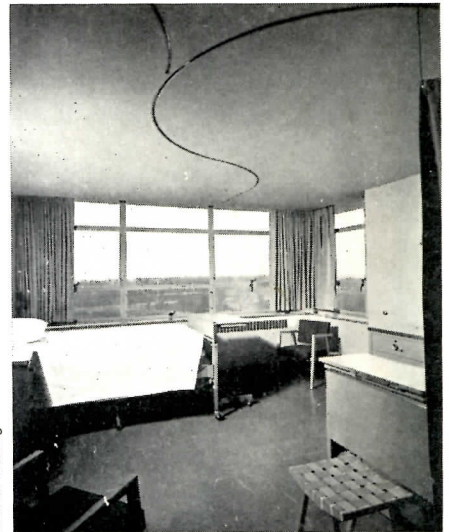


ARCHITECTURAL RECORD



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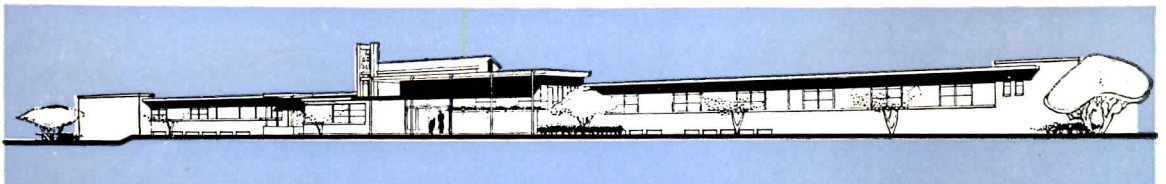
Hedrich-Blessing

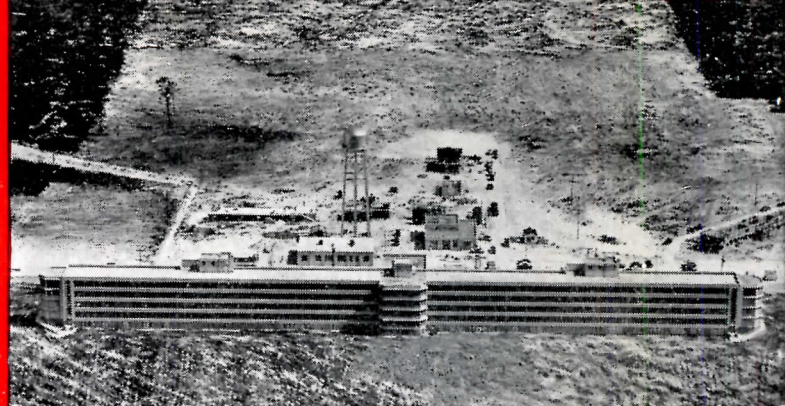
Among the concerns of our government for the human problems of our citizens, the subject of health ranks high. For only as our citizens enjoy good physical and mental health can they win for themselves the satisfactions of a fully productive, useful life.

Pres. Dwight D. Eisenhower

BUILDING TYPES STUDY NUMBER **208**

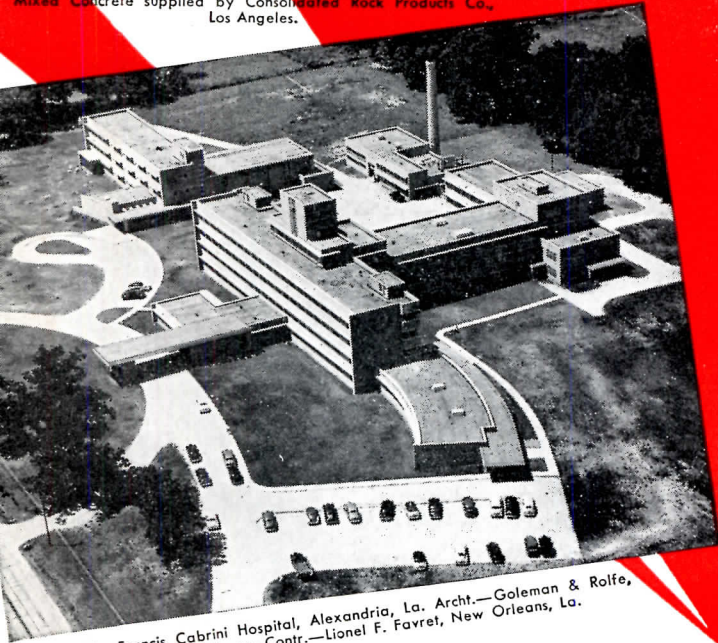
HOSPITALS





St. Francis Hospital, Lynwood, Calif. Archt.—Geo. Adams, Glendale, Calif.; Struc. Engr.—E. C. Hillman, Jr., Los Angeles; Contr.—J. K. Thomas & Theo. Beyer, Los Angeles. Pozzolith Ready-Mixed Concrete supplied by Consolidated Rock Products Co., Los Angeles.

Southeast Fla. State Sanatorium, Lantana, Fla. Archt. & Eng.—Reynolds, Smith & Hills, Jacksonville; Archt. (Assoc.) Chas. K. Kuhn, Jacksonville; Contr.—Arnold Constr. Co., Palm Beach. Pozzolith Ready-Mixed Concrete supplied by Burnup & Sims, W. Palm Beach.



St. Francis Cabrini Hospital, Alexandria, La. Archt.—Goleman & Rolfe, Houston, Texas; Contr.—Lionel F. Favret, New Orleans, La.

U. S. Veterans' Hospital, Dearborn, Michigan. Archt.—Plans by U. S. Government, Veterans' Administration; Contr.—F. H. McGraw Construction Company, New York City. Pozzolith Ready-Mixed Concrete supplied by F. J. Knight Co., Centerline, Mich.

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March 1954 Vol. 115 No. 3

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If You Were Planning a Cathedral

It sounds like a strange assignment, but after Coventry Cathedral was bombed out during the war, 219 architects entered a competition for the replacement. Here was a battleground in a different war. **Basil Spence**, the architect whose scheme was premiated, managed a design in contemporary materials and methods with much sympathy for liturgical traditions.

A Contemporary Expression of Cathedral Traditions. *By Basil Spence, O.B., A.R.A., A.R.S.A.* 143

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President Eisenhower suggested a broadening of the Hill-Burton hospital program to embrace several new types of health facilities. But he also asked for extension of the normal hospital building program, and expressed approval of the manner in which the hospital program has been handled. This study shows the latest thinking in planning both the hospitals and the new health program ahead.

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Emphasis on Design by Architects

Houses can be designed by anybody, or so most people seem to think. But just try to conceive of a plan-book house plunked down on a very special site. When an architect works on such a problem . . . well, our three houses this month were selected to demonstrate how three architects actually did it.

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THE RECORD REPORTS

P E R S P E C T I V E S

INVITATION TO ARCHITECTS: Housing and Home Finance Agency Administrator Albert M. Cole says he is "all for anything that will unfreeze design" of housing. The A.I.A.'s proposal for an industry-wide committee to revise FHA Minimum Property Requirements — Mr. Cole said he, and, he was sure, FHA Commissioner Guy Hollyday, would welcome any proposals which aimed at freeing design.

A GREAT RELIGIOUS ARCHITECTURE can only arise out of a great religious faith," says Dr. Harry C. Atkinson of New York, director of the National Council of Churches' Bureau of Church Building. A marriage of architecture and theology rooted in university and seminary training is needed, Dr. Atkinson suggests, to avoid the pitfalls of church design that lacks "spirituality" on the one hand or ignores modern trends on the other. Dr. Atkinson spoke before an Institute on Church Architecture held last month in Philadelphia under the joint sponsorship of the Philadelphia Council of Churches, the Philadelphia Chapter of the American Institute of Architects and his own organization. He called on practicing architects "to enter into the function of the modern church with sympathy"; as for churchmen, they were told: "It is a major task of the churches to encourage our architects . . . to use new materials and new methods, and to apply them to forms of edifices that express honestly the religious faith of our times. Likewise, our church leaders might well lay open their minds to understanding the difficult and challenging problem which confronts the designing architect."

MOTELS NOW OUTNUMBER HOTELS 2 to 1, according to *American Motel Magazine*, which recently completed

its second exhaustive survey of the motel industry. Total number of motels recorded: 50,576 — compared with 43,356 when the magazine made its first survey in 1951. The leading motel state, California, has a big edge on Florida in this department — 7330 to 4124 — but Florida does take second place. Other leaders: New York (3305); Texas (3214); Oregon (2405); Colorado (1932); Michigan (1808); Minnesota (1381); Pennsylvania (1374); Washington (1211); Arizona (1192); Missouri (1191); Wisconsin (1106). At the bottom of the list: North Dakota (141); Rhode Island (77); and Delaware (46).

POWER STATIONS OF THE FUTURE — and what else? — may be radically different in design if the implications of the tiny atomic battery which has been developed by the Radio Corporation of America are not misread. The battery converts nuclear energy directly into small but usable amounts of electrical energy — as R.C.A.'s David Sarnoff demonstrated at a New York press conference by hooking the battery to an old-fashioned telegraph key and tapping out a hopeful first message: "Atoms for peace," it began. Until now, said Dr. E. W. Engstrom, executive vice president in charge of the R.C.A. Laboratories Division, "power from the atom has been used in much the same way as coal in the furnace of an electric power plant. All the remainder of the plant remained unchanged — boilers, and an engine or turbine driving a massive electric generator. Only the nature of the fuel was altered when nuclear energy replaced coal or oil. But if the promise of the R.C.A. atomic battery is ultimately fulfilled on a large scale, the power plant of that day would have only an atomic generator." The insistent rattling of the atom was heard also, in the same cold January week, from the

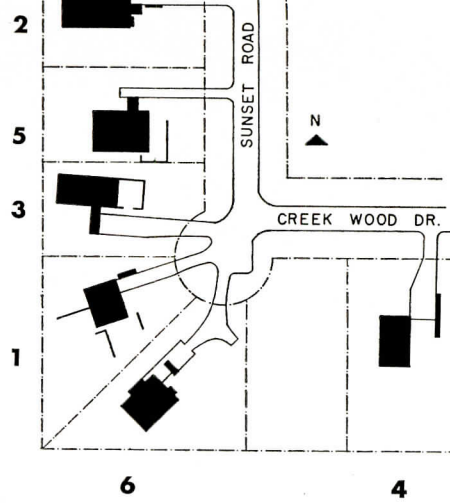
small Connecticut town of Groton, where Mrs. Dwight D. Eisenhower christened the *Nautilus*, the world's first atomic-powered submarine. The usual champagne, and the usual words, except for a fateful name.

WONDERS OF CHICAGO: The American Society of Civil Engineers, which has been conducting a nationwide survey to select the "Seven Engineering Wonders of the United States," now has the vote from its Illinois section on the Seven Engineering Wonders of the Chicago metropolitan area (for New York's, see July 1953, page 9). The Chicago "Wonders": (1) Lake Shore Drive and Park Development (1600 acres reclaimed from Lake Michigan); (2) South Chicago and Gary steel mills; (3) Sanitary and Ship Canal (a project which made it possible to reverse the flow of the Chicago River); (4) Bascule Bridges over the Chicago River; (5) the Merchandise Mart; (6) the sewage disposal system (which includes 243 miles of intercepting sewers and three large treatment plants — one the largest of its type in the world); (7) "The First Skyscraper" — William LeBaron Jenney's Home Insurance Building (1885).

William LeBaron Jenney's Home Insurance Company Building, Chicago (1885), chosen by Illinois civil engineers as one of "Seven Engineering Wonders" of Chicago area



THE SITE
Research Village, Barrington Woods,
Barrington, Illinois



PLAN CONSTRUCTION OF 'RESEARCH VILLAGE' WITH HOUSES BY SIX ARCHITECT-BUILDER TEAMS

THE UNITED STATES GYPSUM COMPANY, a major manufacturer of building materials, has launched a promotion project which focuses on an area that can use a lot of promotion — architect-builder-manufacturer teamwork in the design and construction of low-cost houses.

The project has brought together six architect-builder teams, chosen to represent every section of the country, as the progenitors of six houses — all under 2000 sq ft in floor area and most under 1500 sq ft — each designed by an architect who worked with a builder teammate checking his scheme for construction "practicality" and "sales ideas." The six houses will go under construction early this spring on a wooded site in Barrington, a Chicago suburb; the development, to be known as "Research Village," will get the widest publicity U. S. Gypsum can manage as a laboratory of ideas for low-cost houses.

Primary objectives of the project as set up by the company are:

1. To contribute new design and construction ideas, particularly for the project homebuilder.
 2. To create new uses for building materials.
 3. To create more livability, comfort, safety and value for the homeowner.
- "The idea," the company is careful to say, "was to build six low-cost houses with ideas that could be duplicated — not houses that would be duplicated in their entirety."

