigned as Regional Economist and Deputy Regional Representative of the Administrator, National Housing Agency, it has been announced by CHARLES S. ASCHER, Regional Representative, Region 2, New York. JOHN W. INNES is the new Regional Economist. HOMER HOYT is to serve as consultant in the regional office of the Administrator.

ADOLPH BRUKIN, industrial and store designer formerly connected with RAYMOND LOEWY ASSOCIATES, has established his office and design studio at 18 East 41st St., New York, N. Y.

STEPHEN F. BARRERA, former president of the Brooklyn Real Estate Board, has been added to the staff of research consultants and technical advisers of the State of New York Joint Legislative Committee to Recodify the Multiple Dwelling Law, it has been announced by the Committee's chairman, Assemblyman MACNEIL MITCHELL, New York City.

MARVIN FINE AND JULES KABAT have become members of the firm of HORACE GINSBERN AND ASSOCIATES, Architects. TALBOT WEGG, Assistant Director for Development in Region VII, Federal Public Housing Authority, has resigned to enter private architectural practice with the Seattle firm of architects, MCCLELLAND & JONES.

JEDD STOW REISNER, Architect, announces the opening of an office for the practice of architecture at 26 East 55th St., New York 22, N. Y.

BENJAMIN L. WEBSTER, formerly associated with LEE SIMONSON, HENRY DREYFUS and NORMAN BEL GEDDES, both in the theater and in the field of design, reopened his own industrial design office in the Squibb Building, 745 Fifth Ave., New York, N. Y.

MILCOR Fireproof Hospital Building Volume

. . . time-saving reference book of technical data on steel construction products . . .

The place to look for helpful information on:

Metal Trim with Insulmat sound-deadening—including Metal Bases • Metal Window Stools • Metal Door and Window Casings • Metal Chair Rails • Metal Base Screeds • Metal Cove Moulds • Metal Picture Moulds • Other Milcor Steel Building Products for hospital construction that is fire-safe, permanent, modern in appearance — such as Metal Lath • Expansion Corner Beads • Solid Wing Corner Beads • Steel Studs • Steel Roof Deck • Steel Basement Windows • Metal Access Doors.

HERE is a handy spiral-bound volume of manuals completely describing Milcor Steel Building Products especially suited to the requirements of hospital construction.

This is a useful work book that saves you time in planning and designing. It contains working information on steel building products that conform to standard application practice, yet allow architectural variation — permitting the use of curved surfaces, pilasters, furring, and many decorative effects, without in any way deviating from the practical, sturdy, reinforced monolithic base.

Leading architects have for many years recognized Milcor Steel Building Products as providing values essential in hospital buildings: Resistance to fire, guarding both lives and property. Resistance to vibration and shock, preventing cracks in finished surfaces; thus aiding sanitation. Long-run economy.

A free copy of this helpful Milcor Fireproof Hospital Building Volume is available to architects working on plans for hospital construction. Please request it on your business letterhead.

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P-267

News

Design and construction Developments afield Building Regulations

Architects should be expected to favor strongly the current efforts by the United States Public Health Service and the American Hospital Association to bring about a more adequate system of hospitals and public health centers throughout the country.

The American Institute of Architects has gone firmly on record on behalf of Bill S.191, designed to give federal aid to the states in surveying their needs in this field and carrying out construction programs according to orderly, long-range plans. The bill is a good one. Extensive hearings have been held and there is reasonable hope for its ultimate passage. It can still be helped on its way by direct support exerted by individual architects.

Impatience with wartime restrictions and government controls over the building industry was the keynote of a Home Builders Conference in New York late in June that attracted more than a thousand builders, bank and mortgage representatives, realtors, and promoters of New York, New Jersey, and Connecticut.

At an all-day session those attending the Conference heard panel authorities, experts on techniques and new equipment, bombastic opponents of all and any public housing, officials of important segments of the construction industry who attempted to give a broader view of problems that all are facing. Much of the time had to be spent in holding the Conference to its course—as venomous attacks on government participation repeatedly shifted attention from the topics under discussion.

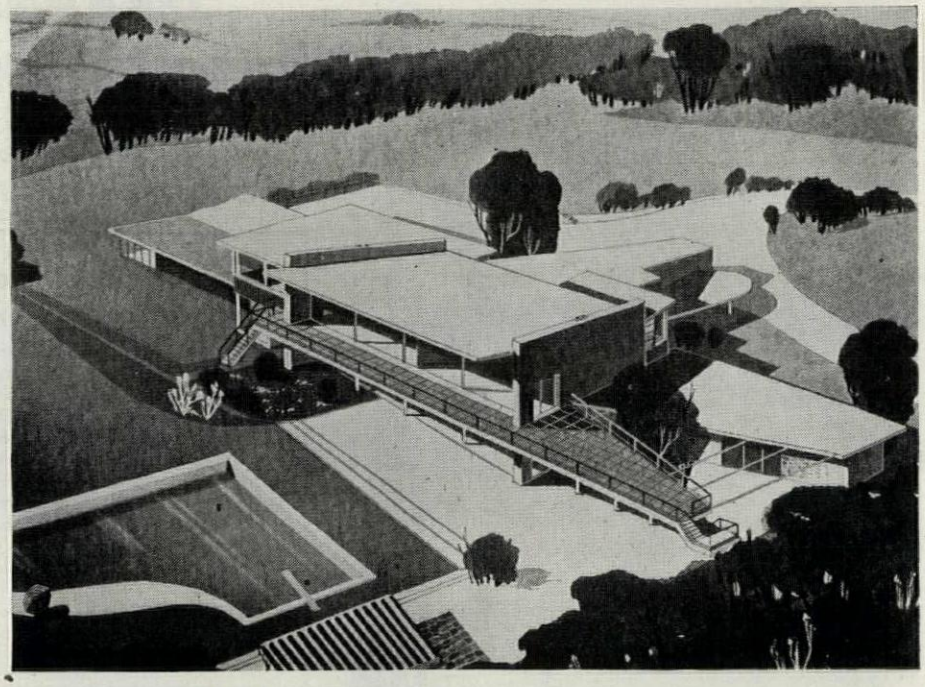
Conflicting claims of the various groups within the industry were emphatically presented; the program *was* determinedly followed, from the morning panel on "Current Construction and Financing Problems" through housing discussion, including the veteran's problem, to afternoon panels on "New Techniques, New Ideas, New Equipment." The builders groups sponsoring the Conference are affiliated with the National Association of Home Builders of the United States and the Conference was one of those being held throughout the country to rally members of the construction industry to a concerted program for the postwar years.

Prize winners in the General Motors Corporation design competition for "Automobile Dealers' Places of Business" have been announced by the Architectural Forum, which conducted the competition.

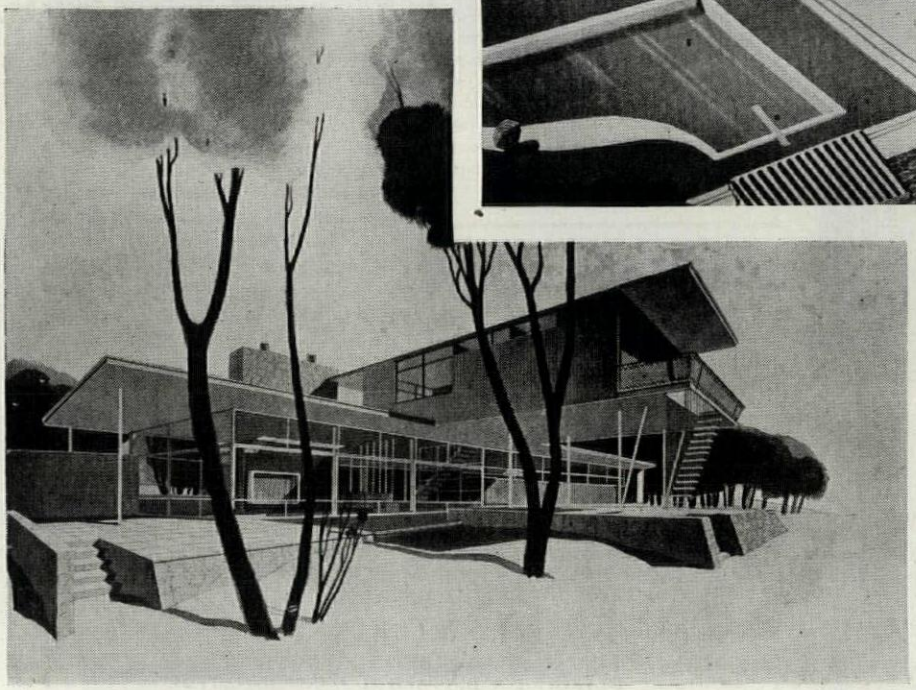
The $55,000 cash award fund went to winners of prizes and honorable mention in five classifications, plus twenty special awards. The prize winners and their classifications are:

Passenger car and commercial, average size—first, L. B. Hockaday and T. J. Prichard; second, Charles O'Grady; third, Lawrence Laguna, Vincent D. Luongo and Percy C. Ifill; fourth, John E. Pekruhn.

(Continued on page 18)



Lester C. Tichy, New York, won first prize, Class A, in the House & Garden 1945 house competition with his design for his own hilltop house in Connecticut with a view of Long Island Sound. This home (right) with its terrace and lawns provides ample entertaining area. The terms of the competition were "no dream houses" but ones to be built.



Ralph Rapson, Chicago, won first prize in Class B with his smaller house (left) for Mr. and Mrs. J. G. Lopez to be built on a wooded knoll near Chicago. Again, open plan and simplicity are the distinguishing notes. The awards were made by a Jury composed of Richard Bennett, Yale University; George Daub, Philadelphia; and Morris Ketchum, Jr., New York.

"Good Housekeeping Requires Good Floors"

Ballroom of the Hamilton Hotel, Chicago, Illinois

Hotels everywhere are acutely conscious of construction materials today. Too many customers and too few employees have highlighted to them the importance of *floors*—particularly floors that can be maintained easily and economically.

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30 ROCKEFELLER PLAZA • NEW YORK CITY

News

(Continued from page 16)

Passenger car and commercial, medium size—first, Read Weber, Jay S. Unger, Taina Waisman, Sidney L. Katz and Victor Elmaleh, a group entry; second, Lester C. Tichy; third, C. G. MacDonald; fourth, Lt. (j.g.) E. Stewart Williams.

Passenger car exclusively, large size—first, Robert T. Coolidge and D. C. Byrd; second, Basil Yurchenco and Edward F. Catalano; third, I. M. Pei and F. G. Roth; fourth, C. C. Briggs.

Commercial exclusively—first, J. B. Langley; second, Seymour R. Joseph; third, R. A. Willgoos; fourth, Francis Newell.

Structural and decorative design detail—first, J. Gordon Carr; second, Read Weber, Jay Unger, Victor Elmaleh, Sidney L. Katz and Taina Waisman; third, Percival Goodman; fourth, Kazumi Adachi.

An important competition has been authorized by Smith College at Northampton, Massachusetts, for the selection of an architect for a new group of dormitories. The competition will be conducted under the joint sponsorship of the Museum of Modern Art and PENCIL POINTS. Look for the offcial announcement in the September issue of this magazine.

To startled representatives of New York's art and daily press, Frank Lloyd Wright last month unfolded his plans for a proposed building for the Museum of Non-Objective Painting—describing with relish its unusual architectural features (which were promptly dubbed bizarre by at least one of the reporters).

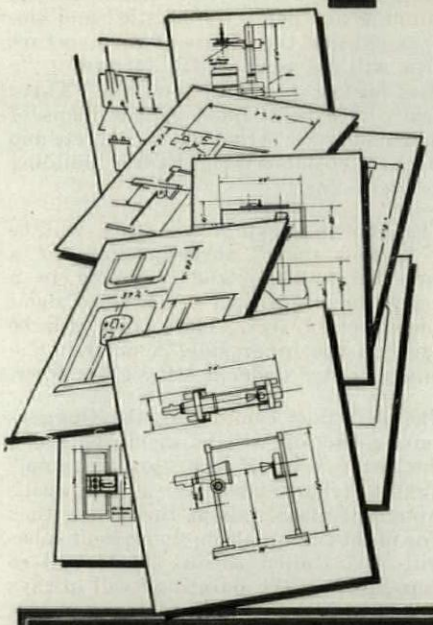
Preliminary sketches, first working drawings, an impressive array of mathematical notes, and photographs of an intricate model now being made, were all produced by Wright as he described his design. He also took the opportunity to enlarge, for benefit of the press, on the extensive "behind the scene" labors required of an architect.

The proposed museum will be a bequest of the Solomon R. Guggenheim Foundation; intended to provide for the first time an environment suited to purely imaginary paintings unrelated to representation of natural objects. The bulk of the Guggenheim collection consists of the non-objective paintings of Rudolf Bauer and the late Wassily Kandinsky.

(Continued on page 20)

KELEKET

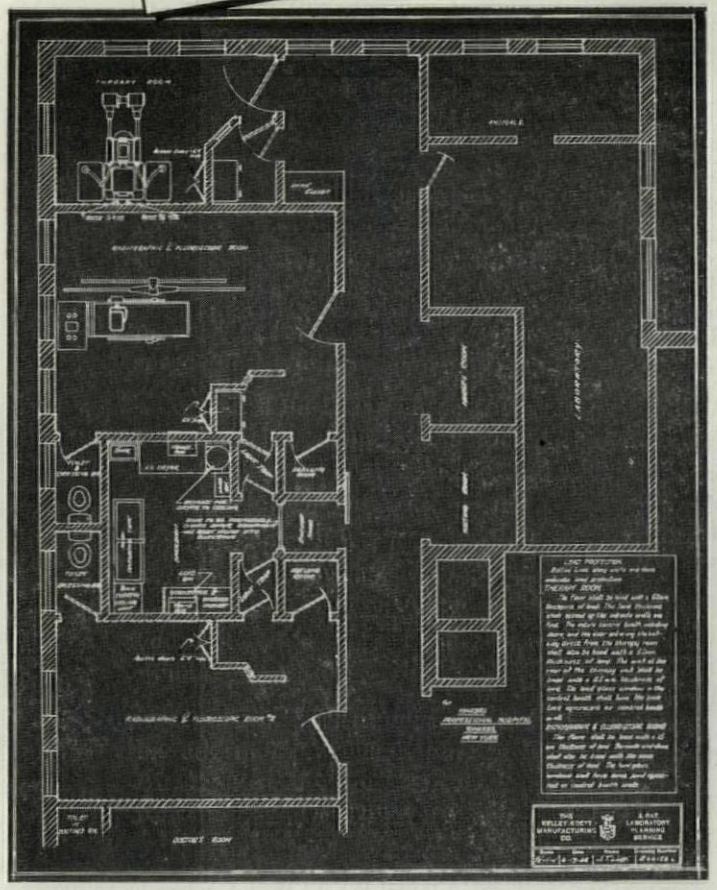
X-RAY FACTS



IT'S A FACT! There is a KELEKET X-ray Engineer in every large city to help you with your hospital planning problems.

IT'S A FACT! KELEKET'S Laboratory Planning Service is ready to provide you with *suggested* layouts for X-ray departments in hospitals, clinics and doctors' offices.

IT'S A FACT! There are twelve major points to consider in planning an X-ray laboratory!



1. Waiting room wherever space permits.
2. Sufficient dressing rooms to prevent a bottleneck at this point.
3. Entrances sufficiently wide to permit moving of patients.
4. Free floor space around X-ray equipment to permit easy transfer of patients from litters to table.
5. Adequate protection of X-ray technician together with adequate observation points to be sure patient does not move during prolonged therapy.
6. Sufficient leading to prevent scattering of X-rays into adjacent rooms.
7. Electrical wiring specifications to carry supply and control circuits.
8. Adequate plumbing for cooling any watercooled equipment, for the darkroom and for the laboratories.
9. Laboratory facilities.
10. Ample filing space for X-ray films.
11. Supply cupboards.
12. Dark room facilities.

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KELEKET—THE FINEST TRADITION IN X-RAY

News

(Continued from page 18)

Wright described the design of the building as "perfectly plastic" and emphasized that the nature of the structure also will be plastic. He termed it "a steel basket shot with concrete." Three years have been spent on the plans of this monolithic structure of concrete and steel in tension—Wright's first building in New York.

The principal exhibition space will be a "grand ramp" three-quarters of a mile long, rising and widening in a logarithmic spiral to a height of about one hundred feet. This ramp will be open on the inner side, commanding a central court under a lofty glass dome.

The paintings comprising the Guggenheim collection will be displayed along the outer wall of the "grand ramp," lighted from above by a continuous trough of glass rods at the ceiling line. For night illumination, fluorescent tubes will be installed within the trough so that light on the paintings will always be refracted and diffused by the glass rods. This method of gallery lighting, described by Wright as "perfect," is to permit exhibition of the paintings unframed and unglazed, tilted a little away from the spectator for better visibility, and mounted on a continuous track for ease in shifting or handling. The gallery is intended to encourage leisurely enjoyment of non-objective art—so some visitors may even choose to make the ascent in wheel chairs provided at the entrance.

OBITUARIES

J. Andre Fouilhoux

1879-1945

J. Andre Fouilhoux, F.A.I.A., one of America's best known architects, died June 20 while inspecting progress of construction of a Brooklyn housing development. His death was listed as accidental since he was found beside a six-story building and police believe that he fell from the roof or a high window.

Coming to the United States in 1904 from his native France, where he received his professional training, Fouilhoux went to Portland, Oregon, and formed the architectural firm of Whitehouse & Fouilhoux. He remained there until World War I, when he returned to France with the United States Army. From 1920 to 1934, he was with the late Raymond M. Hood—the firm of Hood & Fouilhoux dating from 1927. He was later associated with Wallace K. Harrison, their firm being expanded in recent years to Harrison, Fouilhoux & Abramovitz.

The best materials, the most modern methods, superior skill, intimate knowledge of wood — combine to make Roddiscraft Flush Veneer Doors structurally superior masterpieces of craftsmanship.

Check the Roddiscraft features briefed above. See for yourself why Roddiscraft doors meet the most exacting specifications. There is no substitute for the enduring beauty of flush veneer doors as produced by Roddiscraft.

All doors made in accordance with Roddis standard construction carry the Guarantee Bond, unconditionally guaranteeing workmanship and materials. This guarantee is an expression of our unlimited confidence in our products — based on more than 50 years' performance.

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DALLAS, TEXAS, 2615 Latimer St.
KANSAS CITY 8, MISSOURI, 2729 Southwest Blvd.
LOUISVILLE 10, KENTUCKY, 1201-5 S. 15th St.
LONG ISLAND CITY, N. Y., Review and Greenpoint Ave.
MARSHFIELD, WISCONSIN
MILWAUKEE 8, WIS., 4601 W. State St.
NEW YORK CITY 18, NEW YORK, 515 W. 36th St.
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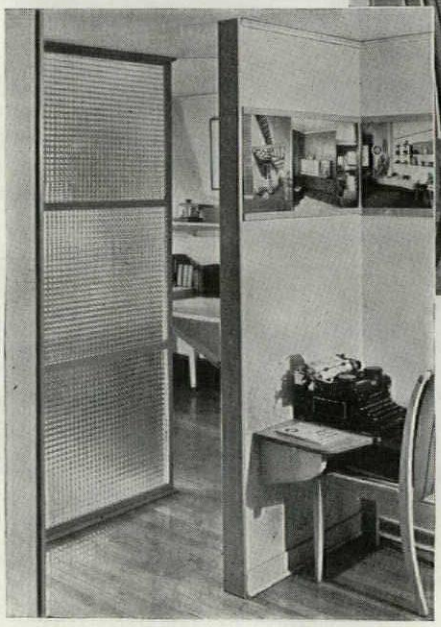
FROM TIMBER TRACT TO BUILDING SITE —
It's Roddis All the Way

Smartness WITH BORROWED LIGHT

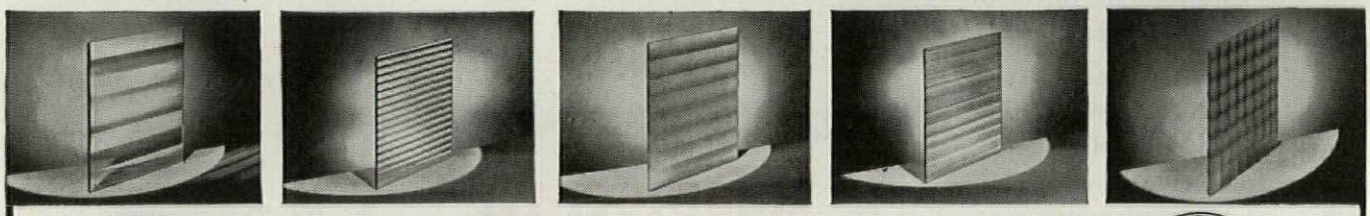
RIDEOUT & PAYER, industrial designer and architect, of Chagrin Falls, Ohio, selected Blue Ridge *Flutex* for an inviting wall between reception lobby and executive office in their studio. Below—workrooms and lobby are separated by this Doublex partition, permitting ample ventilation in the quarters of this well-known firm.



WHERE smartness and utility are combined in business offices, Blue Ridge Decorative Glass is doubly useful. Blue Ridge makes a wide variety of patterned glasses in its Kingsport, Tennessee plant. Five of the more popular patterns are shown below. These glasses are made available through leading glass distributors by Libbey·Owens·Ford. They may be frosted or Satinol-finished, Securitized (heat-tempered) in flat form for greater resistance to physical and thermal shock, and made with nominal bends. Your local L·O·F Distributor can show you samples, or write Blue Ridge Sales Division, Libbey·Owens·Ford Glass Company, 8285 Nicholas Building, Toledo 3, Ohio.

"Design it with one of the 5 EX's"

LOUVREX LINEX FLUTEX STYLEX DOUBLEX



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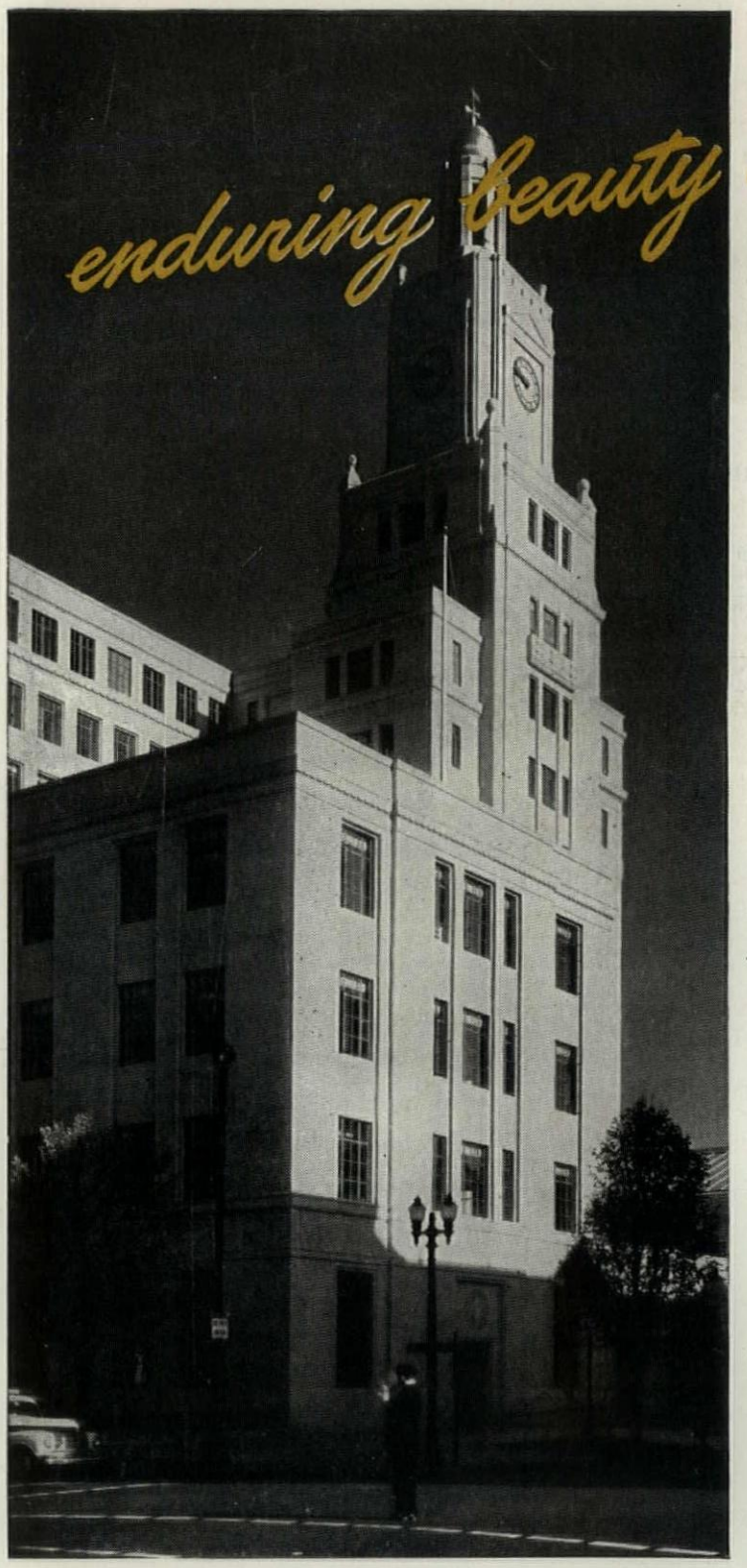
FOR SOFT, DIFFUSED LIGHT • SMART DECORATION • COMPLETE PRIVACY

BLUE RIDGE GLASS CORP. KINGSPORT, TENN. MANUFACTURED BY QUALITY GLASS

HERE AGAIN, BRONZE COMBINES



New England Mutual Life Building, Boston. Cram and Ferguson, Architects. Turner Construction Co., General Contractors.

enduring beauty and utility

EVIDENCE OF THE architect's intention to build for permanence is seen in the bronze windows of the strikingly handsome home office building of the New England Mutual Life Insurance Company of Boston. Fabricated from Anaconda Architectural Extruded Shapes by the General Bronze Corporation, these windows lend impressive dignity and the enduring, rustless beauty that only bronze can impart.

Even more important, perhaps, is the fact that such windows require no maintenance, no painting, operate smoothly, will never bind or cause panes to fracture from rust accumulation in the channels.

Architectural bronze, traditionally beautiful, increasingly useful, provides long run economy over less durable materials. 4433

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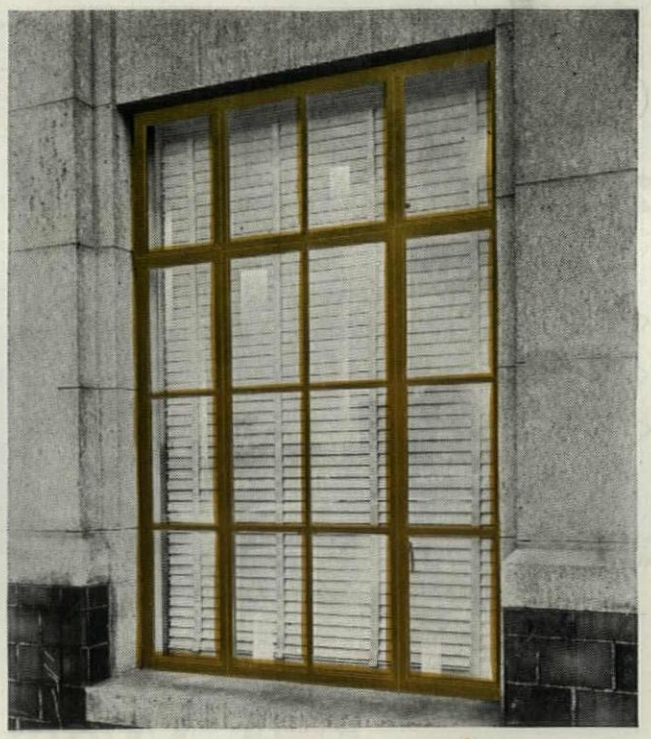

ANACONDA

Anaconda Architectural Bronze

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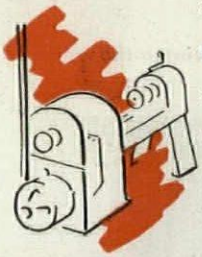
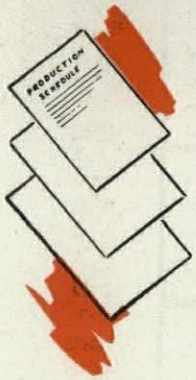


2. PROTECTION AGAINST TIME LOST is a double benefit. First, AB "De-ion" breakers do not trip out for brief, harmless overloads—hence, cause no unnecessary stoppages. Second, when they do trip out, machinery goes back into operation faster—by simply flipping a handle. No waiting for replacements . . . for special maintenance attention—to waste manhours needlessly.



3. PROTECTION OF PERSONNEL. Completely insulated enclosures are sealed to protect workers . . .to prevent tampering. Breakers cannot be bridged with nails or coins . . . cannot be blocked closed.

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Westinghouse

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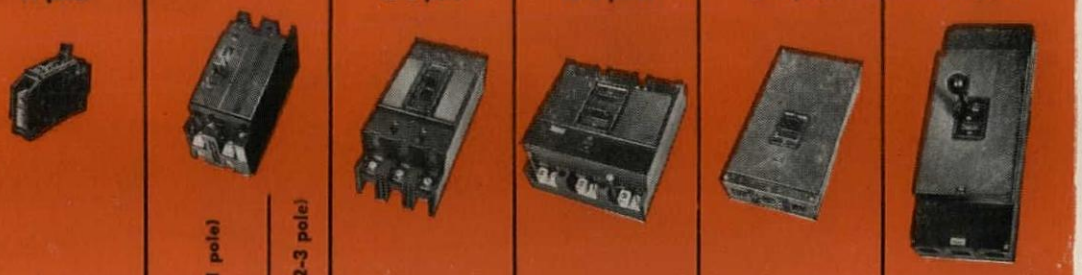

CIRCUIT BREAKER	QUICKLAG (1 pole)	E FRAME (1 pole)	E FRAME (2-3 pole)	F FRAME (2-3 pole)	G FRAME (2-3 pole)	K FRAME (2-3 pole)	L FRAME (2-3 pole)
Ampere Ratings	10–50	10, 15*, 20*, 25, 35, 50	10–50	15–100	35–100	70–225	125–600
A-C Voltage Ratings	125	125	250	250 & 600	250 & 600	250 & 600	250 & 600
D-C Voltage Ratings	None	125	125/250	125/250 & 250	125/250 & 250	125/250 & 250	125/250 & 250
Underwriters' Laboratories Interrupting Rating (Amperes)	5000	5000	5000	5000 & 10,000	5000 & 10,000	10,000	10,000
NEMA Interrupting Capacity (Amperes—a-c)	5000	5000	5000	15,000	15,000	15,000	25,000
STANDARD FEATURES — Quick-Make Quick-Break Mechanism	✓	✓		✓	✓	✓	✓
STANDARD FEATURES — Type of Trip: Thermal Only		✓					
STANDARD FEATURES — Type of Trip: Both Thermal & Magnetic	✓			✓	✓	✓	✓
STANDARD FEATURES — Type of Trip Unit: Interchangeable					✓	✓	✓
STANDARD FEATURES — Type of Trip Unit: Noninterchangeable	✓	✓		✓			
STANDARD FEATURES — Adjustable Magnetic Trip				✓ †	✓		
STANDARD FEATURES — Nonadjustable Magnetic Trip	✓			✓		✓	✓
STANDARD FEATURES — Magnetic Trip Only				✓	✓	✓	✓
SPECIAL FEATURES AVAILABLE — Non Automatic Features		✓		✓	✓	✓	✓
SPECIAL FEATURES AVAILABLE — ** Shunt Trip Attachment					✓	✓	✓
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SPECIAL FEATURES AVAILABLE — ** Bell Alarm Switches				✓	✓	✓	✓
SPECIAL FEATURES AVAILABLE — ** Auxiliary Switches				✓	✓	✓	✓
SPECIAL FEATURES AVAILABLE — Electrically Operated						✓	✓
SPECIAL FEATURES AVAILABLE — Mechanical Interlock		✓		✓	✓	✓	✓

*The 15 and 20-ampere 1-pole E-frame breaker is approved by Underwriters' Laboratories for 277 volts a-c.
†Magnetic trip only—thermal omitted.
**These devices are mounted inside the breaker case, and require no additional space.

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for Modern Insulated Roof Decks

For the insulated roof deck of this modern Michigan plant, the architect specified Cemesto—applied with clips directly to steel members. 7,184 square feet of Cemesto were used for the roof deck and exterior walls.

•Progressive architects in ever-increasing numbers are turning to Cemesto—the multiple-function building material—as the ideal solution to roof deck problems.

They know that Cemesto is made with a core of Celotex cane fibre insulation sheathed on both sides with a 1/8" layer of asbestos cement. They know, too, that the asbestos layers are bonded to the core with waterproof, vaporproof bituminous asphalt adhesive... that the core is protected against dry rot, fungus growth and termites by the patented Ferox process. But, above all, they know that Cemesto gives *all five* of these major advantages:

1. Speed and economy of application!

The Cemesto roof deck incorporates in *one* material both structural deck *and* insulation... can be pre-cut to needed size.

2. Structural value!

Cemesto is lighter than common roof decks, yet rigid and permanent. Recommended maximum span 48 inches for 50 pound design load. Thus you can save on supporting members and superstructure, too!

3. Weather-resistant surface!

The smooth, firm 1/8" asbestos-cement surface protects the material during application... provides an ideal base for composition roofing.

4. Self-finish interior surface!

When roof deck is exposed as a ceiling, the light grey Cemesto surface furnishes good light reflecting value... plus a pleasing and durable finish that requires no painting.

5. Excellent insulating value!

Conductivity of the Celotex core in Cemesto has been established at 0.33 B.t.u. per hour per square foot per degree F. per inch of thickness. Over-all heat transfer coefficient of Cemesto decks—including built-up roofing, underside exposed—is 0.18 for the 1-9/16" thickness... 0.14 for the 2" thickness. Thus heat loss through the roof is reduced respectively 44% and 56% over 2" wood decking.

Remember, too that Cemesto is fire- and moisture-resistant. And it may be used as an exposed exterior wall material or for interior partitions. It comes in 4' wide panels, 4', 6', 8', 10' or 12' long, and in thicknesses of 1-1/8", 1-9/16" and 2".

Discover for yourself the advantages of specifying 1-9/16" or 2" thick Cemesto for modern, insulated roof decks. A Celotex Service Engineer will meet with you, review designs you are developing and suggest efficient and economical methods of installing Cemesto Insulating Roof Decks—*without obligation!* For consultation services of one of these *specialists*—or for FREE set of illustrations, drawings, and architectural data on industrial applications of Cemesto to steel and wood framed structures—write: *The Celotex Corporation,* Dept. PP-845, Chicago 3, Ill.

CELOTEX

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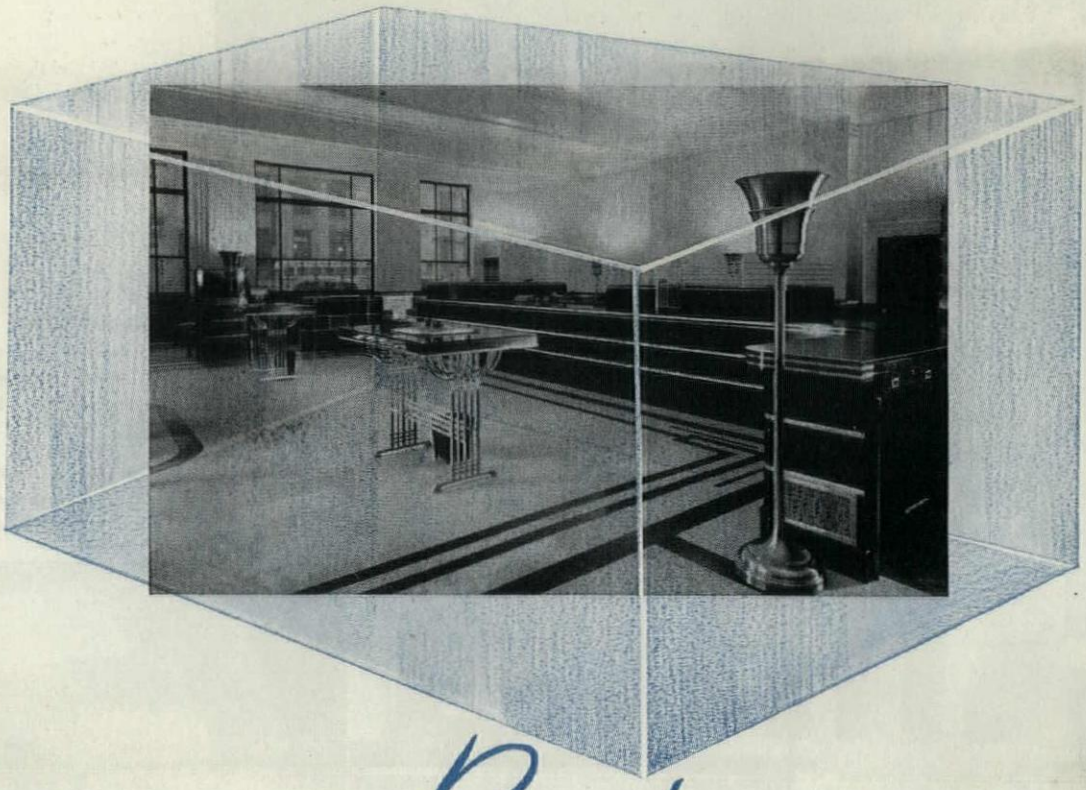
BUILDING PRODUCTS



THE FROZEN *Beauty* OF FORMICA!..

Imagination could hardly ask for lovelier colors than Formica offers, nor greater smoothness, nor richer appearance as wainscot, column covering, and panelling for entrances and interiors; and as tops for tables, fixtures and other wearing surfaces.

Yet chemistry has frozen this beauty into every Formica sheet permanently and made it proof against every enemy beauty can have. Formica is much too hard to be worn or dulled by many years of ordinary wear even when used as a table surface.

The sun does not fade its colors, and they do not wear off. Formica does not check, or chip, or crack, or blister. Food and fruit juices, mild medicines and chemicals, water, alcohol, and burning cigarettes do not spot or stain it.

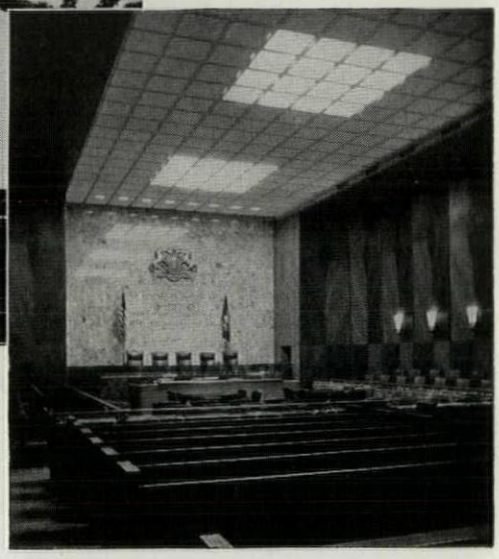
THE FORMICA INSULATION COMPANY, 4621 SPRING GROVE AVE., CINCINNATI 32, OHIO

FORMICA

Dauphin County Court House, Harrisburg, Pa. Architects: Lawrie & Green, Harrisburg, Pa. General Contractor: Wm. A. Berbusse, Jr., Inc.

★

Interior view of Court Room No. 1 on fifth floor. Note concealed ducts at side of the ceiling panel.



Already Built... a County Court House of the Future

Architects Lawrie and Green, of Harrisburg, can point with pride to the Dauphin County Court House in the capital city of Pennsylvania. Completed in 1943, but designed with an eye on the future, the architects state that the modern simplicity of this structure will lead to economy in maintenance.

The three top floors of the 2,100,000-cubic-foot building are air conditioned. A Chrysler Airtemp 50 H.P. Compressor and two conditioning units manufactured by J. J. Nesbit Company are located in the basement. Fifteen similar conditioning units are installed on the sixth floor. These units vary in size and type and are operated by motors ranging from 3 to 10 H.P. "Freon" safe refrigerants are used exclusively.

In designing the system, particular attention was devoted to the elimination of drafts and noises . . . and to present and future needs for conditioned air throughout the building. Concealed ducts designed to permit the most economical circulation of fresh air in the various chambers are a feature of the installation.

Here is another fine example of a building designed to meet tomorrow's conditions. Whenever you plan a building for postwar, don't overlook the advantages and benefits of air conditioning . . . now a necessity rather than a luxury. Recommend systems built to utilize "Freon" safe refrigerants . . . they'll help assure maximum satisfaction. Write for complete information on "Freon" for your own postwar data files. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington, Delaware.

• • •

"Freon" refrigerants are widely used in heavy-duty air conditioning and refrigeration systems.

WAR BONDS HELP BRING VICTORY NEARER ... BUY THEM REGULARLY

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FREON *safe refrigerants*

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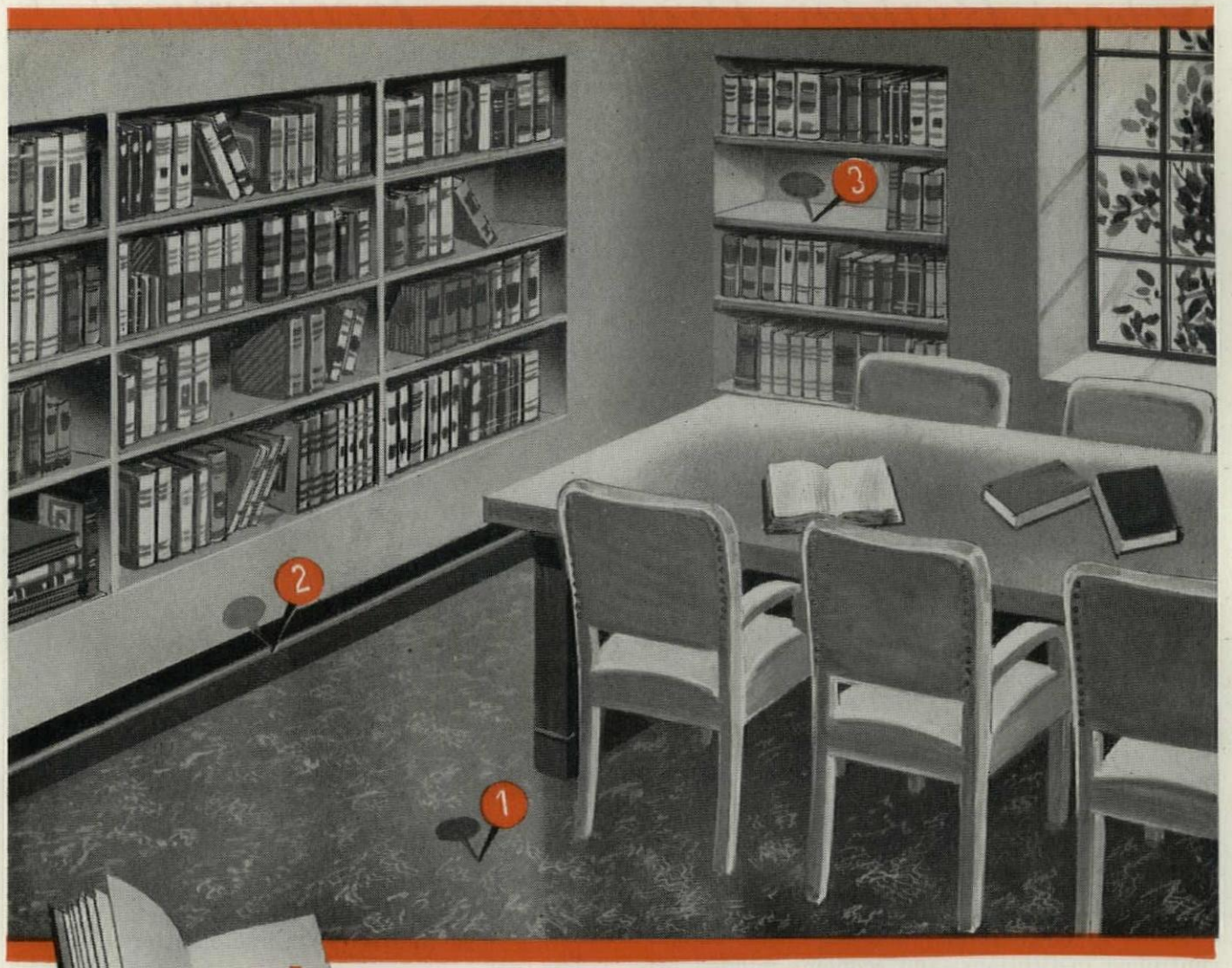
"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.



Ideas for Architects

designing school libraries

1 **Resilient floors** of Armstrong's Linoleum cushion footsteps, help give libraries a quiet atmosphere. Made in a variety of colors and designs, they form a pleasing background for many decorative schemes. And Armstrong's Linoleum can take the heaviest of traffic.

2 **Linoleum cove base,** a modern baseboard treatment, helps speed cleaning by eliminating dirt-catching corners and crevices. It also gives a trim, finished appearance to the room interior.

3 **Book shelves and work tables** when covered with Armstrong's Linoleum are easy to keep neat and attractive at all times. With proper care, they do not require costly refinishing.

YOU'LL FIND MANY MORE PRACTICAL IDEAS *in our new color-illustrated book, "Ideas for Better Floors." This book shows how Armstrong's Linoleum Floors add distinction to interiors plus many other ways Armstrong's Linoleum can serve your clients. For your free copy, write Armstrong Cork Company, Floor Div., 6908 State St., Lancaster, Pa.*

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ARMSTRONG'S LINOWALL • ARMSTRONG'S RESILIENT TILE FLOORS

School Builder Proclaims "Economical"!

. . . The Reason Why Most Heating Authorities Prefer

PETRO OIL BURNING SYSTEMS

Mr. James J. Mahar, Superintendent of School Construction for Boston — the country's sixth largest City—is worth listening to. From a rich and extensive experience, he draws a few significant facts on oil heat, the timely importance of which can scarcely be over-emphasized. As Mr. Mahar puts it:

"We had about 42 of our school buildings equipped to burn fuel oil. The first plants were installed under my direction when I was Heating and Ventilating Engineer of this department. Under the pressure of wartime restrictions it was necessary to change some of these plants to coal. However, we are now starting a program to put all plants back on fuel oil. In addition to such advantages as being a cleaner fuel and requiring a minimum of storage space, we have always found it very economical to burn oil."

That thousands of users of Petro Oil Burning Systems will heartily agree with Mr. Mahar is well established. For fuel economy is one of the most appealing features of Petro Oil Burning Systems in large commercial buildings, budget-controlled institutions, and economy-minded private homes.

But fuel economy is but part of the story. Petro Oil Burning Systems are ruggedly constructed to give a life-time of service. They are designed with a masterful simplicity that insures trouble-free operation. They are backed up by an organization of recognized responsibility, integrity and resources.

In oil burning equipment, as in so many other products, the war has brought forth advancements of far reaching importance. A number of these will offer Heating Engineers new and interesting opportunities to promote better heating at less cost.

INDUSTRIAL MODELS — #5 or #6 fuel oil, manual semi- or automatic operation, 8 sizes to 450 bhp. "Thermal Viscosity" preheating.

DOMESTIC MODELS — #3 or lighter oils, "conversion" and combination-unit types, 7 sizes "Tubular Atomization" (patented).

FULL DATA on Petro Industrial Burners are in Sweet's — or Domestic Engineering — catalog files. Details on Petro Domestic burners available in separate catalog. Copy of either sent gladly on request.

Petroleum Heat and Power Company

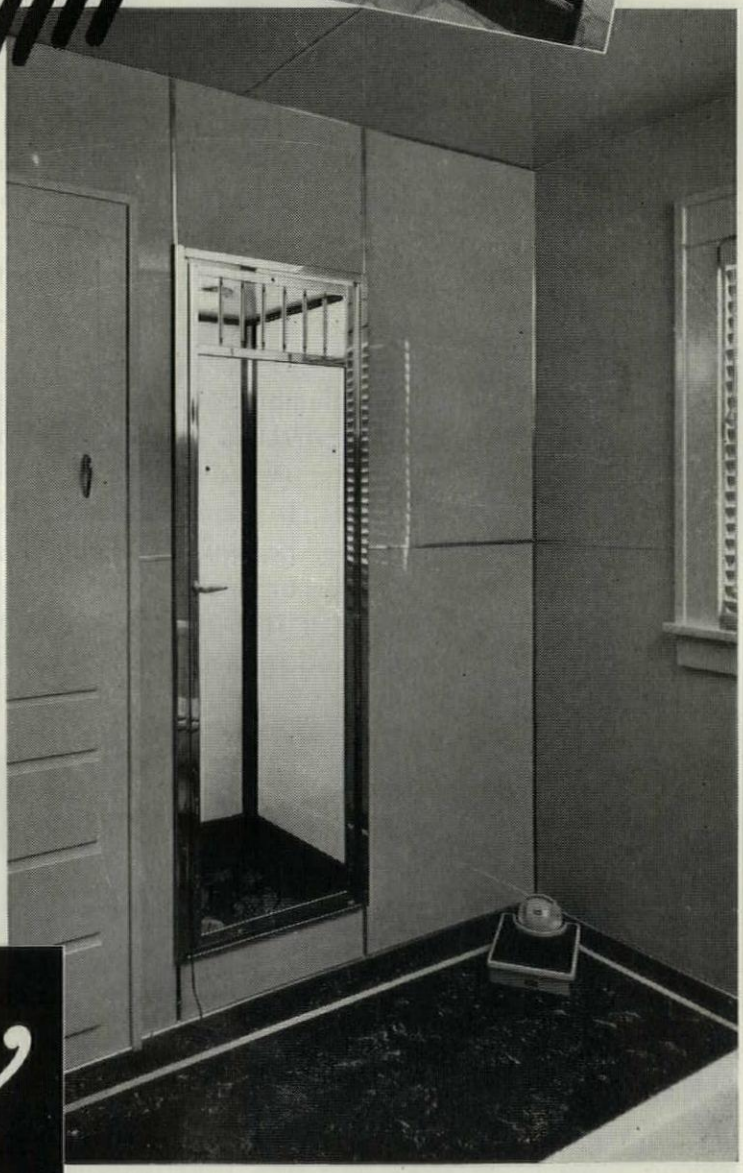
Stamford, Connecticut

MAKERS OF GOOD OIL BURNING EQUIPMENT SINCE 1903

PETRO

Cuts Steam Costs

HOW A CORNER OF THE GARAGE BECAME A *Luxurious Bath*



There's post-war significance—for new building as well as remodeling—in the story of Weisway adaptability which these pictures tell. They show how architects will be able to meet the insistent and growing demand for more bath facilities in homes of every size.

Added baths in limited floor space—odd corners made into prized comfort spots—are practical and readily achieved possibilities through the use of Weisway Cabinet Showers. Striking proof of this is given in the remodeling job illustrated here, where the necessary space was found in the garage, which adjoined the existing bath room.

Besides saving space, leakproof Weisways afford fullest enjoyment of shower bathing. As a result of war-time experiences many thousands—yes, millions—of men and women have come to prefer this modern way to bathe—in clean, running water.

When restrictions are lifted the time-tested Weisway line will offer a range of models suitable for homes of every size and price class. In the meantime Models "V" and "V deluxe" are available to meet immediate needs.

HENRY WEIS MFG. CO., INC.
821 OAK STREET, ELKHART, IND.

Weisway
CABINET SHOWERS

From an architectural or engineering standpoint, STREAMLINE Copper Pipe and Solder Fittings provide one of the most practical and efficient plumbing or heating systems possible to obtain.

A plumbing or heating system of STREAMLINE Copper Pipe provides maximum resistance to rust, clogs and leaks. It is practically indestructible under normal conditions of soil and water, or wear and tear of every-day use. It is a trouble-free system designed to give efficient service year in and year out without costly and annoying interruptions or replacements.

The efficiency of modern fixtures and heating appliances and, in fact, the very livability of the home itself, from the standpoint of comfort and health, depend upon a permanently reliable piping system for the plumbing and heating.

The first cost of STREAMLINE Copper Pipe and Fittings is but slightly, if any, higher than that of rustable materials, and over a period of years its cost is a great deal less.

In the plans which are on your board now, provide efficiency and long-life in the piping system by writing in STREAMLINE Copper Pipe.

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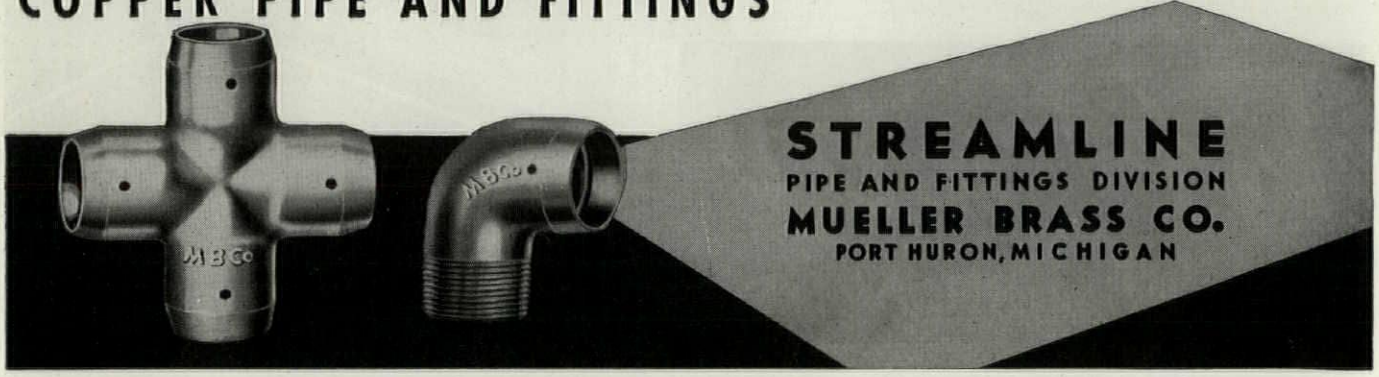
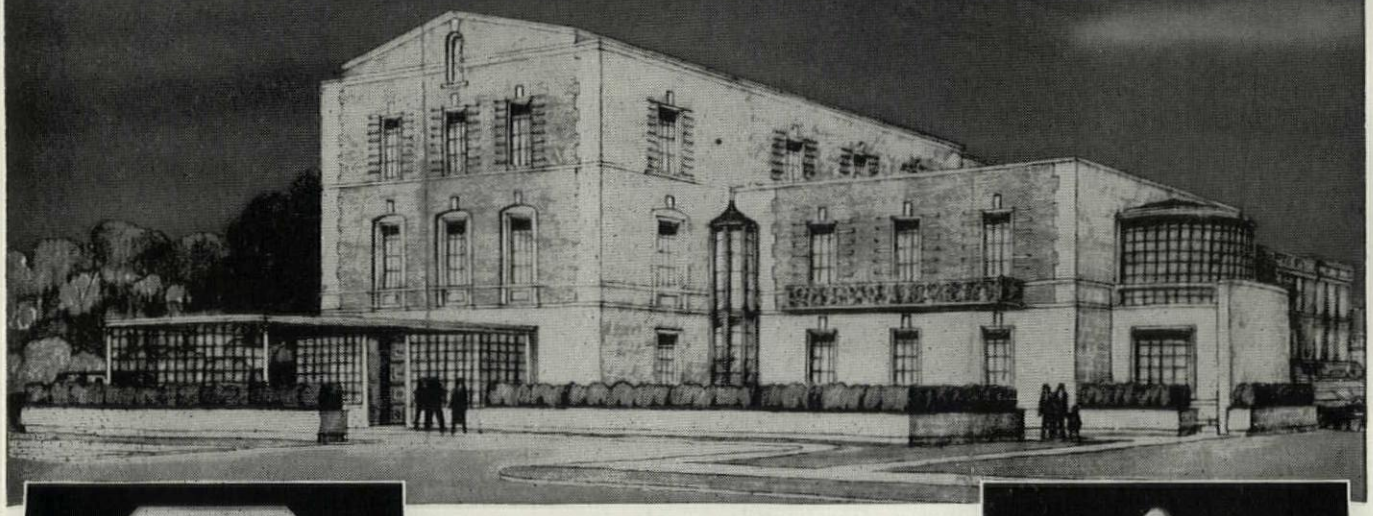
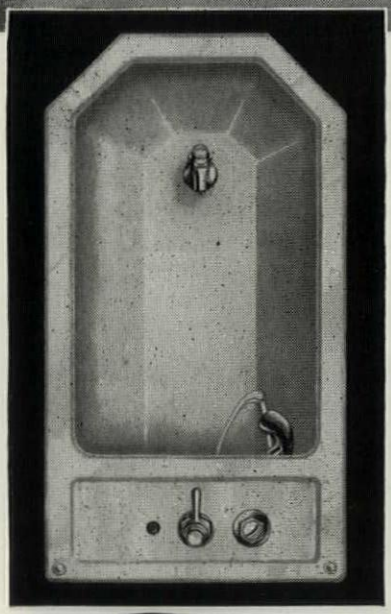


STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

For the Hospital of today ...and tomorrow





MANY of the country's major hospitals and many Veterans Hospitals all over the nation recognize Halsey Taylor Drinking Fountains and Coolers as the logical specification for assured health safety.

Tomorrow's outstanding hospitals will be planned to provide for the proper use of the most modern equipment available. Insofar as drinking fountains and coolers are concerned, Halsey Taylor will continue to furnish its outstanding, health-safe equipment just as it has so successfully done in the past.

Get the facts—write for literature.

The Halsey W. Taylor Co.
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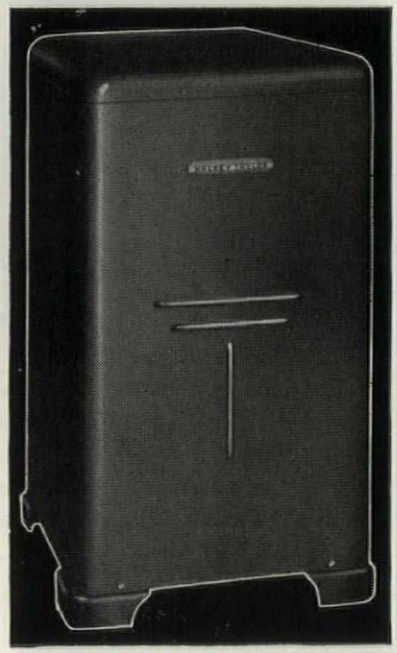
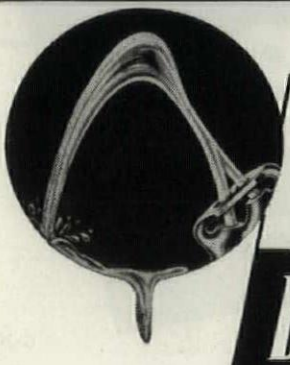
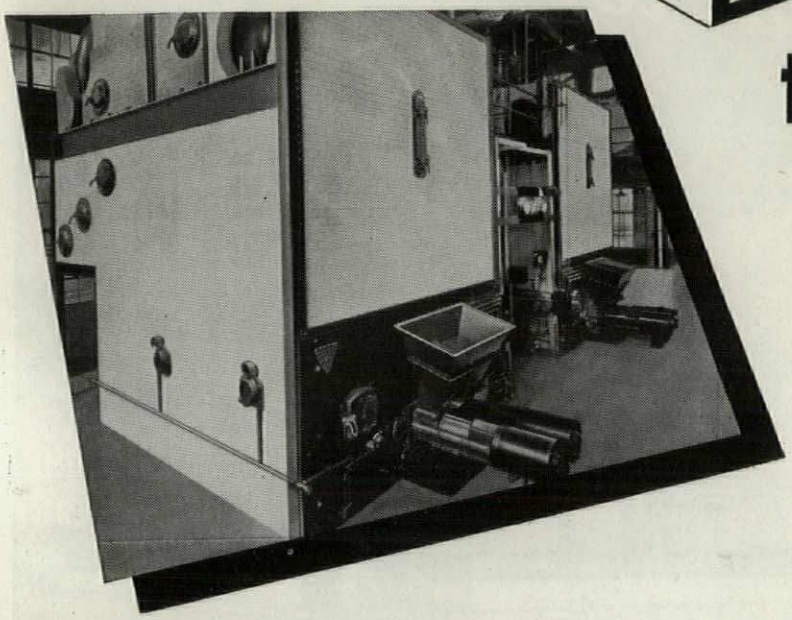




HALSEY TAYLOR
Drinking Fountains

Boilers to fit any plans from AIRPORTS to ZOOS



Finding the boilers best suited to new building plans or modernization projects is made easier when you bring the problem to B&W—and for two good reasons.

First, is the *wide range* available in B&W steam-generating equipment—in size, design, and operating features. With B&W equipment you can meet any combination of conditions—capacity, pressure, temperature, fuel, and space.

Second, is the broad *experience* of B&W in matching boilers to jobs in varied installations. Over a 60-year period, B&W boilers have been installed in office buildings, schools, hotels, hospitals, institutions—in practically every type of building an architect might be called upon to design.

B&W boilers for such services embody the same fundamental design, construction, and operating features that account for a heavy preference for larger B&W steam-generating units among public utilities and industrial power plants, and for installation in all types of cargo, passenger, and naval vessels.

B&W engineers are always available to share their experience with architects. Consult our nearest office for prompt co-operation on present and post-war requirements.

Water-Tube Boilers, for Stationary Power Plants, for Marine Service . . . Water-Cooled Furnaces . . . Superheaters . . . Economizers . . . Air Heaters . . . Pulverized-Coal Equipment . . . Chain-Grate Stokers . . . Oil, Gas and Multifuel Burners . . . Seamless and Welded Tubes and Pipe . . . Refractories . . . Process Equipment.

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VENUS Drawing Pencils are engineered to give you drafting perfection without failure: accurately *graded* to assure uniformity in all 17 degrees . . . *strong* in performance . . . *smooth* and *clean* in action.

VENUS *DRAWING PENCILS*

AMERICAN LEAD PENCIL COMPANY, HOBOKEN, NEW JERSEY

National Broadcasting Studio, *San Francisco, Calif. Architect—Albert F. Roller, San Francisco, Calif.*

INSULUX puts up a good front

INSULUX Glass Block is being used today in hundreds of buildings throughout America. In theaters, stores, offices, restaurants, factories and public buildings!

And no wonder! Lustrous, light-flooded panels of Insulux add to the attractiveness of any building.

But – that's not all! Insulux is a *practical* building material, with unique characteristics.

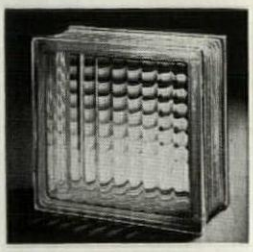
Panels of Insulux diffuse light better than ordinary windows yet provide privacy along with light. They lock out dirt, dust and noise. They do not rot, rust or corrode. And they're easy to clean and to keep clean.

Furthermore – due to their high insulating value, panels of Insulux cut down the cost of air conditioning.

OWENS-ILLINOIS

INSULUX

GLASS BLOCK

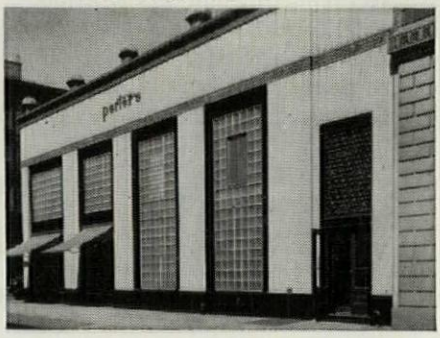


Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do certain things that other building materials cannot do. Investigate!

For technical data, specifications, and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. B-44, Owens-Illinois Glass Company, Toledo 1, Ohio.

The White Turkey Inn, *New York City, N. Y. Architects—Cross & Cross, New York.*

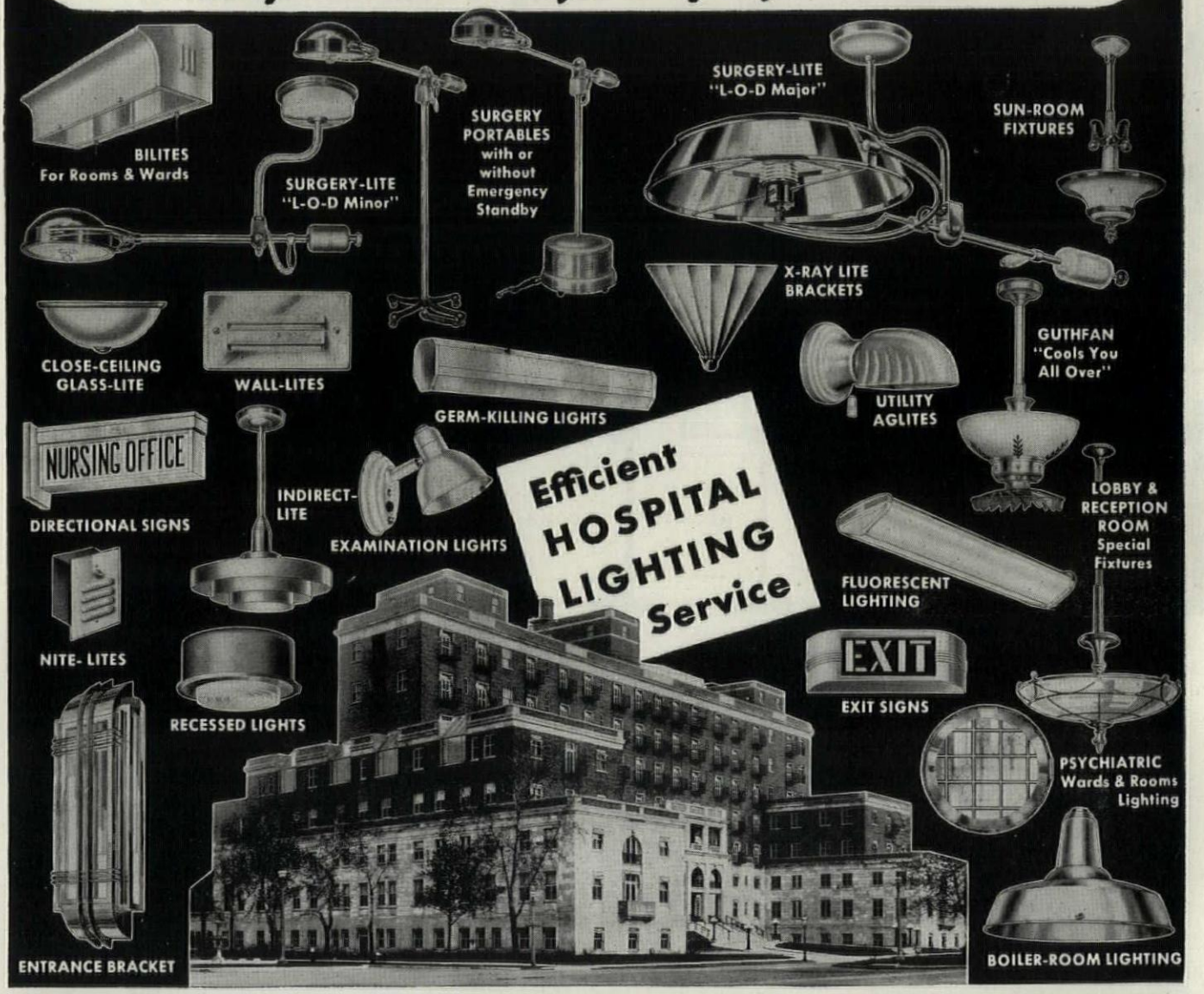
Porter's Apparel, Inc., *691 Madison Ave., New York City, N. Y.*



Normandie Theater, *New York City, N. Y. Architect—Rosario Candela, N. Y.*

From SURGERY to BOILER ROOM

Engineered Lighting by GUTH



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ILLUMINATION is a major factor that contributes to the *efficiency, comfort, safety, sanitation and aesthetics* of the modern hospital.