Architects were free to use the materials of any manufacturer. In the course of the several planning sessions in Chicago, however, U. S. Gypsum naturally saw to it that all its building materials came under the architects' scrutiny, and now reports — as one early by-product of the project — that it has started several research projects based on product needs the architects suggested.

The six "teams": Harris Armstrong, A.I.A., Kirkwood, Mo. — Don Drummond, Kansas City; Gilbert H. Coddington, A.I.A., Columbus — Alex Simms, Dayton; O'Neil Ford, A.I.A., San Antonio — Frank Robertson, San Antonio; A. Quincey Jones Jr., A.I.A., Los Angeles — Joe Eichler, Palo Alto; Francis D. Lethbridge, A.I.A., Washington — Luria Brothers, Arlington, Va.; Hugh Stubbins Jr., A.I.A., Lexington, Mass. — Leonard Frank, Hempstead, N. Y.

Architects were selected, from the 36 of 40 nominated who expressed interest in participating, by an architectural advisory panel consisting of Morgan Yost, F.A.I.A., Kenilworth, Ill.; John Root, F.A.I.A., of Holabird & Root & Burgee, Chicago; and Richard Bennett, F.A.I.A., of Loeb, Schlossmann & Bennett, Chicago. A builders' advisory panel set up by the National Association of Home Builders selected their builder teammates.

THE SIX TEAMS

NORTHEAST



Architect-Stubbins

Builder-Frank

SOUTHWEST



Architect-Ford

Builder-Robertson

MIDWEST



Architect-Coddington

Builder-Simms

MIDWEST



Architect-Armstrong

Builder-Drummond

PACIFIC COAST



Architect-Jones

Builder-Eichler

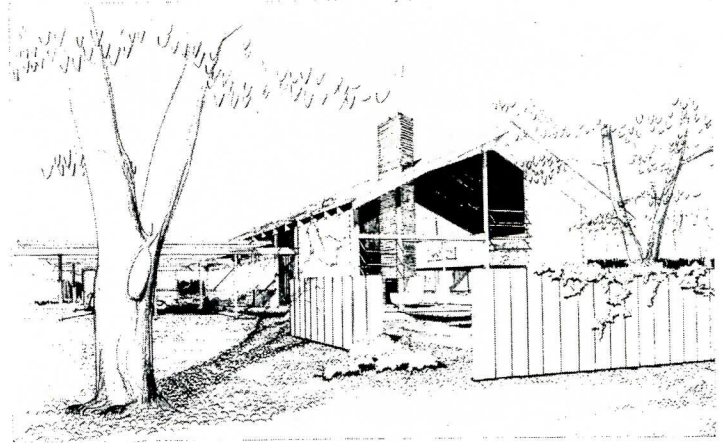
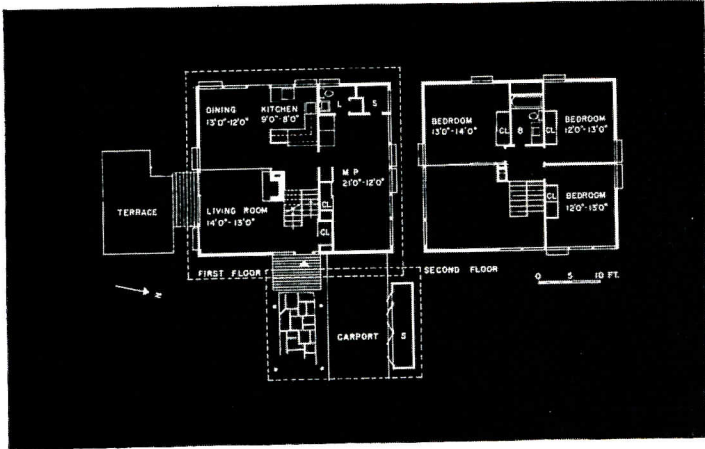
SOUTHEAST



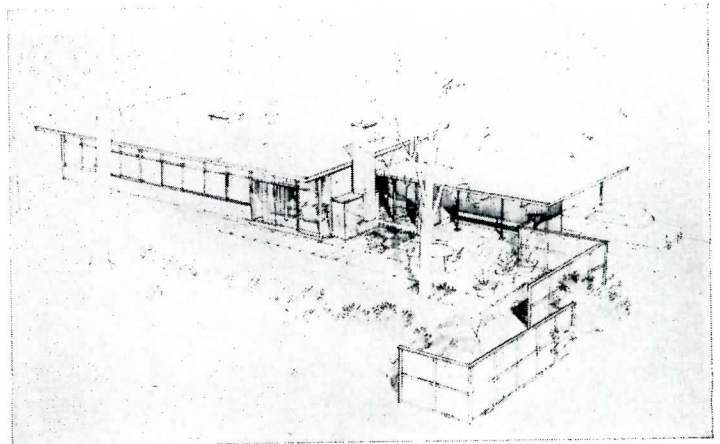
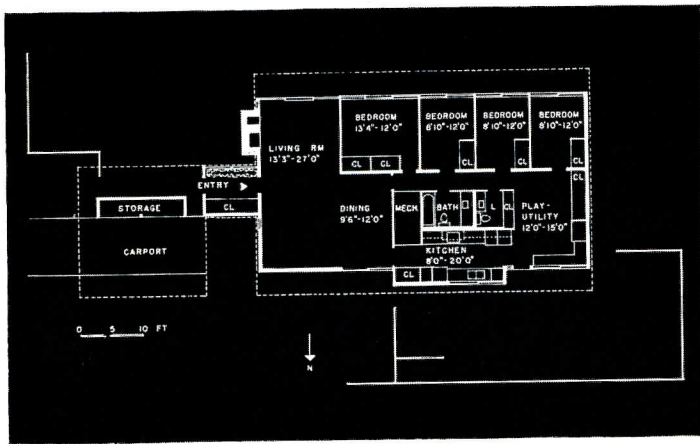
Architect-Lethbridge

Builder-Luria

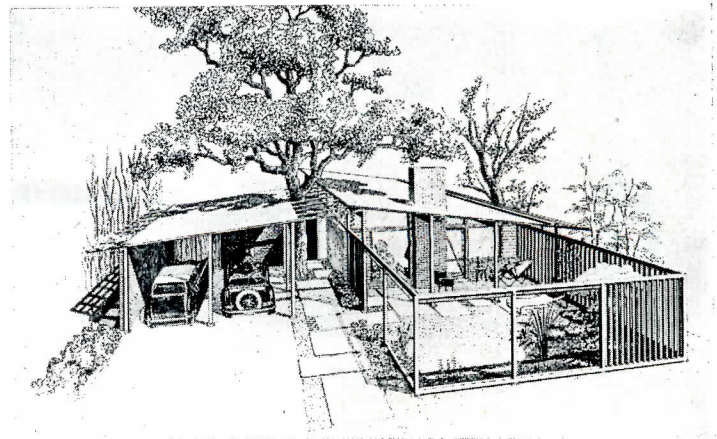
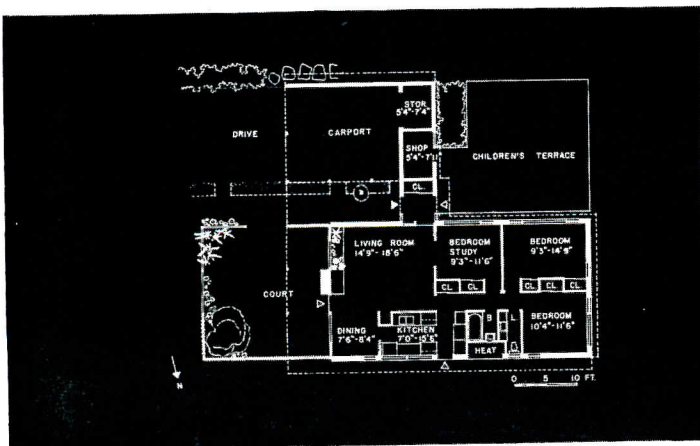
THE SIX HOUSES



- 1** STUBBINS-FRANK house gets 1404 sq ft of usable floor space from an area 32 ft 8 in. by 26 ft. Only the living room is at entrance level: kitchen, dining room, multipurpose room with bath are down 3½ ft; three bedrooms and bath are up 3½ ft. Sliding wall panels, open stairway create more "space"



- 2** FORD-ROBERTSON house, less than 1624 sq ft in floor area, has four bedrooms, generous living room with built-in TV center on one side, conversation center around fireplace opposite. TV center provides extra storage space, partition between living and dining areas. Roof will be concrete lift-slab

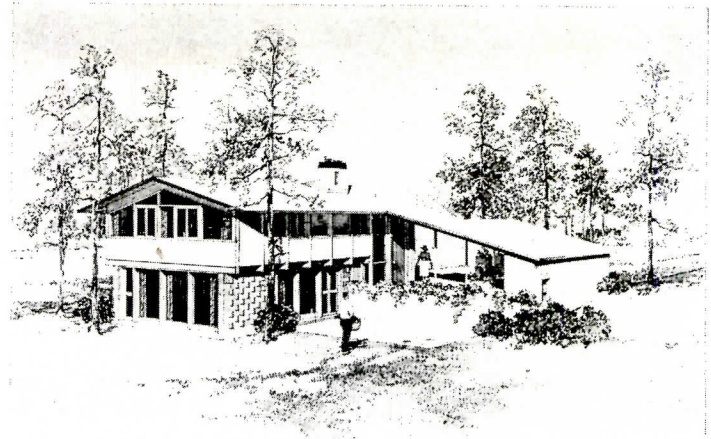
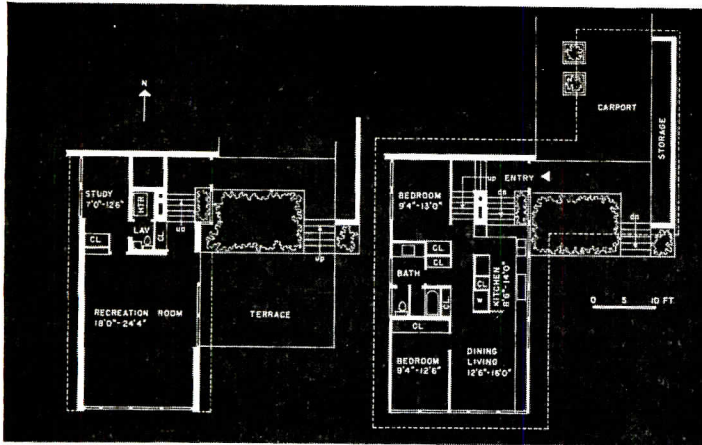


- 3** ARMSTRONG-DRUMMOND house offers such amenities as a workshop, extra storage in the carport, convertible study-sleeping quarters, a large patio, a central hallway for easy circulation. Living room has floor-to-ceiling windows next to patio. Basic structure contains 1174 sq ft of floor space

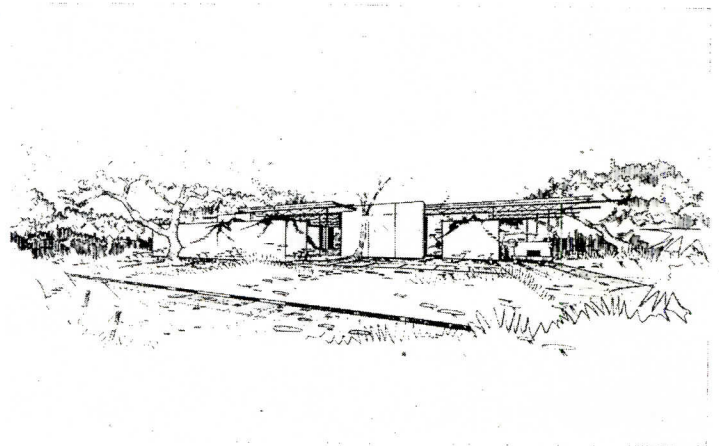
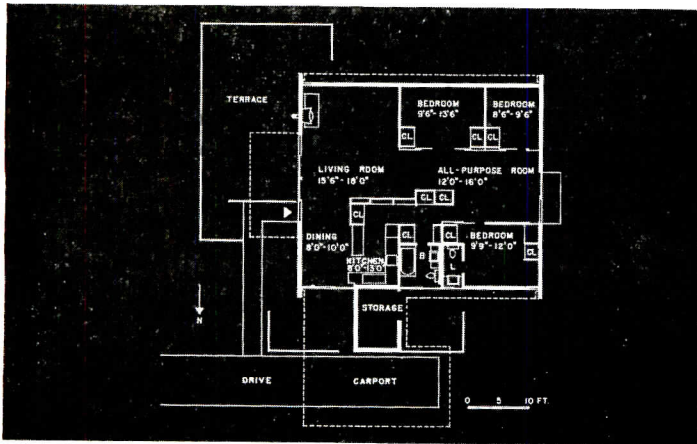
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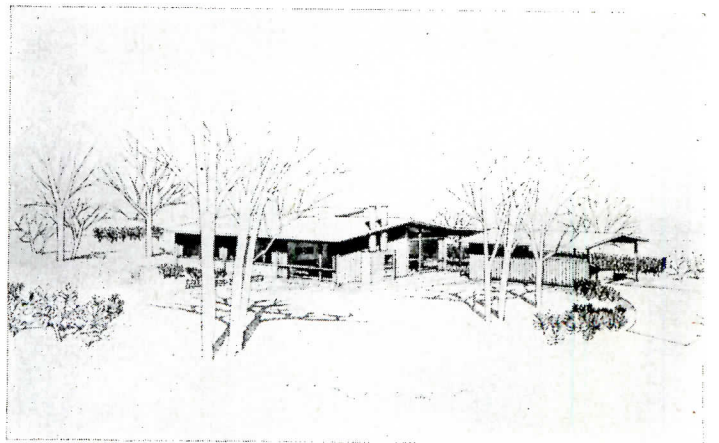
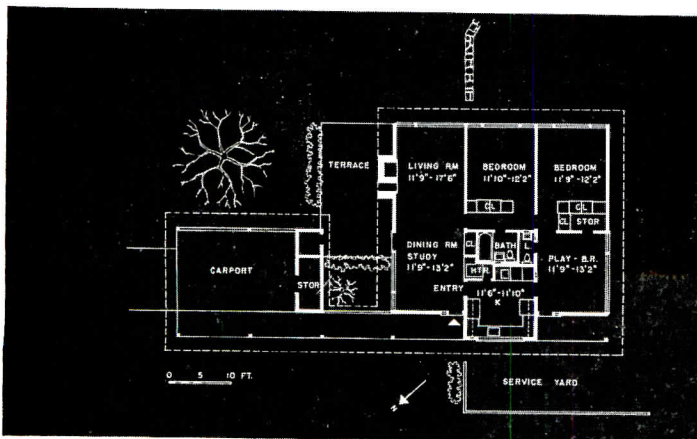
THE SIX HOUSES (Continued from page 11)



- 4** CODDINGTON-SIMMS house is another tri-level design for a sloping lot. Its kitchen "housewife supervisory" area on top level has easy view of both front door and ground level patio play area. Kitchen cabinets and counters take advantage of wall area kept low to cut materials and construction costs



- 5** JONES-EICHLER house claims three special advantages—flexibility, high fire resistance, quick construction. Floor plan is on 7-ft module, can be turned in any direction, with carport on any side; partitions are non-load-bearing. Steel structure will be left exposed on interior. Floor space: 1395 sq ft



- 6** LETHBRIDGE-LURIA house uses zoned plan to achieve some degree of privacy for all the family—master bedroom is buffer between living room and children's bedroom. Kitchen and laundry are in center point for housewife supervision of all areas. This scheme, one of three by team, has 1089 sq ft

(More news on page 15)

\$32,500 Competition

THE RICHEST architectural competition in many a long year has been announced in Chicago, where 30 years ago the \$20,000 Tribune Tower competition was rocking the architectural world. The Carson Pirie Scott and Company Centennial Competition in City Planning offers a \$20,000 first prize and \$12,500 in additional prizes for a plan for the redevelopment of the Central Commercial District of Chicago which will "obtain increased efficiency in the functions of the district, enhancement of the physical facilities, improved convenience to the public and addition of esthetic qualities to the environment." The competition, which has the approval of the Committee on Competitions of the American Institute of Architects, is open to "architects, engineers, city planners, students of these professions and persons in allied occupations who are residents of the continental United States." Team participation is welcomed. Howard L. Cheney, F.A.I.A., is professional adviser. Programs and a data kit, including base plans, are available from: Centennial Office, Carson Pirie Scott and Company, One South State Street, Chicago 3, Ill. The competition closes July 1.

The Shape of the Convention

THREE MONTHS till the 1954 national convention of the American Institute of Architects, and some of the plans for that 86th annual event reached an-

nouncement stage last month. "Forces that Shape Architecture" is the theme; Philip Creer of Providence, R. I., New England A.I.A. regional director, is convention chairman, with James Lawrence Jr. of Boston, president of the Massachusetts State Association of Architects, as chairman of the host chapter convention committee; the sixth annual Honor Awards Program will offer special honors in school and hospital design in addition to the general awards. Recipients of the annual Gold Medal, Fine Arts Medal, Craftsmanship Medal and Edward C. Kemper Award for Service to the Institute, presented at the convention each year, will be designated by the A.I.A. Board of Directors at their Washington meeting early this month. The building products exhibit by 69 manufacturers and distributors, co-sponsored by the Producers' Council, this year will have its own awards—citations for the best display booths.

Masonry vs. Metal

HOW TO COPE with "the current threat which the substitution of so-called skin-metal facing for full masonry construction is making against the stone industry" was the major theme of the sixth national convention of the reactivated Stone Council of the International Cut Stone Contractors and Quarrymen's Association in Washington, D. C. The convention voted a substantial program of advertising and promotion; it also set up committees to find new methods of

producing and fabricating stone to reduce its final cost and new methods of setting and applying stone "to reflect current tendencies in architectural design." Douglas Whitlock, president of the competing Structural Clay Products Institute, was the convention's keynote speaker. He urged collaboration of the masonry products industries to meet the "common problem" of competition from metal construction.

Medallion contributed for Society of Architectural Historians' fifth annual book award by Prof. Henry-Russell Hitchcock of Smith College in memory of his mother is Wedgewood medallion in white on black jasper in pewter frame of the architect James Stuart (1713-1788). It was modeled by William Hackwood



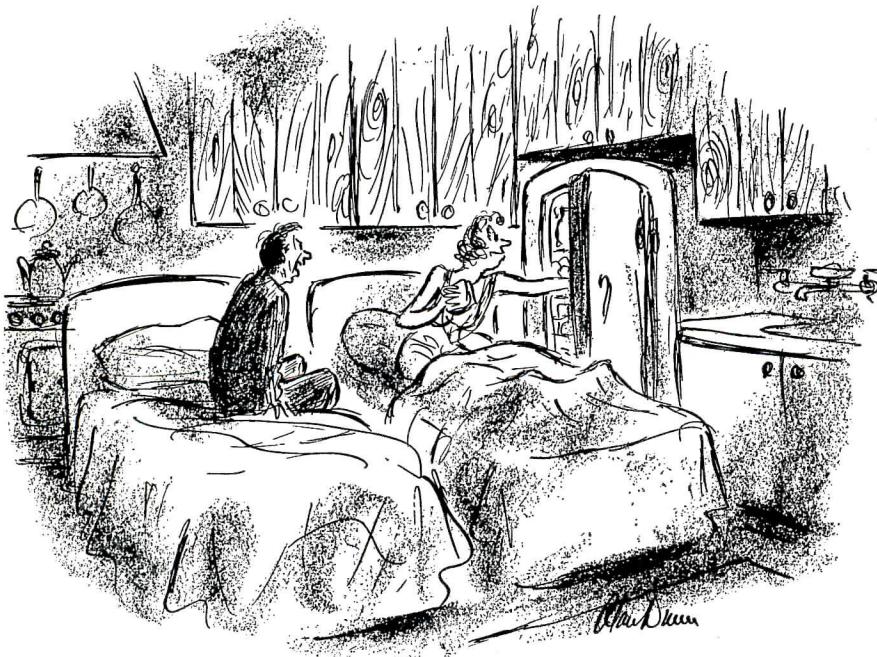
Top Architectural Histories

THOMAS HOWARTH, English writer, teacher and architect, has won the fifth annual book award of the Society of Architectural Historians for his book "Charles Rennie Mackintosh and the Modern Movement" (see page 46) published in 1953 by the Wittenborn Publications of New York City. Two other books received honorable mentions: "Architecture in Britain 1530-1830" by John Summerson (Penguin Books) and "The Church of St. Martin at Angers" by George H. Forsythe (Princeton University Press).

Honors to Architects

THE AMERICAN ACADEMY of Arts and Letters, the nation's highest representative body of the arts, has elected an architect, Arthur Brown Jr., F.A.I.A., of San Francisco, as one of four new members. Election to the Academy, which has a life membership of 50, designates the nominee as "a creative artist whose works are most likely to

(Continued on page 16)



—Drawn for the RECORD by Alan Dunn

"I didn't mind bringing the dining room into the kitchen—or the living room into the kitchen—but—!"

THE RECORD REPORTS

(Continued from page 15)

achieve a permanent place in American culture."

THE NATIONAL INSTITUTE of Arts and Letters, a group of 250 American citizens "qualified by notable achievements in the arts, music or literature," has named Architect Eero Saarinen, F.A.I.A., of Bloomfield Hills, Mich., among five new lifetime members. James Kellum Smith, F.A.I.A., of New York, has been elected one of two new vice presidents. Membership in N.I.A.L. is one of the prerequisites to membership in the American Academy.

More Basements?

CONCRETE BLOCK production has quadrupled in the past 12 years, but the prognosis for 1954 is for only a small increase, according to an address at the 34th annual convention of the National Concrete Masonry Association last month by E. W. Dienhart, the Association's executive secretary. The drop in volume

in the house basement market has been of prime concern to the concrete block industry, Mr. Dienhart noted, but he added: "We are firmly convinced that at least in the northern areas the swing is back toward the inclusion of basements in home construction." Of the total volume of concrete block production, Mr. Dienhart said, 57 per cent is used in nonresidential buildings, 11.2 per cent in schools; 37.3 per cent in residential construction; and 4.3 per cent in government construction, largely (3.1 per cent) for public housing.

Labor Offers Cost Aid

COOPERATION WITH CONTRACTORS to reduce building costs was offered by the building trades after a session of the Building and Construction Trades Department of the American Federation of Labor last month in Miami Beach. Taking cognizance of reports from its affiliates across the nation of toughening competition, the Department authorized appointment of committees to work

with contractors for the elimination of practices tending to boost building prices. Joseph D. Keenan, the Department's secretary-treasurer, said the present problem is to convince investors that they can get more for their money by having union labor perform their work. The Department represents about two million workers.

Who's Who

ELECTED or re-elected at recent meetings:

John McC. Mowbray of Baltimore, president of the *Urban Land Institute*, independent research organization in urban planning and development, with headquarters at 1737 K Street N. W., Washington 6, D. C.

D. A. Rhoades of Oakland, Cal., as president of the *Aluminum Association*, 420 Lexington Avenue, New York 17.

John E. Jackson, of Pittsburgh, as president of the *American Institute of Steel Construction*, 101 Park Avenue, New York 17, N. Y.

N.A.H.B. SETS GOAL: 1,400,000 HOMES A YEAR

THE TENTH ANNIVERSARY CONVENTION of the National Association of Home Builders, held January 17-21 in Chicago, was — as advertised — the N.A.H.B.'s biggest show ever. "More than 20,000" was the estimate on attendance; for the first time two hotels, the Sherman and the Conrad Hilton — were needed to handle all the exhibits, discussions,

speeches, "presentations" and "demonstrations" included in the program; the building products exhibit — with 520 individual booths set up by 315 manufacturers — was thought to be the largest exposition of building materials ever held — in space terms it took well over 100,000 sq ft of floor area.

Home builders assembled in optimistic mood — on the business outlook in general and their own expectations in particular. "Close to a million units" was the 1954 level predicted by outgoing President Emanuel M. Spiegel; at their closing session N.A.H.B. delegates set a goal for their industry of 1,400,000 units annually for the next 10 years — a new peak their policy statement said was justified by population gains and the need for replacement of millions of substandard homes.

Prospects for 1954 homebuilding and "how-to-do-it" workshops got the major program emphasis. Government officials talked on mortgage financing, trade-in homes, housing for minorities, and the legislative probabilities and possibilities in the development of the new housing law. Industry men discussed taxes, selling methods, land planning, management, merchandising, rental housing, design and public relations. There were special sessions devoted entirely to prefabricated housing, building large subdivisions and selling them, and interior

decoration. The program featured actual demonstrations on how to build better at lower cost, movies, slides and even a stage show to demonstrate proper wiring methods.

The point that good design can help sell builders' houses appears to have been made, at least in principle, and architects are more visible at the builders' convention than they used to be.