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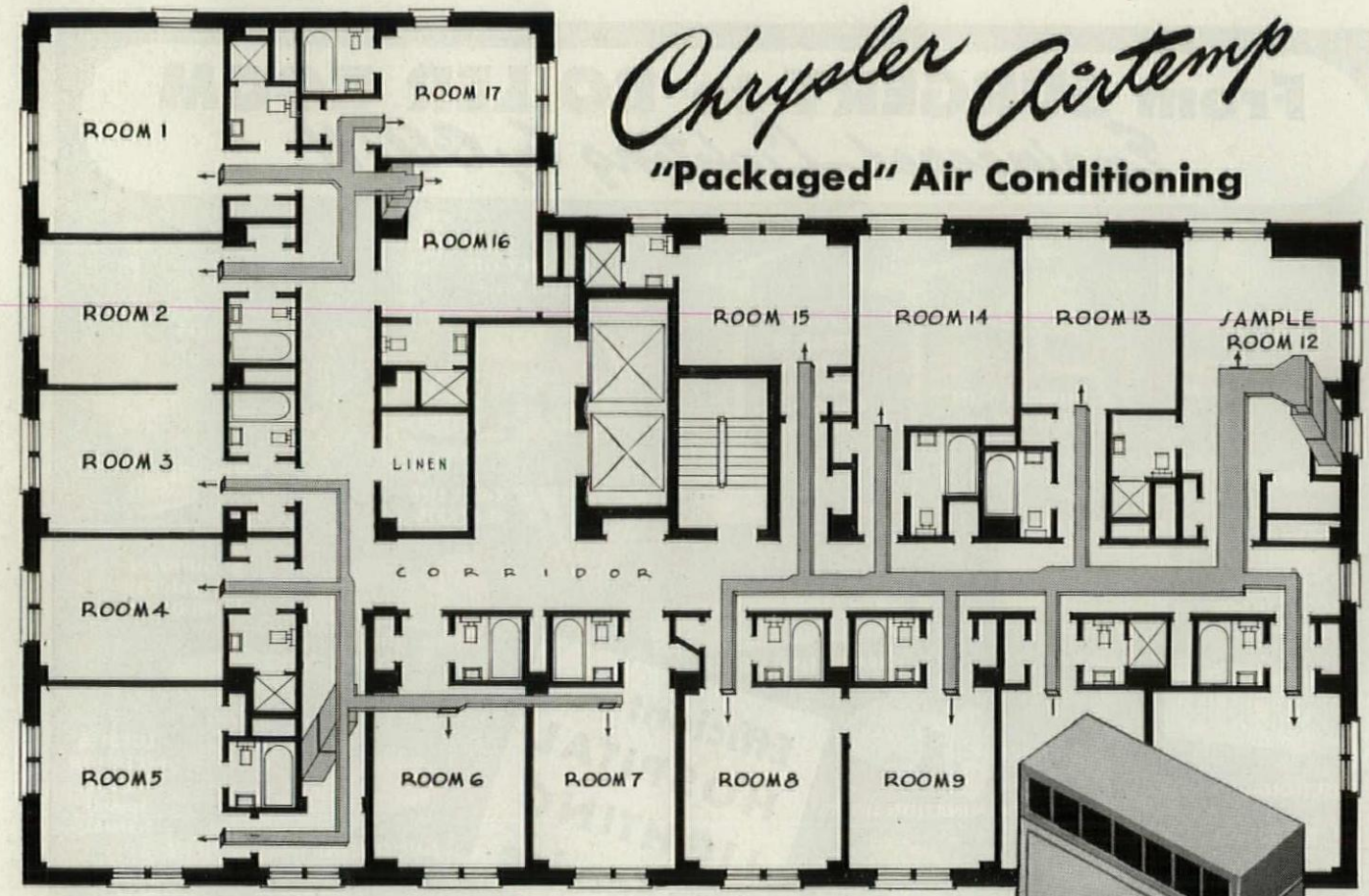
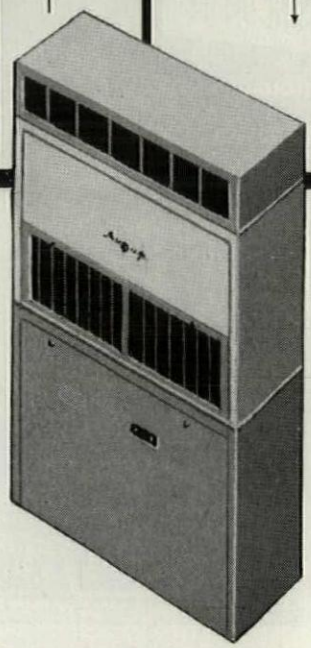


Chrysler Airtemp

"Packaged" Air Conditioning

A Tonic For Hard-To-Rent Hotel Rooms



Chrysler Airtemp "Packaged" Air Conditioners are well suited to the large or small hotel, especially where limited capital does not permit air conditioning the entire building at one time. Hard-to-rent sections or low-revenue wings or floors frequently mean the difference between profit and loss to any hotel. With dust, dirt, and street noises shut out, many hotel operators have found that air conditioned rooms meet competition and command premium rates which more than pay for the improvement. Chrysler Airtemp "Packaged" Air Conditioners, with the hermetically sealed compressor, provide clean, cool, properly dehumidified and gently circulated air—a boon to tired travelers. Flexible and easily installed, time-tested, trouble-free and dependable "Packaged" Air Conditioners, pioneered by Chrysler Airtemp, can be used singly or in multiple—with or without a duct system. Specify Chrysler Airtemp "Packaged" Air Conditioners to increase profits in hotels. • Airtemp Division of Chrysler Corporation, Dayton 1, Ohio.

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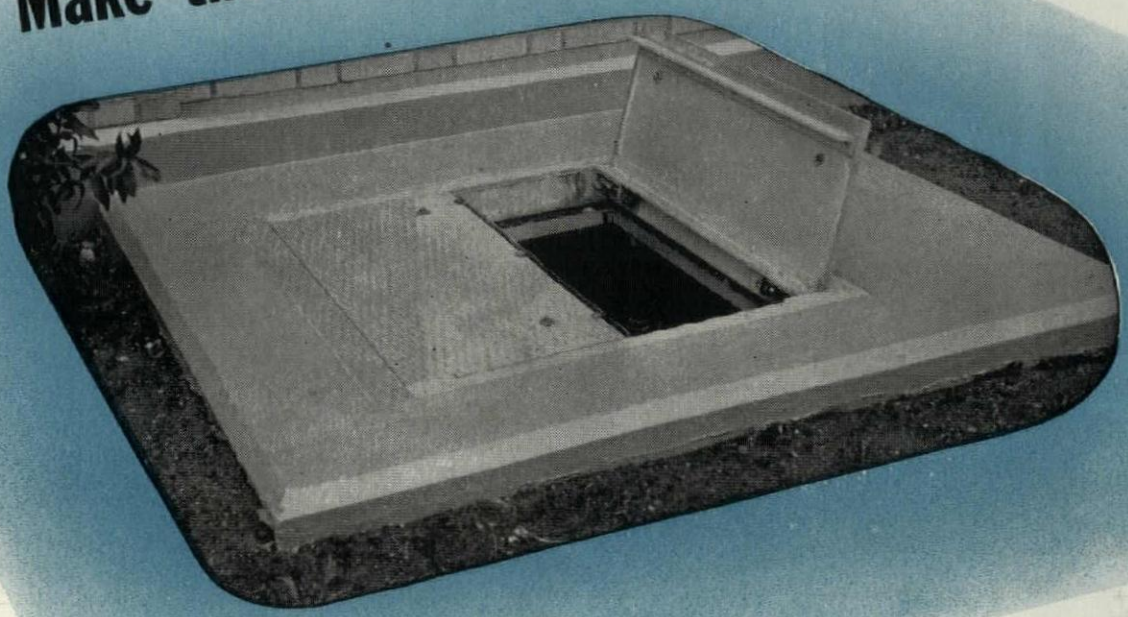
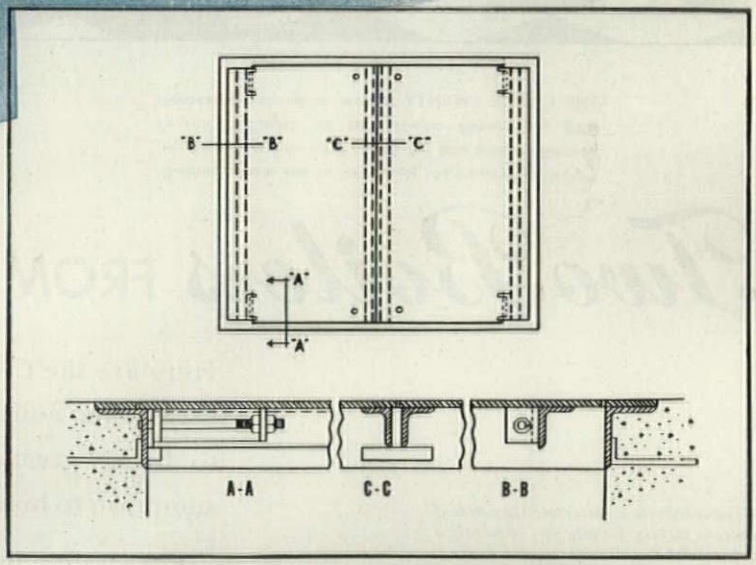
CHRYSLER AIRTEMP

HEATING • COOLING • REFRIGERATION

Make those sidewalk doors of Alcoa Aluminum





Aluminum sidewalk doors are highly resistant to corrosion and so upkeep is negligible. Neat and trim when installed, they require no painting to keep them that way. Light in weight, they are easy to operate.

The design suggested here is simple and practical. Having concealed pivots, there are no obstructing projections above sidewalk level to cause tripping or other annoyances.

Have your metal fabricator quote on your requirements.

ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh 19, Pennsylvania.

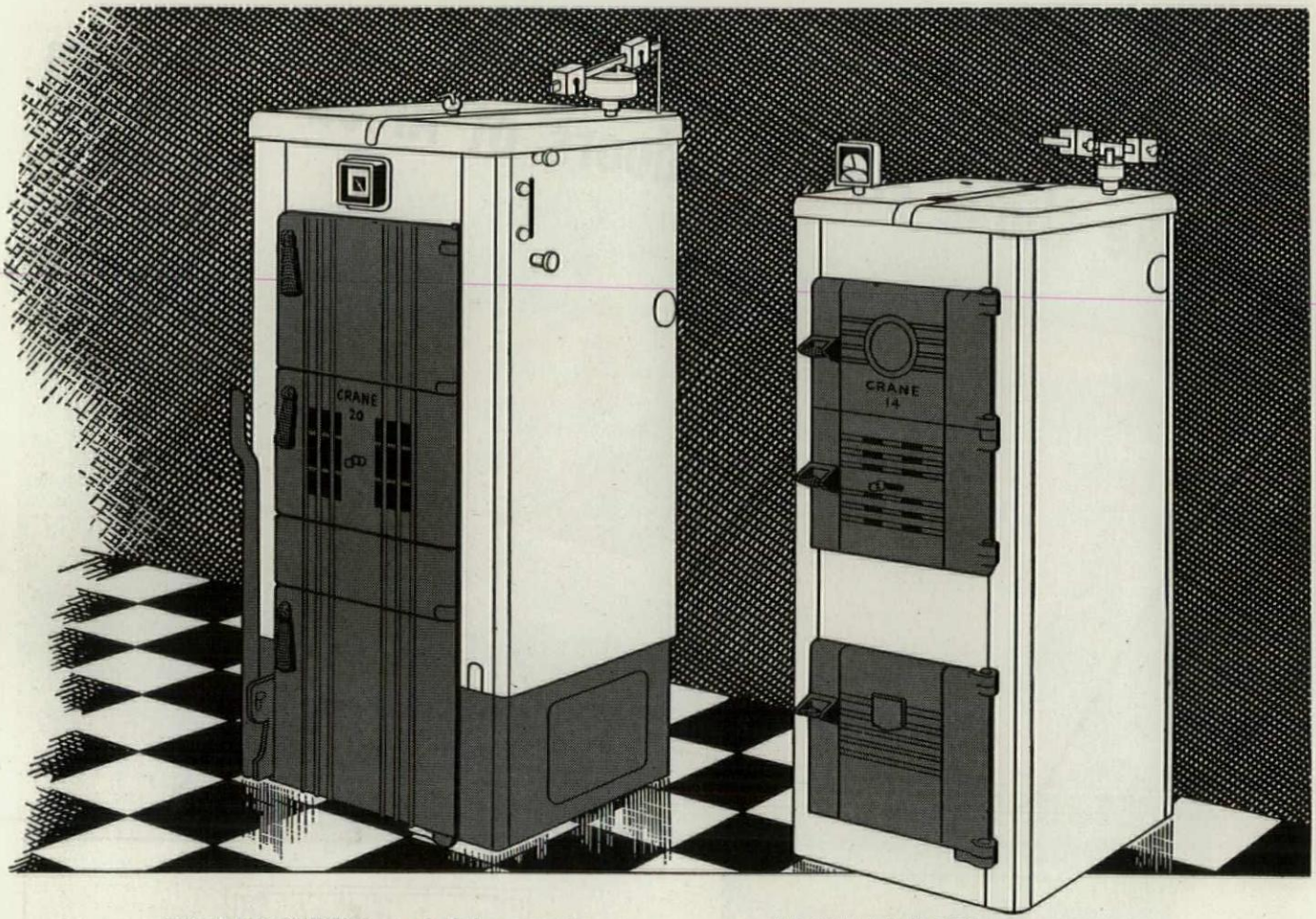
MATERIAL SPECIFICATION DATA

Tread Plate - - - Alcoa 61ST Alloy
Structural Angles - - Alcoa 53ST Alloy

Thickness of tread plate and size of angles to be suited to dimensions of opening and load requirements.

ALCOA FIRST IN ALUMINUM

ALCOA ALUMINUM



THE CRANE TWENTY *is new in design, possessing such fuel-saving advantages as enlarged ceiling heating surface and the Crane patented water travel. Comes in seven sizes for steam or hot water heating.*

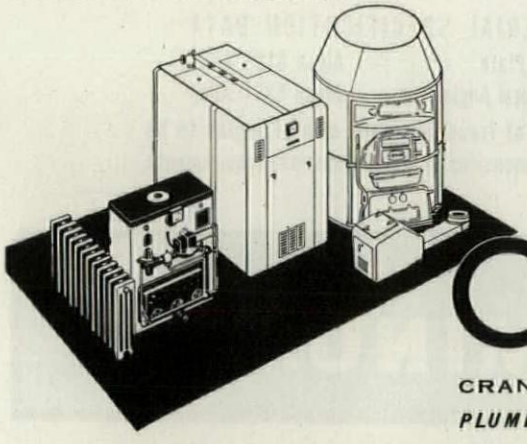
THE CRANE FOURTEEN *possesses new compactness, high efficiency. The wet base design permits it to be installed on a wood floor—without insulation. For steam or hot water heating.*

Two Boilers FROM THE NEW CRANE LINE

Here are the CRANE TWENTY and CRANE FOURTEEN —two new boilers just released by Crane heating engineers to bring greater comfort—better heating—less fuel consumption to home owners.

Possessing many features that every home owner will appreciate and representing the latest thinking in heating design, these boilers are ideal for either new construction or remodeling. Check with your Crane Dealer or Crane Branch for complete information.

Temporarily these boilers will be supplied without jackets. Jackets may be installed later without disconnecting piping.



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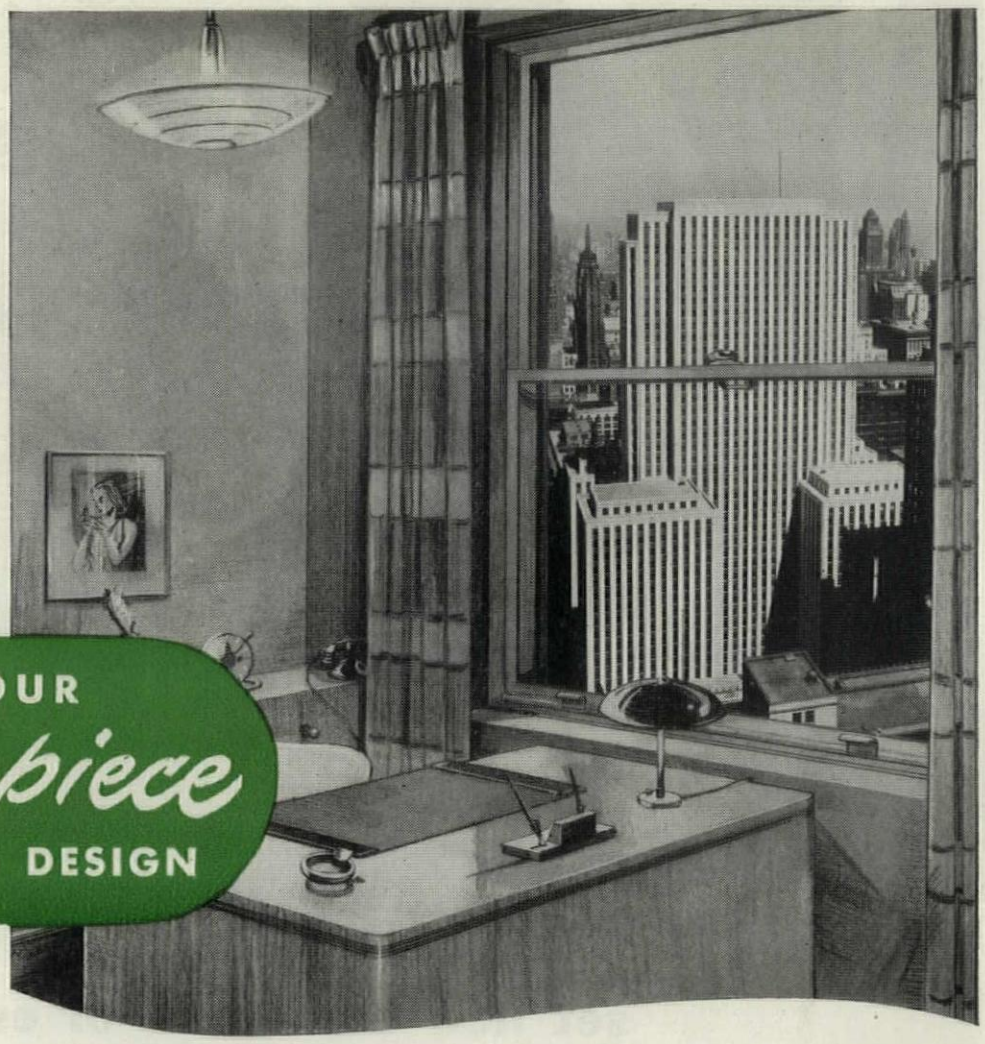


FOR YOUR
Masterpiece
IN BUILDING DESIGN

Truscon Heavy Double-Hung Steel Windows*

Truscon Series 145 Heavy Double-Hung Windows are designed especially for the modern treatment of large openings. The development of this heavy double-hung steel window culminates years of experience in the manufacture of plate type and tubular type double-hung windows. It incorporates the best features of both windows. This window is designed for either conventional counterweights or spring balances to meet particular requirements.

The sash stiles and rails are of tubular construction which assures strength and rigidity, yet maintaining the grace and appearance of a molded sash design. Slip-in glazing beads hold glass in place and eliminate unsightly screws.

Non-ferrous weatherstripping at all four sides of the sash assures minimum infiltration of air. Weight balance chains are concealed. The design of staff bead and frame gives ample rebate for screen and storm sash, and insures proper provision for all types of window cleaning bolts.

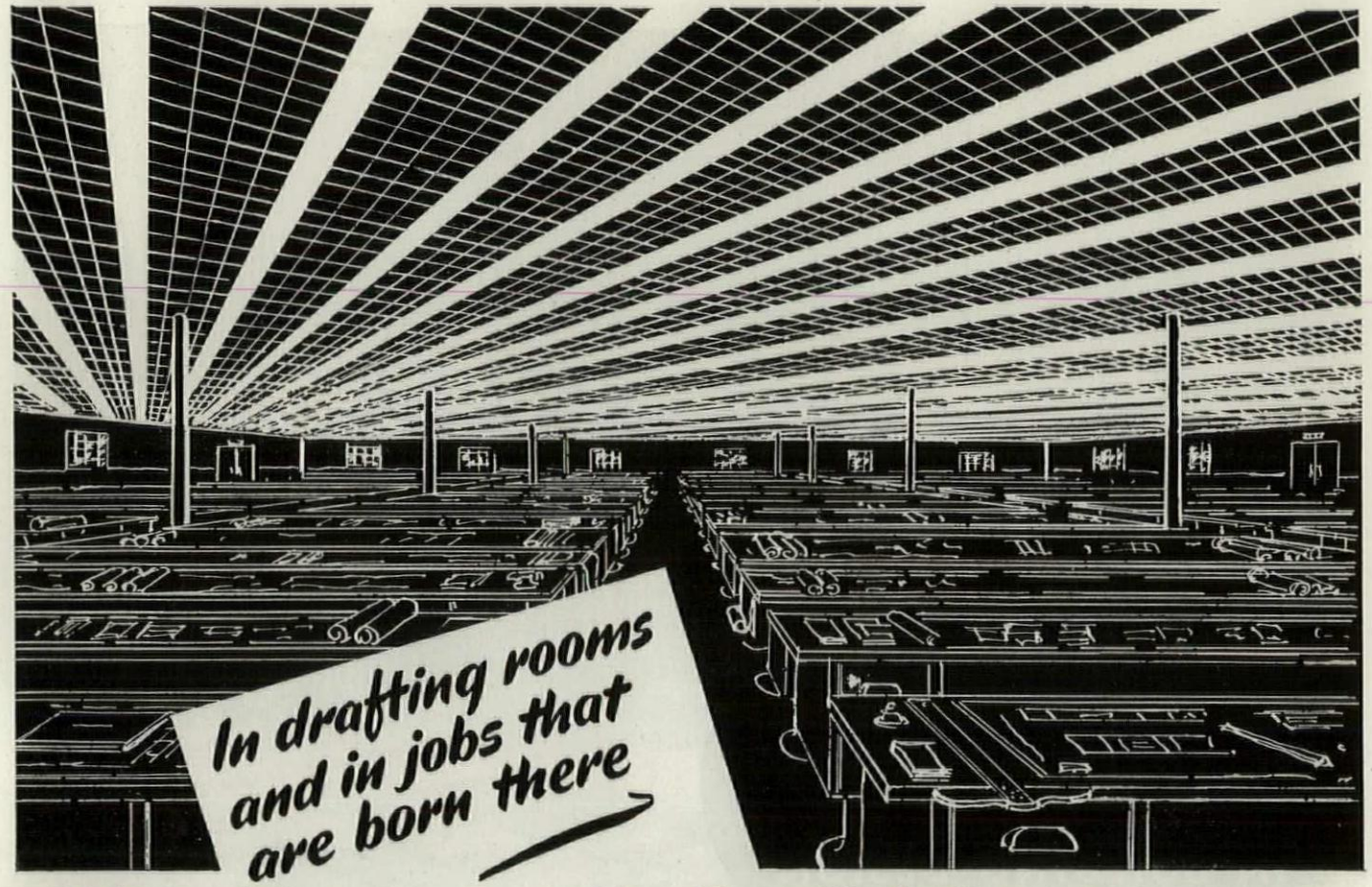
New-billet steel, electro galvanized, combined with bonderizing and baked-on prime coat of paint, assure long life and satisfaction.

See Truscon's Steel Window Section appearing in the 1945 "Sweet's Architectural File." Request a Truscon window engineer to assist you with your postwar projects.

*(*Not available until our wartime obligations are fulfilled*)

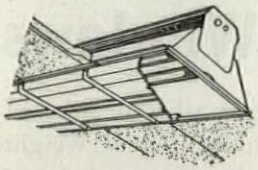
PRODUCERS' COUNCIL — LIGHT AND AIR ARE FREE • USE THEM! — ARMY NAVY E

TRUSCON
Steel Company
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation



Miller Fluorescent Troffer Lighting Systems

set new standards of esthetic design and lighting efficiency



Other Pluses of MILLER Fluorescent Troffer Lighting Systems:

Supports from structural ceiling reduced 50 to 75%.

Conduit and conduit fitting costs reduced up to 80%.

Wiring costs reduced up to 50%.

Permanent operation and maintenance economies.

You'll find Miller Fluorescent Troffer Lighting Systems in many drafting rooms. In these rooms, tomorrow's housing of commerce, industry, schools and public buildings is now being designed. Designed and *worked out* by the hard-boiled rules of practicability.

For Miller Fluorescent Troffer Lighting Systems lick lighting problems, planning problems *and* structural problems. So much so, that today's trend is to plan the *building* around the *lighting!*

Miller Fluorescent Troffer Lighting Systems, in geometric patterns and light-strips "by the mile", suggest new architectural themes. So does their versatile variety of glass and plastic lenses, plates, and metal or plastic grilles... all designed to meet specific architectural and lighting requirements.

The Miller Patented Bracket is an example of Miller engineering. Instead of laboriously fitting recessed lighting systems into hung ceilings, this bracket is hung from the *structural* ceiling. Then, both furred ceiling and Troffer Lighting System are simply hung *from the bracket!*

There are other Miller advantages that can be best explained first-hand.

Miller field engineers are conveniently located to counsel and serve you. It might be a good idea to call one—right now.

THE MILLER COMPANY • MERIDEN, CONNECTICUT

ILLUMINATING DIVISION
Fluorescent, Incandescent
Mercury Lighting Equipment

OIL GOODS DIVISION
Domestic Oil Burners
and Liquid Fuel Devices

ROLLING MILL DIVISION
Phosphor Bronze and Brass
in Sheets, Strips and Rolls

WAR CONTRACTS DIVISION
War Materiel

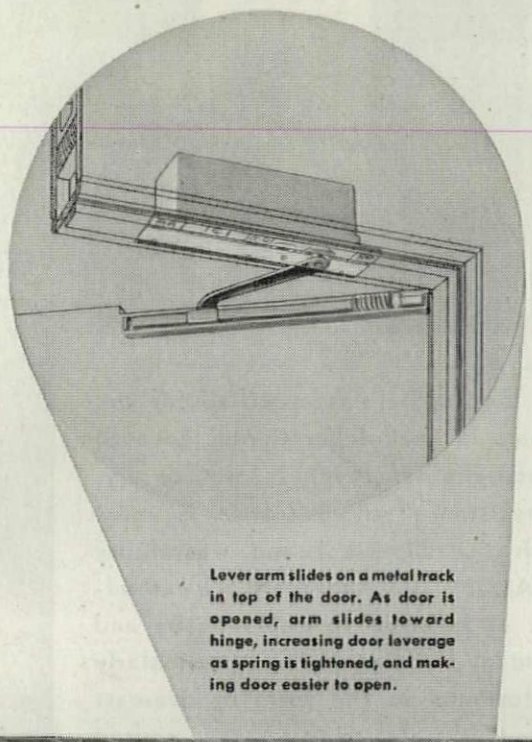
FOUNDRY DIVISION
Non-Ferrous Metal Castings

MILLER
SINCE 1844


Designing Safety
into Terrazzo Floors
with ALUNDUM Aggregate
ALUNDUM Aggregate was specified for the terrazzo floors in Rockefeller Center because it assures non-slip effectiveness, wet or dry, and wear resistance where traffic is most severe. Both the slip-proof and wearability features of ALUNDUM Aggregate are extending the use of terrazzo to floors, stairs and ramps. For many buildings, and particularly for stairs, terrazzo in the form of pre-cast tiles and treads is preferred to terrazzo poured plastic. Here again the addition of ALUNDUM Aggregate will guarantee a non-slip, long-wearing surface.
NORTON COMPANY
WORCESTER 6, MASSACHUSETTS
NORTON non slip ALUNDUM FLOORS

School Doors

HART & RUSSELL • ARCHITECTS • LCN DOOR CLOSERS NO. 206 SPECIFIED



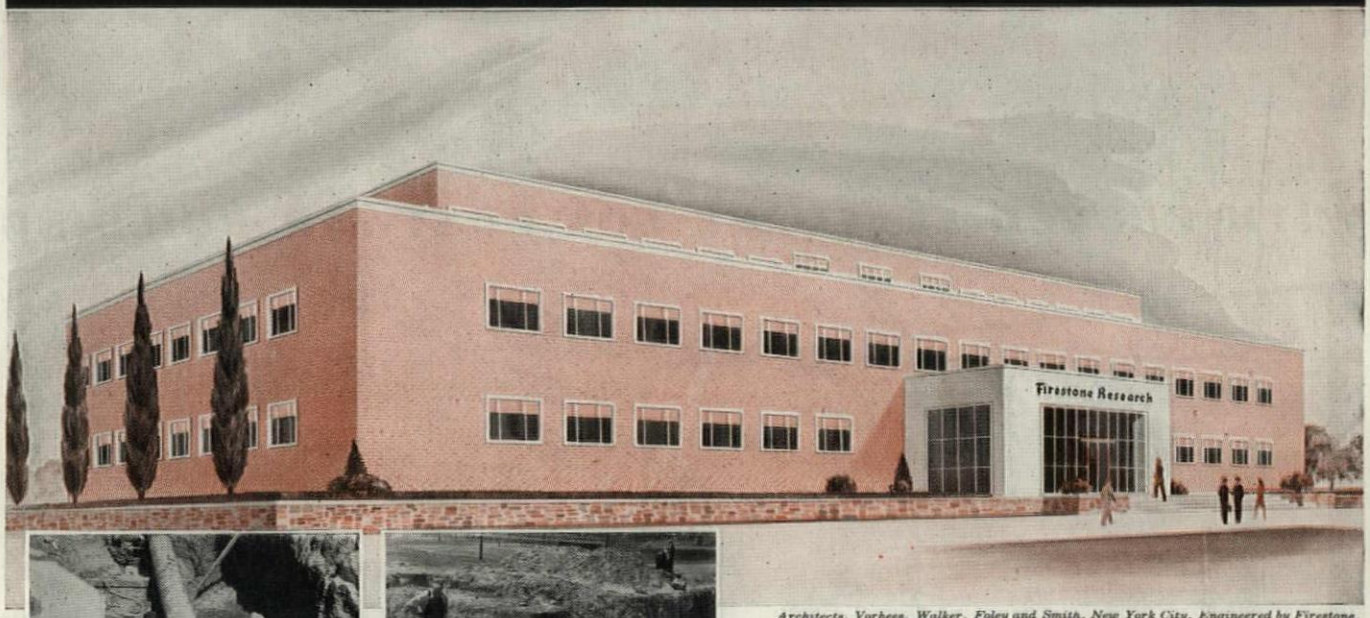
Lever arm slides on a metal track in top of the door. As door is opened, arm slides toward hinge, increasing door leverage as spring is tightened, and making door easier to open.

LCN Overhead Concealed Door Control provides finger-tip-easy opening for these doors, and fully controlled closing. This control is never too much in a hurry, however, to latch the door firmly, and quietly • North Nashville High School, Nashville, Tennessee • NORTON LASIER COMPANY, CHICAGO.

DOOR LCN CLOSERS

Overhead Concealed Closer No. 206 is suitable for either interior or exterior single-acting doors • LCN two-speed closing action, easily adjustable, gives a controlled closing swing, and a firm, quiet latch • Because the closer is up out of the dirt, it lasts longer • The lever arm, the only part ever visible, disappears into a recessed stop as the door closes • This complete concealment permits full appreciation of the design of the doorway.

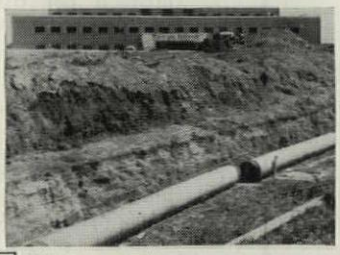
RIC-WIL STEAM CONDUIT CONNECTS NEW Firestone RESEARCH LABORATORY TO CENTRAL BOILER PLANT ONE MILE AWAY



Architects, Vorhees, Walker, Foley and Smith, New York City. Engineered by Firestone.

Installing Ric-wiL Prefabricated Insulated Conduit on steam line to Firestone Laboratory. Note pipe and casing anchored at 45° offset.

Ric-wiL Prefabricated Expansion Loop "cold sprung" into position. Loops are fitted with drive couplers for easy assembly to straight runs.



Ric-wiL Prefabricated Insulated Pipe Units are factory-presealed and delivered to job site in convenient 21 foot-lengths for speedy installation.

The very latest developments in building design and services have been incorporated in the magnificent new Firestone Research laboratory. The objective was to provide the utmost in comfort for the chemists, physicists, engineers and technicians, and to supply those many services required in research work.

After an exhaustive study, it was determined that instead of a boiler plant at the site, it would be more practical to extend a steam line from the nearest factory building 2100 feet away, and thus obtain heat and power from the main power plant over a mile to the north. Steam is delivered to the laboratory in 8" Ric-wiL Prefabricated Insulated Pipe, at 180 P.S.I.

Every building in the vast Firestone Akron industrial community obtains its steam from one central plant. Schematic plot plan at left shows distribution lines—practically all of which are now in Ric-wiL Prefabricated Insulated Pipe Conduit.

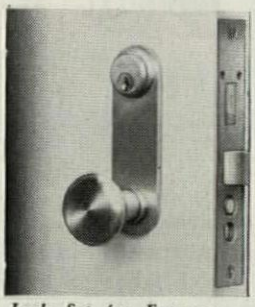
Steam distribution at Firestone is described in detail in a booklet now in preparation. Other project studies, showing the application of Central Heating to community housing developments, airport centers, commercial groups, shopping centers and conversion to Central Heating of existing municipalities or neighborhoods, are available on request.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS
THE RIC-WIL COMPANY · CLEVELAND, OHIO
AGENTS IN PRINCIPAL CITIES

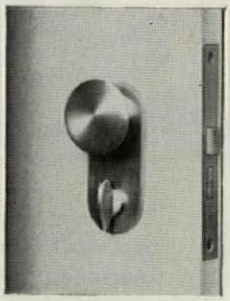
Lockwood Leads

WITH PROVED FEATURES FOR POSTWAR BUILDING

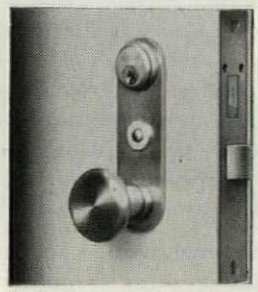
The Evidence



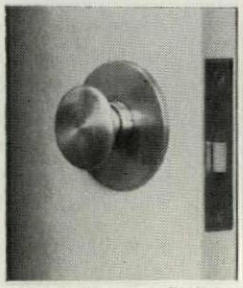
Lock Set for Entrance—Vestibule and Office Doors



Lock Set for Communicating Door. Thumb Turn Both Sides.



Lock Set for Hotel Corridor Door with Indicator Button.



Latch Set for Bath, Closet and other non-locking doors.

Lockwood "Ambassador" Builders' Hardware was designed for each special function—entrances, shops, laboratories, public rooms, guest rooms . . . Above are shown a few examples with cylinder locks part of a Great Grand Master Key System . . .

In Washington's Hotel Statler you will find Lockwood "Ambassador" . . . the hardware that overcame precedent and established a new standard for quality, design, finish—and appropriateness.

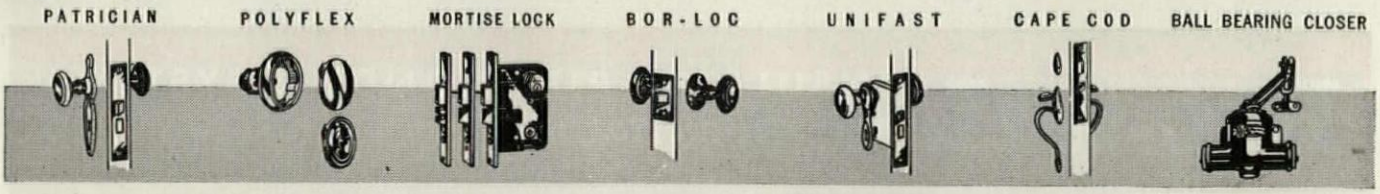
Its basic conception of Spartan simplicity was created by Holabird & Root, architects, and interpreted by Lockwood in rich, natural bronze. An essential part of the design motif was the absence of screws in all surface plates. Lockwood engineers solved this problem with ingenious concealed fasteners.

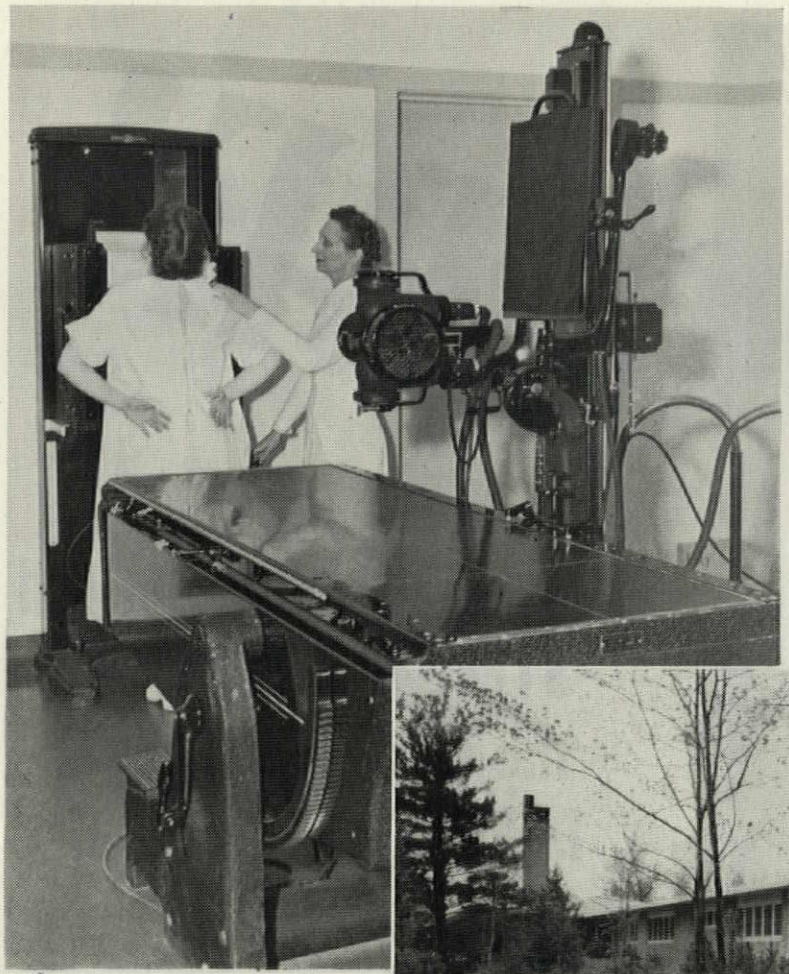
"Ambassador" and other fine hardware will be available to you as soon as materials can be released for this purpose. At the moment we can offer you full co-operation in specifying this splendid line for your postwar projects—and the help of our engineers in the development of any special features.

You will find Lockwood hardware specifications simplified in Sweet's Architectural File 17 b 1, 1945 edition. A few additional copies are available. Write for yours, if interested.

A-4

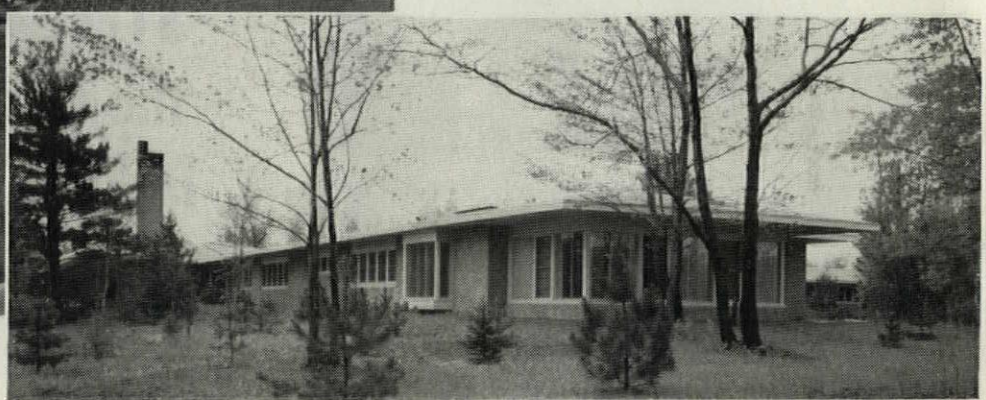
LOCKWOOD HARDWARE MFG. CO.
FITCHBURG, MASSACHUSETTS
Division of Independent Lock Company





Midland Hospital X-Ray Department

Modern G-E X-Ray Units....



Midland Hospital, Midland, Michigan — *Alden B. Dow, Inc., Architect*

(Exterior Photo: Elmer Astelford)

Provide Efficient, Economical Operation for Modern Hospital X-Ray Departments

A hospital is more than a building full of busy people and mysterious equipment. And in designing a hospital, the architect must consider many factors:

Pyschological influences on those who are admitted for professional care . . . Efficient operation to expedite the handling of patients and the application of modern medical procedures . . . Functional design of departments to insure efficient, economical operation of the various services a modern hospital renders.

Today's hospital is a far cry from what was considered a temple of healing just a few years ago. "Hospital odors" have been banished... Sunshine trapped in colorful drapes, slipcovers, and wall paints turned yesterday's dreary rooms into the cheerful rooms of today . . . Sleek, streamlined x-ray equipment has replaced the bulky, cumbersome units of not too long ago.

One of the most important facilities in any hospital — regardless of its size — is the X-Ray Department. And planning the X-Ray Department is a project which calls for close coordination of all the knowledge, judgment, and experience of every individual immediately concerned . . . the architect, the hospital superintendent, the radiologist, members of the building committee, and the x-ray manufacturer.

For many years G. E. X-Ray has been priveleged to cooperate with the nation's top-flight hospital architects in the planning of x-ray installations ranging from compact, low-power units to modern 1,000,000-volt therapy apparatus . . . cooperation which has insured the greatest convenience and operating efficiency in the X-Ray Departments of the world's finest hospitals.

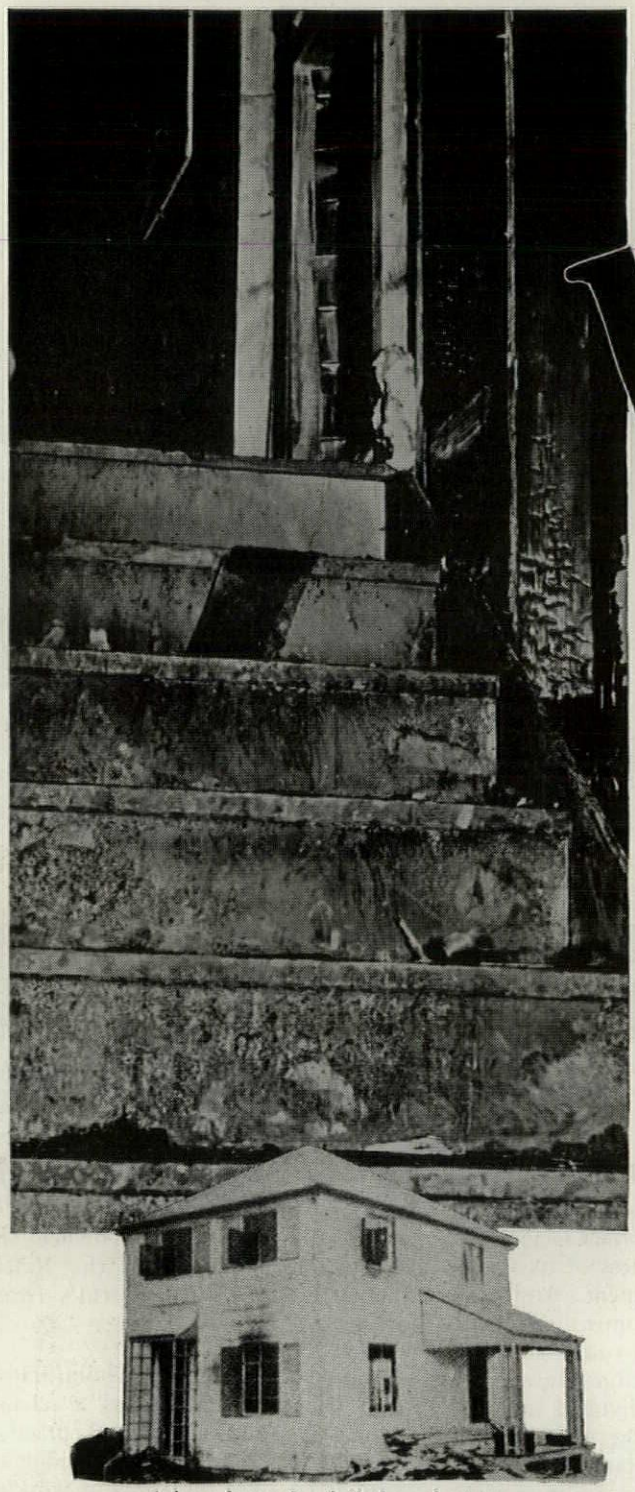
Hospital architects and administrators find our layout engineers a reliable source of information and practical suggestions, based on knowledge accumulated over the years in working our detailed plans for hundreds of specialized X-Ray and Physical Therapy Departments.

And their suggestions include details, seemingly minor to the uninitiated, yet exceedingly important in the long run. For details concerning this service, address your inquiry to Department P.

1895 OUR FIFTIETH YEAR OF SERVICE 1945

GENERAL ELECTRIC X-RAY CORPORATION

175 W. JACKSON BLVD. CHICAGO 4, ILL., U. S. A.



A four-hour fire failed to destroy this Ferro-Therm insulated house

FIRE!

—that one word is reason enough to install STEEL INSULATION —the insulation that is a DEFINITE FIRE-STOP

The photographs at the left were taken after a raging fire had blazed in the interior of a frame house for four hours. Yet, despite the seriousness and duration of the fire, the house was still standing, its walls intact. For the walls and ceiling were insulated with Ferro-Therm Steel Insulation — sheets of *steel* that acted as a definite *fire-stop* and prevented the spread of the flames.

A leading engineering firm that examined the structure reported, "The Ferro-Therm obviously performed its function of reflectivity even at the high temperatures generated by the fire. In only a very few exterior stud spaces in the whole house did the Ferro-Therm pass enough heat to char the exterior plywood sheathing. The Ferro-Therm over the ceiling joists performed in the same way, and actually did not allow the fire to get into the attic space. Aside from the broken windows, the house gave no evidence on the exterior of having been ablaze for probably four hours in the interior."

The hazard of fire is another reason why there is no substitute for Ferro-Therm *Steel* Insulation. It is not only noncombustible, it reflects heat above 1000° F. And, because it is all-metal: (1) it does not absorb moisture, or convey any moisture to framing members; (2) it completely prevents the penetration of termites, rodents and insects; (3) it makes a *permanent* installation that is 100% efficient for the life of the building.

Investigate the advantages of Ferro-Therm — how its high reflectivity saves fuel in winter, keeps houses cooler in summer, and gives *permanent* year-round comfort. Complete details will be sent upon request.

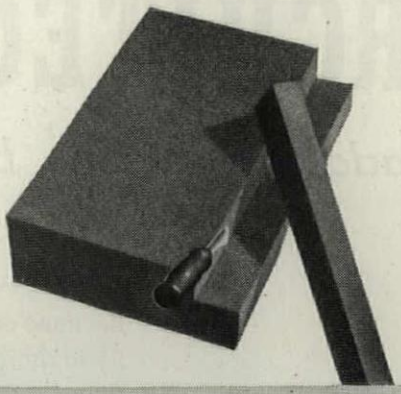
Ferro-Therm
Reg. U. S. Pat. Off.
STEEL INSULATION

Only Steel Insulation Can Give You Steel's Advantages

AMERICAN FLANGE & MANUFACTURING CO. INC.
Ferro-Therm Division
30 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK

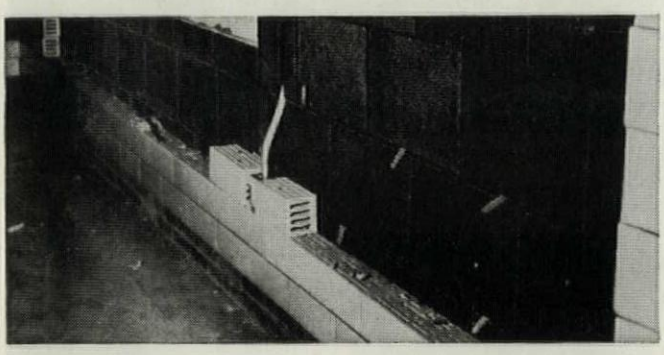
The Versatile Insulation

PC FOAMGLAS...



EASILY HANDLED—Light, rigid, strong, the big pieces of PC Foamglas are conveniently packaged, easily handled. They can be cut to fit around openings and obstructions right on the job. When you install PC Foamglas the first cost is the last cost.

STANDS THE LOAD—Under concrete wearing floors, PC Foamglas withstands pressure much greater than normal floor loads. It has proved able to maintain desired temperature levels over cold ramps and open loading platforms, to prevent heat travel from rooms below.



STAYS IN PLACE—In core walls, PC Foamglas becomes an integral part of the structure, can be tied in to brick, tile or other backing and facing. This rigid, cellular glass material does not pack down, slip, warp, or rot—it is damp-proof, verminproof, incombustible.

INSULATES PERMANENTLY—A firm, level base for roofing felt. PC Foamglas is so easily installed it speeds up the job. It insulates efficiently, protects roof slabs. Even a break in roofing felt entails no expensive repairs or replacement of PC Foamglas.

ON roofs, in floors and core walls, on tanks and other equipment, PC Foamglas has proved its efficiency in all sorts of plants where temperature and humidity levels must be maintained, condensation prevented.

Made of air-filled glass cells, PC Foamglas does not warp, check, swell, shrink or rot. It is impervious to moisture, vapor, fumes and acid atmospheres, elements that cause other materials to lose insulating efficiency. Freedom from repairs and maintenance makes its use a positive economy. Owners of all sorts of plants all over the country can tell you that PC Foamglas has licked many a tough insulating job—permanently.

Our specialists will be glad to consult with you on any problem that involves insulation. Also you will find a wealth of helpful information in the booklets we offer. Check the convenient coupon, mail it in today and your selection of literature will be sent to you promptly. Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pa.

Pittsburgh Corning Corporation
Room 658, 632 Duquesne Way
Pittsburgh 22, Pa.

Dear Sirs:

Please send along my *free* copies of the booklets I have checked. It is understood that I incur no obligation.

Roofs_____ Walls_____ Floors_____

*Name*_____

*Address*_____

*City*_____ *State*_____

· *Also makers of PC Glass Blocks* ·

PC FOAMGLAS *Waterproof Fireproof* **INSULATION**

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

ARCHITECTURAL METALS

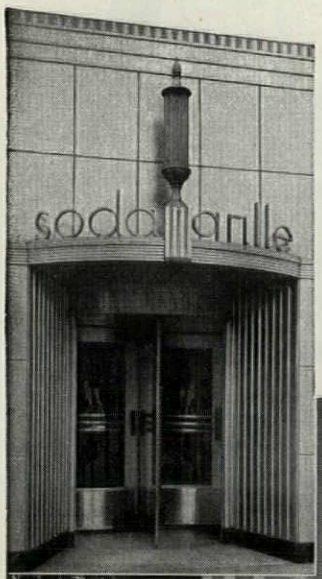
...add distinctive beauty to any structure you design!

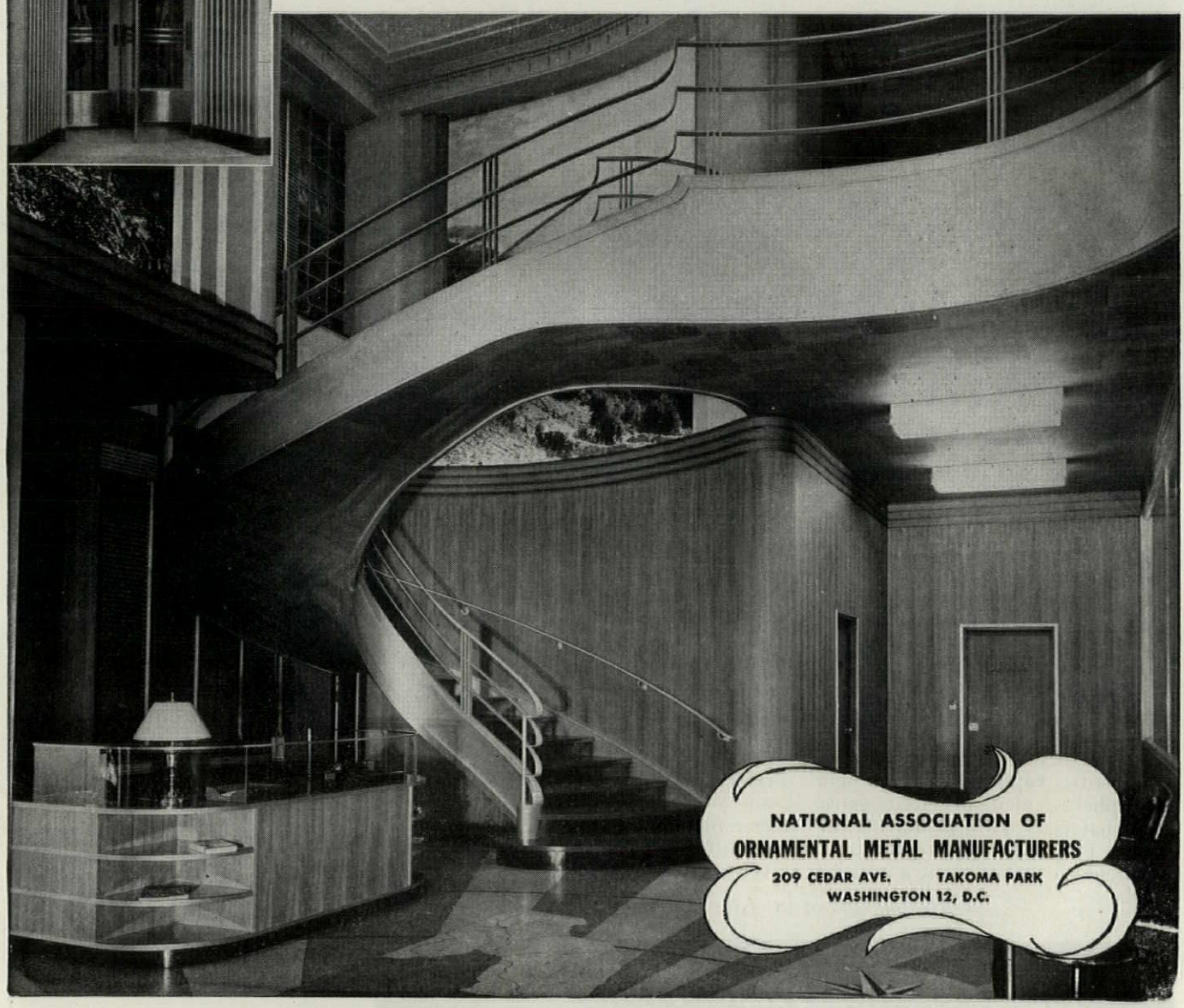
There's no limit to the ways you can use architectural metals to add to the beauty and utility of any structure you design.

Because of their extreme versatility, architectural metals lend themselves readily to architects' thinking. They enable you to achieve the effects you want, not only from the decorative angle but from the purely utilitarian angle as well.

As you design for tomorrow make full use of architectural metals in the entrance, in stairways, balustrades, doors, windows, grilles, and all types of exterior and interior decorations. Use them, too, for structural and protective building devices, fire escapes, coal chutes, and a hundred other service equipment items.

Architectural metals, both ferrous and non-ferrous, will be readily available for use again as soon as building restrictions are lifted. Write today for a Directory of Leading Architectural Metal Fabricators who are anxious to assist you now in the "get ready" period. Address Dept. P-8.





NATIONAL ASSOCIATION OF ORNAMENTAL METAL MANUFACTURERS
209 CEDAR AVE. TAKOMA PARK
WASHINGTON 12, D.C.

you'll have to launder it sometime!

When shoppers go into a store they expect to find clean, fresh merchandise —or else! And, this "or else" can cost stores a big chunk of sales, and reputation, too.

Question: What can be done about sales-robbing store-dust?

Answer: There's only one *sure* way of banishing the air-borne dust and dirt that settles on and gets rubbed into merchandise—Westinghouse Precipitron*!

This remarkable Westinghouse development *collects* dust and dirt electronically. It removes more than 90% of *all* foreign particles in the air—and operates 5 to 10 times more efficiently than mechanical filters. In all types of commercial businesses and in many industries, Precipitron is the most effective answer science can provide to solve the problem of unclean air. You can find out more about Precipitron, and how you can benefit by it by calling any Westinghouse Office. Or write Westinghouse, P. O. Box 868, Pittsburgh, Pa.

WHAT PRECIPITRON DOES

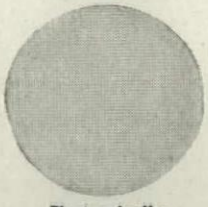
Ordinary mechanical filters permit varying sizes and kinds of dust and dirt to pass through the circulatory system—but, PRECIPITRON electronically cleans air, even eliminating tobacco smoke particles!

Uncleaned Air

The result of the "Blackness Test," shown at right, indicates clearly what PRECIPITRON can do. Here are actual photographs of the test—where 2500 cubic feet of air, in each instance, was drawn through a cloth area for a 60-minute period!

Mechanically Cleaned Air

The effectiveness of PRECIPITRON, demonstrated here, will save thousands of dollars resulting each year from damage by air-borne dust and dirt in the home, factory and store.



Electronically Cleaned Air

Westinghouse PRECIPITRON

PLANTS IN 25 CITIES... OFFICES EVERYWHERE

THE COSTLY NUISANCE OF DUST BANISHED BY PRECIPITRON, FROM...

Homes, Hotels and Apartment Buildings

Laboratories and Hospitals

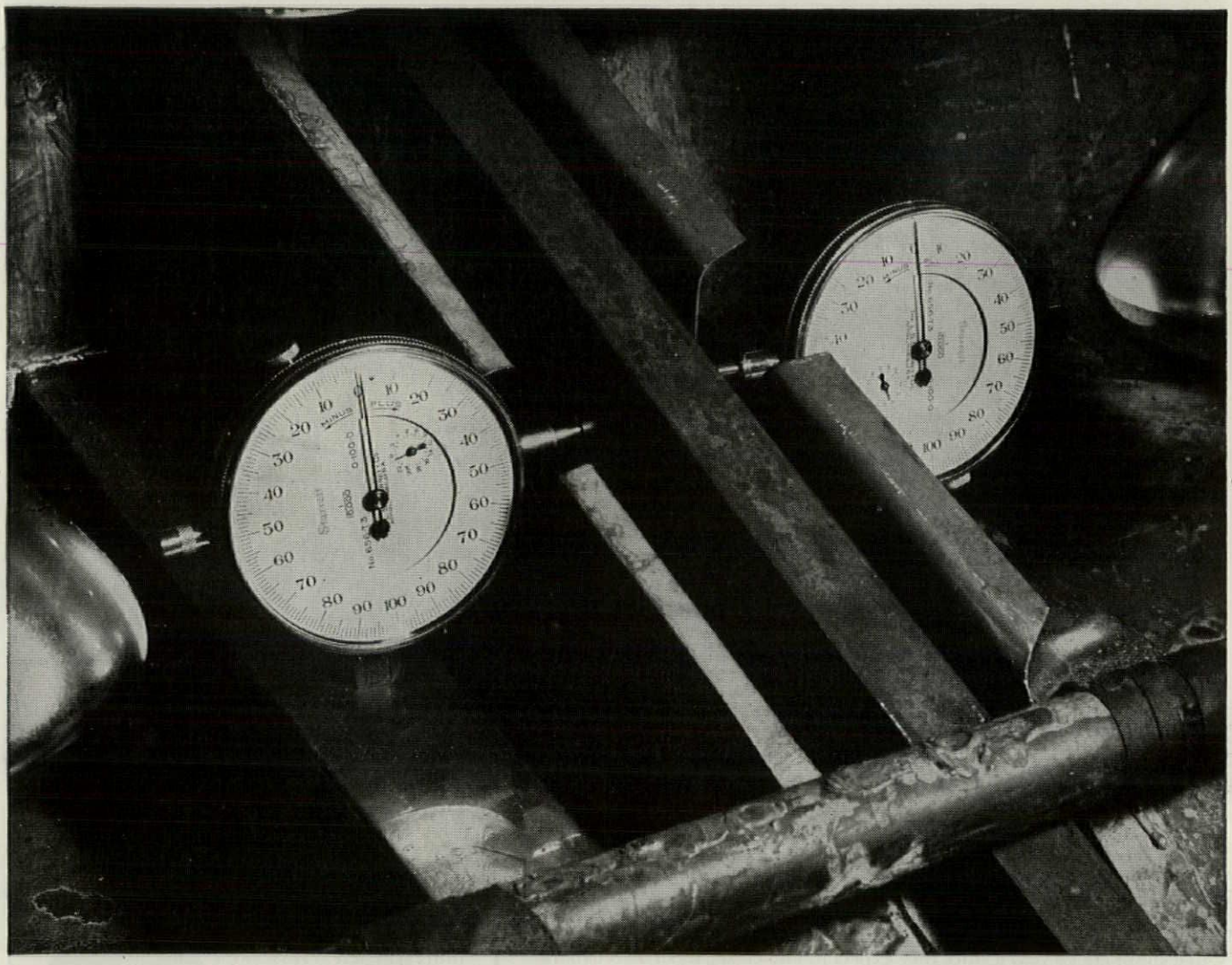
Retail Stores, Banks and Office Buildings

Theatres, Restaurants and Night Clubs

Mills, Factories and Machine Shops

*Trademark registered in U. S. A.

J-04513



When does a Stretch become a St-rain?

REVERE RESEARCH, intent on investigating every phase of sheet copper construction, used sensitive dial gauges to magnify the motion which takes place in a copper gutter with changes in temperature. A beam of sunlight, a passing cloud, a light shower of rain, could make the metal expand and contract like mercury in a giant thermometer.

We found that when a gutter expands it must be able to slide on the supporting structure so that the motion can reach the expansion joints instead of setting up excessive strains in the metal. From this and other experiments came the principle of columnar strength, from which Revere has developed new and simple methods that reduce sheet copper construction to a matter of engineering design.

These will be described and illustrated in a booklet now being prepared. Upon request we will place your name on our list to receive a complimentary copy when issued. Write the Revere Executive Offices.

Revere materials are handled by Revere Distributors in all parts of the country. For help with difficult problems, call on the Revere Technical Advisory Service, Architectural.

REVERE

COPPER AND BRASS INCORPORATED

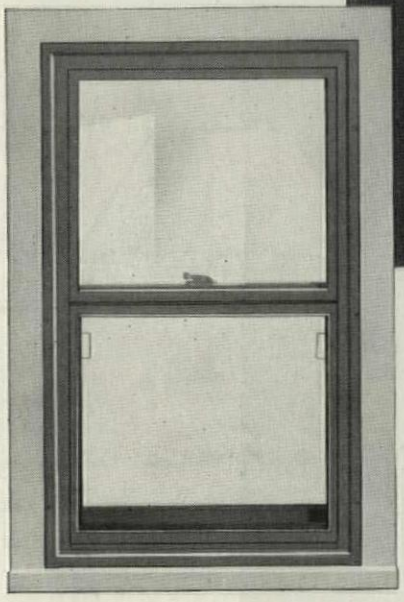
Founded by Paul Revere in 1801

Executive Offices: 230 Park Ave., New York 17, N. Y.

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in principal cities.

Listen to the Human Adventure *on the Mutual Network every Wednesday evening, 10 to 10:30 p. m., EWT*

For the *Ultimate* in Modern Window Insulation



Specify

RUSCO Patented All-Metal SELF STORING COMBINATION WINDOW

HERE'S what you provide *permanently* every time you write the word "RUSCO" into your plans for new construction and remodeling:

- screens, storm sash, and weatherstripping in one permanent unit
- year-round rainproof, draft-free ventilation
- self-storage that eliminates all changing and storing of insulating sash and screens
- increased year-round comfort, cleanliness
- increased efficiency of air-conditioning systems
- lower maintenance cost
- permanent fuel savings up to 30%
- patented sill drainage that protects against water damage

Think of the world of new comfort and convenience your clients will enjoy when "RUSCO" is part of your plans! It's the *first* practical Insulating Sash for large buildings —"tailor made" for every type home and commercial construction.

Investigate RUSCO now. It has provided outstanding service to the building industry since 1937. For engineering specifications see Sweets' 18a-7 or write direct for free booklet and name of nearest distributor.

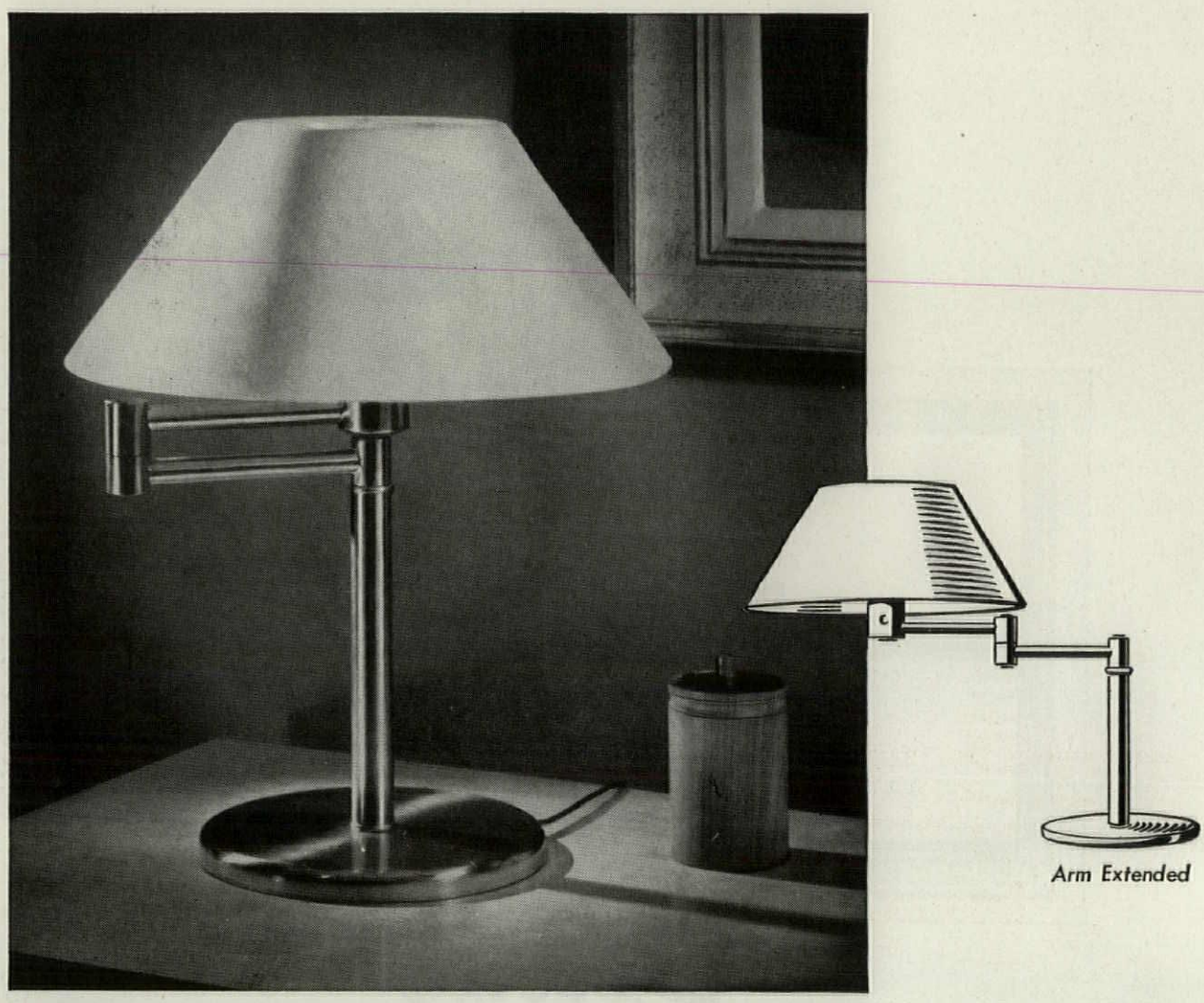
THE F. C. RUSSELL CO. • 1836-P Euclid Ave., Cleveland 15, Ohio

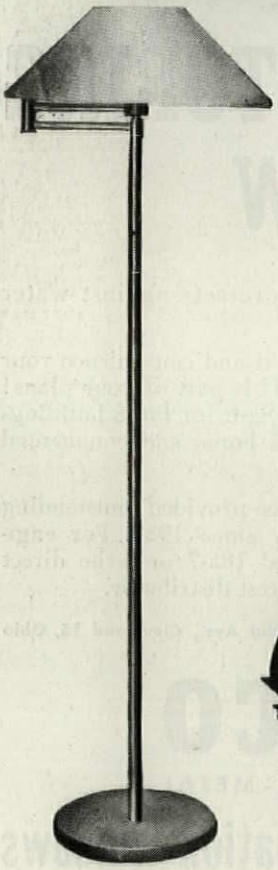
RUSCO patented adjustable closure or subframe weatherstrips entire outside opening and permits installation on old or new buildings without altering existing window construction. Fits flush with outside of building. Harmonizes with all types of architecture.

RUSCO

PATENTED ALL-METAL

Self Storing Combination Windows





New Lamps . . . designed and scaled for Modern

In brushed brass or satin chrome • Spun aluminum shade in off-white finish • I. E. S. reflector • 300° swivel arm • Immediately available • Floor lamp 48" high 57½" extended.

Table Model $29.75 • Floor Model $49.50

ARTEK-PASCOE

THE FOREMOST NAME IN MODERN DESIGN

730 FIFTH AVENUE, NEW YORK 19, N. Y.

PENCIL POINTS
PROGRESSIVE
ARCHITECTURE

The Objective is Better Hospitals

As a corollary to the anticipated postwar expansion of the hospital and health center program, the American Hospital Association has undertaken to build up a roster of architects known to be thoroughly qualified to design hospitals. The A.H.A. needs such a list in order to answer satisfactorily many inquiries from hospital authorities who seek competent architects for new projects. The A.H.A. wants this list to include as many architects as possible in every part of the country who are experienced in doing either large or small hospitals, or both. Through its Qualifications Committee (which includes four architects nominated by the president of the A.I.A.), the A.H.A. is inviting architects generally to qualify themselves for inclusion on the roster through examination by this Committee plus membership in the Association. Qualification involves $50.00 examination fee and $25.00 annual dues.

The architects of Indiana, said to be one hundred percent general practitioners, have advanced serious objections to this plan in which they see a trend toward the elimination of general practice and the placing of an undue financial burden on architects who choose to qualify. We do not agree with their objections.