They were major participants in two sessions at this year's convention. In one, the architects of the U. S. Gypsum Company's Research Village (see pages 10-12) joined their builder team-mates to tell "How the U. S. Gypsum Houses Were Designed." Another, forthrightly entitled "Good Design Is Good Business," put Edward Fickett, A.I.A., Los Angeles, Alfred Parker, A.I.A., Miami, Carl Norcross, executive editor of *House and Home* and Leonard G. Haeger, A.I.A., director of N.A.H.B.'s Research Institute, on a panel intended — the homebuilders were told — "to show you the difference in sales and profits if you take advantage of the good you can do with better design."

R. G. Hughes of Pampa, Tex., is the new N.A.H.B. president. Nathan Manilow of Chicago was elected first vice president; Paul Burkhard, Glendale, Cal., second vice president; V. O. Stringfellow, Seattle, treasurer; and Franklin L. Burns, Denver, secretary.

(More news on page 20)



JURY IN SESSION: Judges look over an entry in N.A.H.B. Design Merit Award Competition. Standing (left to right) Herman York, New York architect, and Alex Simms, Dayton, Ohio, builder. Seated: Alfred Parker, architect, Miami. Edward Burch, architect, Chicago is in foreground



HOW CECO JOIST CONSTRUCTION HELPED SAVE \$4.00 PER SQUARE FOOT

Erecting a building with firm footings in downtown Chicago clay is no simple task. Accomplishing that, plus cutting costs, is truly a stand-out feat.

Such is the story of the Remington Rand Chicago Office Building and the problem solved by Architects Bartlett, Watts and Rosene.

Analysis indicated that usual column spacings would impose excessive pressures on the subsoil, causing piles to drift. The solution: increase the distance between pile groups and spud every third pile.


But that created a problem . . . how to span the wider bays economically and keep the dead load on each pile group to a minimum. The architects knew Open-Web Steel Joists offered the lightest floor system, so called for their use.

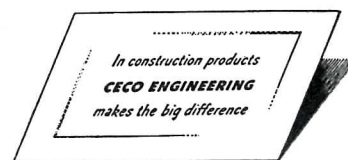
Conduit and air-conditioning ducts were run through the open webs, resulting in further economies.

"Being self-centering and requiring no shores, Steel Joists

were fast to erect," said Architect Harry Owen Bartlett. "Thus the contractor, J. L. Simmons Co., Inc., was able to pour slabs early, allowing masonry units to be stored on the floors and then laid up from inside, saving scaffolding."

Total cost of the building was \$13.75 a square foot, compared to some comparable buildings costing \$17.75—a saving of \$4.00. Here is another example of Ceco performing on the architect-owner-contractor-supplier team.

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1955 BUDGET LEAVES MORE TO PRIVATE ENTERPRISE

*All Major Construction Programs Cut, Most Only Slightly,
As Budget Sets Total Expenditures \$5.3 Billion under 1954*

BY ERNEST MICKEL

THE FIRST BUDGET developed entirely by President Eisenhower marks — according to the message accompanying it — “the beginning of a movement to shift to state and local governments and to private enterprise Federal activities which can be more appropriately and more efficiently carried on in that way. . . . In those cases where Federal participation is necessary, the effort of this Administration is to develop partnership rather than an exclusive and often paternalistic position for the Federal government.”

In a \$65.6 billion budget which estimated total fiscal 1955 expenditures at \$5.3 billion less than the latest estimates for fiscal 1954 expenditures and \$8.4 billion less than fiscal 1953 expenditures, decreases were recommended in every instance where major construction programs were involved. The reductions were not pronounced, in most cases (see table); the proposed \$4 billion cut in defense spending, for example, fell far more heavily on other aspects of the military budget than it did on construction. A considerable portion of the planned expenditures, however, represented “working off” previous obligations; the President’s \$56.3 billion request for “new obligational authority” (that is, authority to make contracts) is \$4.4 billion less than the current year, \$23.9 billion less than the fiscal 1953 total and \$35.1 below the Korean war peak in fiscal 1952.

The 1955 budget actually includes a larger outlay for the development of atomic energy resources; but the President’s message made it clear that while operating costs will rise during the fiscal 1955 period, the initiation of new construction projects will be at a lower level than during recent years.

Here is a rundown on some of the construction programs as presented to the Congress in the budget:

Public Works — Expenditures for military public works will be maintained

at the 1954 level approximately, as work goes forward on air bases, anti-aircraft, radar sites and other installations. A sum of \$1109 million has been proposed as new obligational authority for the military public works program in fiscal 1955. The Administration plans to spend, however, \$1650 million in the year beginning July 1. This compares with \$1687 million for the current year

Atomic Energy — Under the 1955 budget, outlays for development and control of atomic energy would rise to a new high level. Operating costs will shoot up as newly-completed plants are brought into production. Capital expenditures will continue at a high level as construction goes forward on major new plants authorized in recent years. But significantly for the building in-

Program	Net Expenditures (in millions)		
	Fiscal Years		
	Actual 1953	Est. 1954	Est. 1955
Military public works	\$1913	\$1687	\$1650
Atomic energy development	1791	2200	2425
Housing and community development	549	57	-277*
Schools (construction and operation in areas "federally impacted")	201	199	139
Hospitals (Hill-Burton)	75	65	50
Bureau of Reclamation	231	180	164
Federal Aid to Highway construction	550	592	582
Civil Defense	51	74	68
Defense community facilities and services	1	4	2

*Excess of payments and collections over expenditures, anticipating sales of mortgages held by Federal National Mortgage Association.

and \$1913 million actually spent in fiscal 1953. The outlay for fiscal 1951 in this field was only \$439 million; it jumped to \$1819 million in 1952.

Expenditures for civil public works were estimated to be \$1639 million for the coming fiscal period. Of this amount, only \$77 million is for new projects and commitments. [In addition, the U. S. Chamber of Commerce reported in its recently-published budget analysis, some \$12 billion in construction work has been authorized by general or specific legislation.]

Three fourths of the civil public works program is accounted for by the river basin programs of the Army Corps of Engineers, the Bureau of Reclamation, and the Tennessee Valley Authority.

dustry, the President indicated that new construction projects to get under way in 1955 will be limited essentially to facilities directly related to the production program and to several research and development facilities. The volume of new work will not measure up to that of recent years.

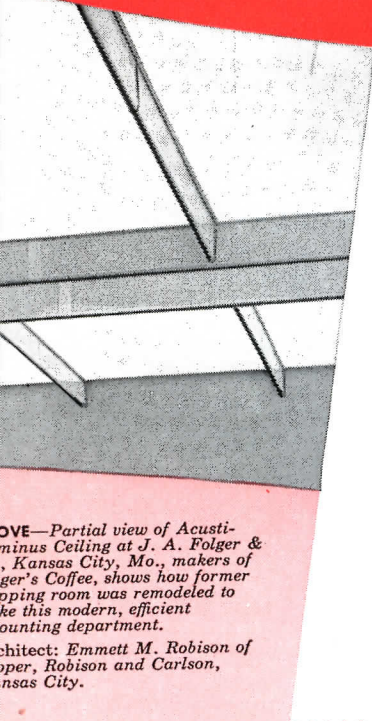
Schools — President Eisenhower asked for \$40 million for aiding school districts in their construction programs during fiscal 1955. This amount, he said, together with the appropriation of \$70 million for fiscal 1954, would provide for the most urgent classroom needs of the districts eligible for the aid under the extended program. He estimated the funds are building nearly

(Continued on page 288)

Acusti-luminus ceilings

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VIEW—Partial view of Acusti-luminus Ceiling at J. A. Folger & Co., Kansas City, Mo., makers of Folger's Coffee, shows how former coffee shop was remodeled to make this modern, efficient counting department.
 Architect: Emmett M. Robison of Folger, Robison and Carlson, Kansas City.

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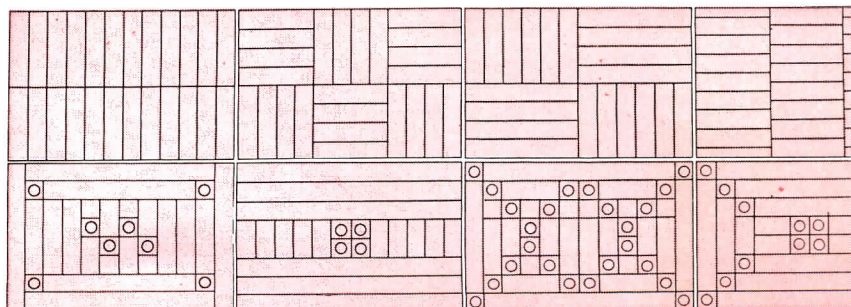
- Admiral Corporation
- American Airlines, Inc.
- American Cyanamid Co.
- E. I. DuPont de Nemours & Co.
- Ford Motor Co.
- General Electric Co.
- I. B. M. Corporation
- Marshall Field & Co.
- Otis Elevator Co.
- Sears, Roebuck & Co.
- Standard Oil Co.
- Stewart-Warner Corp.
- Union Carbide and Carbon Corp.
- University of California
- Western Electric Co., Inc.
- Westinghouse Electric Corp.

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PEOPLE IN THE NEWS



ONE YEAR'S PROGRESS and a new year's plans were discussed at a two-day meeting of the A.I.A. Public Relations Committee with representatives of Ketchum Inc., A.I.A. public relations counsel, in San Francisco late in January. Above (left to right): Anson Campbell, Ketchum; Frank McNett, A.I.A., Grand Island, Neb.; Herbert C. Millkey, A.I.A., Atlanta; A.I.A. Executive Director Edmund Purves; Chairman John Root, F.A.I.A., Chicago; Vice Chairman Francis Joseph McCarthy, A.I.A., San Francisco; Karl Kamrath, A.I.A., and Maurice Sullivan, A.I.A., Houston; Walter Megrongle, Ketchum

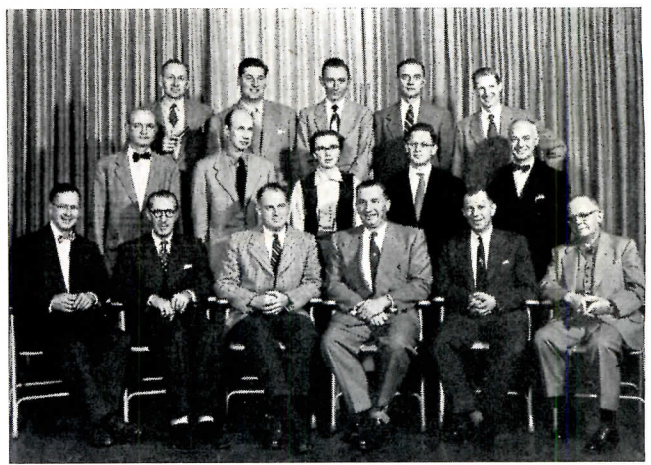


FRANK LLOYD WRIGHT in a familiar pose — philosophizing for an eager circle of listeners; in this case, members of the new Monterey Bay, Calif., chapter of the A.I.A., at whose charter dinner he spoke. More or less facing camera (from left): Chapter Treasurer William Concolino, Director Wallace Holm, Secretary Jerome Kasavan, Vice President George Willcox, President Francis Palms, and A.I.A. Sierra Nevada Regional Director Charles Matcham



CENTRAL PENNSYLVANIA A.I.A. annual meeting V.I.P.s have the A.I.A. public relations program's "Facts Package" as their prop in this "candid": (left to right) Speaker Dr. Winston Weisman, assistant professor of fine arts at Pennsylvania State University; retiring President Dr. Milton S. Osborne, Penn State architecture head; new President William J. Zalewski

(More news on page 26)



SINNED AGAINST, FOR ONCE: in annual conclave at Rochester way back in December, members of the Architectural Photographers Association sat for this photograph (no credit line). Back row: Rodney McKay Morgan, Graham Warrington (Canada), Dewey Mears, Don Morgan, Richard Wurts. Middle: George Cushing, Robert Massar, Phyllis Dearborn, Robert Lautman, Rudy Lepperl. Front: R. Marvin Wilson, Giovanni Souter, Cortland V. D. Hubbard, Joseph Molitor (association's new president), Ed Hedrich, Sigurd Fischer



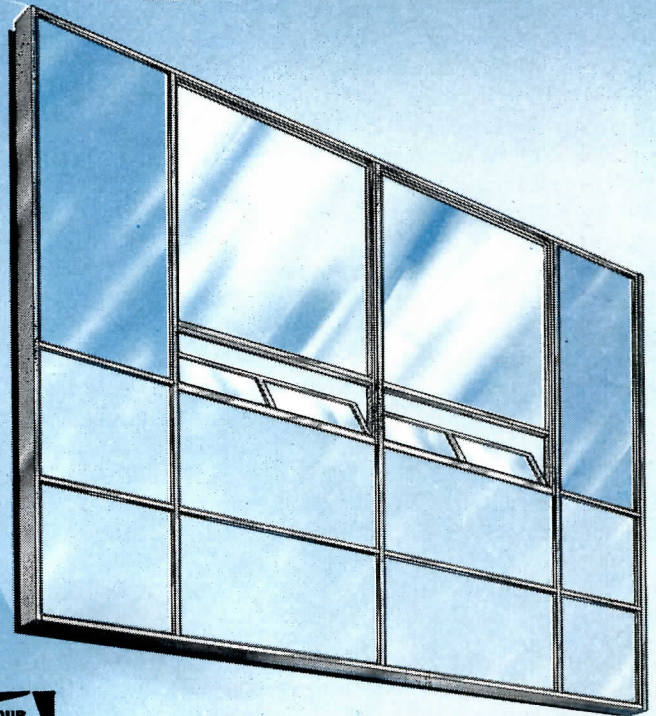
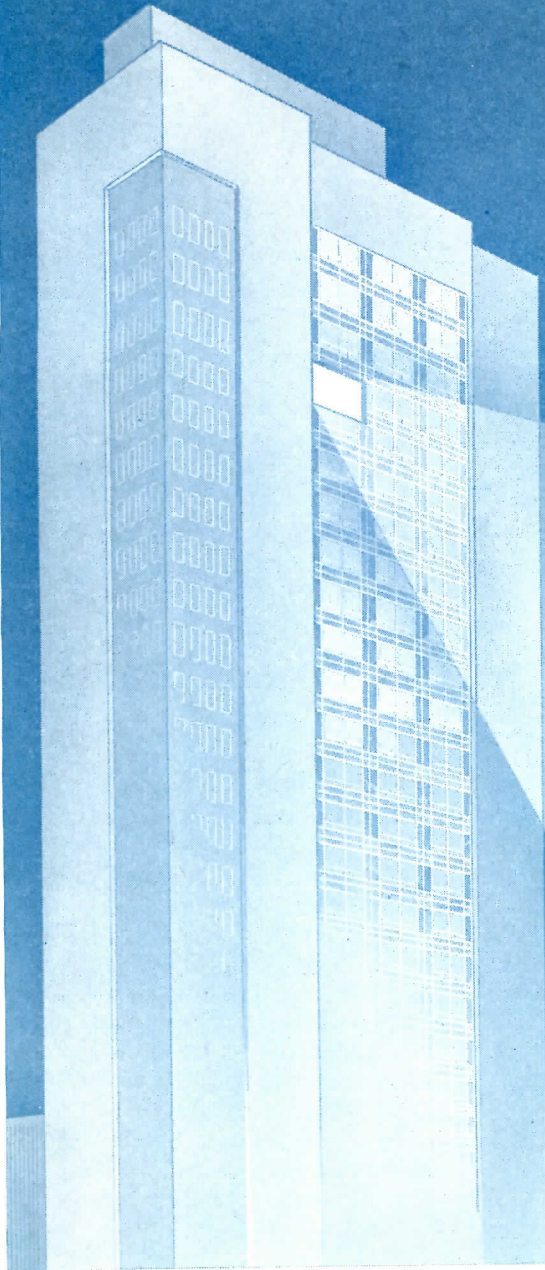
WEST VIRGINIA A.I.A.'s new officers, elected at recent annual meeting: (seated) President Charles A. Haviland (left), Charleston, and Vice President William H. Grant Jr., Clarksburg; (standing, left to right) Secretary-treasurer G. Cameron Hunter and retiring Vice President Paul Vaughan and retiring President Irving Bowman, Charleston, newly-elected members of the Board



TENNESSEE architects have outgrown their single state A.I.A. chapter, are now organized in four chapters and a state society. Above: A.I.A. President Clair Ditchy presents charter to president of new Tennessee Society of Architects, William P. Cox, while (left to right) Society officers Zeno L. Yeates, George E. Palm Jr. and Clinton E. Brush III look on. Seated: A.I.A. Gulf States Regional Director Howard Eichenbaum. Below: Mr. Eichenbaum officiates at charter presentation to new Memphis Chapter President R. T. Martin; other chapter officers (standing, left to right) are Zeno L. Yeates, Ed S. Thorn, John D. Bland, W. D. McKinnie Jr. The East Tennessee Chapter received its charter at Knoxville a few weeks later



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YOUNG ARCHITECTS, 29 AND 30, WINNERS OF \$10,000 COMPETITION, \$1.5 MILLION JOB

DOUGLAS C. JOHNSON, 30, and Cunningham S. McWhinnie, 29, of the eight-months-old Windsor, Ont., architectural firm of Johnson-McWhinnie, are the winners of a \$10,000 competition for the design of Windsor's new civic auditorium and convention hall. Johnson-McWhinnie, selected over six other entries, will also have the commission for the project, expected to cost about \$1,500,000 including site.

The winning design (see below) provides a two-level auditorium, with a 2000-seat main auditorium on the upper level and a Little Theater, to seat 400, on the lower level, which is partially below grade; and a convention hall to seat 1800, with the floor at ground level so trucks and cars may be driven into it for display purposes. The two units are separated at ground level by an open colonnade and a sculpture court; at second-floor level they are joined by the public restaurant, which has a glass wall overlooking the Detroit River. There is also an outdoor concert theater to seat 500.

Why the Jury Liked It

The three-man jury listed among "some special merits which influenced

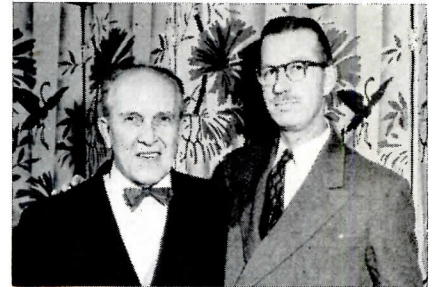
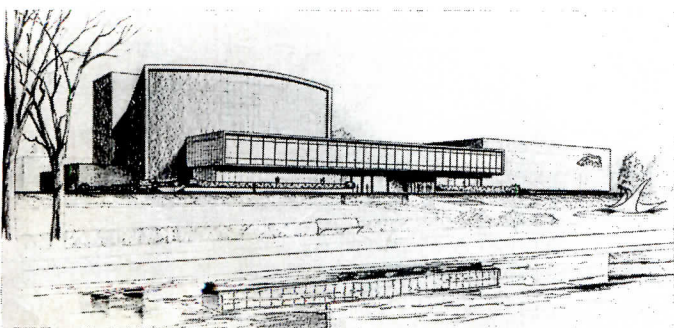
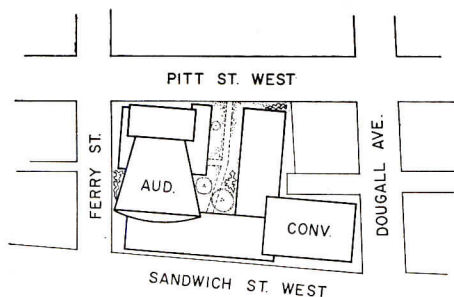
the decision" these points: "A simple, logical use of the site joining the river and the park; a graceful entrance from Pitt Street, opening into a delightful sculpture court; the placing of all parking areas to the extreme boundary of the land so that the future continuity of the park will not be broken; excellent placing of outdoor theater."

George D. Gibson, Toronto architect, was professional adviser and chairman of the jury. Other members were Peter Tillmann, M.R.A.I.C., London, Ont., and Eero Saarinen, F.A.I.A., of Bloomfield Hills, Mich. The competition was open to Windsor architects only.

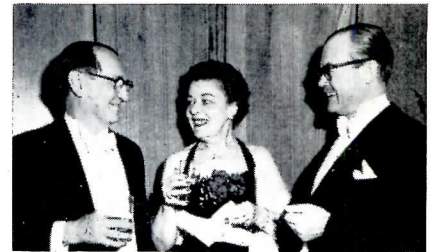
Winners Are Toronto Alumni

Both members of the winning firm are natives of Windsor and graduates — Mr. Johnson in 1950 and Mr. McWhinnie in 1951 — of the School of Architecture of Toronto University. Until they opened their own office at 1645 Ottawa Street, Windsor, last July, Mr. Johnson had been with Giffels & Vallet of Canada Ltd. and, earlier, Allward & Gouinlock, Architects, of Toronto. Mr. McWhinnie had been first with Allan Construction Company and then with C. A. McElroy, M.R.A.I.C., Windsor.

Plot plan and perspective of prize-winning Johnson-McWhinnie scheme for Windsor civic center. Auditorium and convention hall are joined at first-floor-level by an open colonnade, at second-floor by public restaurant



A.I.A. President Clair W. Ditchy and Ontario architects' retiring president, Gordon S. Adamson. Below: Kenneth C. Welch of Grand Rapids and Mrs. Ditchy, with R. S. Morris, R.A.I.C. president



ALVIN PRACK ELECTED TO HEAD ONTARIO ARCHITECTS

THE 64TH ANNUAL CONVENTION of the Ontario Association of Architects, which broke all previous records for attendance, named Alvin R. Prack, of the Hamilton, Ont., architectural firm of Prack & Prack, as the new president of the Association. The convention was held January 22-23 at the Royal York Hotel in Toronto.

Mr. Prack heads a seven-man Council which includes Gordon S. Adamson, Toronto, immediate past president; George D. Gibson, Toronto, vice president; George Y. Masson, Windsor, treasurer; and members William H. Gilleland, Ottawa, Philip Carter Johnson, London, and E. C. S. Cox, Toronto.

Prof. H. H. Madill, director of the University of Toronto's School of Architecture, continues as chairman of the association's registration board, with William R. Souter of Hamilton as vice chairman. Other members are John M. Kitchen of Ottawa, William E. Fleury and Eric W. Haldenby of Toronto.

John D. Miller of Toronto has been reappointed secretary of both the council and the registration board.

(Continued on page 30)

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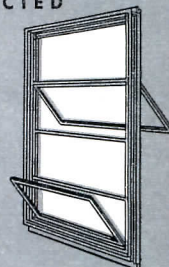
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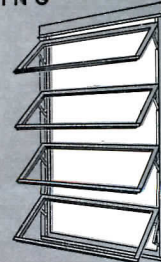
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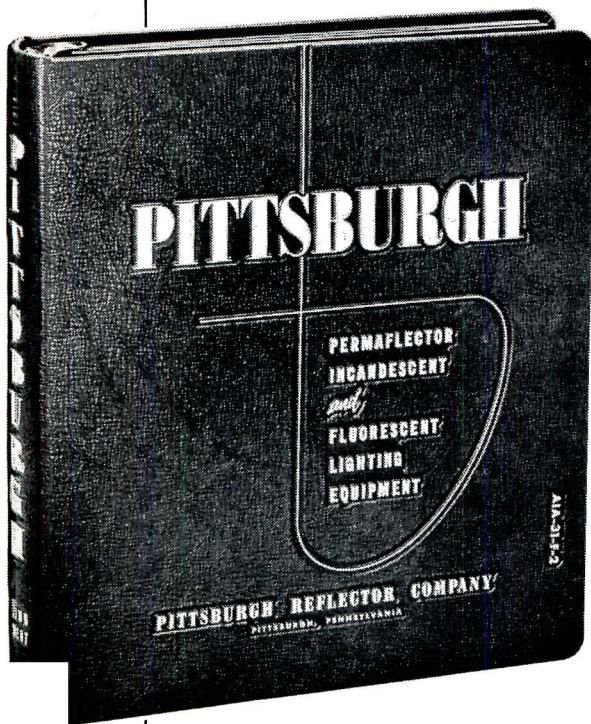
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Above: panel on civic center design at Ontario (at right) included F. H. Marani and George D. Gibson, Toronto; A.I.A. President Clair W. Ditchy of Detroit; Anthony Adamson, Toronto Township reeve, the chairman; Controller Leslie H. Saunders and Building Commissioner K. S. Gillies, both of Toronto. Left: some 1954 officials—W. H. Gilleland, Ottawa (councillor); George Y. Masson, Windsor (treasurer); Gordon S. Adamson, Toronto (immediate past president); Alvin R. Prack, Hamilton (president); George D. Gibson, Toronto (vice president); E. C. S. Cox, Toronto (councillor)

The board, which is charged with regulation of the architectural profession in Ontario, reported an eight per cent increase over last year in the number of practicing architects in the province. There are now 660, all members of the O.A.A.

The convention program featured a number of American guests. Clair W. Ditchy of Detroit, president of the American Institute of Architects, participated in a seminar on civic centers led by Reeve Anthony Adamson, of Toronto Township, himself an architect. A.I.A. national secretary George Bain Cummings of Binghamton addressed a luncheon meeting on architectural assets and liabilities, and Kenneth C. Welch, A.I.A., of Grand Rapids discussed shopping center design.