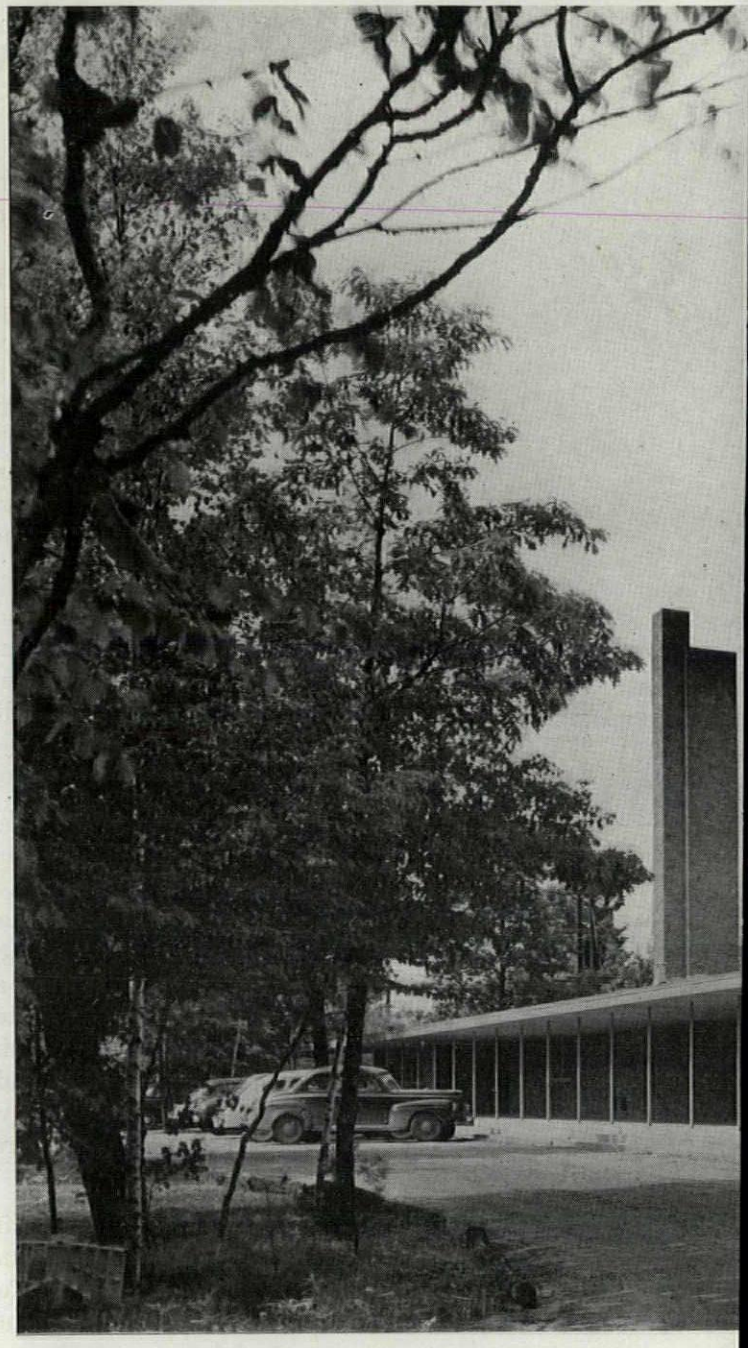
If any substantial category of buildings demands special knowledge and competence on the part of its designers, it is the Hospital! If the objective is, as it should be, to provide the American people with the very best facilities that can be devised to promote and maintain health, there is no sound basis for permitting any unqualified architect, however brilliant, to experiment at the risk of producing an inferior job. Should any inexperienced architect happen to land a hospital commission it should be compulsory for him to associate with an expert who has the requisite technical background. General practitioners who wish to do hospitals should certainly be willing to prepare themselves and demonstrate their fitness. There is no real obstacle to prevent any man from doing so.

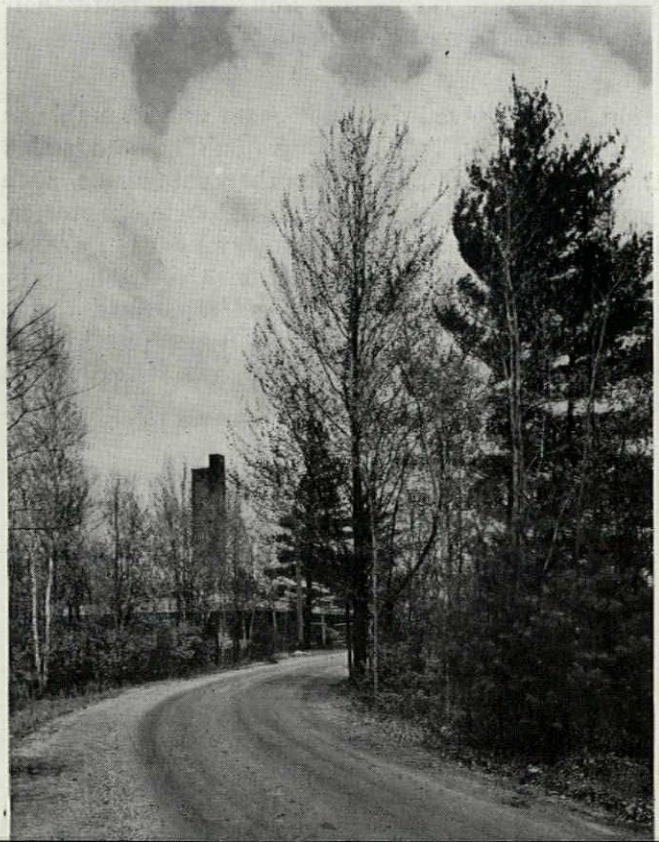
The size of the qualification fees involved does not seem unreasonable in relation to the advantage to be gained by becoming qualified and added to the roster. As for the Indiana argument that other categories, such as theaters, churches, schools, newspaper plants, airports, factories, hotels, stores, etc., would set up similar qualification standards, we are skeptical. None of the types listed, with the exception of schools, is as deeply tinged with the public welfare as hospitals, and it is hard to believe that any of them will ever disappear from within the province of the really able general practitioner—though he will always, as now, find strong competition from the man who has earned standing as a specialist.

Kenneth Reid

Midland Hospital, Midland, Michigan

ALDEN B. DOW, ARCHITECT





In analyzing architectural progress, one of the hazards (which, inversely, is a fortunate circumstance) is the lack of inflexible standards. Today's best practices are obsolete tomorrow; progress under one set of conditions can be retrogression under another. Nowhere is this more true than in the hospital field.

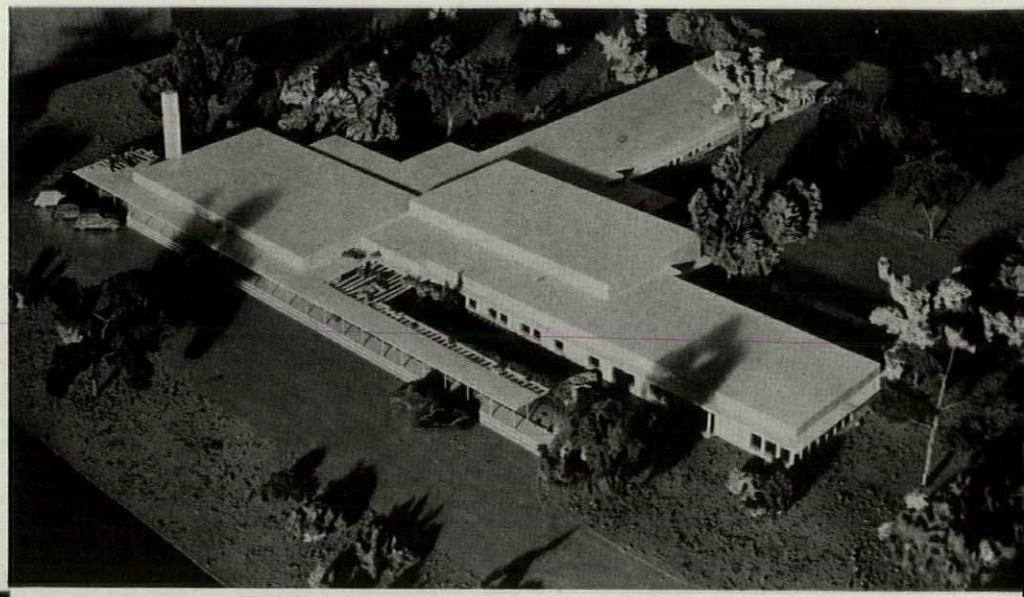
The Midland Hospital is a good illustration. In the first place, this is a special kind of hospital. A private institution, superbly located on a richly wooded 40-acre tract, it was able to call on a good-sized budget to afford certain luxuries that, in a more restricted public-health facility, would be unwarranted extravagance. From the design point of view, it is a typically invigorating Alden Dow

Elmer Astleford

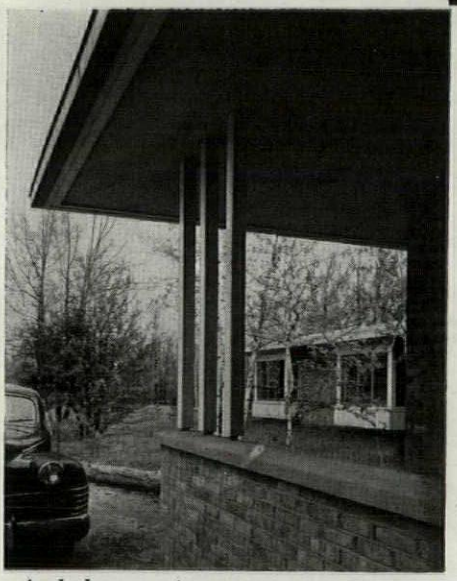
performance—a fresh breeze that gives wide berth to the ornate stones of time-hallowed hospital "architecture." In plan, it is a curious hybrid; on the one hand, following the traditional American approach of intensive centralization of all major functional areas around one busy, cross-axial point; on the other, including many plan refinements and introducing delightful new elements that add to the patient's welfare.

The trend in hospital planning today—markedly in the newer foreign work (see Tuberculosis Hospital for Palestine, Pages 74-80)—is increasingly away from extreme centralization toward more open planning with a clearer separation between the various functional units.

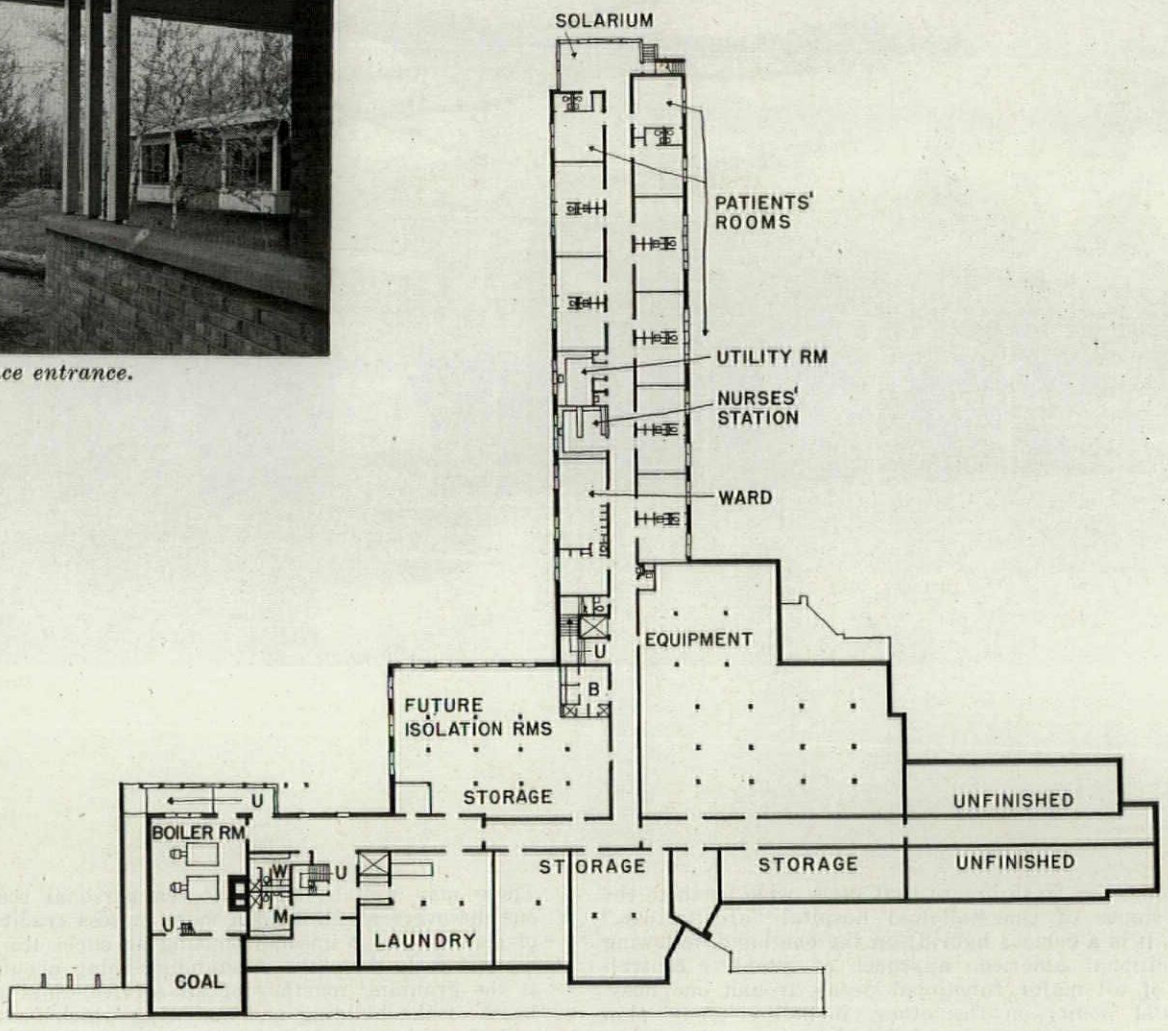
There may well be local or even personal reasons why one discovers at Midland a more or less traditional type of plan within so uncompromising an enclosure. Mr. Dow himself feels that "the outstanding thing about this plan is the grouping together of all service units within the heart of the building and one wing which makes it possible to add to the bedroom facilities without in any way disrupting the service facilities or their operation." Which only supports our original contention that the theory of design progress, faced with a particular set of conditions, is sometimes consciously scrapped in favor of other benefits considered of more importance. Were the whole story known (were, indeed, even hospital experts in complete agreement), some absolute judgment might be offered;



Model.



Ambulance entrance.



GROUND FLOOR PLAN

here we can do no more than point out a fact to question, not to condemn.

Basic requirements were a hospital of 35 surgical beds and 15 obstetrical beds, with the opportunity to increase either at any time and with probable expansion of the surgical wing within five years. In evolving the plan, the architect capitalized on a sloping site condition to supply the estimated ultimate need for surgical beds (space that is temporarily used for other purposes) in the initial construction.

PLAN

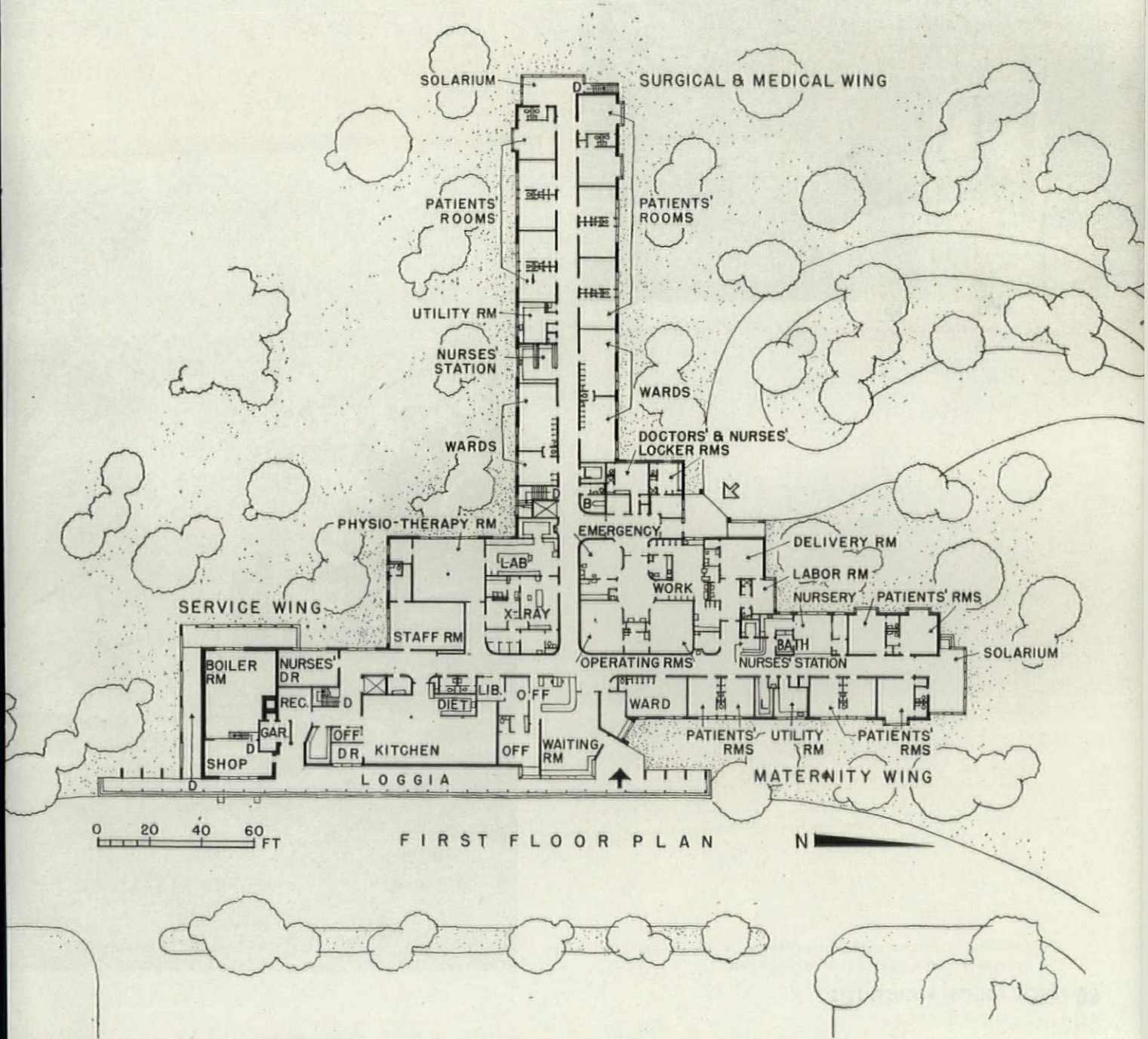
Special Features: Boiler room, kitchen, and other chief noise sources isolated in a separate wing; simply planned rooms and wards, several equipped with cheerful bay windows; toilet, bedpan flusher, and lavatory with every room, gaining privacy and simplifying the nursing task; nurses' station and utility room centrally located in each corridor; sheltered entrance for visitors along main front of building; isolation room for suspect cases adjoining the nursery in the maternity wing; wholly interior, precisely controlled operating rooms and X-ray department (this all depends: initial cost of air conditioning system is high; maintenance requires services of expert technician, but the system keeps usual operating room odors out of the hospital and those who use the building tell us that a frequent visitor's remark is "It doesn't *smell* like a hospital"); laboratory dark room laid out with a dry and wet side—a detail, but one often overlooked.

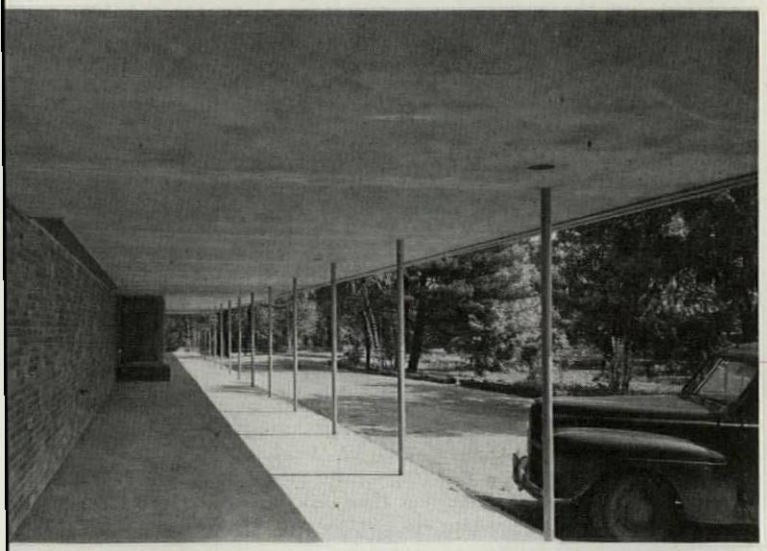
Features on Which Opinion Varies. Spread-out, one-floor scheme necessarily means extra footsteps; in this case, considered preferable to stair climbing or need of costly elevators with their attendant service and maintenance factors.

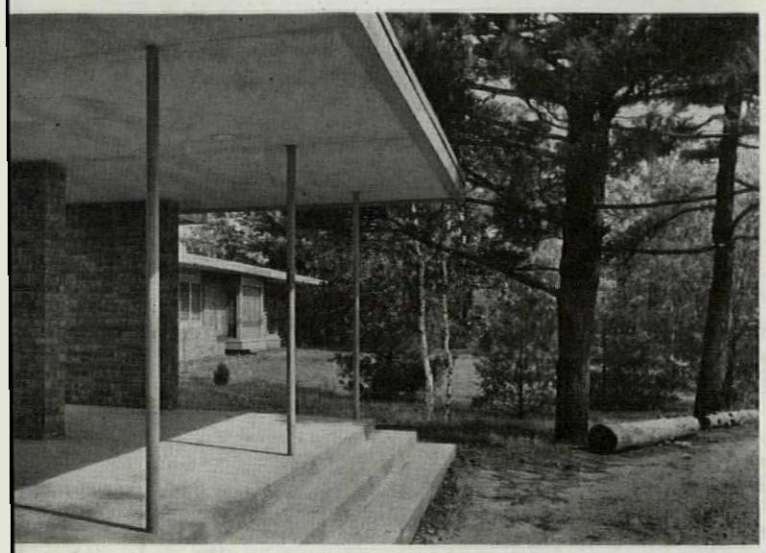
Windowless kitchen. As the hospital Superintendent, Ada I. Mitchell, puts it: "I feel that any section of a hospital where people are working eight or more hours a day should have outside windows, particularly when the surroundings are attractive."

Several basement storage spaces apparently not organized for single-point control; also no particular provision for one-point control of deliveries of food, linen, supplies, etc., etc. Possibly not too important in a hospital of this size, but in large institutions (see TB hospital, Page 74), a factor of great importance.

Location of ambulance entrance. Convenient to emergency







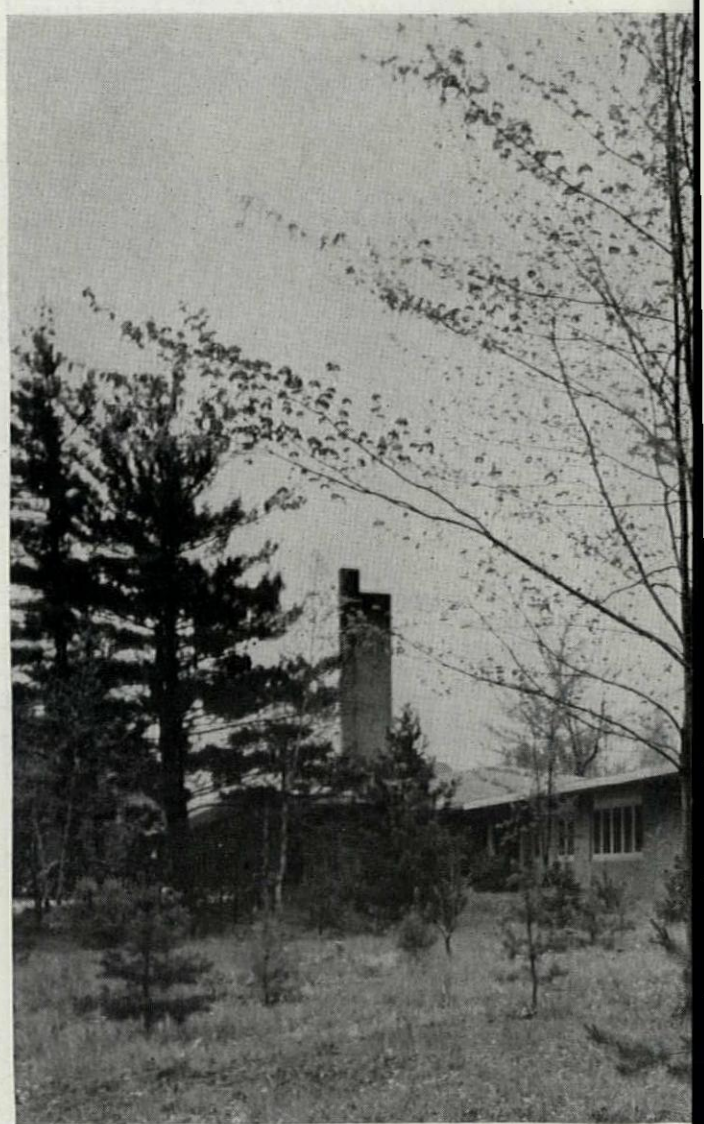
The continuous porch provides sheltered entrance for visitors.

and operating rooms, but arrival of patients—particularly emergency cases—can entail considerable noise and confusion. Location here is not far from bedroom windows, also in a sound-reflecting right angle. Furthermore, in connection with emergency cases (particularly if several stretcher cases are involved) not much extra space is available at this point for the inevitable congregation of stretchers, police, family, etc.

Emergency room shares corridor space and (evidently) utility room with other operating rooms. For the occasion where an emergency case may bring with it the more hardy varieties of germs, the problem of localizing and eliminating them must be aggravated compared to schemes where the emergency unit is located and served separately.

Common bath in connection with nursery. According to U. S. Public Health Service standards, the common bath for infants' nursery is obsolete. The reason: pediatricians usually prefer individual oiling of newborn babies to what is generally thought of as actual washing; the common bath provides a possible avenue for communication of disease.

Probably the most talked about single feature in the design of this hospital—unfortunately not apparent in black and white photography—is the imaginative use of color. As Mr. Dow describes it: "Every room has its individual balanced color scheme. Colors used in bedrooms might be called 'soft,' but colors in public spaces are as brilliant



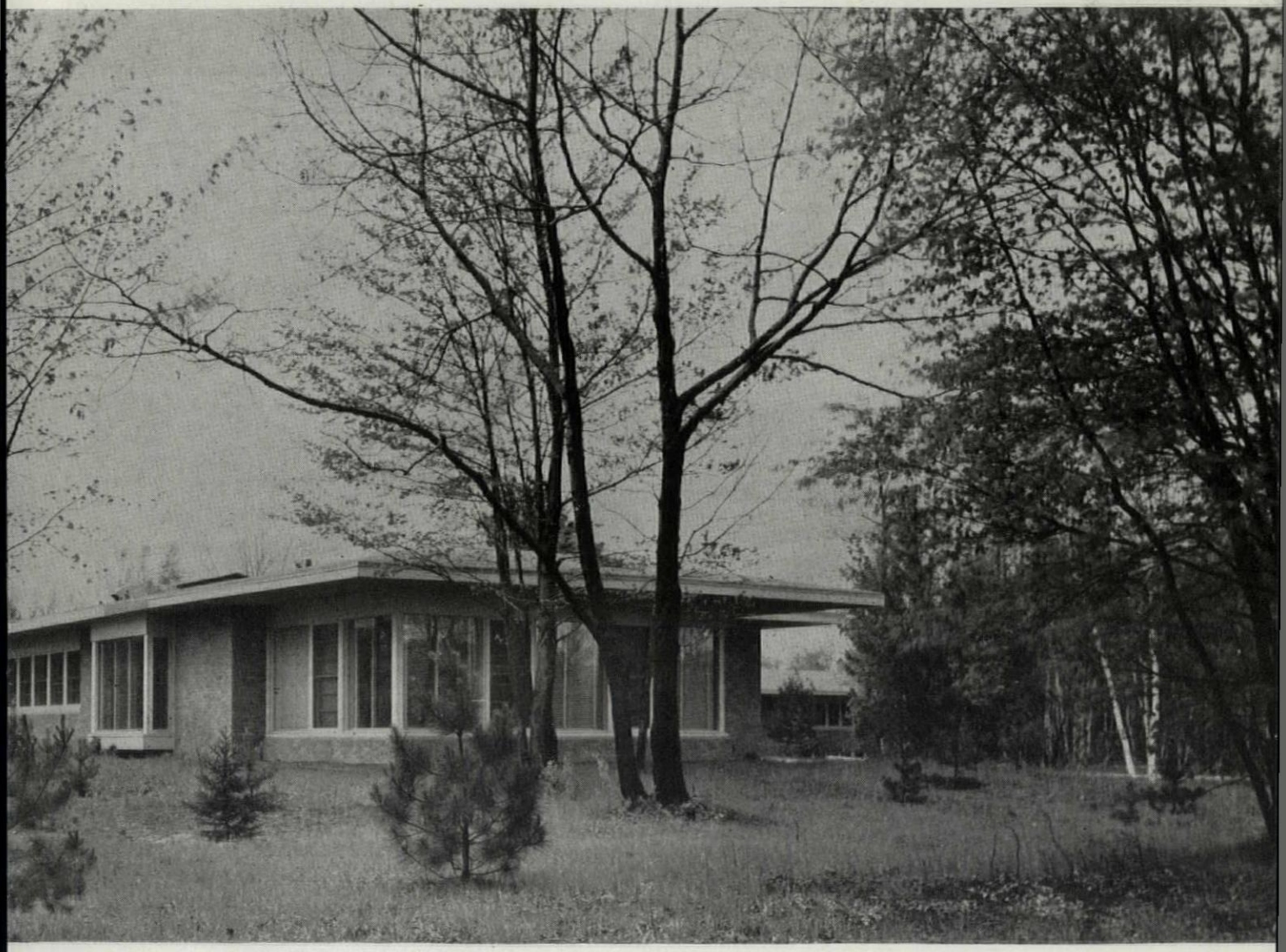
Instead of lawns and flower beds, ferns, moss, and native creeping vines have been encouraged.

as possible and lend a very cheerful air to the whole building." Philip T. Rich, President of the Midland Hospital Association, sponsors of the building, is enthusiastic about the result. "The time has come," he says, "when hospital design must take into account use of color to benefit patients. . . . The dark, dismal, and cheerless hospital should be relegated to the scrap heap in the name of efficiency and better health." Superintendent Ada Mitchell finds the color scheme "a definite improvement on the brown and ivory of many hospitals of the past," while admitting that the plain colored floors and pastel tints on woodwork do show up the dirt. But since a hospital should be immaculate, anyway, this isn't a real objection and "the patients react very favorably . . . the nurses, too, find it more cheerful."

"Poor indeed is the architect who cannot learn something in hospital design from what Alden Dow has done here," President Rich asserts. "There has never been one cent of deficit from operating since the day we opened more than a year ago. . . . The patient reaction is outstanding, while the hospital staff and doctors have repeatedly praised the building for its convenience and completeness." As to the "very few things" that might be done differently if the project were to be done over: instead of the below-ground laundry, an above-grade location is suggested with ample ceiling space and plenty of windows and ventilation to get rid of the heat—"in this climate, however, a problem only for three or four months of the year." At Midland, a forced air ventilating system is used. In the kitchen, too, Mr. Rich advocates even greater ceiling height to provide more ventilation, but in general the Association President claims without reservation: "We have the finest all-around hospital plant in the United States."

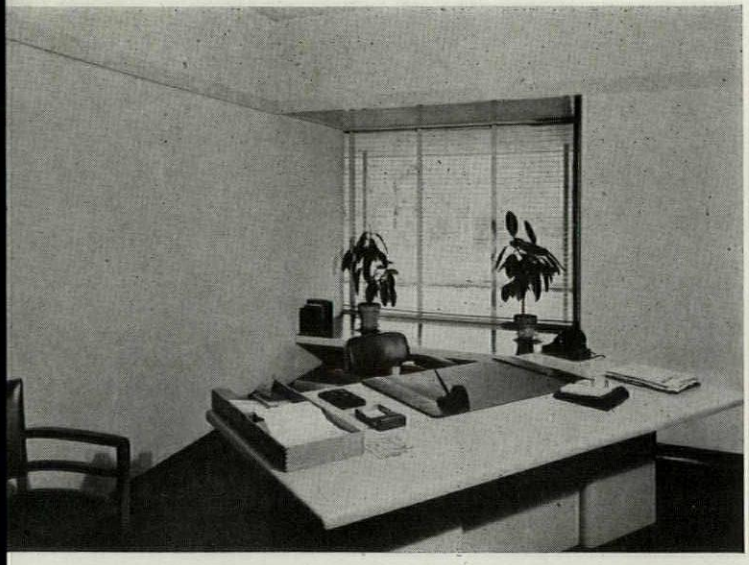
In structure, walls and floors are fireproof masonry. "The upper ceiling and roof would have been so constructed if war restrictions had permitted," says Mr. Dow. Walls are of local cinder block with brick facing; footings and floors are concrete, the latter surfaced with linoleum or terrazzo. All large windows are of prefabricated double glazing, except in the nursery viewing window where a special combination of ¼" and ⅛" double glazing is used for soundproofing.

As to acoustical control in general, "at the time of building, satisfactory acoustical wallboards were practically off the market and no acoustical material was used in the bedrooms," Mr. Dow reports. However, the acoustical problem in this hospital was not considered too serious a factor due to the fact that spaces are well separated. All halls and public spaces have ceilings of acoustical plaster extending down to door frame height, and most partitions are of plastered cinder block which act as sound absorbers. "Even so," the architect tells us, "further acoustical treatment is desirable." And a comment he makes for the manufacturer's consideration: "To date there are no sound-absorbing boards or materials that are thoroughly satisfactory . . . the best ones are difficult to keep clean. We are hoping in the future a soft, unbroken surface mate-



Waiting room—red, white, green, and cream.

Superintendent's office.

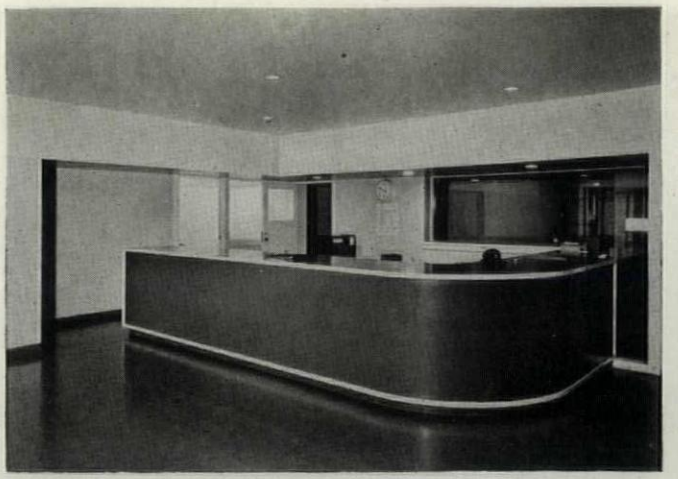


rial will be available that can be used not only on walls and ceilings but on floors as well."

So extraordinary is the use of color in the Midland Hospital that we risk the danger of overemphasis to describe it in some detail. The spacious, many-windowed entrance lobby has a bright orange-red linoleum floor; the reception desk is painted red with a white band at top; the plaster walls are light green; the ceiling is cream, and the blonde furniture is upholstered in yellow leather.

Corridors use the same red flooring but follow this same general scheme of white walls and green ceilings. Doors to bedrooms, each fitted with a red linoleum push plate, are variously painted pink, light blue, pastel green or cream.

The building is heated by steam using a steel radiation system that consists of steel pipe with steel fins pressed into place. Special properties of this type of system allowed radiation above floor level even in rooms where windows run nearly to the floor and also above window lintels, where



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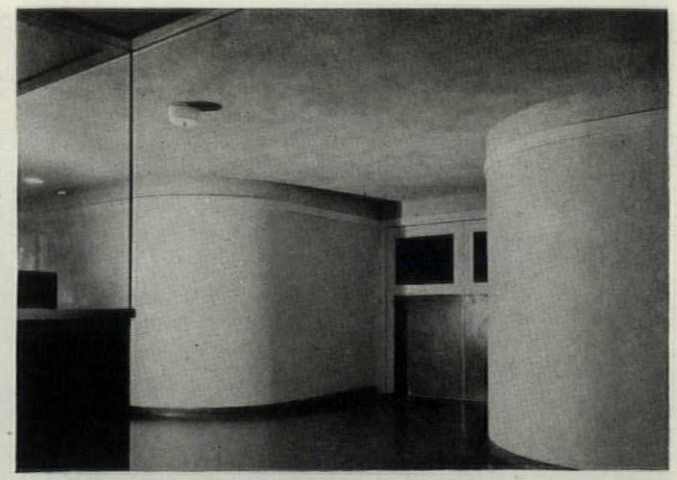

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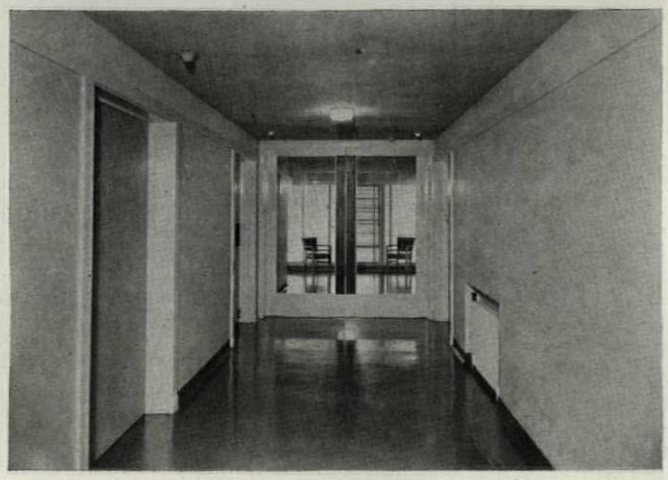


4

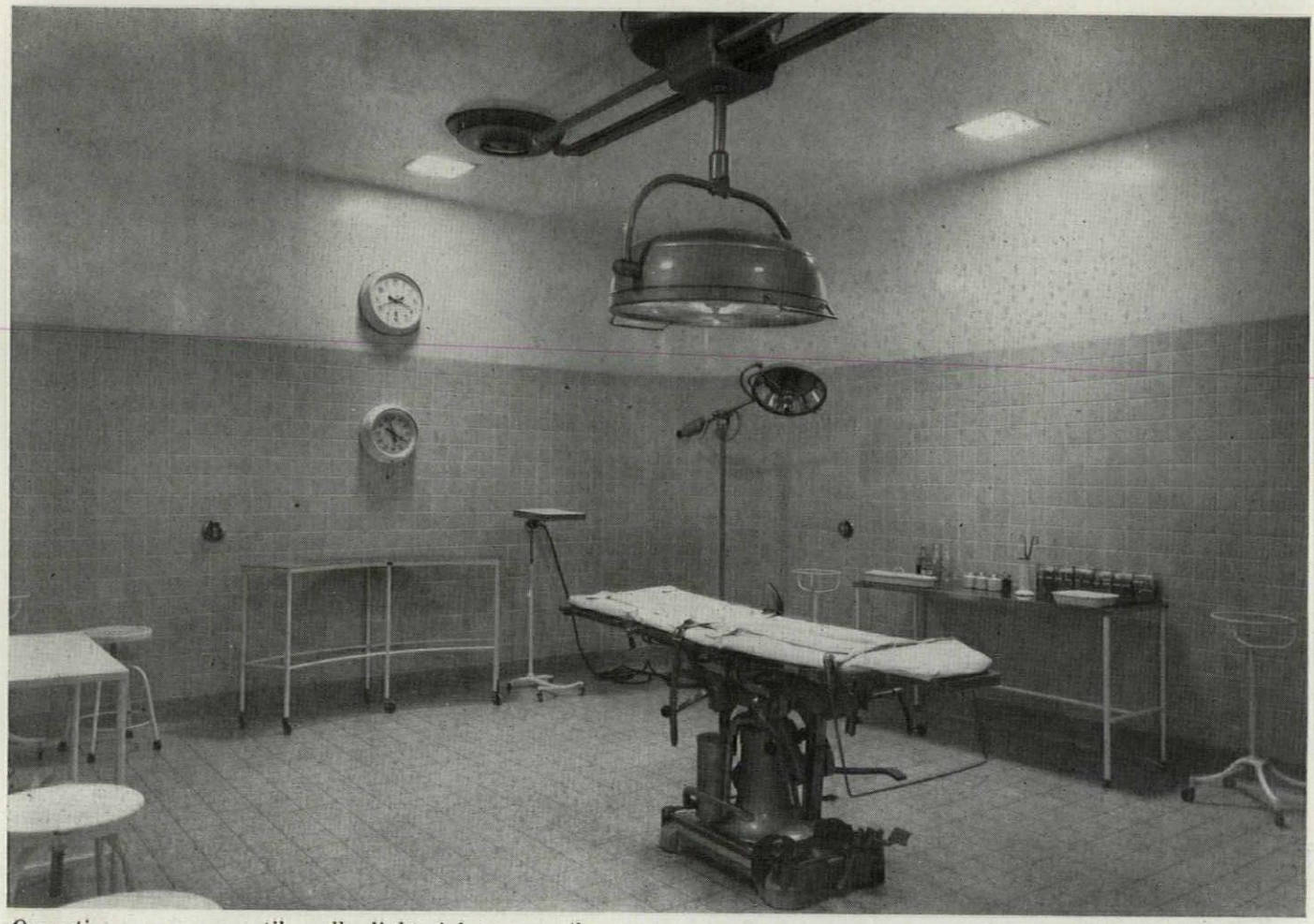
1. *Waiting room counter.*
2. *Typical corridor.*
3. *Nurse's station.*
4. *Corridor to solarium.*
5. *Solarium.*

floor radiation was undesirable. Individual controls are provided for each wing with an air conditioning system for operating rooms and X-ray department. At present, cooling is not a part of the conditioning system, but it was designed with this addition in view when available.

The operating rooms have light pink floors, light green tile walls, and white ceilings. Each is equipped with automatic, portable room lights that snap on instantly in case of power failure. So far, according to Superintendent Mitchell, there have been "no complaints regarding these windowless rooms. . . I believe them to be very satisfactory when an air conditioning system is also used."

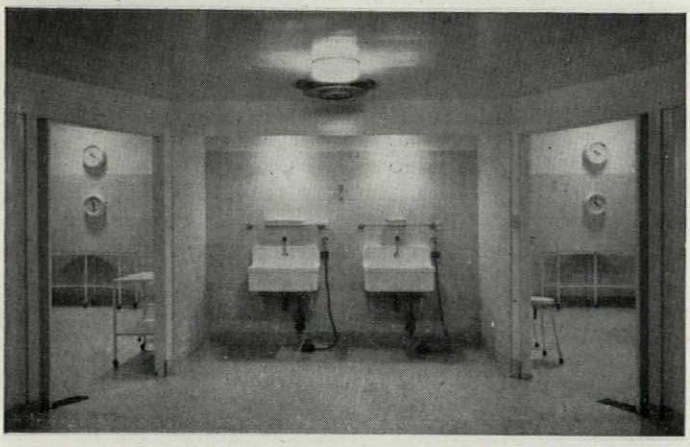
In the colorful bedrooms, window-sill heights vary from 6 inches (room at top, facing page) to 30 inches (center, across page). Thus, patients have an unusual opportunity to enjoy the pleasant setting. The woodland tract is purposely kept absolutely wild, with ferns and wild plants encouraged. This not only minimizes landscaping and maintenance costs but, as Mr. Dow comments: "The patients take great delight in these surroundings and have even been greeted in the morning by a deer licking the window pane."

5

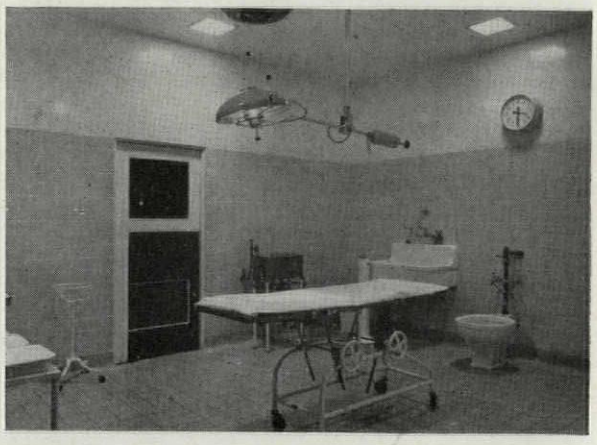


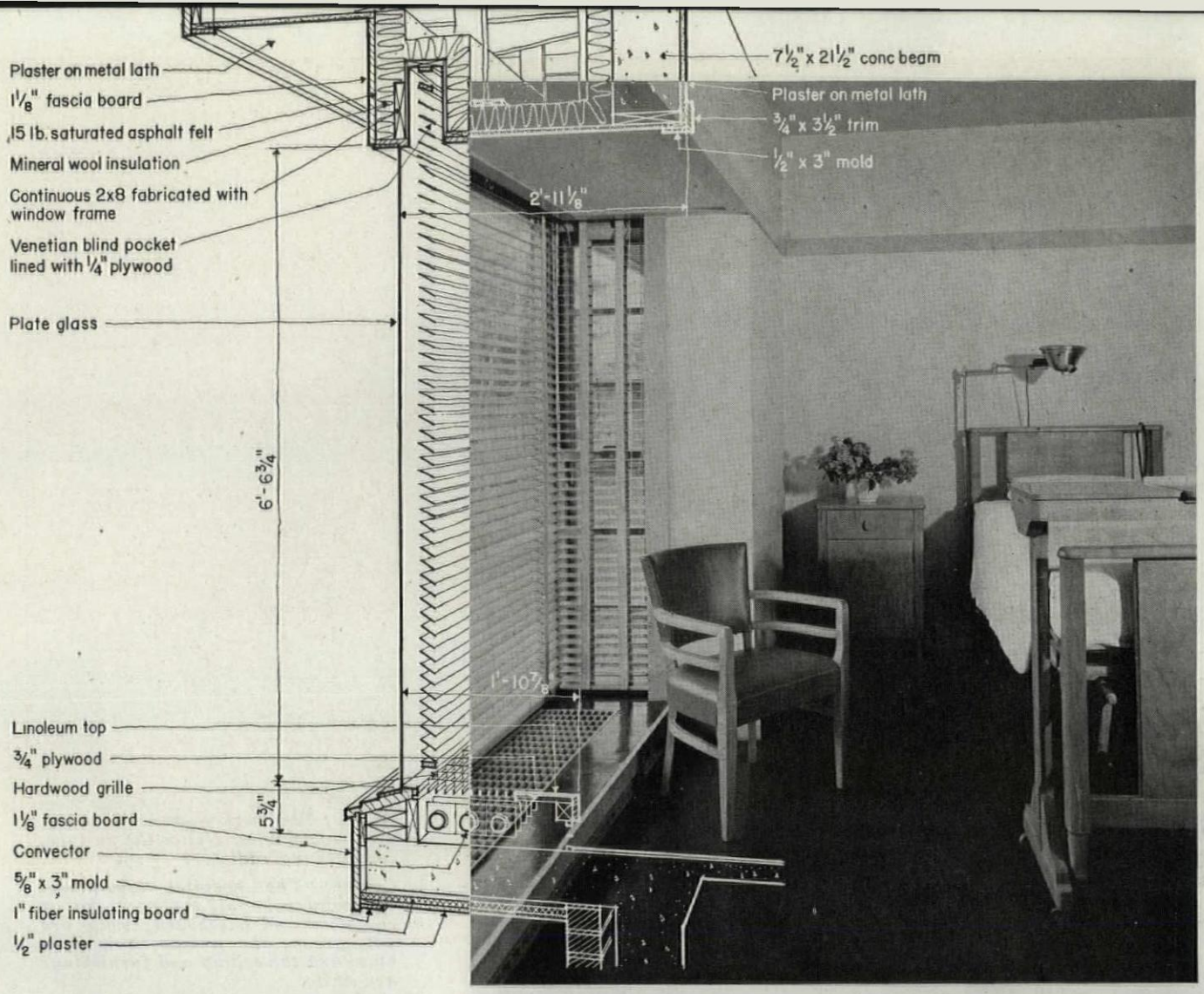
Operating rooms: green tile walls; light pink terrazzo floor.

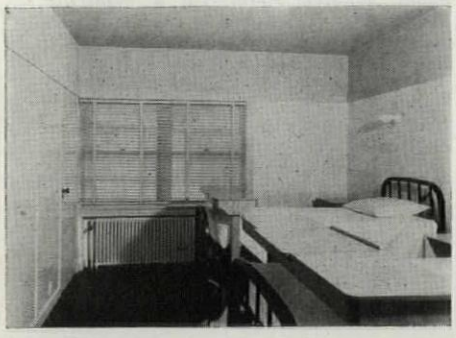
Surgical lobby.



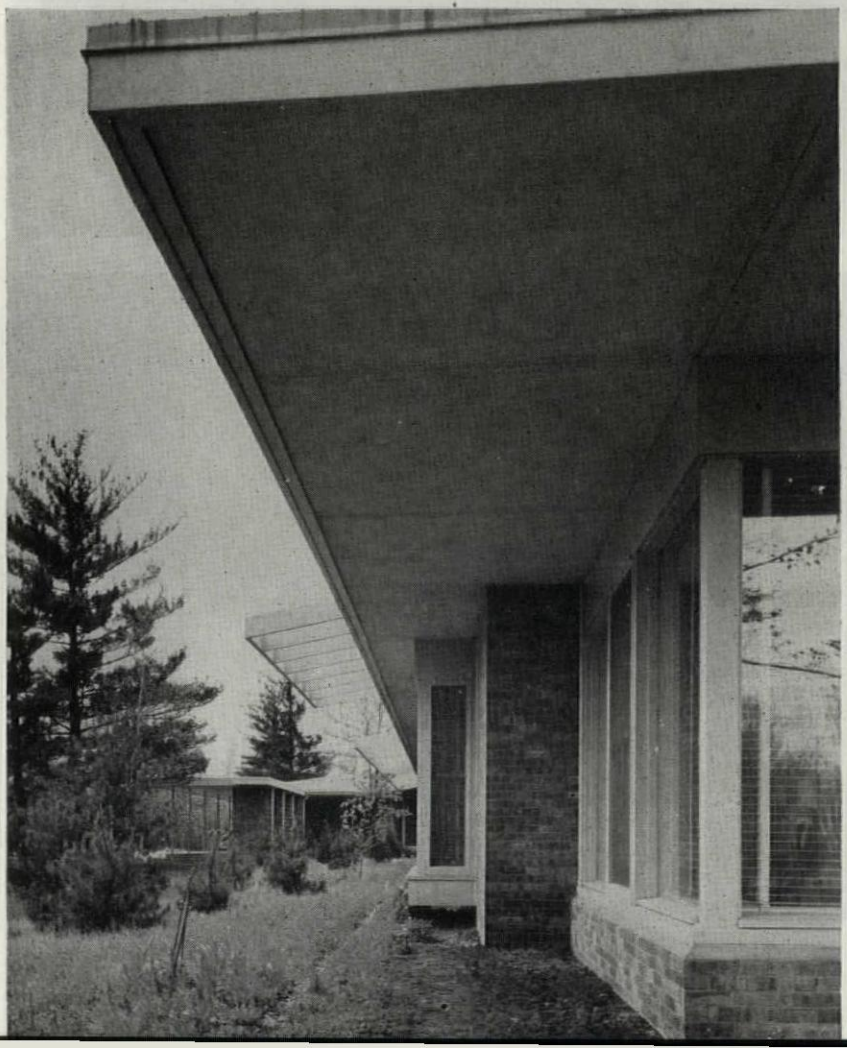
Second operating room.



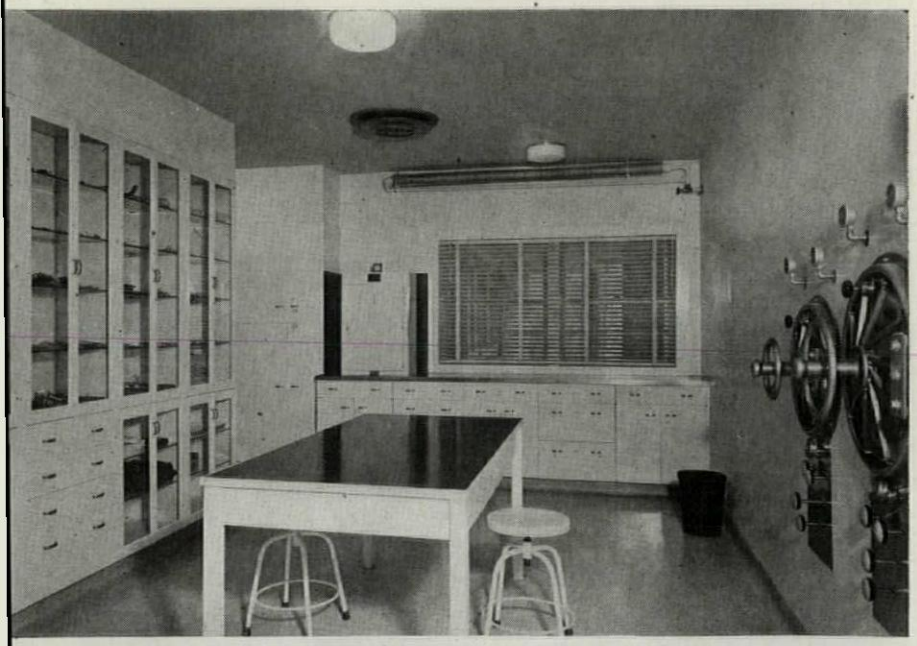


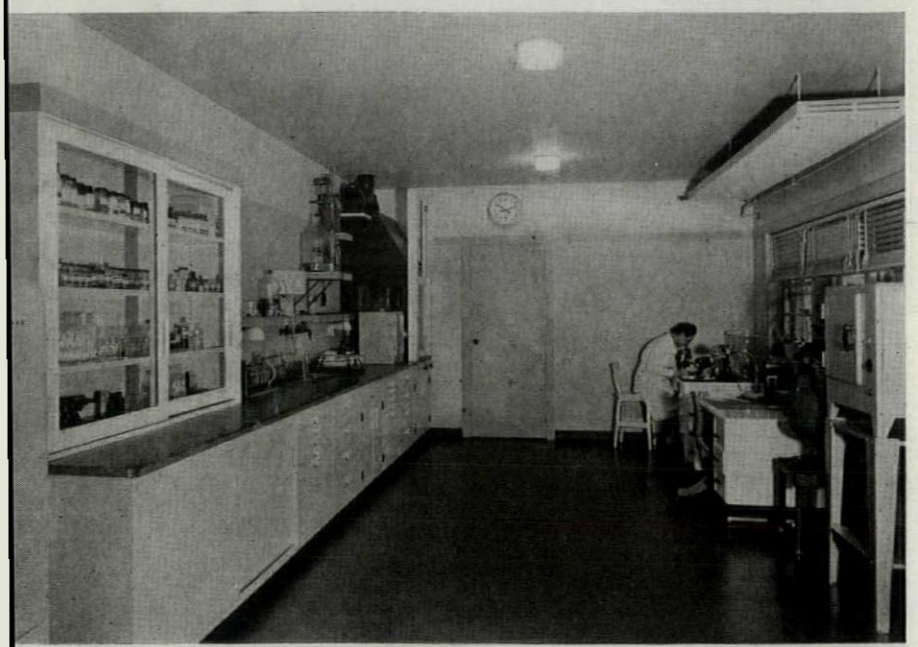


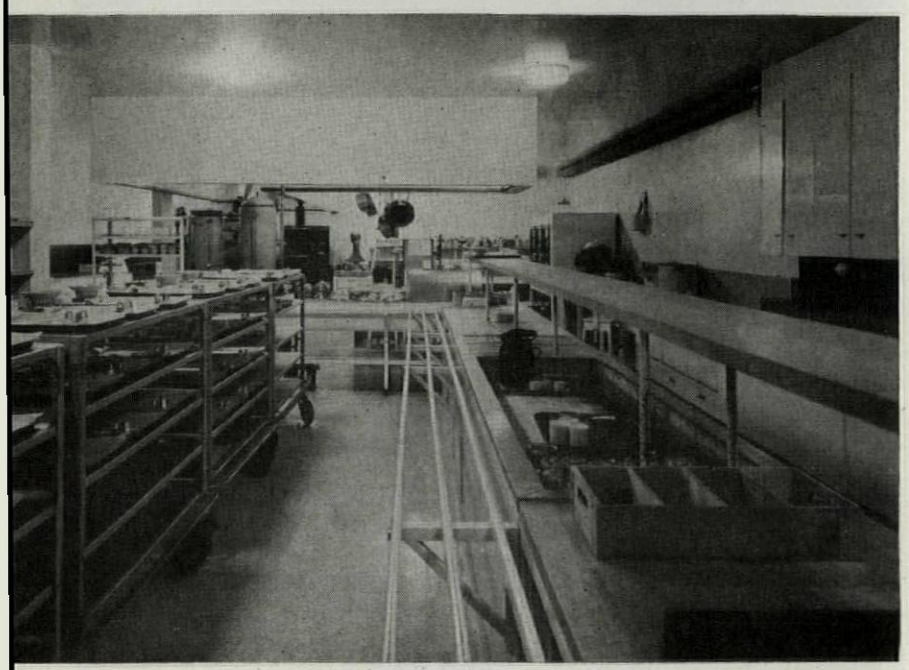
Double bedroom.



Detail showing solarium (right) and bedroom bay window beyond.



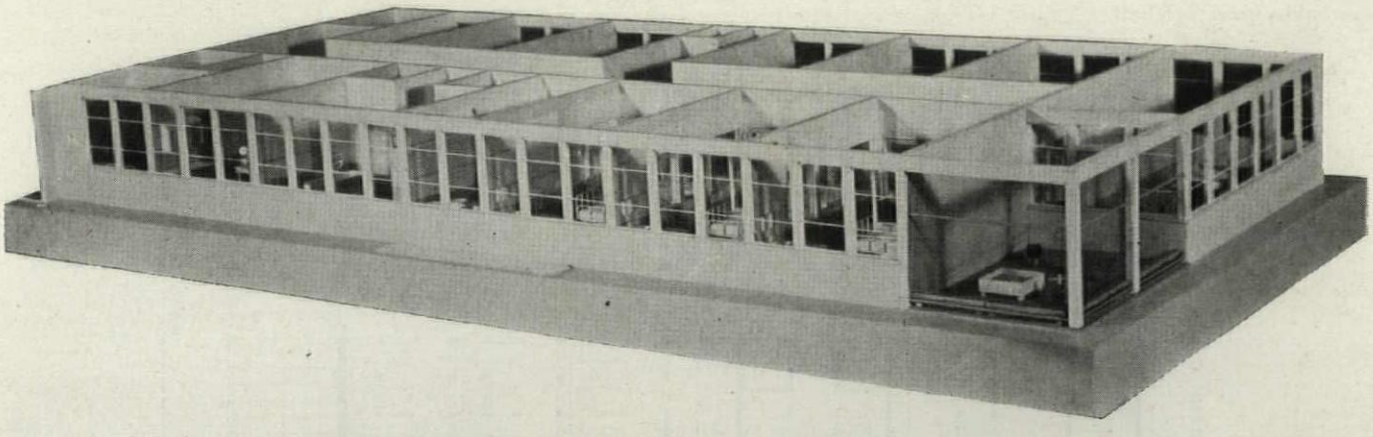




At top: The work room in the operating-room suite. Notice the fin-type, ceiling-hung radiator.

Center: The hospital laboratory. Typically colorful, the room has a red floor and baseboard; walls are pale green; the woodwork is light blue; and the ceiling and furnishings are white.

Bottom: The kitchen, located with other service rooms in a separate wing. Light and air in this windowless room are precisely controlled by artificial means.



A TYPE PLAN FOR A PEDIATRIC HOSPITAL UNIT

by The Hospital Facilities Section, U. S. Public Health Service, and The Division of Research in Child Development, Children's Bureau, U. S. Department of Labor, Washington, D. C.

Hospital care of infants and children deserves careful planning to relate it to modern standards. Children not only need protection from cross infection but, from a psychological standpoint, they need to be in the company of other children and in surroundings as cheerful and homelike as hospital conditions will permit.

In smaller hospitals it has been the custom to make no special provision for the care of children, but to use what rooms are available when the need arises. In larger hospitals there are usually open wards for children and perhaps one or more rooms for observation or isolation purposes. Little thought has been given to grouping the children according to age and condition, or to the arrangement of a service room to facilitate nursing care.

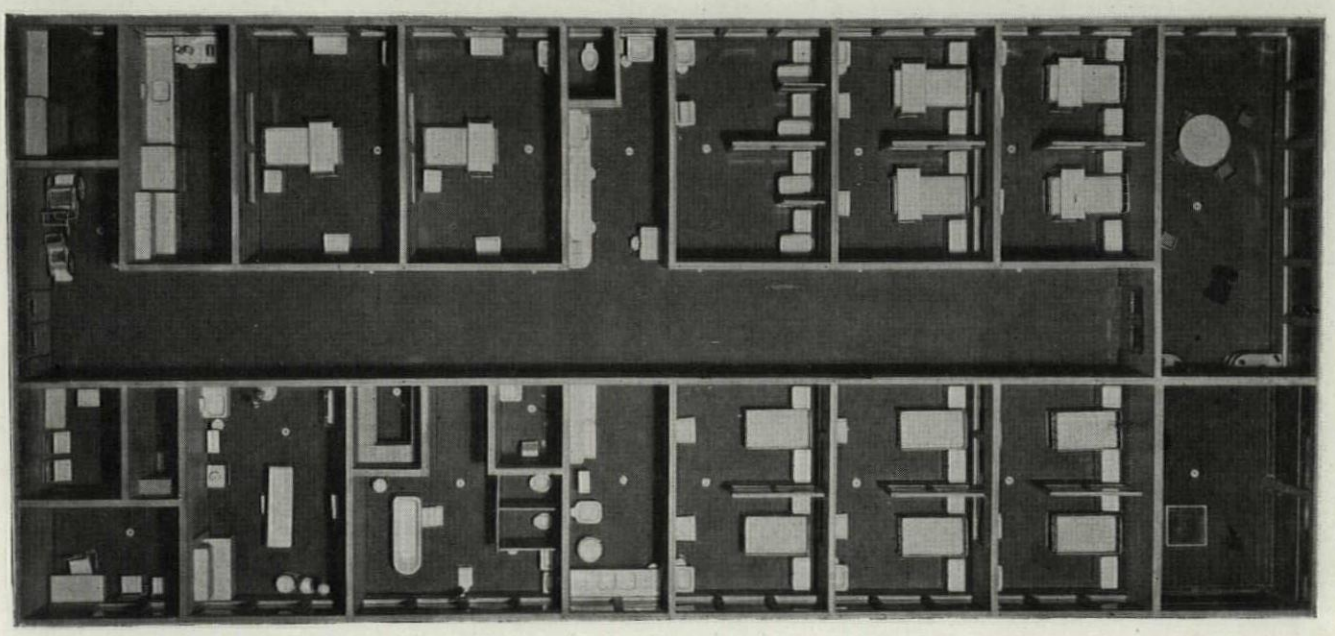
The plan for a 14-bed pediatric unit in a 200-bed general hospital shown here is based on an estimate that 5 to 15 percent of the total number of beds are needed for children.* This 14-bed unit may be expanded to a 20-bed unit without an increase in service-room facilities. The 14-bed unit probably contains the smallest number of beds for which a complete unit such as described in this plan is practicable in most instances. The maximum of 20 beds is somewhat below that allowed for an adult unit because of the proportionately greater nursing time required in caring for infants and children. If the average daily child census is less than 14, an adequate number of rooms should be kept available for segregating children from adults, but common service rooms must of necessity be used. The unit should be so situated that it will be in a quiet area and in northern climates oriented with the main axis north and south, thus permitting east and west exposure in the patients' rooms, with the playroom and terrace at the southern end. In a multi-story building adequate fire stairs would, of course, be required.

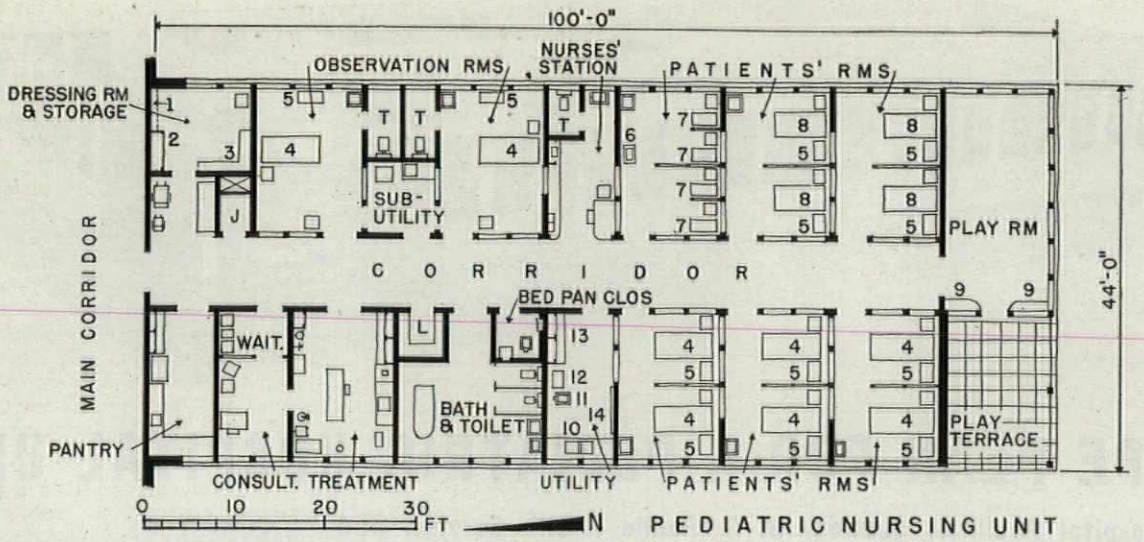
** Data are inclusive with regard to the proportion of pediatric beds needed in a general hospital.*

Patient Rooms

As shown in the plan, there are two one-bed rooms and six two-bed rooms in which the beds are separated by partitions 7 feet high, glazed with clear glass above the bed-mattress level. Partitions which extend to the ceiling between rooms are similarly constructed so that the children may see one another and the nurses may see the children at all times. Washable curtains are used to secure privacy when desired.

Each child's cubicle is so arranged that individualized bedside care may be given. Each room contains a lavatory so that physicians and nurses may wash their hands before and after handling each child. A hook for a gown is placed at the entrance to each cubicle. In the cubicle is a bed of suitable size and two bedside cabinets, one for storage of utensils for care of the child, including a bed-

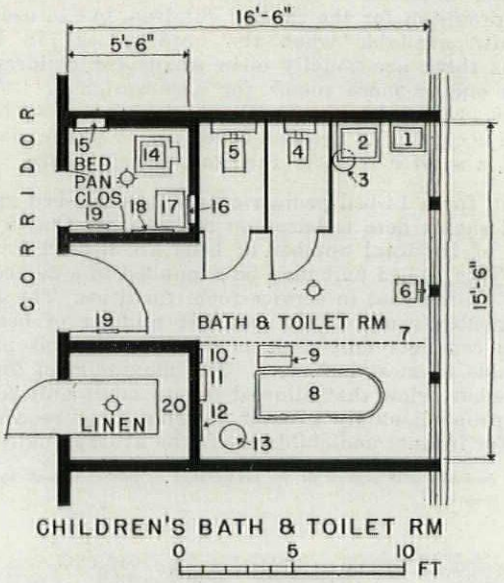


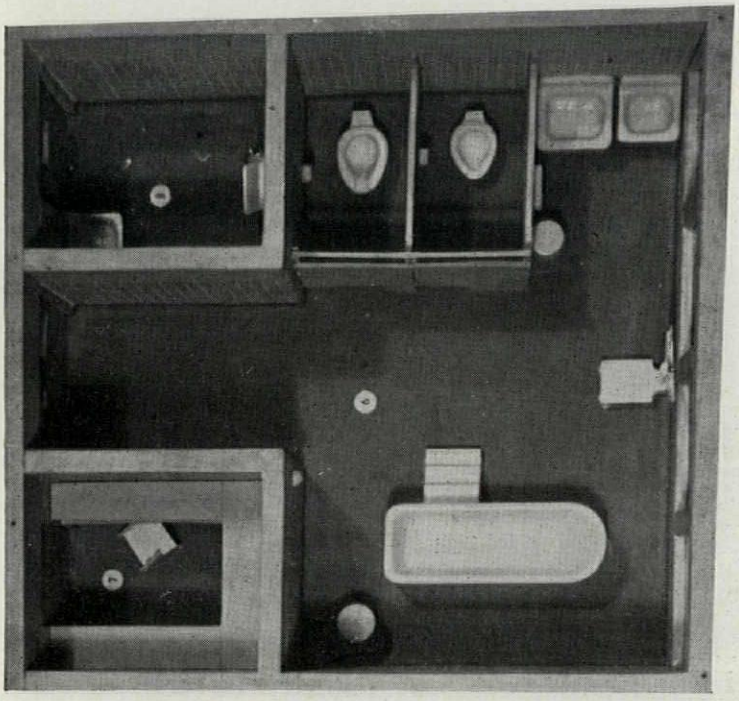


1. Hanging pole, shelf over.
2. Storage cabinet.
3. Shelving.
4. Child's bed.
5. Toy and clothes cabinet.
6. Infant scale.
7. Bassinet.
8. Crib.
9. Toy shelves.
10. Double laundry tray and double drainboards.
11. Clinical sink.
12. Utensil sterilizer, 20" x 20" x 24".
13. Counter, 36" high; cracked ice bin and cabinets below; wall cabinets above.
14. Drying rod.

Notes: Hospital should be oriented so that ward wings receive benefit of southern exposure, prevailing winds, and maximum quiet.

Five patients' rooms may be added to this unit with no additional service rooms.