Awards Presented

At the annual dinner, Toronto Architectural Guild Medals were presented to Hart Vincent Massey and Irving Grossman, with W. L. Somerville, past president of the Royal Architectural Institute of Canada, officiating. Yusing Yiu-Sing Jung and Donald H. Husson received O.A.A. prizes of \$100 each.

A total of 65 new members of the Association, 33 of them University of Toronto graduates, were given their certificates. The new members included one girl, Miss Gwyneth Cooper-Jones of Niagara-on-the-Lake, Ont.

(Continued on page 32)

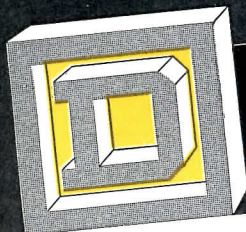
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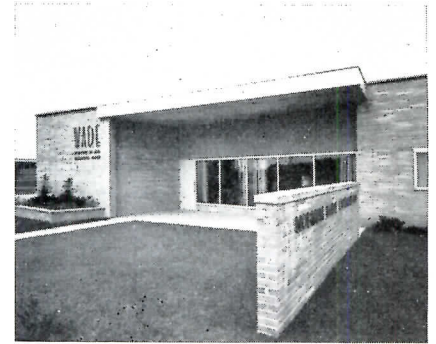
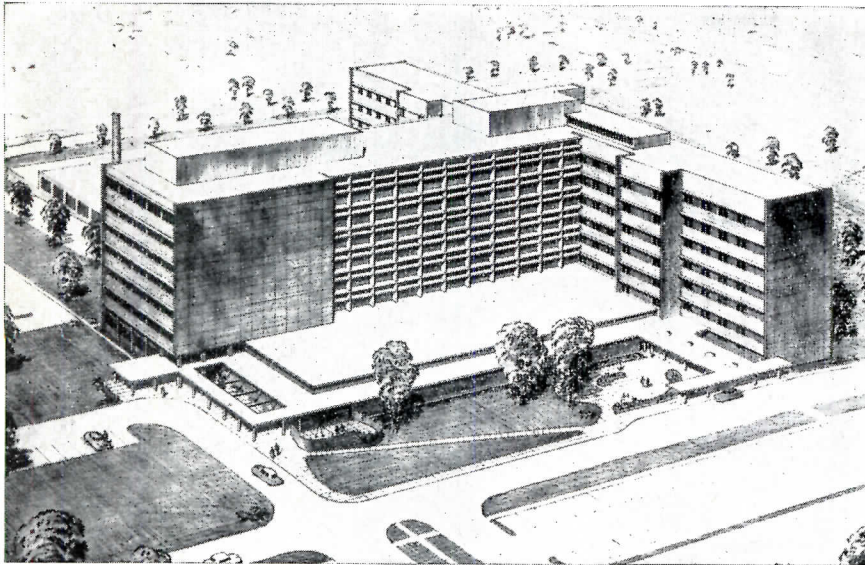
(Continued from page 30)

MAY EQUAL '53 SPENDING ON PLANT AND EQUIPMENT

Canada's Department of Trade and Commerce, though unprepared to disclose in detail findings of its survey of



Two small industrial plants in the Toronto area; Venchiarutti & Venchiarutti, architects. Above: Owatonna Tool Co.; below Norman Wade Co.



BROWNE-MORSE SERVES ANOTHER LEADING MEDICAL CENTER

The University Medical School and Teaching Hospital, Jackson, Mississippi, is being equipped with Browne-Morse laboratory equipment, educational furniture and hospital casework. This major installation, typical of today's construction used in medical centers and the most modern hospitals, is reviewed by a feature story in this issue of the *Architectural Record*.

The Browne-Morse engineering staff gives valuable assistance in planning laboratories for industrial, atomic energy, hospital and educational fields, based upon 26 years' experience.

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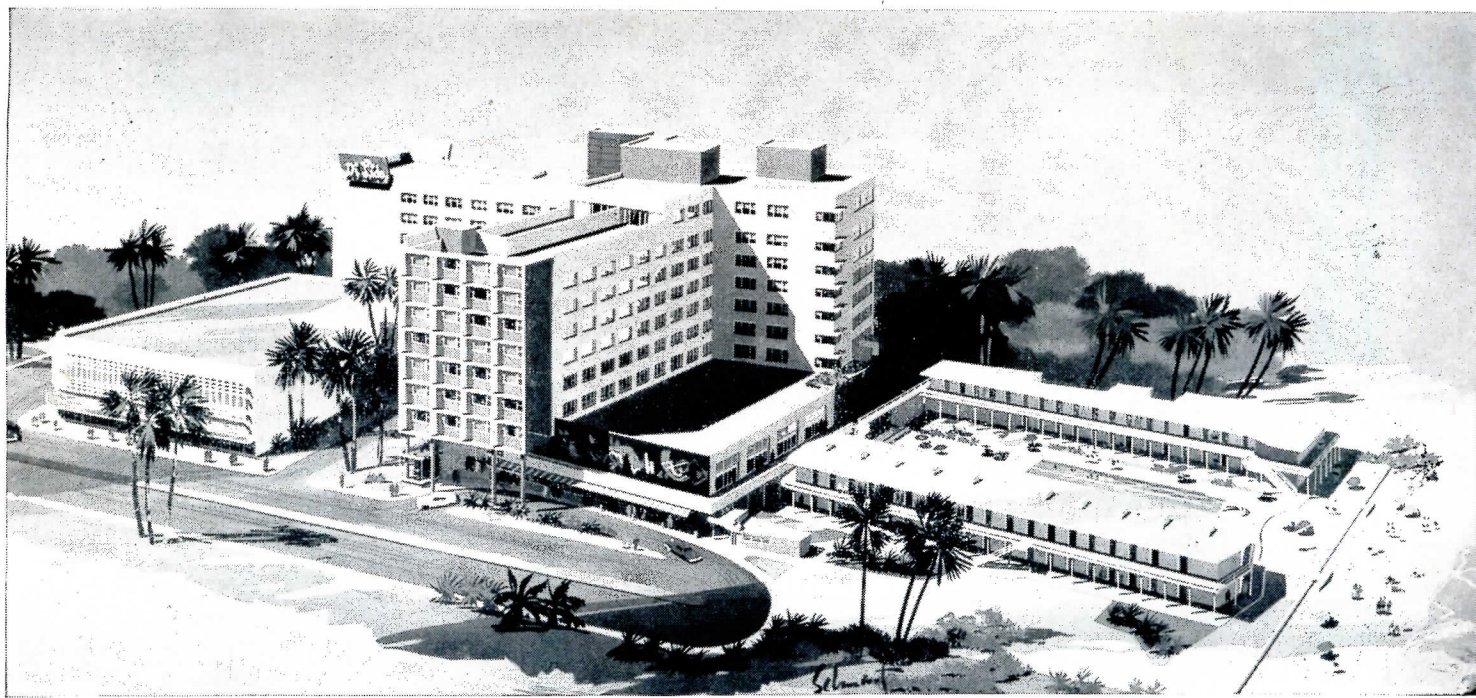
capital spending plans for 1954, nevertheless reveals indications that private investment in plant and equipment will be roughly abreast of 1953, with emphasis on resources development and commercial services.

The authoritative *Daily Commercial News and Building Record*, construction industry paper, points out that a comparable survey in the U. S. indicates that first quarter investment there will be nearly six per cent above the 1953 first quarter. More surprising, the *News* comments, is the joint announcement of the U. S. Department of Commerce and the U. S. Securities and Exchange Commission that outlays for new plant and equipment by American business will be at an annual rate of \$27,960,000,000 during the first quarter of 1954. This is an annual rate of almost a billion more than was invested in the first quarter of 1953.

Why more spending by business now than in 1952 or 1950? The *News* comments:

"Some of this spending represents commitments made two or more years ago. Some of it will be pushed to take advantage of quick-amortization grants. Some will be to replace plants and equip-

(Continued on page 36)



A complete vacation resort under one roof, the \$3.5 million DiLido Hotel, Miami Beach's newest, opened last Christmas Eve, has 329 rooms, 9 stories, 2 swimming pools, 300 feet of ocean beach, 120 cabañas. Steeltex used in floors and roof. Melvin Grossman and Morris Lapidus, Architects. Robert L. Turchin, Inc., Contractors.

Favorite for reinforcing west hotels and apartments!

ing. It costs less to install than other types of forms and reinforcement for concrete because Steeltex can be rolled out like a carpet by one man (see photo below). Steeltex also saves concrete by minimizing leakage in the freshly poured slab—craftsmen on the floor below can continue working without getting drenched. Steeltex insures a strong floor because embedment of steel reinforcing takes place automatically (see note below). Steeltex allows concrete to cure slowly and properly—guards against excessive cracking—can be installed over any type of joist—will support ample safe loads from 109 lbs. to 886 lbs. per square foot depending on spacing of joists and thickness of slab. No wonder Steeltex is the overwhelming favorite with building designers in America's favorite winter resort.

Regardless of your locale, be it north, east, south or west, if your building plans call for poured concrete floors, roofs, plaster walls or ceilings or Portland cement (Stucco) exteriors, there's a type and kind of Steeltex reinforcing that will do the job better, faster, with less effort at lower overall cost.

See the Steeltex catalog in Sweet's or write for your free copy of a new 24-page, illustrated booklet "Pittsburgh Steeltex, Backbone of Concrete, Plaster, Mortar."

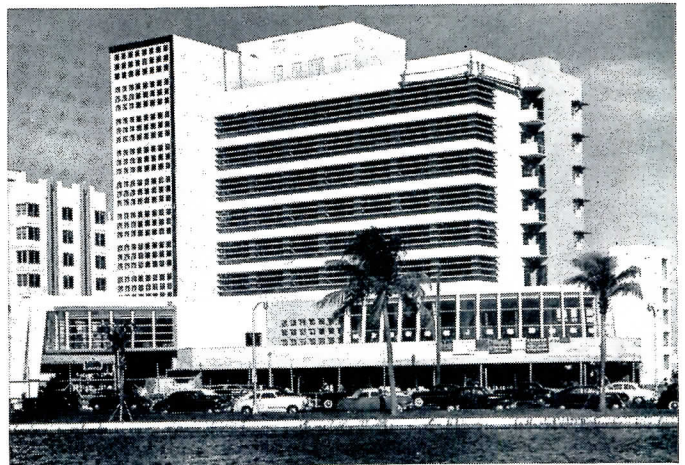
STEELTEX®

manufactured by the

Pittsburgh Steel Products Company

a subsidiary of Pittsburgh Steel Company

Pittsburgh 30, Pa.



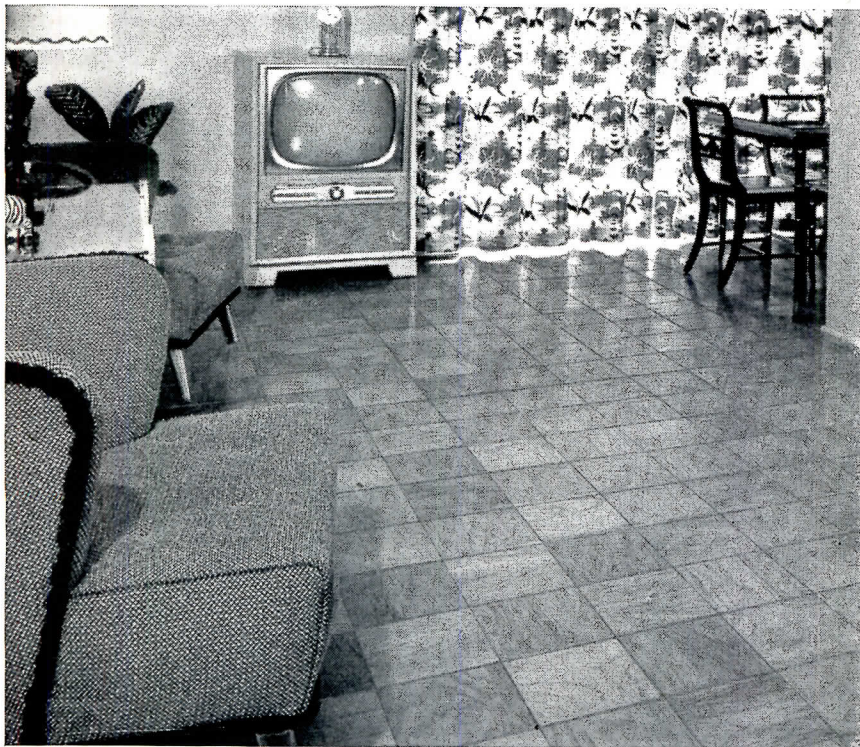
Algiers Hotel, Miami Beach, cost \$1 million, has 8 stories, 200 rooms. Steeltex used in all floors and roof. Henry Hohausser & Associates, Architects. Taylor Construction Co., Contractors.