1. Lavatory — junior size.
2. Lavatory — adult size.
3. Waste paper receptacle.
4. Water closet — junior size.
5. Water closet — adult size.
6. Scale.
7. Curtain rod.
8. Bath tub — pedestal type.
9. Steps.
10. Dome light and buzzer — set 5'-6" from floor.
11. Towel bar.
12. Hook strip.
13. Stool.
14. Clinical sink.
15. Bedpan washer and sterilizer.
16. Medicine cabinet.
17. Table — 16" x 20".
18. Bulletin board.
19. Vision panel.
20. Shelving.

pan; the other for clothing and toys, the top of the cabinet serving for a flower or bookstand. To provide additional space for infants, a two-bed room may be converted to a four-bassinet room by putting in two movable partitions.

In order to provide special facilities for carrying out rigid isolation technique, the two one-bed rooms have been equipped for the care of children who are under observation for some communicable condition.* These rooms may also be utilized for other purposes, such as the care of very ill or moribund children, or those who need a quiet environment. Each of these rooms is provided with a lavatory and toilet with bedpan-flushing attachment. Between the two rooms and connecting with them is a sub-utility room equipped with a sink and utensil sterilizer. There is also space for installation of an additional full-size bed, so that, when desirable, a mother may stay with the child. These rooms may be used as part of the regular unit when not needed for special purposes.

The size of each patient's room is 16 feet 6 inches x 11 feet 6 inches (190 sq. ft.), allowing for each child in a two-bed room 95 square feet of floor space and 903 cubic feet of air space (9 ft. 6 in. ceiling). For each infant in a four-bassinet unit there are 47 square feet and 451 cubic feet, a space requirement that more than meets the standard (30 sq. ft. and 300 cu. ft. per infant).

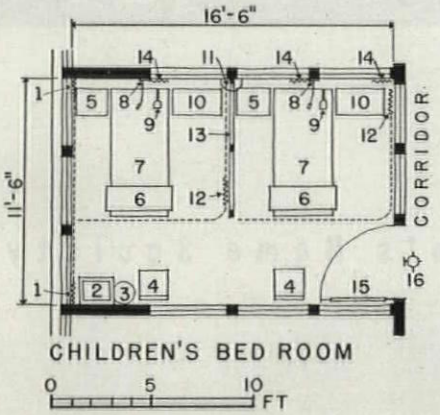
The requirements for light and ventilation are amply met. In all units adequate artificial illumination is provided by indirect ceiling lighting. Space for sun bathing and outdoor play has been provided in a sun porch and connecting open terrace fenced to a height to provide for safety. Throughout the patient areas walls, furniture, and toys should be painted soft, cheerful colors. Lead-free paint should be used on beds and toys.

Service Rooms

As already pointed out, the plan has been made with a view to facilitating the nurse's work. For this reason service rooms are centrally located in the unit. The nurse's station is so placed that she is able to observe the children in all the rooms without leaving her station, and so that foot travel is reduced to a minimum. Near the nurse's station are the utility room, bedpan-sterilizing unit, and linen room. The treatment room has, for obvious reasons, been placed as far away as practicable from the patient areas. In order to provide privacy for parents who wish to consult the doctor, a small waiting room near the main entrance is available.

It should be noted that no provision is made in the plan for a sterilizing room, a clinical laboratory, a milk room for preparing infant feedings, a doctors' locker room, and a nurses' locker room. It is assumed that all these facilities will be provided elsewhere in the hospital.

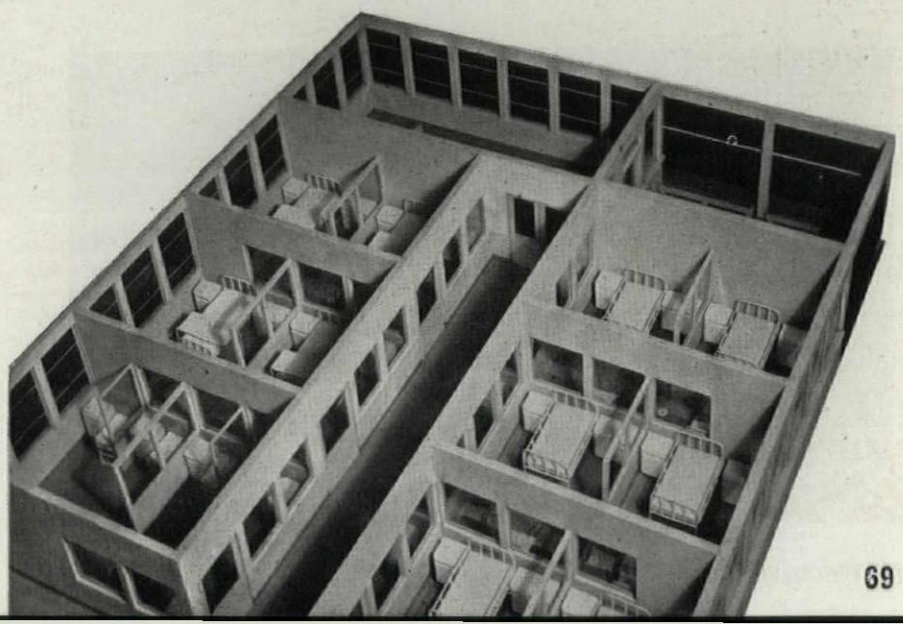
** Plans for a complete contagious disease nursing unit are available.*



1. Sliding window curtain.
2. Lavatory — adult size, knee control.
3. Waste paper receptacle.
4. Straight chair.
5. Bedside cabinet.
6. Overbed table.
7. Child's bed.*
8. Nurse's calling station; duplex receptacle; optional radio; and pilot light.
9. Bed lamp.
10. Toy and clothes cabinet.
11. Indirect wall fixture above top of cubicle.
12. Cubicle curtain.
13. Glazed cubicle partition — 7'-0" high.
14. Curtain.
15. Glazed door.
16. Corridor dome light.

Note: Glazing to begin 3'-0" above finished floor.

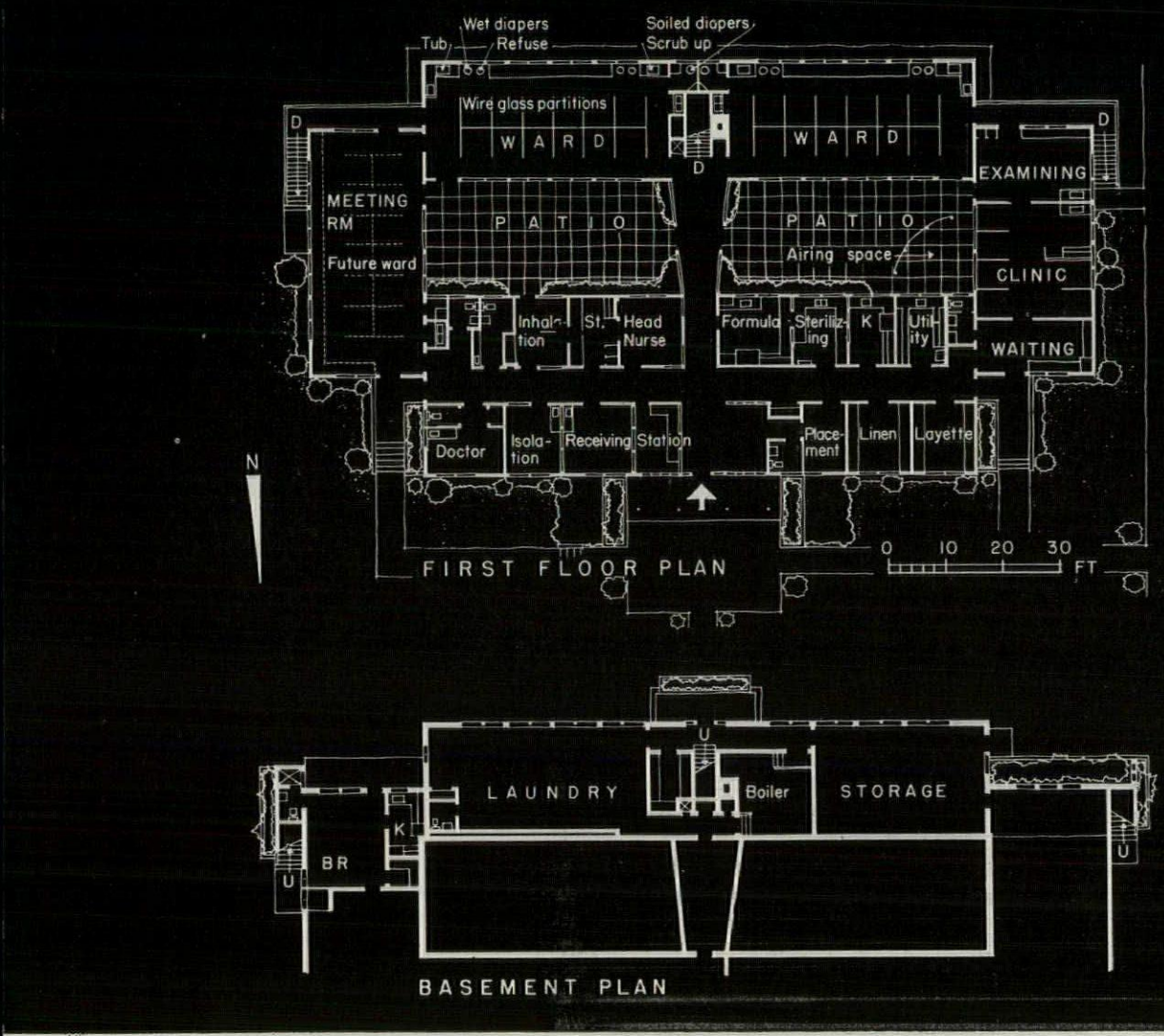
** Infant's crib may be substituted for child's bed as required.*



NURSERY BUILDING for the Children's Home Society

PAUL ROBINSON HUNTER, A.I.A., ARCHITECT

At the top of the page is shown the southwest corner of the building, and to the left is a bird's-eye perspective.



of California, Los Angeles

A temporary home for children awaiting adoption and a clinic that examines children who have been placed in boarding homes, this nursery represents a specialized building type that has seldom been published. The Children's Home Society of California, a child welfare organization serving in the field of adoption, conducts four general activities:

1. Helps parents who express a desire to place their children to explore their own feelings toward the child and to work out a plan that is in the child's best interests.

2. Studies and prepares the child for placement, if indicated.

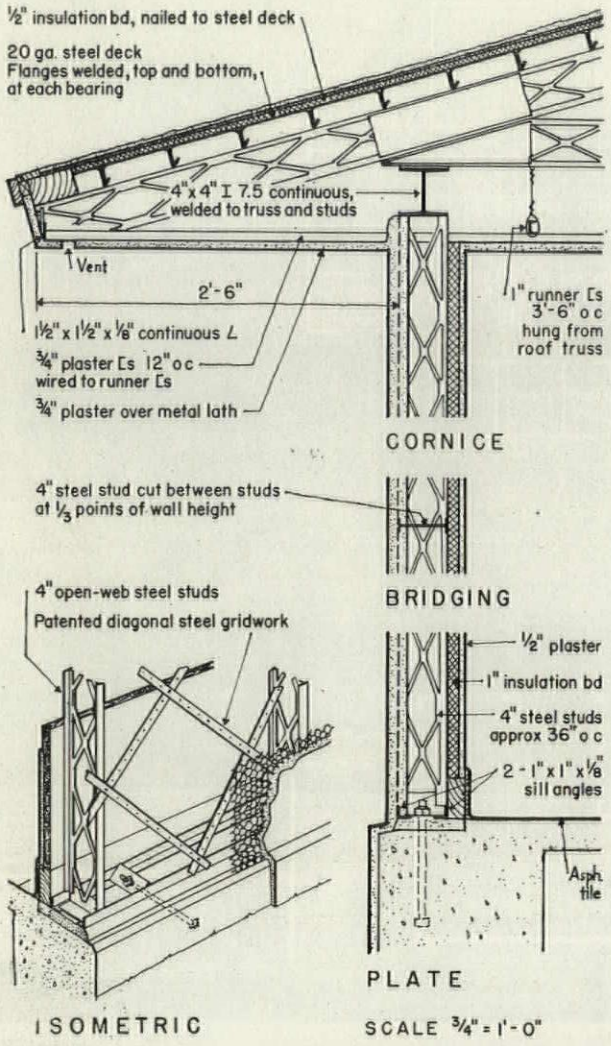
3. Studies and selects a suitable home for the child.

4. Follows the child's development in his new foster home for a period of a year prior to adoption.

Though the Society serves children of all ages, most of the work is with infants less than one year old. The process, designed to furnish a well-rounded program of care, varies depending on the particular conditions. A baby that is underweight, sick, or for some other reason needs highly controlled care, is housed in the Nursery Building; one that is physically strong and ready for or needs family life is placed either in a boarding home (carefully selected from a licensed list) or an adoptive home. Children older than one year are cared for in boarding homes until they are placed for adoption or return to the community for further plans.

The new Nursery Building erected by the Society contains space for thirty infants, a clinic for the examination of children of all ages in boarding homes, and a meeting room that is available for training classes, special meetings, or staff activities. The meeting room is later to become a third ward, and training and similar activities will go on in space on the lower floor that is unfinished at present.

The nursery is operated under the Dick Isolation Technique which was adopted to prevent the spread of bacterial diseases among the babies. Each infant is in a cubicle separated from the others by glass partitions. An individual bedside table contains separate equipment such as bath basin, cotton, gauze, solution, and linen, which is sterile when the child is admitted and which, once used by the occupant of the cubicle, is considered contaminated



for all others. Only sterilized food is given to the infants. The formula for each baby is prepared individually in the diet kitchen. Nipples are put on with gloved hands and protected with sterile gauze until the food is given to the child. All infants are held and cuddled while being fed, a technique considered to be most important in maintaining the emotional security of the infant as well as its physical well-being. All nurses are required to wear masks and to scrub their hands well before and after giving care to each individual infant.

In the recesses adjacent to each scrub-up sink are two pedal-controlled hoppers approximately 20" in diameter, one for wet diapers, the other for waste gauze and other refuse. Soiled diapers are given an immediate pre-washing in the flushing rooms and stored there in hoppers to be sent later to the laundry. Miscellaneous bottles and small linen items are washed in the double sinks in the recesses. A tub is also provided in the counter for bathing infants should the nurse decide to remove a particular baby from its cubicle.

The nursery at present consists of two wards with twelve cubicles each. In addition, there is an inhalation room with two cubicles for infants with respiratory conditions and there is a room for infants with contagious diseases. Although the latter are rushed to a hospital immediately, it was felt that the room was needed for emergent care pending their removal.

In the front part of the building, all of the rooms except one—the layette room for assembling layettes for boarding-home infants—are for the operation of the infant nursery. The doctor's examining room is used for the examination of all nursery babies. The doctor, a well-known pediatrician, devotes two mornings weekly to the work of the Society.

The placement room is designed for the use of the foster parents who go to the nursery to see and hear about the baby for which they have been selected. A member of the nursery staff gives them all pertinent information about the infant's development and care.

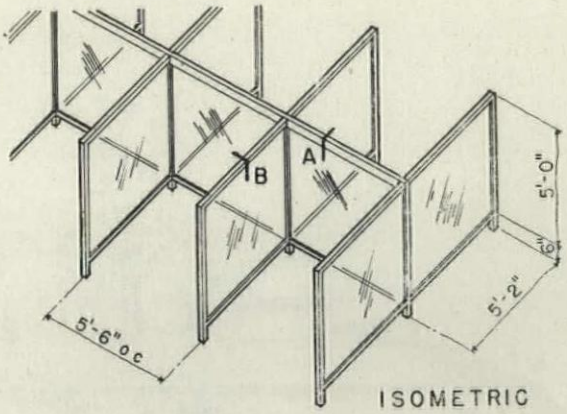
Architect's sketch of passageway between patios with one wall of passage removed.

The pediatrician and psychologist examine the children cared for in both the nursery and the boarding homes. The Public Health nurse, field nurse, and psychologist will maintain their offices in the clinic wing.

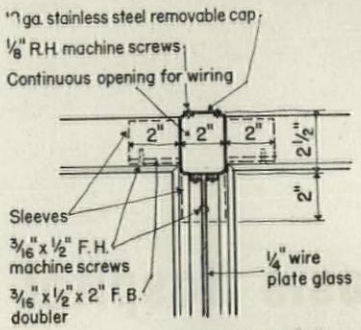
On the lower floor is a space for the laundry. An average of thirty-five hundred diapers, fifty-four uniforms, and numerous other gowns and linens are laundered weekly, for both the nursery and the clinic. When an infant is taken under care by the agency, it is admitted to the nursery where it will be kept under rigid isolation for at least seventy-two hours. Following that period, and upon the orders of the pediatrician, it will be continued under the same care, will be under a modified technique (no changing of gowns between cubicles), or will be sent to a boarding home. Although the average total length of care prior to placement is more than two months, the average length of care in the nursery is one month.

STRUCTURE

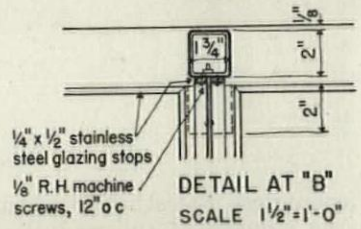
Foundation walls are of reinforced concrete construction. The building is framed in steel of a locally patented system that uses 4-inch expanded open-web steel sections for studs and bridging. To this basic frame (on the exterior face) is welded a lattice-like steel gridwork, all the members of which are punched with holes at intervals along their full length for easy attachment of exterior finish materials. In the nursery building construction, panels of the wall frame, with lattice gridwork attached, were shop-prefabricated before coming to the site. At the site, the prefabricated panels were raised by hand and variously bolted or welded together. Non-bearing interior partitions also are framed in light steel. The roof is of steel unit trusses made up of the same 4-inch sections as are used in the exterior-wall frame. Exterior finish is plaster on metal lath; interior walls are also plastered, over one inch of insulative material. Surfacing of all first floors is asphalt tile. Ceilings in wards are finished with acoustic material. The roofing consists of three layers of 30# felt, covered with 200# of crushed ceramic tile to 100 square feet spread in asphalt applied from a dipper.



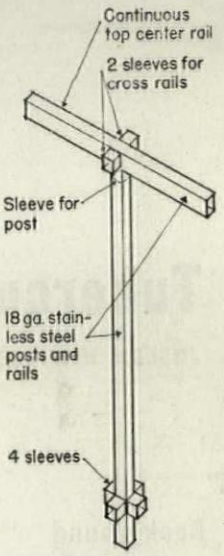
ISOMETRIC



DETAIL AT "A"

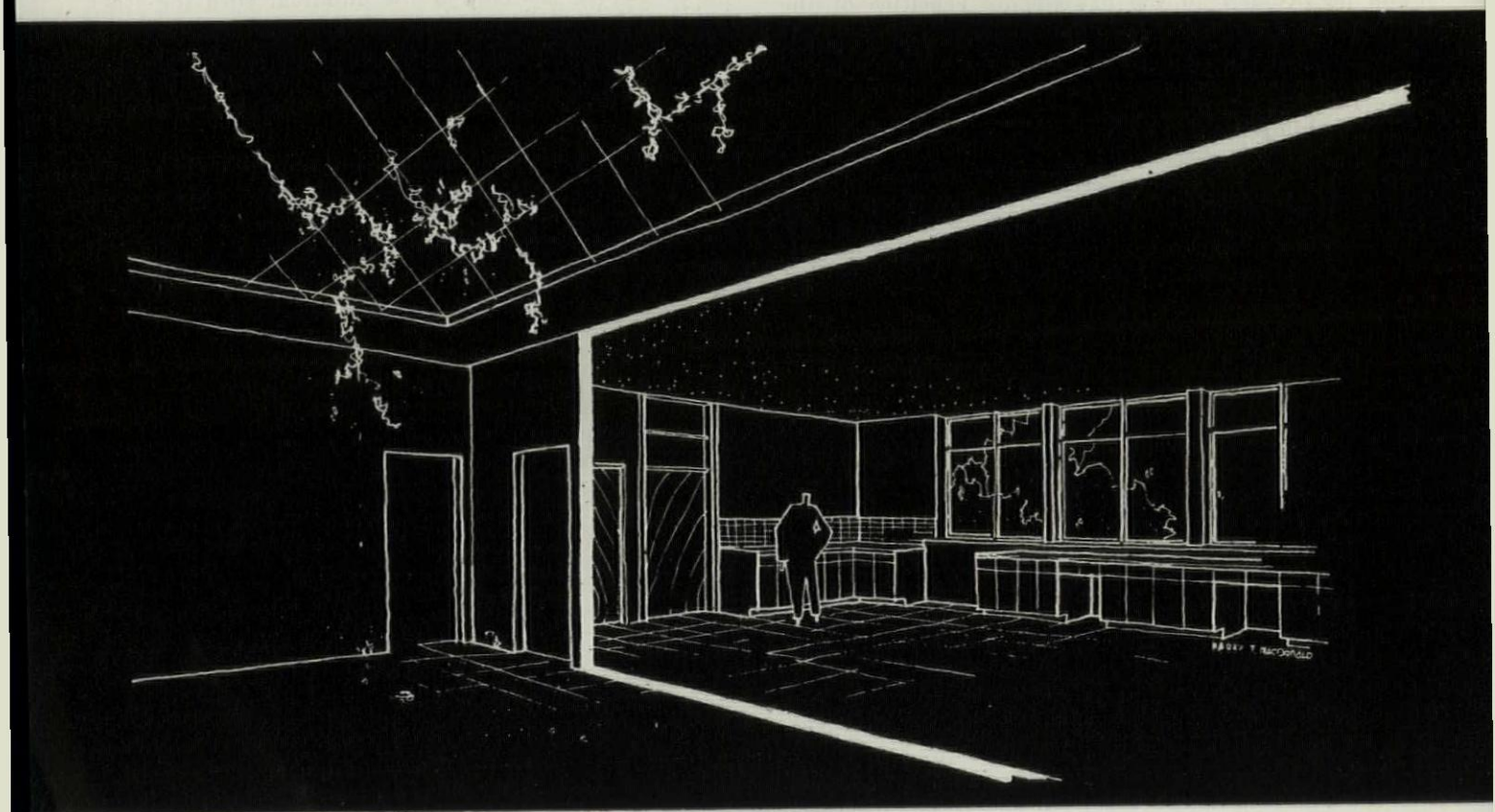


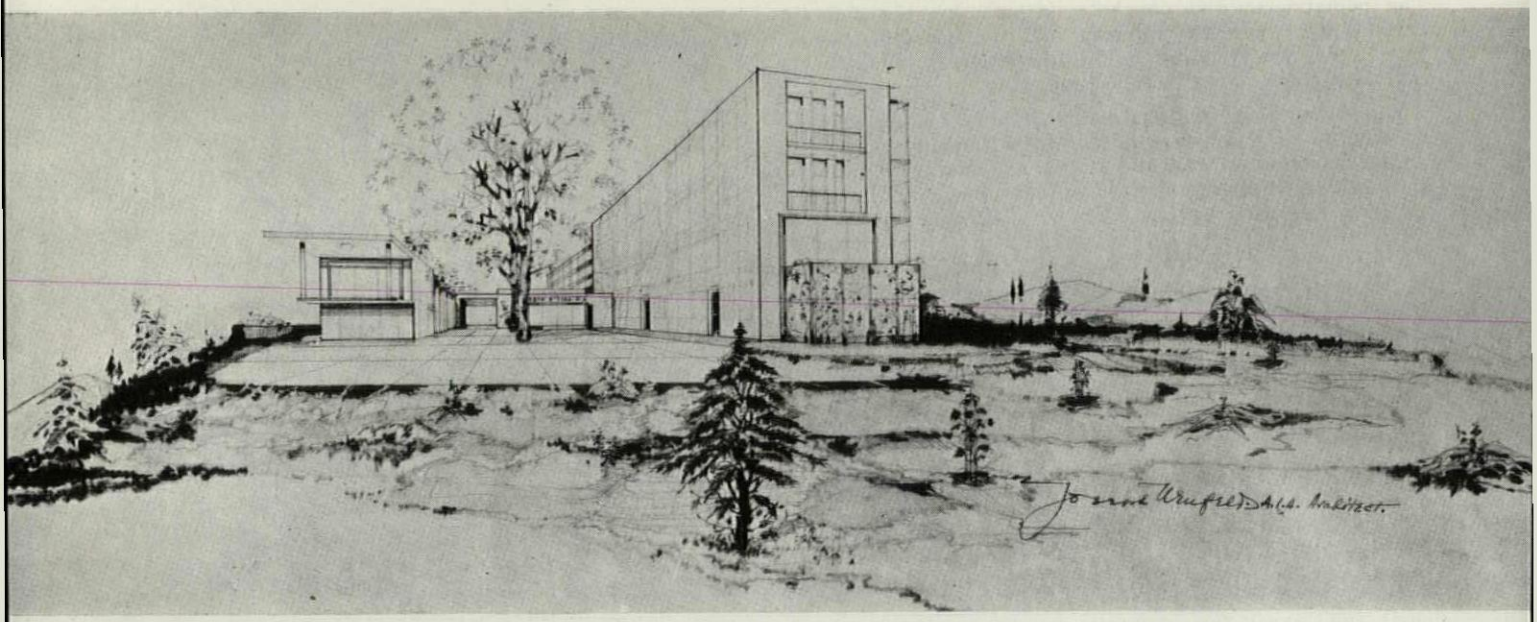
DETAIL AT "B"
SCALE 1½"=1'-0"



TYPICAL POST

Sketch of typical ward interior with patio wall removed and minus the cubicles.





Tuberculosis Hospital for Palestine

JOSEPH NEUFELD, A.I.A., ARCHITECT

Background

Compared to other countries, Palestine is normally relatively free from the scourge of tuberculosis; the dry, sunny climate to a large degree is sufficient "preventive medicine." Due to war conditions, however, and particularly to the devastating cruelties of the Nazi prison camps and concentration centers, tuberculosis for the first time has become a serious, if temporary, problem. Nothing could be more eloquent than the fact that a good number of these new cases are young children who, as a group, are comparatively innocent of the disease. As a result, in the hospital project presented here, there had to be special ward provisions for youngsters.

While in no way underrating the seriousness of the immediate problem, technicians know that in Palestine the disease is "transitional;" that, with proper treatment over a long enough period of time, it can be eliminated. Hence, a very special factor in the design of this particular T. B. hospital was that it should be planned in such a way that at some later date it could be readily converted to some other type of health institution.

One of the three T. B. hospitals that are expected to be planned for Palestine, the 200-bed scheme shown on these pages is but the first stage of the project, which envisions another almost identical 200-bed unit built at some distance to the rear and connected by a protected passageway.

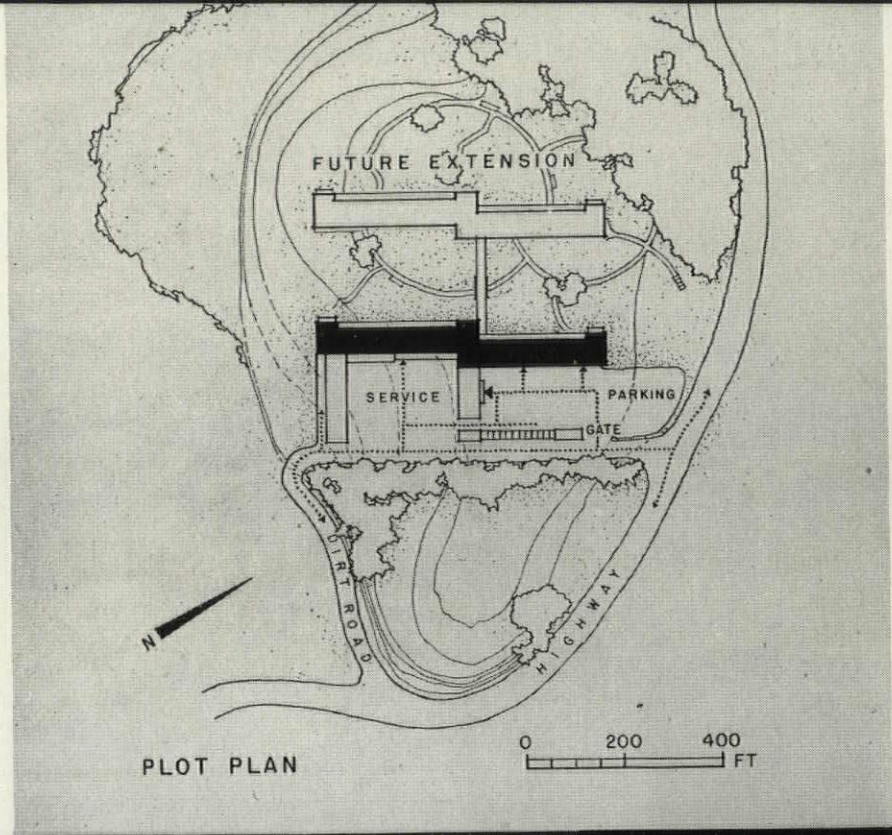
Special Conditions

The local, hot climate was an important determinant in the general scheme of the hospital; the sun's heat plus the need for adequate cross ventilation were basic to the organization of the floor plans; in structure, these factors are reflected in the fact that the exterior walls are "breathing" walls—of reinforced concrete with masonry filler—protected from overheating by continuous balconies along the sunniest front. Another plan factor that is a direct result of these particular considerations is the location of all hospital bedrooms on one side of the building, with the other side restricted in its use to entrances, service rooms, etc.

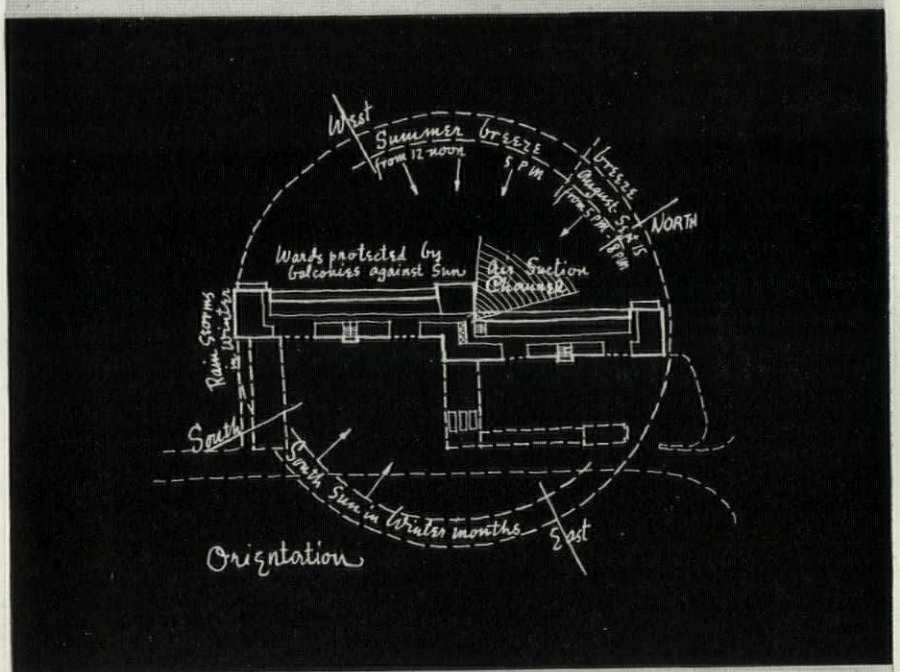
The hospital is planned to serve acute tubercular patients, with pneumothorax and chest surgery expected to be the chief systems of treatment. Occupational therapy and recreational facilities included in the initial unit are temporary, pending construction of the second building. At that time, the occupational therapy department will be located centrally between the two main hospital blocks forming a vocational-school compound. The space so freed will then be absorbed by the anticipated greater needs of the outpatient department.

The project is the result of the determined activity of the Hadassah Zionist Women's Organization of America which has played—and continues to play—so important a role in the upbuilding and upkeep of the modern Palestinian health program. The Organization raised all the funds needed for construction of this T. B. hospital, which will be built as soon as conditions allow.

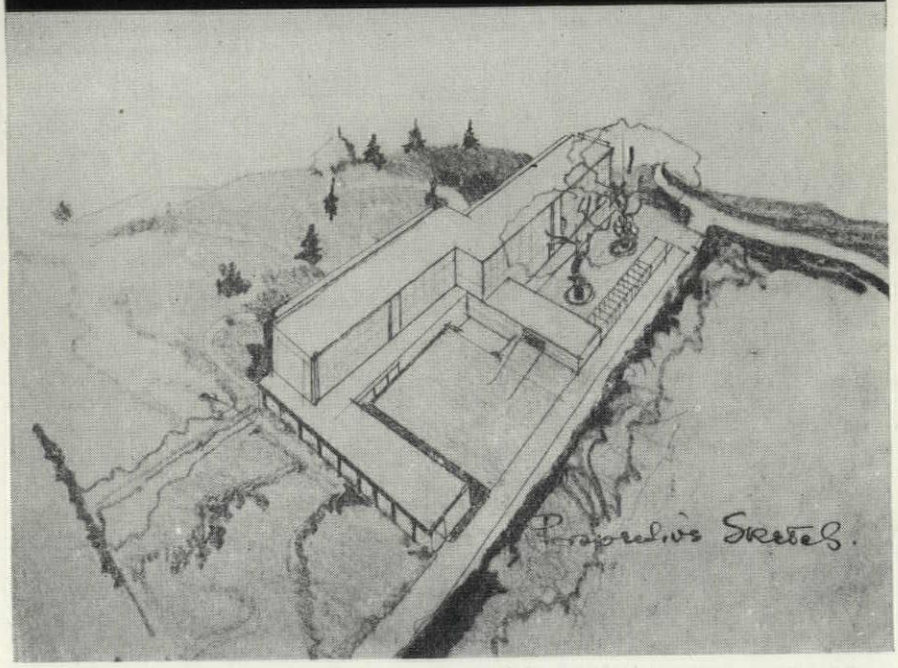
In working out the design, Mr. Neufeld received advice and assistance from Dr. H. Yassky, director of the Hadassah University Hospital in Jerusalem (see PENCIL POINTS, April 1944), who made a special trip to America to study the plans. For continuous consultation on related problems and in the development of the preliminaries, Mr. Neufeld is indebted to Dr. J. J. Golub of the New York Joint Diseases Hospital who is the hospital planning consultant of the Hadassah Organization.

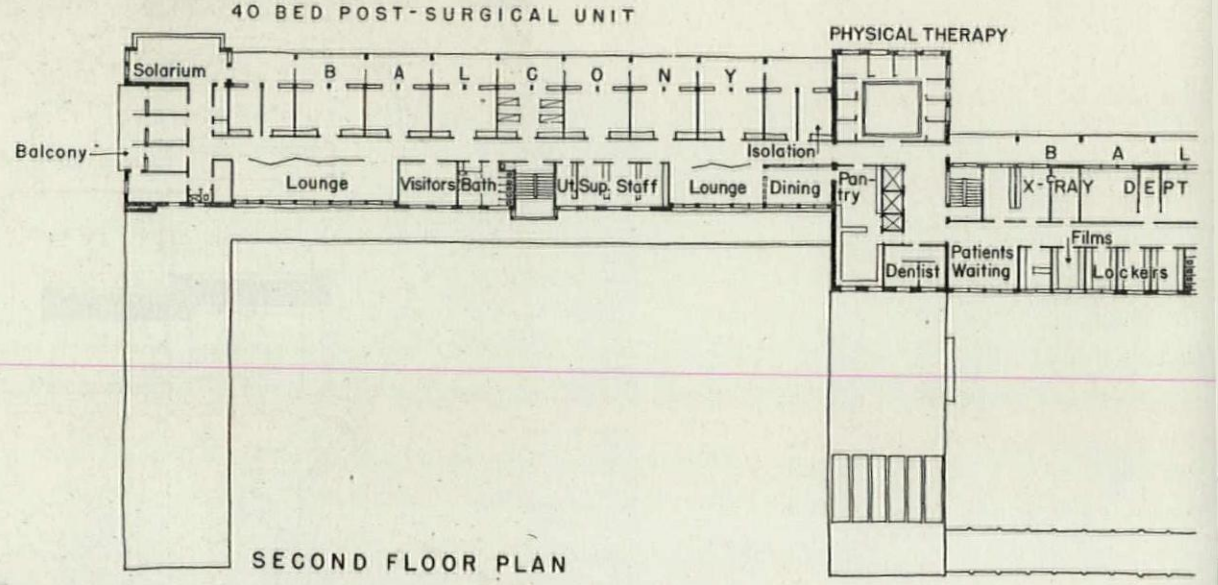


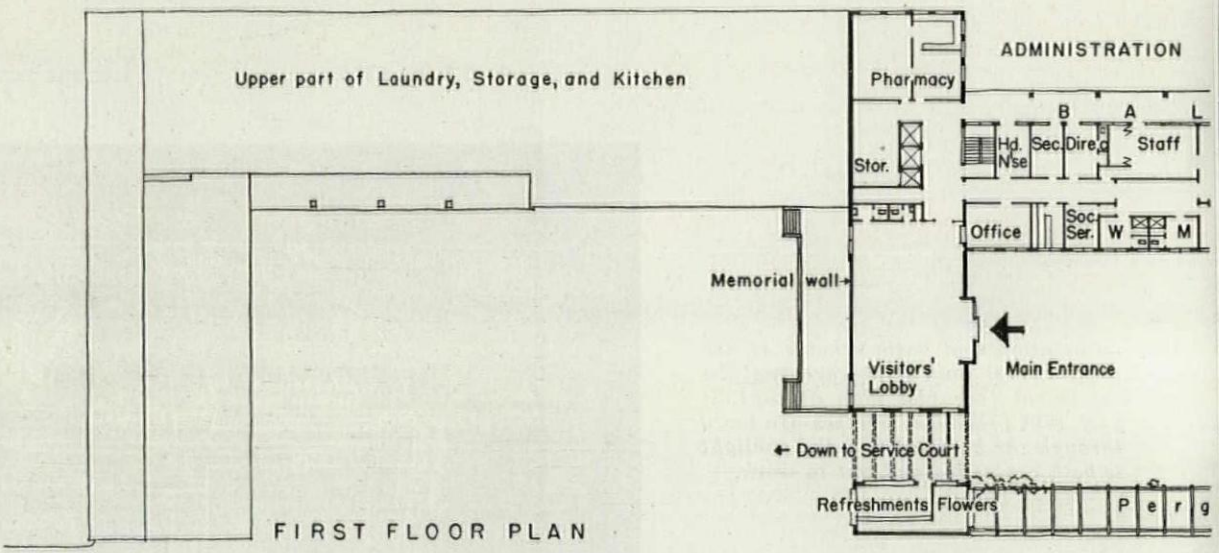
PLOT PLAN

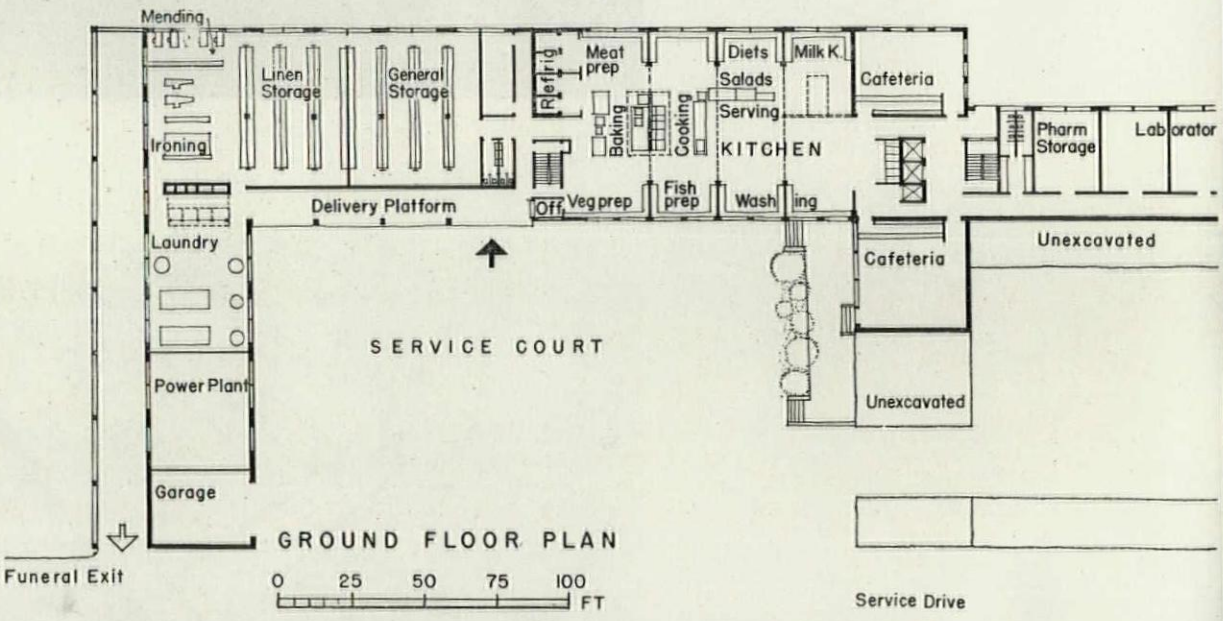


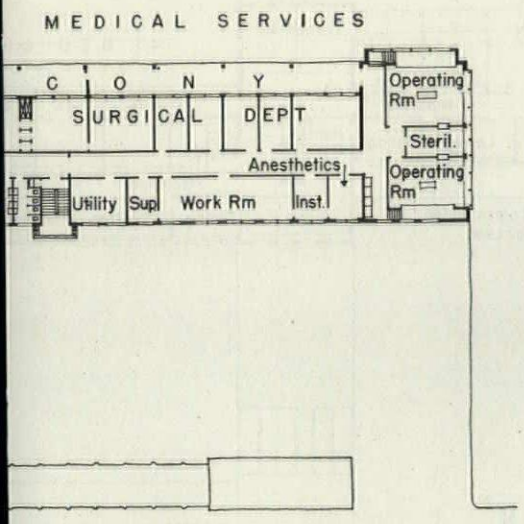
Orientation and basic scheme of the project, first unit of the eventual development (see plot plan at top), is such that prevailing breezes are lured through the building and the sunlight is both controlled and put to work.

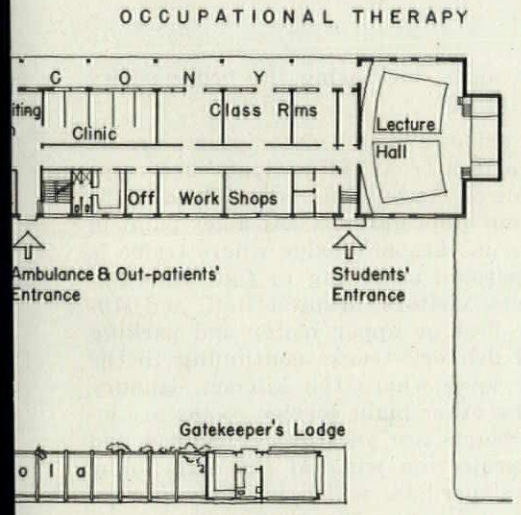



40 BED POST-SURGICAL UNIT
PHYSICAL THERAPY
Solarium
B A L C O N Y
Balcony
Isolation
Lounge
Visitors
Bath
Ut.
Sup.
Staff
Lounge
Dining
Pan-try
B A L
X-RAY DEPT
Films
Patients Waiting
Dentist
Lockers
SECOND FLOOR PLAN

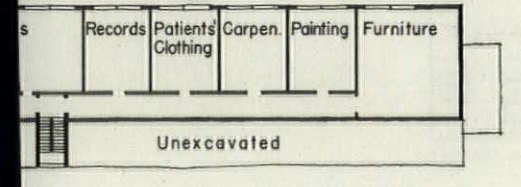

Upper part of Laundry, Storage, and Kitchen
ADMINISTRATION
Pharmacy
B A L
Hd. Nse
Sec.
Dire.
Staff
Stor.
Office
Soc. Ser.
W
M
Memorial wall
Main Entrance
Visitors' Lobby
Down to Service Court
Refreshments
Flowers
P e r g
FIRST FLOOR PLAN

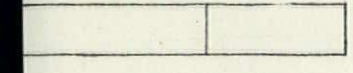

Mending
Linen Storage
General Storage
Refrig
Meat prep
Diets
Milk K
Salads
Cafeteria
Serving
Baking
Cooking
KITCHEN
Pharm Storage
Laboratory
Ironing
Delivery Platform
Off.
Veg prep
Fish prep
Washing
Laundry
Cafeteria
Unexcavated
SERVICE COURT
Power Plant
Unexcavated
Garage
GROUND FLOOR PLAN
Funeral Exit
0 25 50 75 100 FT
Service Drive

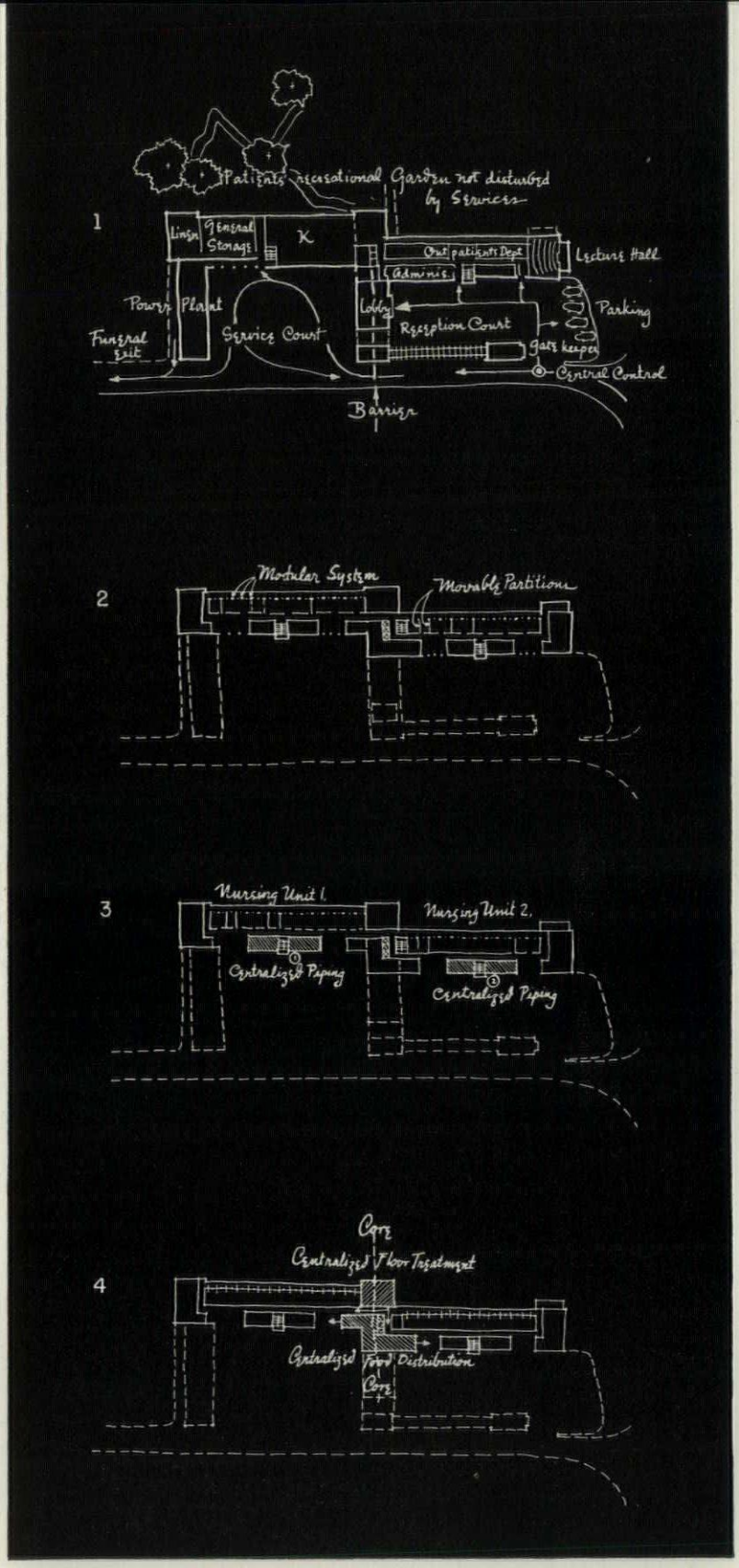




Service Drive





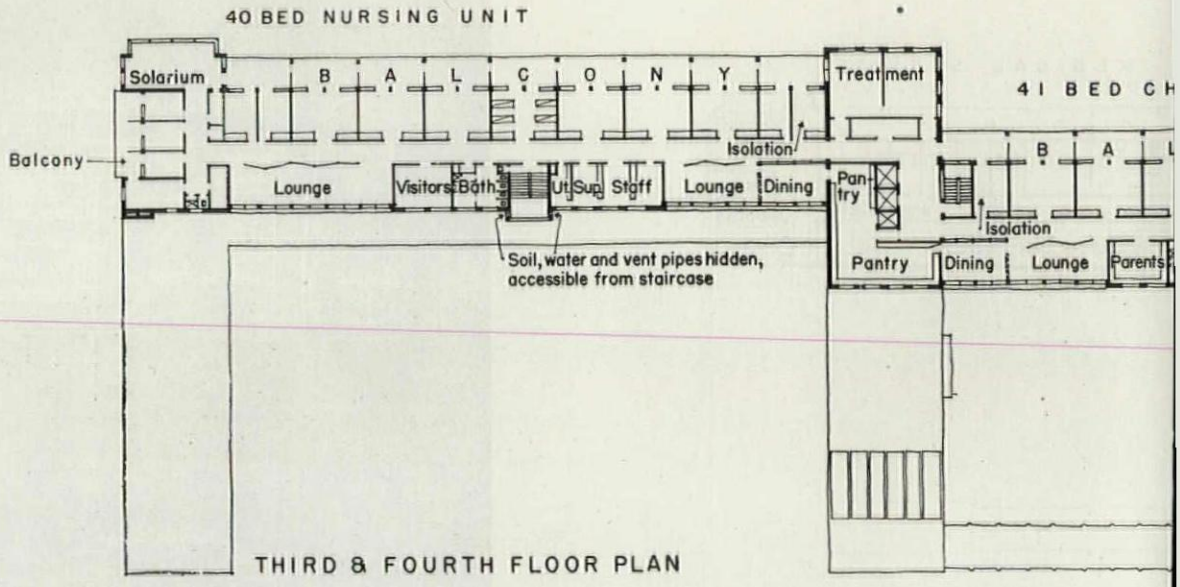


1. *Traffic scheme: all at one side where it is sub-channeled according to function; patients guaranteed peace and quiet.*

2. *Modular construction and demountable partitioning anticipate new conditions and changing practice in T.B. treatment.*

3. *Rooms requiring complex plumbing are compactly organized and centrally placed with respect to nursing units.*

4. *The vital central core with treatment rooms serving both nursing units, centralized floor pantries, and other jointly used services.*



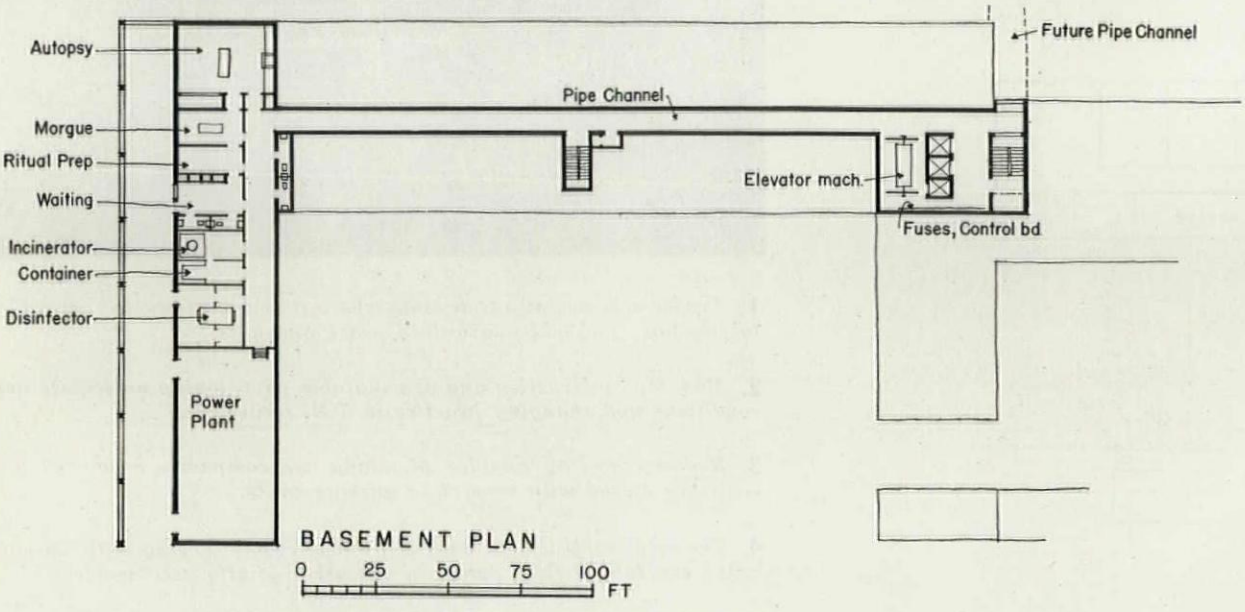
Site

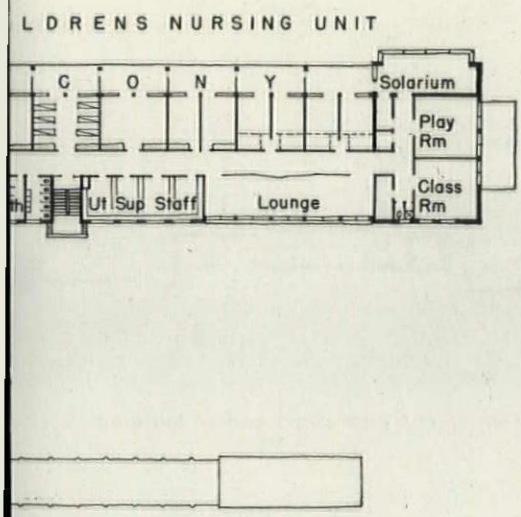
The proposed site is east of Jerusalem on French Hill, about 3 miles from the present Hadassah Medical Center (University Hospital). Selected for the administrative and service efficiency that would result from proximity to the Center's extensive medical facilities, the site is a gently sloping plateau with the main view across undulating hills and valleys toward the Dead Sea.

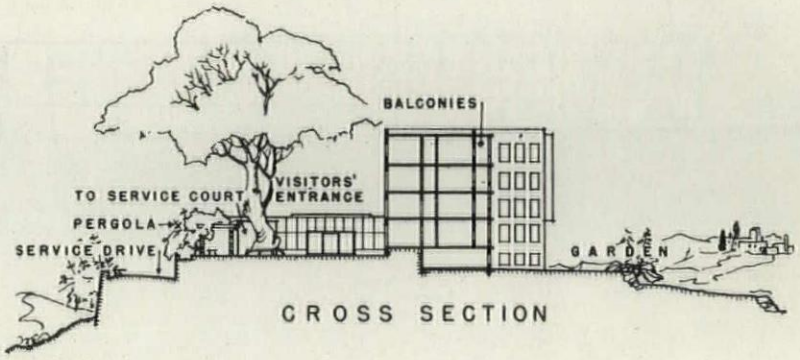
Plan Organization

The first unit of the program (shown here) consists of a 200-bed hospital. Two stages of future expansion are contemplated: (1) virtual duplication of the initial unit some 200 feet to the northwest, which would add another 200 beds to the project; (2) addition of another floor to both units, increasing the bed capacity by 160—to a total of 560.

Entrance and exit driveways and motor courts are all kept on the southeastern front; all patients' bedrooms are on the other side of the building, away from traffic noise and overlooking quiet gardens. At a key point in the approach is the gatekeeper's lodge where traffic is supervised and separated according to function—ambulances, outpatients, visitors, hospital staff, and students entering the first or upper motor and parking court; service and delivery trucks continuing to the lower ground-floor level where the kitchen, laundry (ironing room), and other main service rooms are located. These two courts are yet further defined and separated by the projecting wing of the main lobby and by the visitors' pergola, which partially enclose the reception court and screen the service court.







CROSS SECTION

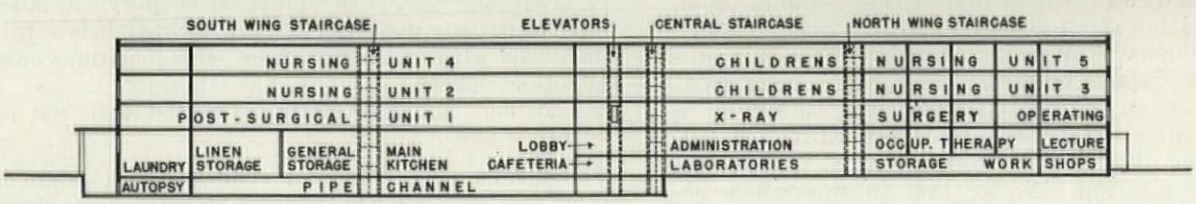
A feature to note in the service-court planning is the strategic location of the small control office, alongside the loading dock and between the laundry and kitchen areas. From this one vantage point, one employee can readily keep track of all major deliveries—foods, supplies, linen, equipment, etc.

At the far end of this court—as far removed as possible from the ears and eyes of patients—are located the noise- and vibration-producing laundry and power plant machinery. This terminal wing of the building creates yet a third purposeful barrier and functional subdivision; for beyond the wing is another driveway that serves for deliveries to the power plant and also as a funeral exit.

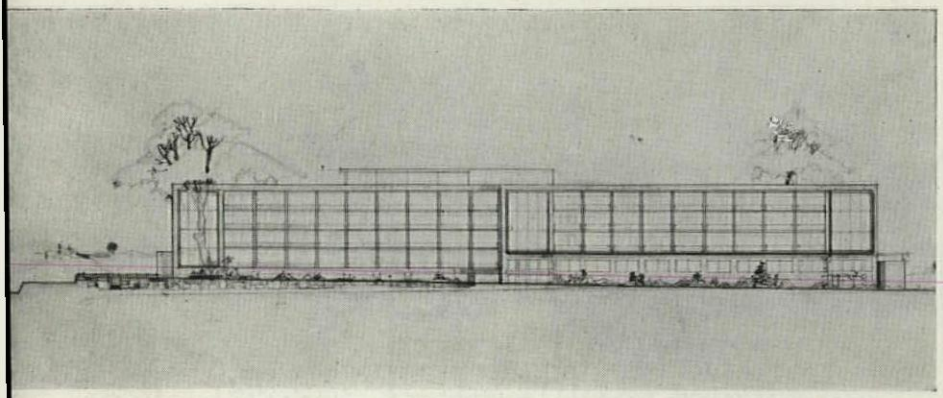
This tripartite traffic arrangement—main reception court; service court, and funeral and power plant channel—all located on the side of the hospital, allows expansion of the hospital plant toward the northwest without any change in basic organization of services.

Floor Plan

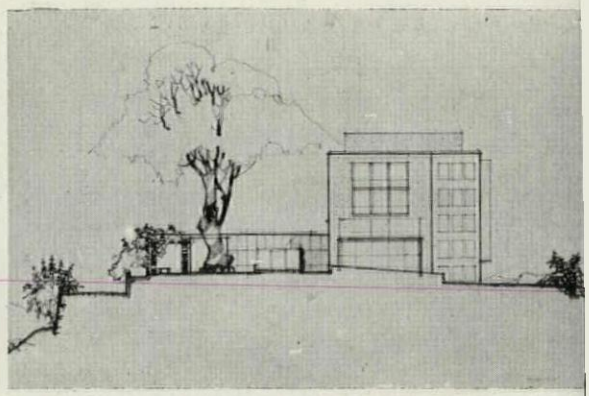
The typical hospital floor plan consists of two 40-bed nursing units, arranged in a staggered relation to each other. Joining the two is the hospital core in which are the elevators, central, special treatment rooms (for use by both nursing units), and an ingeniously planned floor-serving pantry that opens directly into dining alcoves of both wings. This plan organization around a central, jointly used core is not only an economical scheme from the point of view of hospital operation, but it automatically divides male and female patients, providing privacy and greater freedom of movement during extended stays in the institution.



LONGITUDINAL SECTION showing vertical organization



Northwest elevation.



Elevation of entrance court end of building.

Typical Nursing Unit

Each of the typical nursing units is made up of the following elements:

a. Nine 4-bed rooms toward the northwest, protected from excessive sun by a continuous 10-foot balcony. By means of the plan flexibility and modular design proposed, any (or all) of these rooms may be readily made into two 2-bedroom units by the simple device of introducing a demountable partition in the middle; doors from the corridor and to the balcony are arranged and dimensioned to accommodate this possibility. Structurally, the problem is anticipated by solid outside and inside bearing walls and continuous floor and ceiling finishes. Thus, by use of demountable partitioning, the number and size of rooms may be varied to meet either unexpected conditions or changing practices in T. B. treatment.

b. Along the east wall of the nursing unit, overlooking a traffic court, a battery of service rooms is organized. A detail of considerable interest (one, incidentally, which is partially worked out in the Strong Memorial Hospital in Rochester, N. Y.) is the inter-communicating arrangement of utility room, supply room, nurses' station, and intern rooms. An open passage along the window wall makes these, in effect, but subdivisions of a single integrated area that houses separate but related activities. This unit, adjoining a central auxiliary stairway and dumb-waiter, is balanced on the other side by toilets, baths, washrooms, and a visitors' room. Notice that in this whole organization all piping is economically centralized.

c. At either end of the space along the southwest wall of the nursing unit is a space of about 50 feet that is not partitioned from the corridor except by movable, folding screens. For the Palestine climate, this plan element provides the invaluable factor of ample cross ventilation (which is further assisted by the staggered arrangement of wings, creating an angle of the building that actively attracts prevailing breezes through the building). These open end areas are variously used for writing, reading, and lounge rooms, which in winter are flooded with welcome southern sun and on summer afternoons provide shady areas for recreation.

d. At the end of each nursing unit is a group of 4 single bedrooms for cases requiring specialized treatment (not, as is so often the case, for those who can afford a private room), complete with shower, toilet, and bedpan facilities.

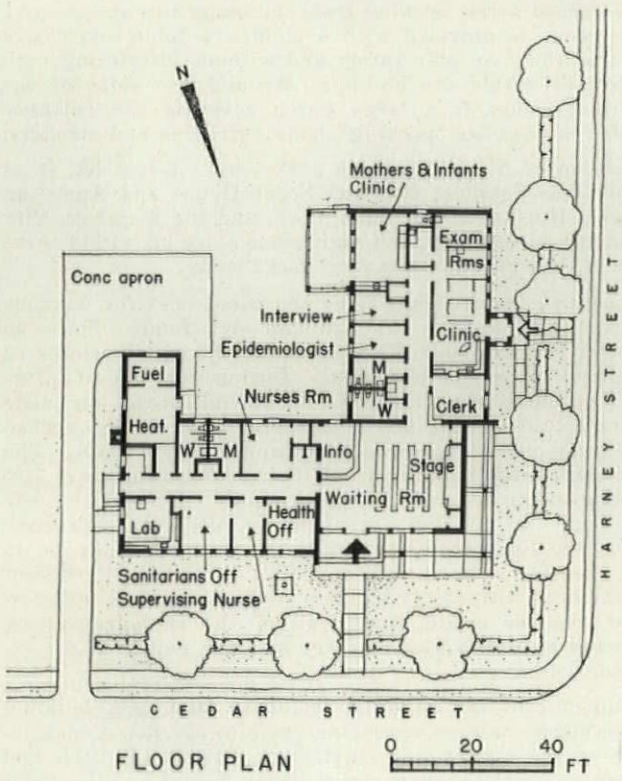
e. At the west corner of each unit is a solarium that connects directly with the balcony or may be entered from the corridor.

This typical nursing unit is exactly repeated on two and a half floors of the hospital—5 units for adults; one for children. The sixth wing that makes up the three clinical floors is given over to the main medical service, including: physiotherapy; dentistry (located in the core where one-half of the serving pantry occurs on other floors); X-ray, and chest surgery. Admission and outpatient departments are located below in the northeast wing of the first floor, which contains administration offices, occupational therapy rooms, and lecture hall, and is directly connected with the main entrance lobby.

For optimum light and air conditions, the main hospital services—kitchen, general storage, linen storage, and ironing rooms—located in the southwest wing—are about 20 feet in height. Beneath these rooms is a pipe channel leading to the building core. In the basement under the administration offices are located the laboratories and additional storage rooms.

Health Center, Elizabeth City, N. C.

ALFRED M. LUBLIN, ARCHITECT



FLOOR PLAN

An adaptation of one of the United States Public Health Service's standard health-center plans, this District Health Center was designed and built in consultation with the architectural division of the Public Health Service and under supervision of the Public Buildings Administration, FWA.

The Center serves the recently formed Pasquotank-Perquimans-Camden District Health Department with a population of approximately 40,000. Present personnel numbers 16—a U. S. P.H.S. District Health Office, five Public Health Nurses, a District Clinic Nurse, two Sanitarians, a junior educator, a follow-up worker, a clinic aide, and four secretarial-clerical workers.

The L-shape plan of the building is organized around a multipurpose room located at the corner. In addition to its basic function as entrance hall, this room is also used both as a waiting room and as an auditorium. It is equipped with a small platform stage, large storage closets for movie projectors, educational supplies, etc. Activities at the Center are so scheduled through the week that overlapping of functions is avoided.

One wing of the building is given over to clinical activities, with space for clerical work, nurses' interviewing, doctor's office, maternity and infant-care classroom. Space is arranged for dressing and undressing of babies and for weighing and measuring. In addition, there is a combined fluoroscopy and X-ray room, two examining rooms, two booths for intramuscular and spinal work, and a radial table used for arm treatments, blood tests, and immunizations.

The administrative wing of the building opens from the back of the waiting room by a self-closing door; here, at either side of the corridor, are the offices of the health officer, public health nurses, education consultant, and sanitary inspector. Also in this wing are a laboratory for blood tests, milk cultures, and various other laboratory activities, a room for bulk storage of drugs and supplies, and the boiler room. The latter is equipped with an automatic stoker that supplies heat and hot water.

Clinical and service facilities occupy approximately 65 percent of the floor space; administration requires only 25 percent, and the remaining 10 percent is absorbed by closet space and the boiler room.

Careful scheduling of the numerous clinical activities makes it possible to use the same facilities for the various types of work. Prenatal, planned parenthood, well-baby, orthopedic, food handler, fluoroscopic, venereal disease, immunization, and school-health clinics are all held at different, specified times. Inclusion of an exit at the side of the clinical wing makes it possible for patients to proceed directly through the clinic without retracing their steps.

A screened porch, opening from the maternity and infancy classroom, is provided with a children's table and chairs so that they can play safely and without interfering with activities within the building. Around two sides of the waiting rooms is a large porch covering the entrance which is used for "parking" baby carriages and strollers.

Location of the building, on a 125- by 140-foot lot, is as central as possible; the Girl Scout House and American Legion Hut are in the same block, and the Elizabeth City primary, elementary, and high schools are all within three blocks; downtown is but five blocks away.

Structural requirements were the usual ones for wartime construction financed by Lanham Act funds. Since no lumber was available, PBA agreed to the use of reinforced concrete slabs and bar joists. During construction, further problems of availability of materials arose; bar joists were not to be had, and construction was finally worked out with precast concrete joists and concrete slabs. The exterior of the building is of local red pressed brick, selected to contrast with the gray-painted exposed concrete columns and the flat, overhanging, concrete slab roof. Completely fireproof, back walls are of cinder block; floors are concrete covered with asphalt tile; the insulated roof is surfaced with 16-ply built-up roofing. The huge window that fills the entire front wall of the entrance-waiting room is of ribbed glass, as are also the panels of all exterior doors.

Total cost of the building, including land cost, building supervision, and contingencies, came to $59,432. Construction of the Center was started on August 14, 1944, and operation of the various clinics began March 7 of this year.

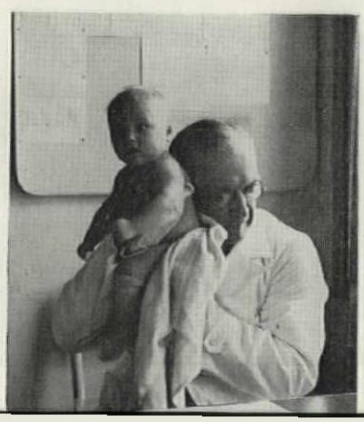
Photos: Courtesy of American-Swedish News Exchange

Sweden's System of Public Health

It is significant that, in Sweden, local government bodies, on whom falls the major burden of carrying out public health ordinances, also give financial support to the temperance movement and to activities of the organizations for promotion of sport and profitable use of leisure time. Nor should the part played by the improved system of Ling gymnastics in the school curriculum be overlooked in any assessment of Swedish health measures: Swedes themselves say, not without pride, that they can generally recognize their countrymen abroad, even when otherwise undistinguishable, by their upright bearing—the result of their gymnastic training at school. Photographs of the gymnasiums at some of the modern Stockholm schools which have previously appeared in PENCIL POINTS (August 1941) may be recalled in order to press home this point.

In general, the whole public health system, in addition to being enmeshed in the structure of popular government, aims at keeping the nation well rather than restoring people to health after they have become sick.