Prize winning Lanai Apartments, Miami, contains 24 units, took top honors in apartment house class in judging at A.I.A. South Atlantic Regional Conference in Miami last spring. Steeltex used only in second and third floors. Wahl Snyder, Architect. Alonzo Riley, Contractor.

**"It's easier to sell houses
from the floor up!"**

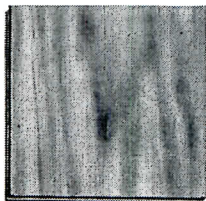
**...that's the beauty
of *Higgins Block*
INC.**



The Robert P. Gerholz houses in Flint, Michigan, have gained national attention because of their up-to-the-minute design. Right from the first, these houses have featured the up-to-the-minute flooring, Higgins Block. Besides the lustrous, sales-making richness of texture, look at all the other advantages of this flooring:

- 9" x 9" net face hardwood blocks—easy to install
- 3-ply cross-grain construction—when properly installed will not warp, buckle, cup or crack
- Selected oak face—comes with final finish
- Pressure bonded with marine-type glue—water-repellent, climate-proof
- Deep-impregnated with famous "Penta"—rot-proof, termite-proof
- Grooved back anchors into adhesive—quiet and comfortable
- Can be laid *without* special preparation directly on concrete slab—ideal for radiant heat
- Blocks fit flush—*without* large, visible V-grooves

Higgins BONDED HARDWOOD BLOCK FLOORING
INC. THE WORLD-FAMOUS BOAT BUILDERS 



Use this coupon for free sample block and literature Higgins, Inc., Dept. R-34, New Orleans, La. Gentlemen: Please send sample block and literature to

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Address.....
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THE RECORD REPORTS

CANADA

(Continued from page 32)

ment that have worn out in setting production records in the last few years.

"And some of it is the direct result of more intense competition. . . .

"Then again, some businesses may believe that prophets of a decline will be wrong, just as they have every year for the last decade, and that it will be good and profitable to have maximum facilities."

1953 SECOND-BEST YEAR FOR CANADIAN BUILDING

Construction contract awards in 1953 reached a cumulative total of \$2 billion, giving Canada its second-best building year, MacLean Building Reports Ltd. reveals. The all-time record year was 1951, with \$2.3 billion; the 1952 total was \$1.8 billion.

The December award figures, released at the same time, showed a 29.9 per cent increase over December 1952; awards totaled \$128,038,700. An upsurge (23.6 per cent) in the residential category was largely responsible, though the industrial category also showed a decided gain (10.1 per cent) and engineering was up slightly (2.5 per cent).

1953 HOUSE COMPLETIONS SET AN ALL-TIME RECORD

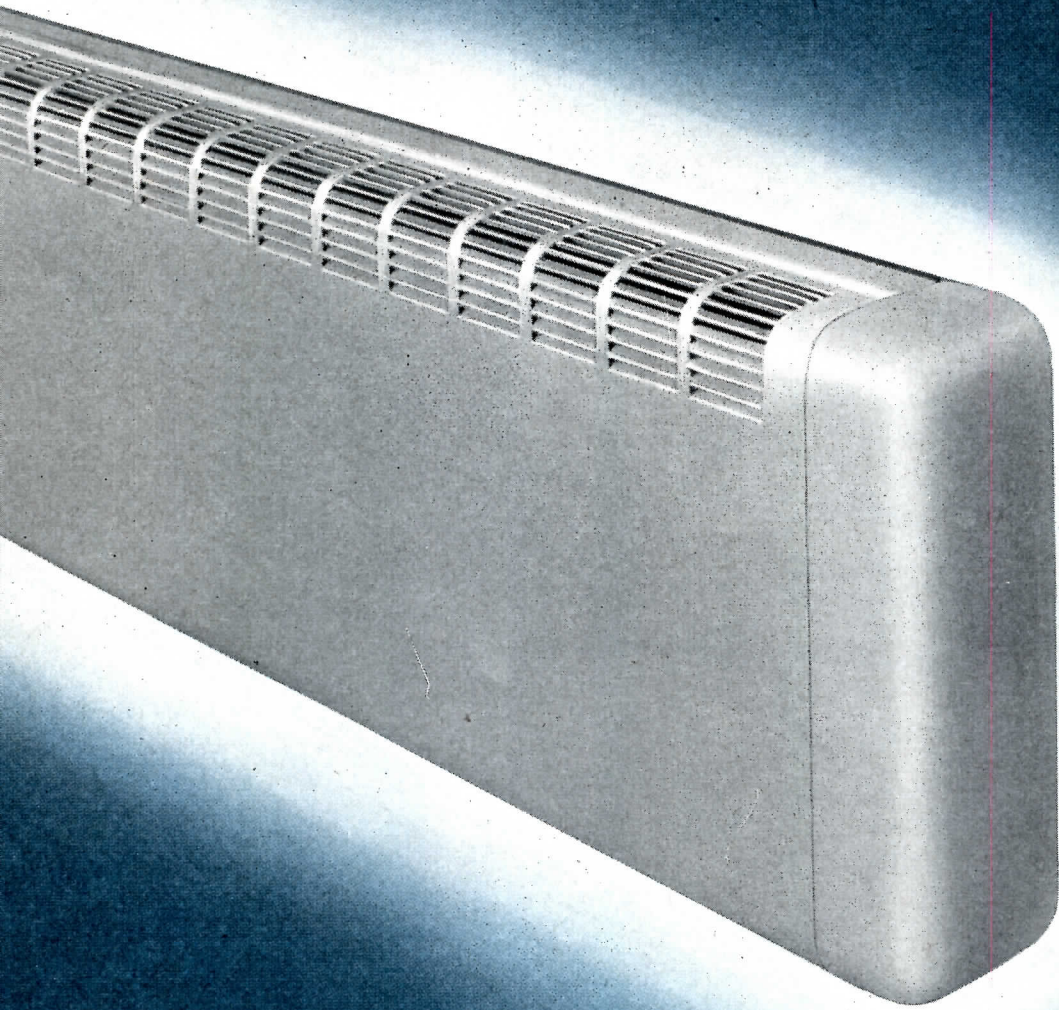
Canada built more houses in 1953 than ever before. While it will be some time before the final figure is known, officials of Central Mortgage & Housing Corporation estimate that completions will total 90,000 to 95,000, including duplexes and apartments.

The previous record of 89,000 completions was set in 1950. In 1951 the total dropped to 81,300 and in 1952 it went down again to 73,000.

According to figures released in the Corporation's *Quarterly Review*, eight per cent of the total dwelling units built in 1953 were two-family and 22 per cent were apartments and row-housing.

However, the *Review* noted, the volume of house building for owner occupancy reached new peaks in the third quarter, with 74 per cent of the houses single-family units.

(More news on page 38)



DESIGNED FOR MODERN HEATING



Sill-line will heat the New Pavilion,
Jefferson Hospital, Philadelphia, Pa.

Vincent G. Kling, Architect
A. E. D'Ambly, Engineer
W. M. Anderson Co., Htg. Contractor

Nesbitt Sill-line offers you all the benefits of high-capacity wall-fin radiation in the first enclosure expressly styled to harmonize with contemporary building design. Here's quick, uniform, under-the-window perimeter heating that provides economy of operation, ease of installation, and wide flexibility; *plus* an entirely new concept of enclosure styling so desirable for today's institutional and commercial buildings. If you desire further information on this new product, send for Nesbitt Publication 271.

NESBITT SILL-LINE RADIATION
Made and sold by John J. Nesbitt, Inc., Philadelphia 36, Pa.

**HOUSING BILLS REFLECT
ADVISORY GROUP REPORT**

REACTION FROM THE HOME BUILDING industry to introduction of identical new housing bills in the House and Senate last month was immediate and favorable. The National Association of Home Builders, through its new president, R. G. ("Dick") Hughes, said it was in accord with principles and objec-

tives of the legislation, though some changes would "be essential" to achieve the President's goals.

The measures introduced by Sen. Homer Capehart (R-Ind.), and Rep. Jesse Wolcott (R-Mich.), chairmen of the Banking committees, sought to translate into a Federal government program the bulk of the major recommendations made in the December report of the President's Advisory Com-

mittee on Housing Policies and Programs (ARCHITECTURAL RECORD, Jan. 1954, page 16). There was only slight deviation in the bills themselves from the general policies laid down in Mr. Eisenhower's special message on housing, which Congress had received January 25.

Public Housing: No Level Set

Avoiding any specifics on numbers of public low-rent housing units to be built, the bills extend some preference in public housing to those displaced by code enforcement, closing of structures, highway construction, etc. Rep. Wolcott is said to have convinced the Administration that there was no need for specifying the number of public housing units in the current legislation since sufficient authority for construction already exists in previous laws. The President was expected to seek a limitation on these units through the appropriations committees.

One important aspect of the new measures was discretionary authority under which the President would set interest rates on VA and FHA loans, the maximum not to exceed the average market yield on long term government bonds plus 2.5 per cent. Also included was authority for FHA to "open-end" mortgages, permitting the borrower to obtain more favorable financing for repair and renovation. This could swing open the gates on the vast potential of the "fix-up" market which industry has been estimating in billions per year.

New Life for FNMA

Congress was expected to squabble as much over the secondary market changes proposed by Capehart and Wolcott as over any other single issue. Unlike the report of the President's advisory committee, which advised liquidation of the government-financed Federal National Mortgage Association, the bills aimed at establishing a reincorporated secondary market operation with three functions: (1) to operate as a true secondary mortgage market; (2) to provide financial assistance for special housing programs; and (3) to bring about orderly liquidation of the mortgages acquired by the present Federal National Mortgage Association. Thus a new "Fannie Mae" would replace the old.

(Continued on page 294)

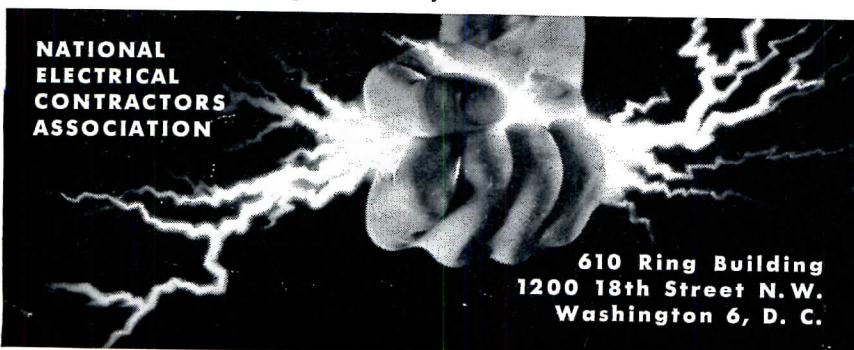
*What is a
NECA
qualified
electrical
contractor?*