This fact does not, however, prevent the Swedes from having a hospital system which is one of the most remarkable in the world—not least with regard to the cost of hospitalization. As a rule, a patient at one of the provincial hospitals pays the equivalent of 50 to 75 cents per day in a general ward, this fee being reduced to 25 to 37 cents after 30 days. The highest rate in Stockholm is about $1.37 per day which is reduced to 88 cents after 15 days. Even these figures, however,



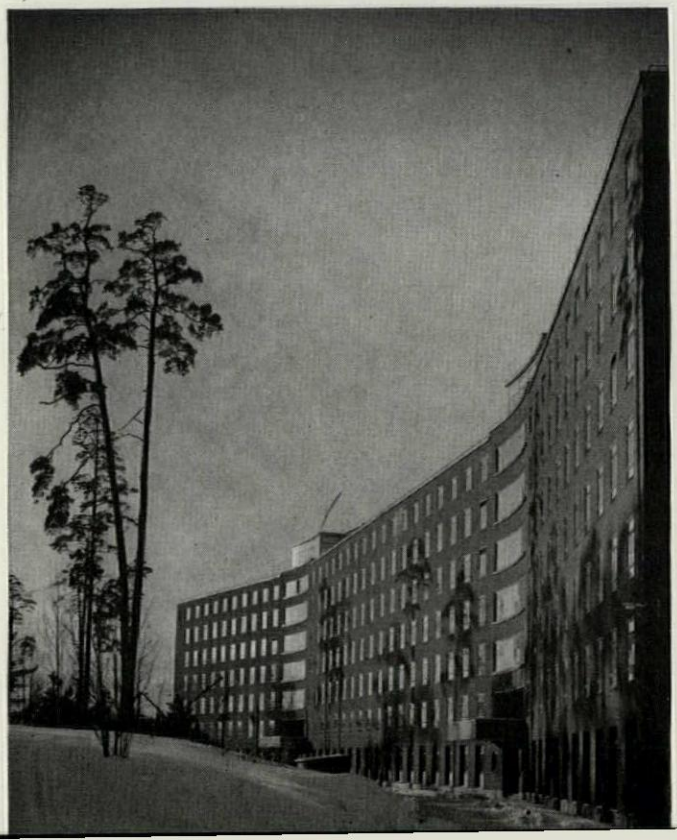
do not give a true picture of the actual cost to the patient. Taking Stockholm as an example, in 1942 only 35 percent of those admitted to public hospitals paid their own fees; 31 percent had their expenses paid by the approved insurance societies, which are themselves supported in part from public funds. The remainder were either destitute persons whose fees were paid by the authorities, officials in whose contracts hospital care was included, or persons with infectious diseases for whom treatment at isolation hospitals is both obligatory and, in any case, free.

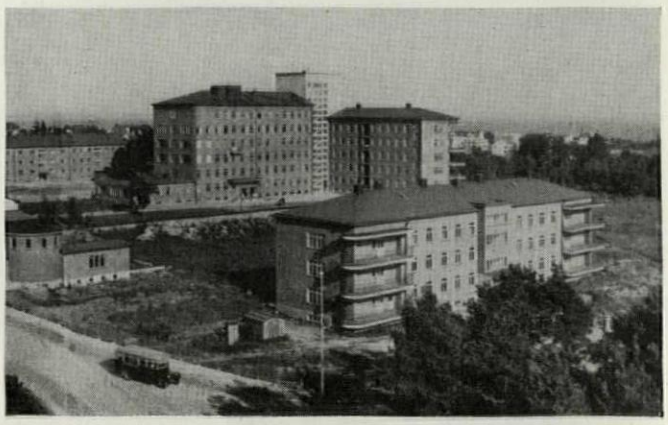
The above fees do not of course begin to cover the actual cost of hospital cases. Currently this amounts in Stockholm to $3.75 a patient per day. While this is admittedly an exaggerated state of affairs due to wartime conditions (the cost would normally be about $3.00), the difference that has to be made up from public funds always amounts to at least two-thirds of the total cost.

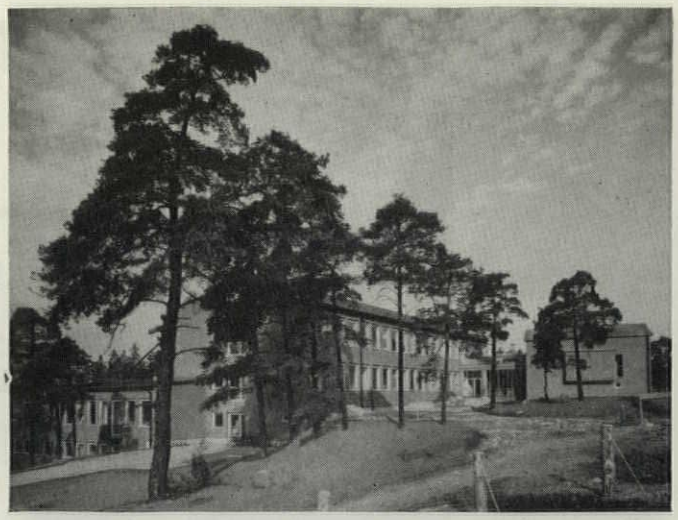
The country-wide hospital system is maintained by carefully balanced financial collaboration between the central and local governments. For almost 200 years the provision of care for the sick in Sweden has been mainly in the hands of the local governments, principally those of the provincial districts (*lan*). Even before the actual obligation to provide this care was laid on the provincial district governments in 1928, they had built up a system with large central hospitals in each *lan*, combined with numbers of lesser institutions, cottage hospitals, and the like. This basic system has since been improved upon and expanded. In the process, the method of granting state financial aid to local governments (including those of the cities) came to be used more and more. In the decade before the war, when contributions of the provincial district and city governments about doubled, state contributions almost trebled, so that these now cover almost half the cost of the public health provisions falling on public funds. The increased participation of the Swedish state in the provision of hospital and health services not only aids general improvement but makes it possible to level out inequalities of standards between different parts of the country. This tendency towards increased state aid is most marked in the fields of maternity care, preventive care for mothers and children, and the care of the chronically sick.

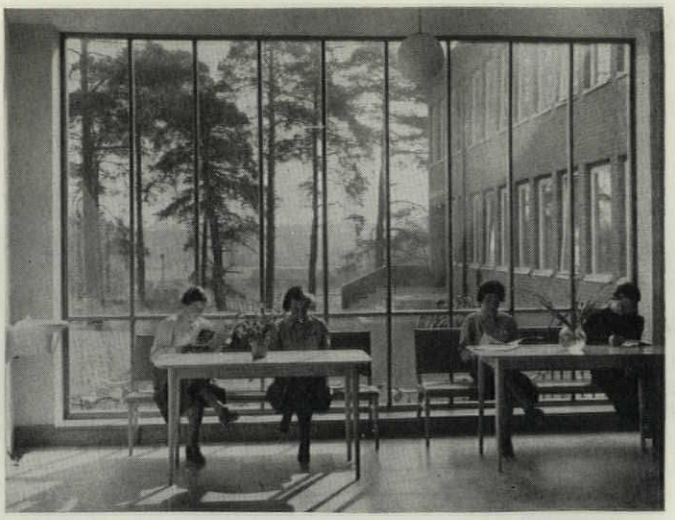
Private hospitals account for only about 2 percent of the total hospital accommodation, excluding the mental hospitals. The mental institutions are mostly run by the government, but apart from these there are only two hospitals in the country that are actually owned by the state: the Serafimerlasarett and the Carolinian hospital in Stockholm. Even the latter, however, was built partly with contributions from the city of Stockholm, which maintains 300 of the 1,200 beds. Said to be the largest building project in Scandinavia in mod-

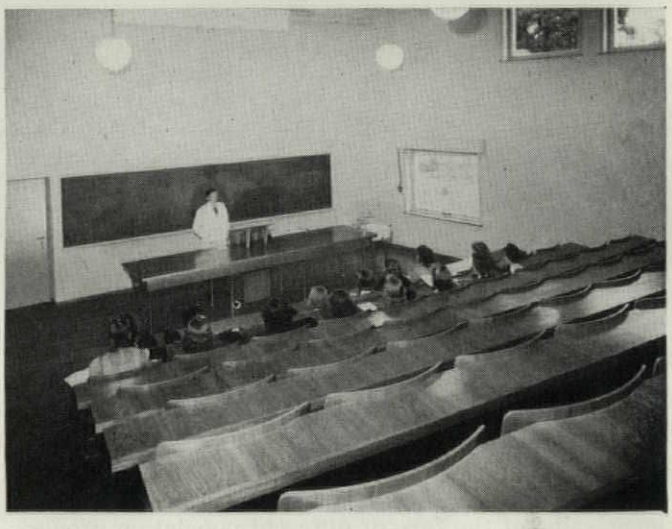
Below and top right: The Carolinian Hospital, Stockholm. Sven Ahlbom and Sven Malm, Associate Architects. The air view, taken when the hospital was less than half completed, shows location in immediate outskirts of the city with tower of the Town Hall at upper right. Lower right: A typical provincial district hospital.









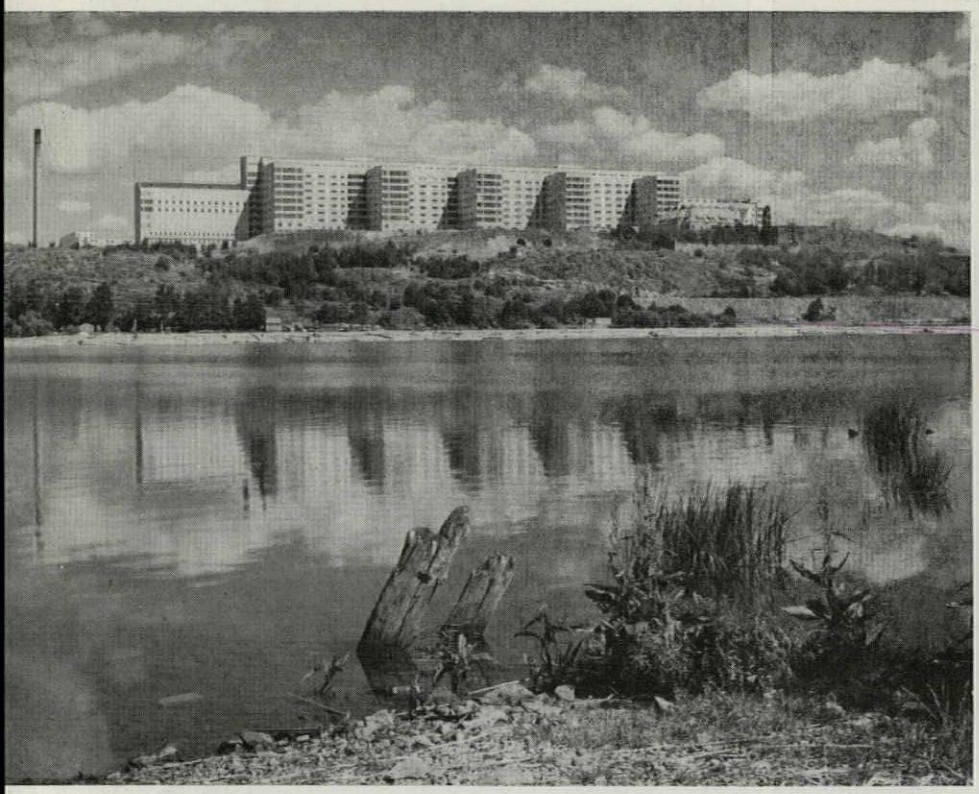


The State Institute of Public Health on grounds adjoining the Carolinian Institute buildings in Stockholm. Ture Ryberg was the Architect. The interior photographs show the entrance lobby, a testing laboratory, and the lecture hall.

ern times, the Carolinian hospital is really a whole complex, including surgical and medical departments and polyclinics in the main structure, and a cancer hospital, psychiatric clinic, and cripples' hospital in separate buildings. The hospital is an integral part of the Carolinian Institute, the chief medical training and research institution in Sweden. The marked trend in Sweden toward humanization of hospital facilities appears in such details as the planning of the wards—each accommodating about 25 patients in 2 six-bed, 3 three-bed, 1 two-bed, and 2 single-bed rooms—the provision of bars where light refreshments are served, and extensive sun-roofs.

Immediately adjacent to the Carolinian hospital, in the broken wooded area on the north side of the city, are the other Carolinian Institute buildings. In amongst them is the new State Institute of Public Health, half the building cost of which was contributed by the Rockefeller Foundation. As this institute is now the main training center for public health officials as well as the national research station for factory and housing hygiene and for testing foodstuffs, its placement here was both natural and practical. The Carolinian Institute's department of hygiene has been made part of the new institute, thus bringing the training of doctors in public hygiene into close contact with the practical work being carried on all over the country. Training of provincial district doctors, who are responsible for public health in their areas, has also been brought under the new institute, as has that of the district nurses. The provincial district doctors are the representatives of the central authorities in public health matters and are paid by the state. The district nurses on the other hand come under the provincial district governments, although state grants are provided to pay part of their salaries. The district nurses occupy an extremely important position in the community, having not only to care for sick persons in their homes but also to keep an eye on the general housing and health conditions in their districts.

The work of the department of general hygiene at the Public Health Institute explores all questions of housing, water supply, etc. The department of factory hygiene works out data for suitable internal arrangements at places of work in close collaboration with the factory inspectorate. This department also investigates the tiring effect of various forms of work, and the effects of shift and night working on health. Food shortages due to the German blockade have made the nutrition department's work especially important during the war. For the manufacture of substitute foods,



Stockholm's newest hospital—Sodersjukhuset. The Architect, Hjalmar Cederstrom is at present active in promoting a yet broader government program of social care.

for instance, permission has had to be obtained from the food commission, which in turn requires an investigation by the Public Health Institute. This investigation also considers whether the advertising claims for the product are misleading or not. The institute examines vitamin pills and vitamin-enriched foods, and its work also includes: investigations into nutriment value of the fare of different population groups; and testing various food products for weight value to see that they do not, for instance, contain an excess of water.

This tendency in modern civilization to place all matters concerning the common good more and more under the control of publicly appointed experts may be distinguished in the set-up of the newest Stockholm hospital, Sodersjukhuset. This is to all appearances just a hypermodern hospital with refined details and planning, capable of accommodating some 1,200 inpatients and having a developed system of polyclinics for treating 1,000 cases daily. Actually, it is an experimental station for trying out a much wider plan of social care, a plan that has been put before the Swedish government by the architect of Sodersjukhuset, Hjalmar Cederstrom—a social care laboratory, with the southern districts of Stockholm as the experimental field. In addition to the preventive care organized through the polyclinics, there are also the beginnings of post-hospital care in the social curator system for aiding the inpatients with their private troubles, financial and otherwise. It should be mentioned that a government committee has been appointed, with Cederstrom as a member, which is looking into the problem of providing work for the partially disabled. This latter project is of special interest to the labor unions, the main supporters of the Social Democratic government party. Labor circles, realizing that the general standard of living can only be raised through increased production, are particularly concerned about the effective use of manpower, and wish to draw even cripples and aged persons into the productive process as much as possible, both for their own good and that of the community.

Readers Say:

Dear Editor:

The compilation of all technical information within the one well-defined section, MATERIALS AND METHODS, will be a distinct aid in obtaining a maximum benefit from your publication.

CLARENCE H. ROSA, Assistant Director, Buildings & Construction Division, Michigan State Administrative Board

Dear Editor:

I have studied MATERIALS AND METHODS, and feel that it is an excellent procedure.

I feel that one of the principal functions of a technical magazine is to provide technical information on problems the solution of which is not easily accessible to the average practicing architect; in other words, where research is important in order to get at the subject. . . . It is hard for us to dig up some of this up-to-date technical information.

N. A. OWINGS, Architect
Chicago

Dear Editor:

. . . I think that it is good—very good. I am inclined to believe, however, that there is a good deal of information which is the kind I would expect to get from our illuminating engineer or heating-and-ventilating engineer. I am not questioning the kind of information presented but more the degree of technicality; to put it another way, the emphasis seemed in some cases to be on foot-candles and foot lamberts rather than an analysis of the nature of the problem to be solved.

I know that the younger generation of architects (and I hope I am still one of them) have high regard for facts, figures, charts, graphs, technical patter of ohms, ergs, entropy, etc.; in fact, it is one of the distinguishing marks of the modern architect. At the risk of being a little out of step, I feel impelled to say that a little knowledge of such things is dangerous. I know of very few architects who really have backgrounds that will enable them to use very much highly specialized technical information. . . . On the other hand, an empty discussion of principles, without some supporting, purely scientific data is pretty useless. I hope I shall find in your section the kind of technical information that will be useful to an architect in designing and planning, but that does not pretend to equip him with the stuff that he must get from a specialist.

JOHN LYON REID, Architect
San Francisco

Dear Editor:

I have glanced through MATERIALS AND METHODS, and think it is perfectly swell, especially for a person who is way up here in the northeast corner of this country and who does not have a chance to keep in touch with modern materials and methods. Frankly, we have been wondering how we could do it.

ALONZO J. HARRIMAN, Architect and Engineer
Auburn, Maine

Dear Editor:

You really have no idea how useful this information is to a practicing architect. I want to emphasize to you, for whatever it is worth, that one of the most important things about these technical sections is proper indexing. . . . By experience I find that it is almost impossible to cover any vast field of material in an absolutely perfect manner, but if what *is* printed (even if a minimum is presented) conforms to the standards of accuracy, at least *that* much value will ensue.

PIETRO BELLUSCHI, Architect
Portland, Oregon

Dear Editor:

Your MATERIALS AND METHODS section . . . is an excellent idea. It would seem a logical tying together and expansion of your excellent Products coverage and other special technical items. . . . There is a big need . . . for clear-cut, objective reportage on the strictly technological and industrial side. I become more and more impressed by the disparity between the impact of new materials and processes on our field and the failure of architects to integrate this and make use of it. . . .

HERMANN H. FIELD, A.I.A.
New York

Dear Editor:

Your new MATERIALS AND METHODS section is an outstanding contribution to the technical data which are constantly needed and used by the architect. I like the thoroughness and completeness with which you go into the problem.

HENRY L. KAMPHOEFNER,
University of Oklahoma,
School of Architecture,
Norman, Oklahoma

Dear Editor:

. . . As a foretaste of things to come it looks like some answers to architects' prayers. Would suggest, however, a division with A.I.A. filing numbers for permanent filing.

STANLEY C. PODD, A.I.A.
Buffalo, N. Y.

Dear Editor:

We definitely are concerned with what is happening and want more information, for example, as to radiant heat, solar heat, the new alloys, elevator and escalator equipment.

There cannot be too much of this variety of material. . . . . More power to you!

ELY JACQUES KAHN, F.A.I.A.
New York

Dear Editor:

I think that the new MATERIALS AND METHODS section will be a valuable addition to PENCIL POINTS.

The profession is eager and anxious to bring itself up to date in order to be ready to practice architecture intelligently in the peacetime world of tomorrow.

MORRIS KETCHUM, JR., A.I.A.
New York

Dear Editor:

I think there is great need for specific things in the technical side, such as hospital lighting, and just as we in this school are going toward the technical side, so do I think this has its place. Of course it is true that the casual reader is not interested in specifics like this, but some day, when such a question comes up to be decided, he will recall having seen it and dive back through your article.

WILLIAM W. WURSTER, Dean,
School of Architecture,
Massachusetts Institute of Technology

Dear Editor:

As far as my personal requirements are concerned, I find PENCIL POINTS most useful when it "gets technical." As a specification writer of many years' standing, I am constantly amazed at the dearth of useful information concerning all phases of building and landscaping practice. . . I hope the specification writers' angle will not be overlooked.

BEN JOHN SMALL, Supervisor,
Hospital Specifications,
Dept. of Public Works
New York City

Dear Editor:

. . . This new section will be welcomed by all your readers. . . . The average architect has spent some three or more rather inactive years, he has gotten behind in his files, his drawings, his contacts, etc. Your new section will help him to become oriented.

WALTER F. MARTENS, A.I.A.
Charleston, West Virginia

MECHANICAL PLANTS FOR HOSPITALS

BY ISADORE ROSENFIELD, Chief Architect for Hospitals, Bureau of Architecture, Department of Public Works, City of New York

The following, a transcript of a lecture delivered before a professional audience in New York City, is the second of a series of articles by the same author on phases of hospital design. It is part of a projected book. In the preceding article the author was erroneously credited with membership in A.I.A.—an editorial mistake.

Like internal human organs, the mechanical plant of a building is not visible from the outside, yet it is all-important to proper functioning. It is not possible nor is it intended to give here a complete, detailed statement of principles involved in planning the mechanical plant. Rather, it is hoped to bring out those phases and tendencies which are applicable to progress in hospital design. The order of discussion of the items is not an indication of their importance, merely that of convenience.

ELEVATORS

The modern hospital depends almost entirely on elevators for vertical circulation. Many types of buildings, up to four stories in height, could be operated without elevators, but in a hospital an elevator becomes indispensable for anything over one story in height.[1] During the war many one-story hospitals have been built. The uninitiated may conclude that this is a proper solution for peacetime construction. This is decidedly not so; had the Army, the Navy, and civilian communities foreseen the coming of the conflict, they would have been prepared with multi-storied hospitals equipped, of course, with elevators. One-story hospitals therefore should be regarded as the product of dire necessity rather than of desirability, except in hospitals where many of the patients are ambulant. Marshall Shaffer, senior architect of the U. S. Public Health Service, is of the opinion that a one-story general acute hospital should not exceed 100 beds in capacity.

1. *Planning for Future Expansion*, Isadore Rosenfield, *Modern Hospital*, April 1927.

The most acceptable hospital elevator is based on a platform dimension of 5′ –8″ in width by 8′ –4″ in depth (**Fig. 1**). This is calculated for the accommodation and maneuverability of two stretchers with necessary attendants. The number of such cars would depend on the anticipated load. In any case, the capacity should be designed for handling peak loads because, in a public hospital, capacity is keyed to visitors rather than to patients. In outpatient buildings the car size should be the same as in the hospital proper because here, too, it is occasionally necessary to move a patient in a stretcher. For the sake of uniformity, interchange of parts, etc., it is desirable to make passenger cars in nurses' residences and other buildings throughout the hospital of the same size.

For buildings of five stories or less, it is satisfactory and economical to use geared traction machines with a speed of from 150 to 200 feet per minute. For buildings higher than five stories, gearless traction elevators with a rated speed of 500 feet per minute are more advantageous. It is desirable to obtain conditions of design permitting as wide a door opening as possible. 42 inches is considered a minimum door-width dimension.

Preferably, hospital cars should be designed for automatic operation with elevator attendant. The most complete type of control is known as "signal control." The same type of control should be used in multi-story outpatient build-

Below, left, new ten-story hospital in Australia, provided by that country for American troops under reciprocal lend-lease; right, war housing hospital for Massena, N. Y., George B. Post and Sons, Architects. It is curious that Australia, with somewhat limited resources, could build a multi-story emergency hospital while the U.S.A., with its infinitely greater capacity, concentrated on one-story, pavilion-type buildings.

Left, OWI; right, FWA

ings where a large number of people must be transported. In nurses' homes "automatic collective control" is favored, arranged for both operator and automatic control, also known as "dual control." Under these circumstances the cars can be operated by attendants in the daytime and by passengers during the quiet evening hours. All hospital cars should be equipped for automatic leveling.

PLUMBING FIXTURES

Plumbing fixtures, particularly sinks and lavatories, have been generally made of either enameled cast iron or vitreous china. For many years hospital designers have favored the china product for its many superior qualities. The enameled product is probably stronger, but it stains more readily and when chipped is unsanitary. In the author's opinion neither type is wholly satisfactory, particularly for the severe use conditions that exist in public hospitals. Already many sinks are being made of monel metal or chromium-nickel steel. Such fixtures are light in weight, they do not require heavy brackets for securing to the structure, and they do not craze, chip, or fracture. They are at least as easy to keep clean as the traditional types of fixtures. It can safely be predicted that, in the future, fixtures which possess these qualities will be in the greatest demand.

In hospital work there is a preference for fixtures without backs. For ease in cleaning, fixtures are usually hung on brackets two to three inches away from the wall. The walls in back of fixtures are usually tiled in the interests of sanitation and ease of maintenance. Under these circumstances, it would seem like bringing coals to Newcastle to install a fixture with a back. Strange as it may seem, however, fixtures with a back cost less than fixtures without a back. This is probably due to the fact that fixtures with backs are the faster selling models, being employed in residential and commercial work, and so are made in greater quantity.

There are many types of faucet controls. Only those applying to hospital use can be discussed here. In surgical work or in any other situation where the sterile field of the arms must extend above the elbows, knee-action controls are preferred (**Fig. 2a**). Where only the hands need remain sterile, elbow action is sufficient (**Fig. 2c**). Elbow control generally involves two blades. In the belief that this is cumbersome, the author suggested a single blade control (now widely manufactured) which has been used with satisfaction in the Kings County Hospital, Outpatient Building (**Fig. 2c**). This type of faucet control, with a mixing chamber, has now become standard for elbow-activated installations in hospital design for the City of New York. In order to avoid splashing, hospital sinks and lavatories are made about 8″ deep and the faucet has a rose spray.

While it is desirable to reduce the number of special types of fixtures to a minimum, hospital types are many and varied, depending on their special function. In tuberculosis work, for instance, it has been found desirable for patients to wash themselves in running water. For that reason, the wash basin in such instances has no drain stop, but only a grating over the drain opening. Likewise, with tuberculous patients, it is customary to provide separate dental bowls in order to eliminate sputum from the wash basin. Another example of special fixtures to meet special conditions is a wash basin designed in the Department of Public Works for use by the chronic sick. Many of these patients are in wheel chairs. This basin enables them to wash themselves while sitting in a wheel chair (**Fig. 3**), because they can get close to the bowl and get their knees under it. To permit these conditions, the fixture had to be hung a considerable distance from the wall and its front had to be curved.

Many progressive communities have laws to prevent siphonage of polluted matter into the water supply. Siphon breakers are standard equipment on water closets almost everywhere today. In hospitals, back-siphonage becomes a special problem because there are many situations where the supply outlet is below the polluted, or potentially polluted, level. This is particularly the case where hose extensions are used on autopsy tables, laboratory sinks, etc. Anti-siphonage protection should be installed as a protection to the community in all such cases, whether local laws require it or not. **Figs. 4 and 5** show typical anti-siphonage installations.

The installation of bath tubs has long been a subject of controversy in hospitals. From the point of view of the more or less handicapped patient, the tub might best be sunk into the floor. However, this is hazardous and makes cleaning difficult. Even a normal installation height is objected to because it requires the cleaner to get on his knees. To arrange a tub for ease in assisting the patient and for cleaning, a height of about 3′–0″ would be required, but that would be very difficult for the patient to negotiate. **Fig. 6** represents what is regarded as a reasonable compromise. The tub is raised two steps high. This seems reasonable for the patient to negotiate, for the attendant who must help the patient, and finally for cleaning up. It is desirable, of course, to have the tub engaged at one end only. There should be sufficient space on at least one side for maneuvering a wheel chair or stretcher.

PIPING

Piping in a hospital is apt to become very complicated, especially where active therapy and research are involved. In addition to hot, cold, and chilled water, and the several heating pipes, refrigeration pipes, ducts, etc., there are several gases to consider: illuminating gas, oxygen, compressed air, vacuum, and anesthezing gases. There is no particular problem concerning the piping of any except gases for anes-

Fig. 1—Elevator, typical plan.

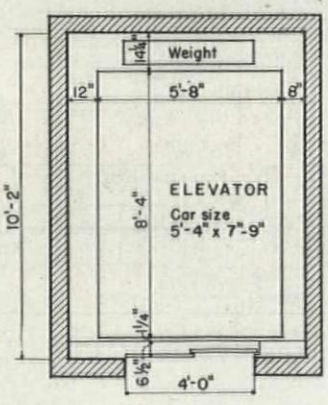
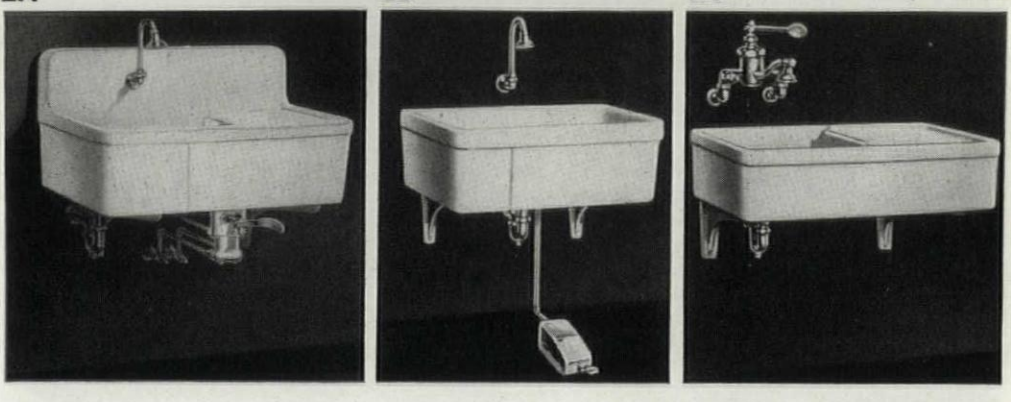
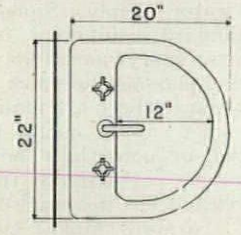


Fig. 2—Sinks. **A**, knee control; **B**, foot control; **C**, elbow control.





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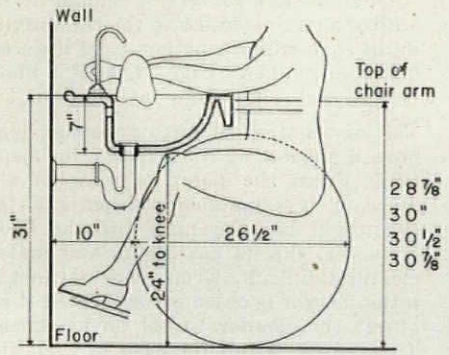
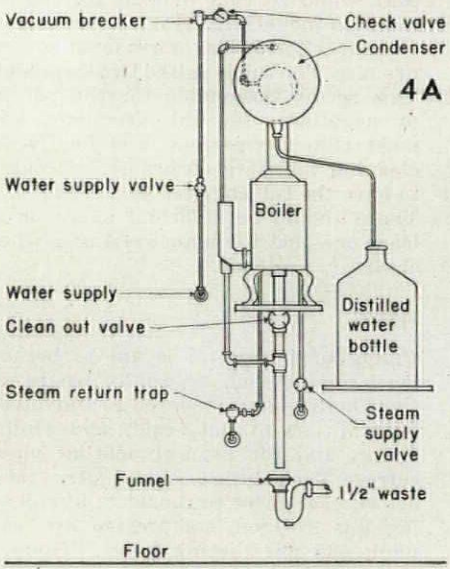
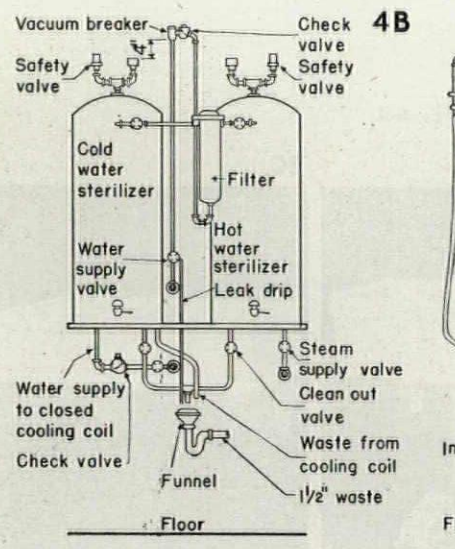
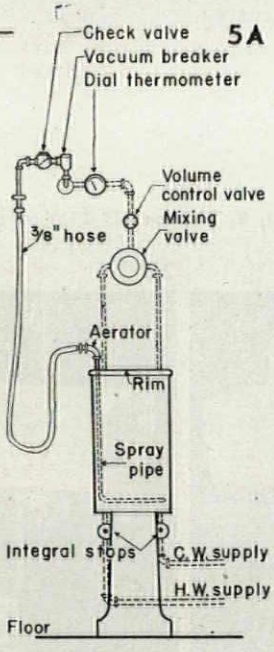
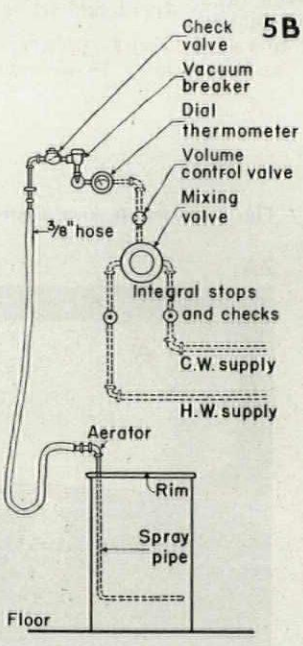
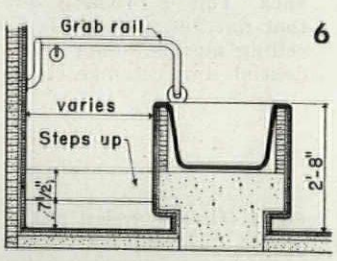




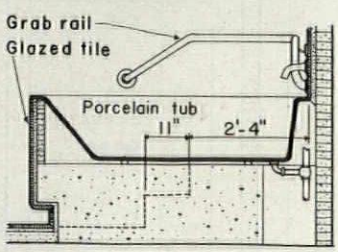








CROSS SECTION



LONGITUDINAL SECTION

thesia. Most surgeons object to the idea of conveying these by means of pipes from a central supply because their use is a matter of life and death; the surgeon would be uneasy about the state of a gas supply located somewhere beyond his immediate control.

HEATING, VENTILATING, AIR CONDITIONING

There are many hospital functions in the operation of which high pressure steam is preferred to other mediums. Among such features the principal ones are sterilization, cooking, and laundering. This means that at least one boiler in a hospital plant must be of high pressure type. Heating could be done with low pressure. But when generation of electricity is involved, again, high pressure is inferred for the whole plant. In addition, hospital operation requires a stand-by source of supply for emergency use. This means that if a hospital requires a minimum of one small high pressure boiler and one larger low pressure unit, it would be necessary to have each duplicated to meet breakdown conditions, making four boilers in all. If all boilers were of high pressure type, two, or at most three, boilers would be sufficient to meet both normal and emergency conditions. The important point here is that a hospital must operate 24 hours a day, all days in the year, and that high pressure steam is required in summer as well as in winter. The steam plant must, therefore, be designed with those conditions in mind. The fuel used should preferably be oil rather than coal. Coal frequently causes fly-ash and coal dust which create a serious housekeeping problem and which act as a vehicle for air-borne bacteria.

In the matter of conventional types of heating, hot water is still the preferred medium. It gives a more even heat, is more comfortable, and costs very little more than a two-pipe vacuum steam heating system.

Conventional heating as well as ventilation has long been criticized. With recent developments it looks as though the postwar period may see some drastic changes. One of these is panel heating; another is air conditioning, and even the latter is subject to radical change.

Panel, or *radiant* heating, as it is sometimes called, is not new. There are several examples of its successful application in hospitals as well as in homes and other types of buildings. The public has been slow to adopt it for many reasons. One of the reasons is perhaps the difficulty and cost resulting from poor integration of this system of heating with the floor construction of a building. This is a general indictment of methods of building design that deserves discussion under another heading. The writer is mindful of a recently published example of radiant heating installed in a ceiling suspended from a conventional reinforced concrete beam and slab floor system. The installation was costly because the best, least costly way of installing the heating pipes would have been to imbed them in a flat concrete slab system. This would have been a cheaper floor system, would have saved the cost of the suspended ceiling, and would have obviated the necessity of placing a cumbersome covering of insulation material over the pipes. How the insulation was gotten up into the dead space between the underside of the slab and the metal lath is a mystery (Fig. 12).

In the proposed Bellevue Nurses' Residence and Training School the design calls for flat slab construction. In this connection, a study of panel heating was made. The pipes would be placed on the forms thus serving as chairs for the reinforcing steel (Fig. 13). A com-

parative estimate of cost of the proposed panel heating per riser unit of thirteen stories with radiator heating was made. It shows that panel heating is almost 28% more costly than steam convector heating so far as the radiators and risers are concerned. But a good deal of this would be absorbed in the economy of design of the boiler plant since panel heating requires a good deal less fuel than the traditional methods of heating. The extra cost of the panels would be but a small percentage of the entire heating system and an even smaller percentage of the cost of the whole project. The fuel economies could amortize that in a few years. A further economy lies in the fact that with panel heating there is no need of maintenance-painting of radiators or convector enclosures.

The principal advantage of panel heating over traditional methods is, however, its comfort and its healthful equilibrium. The comparative slowness of response by a panel system to sudden changes in outdoor temperature may prove to be disadvantageous under some conditions.

Air conditioning has been accepted by many designing agencies as a requirement in operating and delivery rooms, in places where infants are cared for (both obstetric and pediatric services), and in fluoroscopy and developing rooms of the X-ray department. Its use elsewhere, though desirable, has been slow in coming. The reasons are cost, and clumsy, space-taking design. Most engineers still work along old methods, which require tons upon tons of machinery and its building enclosures. Yet, in a modern air-conditioned railroad coach the average passenger would have difficulty finding the machinery. They use "steam heat to refrigerate with," but is this the whole answer to the question? The Mount Sinai Hospital in New York was a pioneer in installing an air-conditioning system in its operating department in 1929. Its old brine system has since been removed and the more modern, steam-motivated cooling plant installed. A recent release by a well known manufacturer shows a combination heating and air-conditioning gas-heated unit for private homes which appears to be no larger than the present gas-fired heating boiler alone. This may not be strictly air conditioning, but apparently there is something in the use of "gas heat to cool with." One of the objections to air conditioning in a hospital is the fear of air-borne bacteria incident to the assumed necessity of recirculating the air. The more modern methods of air conditioning do not involve recirculation, thus eliminating return ducts, and supply ducts are mere tubes no thicker than a corresponding insulated steam pipe.[2]

There is more to it than just this. Cost, of whatever air-conditioning system, is still *the* important factor. However, the above discussion indicates the necessity of demanding progressive, integrated design for hospitals.

REFRIGERATION

Even institutions that do not have air conditioning have bulky refrigeration plants, which are usually employed to circulate brine to refrigerators and ice-making machinery. What this means is well known to every hospital administrator: bulky, costly, space-taking plant; bulky, sloppy, laborious ice-handling and distribution; long lines of heavy brine pipes with hard-to-clean, hard-to-defrost brine coils in refrigerators. Can we do away with the central refrigeration plant?

In small refrigerators it is much more satisfactory to employ plug-in (electric) boxes. (Why gas-fired refrigerators are used in homes and not customarily in hospitals is not clear. Gas is used in several other places in the nursing unit.) For grouped food refrigerators, or mortuary refrigerators, local, electrically driven refrigerating units for each group are very satisfactory.

This still leaves the necessity of a refrigerator plant for ice required for ice water, ice bags, oxygen tents, cafeterias, etc. The present mode is to use crushed ice. A recent study indicates, at least tentatively, that it is feasible to attach somewhat larger ice-making compartments to individual electric or gas-burning refrigerators and have cubes produced in the right quantity and of the right size consistent with their use. The size of the ice cubes in this case would be somewhat smaller than is customary. Another possibility is the machine that makes "flake ice." The subject needs further study and clarification, but it looks as though we are on the brink of getting rid of the refrigeration plant.

The October 1940 *Modern Hospital*, reports an interesting summary of a case for decentralized refrigeration by Dr. Albert Snoke, assistant superintendent of Strong Memorial Hospital of Rochester, N. Y. Strong Memorial had shifted from the conventional ammonia compression plant to individual units. The change was made because, after thirteen years of operating under the centralized system, a complete break in the brine line caused a shutdown of service for several days. In addition, there was the ever-present fear of a possible ammonia leak. The following advantages were cited:

"1. The power cost is lower than with the centralized system.

2. The labor cost has been cut because a full-time ice man is no longer needed,

[2] *A Hotel Shows The Way, Modern Hospital, May, 1941.*

Fig. 3—Lavatory for wheel-chair patients, showing necessary clearances.

Fig. 4—Water connections. A, water still; B, water sterilizer.

Fig. 5—Water connections. A, arm bath; B, leg bath.

Fig. 6—Tub for patient's bathroom.

Fig. 7—Electric light bath cabinet.

Fig. 8—Autopsy table. Metal top is perforated, removable for cleaning.

Fig. 9—Continuous bath.

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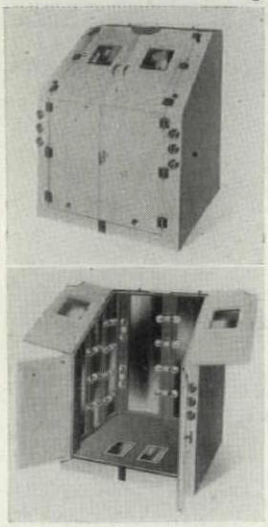

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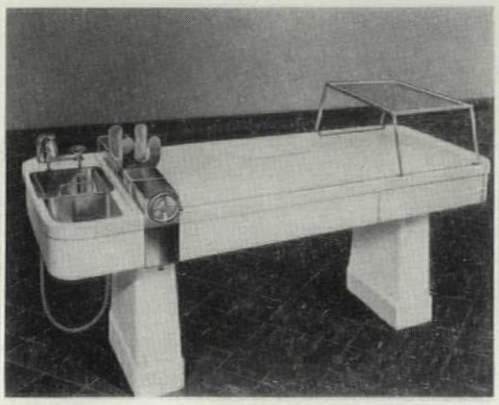

Photos courtesy Crane Co.

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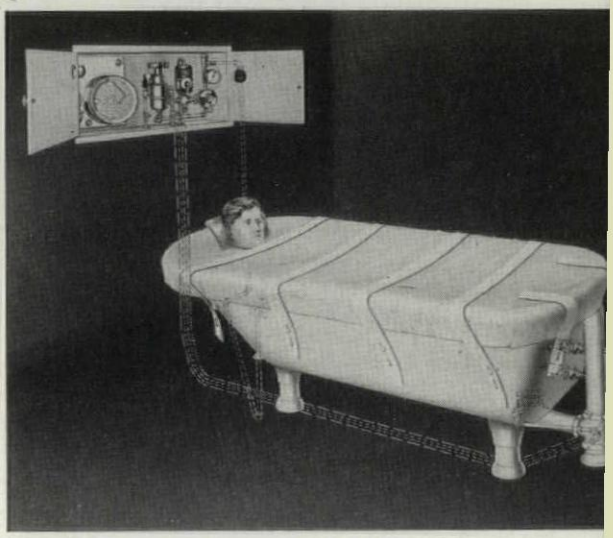

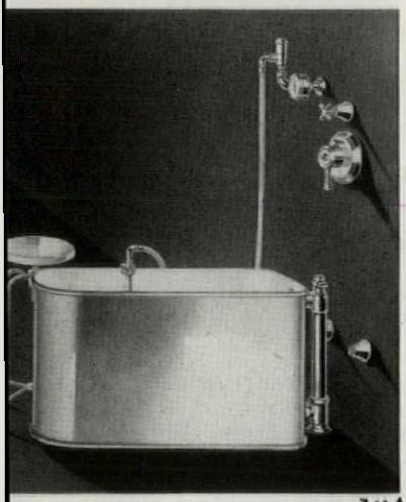

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10B

Photos courtesy Crane Co.

Fig. 10—A, leg bath; B, arm bath.

Fig. 11—Hubbard bath.

Fig. 12—Panel (radiant) heating designed for flat slab floor for proposed Nurses' Residence, Bellevue Hospital, New York City. Alfred Hopkins and Associates, Architects.

Fig. 13—Typical section of floor and ceiling showing air distribution panel and hot water piping for panel heating. (From "Radiant Heating," by Samuel R. Lewis, **Modern Hospital**, March 1944.)

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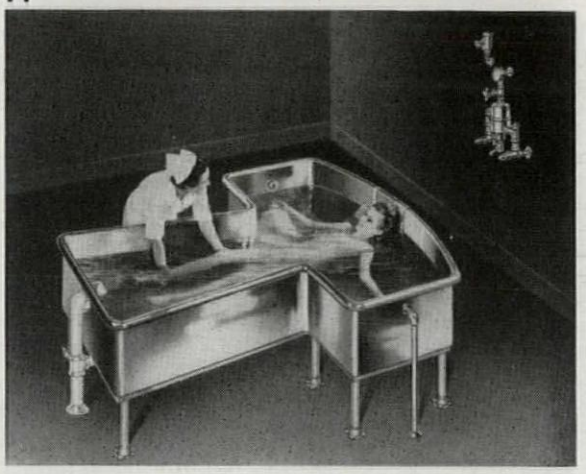


the labor being absorbed by the personnel on the floors.

3. For the first time the hospital's ice is sanitary, the possibility of contamination through handling and floor distribution being eliminated.

4. The system is more convenient and economical. There was a 25% loss of ice by melting under the old system.

5. Oxygen tents can be served by a quiet motor and compressor within the tent. Also, more use is made of oxygen face masks, in order to reduce the amount of ice needed.

6. There is no possibility of a general breakdown.

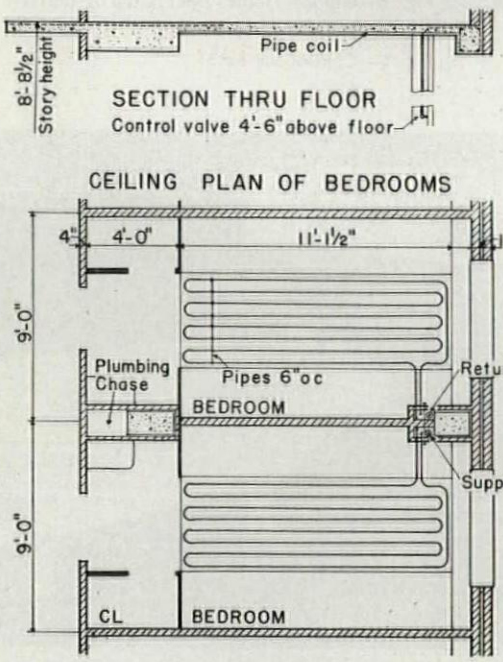
7. Defrosting is either automatic or easily handled.

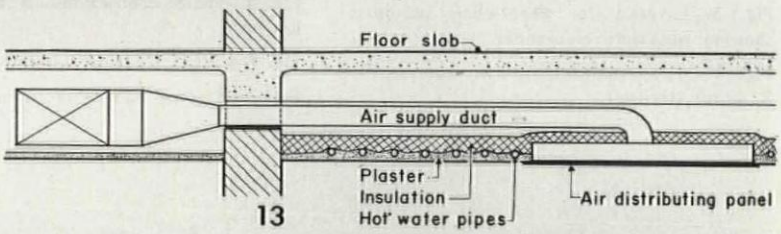
8. Safety is greatly increased since freon is much less hazardous.

9. The cost of installing the decentralized system is believed to be lower, although figures for duplicating the original system at 1940 prices were not obtained."

Dr. Snoke lists the following two disadvantages in the decentralized scheme: (1) Increased maintenance problem reulting from the large number of units and motors and (2) the theoretical need for skilled personnel. The answer is that the plug-in or gas refrigerator requires no skill whatever to "operate." These units are serviced at very low charges by the reputable concerns who manufacture them and they can be replaced with a new unit while the old is taken to the shop when necessary.

This still leaves us to dispose of the refrigerating plant for the air-conditioning system, but as was stated earlier, modern air conditioning methods give promise of diminishing this refrigeration item as well.





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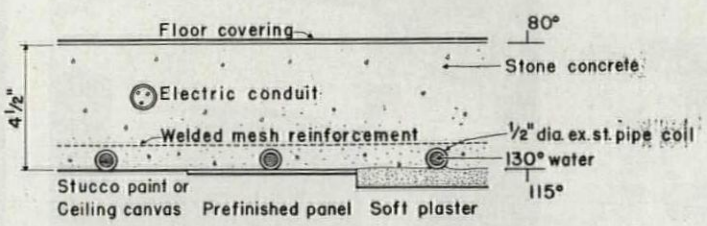


SECTION THRU FLOOR ARCH

THE ARCHITECT and TELEVISION

BY M. J. ALEXANDER

The emergence of television as a popular medium of home entertainment not only implies that television receivers will have to be available at reasonable cost; it requires that architects understand the problems which will be presented. Television sets will probably cost more than comparable radio sets, for a few years at least, and their use requires some "pre-planning;" of course, future developments may change the postulates or eliminate them, although their entire elimination does not seem feasible on the basis of current progress.

WAR DEVELOPMENTS

Most prewar television receiving sets provided small pictures, from 3" x 4" to 10" x 13" in size. As furniture, the sets were cumbersome. These characteristics were for the most part due to the fact that the cathode-ray tube, heart of the receiver, was relatively new. Wartime research has led to the development of much electronic equipment closely allied to television. Basic radar design parallels television design; use in radar of the cathode-ray tube and other principles has made it possible to eliminate from telesets many of the features that were, in prewar days, objectionable. The need for light, compact, rugged units for use in airplanes, the necessity for designing and constructing dependable component parts, have accelerated progress tremendously. Also, the enforced holiday in civilian production has given manufacturers time to digest the problems of installation of telesets in houses, and to appreciate the need for better design. All the wartime improvements in cathode-ray technique can be expected in the postwar teleset.

PRINCIPLES OF OPERATION

It is not necessary for the architect to have full technical knowledge of the process of producing the television image, but to appreciate the necessity for certain requirements he should understand certain factors.

At the receiver the image is produced on the flattened end of the cathode-ray tube. It may be viewed directly or projected to a screen. Obviously the sharpest pictures, with the clearest detail, will be those visible directly on the face of the tube; this method is called "direct" vision. In the past it has had certain disadvantages. Slightly less sharp, and requiring lenses, etc., is the "projection" method; for certain types of installations this will have definite advantages.

DIRECT-VISION RECEIVERS

A direct-vision teleset has been perfected which produces an image 18" x 13½" in size, large enough for the average home audience—which prewar direct-vision images were not. The chief difficulty in designing the receiver was the size of the cathode-ray tube required. The need for space to accommodate the tube results in an extremely deep, bulky cabinet unless special designs are employed.

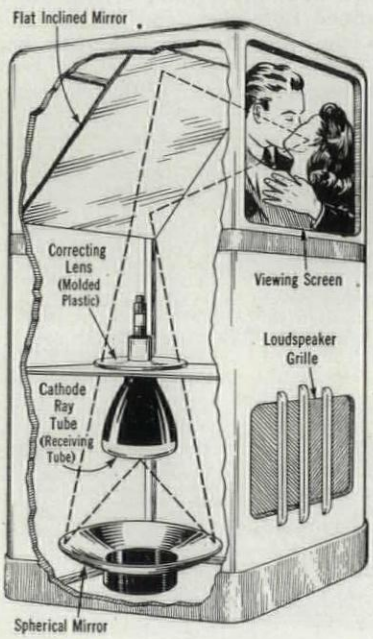
One manufacturer, aware of this, has offered a workable solution. The depth of the cabinet is of little concern when the television unit is in use. His design, therefore, provides for the tube (screen) to be in viewing position extended several inches from the face of the cabinet (see illustration). Housed in a disappearing supplementary cabinet, the tube rests in a vertical position within the cabinet except when a program is being received. The tube and its casing are brought into position for viewing by a small, silent, electric motor, the tubes of the set being turned on by the same switch. The whole operation from "closed" to "open," including warm-up time for the receiver tubes, is but 20 seconds. In the retracted position, the full depth of the cabinet is but 24".

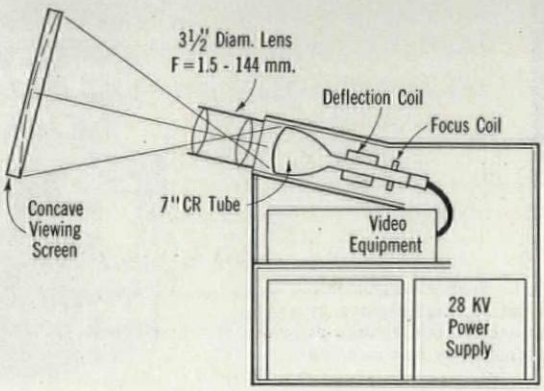
While it will probably be necessary to dim lights and drape windows for projection receivers, this will be unnecessary for direct-vision sets because the light output of the tube is sufficient to produce a picture bright enough to be viewed in daylight.

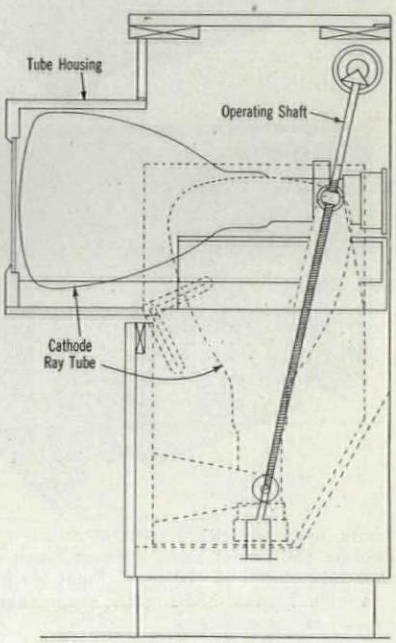
It is probable that, in many homes, the television set can be concealed within a handy closet or behind a wall. In this instance, the tube may be permanently mounted, with its end-face or screen in position. This, the control knob, and the speaker are the only parts visible in the room (see illustration). When phonograph turn-table, recording facilities, FM, etc., are not desired, and a radio (AM) already exists, the answer is a custom-built television receiver.

PROJECTION RECEIVERS

Projection telesets are of two kinds: those which *reflect* the image from a vertically mounted tube to a screen which is part of the cabinet, by means of mirrors; and those which actually *project* the image through lenses to a separate screen. (Both are called projection receivers in this article only in order to promote understanding; technically, one is a "reflection" receiver.)







Three methods of television reception: at left, self-contained unit with 22 in. x 16¼ in. image reflected from cathode-ray tube to integral screen; below, projection unit, designed to serve also as an end table, can produce a picture as large as 3 ft. x 4 ft. (larger pictures require different projector); at right, direct-vision receiver, in which the face of the cathode-ray tube is the viewing screen, provides greatest clarity. Size of tube might make cabinet excessively bulky; hence simple mechanism to make tube disappear. Picture is 18 in. x 13½ in.

In reflection receivers, the tube is permanently held in a vertical position, and the picture is picked up by a spherical mirror mounted at the bottom of the cabinet and reflected upward through a correcting lens. The image is then reflected 90° by a plane mirror to a viewing screen mounted on the face of the cabinet. This unit shows a picture 22″ x 16¼″. In more pretentious installations, when a picture of considerably larger size may be necessary, a unit has been designed to project the picture on the face of the tube, through a series of lenses and thence to a screen mounted on a wall across the room. In this way, a picture of almost any size may be obtained, dependent upon the distance from projector to screen.

LIGHTING FOR RECEPTION

It has been stated that no special precautions need be taken to dim natural or artificial light for direct-vision telesets. However, for some other sets, it will be advantageous to dim lights exactly as it is for home movies, and for the same reasons. It is not necessary to turn off all the lights; a more professional way to meet this need is to install dimmers (rheostatic controls) on the lighting circuits for the television room, and provide window drapes.

ANTENNA INSTALLATION

Of great importance for good television reception is the antenna installation. It may present no problems at all, or may be troublesome.

The television antenna is shaped like a **T**, with single or double cross arms, and is called a *dipole*. Most often it is entirely adequate when affixed to roof tops. Many set owners have simply placed antennae in their attics and are receiving good signal strength. In other cases more elaborate provisions are necessary.

The determining factors are roughly these: (1) television waves travel in straight sight-lines, and may be intercepted by a building or hill between the transmitting and receiving antennae; (2) the waves are reflected by such obstructions, so that the receiving antenna may have to be shielded from undesired wave reflections, which might interfere with clear reception; (3) the waves are directional, so that a separate dipole is needed for each transmitter; and (4) reception is currently limited to areas within a radius of 40 or 50 miles of the transmitter or a relay station. Future technical developments may change these factors; for instance, greater signal strength and other refinements may make it possible to build antennae into sets.

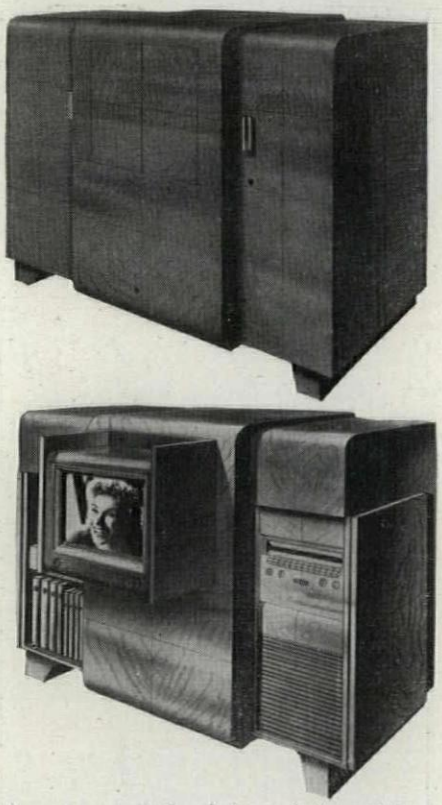
Certainly in multiple installations such as those in apartments, hotels, etc., master antennae may be erected and all sets in that building connected. Since an antenna must be erected for each transmitting station in the area, provision should be made to wire each set for each station. Conduit for this purpose will be of great aid. Antenna selector switches can be installed to operate in conjunction with station selectors on the receivers. Multiple installations of this sort can be also made by setting up master receivers in one spot in a building and placing viewing monitors in rooms. These units are relatively small and less complicated than standard receivers. The system would then operate in the same way as radio units that are now being used in hotels. Thus a tenant might choose between, say, three local stations. The installation is comparatively inexpensive, and the building owner or operator can have a unique sales point.

TELEVISION FOR INDUSTRY, COMMERCE, EDUCATION

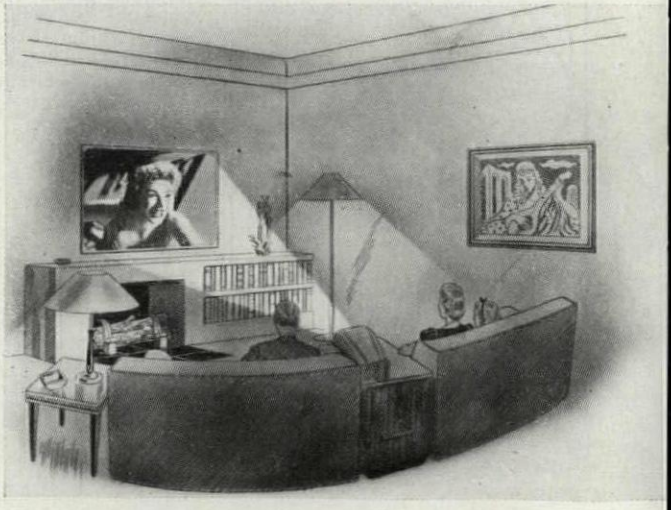
The commercial aspects of television must not be overlooked. A compact, rugged projection unit has been offered which combines all the features of the home receiver, and, in addition, has been housed in a steel cabinet for practical, heavy-duty purposes. This receiver has a tested range to project pictures up to 6 ft. by 4½ ft. in size. Its uses are many, including sales training programs, club entertainment, theater lobby display, hospital ward projection, etc.

Industravision is a new system of teleinstallation for businesses and factories. A virtual television station (with the exception of the transmitter and antenna) is set up in a plant. Television cameras are utilized to pick up a picture and deliver it, over wires, to strategically placed viewing monitors throughout the plant, so that an executive may have complete control over production lines without leaving his desk. His messages—and picture—may be brought to his employees while they are at work. In addition, it may be possible for conference lines to be established to provide for at-the-desk meeting of management men.

The educational applications of television systems are limited only by the imagination of the user. Mass teaching has not been the most successful method of disseminating knowledge simply because it is difficult to gain and hold the concentrated attention of large groups. Distraction may be eliminated by teaching through television, at the same time maintaining the advantage of using the highest caliber of educators. In highly specialized fields such as surgery, it is of the utmost importance that the student see and understand action which is confined to a very small area. This limits the number of observers and often proves a disadvantage to both teacher and student. With television,



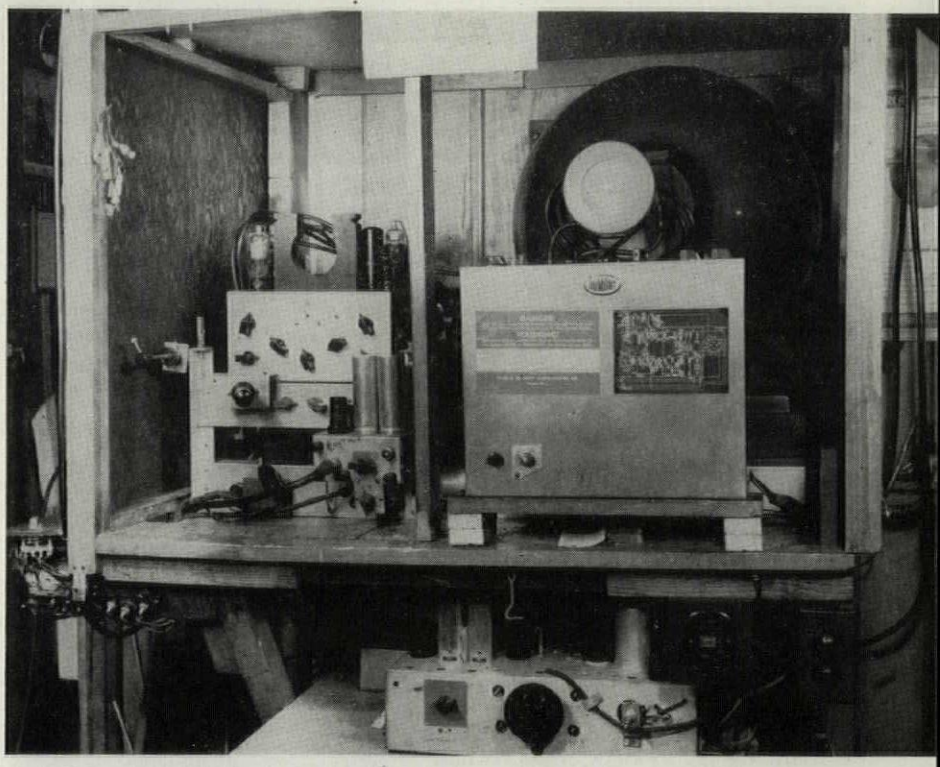
Above, open and closed views of direct-vision set. Tube moves up into position and center doors open at touch of a button, are in place by time tubes warm up (20 sec.). Right, de luxe projection teleset used as end table. Speaker and controls are in cabinet, screen may be concealed by wall mirror or picture.



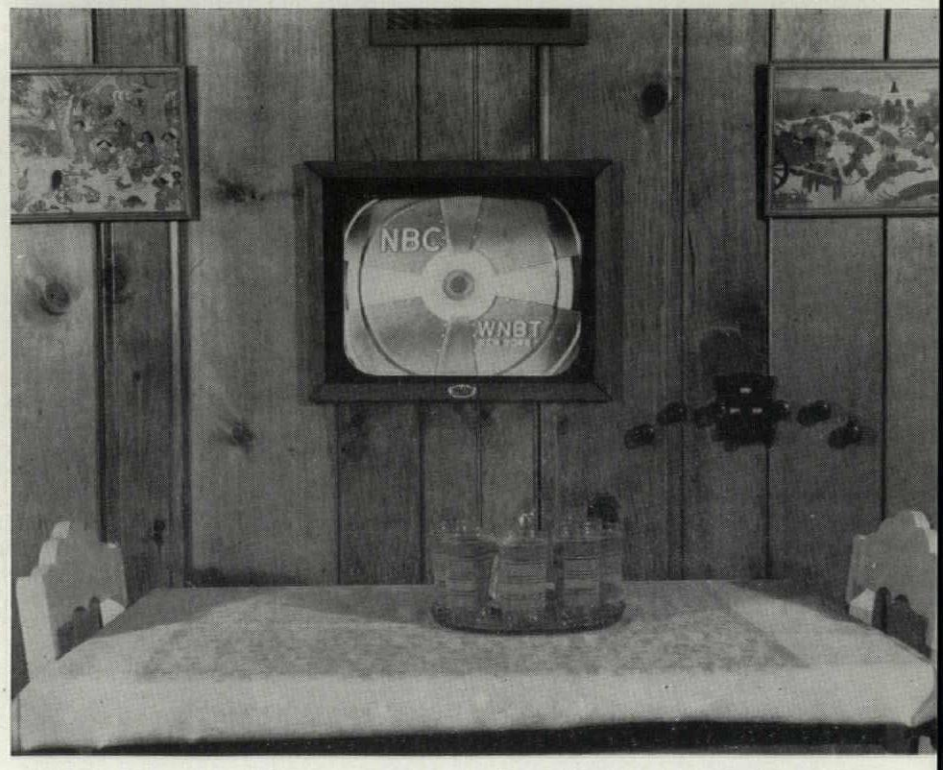
the number of observers may be vastly increased, and students may see the operation, hear comments, and receive instruction in classes far distant from the surgical amphitheater.

CABINET DESIGN and SAFETY PRECAUTIONS

The use of materials in cabinets is almost entirely dependent upon the desires of the designer. All the woods and veneers used in radio cabinets are suitable. In addition, plastics are especially adaptable to cabinet use since they prove highly economical in mass production, and provide exceptionally fine insulating characteristics and high safety factors. Television receivers operate at voltages up to 25,000 and all manufacturers will equip their units with interlocking switches. Since every precaution must be taken to prevent accidents, consultation with a trained, qualified television engineer is advised.



Photos on this page show actual installation of custom-built teleset in basement game room. Above, "television wall" of the room, with controls, etc., mounted above a table. Above, right, mechanism installed behind game-room wall; note high-voltage warming. Below, seating arrangements; below, right, close-up showing part of speaker grill, screen (in this case, face of cathode-ray tube) and controls (lower right).



Illustrations Courtesy Allen B. Du Mont Laboratories, Inc.

MATERIALS and METHODS

On Building Equipment

Mechanical and Electrical Equipment for Building. By Charles M. Gay and Charles De V. Fawcett. Second Edition, 5¾ by 8¾"; charts, diagrams, tables. John Wiley & Sons, Inc., 440 4th Ave., New York, 1945. 453 pp. $5.00

A thoroughly reliable text on all types of building equipment, this second edition of a standard work is published at a time when much planning for postwar building is either under way or in preliminary stages; when architectural students, the schools tell us, are at a premium; when our realists are at war. The volume is, of course, based on standard prewar practice although it is seasoned with comment on those few wartime developments which everybody admits will inevitably be used. In the chapter on lighting, for instance, there is in this edition a section, evidently new, on fluorescent lighting.

The authors believe fluorescent lamps will "take a very prominent place in future lighting design." Then they proceed to insert many "buts" into their enthusiasm; meanwhile, every type of lighting user—which means all of us—is being bombarded with information (and misinformation, probably) on fluorescent lighting; the little neighborhood store, the apartment house lobby, the doctor's waiting room, all are being re-outfitted with fluorescent fixtures. Only after these brave pioneers have either suffered for their folly or profited by their foresight will the authors speak with assurance.

Which of course is not their fault. They have prepared the factual kind of text to which we have learned to turn when we want, really, to know what's what. It is no doubt an excellent repository of such facts, replete with figures, documented, substantial. Intended "for architects, students, and building managers," the volume contains a section on water supply, others on plumbing and drainage, heating and air conditioning, electrical equipment, and acoustics; and, while concerned only with the basic theory and application of building equipment rather than complicated design and specification, it does cover the chosen territory thoroughly. As a working tool the book ought to be pretty helpful; although a little genuine, human enthusiasm might have made it more inspirational. But we keep forgetting. Textbooks — and teaching — have to have a solid basis. Inspirational stuff is pretty escapist, isn't it?

Concrete and Masonry

Reinforced Concrete and Masonry Structures. Editors-in-Chief: George A. Hool and W. S. Kinne. Revised by R. R. Zipprodt. McGraw-Hill Book Co., Inc., 330 West 42nd St., New York 18, N. Y. 1944. Second Edition. 835 pp., 499 illustrations. $6.00

A tool for construction engineers, this manual covers the fundamentals of preparing and handling concrete, types of forms and reinforcing material. It contains handy formulas, tables of design data, diagrams, details, and methods to speed up and simplify construction. Features of the new edition are: specifications for membrane waterproofing of the American Railway Engineering Association; illustrative problems conforming to 1941 A.C.I. Building Regulations for Reinforced Concrete; tables for the design of both tied and spiral columns meeting 1938 New York and 1937 Chicago Codes; retaining wall problems, utilizing design stresses permissible under 1941 A.C.I. Building Regulations; diagrams illustrative of expansion joints in recently designed arches and bridges.

Handbook on Paint

The National Paint Dictionary. By Jeffrey R. Stewart, F.A.I.C. Stewart Research Laboratory, P. O. Box 173, 224 pp., illustrated. $5.00 Washington, D. C. Second Edition, 1944.

This revised technical dictionary offers charts, tables, useful information, and miscellaneous data on paint; descriptions of laboratory tests and apparatus; definitions of trade names of raw materials used in the paint and allied industries. The handbook is the result of cooperative efforts of authorities in the paint industry.

Electrical Drafting

Electrical Drafting Applied to Circuits and Wiring. By D. Walter Van Gieson. McGraw-Hill Book Co., Inc., 330 West 42 Street, New York 18, N. Y., 1944. 140 pp., illustrated. $1.50

With special attention to recent advances in the field of electrical drafting, *Electrical Drafting* is an exposition of tested drafting methods applied to circuits and wiring. It offers a series of illustrated discussions. Starting with the schematic circuit diagram, Van Gieson develops the detailed wiring plan for several typical cases, correlating conduit and equipment location plans. Modern methods are adhered to throughout the book. Appendix, tables, diagrams, data.

Brick Structures

"Brick Engineering; Handbook of Design." Harry C. Plummer and Leslie J. Reardon. Structural Clay Products Institute. 437 pp., tables, charts, appendices, bibliography, index. $4.50

"Brick Engineering" combines a comprehensive description and analysis of principal types of ordinary and reinforced brick masonry with sufficient formulae and tables to serve as an efficient handbook of design. A quarter of the text analyzes the individual properties of brick, mortar and brick masonry and summarizes them in comparative tables. The following section presents analyses, specifications, formulae, and tabulated design data for brick masonry structures. Moisture control in brick masonry buildings is described and analyzed in a separate chapter.

The major portion of the text deals with reinforced brick masonry. Its design is carefully resolved and further clarified by illustrative problems. The charted and tabulated characteristics of popular beam, column, and slab sections make this portion of the text extremely useful. The design of plain and reinforced brick sewers is similarly presented. Estimating tables and standard specifications are given in the appendix.

Technical Books Received

"Simplified Carpentry Estimating," J. Douglas Wilson and Clell M. Rogers. Simmons-Boardman Publishing Corp. 288 pp., cloth-bound, illus., tables, index. $3.00

"Pump Engineering Data." Engineering design data, specifications, etc., for all types of pumping systems; catalog of centrifugal pumps manufactured by the publishers, Economy Pumps, Inc., Hamilton, Ohio, 1945. 416 pp. Cloth-bound illus., tables, charts, index.

"Fire Protection through Modern Building Codes," by B. L. Wood. American Iron and Steel Institute, N. Y. 124 pp. Cloth-bound, indices. (To be reviewed.)

"Building Insulation," by Paul D. Close. Second Edition. American Technical Society, Chicago. 328 pp. Cloth-bound, illus., tables, charts, index. (To be reviewed.)

Popular Pamphlets from Illinois U.

"Heating the Home, Central Heating Systems;" "Solar Orientation in Home Design;" "Selecting A Livable Neighborhood;" "Financing the Home;" 12 pp., 4 pp., 4 pp., 4 pp. Small Homes Council, Mumford House, University of Illinois, Urbana, Illinois. Plans, diagrams, charts, photographs.

Seven types of central heating systems are discussed in non-technical language in "Heating the Home." Advantages, disadvantages, and operation of systems of air, water, and steam are well explained in the text as well as in the accompanying diagrams and photographs.

"Solar Orientation" answers the skeptics who maintain solar houses "would be nice in California, but . . ." Explaining in the layman's language what solar orientation is and the advantages thereof, the booklet explains control of the sun's rays. Excellent plans and diagrams answer many questions relating to solar mechanics and ways of taking advantage of the sun in house design.

"Selecting a Livable Neighborhood" advocates living areas in which a large percentage of the homes are owner-occupied, zoning ordinances are properly written and carefully enforced, and houses are grouped in long or, if possible, super-blocks so that children may play safely. Such a neighborhood, says the Small Homes Council, should include schools, churches, parks and other rec-

reational areas, and a shopping center within walking distance. The circular is liberally illustrated with sketches of ideal communities, somewhat nullified by the Council's conclusion that such a neighborhood is impossible to find although "new subdivisions should have many of these features."

Professor R. M. Nolen, University of Illinois economist, has written another in this series of non-technical circulars for home owners and prospective builders. In working out a system for financing the home, he says that the greatest usual error is not to allow for upkeep costs. These he conservatively estimates at $20 per year per $1,000 value.

The circular contains a check-list to estimate a family's housing allowance, and simple tables showing what value of home any allowance from $15-$125 a month will finance at 4 to 6 percent and for 10 to 20 year loans including all costs. Other items discussed briefly in the circular are: home ownership vs. renting, preliminary and extra costs of buying or building, down payments, mortgages, and the place of housing costs in the family budget.

From the British Building Research Station

"Standard Construction for Schools;" "Plastics;" "The Painting of Buildings" (Nos. 2, 3, & 5 of a series). Postwar building studies of the British Ministry of Works, prepared by a committee appointed by the President of the Board of Education, a committee convened by the British Plastics Federation, and one convened by the Paint Research Association. His Majesty's Stationery Office, London, England, 1944. 29 pp., 48 pp., and 66 pp.; paper-bound, illustrations, tables, appendices. Sixpence, one shilling, and one shilling. Available on order from the British Information Services, 30 Rockefeller Plaza, New York, at 15 cents, 30 cents, and 30 cents.

Britain's postwar proposals have already attracted much attention among architects and planners in this country. These small but courageous pamphlets on standardization in the building industry will add to that reputation.

After a year of preliminary research by members of the Board of Education, a committee was appointed to consider the possibilities of applying some method of standardization to the design and construction of school buildings. The committee has submitted a concise but convincing report and fifteen projected designs boosting prefabrication.

Citing the delays arising from normal administrative procedures, the committee states that use of a standard construction, adaptable to numerous sites and requirements, would enable communities to rebuild schools at the same speed as housing. British steel industries produced, before the war, standardized units for schools and it is steel that is suggested for postwar building. Two design approaches are proposed: (1) the school conceived as a structural whole and (2) the school conceived as a group of separate plan units. Both approaches are based on a standard unit dimension. Diagrams showing suggested structural units for one- and two-story buildings are included in the booklet as well as projected plans for special or practical rooms. Although none of the designs is suitable for erection on a limited site, the committee makes note of this fact with the plea for more generous sites in the future.

Submitting a report on the application of plastics to the building industries, the committee has presented a thorough, if not startling, study of plastics applicable to immediate postwar use as well as recommendations for further research in the field. Although there is nothing new in this report, it is an exhaustive but readable study on all forms of plastics. Listing uses of plastics in the building industry, the committee also submits a table of comparative costs of wall lining materials in which plastic coverings fall in the upper third. This would seem to indicate that as yet plastics are too expensive to be used for more than fittings, paints, etc.

"The Painting of Buildings" committee has presented an analysis of the manufacture and proper application of the various types of paints. It is a booklet which should be read not only by architects and builders but also by home owners. Recommendations are made on improvements in practice for immediate postwar and general needs; on decorative, protective, and other technical properties of paint products; on specifications necessary to meet general and special needs in building; and on a scheme of official certification for quality in paint products. The committee especially advocates the proper training of craftsmen to be employed in the painting trade, and an expansion of the already functioning trade-education system. Appendices on the treatment of mould growths, cleaning of painted buildings, and protective treatments of steel windows should be particularly useful to home owners.

"Business Buildings," a postwar building study (No. 16 of the series) of the British Ministry of Works, prepared by an interdepartmental committee appointed for the purpose. His Majesty's Stationery Office, London, England, 1944. 88 pp. Paper-bound, table, appendices, index. Two shillings. Available on order from the British Information Services, 30 Rockefeller Plaza, New York, N. Y. 60 cents.

This study deals with the practice of designing business buildings, and the formulation of principles concerning the planning and treatment of postwar buildings. The subject is fully covered in a condensed form. It covers in detail site development—for both in-city and out-city—office buildings, shops and stores, factories, warehouses and storage buildings.

Each report concerning a type of building has definite specifications as to the materials necessary to meet structural requirements and internal finishings; also services, such as fire protection, plumbing and sanitation, heating and ventilating, artificial lighting and power, and the handling of goods and merchandise. The study is indexed into special categories treating each quoted specification as an individual subject. For example: Office Buildings; Circulation and Escape, Traffic Problems, etc.

The Committee regards site development and town planning as inseparable, and has given this problem deepest consideration and careful study. The ideas presented appear clear and logical.

Since England's cities have been badly wrecked by enemy bombing, architects and city planners are trying to formulate a system of rebuilding that will consist of planning free in nature yet organized to eliminate chaos and distortion.

Lightweight Steel Structures

"Technical and Commercial Developments in Light Gage Structural Steel." Address by Milton Male, Research Engineer, U. S. Steel Corp., 1944. American Institute of Steel Construction. 23 pp., illus.

Although light gage structural steel had been satisfactorily used since 1897, there existed no accepted design specifications until 1938 when a program was started to develop base metal specifications, durability data, and design specifications. Tentative standards covering thicknesses of material from 2 to 25 gage steel were issued in 1941. Usual requirements of durability can be met with a protective coating of paint applied before erection, as trials made by the Pittsburgh Testing Laboratory have shown.

Concurrently with the development of a material specification and durability data, specifications for design of light gage structural steel were being drawn up by the American Iron and Steel Institute. This data, soon to be ready for publication, will provide sound bases upon which to design with light gage sheet and strip steel. The complexity of shapes which may be produced by various forming processes, says Mr. Male, is limited only by the ingenuity of the designer.

Modern types of light steel construction, mainly developed since 1930, usually consist of sections used individually or pre-assembled into large framing panels. Installed at relatively close spacing, thicknesses range from 10 to 16 gage. Anticipating wide use in the future, Mr. Male suggests light gage steel will take the place of wood and, in some cases, of heavier steel.

MATERIALS and METHODS

Air Conditioning and Air Handling Equipment

1-20. *Air Conditioning for Hospitals (MAF-3)*, Airtemp Division of Chrysler Corp. (Reviewed in July.)

1-21. *What We Make (Cat. No. 500)*, B. F. Sturtevant Co. (Reviewed in July.)

Communication Systems

3-38. *Bell Sound Systems*, 12-page illustrated booklet on amplifiers (in popular wattages), microphones, phone amplifiers, pre-amplifiers, public address systems, sound and voice-paging equipment. Specifications, sizes, wattages, prices. Bell Sound Systems, Inc.

3-33. *Catalog and Handbook of Electrical Signals, No. 61*, 102 pages. Indexed engineering data and wiring diagrams, tables of electrical characteristics, etc., on electrical signals. Faraday Electric Corp.

3-30. *Faraday-Dudley Watch Report System*, 8-page pamphlet on watchman's compulsory tour key system for protection against fire, theft, sabotage. Instructions, photos. Stanley & Patterson Division of Faraday Electric Corp.

Concrete

3-36. *Corrosion-Resistant Concrete for Dairies and Meat Packing Plants*, Atlas Lumnite Cement Co. (Reviewed in July.)

Doors

4-26. *Riverbank Sound Insulating Doors*, Hardwood Products Corp. (Reviewed in July.)

Drafting Room Equipment

4-27. *Specifications and Prices of Engineers Specialties Division Products, for Use on All Optical Comparators, Measuring Projectors, Micro Projectors and Shadowgraphs*, 16-page illustrated booklet, indexed. Engineers'-glass (scribing and translucent), radius discs and charts, grid charts, scribing instruments, etc. Universal Engraving & Colorplate Co., Inc., Engineers Specialties Division.

Electrical Wiring and Equipment

5-18. *National Electric Engineering Data Book*, 352 pages, illustrated. Planned to eliminate catalog-thumbing for electrical engineers, this is a listing of the company's products—wires and cables, surface raceways, fittings, armored cables, underfloor wiring systems. Data on "Spellerizing" steel for pipe; on the process for removing scale from inside and outside of pipe while being welded. Dimensions, packing and list prices, weights, descriptions. Detailed information on electric wire and cable terminology, from U. S. Bureau of Standards, Circular No. 37 and A.I.E.E. No. 30. Table of electrical symbols for architectural plans. National Electric Products Corp.

5-15. *Manual of Better Home Wiring, A.I.A. File 31-C-6*, Westinghouse Mfg. Co., Better Homes Dept. (Reviewed in July.)

Electronics

5-17. *The ABC of Electronic Heating*, "S" Corrugated Quenched Gap Co., Scientific Electric Division. (Reviewed in July.)

Fire Extinguishing Equipment

6-20. *"Automatic" Fire Alarm, Control, and Extinguishing Systems (Catalog 49)*, 14-page illustrated booklet on automatic sprinkler systems for fire protection—fixed temperature and rate-of-rise systems. Automatic Sprinkler Corp. of America.

6-28. *How Cardox Fire Extinguishers Tame Tough Transformer Fires*, 6-page illustrated bulletin on mass application of carbon dioxide for putting out fires in large indoor, semi-enclosed, and outdoor installations of power transformers. Cardox Corporation.

6-29. *Out in 33 Seconds Flat!* 4-page illustrated bulletin on instant fire protection qualities of "Cardox CO_2" for quench tanks, applied through pipes by electrically controlled linear nozzles. Cardox Corporation.

Flooring and Floor Coverings

6-22. *Bates Grates (Cat. 43-44), A.I.A. File 14-P-21*, Walter Bates Co., Inc. (Reviewed in July.)

6-23. *Kerlow Open Steel Flooring (Cat. MC43)*, Kerlow Steel Flooring Co. (Reviewed in July.)

6-24. *Flooring*, Servicised Products Corp. (Reviewed in July.)

6-25. *Sloane-Blabon Floor Coverings*, 12-page illustrated booklet describing uses of linoleum flooring. Specifications for suspended concrete or wood subfloors; maintenance specifications; width-gauge-weight table; color and pattern charts. Sloane-Blabon Corp.

Floors

6-26. *"Smooth Ceilings" System of Flat Slab Construction*, Smooth Ceilings System. (Reviewed in July.)

Glass Block

7-30. *Owens-Illinois Insulux Glass Block, A.I.A. File 10-F (1945)*, 22-page illustrated booklet. Data on functional glass block, glass block set-in-wood; designs; sizes; construction details and technical data; basic specifications; accessory products. Owens-Illinois Glass Co.

7-26. *Daylight in Schoolrooms (Old and New) 1B-53-442*, Owens-Illinois Glass Co. (Reviewed in July.)

7-24. *Beautiful Homes*, 32-page booklet showing uses of glass block for various types and sizes of homes, with emphasis on the small home. Photos, drawings, plans; construction details. Owens-Illinois Glass Co.

7-27. *Insulux Glass Block "Set in Wood" for Interior Partitions (1B45-4210)*, 6-page illustrated folder. Data on erection of interior partitions of glass block by dry-setting in wood strips (horizontal and vertical). Step-by-step construction description, detail drawings, suggestions for various uses, packaging, dimension table, etc. Owens-Illinois Glass Co.

Heating

8-53. *B & G Forced Hot Water Heat (SC-44)*, 8-page illustrated booklet. Information on forced circulation hot water heating for home and industry. Data on radiant or panel heating. Bell & Gossett Co.

8-42. *Catalog 79A, A.I.A. File 30-C-1*, Burnham Boiler Corp. (Reviewed in July.)

8-46. *How to Choose a Heating System for Your New Home*, A. M. Byers Co. (Reviewed in July.)

8-43. *Portfolio of Outstanding Engineering in Industrial Heating by Dravo*, 18-page booklet (9x12). Drawings and descriptions of industrial and military installations of "Dravo" direct-fired heating systems. Dravo Corp.

8-44. *Bulletin 634*, 86-page illustrated general products bulletin on low pressure steam heating appliances, differential vacuum heating systems, and control equipment. General engineering data—dimensions, capacities, pipe sizing, performance tables. C. A. Dunham Co.

8-47. *Dunham Differential Vacuum Heating System, Technical Data (Bulletin 631)*, C. A. Dunham Co. (Reviewed in July.)

8-51. *Payne Zone Conditioning*, Payne Furnace & Supply Co., Inc. (Reviewed in July.)

8-48. *Prox Sectional Boilers*, Frank Prox Co., Inc. (Reviewed in July.)

8-49. *How to Handle Heat Generation for Radiant Heating Systems*, The H. B. Smith Co., Inc. (Reviewed in July.)

8-50. *Taco Specialties (Cat. D-99)*, 20-page illustrated catalog. Data on specialties for warm water radiator heating systems and water heaters (tankless and storage tank types). Design tables; capacity, rating, and dimension tables; typical installation diagrams. Taco Heaters, Inc.

Incinerators

9-28. *Kewanee Garbage Burner, A.I.A. File 29D2 (Cat. GW-95a)*, Kewanee Boiler Corp. (Reviewed in July.)

9-29. *Bulletin No. 160*, Morse Boulger Destructor Co. (Reviewed in July.)

Insulation

9-34. *Flintkote Building Insulation Products (SR-3)*, 4-page illustrated folder of data on asphalt sealed sheathing, insulation lath, building board, wallboard, roof insulation, decorative insulation tile and plank, hardboard products, and rock wool insulation. Pioneer Division of the Flintkote Co.

9-26. *Insulite (No. 3)*, Minnesota & Ontario Paper Co., Insulite Division. (Reviewed in July.)

9-32. *Year 'Round Comfort and Protection (No. 80)*, 16-page booklet. Advantages of "Bildrite" sheathing and sealed "Graylite Lok-Joint" lath for structural insulation. Specifications, detail drawings, photographs. Minnesota & Ontario Paper Co., Insulite Division.

9-33. *Here's How (No. 71)*, 6-page illustrated folder on design, treatment, and application of "Insulite" interior finish (plank or large sheets) for walls and tileboard for ceilings. Detail drawings; light reflection and sound absorption data; patterns. Minnesota & Ontario Paper Co., Insulite Division.

9-31. *PC Foamglas Insulation for Floors*, 4-page illustrated folder. Infor-

mation on qualities of "PC Foamglas" (inert air hermetically sealed in glass) for floor insulation of industrial building. Temperature chart, heat transmission data, specifications, installation details. Pittsburgh Corning Corp.

9-30. *Red Top Insulating Wool ("Fiberglas")*, 4-page illustrated folder. Data on 4 types of insulating wool: roll and bat blanket, "Jr." bats, and nodulated. United States Gypsum Co.

Lighting and Lighting Equipment

12-23. *Luminite*, Associated Products Co. (Reviewed in July.)

12-30. *Ballasts for Mazda F Lamps (Fluorescent) (GEA-3293F, File No. 5205)*, 24-page illustrated booklet. Information on selection of properly designed ballasts for fluorescent-lighting installations. Outlines and wiring diagrams, construction features, data on filters, capacitors, starters, etc. General Electric Co., Specialty Transformer Section.

12-31. *Lighting Planned to Serve (Y-480)*, 12-page illustrated booklet. Residence lighting ideas as presented by G. McStay Jackson. Diagram, details, drawings. General Electric Co., Lamp Department.

12-19. *Lighting Goes Dramatic for the Postwar Drugstore (Y-473)*, General Electric Co., Lamp Department. (Reviewed in July.)

12-24. *The Whole House A Lighting Fixture (Y476)*, General Electric Co., Lamp Department. (Reviewed in July.)

12-25. *Number "44" Catalog, A.I.A. File 31-F-23*, Edwin F. Guth Co. (Reviewed in July.)

12-20. *"Mitchelite" All-Steel Industrial Fluorescent Fixtures (Cat. No. 281)*, 12-page illustrated catalog. Data on all-steel industrial fluorescent fixtures featuring 2-40, 3-40, and 2-100 watt models and channels, open- and closed-end types. Mitchell Manufacturing Co.

12-26. *Verd-A-Ray*, Verd-A-Ray Corp. (Reviewed in July.)

Lighting Fixture Glassware

12-29. *Lenslites (Catalog B-56)*, 47 pages of lens designs for general and supplementary lighting and lighting effects for commercial interiors. Photometric data, details. Corning Glass Works, Lighting Division.

12-27. *Lighting Data, A.I.A. File 31-F-237*, Corning Glass Works, Lighting Division. (Reviewed in July.)

Lighting——Germicidal

12-28. *Germ-Killing Lights (No. 800-45)*, 4-page illustrated folder on the germicidal lamp designed for use in schools, doctors' and dentists' offices, general offices, banks, restaurants, and public rest-rooms. Edwin F. Guth Co.

Paint

16-48. *Amercoat 23 Plastic Coating*, American Pipe and Construction Co., Amercoat Division. (Reviewed in July.)

16-49. *Optonic Color System*, Arco Co. (Reviewed in July.)

16-51. *A Standard Code for Identification of Piping Systems (B32)*, 6-page compilation of data on color classification as a safety measure for various industrial piping systems. Diagrams for legends; color chart. Arco Co.

Prison Equipment

16-50. 8-page illustrated booklet on equipment and accessories for modern prisons and jails. Drawings of door and window details, typical floor plans for county jails; photos of installations. Van Dorn Iron Works Co.

Roofing

18-10. *Built-Up Roofs*, Certain-teed Products Corp. (Reviewed in July.)

18-11. *Featherweight Concrete Insulating Roof Slabs (Cat. 103 Roof Standards), A.I.A. File 12 e 2*, Federal-American Cement Tile Co. (Reviewed in July.)

18-12. *Shingles and Siding*, Flintkote Co. (Reviewed in July.)

18-13. *Asphalt Shingles*, 8-page illustrated booklet. Data and specifications on asphalt shingles: plain or grained thick-butt, 3-tab special, standard or 3-tab hexagonal, "Jumbo" Dutch lap ("Woodtex" not available for duration). Information on roll roofing. Certain-teed Products Corp.

Sound Insulation

19-25. *Less Noise in Factory and Shop*, Celotex Corp. (Reviewed in July.)

Steel

19-30. *Mayari R (Cat. 156) (steel)*, Bethlehem Steel Co. (Reviewed in July.)

19-31. *Booklet 127-A*, 68-page booklet (8x10½). General features and typical details of actual installations of steel sheet piling to aid, by use as a basis for comparison, in design and building of sheet pile structures—braced cofferdams, self-sustaining cofferdams, dock and retaining walls, mooring dolphins, breakwaters, jetties, groins, seawalls, cut-off walls. Bethlehem Steel Co.

19-32. *Bethlehem Steel Sheet Piling (Cat. 151-A)*, 22-page catalog (8x10½). Types, dimensions, and properties of sections; of fabricated corners, tees, crosses; of standard corners and fabricated and standard connections, etc.; of diaphragm and circular type cellular cofferdams. Specifications; maximum spans under water loads; allowable safe loads. Bethlehem Steel Co.

19-33. *Bethlehem Cold-Formed Shapes (176), A.I.A. File 13-G*, 8-page illustrated booklet. Data on uses and advantages of irregular shape which are formed cold from sheet strip, or plate steel—their main value being extreme lightness. Detail drawings, sizes. Bethlehem Steel Co.

Store Fronts

19-34. *Kawneer "Machines for Selling,"* 16-page illustrated consumer booklet, presents new concepts of store fronts as retail advertising, worked out with architects in various localities. Custom-built store fronts designed for individual stores. Kawneer Co.

Ventilation

22-09. *Cooler Fans for Home and Business*, 12-page illustrated booklet. Information on cooling by electric fans—plenum chamber, outside wall mounting (for attics), large volume industrial and commercial ventilation. Installation methods, specifications, accessories. Emerson Electric Manufacturing Co.

Walls and Wall Finishes

23-31. *Sandkote*, consumer folder (3⅛ x6¼) describing qualities of a silica sand finish (in colors) which combines plastering and decorating in one operation. Cleveland Gypsum Co.

Water Heaters

23-34. *Smithway Gas Storage Water Heater (Bulletin 559)*, one-page illustrated pamphlet on features of a galvanized heater for the home. Capacity table, detail drawing. A. O. Smith Corporation.

23-32. *Is It Costing You Too Much To Heat Water?* Revere Copper and Brass, Inc. (Reviewed in July.)

23-33. *Smithway Automatic Electric Storage Water Heaters (Bulletin 553)*, A. O. Smith Corp. (Reviewed in July.)

Wood Preservatives

23-35. *Wood Preservatives*, 4-page illustrated pamphlet of technical information on various Pentachlorphenol-base solutions used in treating wood against decay and staining organisms; in general, to control dimensional changes in wood; also methods, specifications, and cost of wood impregnation. Wood Treating Chemical Co.

Pencil Points, 330 West 42nd St., 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.

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8/45

PLEASE PRINT

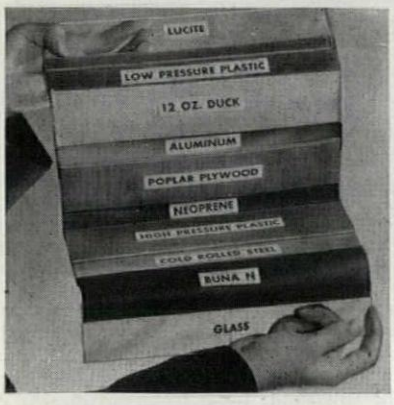
MATERIALS and METHODS

Products

IT WILL BOND ANYTHING TO ANYTHING

"Pliobond" is the trade name of a new adhesive which has an astonishing ability to bond a wide variety of natural and synthetic materials; it is a synthetic compound with resin-like properties and rubber-like characteristics. It has successfully bonded such dissimilar materials as metals, plastics, fabrics, ceramic ware, vulcanized rubber, paper, leather, glass, plaster, wood, and Portland cement concrete. Predicted as an outstanding repair material, it will mend flexible and rigid articles and combinations, will patch rubberized fabrics, etc. It can be used as sealing adhesive, gasket cement, and for bonding insulation to metal in electronic equipment. In delicate equipment where riveting, welding, or soldering is not possible, Pliobond can be used.

In recent Pliobond demonstrations, a series of one-inch canvas strips were bonded and withstood a 20 ft-lb impact test. A flat, metal panel and several short and long angles of the same material were assembled in a matter of minutes by use of a C-clamp for pressure and an ordinary strip heater; 2" x 6" strips of iron, steel, Formica, canvas, aluminum, plexiglass, and canvas held together vertically by bonded areas of only 1" x 2" (see photo) withstood



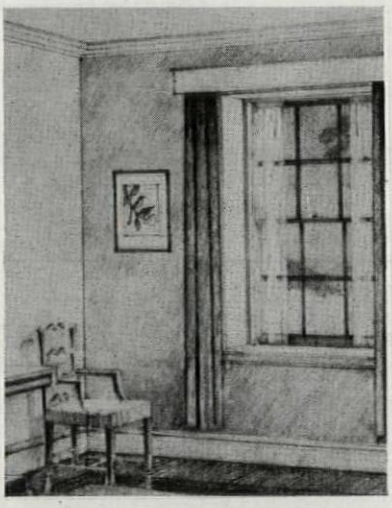
the weight of a heavy man. In metal-to-metal bonding, shear strengths of from 500 to 900 lbs. per sq. in. are possible. Bonds between fabrics have proved stronger than the fabrics themselves.

Up to this time, dissimilar materials have generally required special variants of adhesives for bonding processes. For instance, cold-setting phenolic-resorcinal resin glues are especially adaptable for wood lamination; powdered resin glue is good for use with plywood; several of the liquid resin glues must be applied at specific temperatures; some plastics and rubber-like compounds must be molded quickly while at a high degree of heat, making production methods difficult. Pliobond has much more universal application ability, and it can be used like ordinary household glue. The bond is permanently flexible and does not become brittle when exposed to low temperatures. It is highly resistant to moisture, mildew, fungi, dilute acids and alkalies, petroleum distillates, oils, alcohol, etc. It has proved more shock-resistant than urea formaldehyde or phenol formaldehyde adhesives. Pliobond is applied cold for fair results; for maximum results, a joint can be formed with heat and pressure.

Pliobond was a war development of the Goodyear Tire & Rubber Co. and is now being adapted to specific industrial requirements by the Industrial Adhesives laboratories of United States Plywood Corp., its distributor.

THE HEATING FIELD

Warren Webster & Co., Camden, N. J., has reduced the radiator to a mere pipe surrounded by coiled fins of fine copper sheet, and placed it behind the base-



boards of exposed walls of a room. Air comes in at the floor line, passes over the pipe line, and the resulting warm air is evenly delivered at the top of the baseboard. Tests have proved that the differential in heat at different levels throughout the room and in different sections of the heated area is less than 2°. The system eliminates the obvious radiator, as well as cellar air ducts and return pipe loops. It will be available when war conditions permit.

Dravo Corporation, Pittsburgh 22, Pa., announces a suspended type of direct fired heater (burning gas or oil) designed to meet unusual space conditions. The lower half of the combustion chamber is lined with plastic refractory molded to the metal wall; by a system of baffles, air to be heated is brought into contact 4 times with the heating elements. Hot air is driven from adjustable nozzles at velocities of 1,800 to 2,000 fpm, permitting the heater to be suspended from roof trusses or wall brackets 30 ft. or more from the floor without great loss of efficiency. Capacities range from 300,000 to 1,650,000 Btu per hour.

NEW PLANNING SERVICE FOR X-RAY LABORATORIES

A planning service for X-ray laboratories in hospitals and clinics (a considerable problem to many architects), is announced by the Kelley-Koett Manufacturing Co., Covington, Ky., manufacturers of X-ray equipment. The firm's representative submits to the architect a questionnaire covering every detail of dimension, construction, ventilation, electrical and plumbing installations, type of X-ray equipment being considered, cable lengths, etc., in a proposed space. The service also provides a complete selection of templates of "Keleket" equipment, drawn to scale; with these a visualization of the projected X-ray laboratory is at once possible. Data are tabulated in a preliminary layout sketch and sent to the factory for the guidance of a draftsman experienced in X-ray installations, who prepares a finished layout drawing exploiting every advantage of space, convenience, and safety.

MODULAR COORDINATION NEWS

The Producers' Council Subcommittee on Modular Products reports more firms which are taking steps toward coordinating dimensions of building products: Austin Co., Cleveland; Truscon Steel Co. (windows), Youngstown; H. E. Fletcher Co. (granite blocks), West Chelmsford, Mass.; Robinson Clay Products Co., Akron; American Central Manufacturing Corp. (kitchen cabinets), Connersville, Ind.

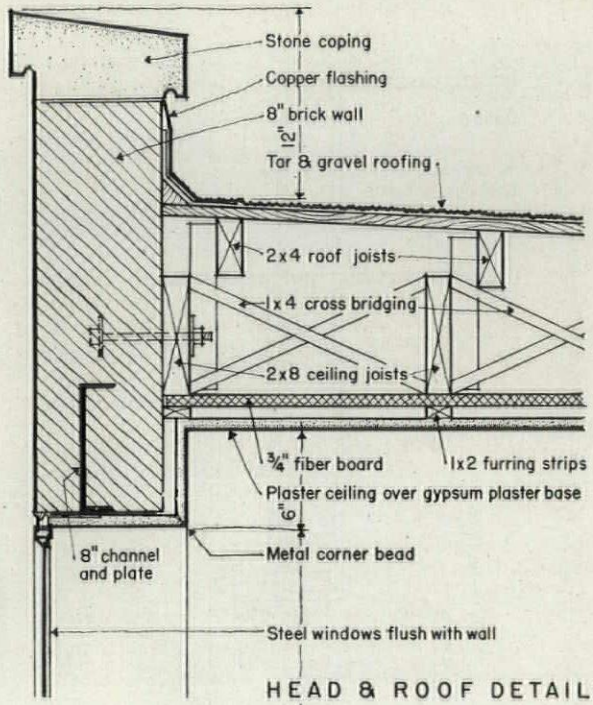
SAFEGUARDING INSULATION

The United States Mineral Wool Co., of New York and Chicago, is first to offer its independent contractors an Installation Bond, issued by the New York Casualty Co., against poor workmanship in insulation installation. The bond is good for 12 months' coverage.

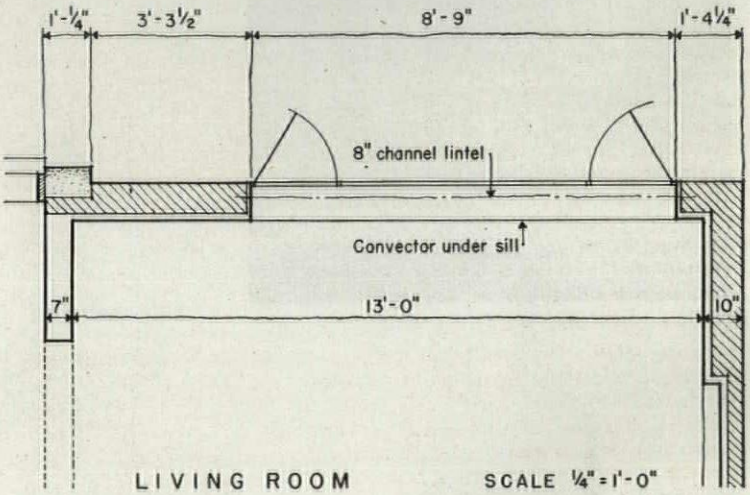
TELEVISION PLANS

Allen B. DuMont Laboratories, Inc., plan to manufacture large-screen projection television receivers and combination home receivers with a 20-in. tube, FM, standard broadcast, and phonograph equipment, as well as space for record albums. The teleset cabinet, designed by Herbert Rosengren, is 48" high, 60" wide, and when closed, 24" deep. A push button opens the cabinet door, drops the screen and housing unit into place in 10 seconds, automatically returning it in place after the program; a second set of push buttons selects the station. The projection unit is capable of projecting a 4½' x 6' image on the screen. At present this unit is 24" square, but the Laboratories plan to reduce it by a third so that it may be "concealed in end tables or other furniture and its image projected onto a screen which may be covered, when not in use, by a picture or other wall ornament." There is also a custom-built installation with the receiver built into the wall of the room.

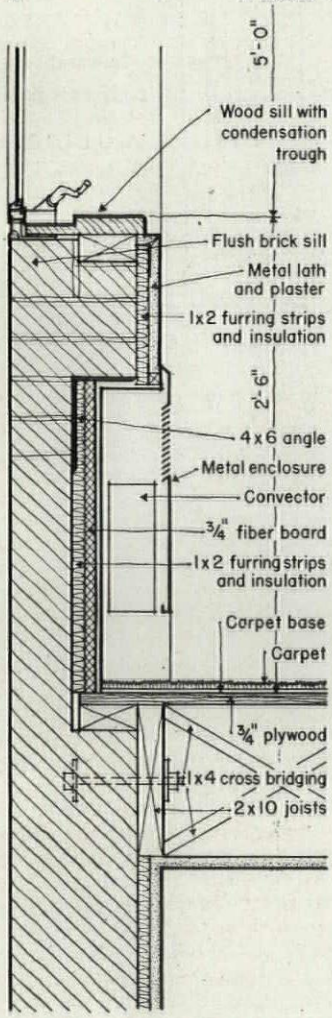
LIVING ROOM WINDOW . . . . . John F. Kausel, Architect



HEAD & ROOF DETAILS

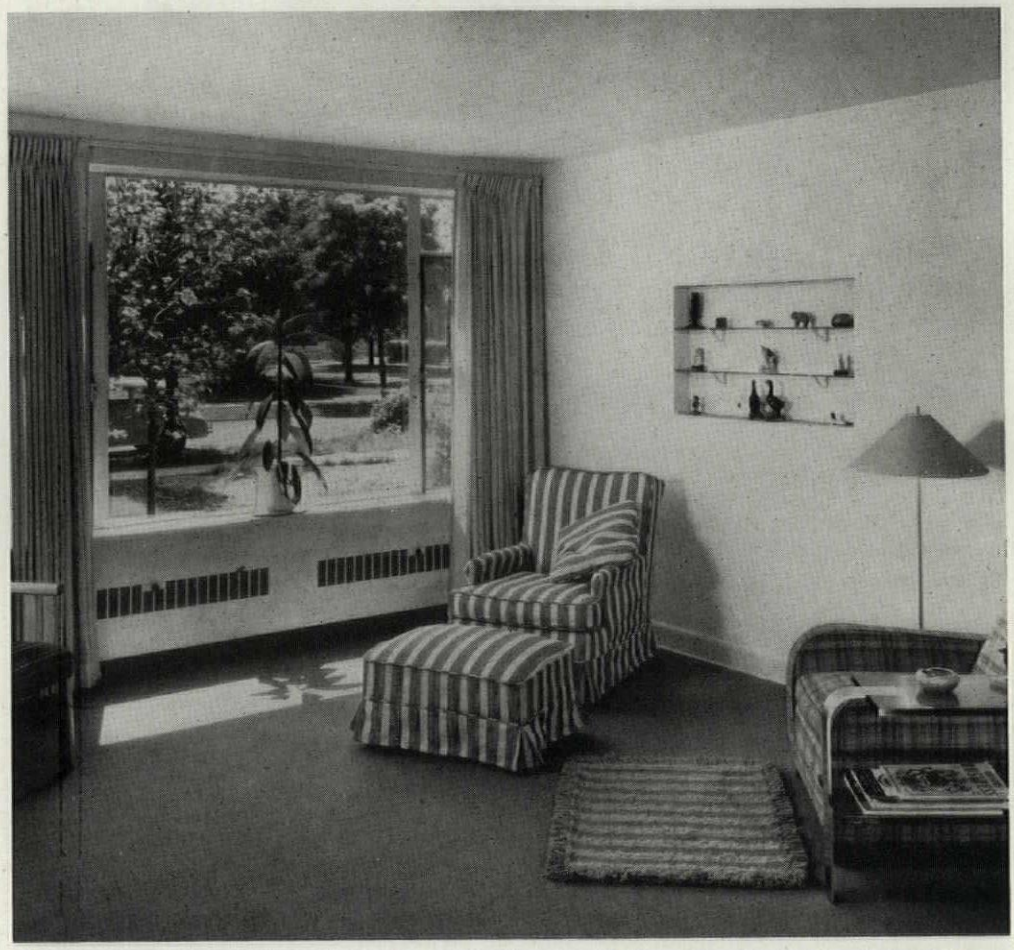


LIVING ROOM SCALE ¼" = 1'-0"

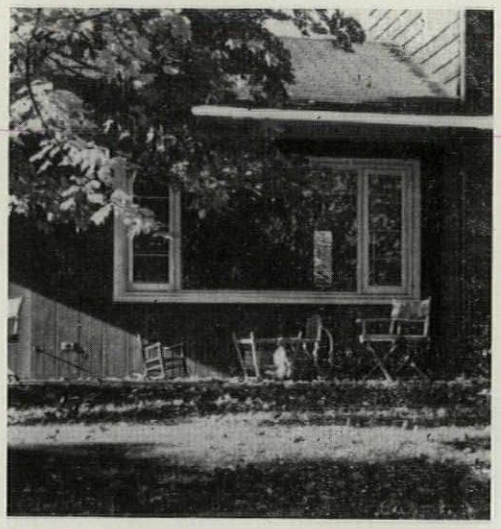


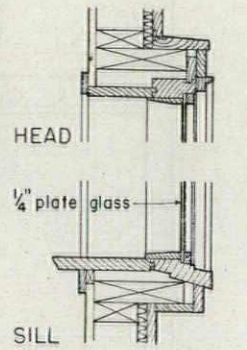
SILL & FLOOR DETAILS
SCALE 1" = 1'-0"

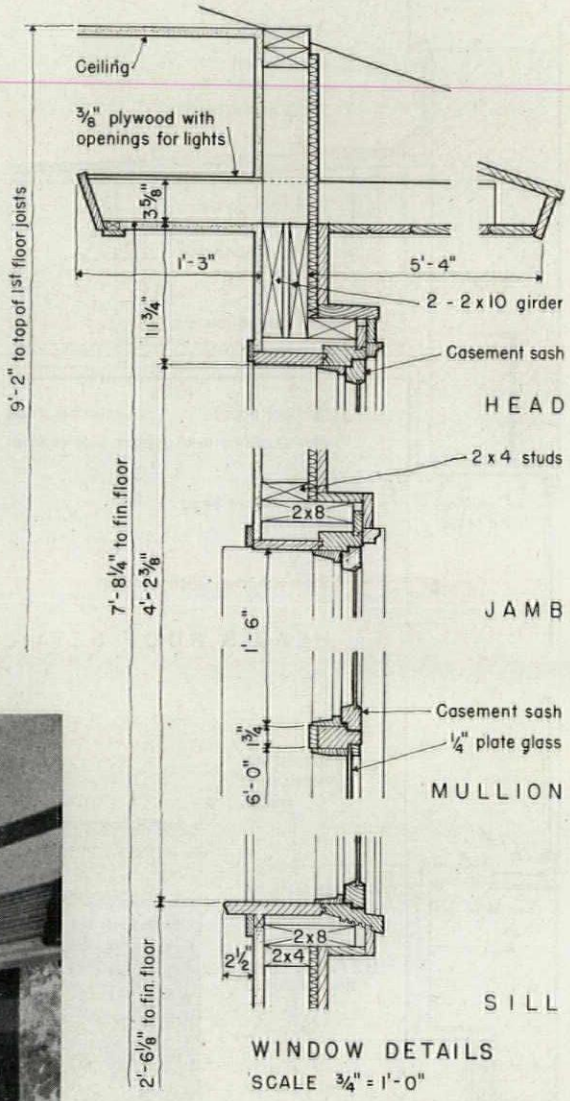
Photos by Hedrich-Blessing



DINING ROOM WINDOW . . . . . Rudolph Mock, Architect







Photos by Rodney McCay Morgan

DAMPPROOFING for Masonry Walls above Grade Cont'd.

joint treatment) require a good bond to the masonry, they should not be applied to walls that have been treated with colorless waterproofings or oil paints, unless the wall surfaces have been carefully cleaned of waxes and oils. For these reasons, colorless waterproofings are not recommended except when it is impractical or undesirable to use cement-water paints or cementitious joint treatments.

FOUNDATION CONSTRUCTION—Capillary action may cause water to rise from foundations into masonry walls above grade. Theoretically, moisture can so rise to a height of 20 ft., though in practice it seldom rises more than 4 or 5 ft. In any case, it is a much less common difficulty than those previously discussed. To prevent such capillary rise, dampproofing courses may be extended entirely through the wall, 5 to 10 in. above grade level. Slate, sheet copper, etc., are suitable materials; or mortar containing a water repellent may be used for 3 or more courses above grade. For stone masonry, a granite base course, or at least one course of granite extending through the wall, and bedded in water-repellent mortar, answers the same purpose.

The difficulty may be eliminated by adequate waterproofing of the foundation itself, using bituminous coatings applied either directly to the outside face of the foundation or to mortar parging. Drain tile placed at the footings aids by lowering the ground water level.

CONDENSATION MOISTURE—Moisture may accumulate on inside faces of masonry walls due to condensation. Leakage may, at the same time, contribute to the accumulation, and vice versa.

Condensation within a wall structure may occur if the temperatures within a portion of the wall are lower than the dew-point temperature of the air within the wall. If the permeability to water vapor of the warm surface (inside of the wall) is less than that of the cold surface (outside face of the wall), the condensation moisture will tend to be vaporized and pass to the outside. However, if the permeability of the warm side is greater than that of the cold side, the condensation moisture may accumulate until the wall becomes saturated with water. Such a condition may cause damage to the wall, its plaster, or its insulation.

Because the relative humidity of air inside dwellings is generally very low while heating plants are in operation, dampness from condensation during cold weather is not common. However, when humidifying devices are used, wall insulation usually is needed if outdoor temperatures are less than 30F. The thermal insulation provided by furring alone is not an adequate safeguard when temperatures as low as 10F occur unless the relative humidity is maintained at less than 60%. Estimates of the amount of insulation required can be made by engineers familiar with the wall construction and the air-conditioning equipment.

For dwellings in which the air is not humidified artificially the amount of insulation required is not large. An air space, sheets of insulating material such as corkboard, mineral or glass wool, or a fibrous or mineral insulation board ½" or more in thickness, should suffice. If insulation is provided by furring, a ¾" air space will suffice, and the insulating value of a wider space would not be much greater.

If the humidity of the air in a building is unusually high (as is likely in laundries and some factories), ventilation will aid in preventing dampness from condensation. To prevent the deposition of moisture within walls of such buildings, which may damage the insulation, it would be desirable to have an interior finish relatively impermeable to water vapor.

Existing masonry walls may be insulated by the addition of an air space, a layer of insulating material, or both, to either the inside or the outside face of the wall.

The inside face of a masonry wall may be insulated by applying sheets of insulation material over the interior face of the wall. The insulation may be furred or it may be applied directly to the wall. If it is desirable to retain a plastered interior, the old plaster may be removed and an air space (furring), insulation, or both, may be placed behind the new plaster.

The chances of damage to insulation or plaster by the condensation of water inside a wall may be greatly reduced by the use of a vaporproof barrier placed on the warm side of the insulation. A layer of building paper containing asphalt or a coating of a suitable paint may be used for this purpose.

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Federal Spec. TT-C-598, "Plastic Calking."

Federal Spec. SS-C-181b, "Mortar."

Federal Spec. TT-P-21, "Paint, Cement-Water."

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"Nature of Portland Cement Paints, etc.," Jour., Am. Conc. Inst., Vol. 13, No. 6, June 1942.

DAMPPROOFING for Masonry Walls above Grade

Information contained in this **Building Product Facts** sheet is based primarily upon publications of the National Bureau of Standards, U. S. Department of Commerce, in particular Letter Circular LC-721, "Dampness in Masonry Walls Above Grade."

CAUSES OF DAMPNESS—Accumulation of moisture on interior surfaces of vertical masonry walls may be caused either by actual penetration or by condensation. Penetration may be due to faulty construction of the wall itself, to faulty design or equipment which permits drainage water to accumulate on or on top of walls, to unequal settlement which may cause cracks in the structure, or to improper foundations. Precautions taken at the time of initial construction, adequate supervision, good workmanship, and proper detailing and specification, will eliminate most difficulties.

STRUCTURAL PRECAUTIONS—Penetration of water due to capillary action alone has been proved to be a slow process. Only the most absorbent brick will wet through from end to end in one hour. Most bricks require several hours, some several days. The same is true of solid mortar joints, whereas poorly filled joints may leak in from 2 to 5 minutes. Chief difficulty, then, is the mortar joint, and both horizontal and vertical joints must be completely filled with mortar.

Bricks that have a rapid absorption rate must be thoroughly wetted before laying, and it is desirable to wet all brick used. This is to prevent moisture from being drawn from the mortar. Whatever the type of mortar, it should have a water retention which will not permit water to run from the bricks when it is used with low absorptive masonry or wet bricks. Mortar should conform at least to Federal Spec. SS-C-181B and ASTM Spec. C91-44T. Absorption of brick, when immersed on the flat side to a depth of ⅛", should preferably be between 0.2 and 0.9 oz. Brick used in facings backed up by hollow units should have absorption as close as possible to the lower limit.

Structural defects which permit drainage from roofs or other horizontal surfaces to flow on, down, or into masonry walls are probably the most common causes of damp walls. Drainage water must be conveyed away from walls. All exterior horizontal or sloping surfaces which intersect vertical wall planes (water-tables, heads and sills of openings, projecting courses, cornices, etc.), unless they are completely continuous and almost completely impervious, should be either waterproofed or separated from the masonry below by durable flashing. At junctions with roofs, cantilevered canopies, etc., flashing should be carried higher up the wall than any foreseeable accumulation of water, and should be carried through the wall to within 1" of its outer surface. Projecting courses, cornices, etc., should have undercut drips.

If repairs are to be made, watertightness of all such horizontal surfaces should be carefully checked because water which penetrates may appear on inside walls far below the point of entry. Inadequate flashings should be replaced, cracks in units of masonry or joints repaired and filled with mortar or preferably plastic calking compound, and absorptive stone surfaces treated with two or more coats of colorless liquid waterproofing.

In initial construction, flashing should be installed at heads of all openings, and at bottoms of cavity walls so that any leakage may be drained outward through weep holes. Joints between masonry and other materials (as at window frames) should be filled, preferably with plastic compound.

In rendering a leaky wall more waterproof, the first step is thorough examination to determine all causes of dampness. Cracks produced in masonry by unequal settlement should be filled with mortar or grout; such cracks are often very extensive. If there are deep cracks in bricks either the cracks should be filled with thick grout or the wall should be coated with stucco or sanded cement-water paint. Openings between unlike materials should be recalked if necessary.

CEMENT-WATER PAINTS—Cement-water paints, when tested, have been found effective in preventing water from penetrating permeable walls. When used on such surfaces as cinder blocks, the first coat should contain fine sand (passing a No. 30 sieve). Walls should be thoroughly clean, free of dust, loose mortar, grease, or wax. The surface should be wetted well, and damp when the paint is applied. The paint should have a creamy consistency, although a slightly thinner paint may be used for the first coat on concrete units or highly absorptive brick. The paint should be stirred frequently, and applied in successive thin coats rather than a single heavy coat. On rough-textured walls, a coarse, stiff brush (scrub brush) is best used; on smoother surfaces, or for applying sanded paint to a rough surface, a roofing brush works well. After the paint has hardened (5 to 6 hrs.) it should be wetted with a light spray 2 or 3 times a day for 2 days, so that it will cure properly.

MORTAR JOINTS—The most effective, durable method of waterproofing brick masonry walls without changing their color or appearance is repointing or grouting the joints. Mortar joints that are not structurally sound may be cut out to a depth of about ½" and refilled with a mortar of the same color as that originally used. The masonry should be well dampened before the joints are repointed.

Leaky joints that are otherwise in good condition in walls of smooth-surfaced brick may be waterproofed by grouting. A grout consisting of 1 part by volume of portland cement and 1 part of sand passing a No. 30 sieve, when mixed with water to the consistency of thick cream, may be scrubbed into the joints with a small, stiff, fiber brush. The joints should be thoroughly dampened before application, and the grout should not be applied thickly but should be scrubbed into the joints. Cement may be cleaned from the brick with a damp sponge. Grouting treatments are more effective and durable when applied to cut joints than to tooled joints.

COLORLESS WATERPROOFING—Walls containing very highly absorptive header brick with a rapid rate of absorption may permit damaging quantities of water to enter the wall by capillary action. If walls of such brick still leak after the joints have been carefully repointed or grouted, the penetration of water through the brick by capillary action may be reduced by treating the wall with a colorless waterproofing.

Colorless waterproofings seal the pores in masonry units and mortars, making them water-repellent, and the amount of water absorbed by capillarity through the face of the wall is greatly reduced. Colorless water repellents do not, however, seal openings in the wall between the units and the joints, and such openings are the major sources of leakage through the walls.

Bureau of Standards tests have shown that colorless solutions of paraffin and tung oil, a solution containing chlorinated rubber, and a water emulsion of linseed oil were ineffective as waterproofings for highly permeable walls built of brick or of concrete blocks. The amount of water passing through the test walls was greatly reduced by those treatments, but the walls still leaked badly. A water emulsion containing about 45% of paraffin and microcrystalline waxes was effective when first applied, but when the treated walls were again tested after they had been stored outdoors for less than 1 year the emulsion had lost much of its effectiveness.

Since cement-water paint coatings and cement-grouts (for

ART REPRINTS OF THIS ILLUSTRATION ARE AVAILABLE ON REQUEST

Pattern for better living

Barrington, by Schlage, will add grandeur to entrance doors. Conservative in feeling, up-to-date in design, it will lend distinction to post-war architecture. NOW A REALITY, Barrington, along with other Schlage lock designs, is ready for immediate production as soon as materials are available.

1081A

SAN FRANCISCO **SCHLAGE LOCK COMPANY** NEW YORK

ANDERSEN HORIZONTAL GLIDING WINDOW UNITS IN A HOME DESIGNED FOR SUMMERTIME LIVING

To let in cheerful sunlight . . . to let in cooling lake breezes, Andersen WINDOWALLS were used in this summer home on beautiful Lake St. Croix, between Wisconsin and Minnesota. These WINDOWALLS perform the dual function of walls and windows . . . insulating the home like a wall . . . framing a view, providing ventilation like a window.

This Andersen WINDOWALL is formed by two Horizontal Gliding Windows . . . complete wood window units that can be removed from the frame by simple lifting movements. The sash move from side to side, though when closed they are in the same plane.

Specified: two Andersen Horizontal Gliding Window Units, Number 48056, with horizontal muntin bars. Opening is 4′-8$\frac{13}{16}$″ wide and 5′-6$\frac{3}{4}$″ high.

For details of Andersen WINDOWALLS, consult Sweet's Catalog.

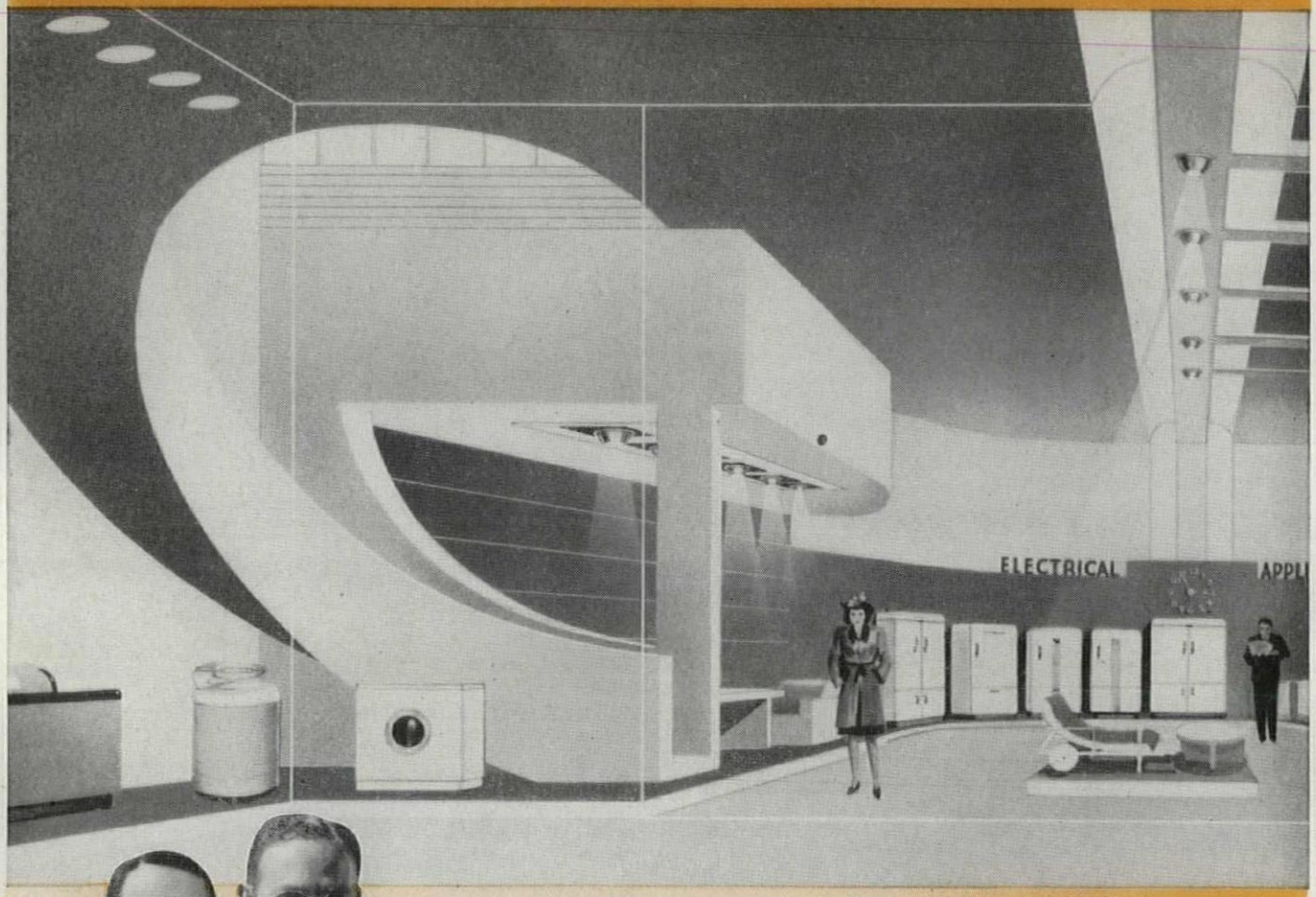
Andersen WINDOWALL advertisements are available in reprint form for your files. Write Andersen for the WINDOWALL file.

Andersen Corporation

BAYPORT, MINNESOTA


Windowalls

FLEXIBLE LIGHTING . . .



Looking ahead, GENERAL ELECTRIC brings you another postwar lighting perspective . . . in these designs for a furniture store by *Silverman & Levy, Philadelphia.*

Here's what they say:

"Variety is the spice of selling, in the home furnishings field.

"And LIGHTING can provide the flexibility that helps give variety in display.

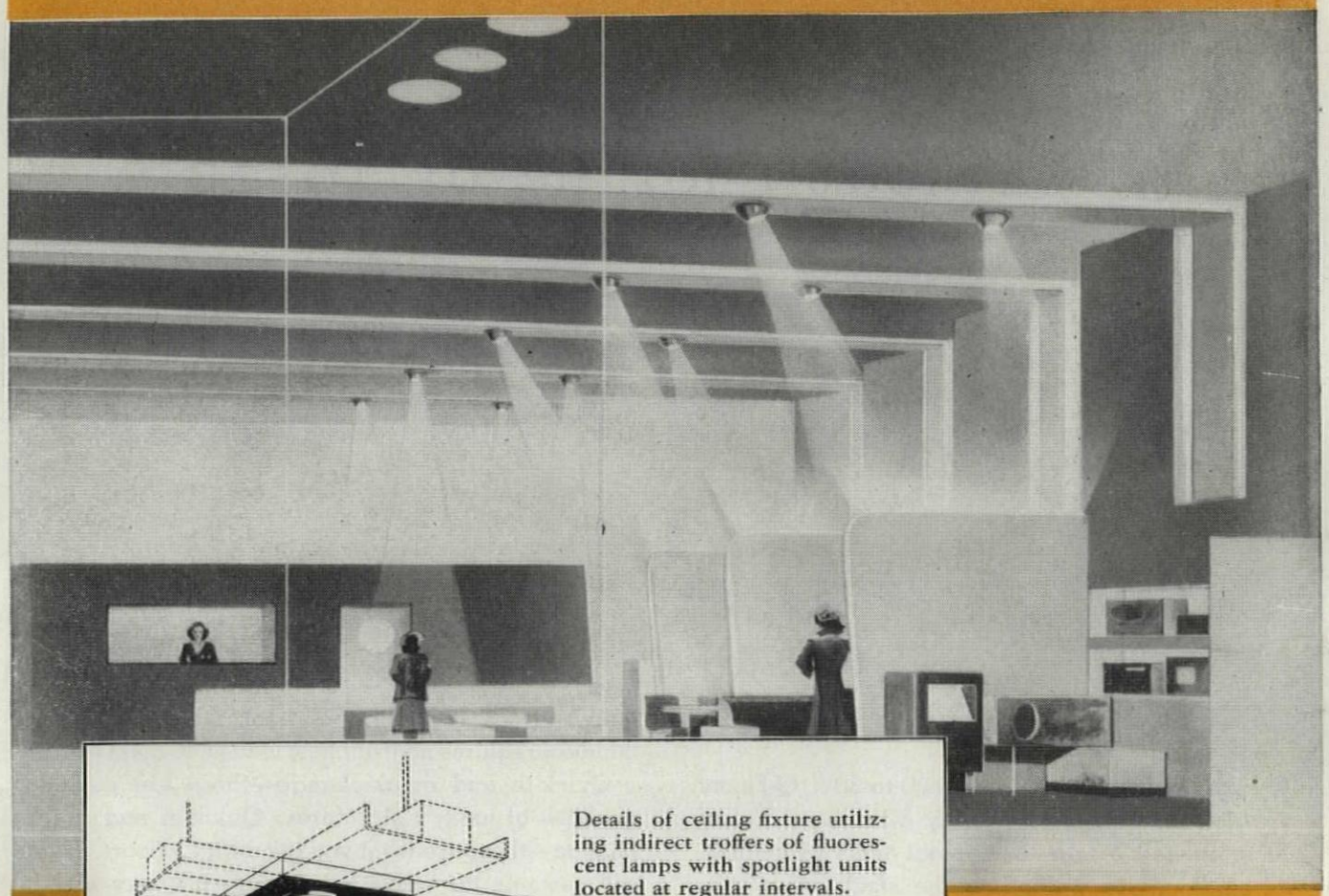
"In sketching our ideas we have suggested lighting that would facilitate changes in the size and shape of display areas, to suit the merchandise featured and the season.

"Movable partitions which carry indirect lighting units on top, plus continuous lines of fluorescent in overhead coves, supply cool, pleasing light and the effect of spaciousness. Adjustable spotlight units make it easy to highlight particular items and the whole combination *provides flexible lighting to step up furniture and appliance sales.*"

This new booklet, "Flexible Lighting", will bring you more details on the ideas of Silverman & Levy for lighting. Address General Electric Co., Dept. 166- PP8, Cleveland 12, Ohio.

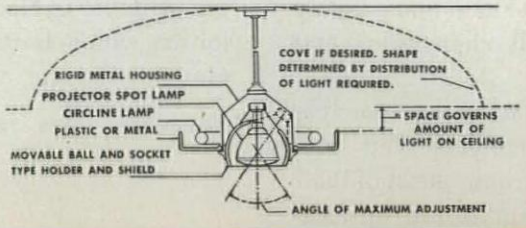
Hear the G-E radio programs: "The G-E All-Girl Orchestra," Sunday 10:00 p. m. EWT, NBC; "The World Today" news, Monday through Friday 6:45 p. m. EWT, CBS; "The G-E Houseparty," Monday through Friday 4:00 p. m. EWT, CBS.

TO STEP UP FURNITURE AND APPLIANCE SALES



Details of ceiling fixture utilizing indirect troffers of fluorescent lamps with spotlight units located at regular intervals.

Detail showing how spotlights with projector lamps fit into overhead fixtures. Aiming feature permits highlighting individual displays.



No investigation has been made by General Electric Company regarding the patent situation on the design or construction suggestions shown in this advertisement.

THE CONSTANT AIM OF G-E LAMP RESEARCH IS TO MAKE G-E LAMPS *Stay Brighter Longer*

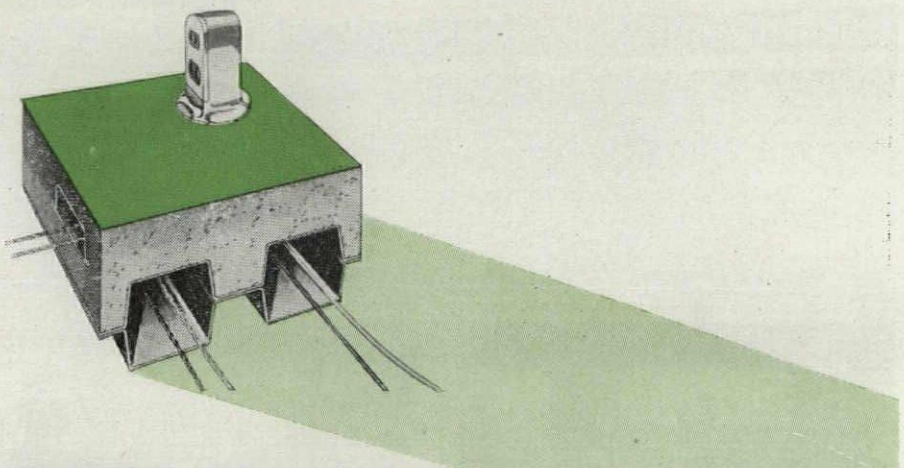
G-E LAMPS

GENERAL ELECTRIC

BUY MORE WAR BONDS ... AND HOLD THEM

SPECIFICATION:

Lay 32 sq. ft. of floor in 30 seconds without shoring or forms.



"How fast can you put it up"—that's a major question in your work.

Q-Floors reduce building time 20 to 30%. Q-Floors are *quick-in.* Two men can lay 32 square feet of Q-Floor in half a minute. Q-Floor units of cellular steel subfloor are welded to the steel framework. Floors can be completed almost as soon as the frame. No wet materials delay progress—no forms, no shoring. Quick, quiet, clean, fireproof! Stairs can be installed as soon as the floors. Q-Floor immediately becomes a working platform for all other trades, and construction zooms ahead.

Q-Floors are light in weight. This makes possible lighter, less expensive steel framework. But construction advantages of Q-Floors are the least of their virtues. Q-Floors enable the tenant to tap any six-inch area of floor, the day he moves in or twenty years later and establish an electrical outlet. Every channel in the floor, connected by means of cross-over wireways, is a source of electrical availability.

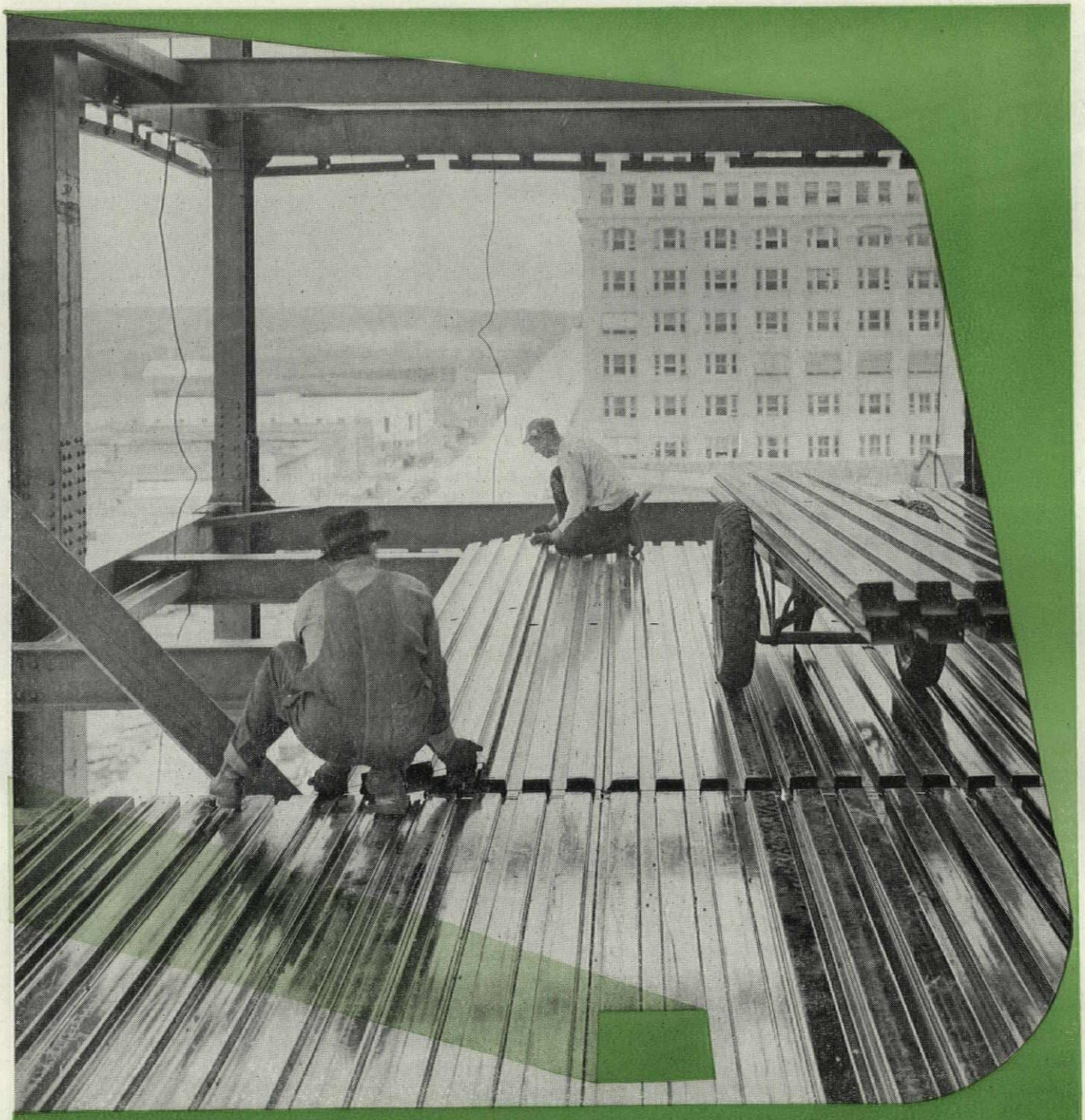
From your point of view, this gets rid of some of the worst grief in the business. Outlets and partitions can be located after occupancy; changed again as often as the tenant changes his mind.

From the owner's point of view, Q-Floors keep his building modern, in step with changing mechanical demands. His electrician can drill anywhere, anytime and set up outlets. The job takes only a few minutes, requires no trenches, leaves no muss or fuss.

Quick-in and quick-change—these are essential qualities of today's structures. Quick-in and quick-change—these are what you get with Q-Floors. There still remains the question of cost—it's very well in line. Many factors enter into the cost and they add up to what you would call "standard". A Robertson representative will be glad to answer all questions, or you can write for Q-Floor literature. The Electrical Fittings for use with Robertson Q-Floors are available through General Electric construction materials distributors.

TIME-TESTED — OVER 3000 ROBERTSON Q-FLOOR INSTALLATIONS.

THE EASIEST THING FOR A BUILDER TO FORGET—
Floors are what a building is for



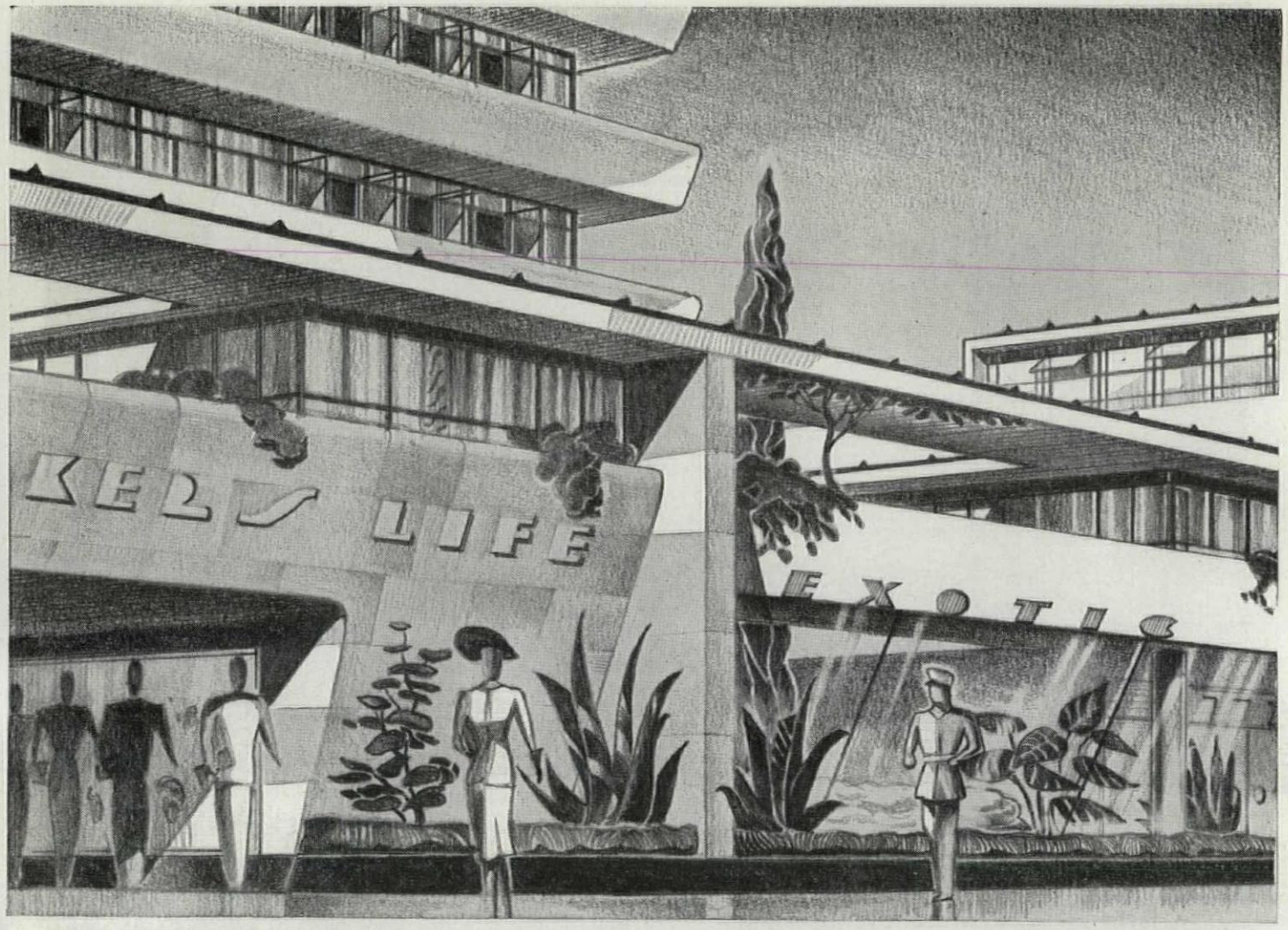
OWNER . . . COMMERCIAL NATIONAL BANK CORP.; ARCHITECT . . . McKIM, MEAD & WHITE; CONTRACTORS . . . JAMES STEWART CO., INC.

Q-FLOORS

H. H. ROBERTSON CO.

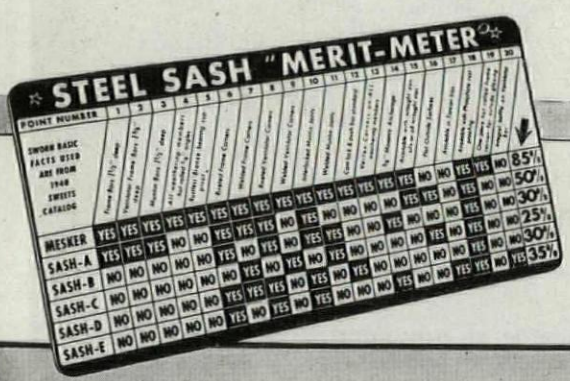
2405 FARMERS BANK BUILDING
PITTSBURGH 22, PENNSYLVANIA

OFFICES IN 45 PRINCIPAL CITIES
WORLD-WIDE BUILDING SERVICE



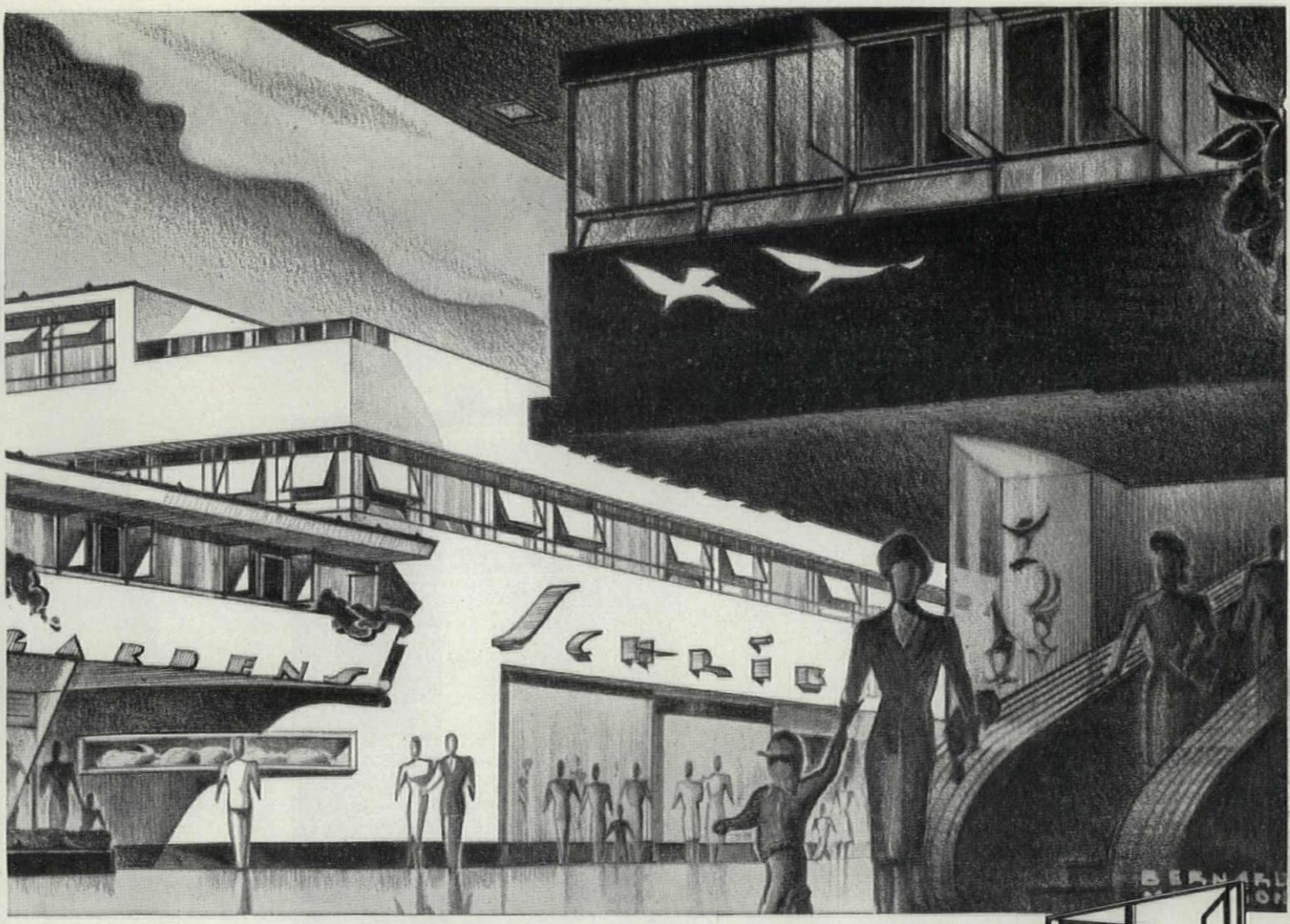
SPECIFY MESKER 1¾" *STEEL WINDOWS

Mesker Steel Windows are ideal for all office buildings . . . from the largest metropolitan building to the smallest suburban structure. Designed to blend harmoniously with any style architecture, they are a decided artistic complement to your design-ability. Functionally, they surpass the old-fashioned double hung wood windows by providing these decided advantages: *No-draft built in sill ventilators — awning type weather protection — washed entirely from inside the building — no weatherstrips to "sing" in high winds — steel: — always easy to open and close, fireproof, no weights to lift, no friction to overcome — last the life of the building.*

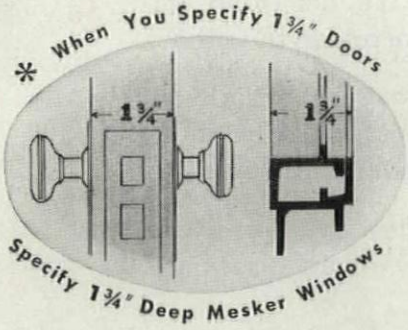


• Sworn facts from Sweet's Catalog have time and time again proved the quality supremacy of Mesker Steel Windows. Quality the architect can depend on.

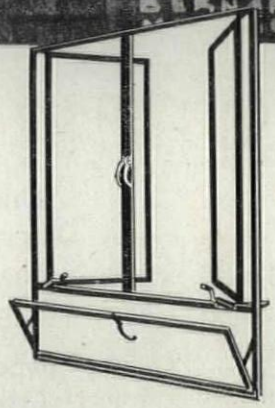
If you have not yet received your copy of the Mesker Brothers Book of Windows for Office Buildings, write for a copy TODAY. There is no obligation.

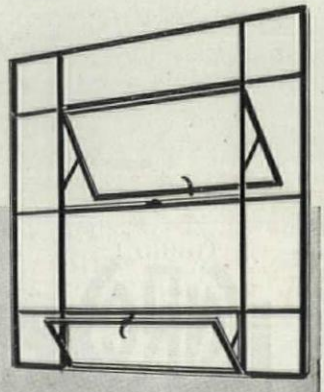


FOR YOUR NEW OFFICE BUILDINGS



The Mesker Steel Windows for Office Buildings are composed of Mesker Series 200M and 200P Casements. These windows are a full 1¾ inches thick. Versatile in design, they provide the perfect window for all types of office buildings, stores and public places.





Mesker

STEEL WINDOWS

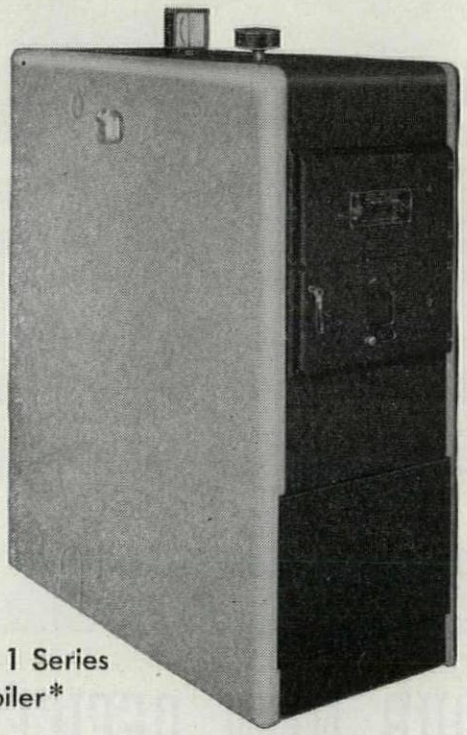
MESKER BROTHERS • 427 SOUTH 7th STREET (2) SAINT LOUIS

Designed

FOR **SMALL HOMES!**

FOR REMODELING
TODAY!

FOR NEW BUILDING
TOMORROW!



The National No. 1 Series
Heat Extractor Boiler*

This compact and efficient boiler offers the features you've been seeking for small home installations. It's designed for coal, oil or gas firing and easily convertible from one to the other.

Water legs extended to the bottom make it easy to install on wooden floor of utility room or kitchen without expensive fireproofing. Minimum floor space and head room requirements.

Another feature, unusual in small boilers, is the availability of a copper coil water heater assuring delivery of an adequate supply of hot water, winter and summer.

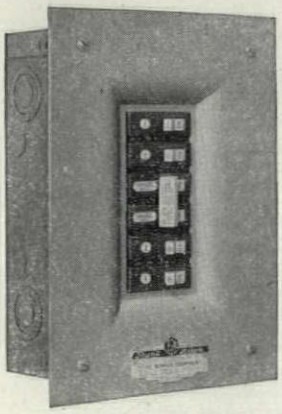
** Furnished with jacket when WPB permits.*

NRC
NATIONAL RADIATOR PRODUCTS

The NATIONAL RADIATOR Company
JOHNSTOWN, PENNSYLVANIA

A modern home needs...

MODERN CIRCUIT PROTECTION

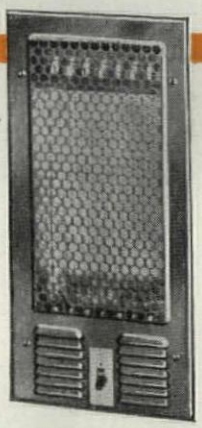


Ⓕ type AC circuit breaker Load Center with four single pole, and one double pole circuit breakers. List, $11.00. Maximum 16 poles.

HAPPY are the thousands of home owners who have Ⓕ type AC circuit breaker Load Centers or Service Equipment. To them, it means the finest in electrical protection and freedom from replacing blown fuses. A simple flip of the finger . . . like on a light switch . . . restores service instantly, when the cause of trouble is removed. That's important to women, and many men, too.

But more important, is the Thermal-Magnetic protection Ⓕ Load Centers provide. Automatic Thermal trip on overload plus Magnetic disconnect on short circuit is a double protection for wiring and electric appliances.

Here's a tip for you, Mr. Architect, and you Mr. Contractor: when you specify Ⓕ Load Centers include a few spare circuits for those electrical conveniences Mr. and Mrs. America are dreaming about now. The cost is little, but the favor is a big one. We'll be glad to give you complete details.



RETURNING SOON

The popular Ⓕ Quikheter. A built-in auxiliary, electric room heater that brings comfort and warmth to chilly rooms in just 3 minutes. No fan, or other moving parts to wear out, plus a Nichrome element that doesn't burn out. Priced as low as $30.00 list.

EST. THE SIGN OF A FA 1891 BETTER JOB
Frank Adam
LOAD CENTERS
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FRANK ADAM ELECTRIC CO., St. Louis — *Manufacturers of* Busduct, Panelboards, Switchboards and Enclosed Switches

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GENERAL MOTORS DESIGN COMPETITION WINNERS

GM
GENERAL MOTORS

General Motors extends its compliments to all who entered the recent GM Competition for the Design of Dealer Establishments and announces the winners as selected by the Jury of Awards.

MAJOR AWARDS

PROGRAM NO. 1

For Passenger Cars Exclusively

ROBERT T. COOLIDGE and D. C. BYRD,
Cambridge, Massachusetts. First Award—$5,000

BASIL YURCHENCO and EDWARD F. CATATANO,
Cambridge, Massachusetts. Second Award—$2,500

F. G. ROTH and I. M. PEI,
Princeton, New Jersey. Third Award—$1,000

C. C. BRIGGS,
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PROGRAM NO. 2

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SIDNEY L. KATZ, TAINA WAISMAN,
VICTOR ELMALEH, READ WEBER, JAY S. UNGER,
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LESTER C. TICHY,
New York, New York. Second Award—$2,500

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VINCENT D. LUONGO, Brooklyn, New York; and
PERCY C. IFILL, New York, New York.
Third Award—$1,000

JOHN E. PEKRUHN,
Swarthmore, Pennsylvania. Fourth Award—$500

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J. B. LANGLEY,
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SIDNEY L. KATZ, TAINA WAISMAN,
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New York, New York. Second Award—$2,500

PERCIVAL GOODMAN,
New York, New York. Third Award—$1,000

KAZUMI ADACHI,
New York, New York. Fourth Award—$500

HONORABLE MENTIONS

(not numerically rated)

EACH AWARD, $250

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PROGRAM NO. 4

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E. C. VALLEE, Montreal, Quebec, Canada.

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PROGRAM NO. 5

JOHN SCHURKO, Pittsburgh, Pennsylvania.

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HANS OBERHAMMER, New York, New York.

LT. COMDR. SAMUEL E. HOMSEY and VICTORINE HOMSEY, Washington, D. C.

SPECIAL AWARDS

EACH AWARD, $250

KAZUMI ADACHI, New York, New York.

WILLIAM BOEDEFELD, Philadelphia, Pennsylvania.

RALPH H. BURKHARD, Seattle, Washington.

J. GORDON CARR, New York, New York.

JANET CAUGHEY and MILTON CAUGHEY, West Los Angeles, California.

C. N. CHAU, Chicago, Illinois.

ARTHUR A. FISHER and ALAN FISHER, Denver, Colorado.

ALFRED J. FRIDAY, Columbus, Ohio.

PERCIVAL GOODMAN, New York, New York.

LT. JOHN R. HOWARD, U.S.N.R., Norfolk, Virginia.

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JOSHUA D. LOWENFISH, New York, New York.

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*Replaced GEORGE HOWE of Washington, D. C., due to illness.

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Competition Conducted by The Architectural Forum and Approved by American Institute of Architects and Royal Architectural Institute of Canada

Permanent Timber Bridges

As everyone knows who reads postwar signs, highways and bridges stand near the top of the *must* list of building activity. In this program the use of trusses and other heavy timber items is entirely logical from the standpoints of availability, economy, ease and speed of construction, permanence.

Timber Structures welcomes your inquiry on trusses of wood for moderate span bridge construction. From small bridges on secondary roads to heavy-duty spans on Alaska and Pan-American highways, our design and engineering departments have had a wealth of experience—all of which is at your disposal.

For your ready reference we have prepared a special folder on the application of timber, illustrated by examples from our bridge job files. A copy will be mailed promptly on request. Address your nearest Timber Structures office.

TIMBER STRUCTURES
WARD MAYER
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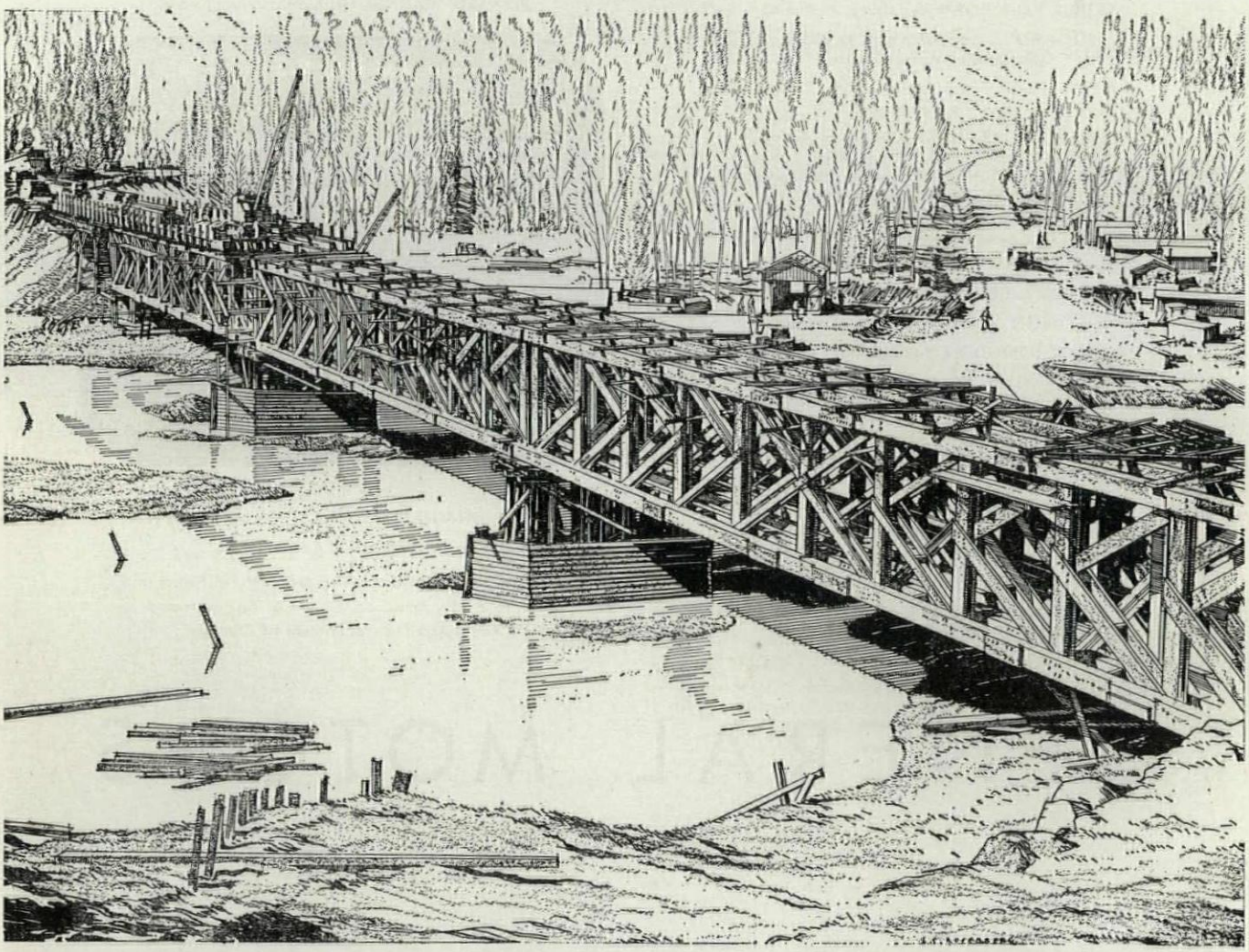
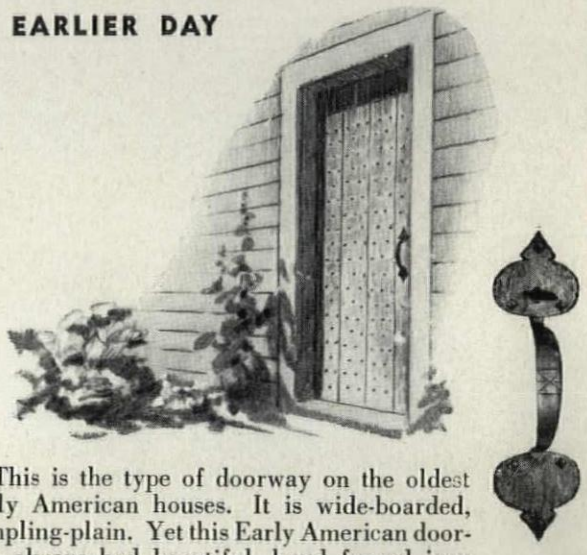


ALASKA HIGHWAY. Permanent timber bridge across the Sikanni Chief River. Three 140' spans for 24' roadway. Designed by U. S. Bureau of Public Roads; prefabricated by Timber Structures, Inc. Pen drawing by Louis C. Rosenberg. A copy suitable for framing free to architects and engineers on Professional letterhead request.

A primer for present-day Puritans–

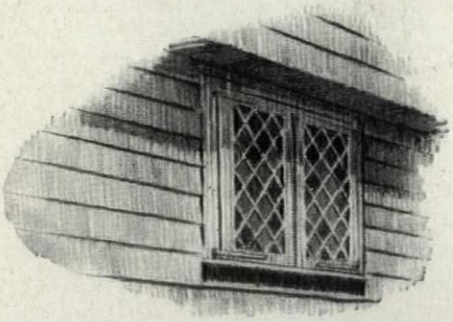
ON SOME OF THE MOST EXPRESSIVE CHARACTERISTICS OF THE HOUSE BELOVED BY LIKE-MINDED FOLK OF AN EARLIER DAY

■ This is a classic example of Early American – the house your Puritan forefathers fancied. They knew it first in rural England. And, having found it eminently suitable to quiet tastes there, they transplanted it here early in the 17th Century. Here, this gabled graceling took root – firmly. So firmly that its straightforward, unadorned simplicity is as much a part of the American scene today as it was during those far-off colonial times.



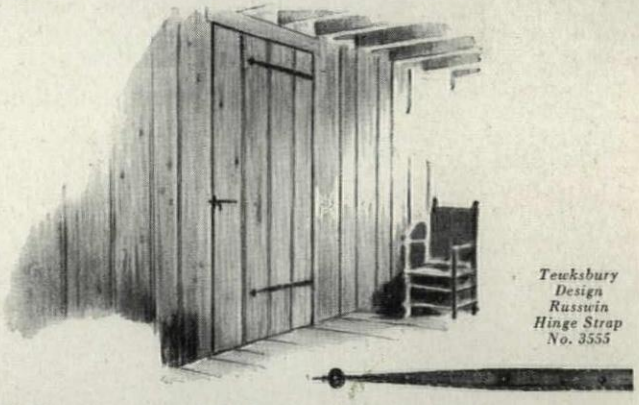
Tewksbury Design Russwin Colonial Entrance Door Handle No. 3509

■ This is the type of doorway on the oldest Early American houses. It is wide-boarded, dumpling-plain. Yet this Early American doorway always had beautiful, hand forged iron hardware. And if the latches and locks on *today's* Early American doors yield nothing to the past in gracefulness and authenticity, it is due to the success Russwin has had in recreating the best of colonial craftsmanship.



■ This casement, too, is in strictest Early American tradition. Sometimes it has diamond-shaped . . . sometimes rectangular panes. Its adjusters and fasteners – call for black, hand forged hardware. This chastely designed hardware for casements, shutters, cupboards and everything else in period houses is made by Russwin. So your simplest way to assure correctness in hardware is to budget no less than 2% . . and *Russwinize* throughout!

Russwin Casement Fastener No. 3575



Tewksbury Design Russwin Hinge Strap No. 3555

■ This is a typical Early American interior door. It is plain as punch but truly beautiful in its austerity – as are its long, hand forged, hinge straps. These charming colonial interiors demonstrate the wisdom of using *good* hardware – hardware that is faultless in function and design. To get an idea of the distinction such beautiful hardware gives, write for Russwin's interesting and authoritative *Residential Hardware.* It is free. Write, Russell & Erwin Manufacturing Company, New Britain, Connecticut.

FOR ENDURANCE . . . WROUGHT OR CAST BRASS AND BRONZE

FOR DESIGN AND WORKMANSHIP . . .

SINCE 1839

RUSSWIN

DISTINCTIVE HARDWARE

Offices out in the plant

Typical of J-M Unit Construction is this efficiently designed factory office. Clean-cut, projection-free Transite Walls have the solidity of permanent construction, yet are flexible to meet the unpredictable needs of the future. Note that the Acoustical Ceiling is extended throughout the entire factory area. This helps eliminate all unnecessary noise, increases efficiency. Note also that the factory floor is of Asphalt Tile—resilient, comfortable, easy underfoot.

Johns-Manville Unit Office Construction

WALLS · CEILINGS · FLOORS

should be *flexible!*

Johns-Manville Unit Offices

WALLS • CEILINGS • FLOORS

provide new efficiency and flexibility, with all the qualities of permanent construction

YES, with Johns-Manville Unit Office Construction, you can design quiet, efficient factory offices that have *complete flexibility*, yet are an integral part of the building.

They can be enlarged, made smaller, rearranged, or relocated easily and economically, to meet ever-changing industrial requirements.

The System incorporates three Johns-Manville building elements—all combined in a single specification . . . under a single manufacturer's responsibility:

1. **Movable Walls** . . . 100% salvageable. Made of Transite sheets, they are difficult to mar, highly resistant to shock and abuse.
2. **Acoustical Ceilings** . . . reduce distracting office noise, increase accuracy, can be taken down and relocated as desired.
3. **Resilient Floors of Colorful, Asphalt Tile** . . . stand up under heavy traffic, yet provide restful resilience underfoot. Small units permit easy extension of the floor to meet changing conditions.

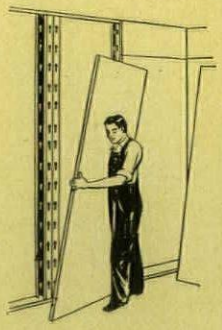
You can use these same materials throughout the factory too—to keep shop areas flexible . . . to quiet machine operations . . . provide better working conditions.

All the constituent parts of J-M Unit Construction are durable . . . hard to mar . . . shock-proof . . . easy and economical to maintain. And their attractiveness helps to convert any factory area or office into a "good place to work," with pleasant, cheerful surroundings, promoting the highest working efficiency and employee morale.

Write for a free copy of our new brochure, "Unit Offices." Address: Johns-Manville, 22 East 40th Street, New York 16, New York.

3 elements are combined to form Johns-Manville Unit Office Construction

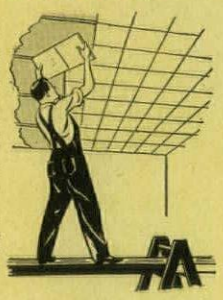
1. MOVABLE WALLS



The keystone of flexibility in Unit Construction is the J-M Transite Wall. It can be disassembled and relocated whenever business requirements call for a change in plant or office layout. Made of fireproof asbestos and cement, practically indestructible materials, the movable panels are used to form rigid, double-faced partitions 4" thick. They can also be used to finish the interior of the outside walls as well.

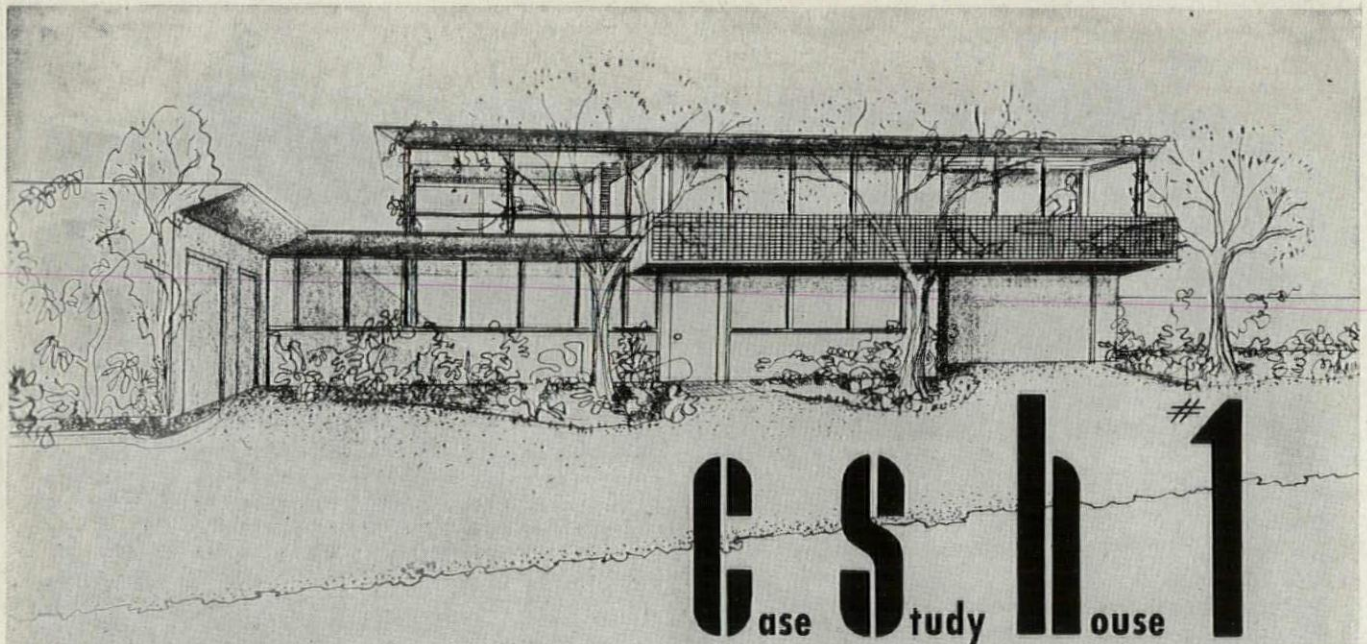
2. ACOUSTICAL CEILINGS

Helping to overcome the handicap of excessive noise, Johns-Manville Acoustical Ceilings are beneficial to workers and employers. They help eliminate the unnecessary fatigue produced by reverberating noise in offices or plant areas. An exclusive J-M patented construction system permits interchangeability of flush-type fluorescent lighting and acoustical ceiling units.



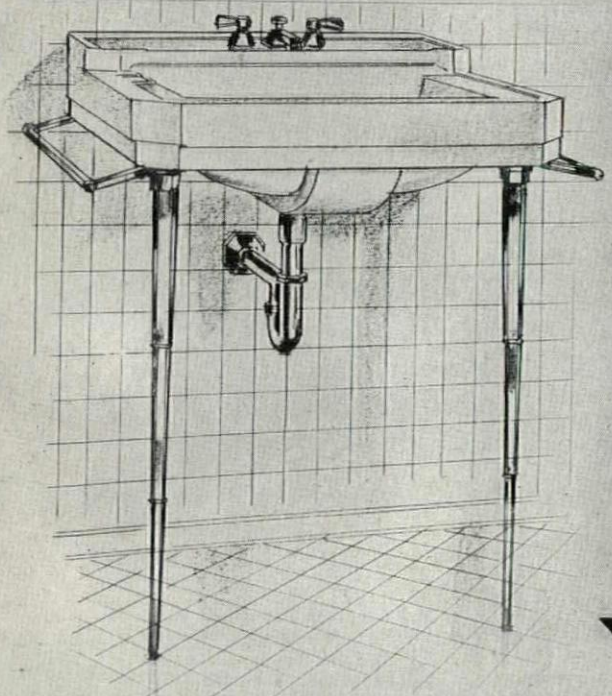
3. DURABLE, RESILIENT FLOORS

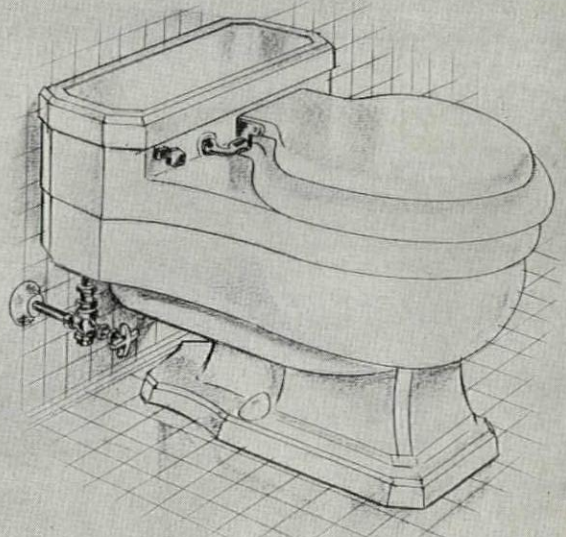
J-M Asphalt Tile Flooring completes the Unit Construction System. Made of asbestos and asphalt, the units will withstand the kind of hard wear and abuse that must be expected in any factory building. Not only are they durable, J-M Asphalt Tile Floors are comfortable and restful underfoot, and their resilience frequently reduces damage to articles accidentally dropped. Individual units permit easy alterations or repairs. Made in a wide variety of plain and marbleized colors.



Case Study House #1

SPONSORED BY ARTS & ARCHITECTURE MAGAZINE
J. R. DAVIDSON, DESIGNER





...with plumbing fixtures by Case

WHEN your objective is "a simple and straightforward expression of the living demand of modern-minded people," the selection of Case vitreous china bathroom fixtures is natural and logical.

The pleasing outward appearance as well as the excellent mechanical construction of these fixtures continues to win the favor of leading architects concerned with comfort, serviceability and convenience.

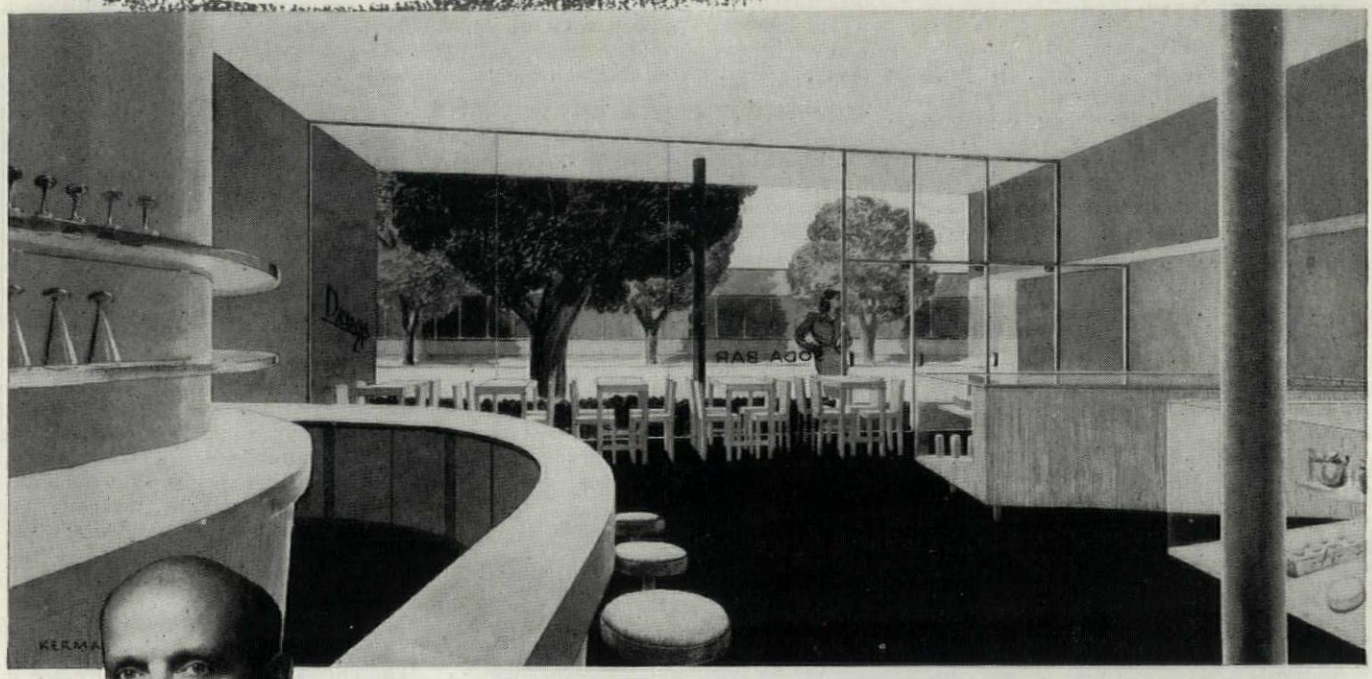
Mr. Davidson has specified Case fixtures for "Case Study House #1," first in an interesting group which is to be constructed as soon as conditions permit. His selection reflects the acceptance of "Case quality" by professional men and home owners alike.

Case plumbing fixtures are distributed nationally. See the Classified Telephone Directory or write to W. A. Case & Son Mfg. Co., Buffalo 3, New York. Founded 1853.

ABOVE—America's most popular water closet is the T/N. Modern in design, quiet in operation, precision-built, non-overflow, non-syphoning. An adaptable free-standing fixture.

LEFT—The famous Winston Lavatory "fits" equally well in the formal house or the cottage. For convenience and utility it features an integral shelf, extra large basin, anti-splash rim and concealed front overflow.

THERE IS A NEW TREND IN STORE DESIGN



SMITH, HINCHMAN & GRYLLS' conception of a Drug Store

"The modern drug store, designed for dual entrance both from the street and the parking lot at the rear, has a wall surfacing of suede finish Carrara, framing a maximum show window space of Polished Plate Glass. Greater vision is further enhanced by the Herculite Tempered Plate Glass entrance doors. A colorful and decorative note of the interior is a suede finish Carrara soda fountain and back bar with clear glass accessories."

Amedeo Leone

Pittsburgh Plate Glass Company places at the disposal of architects interested in store front and interior work, a complete line of glass products, as well as two distinguished lines of Pittco Store Front Metal. These products have the versatility, adaptability and excellent quality demanded by the new trend in store design. And they are available through a nationwide system of branches and dealers that assures prompt and helpful service.

Pittsburgh Plate Glass Company is urging merchants to plan *now* for postwar modernization, by advertising in 21 leading retail magazines. This advertising recommends strongly the retention of an architect on all store planning.

"PITTSBURGH"
stands for Quality Glass and Paint

It contains 41 designs, submitted by foremost American architects, for stores, restaurants, service stations, theaters, etc. Every architect, designer and student will want to own this up-to-date reference book of ideas for building or modernizing retail stores. Send the coupon for your free copy of "There is a New Trend in Store Design." It will be sent without obligation.

Pittsburgh Plate Glass Company
2265-5 Grant Building, Pittsburgh 19, Pa.

Please send me, without obligation, a free copy of the book, "There is a New Trend in Store Design."

Name.....

Address.....

City..... State.....

PITTSBURGH PLATE GLASS COMPANY
PRODUCTS FOR STORE FRONTS AND INTERIORS

Reviews

Books

FROM THE LEFT HAND
by C. V. L. Meeks

City Development, Studies In Disintegration And Renewal. *By Lewis Mumford. Harcourt, Brace & Co., 383 Madison Ave., New York, 1945. 248 pp. $2.00*

In choosing the title for his new book, Mumford is paying graceful homage to Sir Patrick Geddes; he says that Geddes' book of this title stirred his interest in city planning. Today we recognize in Mumford a worthy disciple of the incomparable Geddes.

Mumford apparently writes with both hands. His right hand turns out the major works, the latest of which, *The Condition of Man*, was reviewed in these columns last February. His left hand, which knows quite well what his right hand is doing, produces more topical essays, of which this book is a collection.

The six essays gathered here range over a period of twenty-five years, revealing the growth of the Mumfordian thesis. As we read the older papers, we realize how often Mumford was the first to express an idea which is now common currency. Mumford said, fifteen years ago, that there is no solution to the economic problem of housing but subsidy. Having tried everything else first, we now agree. If the same happy fate continues, the things Mumford is saying now may be prophetic of our future environment.

City Development has a theme, that we will not have better cities until we have better men, and variations which are the application of this principle to specific problems, like the plans for Honolulu and London.

The most important and best written essay is called "The Social Foundations of Post-War Building." It appeared three years ago in England in a pamphlet of the "Rebuilding Britain" series. It is unfortunate that there should have been so long a delay in its appearance here, since it offers such valuable guidance for our postwar planning. To design the future we must throw out all notions based on the fallacious idea of a continually-expanding economy. We must assume stabilization. More fundamental than machines, houses, or city plans is the re-establishment of humanism in terms of individual health and comfort. Subjective values, the retying of family ties, a universal culture, provision for some solitude, the resorption of government, the growth of the spirit, are basic to rebuilding a good society. Without such a renaissance, we can only look forward to more and more of less and less. "We must transform our money economy to a life economy."

The final article was also commissioned in England, by *The Architectural Review*. It is a critique of the London County Council Plan for London. The Council is attacked for casually accepting the premise that the bulk of the prewar population of London should be rehoused in the original area. What was already too dense is not to be appreciably thinned out. Mumford prefers the earlier MARS plan for extensive decentralization. In his opinion, the enormous cost would prove to be a profitable long-term investment. Basic to Mumford's criticism of all necropoli is the failure of the big city to reproduce its population. There are two reasons for this criticism. If the population is dwindling, it is a symptom of general decline. Secondly, it is a handicap in warfare. In the race for greater population, neither England nor the United States will ever catch up to Russia or China. Hence, Mumford's grief over the birth rate seems to me to be somewhat irrelevant. We should be concerned with improving our biological standards and training men who will be able to conduct world affairs wisely. If we are going to be idealistic about living better lives, it seems specious to predicate a whole philosophy in winning the race for manpower.

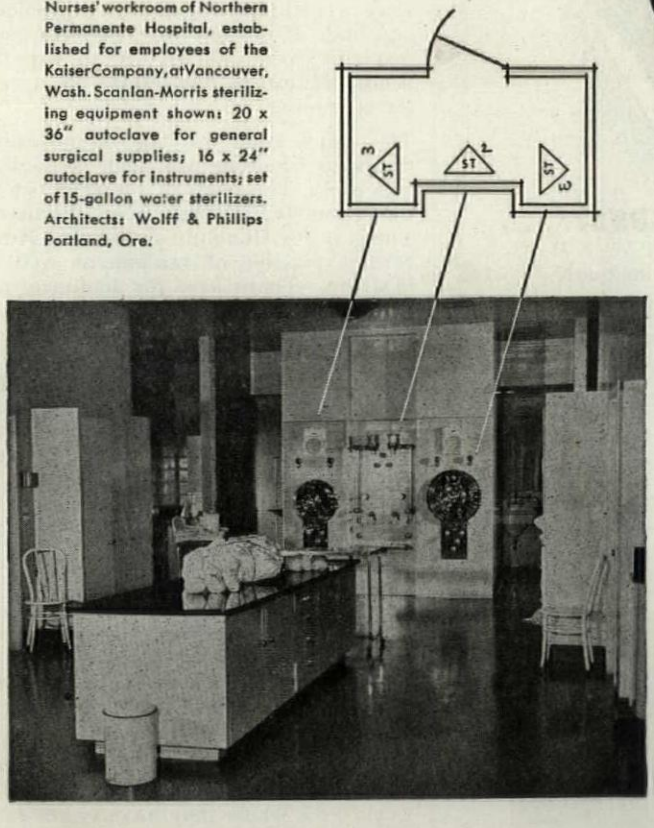
Nevertheless, the thing that makes Mumford's writing invaluable to us today is his concern with the larger issues. Most city planners are bogged

(Continued on page 126)

HOSPITAL ARCHITECTS:

Get SCANLAN-MORRIS Helpful Engineering Service on Sterilizing Apparatus —without obligation

Nurses' workroom of Northern Permanente Hospital, established for employees of the Kaiser Company, at Vancouver, Wash. Scanlan-Morris sterilizing equipment shown: 20 x 36" autoclave for general surgical supplies; 16 x 24" autoclave for instruments; set of 15-gallon water sterilizers. Architects: Wolff & Phillips Portland, Ore.



Many years of experience in equipping hospitals and clinics, and the direct personal contact during these years with superintendents, surgeons, engineers and architects, have qualified the Scanlan-Morris engineering department to give valuable assistance and authentic guidance in the important matter of proper planning for sterilizers.

The importance of preparing for sterilizer installations well in advance of the completion of building operations, to insure correct location of necessary piping and risers while construction is in progress, cannot be overemphasized. Scanlan-Morris engineers are always glad to assist in such planning.

Scanlan-Morris sterilizers, operating tables, surgical lights and hospital furniture are extensively used in many of the finest small hospitals as well as many of the largest hospitals all over the country, and in industrial hospitals, including those operated by the Permanente Foundation for Kaiser Company employees.

Our Engineering Department offers cooperation with hospital architects, including suggested layouts of equipment and recommendations for the most efficient and economical installation, without obligation.

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Reviews

(Continued from page 124)

down in physical, legal, and economic conflicts. Few have time to discuss the end to which they are directing their efforts. Fewer still fight for them. Here Mumford takes over. This is his sphere. His easy style carries conviction. There are some who consider his manner "jeremiad." With them, exhortation has been confused with lamentation. There is no wailing in Mumford. Instead, there is searching analysis and moral purpose. Practical men may say, "It can't be done. I have done all that can be done." In the end, the men of vision have their triumph. The dictators built their roads, and playgrounds, but warped millions of souls. In the long run, as Mumford and others have said, the most practical plans are the ideal schemes. "Salvation through gadgets" won't work. Men of good will do not turn away from visions because they seem unattainable. Before the celebrations of V-E day were over, the nations were wrestling with minority problems as usual. It is clear that we need more inspiring ideals if we are to win the peace. Mumford has offered us a generous helping.

The application of the Mumfordian thesis to concrete problems is part of this book. The basis of his criticism of the London Plan has been discussed. The plan for Honolulu shows that Mumford is capable of realism as well as idealism. There are, for instance, admirable comments on the park and business sections, the utilization of natural assets, and, most significant, an outline of an administrative organization for carrying planning through to execution. This is well done. It provides for representation and participation by the people. The failure to provide for this is the principal obstacle to planning.

While Mumford correctly hits off the City Beautiful movement as the cosmetic approach to city planning, he is, himself, perhaps, using the "Edenist" or "Barbizon" approach. He is obsessed with space; parks, gardens, forests, to walk through, to picnic in, to meditate in, and to make love in.

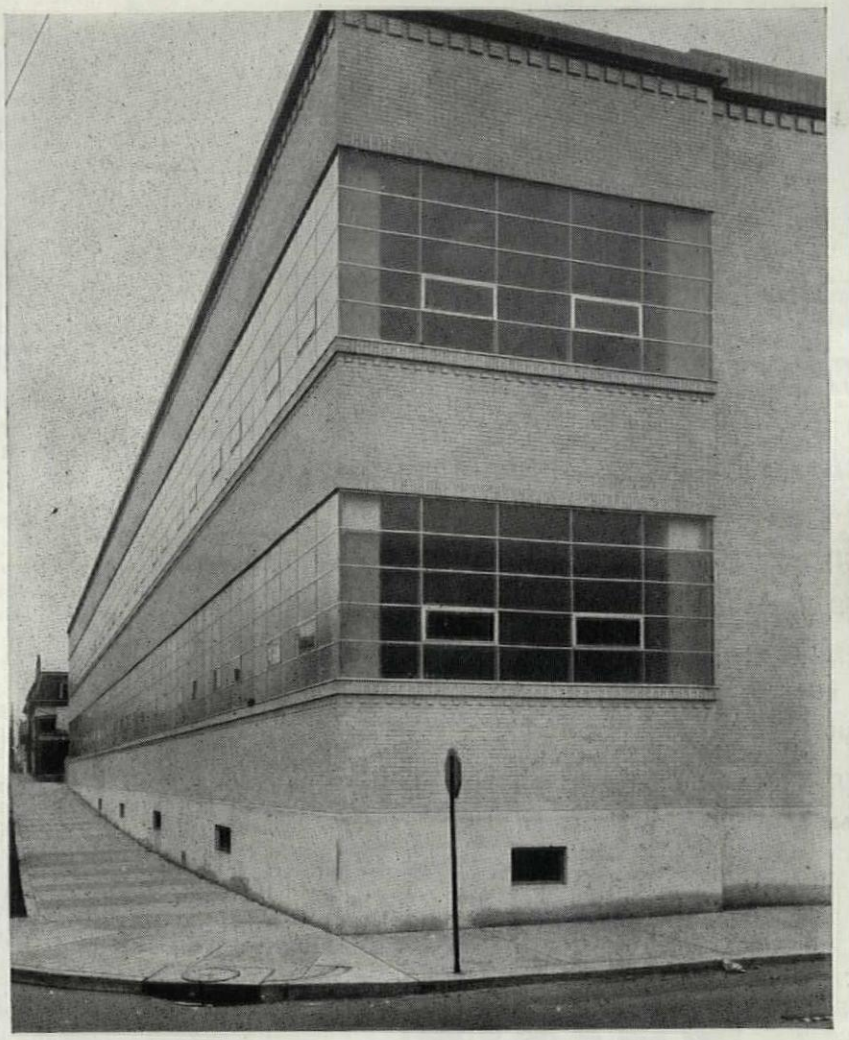
There is another emphasis which may be unavoidable, since philosophers run a terrible risk. To be able to survey the world as a whole they have to get some distance off. But this isolation permits a haze to come between them and the world, and a glamour is cast over humdrum things like calluses. Mumford's eloquence about the family and the mother is a little unreal. Even when Mother is not a "Mom," she will not take kindly to domesticity as such for a long time. Women have had overflowing portions of it during the war. The charm vanishes when the last servant leaves and the diaper service stops.

(Continued on page 128)

Good for the Long Run —

GEYSER BAR WINDOWS OF ALCOA ALUMINUM

Note the trim neatness and narrow lines of these all-aluminum Geyser Bar Windows



Horizontal members of these very practical windows have the appearance of running continuously from jamb to jamb. Actually, these members are broken only at inconspicuous but effective expansion joints. All members are shop-fabricated to fit wall openings. Assembly is done on the job.

The narrow lines of this window construction disguise the sturdy character of its Alcoa aluminum members. Strong when installed, they stay that way. There's no rusting or rotting to cause deterioration. No need for protective painting.

Years of experience with aluminum windows of various types in industrial plants, office buildings and residences have proved that they are durable and economical. It pays to include windows of Alcoa Aluminum in your plans. ALUMINUM COMPANY OF AMERICA, 1868 Gulf Bldg., Pittsburgh 19, Pa.

Windows of **ALCOA** **ALUMINUM**

Reviews

(Continued from page 126)

Agricultural labor and rustic diversions are not as much sought after by those who have known them intimately, as Mumford, like Rousseau, seems to believe.

There seems to me, as a result of this detachment, to be chilly abstractness about the Honolulu report. It does not inspire enthusiasm. Maybe there is too little awareness of what the man-in-the-street thinks.

Since Frank Lloyd Wright has also just published a new book on city planning, it is of some interest to compare his ideas and Mumford's about a balanced environment. Both loathe the metropolis of today. Wright's Broadacre City is the extreme of decentralization based on "Modern Mobility," and local autonomy of government. Mumford avoids such fantastic extremes. He well knows that human contacts flourish best without the intermediaries of car and telephone, which underlie Wright's plan. Both provide for the cultural amenities essential to civilization, but Mumford knows that, if the units of population are too small, the result is not a culture but provincialism. Wright thinks in terms of a planned architectural setting. Mumford thinks of man as a social being, with planning as a means to a greater end. Nature is not a substitute for neighbors. Mumford wants each man to experience a rhythmical alteration from city to country. Wright tries to get both at once.

It is a reflection on our discrimination that Wright's book is so lavishly printed, while Mumford's far more valuable book is cheaply printed. Fortunately, the Mumford book, being half as expensive, will probably reach twice as many people.

SOUND—WITHOUT FURY

by Rita Davidson and William Smull

Four reports of four conferences—each indicates that fearful uneasiness for the future which depression and war have made the normal state of mind for planner and architect alike.

At the Ann Arbor Conference, faculty men and practicing architects vied with one another to claim a fresh awareness of planning and contemporary functional problems of design. *Papers Presented at the Second Ann Arbor Conference on Architectural Design and Practice,* University of Michigan, College of Architecture and Design, February 3 and 4, 1945 (52 pp., mimeo.) represent a prime example of "same people, same ideas, little gained." Hardly the fault of the individual participants or the architectural staff of the Uni-

(Continued on page 130)

GENERAL BRONZE PRESENTS ITS NEW LINE OF PERMATITE *Windows*

for hospitals, schools and commercial buildings

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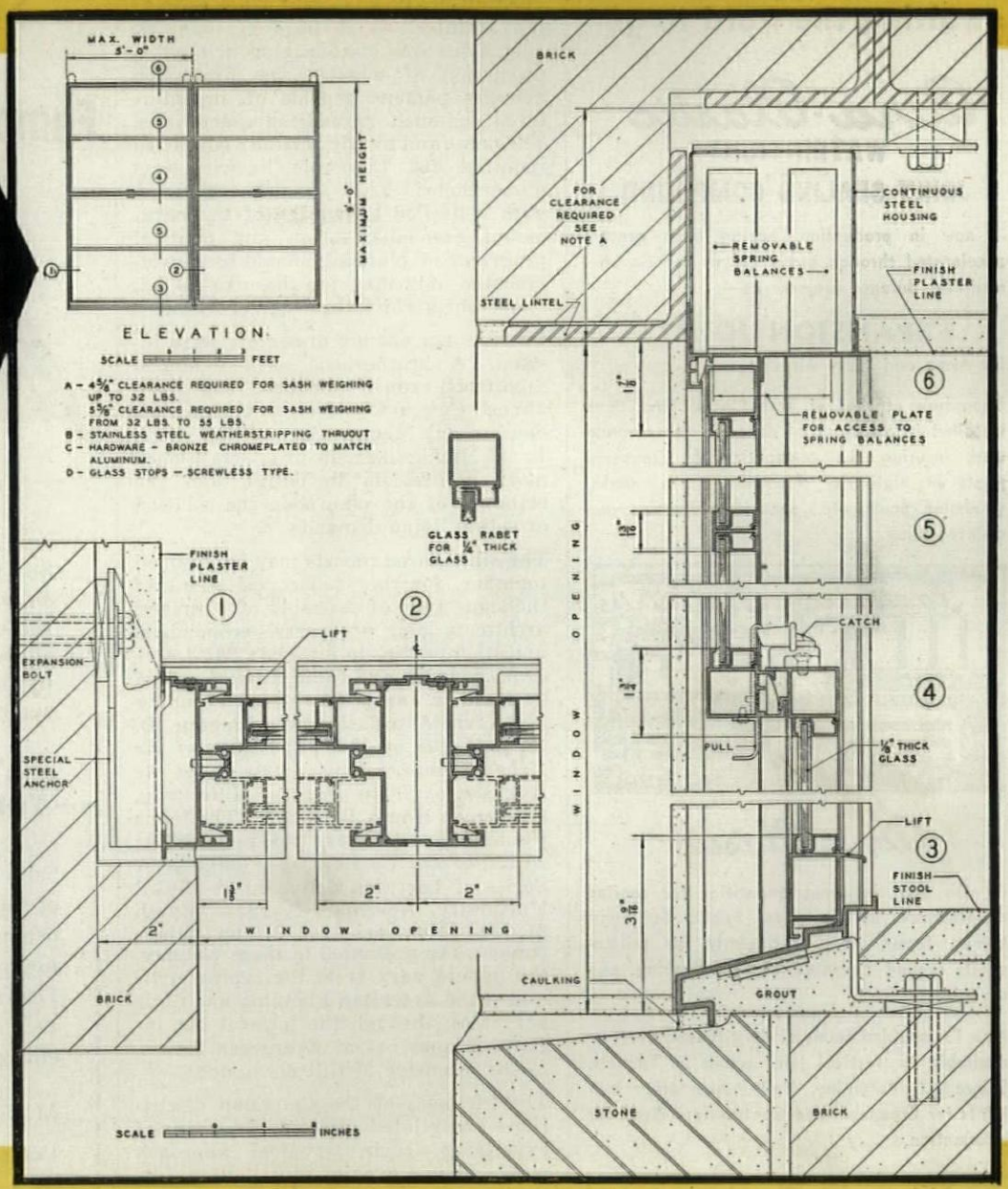

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GENERAL BRONZE CORPORATION

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Reviews

(Continued from page 128)

versity which played host, this seems rather the result of the unwholesome antagonism between different groups of the profession. Each forms its own little association or committee, as if it alone had found "the true faith," thereby eschewing intelligent and strengthening crossbreeding.

The well-drawn argument which claimed the architect to be head of planning operations was discouraging, without a discussion of whether the profession attracts persons capable of, or interested in, such spread-eagle activities. The new (and totally revised) education required for this role likewise was unmentioned. That a single technician with a limited knowledge of the paramount economic, social, and political programs of planning should be considered the only man for the over-all job seems but architectural egocentrism.

Possibly not enough dissenters were invited. A brotherhood of like-minded architects, even if "modern," can prove almost (but not quite!) as trying as a band of any other variety of architects. To the Michigan group, urbanism seemed more a problem in design and the esthetics of the plan than the solution of actual living demands.

The other three reports may be grouped together, for they reflect variations of the same type of assembly of planners, architects and engineers, economists, and other parties-in-interest: *The American Planning and Civic Annual*, edited by Harlean James (American Planning and Civic Association, Washington, D. C., 1944, 178 pp., $3.00); *Report of the Urban Planning Conferences under the Auspices of Johns Hopkins University*, Evergreen House, Baltimore (The Johns Hopkins Press. 1944, 245 pp., $2.75); *Housing and Community Planning*, A Series of Lectures Delivered at McGill University, November 2, 1943—March 21, 1944 (Montreal, 1944, 210 pp., paperbound). As presented in these volumes, the papers vary from the typical articles of the American Planning and Civic perennial, through the hopeful but ingenuous speeches at Evergreen House, to the intensive McGill discussions.

Though most of the Canadian discussions are related directly to provincial experience, their technical approach makes them a genuine contribution. Little time seems to have been wasted on generalities at Montreal. It was presumed the participants possessed some knowledge of the field, contrary to the American custom of considering each conference a fresh opportunity to hammer home the ABC's. Appreciating the need for postwar full employment, John Bland, director of the School of Archi-

(Continued on page 134)

In this attractive Domestic Science Room of the J. W. Sexton High School in Lansing, Michigan, Nairn Linoleum is used on floor, borders and base, as well as on work surfaces and window ledges. The walls, also, are Nairn Wall Linoleum.

meets all four "musts" for modern school floors . . .

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One size only, pre-fit to standard 8 x 7 foot opening.

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Designed to blend with any type of architecture.

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Made of durable Douglas fir—structurally strong!

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Panels are of Exterior plywood—the type used in PT boats!

EASY TO INSTALL
Hardware 85% pre-assembled. Installed in less than 45 minutes!

FEW TOOLS NEEDED
A hammer, screwdriver, level, saw, brace and bit do the whole job!

To all other features offered by Craw-Fir-Dor—America's leading overhead-type garage door—add this attractive new auto-type lock. It's as dependable and easy-acting as the sturdy door itself. It's chrome-plated for beauty and long life. And it's exclusive equipment on every Craw-Fir-Dor now being planned for immediate production the moment war restrictions are lifted. Specify Craw-Fir-Dor in your postwar jobs—and keep in touch with your dealer, who will have Craw-Fir-Dor very soon.

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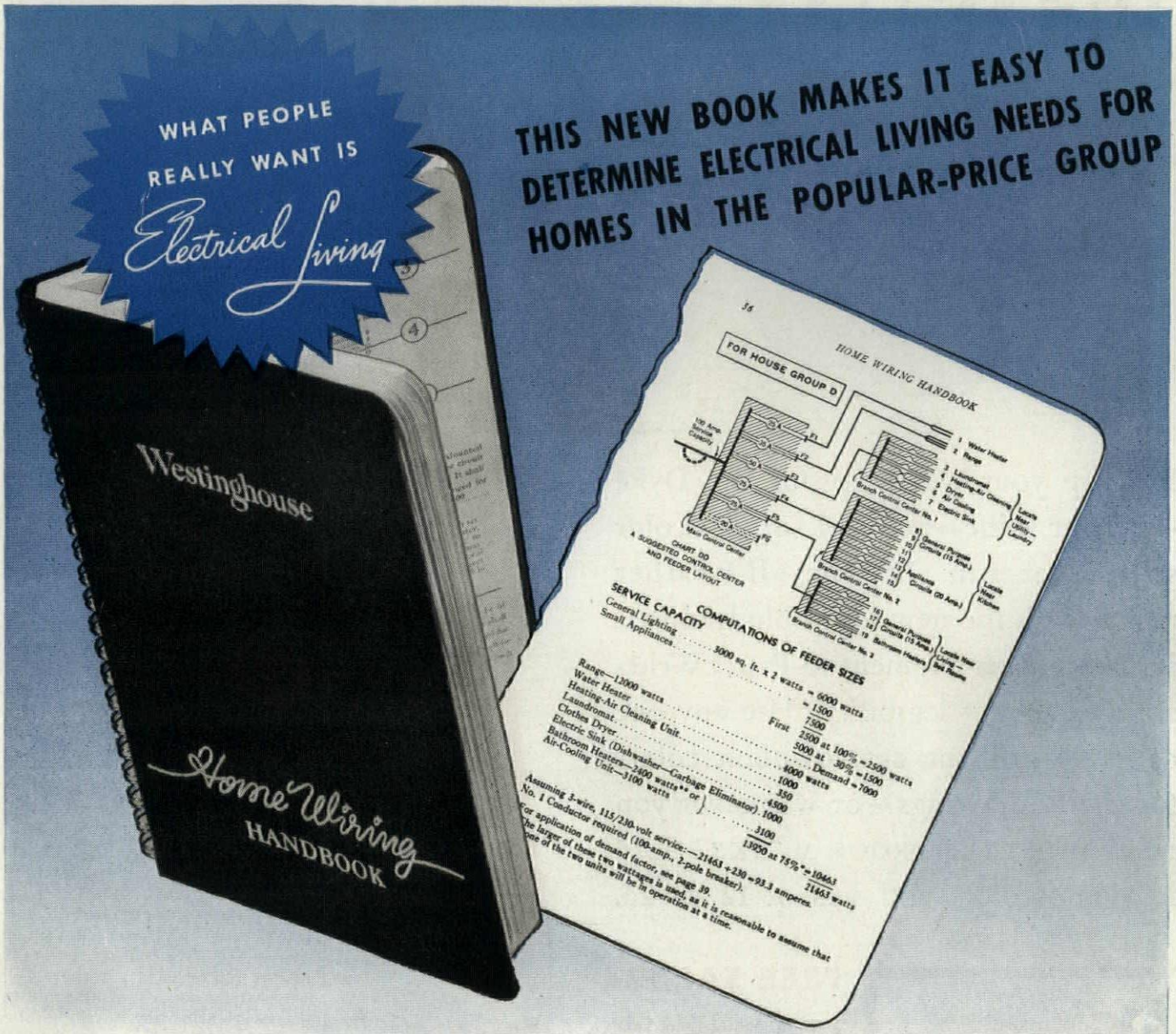

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Reviews

(Continued from page 130)

tecture, together with faculty members, Government representatives, and American experts, covered community planning, housing, and redevelopment. Most of the members maintained strong viewpoints and faced the issues squarely, making the compendium more potent than is usual for a collective offering.

The Evergreen House conferences were by invitation only. The professional connections of the guests indicate the broadening conception of the urbanism field, yet despite the impressive talent and the initial invocations for specific accomplishment, the report is disappointing. Only on the topic, Airports and Their Effect on City Planning, was there a lively discussion. Few subjects loom more mysteriously in the fog in which planners, aided and abetted by architects, are operating.

We perceive that uncontrolled airport expansion, pushed largely by those desiring to sell planes and the servicing installations needed, will bring about a community disintegration many times greater than that produced by the automobile. Just how this would raise the general standard of living or serve any socially useful purpose was not indicated by its proponents. Only a few among us seem to realize the limitations, as well as the blessings, of airpower. In this connection, W. I. McMillen, of American Airlines, discusses New York's Idlewild project interestingly. The conferees undoubtedly are aware of the chaotic growth created by the motor car; yet they seem backward about control of aviation to insure the greatest utility for the public. There is the feeling, however, that the airplane and helicopter will speed decentralization, as did the railroad, rather than disintegration, as did the automobile.

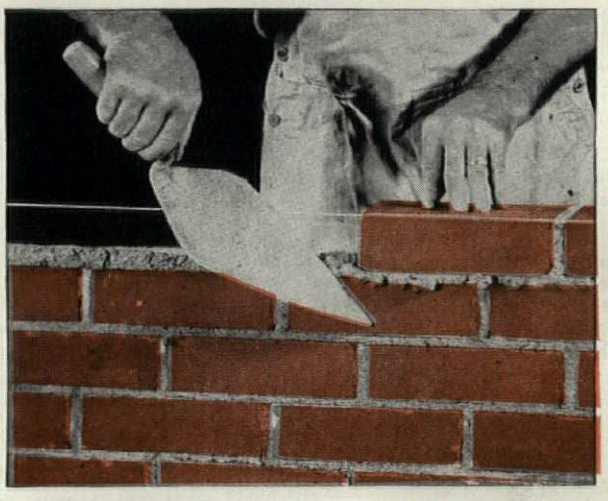
Discussions of geography at the Hopkins session are related to the American Planning and Civic Association's interest in conservation. Planners should discover shortly that geographers, for years, have been making the type of over-all report that is basic for regional studies; they have developed techniques which make geographical understanding fundamental for intelligent use of resources. Abel Wolman's outline of *Geographical Directives in Urban Planning*, at Evergreen House, followed by Chauncy Harris' discussion of the city in its geographical setting, indicate that geographers are only a step away from assuming a major role in the planning process.

The urban postwar plans and methods presented by the Civic and Planning yearbook are of a more general nature

(Continued on page 136)

BRIXMENT MORTAR

Makes a Better Bond



To make a good bond with the brick, mortar must be plastic, and stay plastic *until the brick is bedded. The two photographs above show a good comparative test for plasticity—hence for bond. Try this with Brixment mortar!*

—AND A GOOD BOND IS REQUIRED FOR STRONG, WATER-TIGHT MASONRY

The first function of a mortar is to form a strong, permanent *bond* with the entire surface of the brick. When such a bond is secured, the result is a strong, water-tight wall.

Brixment mortar makes it possible to secure this kind of bond because:

(1) Its great plasticity and its high water-retaining capacity allow a more thorough bedding of the brick, and a more complete contact between the brick and mortar.

(2) It hardens slowly enough to permit deeper penetration and more thorough keying into the pores of the brick.

(3) Once formed, a bond between brick and Brixment mortar is permanent, because Brixment mortar does not undergo volume changes sufficient to weaken the bond.

Because of these characteristics, Brixment mortar makes a *better, stronger bond.*

LOUISVILLE CEMENT CO., Incorporated, LOUISVILLE 2, KENTUCKY

CEMENT MANUFACTURERS SINCE 1830

Reviews

(Continued from page 134)

The late Alfred Bettman's review and critique of recent legislation in this field is as instructional as it is interesting. Architects should be helped particularly by this clarification of the picture, which has been thoroughly beclouded by the many vested interests. Unfortunately, Bettman neglected the socio-legal implications of the New York statute with its unbridled power for private enterprise.

A fundamental criticism is the level at which these conferences seem to be conducted. They indicate inability to get past the basic knowledge which each delegate presumably had before packing his bag for the meeting. They fear to tread along the controversial lines on which more mature papers would lead. Intended neither for the professional nor the lay, they fail to make a contribution to either. There is little point in assembling periodically, even in an outstanding galaxy, unless a fruitful end product can be expected. In these instances, the whole hardly *equals* the sum of all its parts.

Periodicals

Reviewed by Maude Kemper Riley

THE ARCHITECTURAL REVIEW
45 The Avenue, Cheam, Surrey, England
May 1945

A church mural by Hans Feibusch, pictured and described in this issue, appears to fulfill the requirements for esthetics and suitability that commentators of today sometimes despair of getting from artists. Feibusch has used the story of *Pilgrim's Progress* on the long facing walls of the otherwise unadorned crypt of St. Elizabeth's, in Eastbourne. One end of the 26' x 46' room is all windows; at the other is the altar. The artist commenced the story of Christian on the south wall by the windows and that of Christiana opposite on the north wall, and brought the two progressions to meet at the altar as though it were one continuous frieze. The conception is carried out in the modern idiom but with the devotional aspects of early religious art. The postures of the figures suggest the spirituality of the crusade. The dark to lighter colors and the recurrent diagonals leave no doubt of the direction in which the triumphing figures are moving, narratively. There is a likeness in Feibusch's painting, and in his comprehension of a mural's function, to the American artist, Anton Refregier, who was to have done the San Francisco Post Office lobby with a saga of American life from pioneer times. The war postponed Refregier's

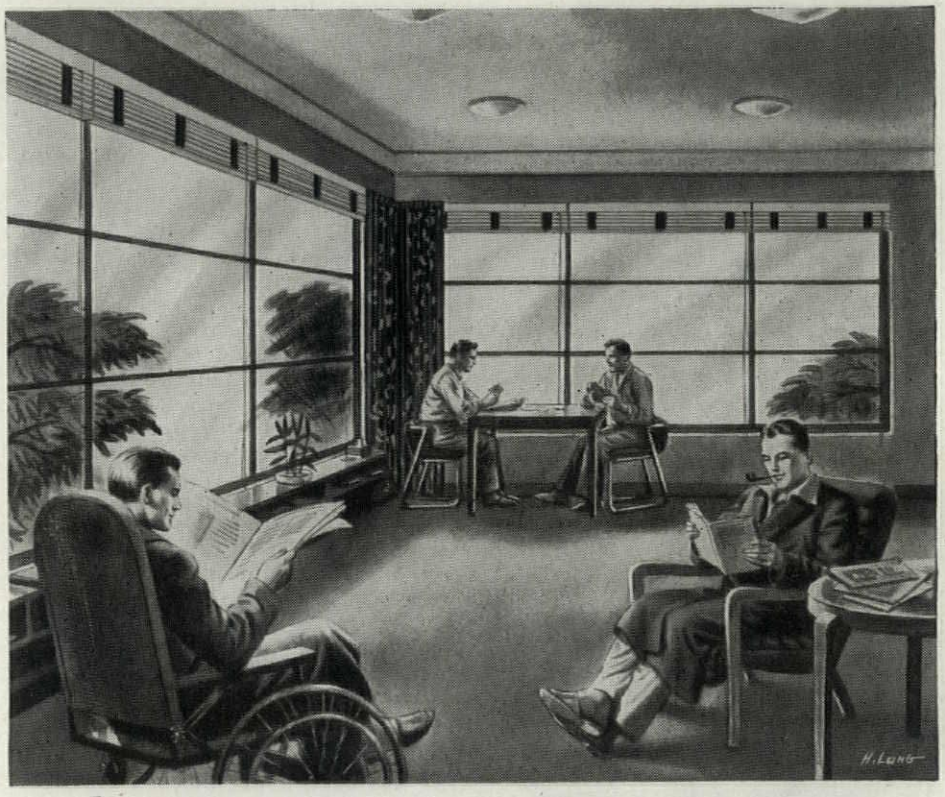
(Continued on page 138)

Suggestions for the man who is planning tomorrow's hospital

Hospital authorities and architects are taking a progressive viewpoint in choosing materials for tomorrow's hospitals.

They're selecting materials for function—for their ease of cleaning, for their durability, for the permanence of their finishes, for many other practical characteristics.

The result? A definite trend to glass. There are many ways you can use glass—soundly and economically—to make your hospital an efficient building. For the right glass, see your L·O·F Distributor. Libbey·Owens·Ford Glass Company, 2385 Nicholas Building, Toledo 3, Ohio.



1. DAYLIGHT ENGINEERING—the use of glass to achieve better daylighting and more pleasant environment—has been given new impetus by the development of Thermopane, the Libbey·Owens·Ford windowpane that insulates. Thermopane is a double-glass unit with a hermetically-sealed, insulating air space between the panes.

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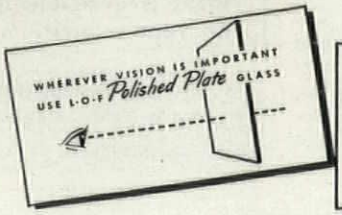
2. TRANSOM AREAS. These glass panels, placed high to permit full use of wall space, transmit borrowed light into the hall. Made of decorative glass, their clean, horizontal lines lend architectural beauty to the hallway.

3. WINDOW SILLS. L·O·F Vitrolite, a structural glass of colorful beauty, is ideal for this purpose. Sills are often dirt-catchers, but when they are glass you can clean them to a sparkling luster every time, without harm to their finish.



L·O·F **LIBBEY·OWENS·FORD**
a Great Name in **GLASS**

Reviews

(Continued from page 136)

actual execution of a splendid scheme.

As preamble to a forthcoming book on Jewish synagogue architecture by Georges Loukomski, *The Architectural Review* publishes "what is most important among his materials." Many of the author's drawings and photographs collected during his extensive travels in 1933-1936 were lost to flying bombs in the Spanish War. But he had visited 144 European synagogues, mainly in Poland. He finds in the East a true Jewish style of architecture, exemplified principally in timber construction. Left open to the roof, the interiors are a wonder of intricate woodwork. They rise at a steep pitch from the four or six supporting pillars to a vastly high peak into which the pillars of the bema, or central reading platform, almost disappear in magnificent upward soaring. The underside of the wooden roofs is sumptuously painted and decorated. Nazi armies have come close to obliterating all evidence of these timber synagogues and much of those built of stone. The photographs here published, which were taken by Loukomski, are the only surviving records of many of these remarkable examples of a racial art which began in the 8th century and flourished particularly in the 16th and 17th centuries in Europe.

THE NATIONAL HOUSE BUILDER and the BUILDING DIGEST
17 Stratford Place,
London W. 1, England
April 1945

"The Open Air Room" as a sort of patio garden enclosed between houses, in a community plan where 30 dwellings surround a public garden space comprised of tree-lined walks, lawns, flowers, and vegetable plots, is the design of Walter W. Segal, British architect. The Englishman's need for some privately owned garden space, however small, is discussed in an accompanying article by Brenda Colvin in cooperation with the Association for Planning and Regional Reconstruction. Miss Colvin, who is Honorary Secretary of the Institute of Landscape Architects, sees such a room as an essential part of the ground floor plan to be intimately connected with the indoor space and of a size not less than 216 square feet for one or two people. Public garden space, providing children's playground, a lawn, tennis courts, or pool, is in addition to the private garden areas. The editor's introduction to this wise and apparently practical discussion of outdoor needs of English families states, rather oddly, that "a patio is a common feature of American houses even of the smallest type."

AS the draftsman's pencil makes its mark, he issues orders, through a remarkable kind of shorthand, to the men who must act on his drawings. But only with special assistance can human hands shape such precise, complex orders as these. No wonder the draftsman chooses his instruments with care . . . he is, in effect, taking them into partnership!

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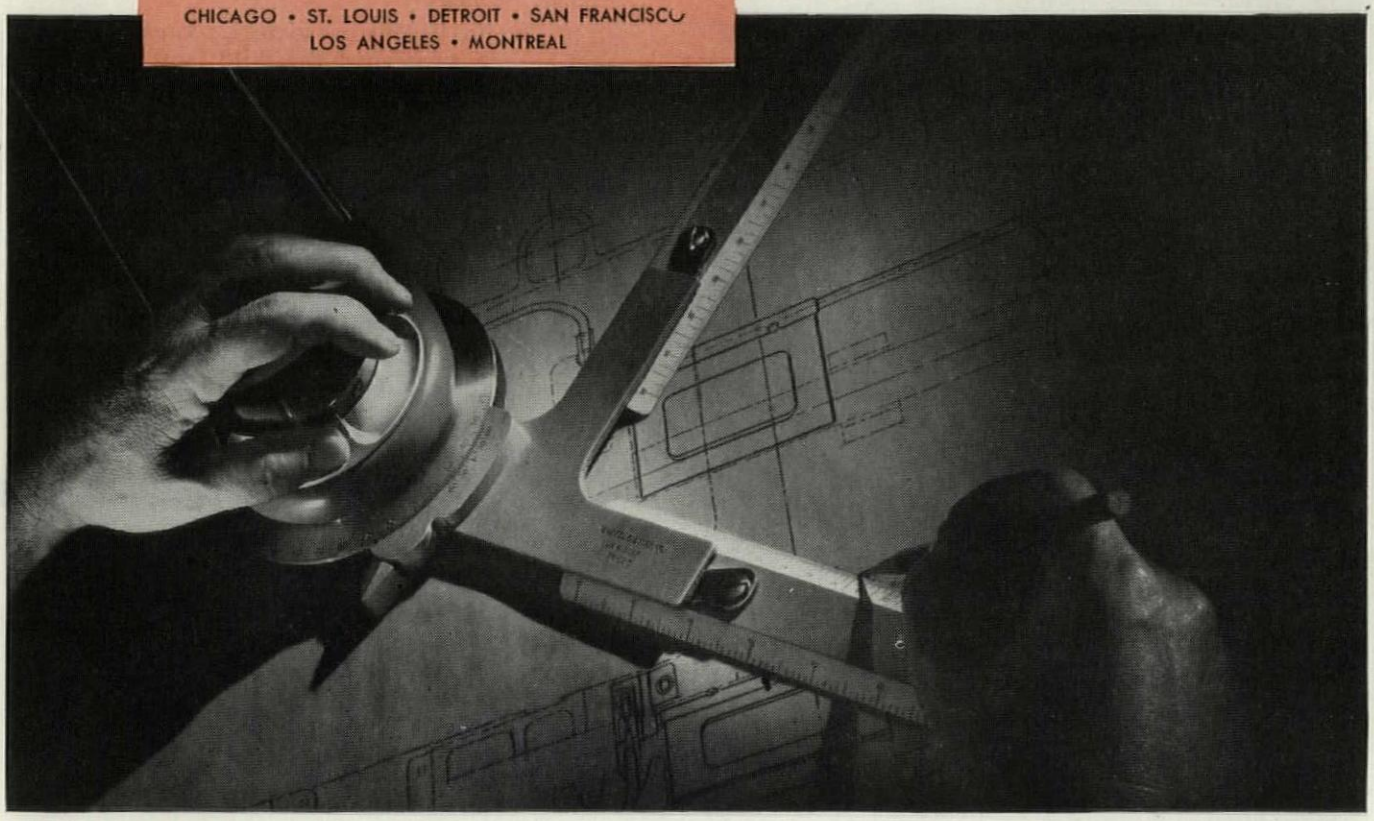
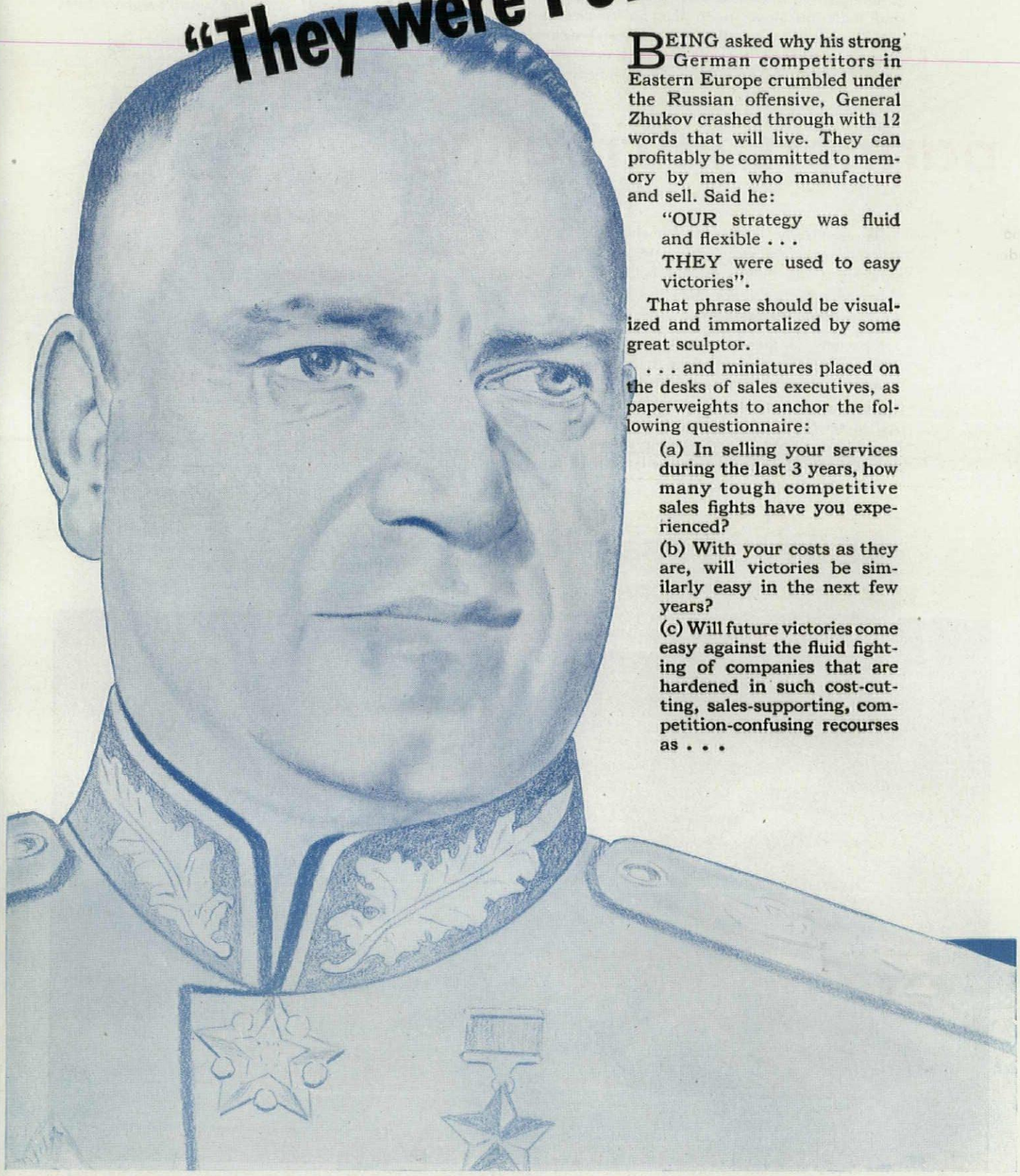


then he said to himself

"They were Putschovers"



BEING asked why his strong German competitors in Eastern Europe crumbled under the Russian offensive, General Zhukov crashed through with 12 words that will live. They can profitably be committed to memory by men who manufacture and sell. Said he:

> "OUR strategy was fluid and flexible . . .
>
> THEY were used to easy victories".

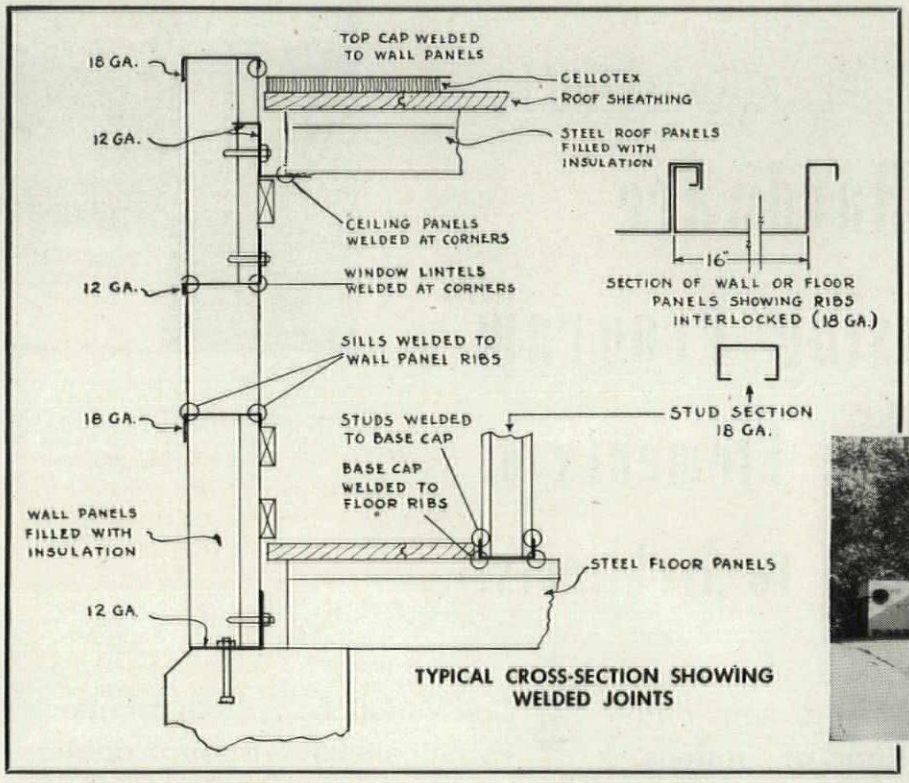
That phrase should be visualized and immortalized by some great sculptor.

. . . and miniatures placed on the desks of sales executives, as paperweights to anchor the following questionnaire:

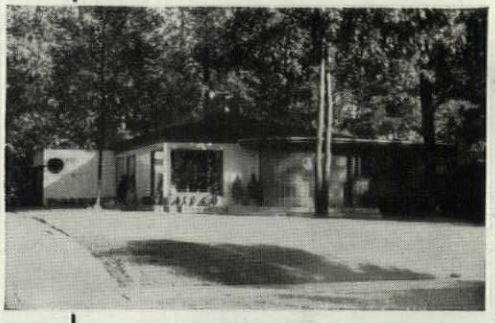
> (a) In selling your services during the last 3 years, how many tough competitive sales fights have you experienced?
>
> (b) With your costs as they are, will victories be similarly easy in the next few years?
>
> (c) Will future victories come easy against the fluid fighting of companies that are hardened in such cost-cutting, sales-supporting, competition-confusing recourses as . . .

"Fluid and Flexible"... *he says*

THAT, ZHUKOV, is also the battle cry of engineers, designers and contractors using Arc Welding to win business victories.



Stiffer structure, simplified erection by ARC WELDING of panels



PREFABRICATED sheet metal panels . . . used extensively for enclosures, partitions, flooring and small building frames . . . are conventionally joined by screws and bolts.

Lawrence C. Blazey, Cleveland designer, shows how this panel construction can be improved by arc welding erection. His application is a house; it could just as well be an aircraft hangar, a pumping station, a garage or a bus terminal. He reports these advantages:

Greater rigidity. More area is joined—devoid of holes—panels fused into a strong unit construction. Ceiling panels extended 3 ft. out over walls by welding small angles to ribs—impractical by old method. Long spans, such as big window lintels, readily reinforced to permanently eliminate sag.

Faster, easier erection. Simple tack welds replace drilling, screwing and bolting—take half as much time per joint. Easy to get into close quarters. Provides versatile tool for all metal connections . . . panels, column supports, door and window lintels, streamlined corners, brackets, hangers, and other members.

Studies in Structural Arc Welding free to architects and engineers. Request them on your letterhead.

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America's greatest natural **recourse**

ARC WELDING

Good Buildings Deserve Good Hardware

CORBIN

THE P. & F. CORBIN Builders Hardware Merchandising Program includes these Elements of Specific interest to Architects:

Responses to the above ad, in July magazines, indicate the wide-spread interest in the Corbin Program.

1 Simplification . . . of designs and construction . . . and of catalogs.

2 Application of "war-precision" manufacturing methods . . . to assure deliveries of highest quality builders hardware on schedule.

3 Continuing Research . . . as to trends, architects' requirements, product improvement, packaging.

4 Co-ordination . . . from architects' specifications . . . through dealers' purchases . . . through factory production . . . to contractors' installation.

5 National Consumer Advertising . . . to families interested in buying, building, or modernizing homes.

6 Completely informing Corbin salesmen and dealers to qualify them to serve architects and their staffs most intelligently.

ARMY (E) NAVY

P. & F. Corbin

THE AMERICAN HARDWARE CORPORATION, SUCCESSOR

NEW BRITAIN, CONNECTICUT • SINCE 1849

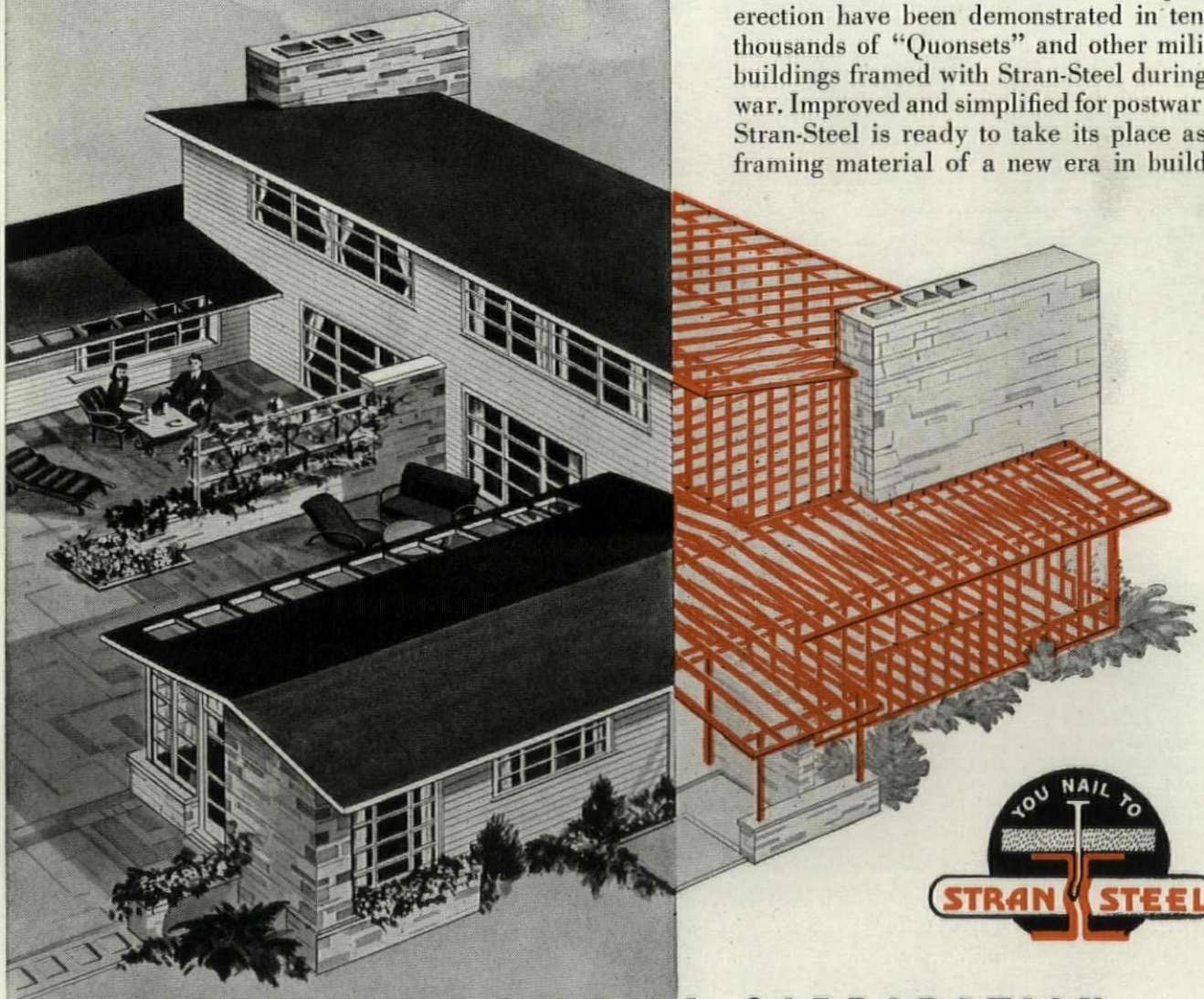
THINK IN TERMS OF

STRAN STEEL

Look beneath the surface for the mark of the progressive builder

That framework of Stran-Steel, with its nailable studs and joists, sets any house apart from others of comparable design. For it imparts an inner value . . . permanence, fire-safety, freedom from warp, sag and rot . . . that safeguards the housing investment and enhances the builder's reputation.

Progressive architects and contractors are thinking in terms of Stran-Steel . . . shaping their building plans around this uniform precision material. Its ease of use and speed of erection have been demonstrated in tens of thousands of "Quonsets" and other military buildings framed with Stran-Steel during the war. Improved and simplified for postwar use, Stran-Steel is ready to take its place as the framing material of a new era in building.



YOU NAIL TO STRAN STEEL

GREAT LAKES STEEL CORPORATION

Manufacturer of the Famous Quonset Hut for the U. S. Navy

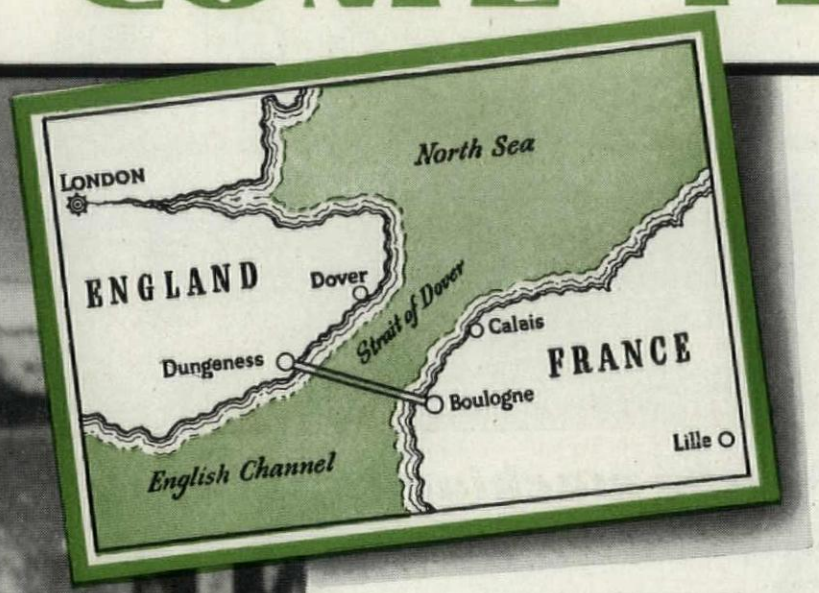
STRAN-STEEL DIVISION • 37th FLOOR PENOBSCOT BUILDING • DETROIT 26, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION

A PIPE DREAM

Extruded on this giant Vacuum Lead Press, 2500 ft. lengths of special 3 inch I. D. pipe were welded into 35 miles of continuous pipeline, coated with asphalt, taped with paper, vinylite fabric tapes and steel bands, and armored with steel wires bedded in and covered with asphalt saturated jute servings... Insert shows cross-section of pipe whose length was laid in five hours by the special cable-laying ship.

COME TRUE . . .

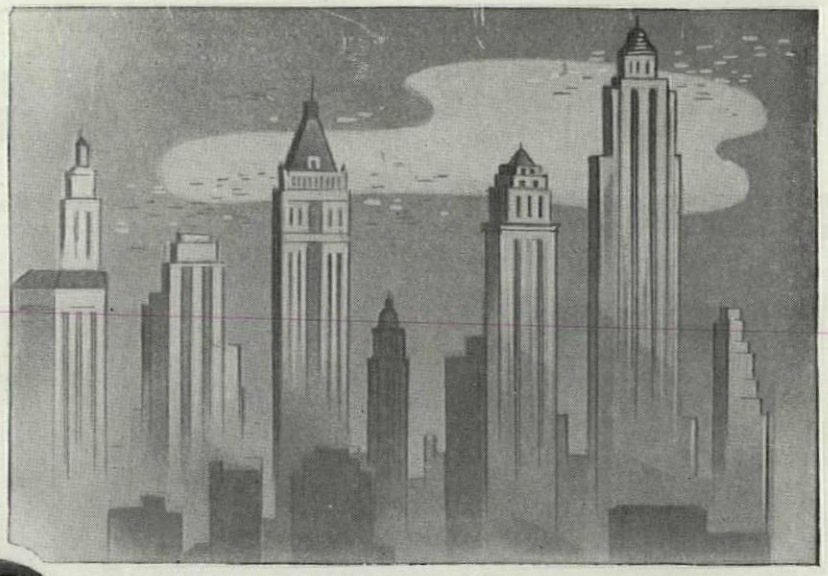


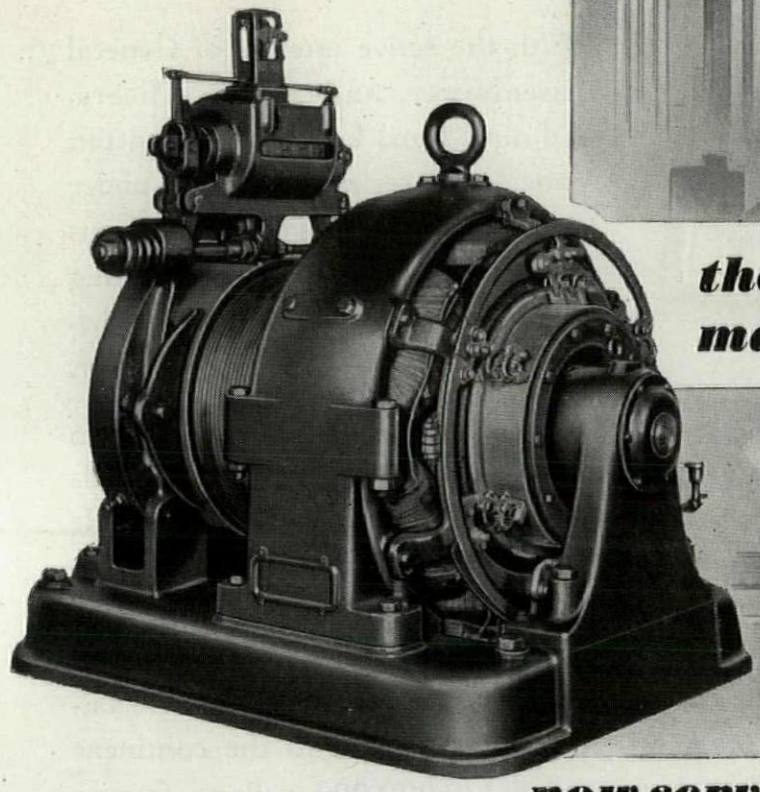
With the active interest of General Eisenhower, and Allied officers, Admiral Lord Louis Mountbatten conceived a series of pipelines under the English Channel to feed precious oil and gasoline to Allied fighting forces speeding across France, Belgium, Luxembourg and Germany.

Experience in making the largest submarine electric-power cables enabled General Cable to volunteer undertaking its part of this important contract with its own existing facilities. General Cable quickly started making this continuous 35-mile pipe, thanks to available equipment commandeered from its coast-to-coast plants, its wealth of research and engineering talent, plus dogged determination to speed Victory. In about nine months from installation, the under sea traffic fuel from England to the continent via channel pipelines had totalled 120,000,000 gallons, freeing oil tankers, cars and other transport for more vital duties. With public recording of this secret comes the buoyant feeling that dreams do come true and many more, as yet unrevealed, will foster progress in a peace we all can share.

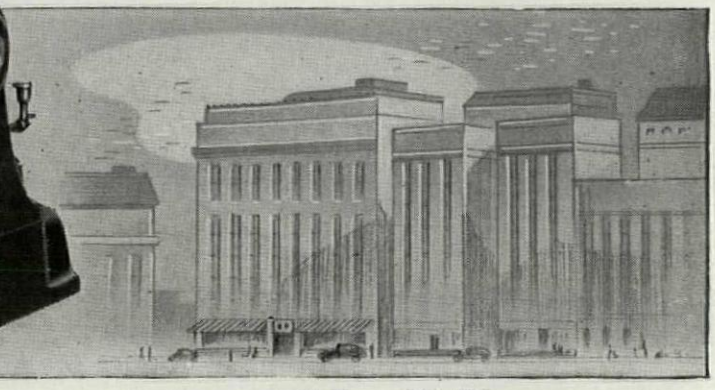
GENERAL CABLE CORPORATION

General Cable Corporation Sales Offices are located at Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Houston, Kansas City (Mo.), Los Angeles, New York, Philadelphia, Pittsburgh, Rome (N.Y.), St. Louis, San Francisco, Seattle, Washington (D. C.)





the machine that helped make skylines . . .



now serves small buildings, too

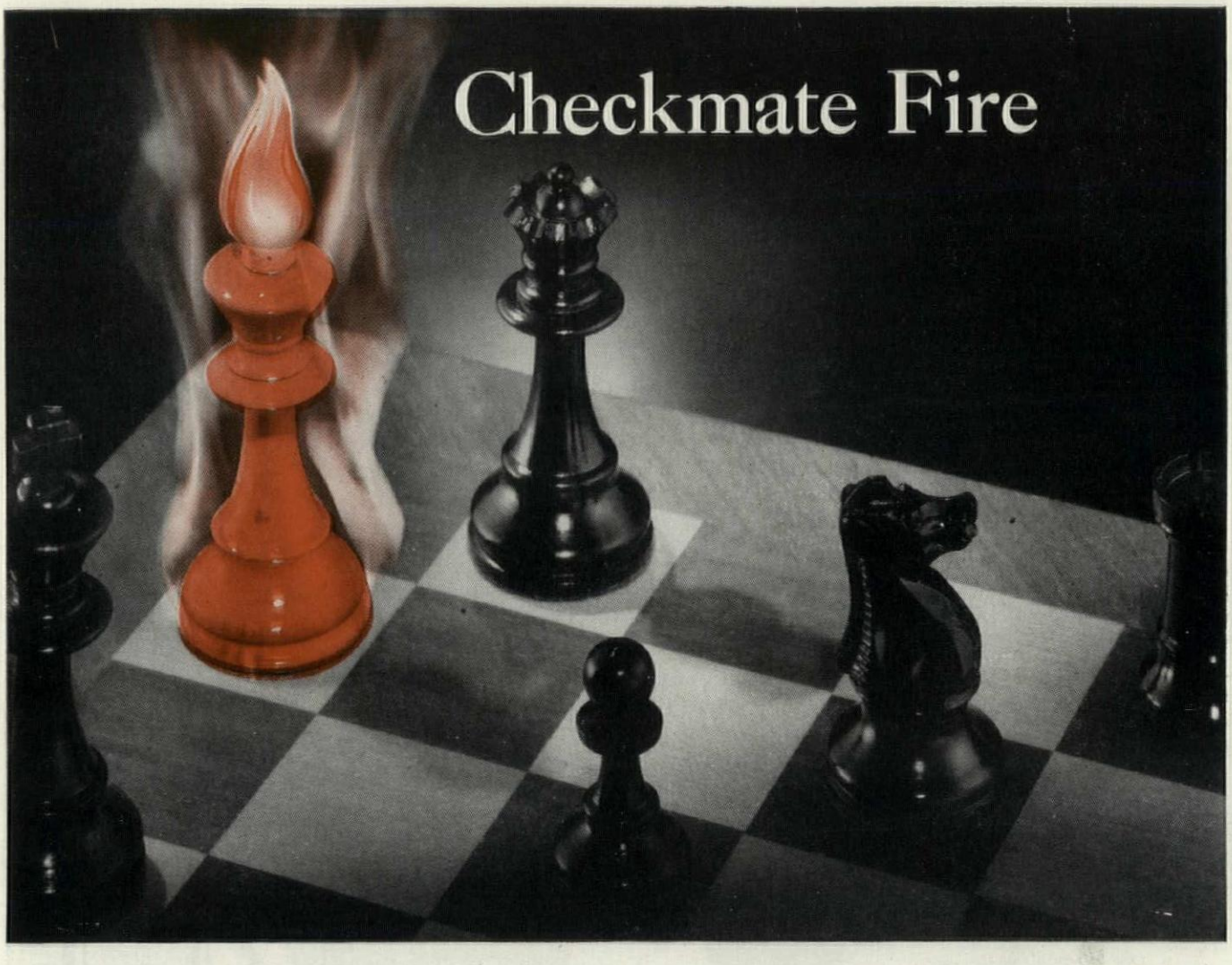
The gearless elevator machine, first designed by Otis Elevator Company, was the result of a demand for faster and more efficient vertical transportation in tall buildings.

During the past 43 years, the smooth, quiet performance, and the economical operation of this machine have earned it universal recognition and acceptance. For these reasons, many Architects and Engineers today specify Otis Gearless Elevators *for smaller buildings* — whenever performance of outstanding quality is required.

Stores, Hospitals, Hotels, and many other buildings—whether of a few stories or many — can now benefit by the lifelong operating smoothness and efficiency of Otis Gearless Elevators.

Otis representatives are ready now to cooperate with Architects and building owners . . . to recommend the equipment best suited to individual needs. For the finest in vertical transportation tomorrow, call your Otis representative TODAY.

Otis **ELEVATOR COMPANY**
OFFICES IN ALL PRINCIPAL CITIES



SHEETROCK *Fireproof* WALL *and* CEILING PANELS

Stakes are high in any match with fire. 10,000 lives . . . $300,000,000 worth of property . . . untold suffering . . . these are fire's approximate annual winnings in recent years. That's why architects and builders must use even safer building materials to checkmate fire!

One safer building material is Sheetrock*. For these big panels are made of gypsum which will not burn. In fire after fire, they have kept the flame in check till help could arrive.

Best of all, fireproof Sheetrock makes walls and ceilings of enduring beauty. Ask for any form of decoration, for sweeping curves, for smooth surfaces, for decorative paneled effects . . . and Sheetrock can do the job.

Call for wood-grained effects . . . and Sheetrock offers faithful reproductions of knotty pine, bleached mahogany and walnut. That's why Sheetrock has done more wallboard jobs than any other gypsum wallboard in the world.

*Reg. T. M.

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For Building • For Industry

Gypsum • Lime • Steel • Insulation • Roofing • Paint

Hotel in 194X

Reasoning that the vogue for sunlight and air is with us to stay, architect Simon Breines, of Pomerance and Breines, New York, predicts that "postwar hotels are going to make their roofs increasingly available to their guests."

His accompanying sketch shows how a section of the roof setback can be put to good use for sun bathing and relaxation. Another setback accommodates an outdoor restaurant with gay umbrellas and potted plants, and still another might provide gymnasium facilities.

* * *

Barrett Built-up Roofs are already standard for flat roof construction on many modern developments like the famous Rockefeller Center roof gardens. Because of their extreme adaptability and uniformly successful performance under varying conditions, they will make it possible for architects and planners to execute many revolutionary improvements in postwar design.

This hotel development is the thirteenth in a series of designs by outstanding American architects devoted to functional planning in roof architecture. You are invited to write for a portfolio of reprints of the complete series for your files.

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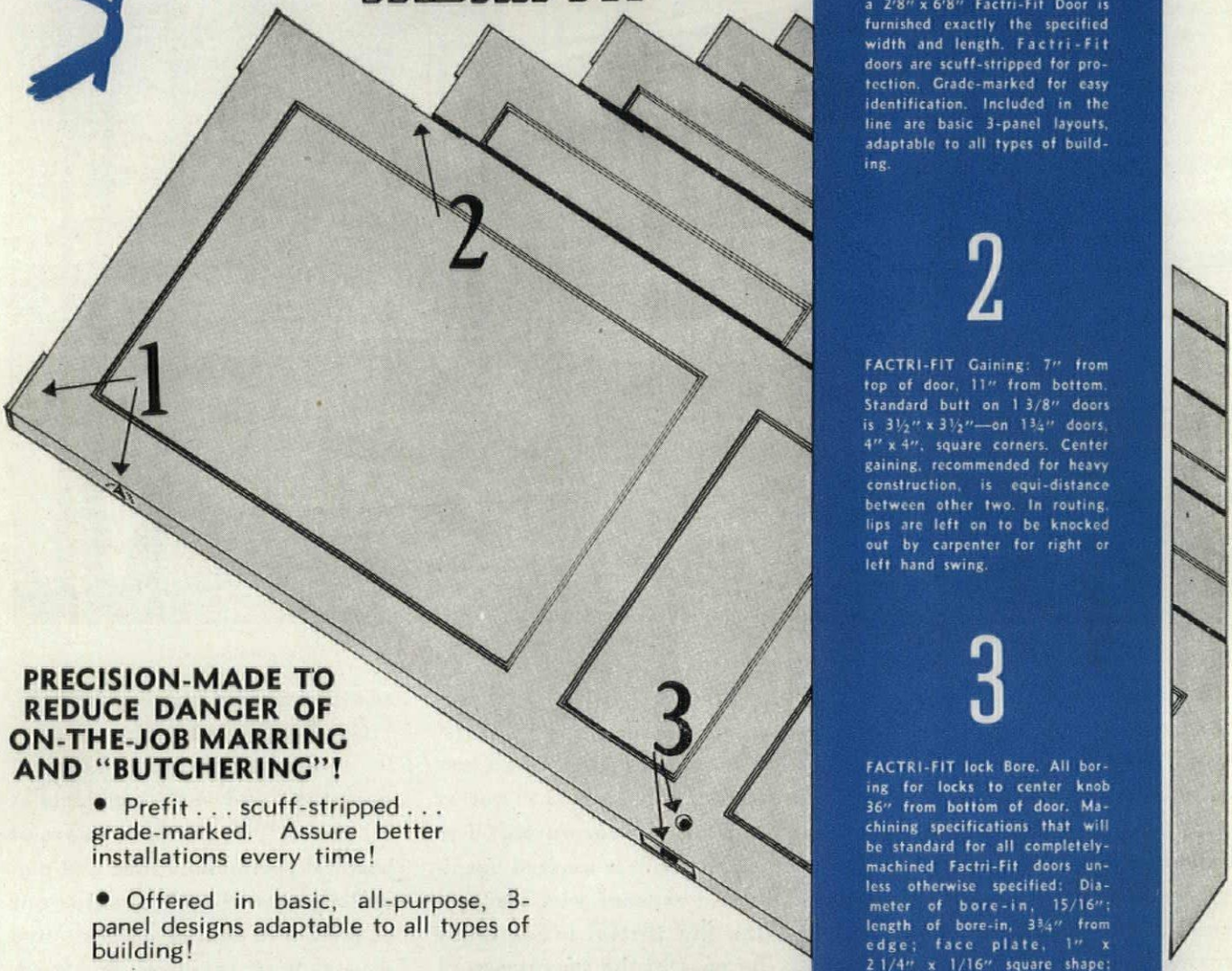

PRECISION-MADE TO REDUCE DANGER OF ON-THE-JOB MARRING AND "BUTCHERING"!

- Prefit . . . scuff-stripped . . . grade-marked. Assure better installations every time!
- Offered in basic, all-purpose, 3-panel designs adaptable to all types of building!
- Easy to specify . . . made to fit standard hardware!
- Available for essential jobs today—for **all** jobs the moment war restrictions are lifted!

1

FACTRI-FIT sizes: Doors prefit to exact net book standard stock sizes listed in the U. S. Commercial Standard 73-43. This means, for instance, that a 2'8" x 6'8" Factri-Fit Door is furnished exactly the specified width and length. Factri-Fit doors are scuff-stripped for protection. Grade-marked for easy identification. Included in the line are basic 3-panel layouts, adaptable to all types of building.

2

FACTRI-FIT Gaining: 7" from top of door, 11" from bottom. Standard butt on 1 3/8" doors is 3½" x 3½"—on 1¾" doors, 4" x 4", square corners. Center gaining, recommended for heavy construction, is equi-distance between other two. In routing, lips are left on to be knocked out by carpenter for right or left hand swing.

3

FACTRI-FIT lock Bore. All boring for locks to center knob 36" from bottom of door. Machining specifications that will be standard for all completely-machined Factri-Fit doors unless otherwise specified: Diameter of bore-in, 15/16"; length of bore-in, 3¾" from edge; face plate, 1" x 2 1/4" x 1/16" square shape; cross bore, 5/8" diameter on 2 3/8" center. Virtually all nationally-distributed bored-in type locks will fit these specifications. Trend today is to bored-in locks. Doors can be ordered mortised, or machined to other specifications, on special order.

Douglas Fir DOORS

FIR DOOR INSTITUTE

Tacoma 2, Washington

Remember! NATURE MAKES DOUGLAS FIR *Durable!*

Durable Douglas Fir Doors are made from all-heartwood, vertical-grain, soft, old-growth Douglas Fir.

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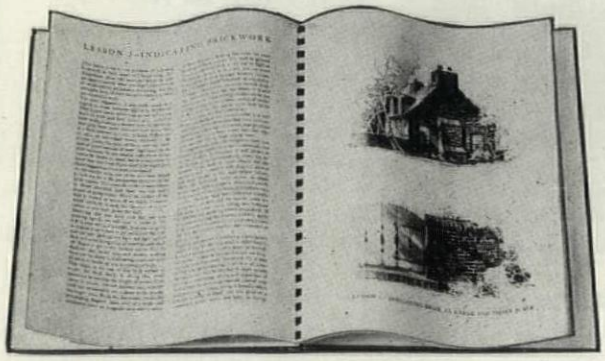

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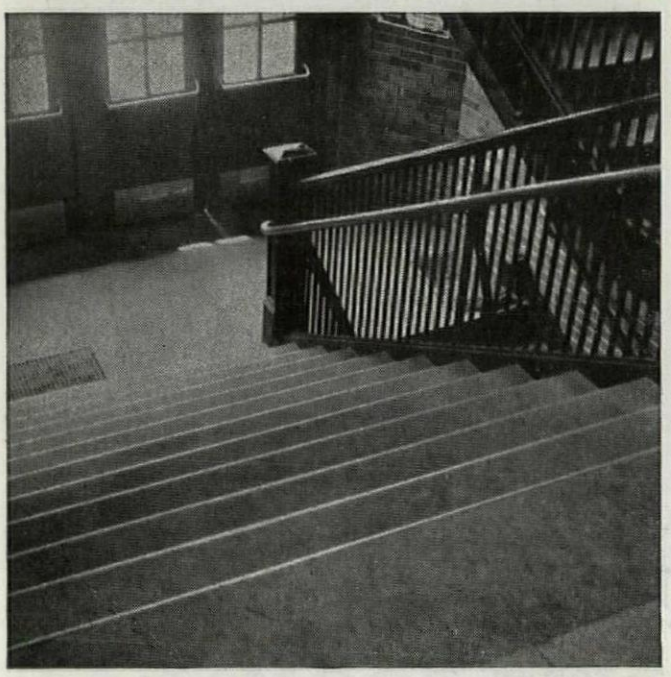
UNDER 880,000 scuffling feet!



Main stairs Garfield School, Danville, Illinois. R-Mir-Dek Coating on treads and landings still in perfect condition though 880,000 scuffling feet, tracking cinders from outside, have used them during one school year.

ON floor, stairs, ramps and platforms in factories, stores, schools and public buildings, and in Army, Navy and Marine service, Miracle R-Mir-Dek is now proving its value as a "coating that can 'take it,' look right, and be safe"—Economical, too, with low maintenance.

Exceptionally resistant to oil, grease, water, mild acids and alkalis and to foot traffic, R-Mir-Dek is also fire-retardant and anti-corrosive. It forms a true, lasting flexible *bond* with steel, concrete or wood, and properly applied will not flake or peel.

Made of plastic resins blended with polymerized oils—with aluminum oxide grains where non-slip properties are desired — R-Mir-Dek Coatings are available in standard colors.

Though today R-Mir-Dek is largely under priorities, it will pay you to investigate now. Write to Miracle Adhesives Corp., 852 Clinton Avenue, Newark 8, N. J.

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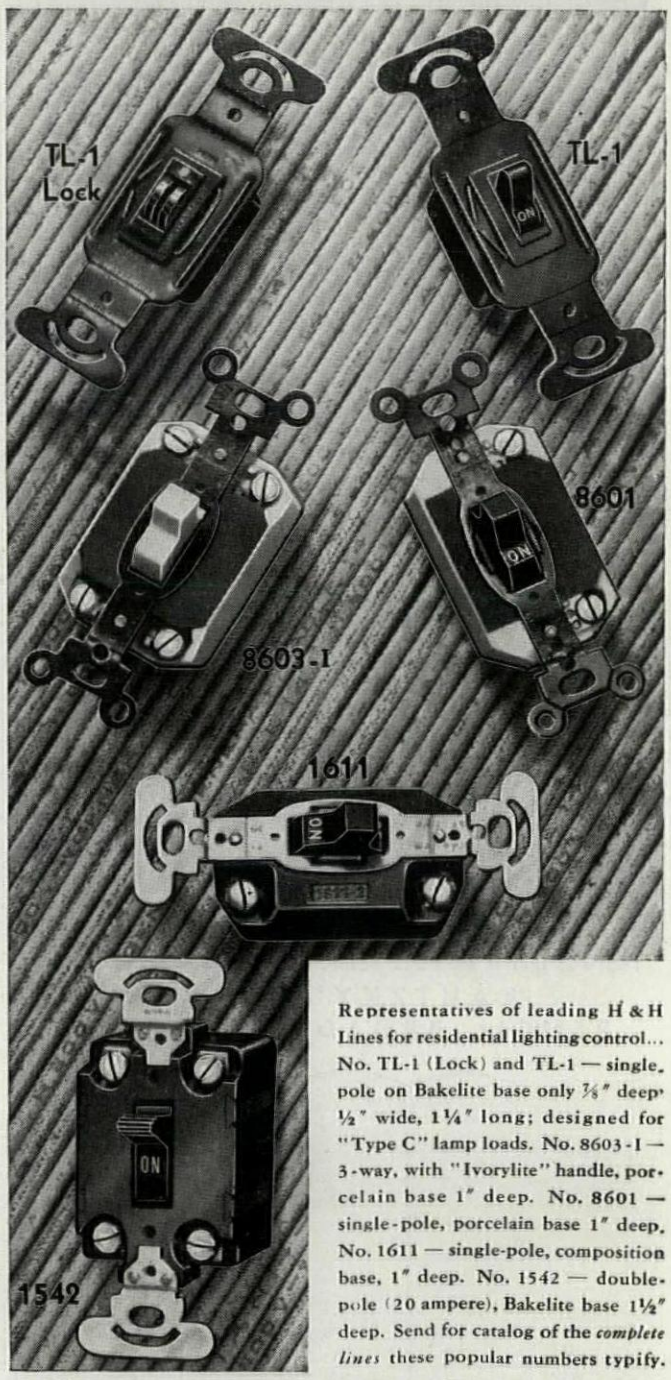
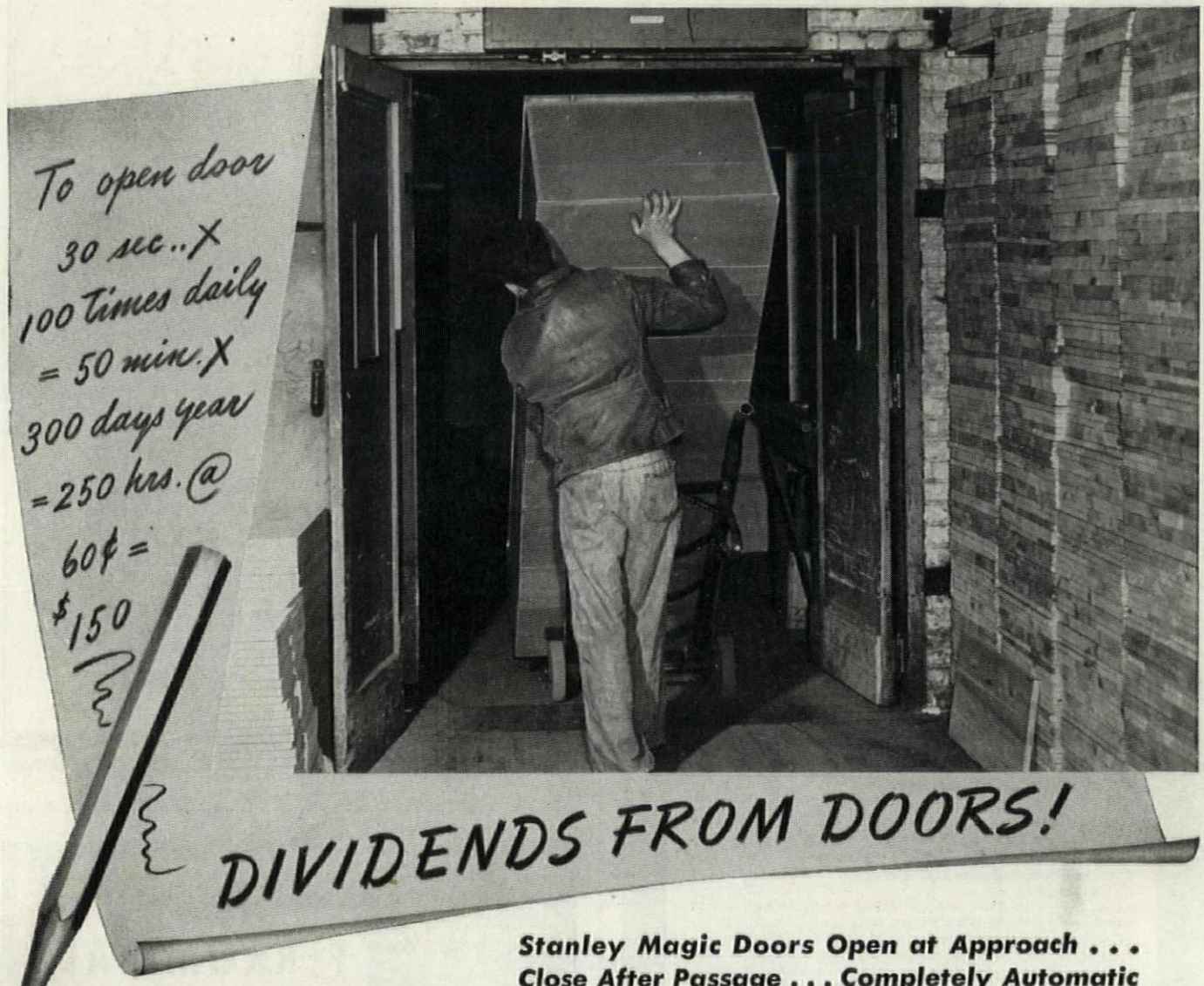
H&H FLUSH SWITCHES



Representatives of leading H & H Lines for residential lighting control... No. TL-1 (Lock) and TL-1 — single-pole on Bakelite base only ⅞" deep, ½" wide, 1¼" long; designed for "Type C" lamp loads. No. 8603-1 — 3-way, with "Ivorylite" handle, porcelain base 1" deep. No. 8601 — single-pole, porcelain base 1" deep. No. 1611 — single-pole, composition base, 1" deep. No. 1542 — double-pole (20 ampere), Bakelite base 1½" deep. Send for catalog of the *complete lines* these popular numbers typify.

HART & HEGEMAN DIVISION

ARROW-HART & HEGEMAN ELECTRIC COMPANY, HARTFORD 6, CONN., U.S.A.



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Stanley Magic Doors Open at Approach . . . Close After Passage . . . Completely Automatic . . . Save Working Time . . . Eliminate Damage and Repair . . . Quickly Repay Their First Cost!

Stanley Magic Doors for stock and shipping rooms, warehouses and industrial plants, have outstanding advantages. Each of these affects such economic items as worker time-saving, accelerated traffic, reduced accidents, heat-saving, and door repair costs.

In time-saving alone, simple figuring shows that seconds saved many times daily at hour rates may well add up to an amount far above cost of the doors. Stanley Magic Doors, actuated by "electric eye", are modern as tomorrow. Yet, their simple, trouble-free streamlined performance has been amply time-tested in industrial and commercial use.

Make Stanley Magic Doors a selling point in your early discussions of building plans. They'll be a credit to your foresight. Stanley will cooperate with you in preparing plans and specifications. Fill out and mail the coupon now.

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The trade-mark that appears on highest quality Butts, Hinges and other Hardware Equipment for commercial, industrial and residential buildings.

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Gentlemen: Please send full information on Stanley Magic Doors for
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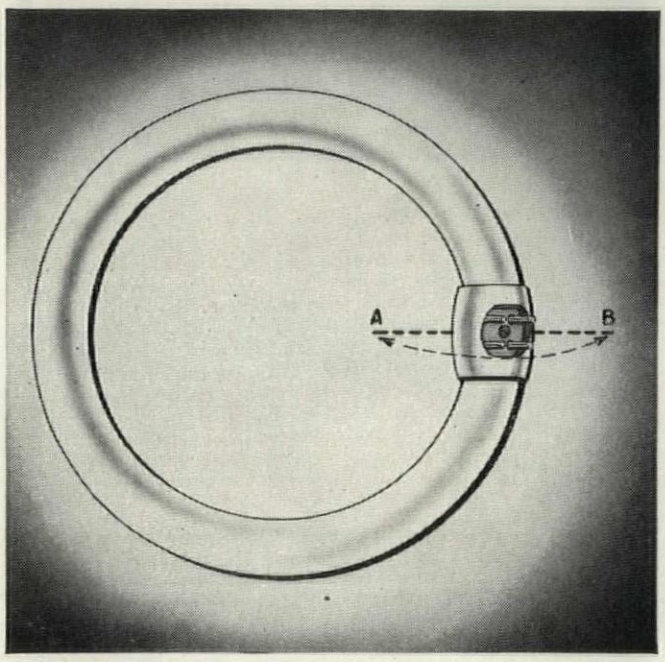
STANLEY MAGIC DOORS

REQUIRE NO HAND TO OPEN

SYLVANIA NEWS
ARCHITECTURAL EDITION

AUGUST *Published by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945



Sylvania Electric's exclusive rotating base for circular fluorescent lamps allows 360° movement of base, as indicated. Translucent plastic base "picks up" light from lamp, completing the ring of light.

EXCLUSIVE FEATURE MAKES CIRCULAR FLUORESCENT LAMP MORE ADAPTABLE

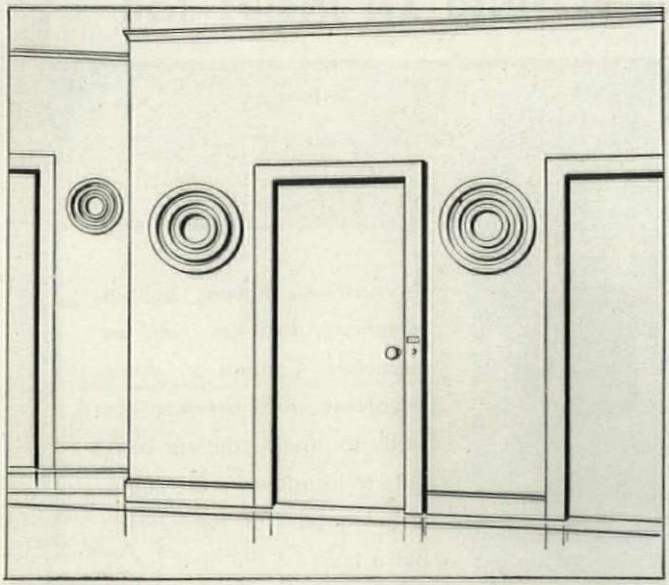
Another "first" by Sylvania Electric comes to the forefront — the circular fluorescent lamp with *rotating base.*

This exclusive Sylvania feature gives a mobility to these attractive and practical "rings of light" that goes far in making them more applicable, more decoratively useful. (Architects will find this particularly true.)

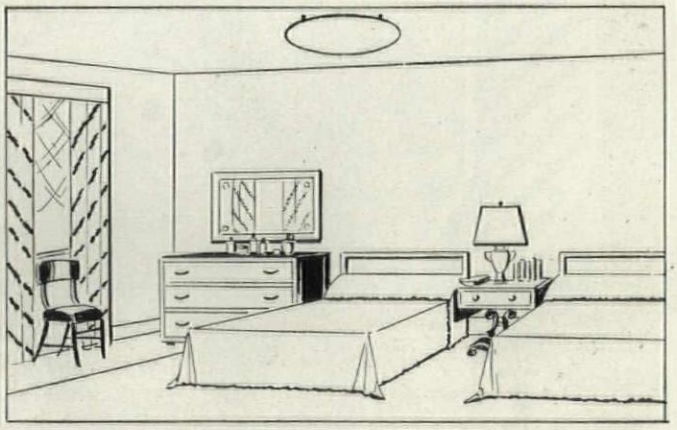
As shown in the adjacent photograph, the Sylvania rotating base enables the base to move in an arc of 180° from the left dotted line position, up and over to the right dotted line indication. By simply turning the lamp over it can be rotated another 180°, affording complete 360° movement.

Another advantage is that this base is made of a translucent plastic which allows "pick-up" of light from the lamp, (forming a *complete* ring of light), without revealing the electrical connections.

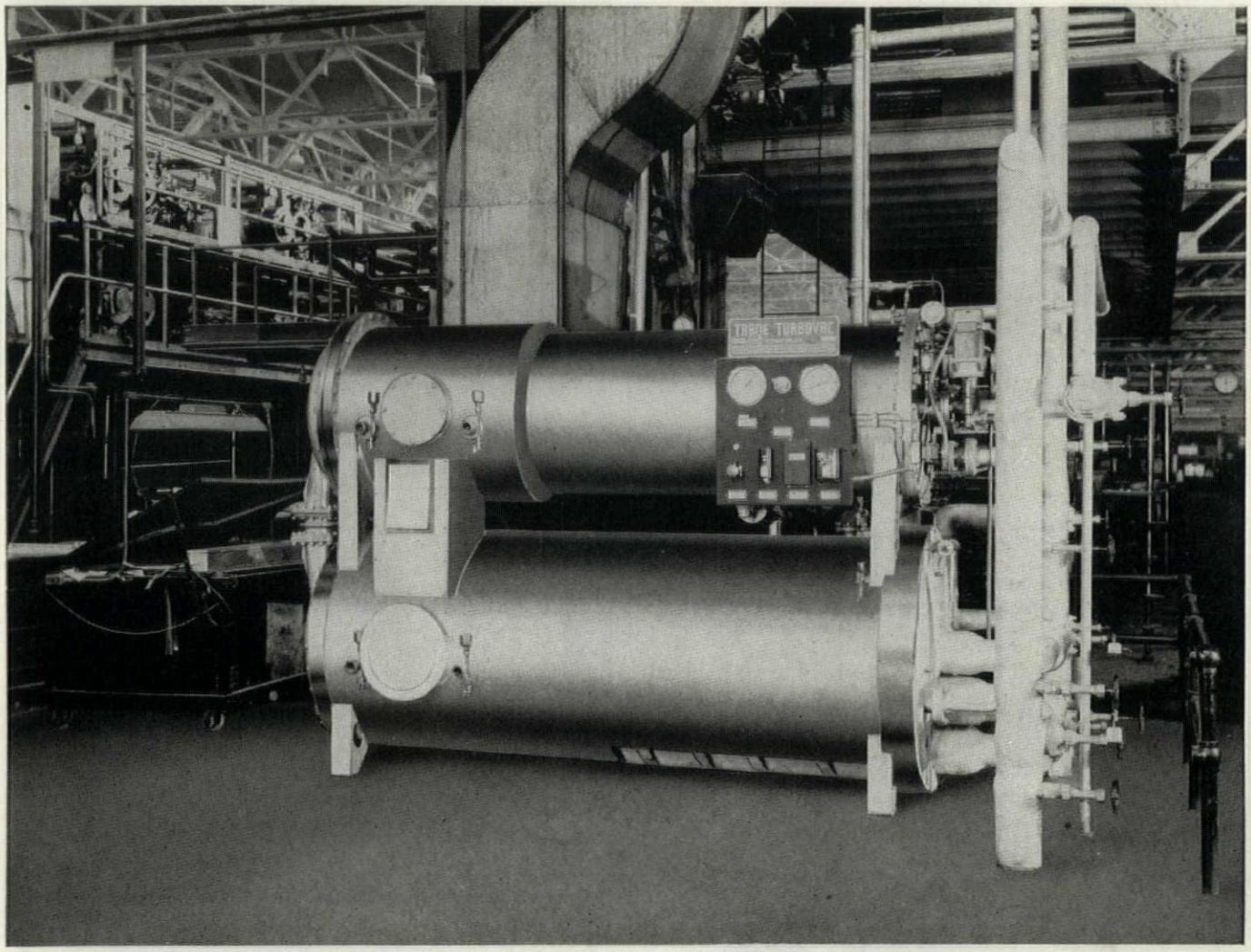
Architects are invited to ask for further information about these circular fluorescent lamps—Sylvania Electric Products Inc., Salem, Massachusetts.



To be made in three sizes (nominal outside diameters: 8½", 12", 16"), Sylvania circular fluorescent lamps will be readily adapted for a great many commercial uses—a few of which are illustrated here.



Architects will be interested in noting attractive ceiling fixture, made by combining all three sizes of circular fluorescent lamps — especially suitable in bedrooms, for cool, diffused lighting.



HOW TRANE EQUIPMENT IS COOLING *HOT PAPER*

At the W. F. Hall Printing Company, Chicago, mammoth rotary presses print four superimposed colors on both sides of a web of paper traveling at high speed.

To eliminate smearing or smudging at maximum operating speeds it was necessary to install a gas drying oven which operated at 1500°. However, this raised the temperature of the paper to a point where it was no longer possible to maintain a high standard of accurate color register.

The problem was solved by installing two 70-ton Trane Turbo-vacuum compressors to cool the paper to normal room temperature . . . accomplished by supplying chilled water from the versatile Trane Turbo-vacuum compressors to rolls, around which the heated paper passed after the drying operation. These water cooled rolls restored the paper to the normal temperature necessary for the extremely accurate color register.

This is just another case where Trane, manufacturing engineers of cooling, heating and air handling equipment, has been called upon to solve an unusual problem in industry.

For the architects, engineers, contractors, builders of America who are planning today for tomorrow's building and processing, Trane has the products, the knowledge, and the production facilities. When you have a cooling problem, whether for comfort or process, call on Trane first.

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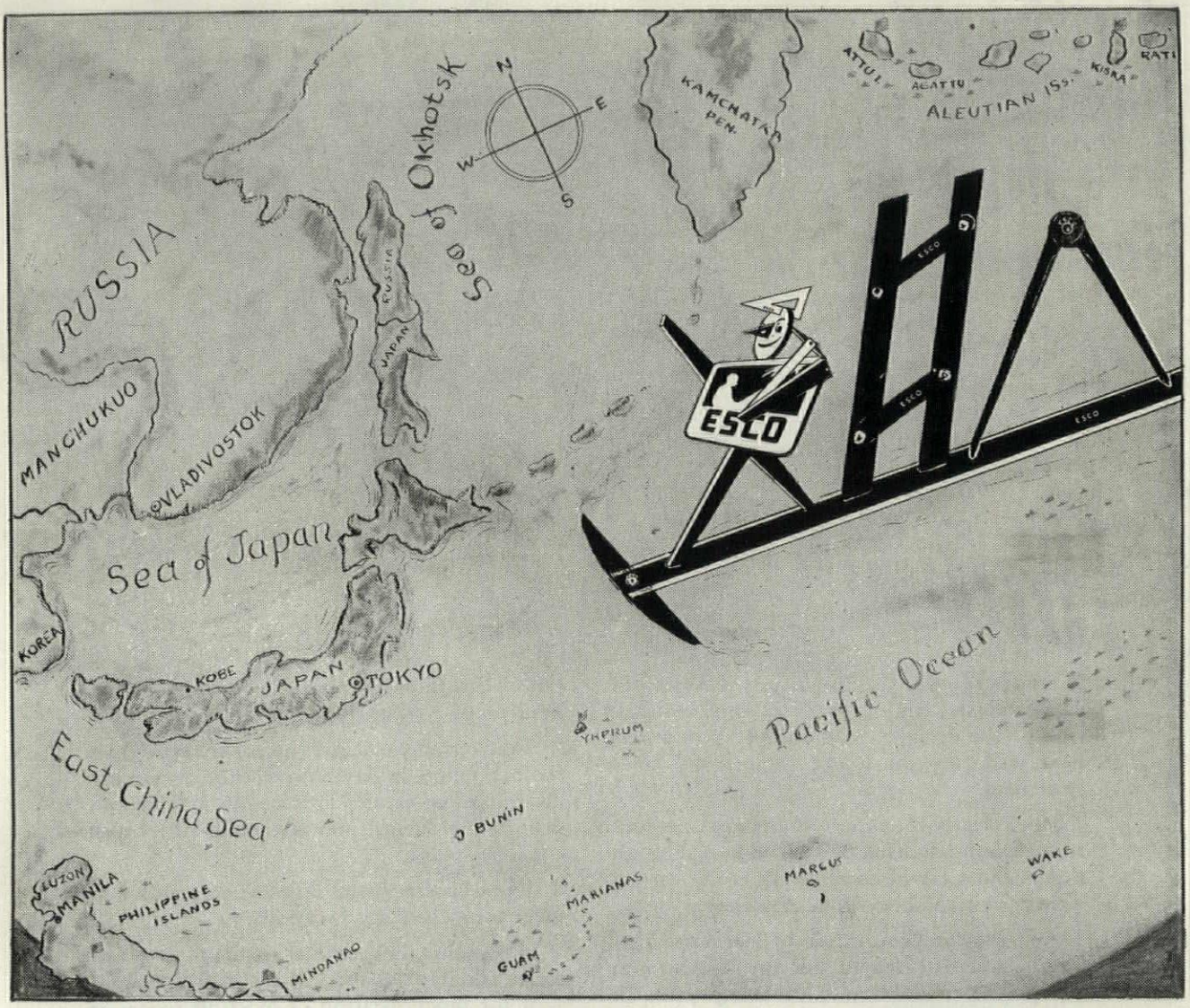

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3 A trouble-free Todd installation tailored to meet your exact specifications.

In planning the construction of post-war factories, commercial and institutional structures —or for modernization of existing types—it always pays to call in a Todd engineer for consultation. He's ready today to help *you* get your client's boiler plant ready for tomorrow.

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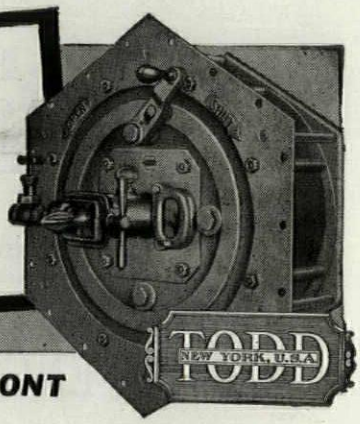

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