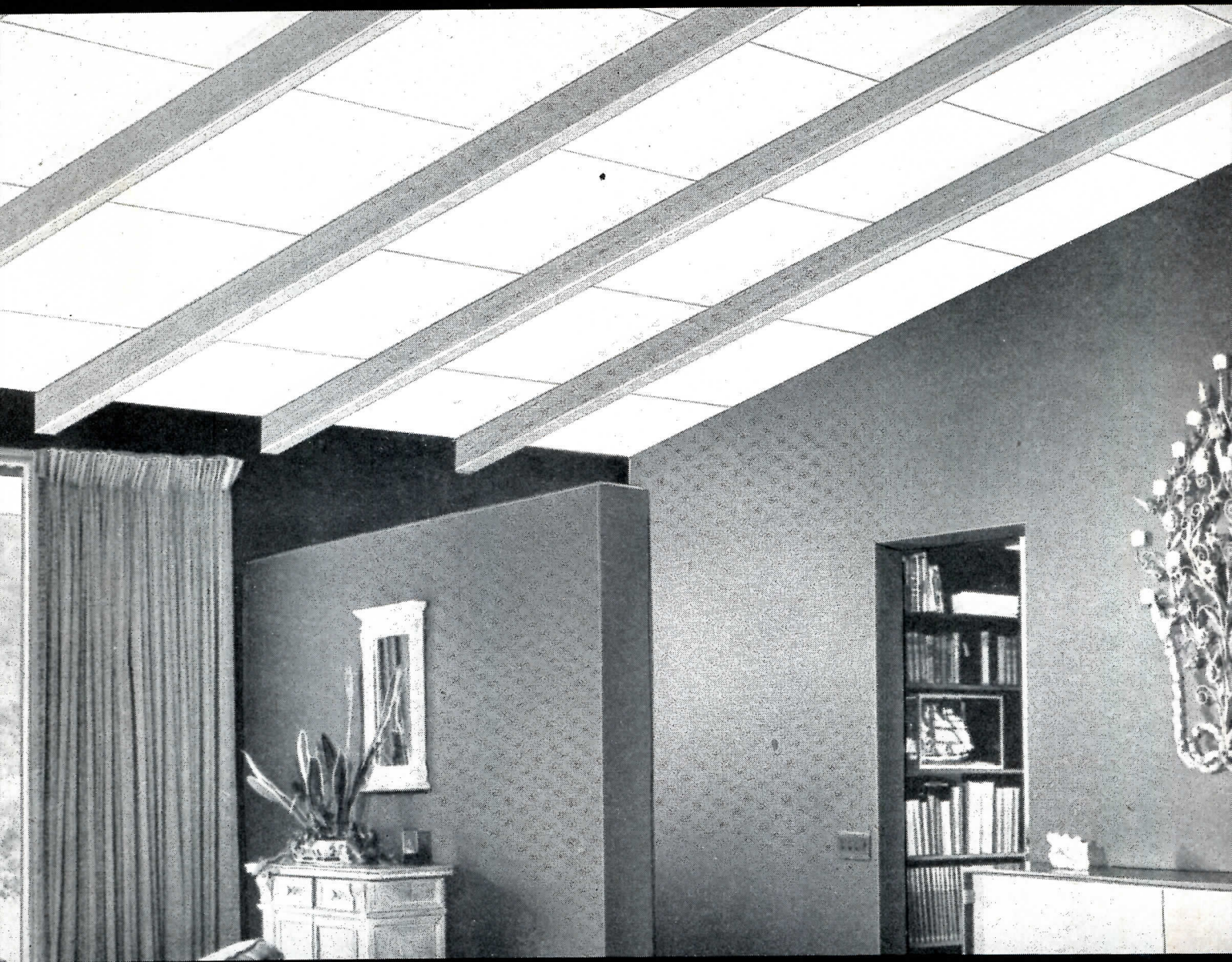
The seal and the letters — NECA — stand for the National Electrical Contractors Association. Any electrical contractor qualifying for association membership can offer the architect or engineer:

- 1 A GUARANTEE**, in writing, covering parts and workmanship.
- 2 INTERPRETIVE ENGINEERING** — on-the-job interpretation of your plans — accurately, practically, to produce the results you expect.
- 3 TRAINED MANPOWER** — an adequate pool of craftsmen, thoroughly trained from apprenticeship up, to handle any size job.
- 4 COMPETENT SUPERVISION**, by men who know electrical products, practices, standards and codes.

These factors and more mean protection of your ideas, your plans, your prestige. Why not discuss your next job with your Qualified NECA Contractor? You'll find his name under the NECA Seal in your Classified Telephone Directory.



ceiling anywhere with save \$80 to \$300 a home!

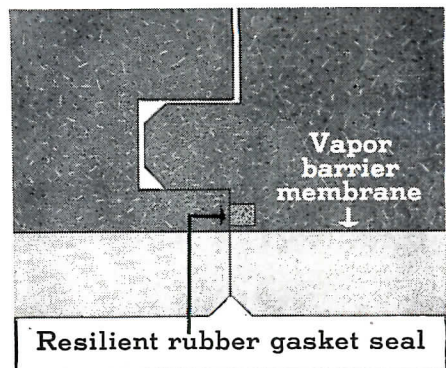


The secret's in the seal! Exclusive vapor barrier lets you build exposed beam ceilings for less, anywhere in the U.S.A. Continuous vapor barrier combines (1) a membrane laminated into each unit, plus (2) a rubber gasket that seals carefully machined T&G joints. Protects against condensation within the deck in any climate. (Also available without vapor barrier for use in moderate climates.)

Send for Complete Information Now! Actual on-the-job pictures and construction details show how to use new Insulite Roof Deck to build better for less. Write Insulite, Minneapolis 2, Minnesota.

INSULITE DIVISION, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

INSULITE IS A REGISTERED TRADE MARK



CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926-1929 = 100

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

NEW YORK

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.		Brick and Steel	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.		Brick and Steel
	Brick	Frame		Brick	Steel		Brick	Frame		Brick	Steel	
1930	127.0	126.7	124.1	128.0	123.6		82.1	80.9	84.5	86.1	83.6	
1935	93.8	91.3	104.7	108.5	105.5		72.3	67.9	84.0	87.1	85.1	
1939	123.5	122.4	130.7	133.4	130.1		86.3	83.1	95.1	97.4	94.7	
1940	126.3	125.1	132.2	135.1	131.4		91.0	89.0	96.9	98.5	97.5	
1946	181.8	182.4	177.2	179.0	174.8		148.1	149.2	136.8	136.4	135.1	
1947	219.3	222.0	207.6	207.5	203.8		180.4	184.0	158.1	157.1	158.0	
1948	250.1	251.6	239.4	242.2	235.6		199.2	202.5	178.8	178.8	178.8	
1949	243.7	240.8	242.8	246.4	240.0		189.3	189.9	180.6	180.8	177.5	
1950	256.2	254.5	249.5	251.5	248.0		194.3	196.2	185.4	183.7	185.0	
1951	273.2	271.3	263.7	265.2	262.2		212.8	214.6	204.2	202.8	205.0	
1952	278.2	274.8	271.9	274.9	271.8		218.8	221.0	212.8	210.1	214.3	
Oct. 1953	283.0	277.3	288.0	295.0	290.8		224.9	225.6	225.7	226.7	226.8	
Nov. 1953	283.2	277.5	288.3	295.2	291.0		225.1	225.8	226.0	226.9	227.0	
Dec. 1953	286.1	280.6	292.6	298.5	295.2		223.7	224.1	225.7	226.7	226.6	
Dec. 1953	% increase over 1939			% increase over 1939			% increase over 1939			% increase over 1939		
	131.7	129.2	123.9	123.8	126.9		159.2	169.7	137.3	132.8	139.3	

ST. LOUIS

SAN FRANCISCO

1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4	
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7	
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5	
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5	
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0	
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9	
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1	
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1	
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6	
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1	
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6	
Oct. 1953	265.4	259.2	261.9	270.6	263.6	258.7	251.3	263.8	270.7	266.1	
Nov. 1953	266.4	260.0	263.3	272.0	264.8	257.9	250.1	264.3	271.1	266.3	
Dec. 1953	265.8	259.3	263.2	271.9	264.7	258.6	251.0	264.4	271.2	266.5	
Dec. 1953	% increase over 1939			% increase over 1939			% increase over 1939			% increase over 1939	
	141.2	142.3	121.7	127.0	122.4	144.9	152.8	125.2	122.5	128.8	

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

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

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

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

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

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

These index numbers will appear regularly on this page.

New economy record!

Equitable building report heat pump of district steam costs!

- If district steam had been used for heating, total year-round heating-cooling costs would have been 64% greater.
- A total of 37% of the entire heating need was met with "by-product" heat—heat salvaged from the cooling process during those periods when heating and cooling were both required.
- Combined heating and cooling costs were 11.3 cents per sq. ft. (less than half the average for air conditioned office buildings in the U.S.)

These are findings reported by the installation's designer, J. Donald Kroeker, consulting engineer—as taken from a recent report to the A.S.H.V.E. and published in the November, 1953, issue of Heating, Piping & Air Conditioning.

This outstanding economy record was set by a 540-ton year-round heat pump. A complete TRANE installation, including 4 hermetic centrifugal compressors, fans, coils and circulators.

The installation fully exploits Portland's low electrical rates, availability of well water at two temperatures from 57° to 65°, relatively mild climate and other favorable factors. While these conditions are not generally so favorable in most areas, your investigation of the heat pump for year-round air conditioning may save thousands of dollars per year.

The New Trane CenTraVac— heart of an efficient heat pump installation

Fundamental to a low-cost operation in any heat pump installation is the system's ability to closely match power input to widely varying load conditions. The new TRANE CenTraVac (current model of the TRANE Centrifugal Compressors used in the Equitable job) has automatic, continuously-variable capacity control from 10% to 100%. This limits power use to the load requirement for outstanding economy.

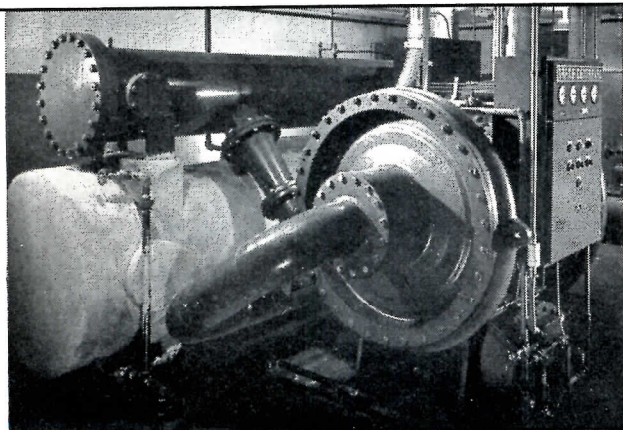
Completely automatic CenTraVac permits unattended operation

The fully automatic design of the TRANE CenTraVac leaves the system supervisor free for other duties. The only hermetic centrifugal refrigeration unit on the market, its exclusive design eliminates shaft seals . . . frequent cause of breakdowns. Direct drive eliminates noisy, power-wasting gear boxes.

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The complete TRANE line of matched cooling-heating products simplifies design, procurement, follow-through. You have one source, one responsibility, and the ready cooperation of the largest group of technically-trained sales engineers in the industry.

See your TRANE Sales Office or write TRANE, La Crosse, Wis. Just ask for CenTraVac Bulletin DS-399.



Trane Unit Air Conditioners For Any Need



Climate Changers heat, cool, humidify, dehumidify, filter air. Multi-zone models provide up to 6 (or more) zones with different climates at the same time.



UniTrane room air conditioners give more year-round comfort air conditioning for less money. Save space. Can save cost of central ventilation system.

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MACKINTOSH AND ART NOUVEAU

Charles Rennie Mackintosh and the Modern Movement. By Thomas Howarth. Wittenborn (New York, N. Y.) 1953. 7½ by 10 in. 329 pp. illus.

VINCENT J. SCULLY

Department of the History of Art and Architecture, Yale University.

Charles Rennie Mackintosh, 1868–1928, has certainly, as the author of this disarming book states in his preface, remained one of the most “enigmatic” figures in the development of modern architecture. The importance of his Glasgow School of Art, of 1877–99 and 1907–09, has long been recognized by historians of the modern movement. The only other works of his which have been generally known are a few tea rooms, several houses and one or two unrealized projects. Yet upon this small body of evidence architects and historians of the past generation have reached two vaguely formulated conclusions: 1) that Mackintosh was the last and possibly the greatest of the distinguished line of British architects and designers which had been in the forefront of architectural advance throughout the nineteenth century but which had, strangely enough, petered out before 1910; and 2) that Mackintosh’s work must have had considerable influence upon the development of modern architecture on the Continent.

In view of these preliminary conclusions, it would seem that the objectives

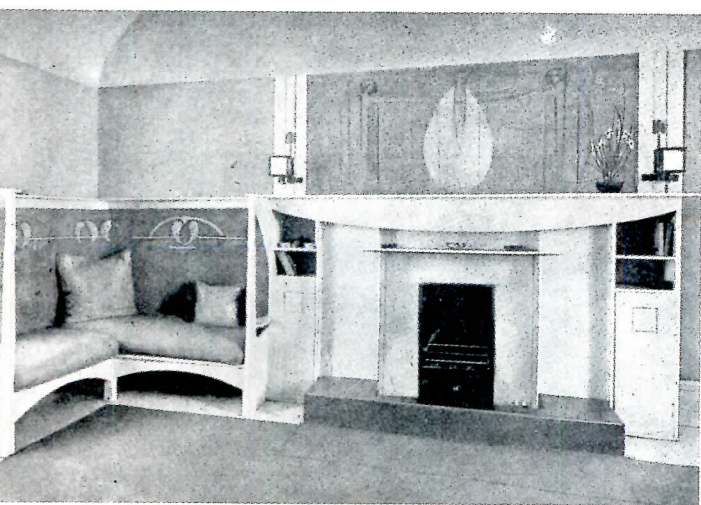
which Mr. Howarth has set himself in his study are the right ones. He has, first of all, attempted to present the whole of Mackintosh’s work, in documented form and with excellent photographs. It is obvious that the research involved in this attempt was a labor of love for Mr. Howarth, and it has been eminently successful. The work of Mackintosh can now be seen in its entirety for the first time, and this is important. Some of his early interiors, for example, not reproduced in any modern work, will be a revelation to contemporary architects and historians in their elegance, their clarity and their inspired simplicity. Still the volume of work as a whole remains tragically small, and nothing of any importance appears after the second program of building at the Glasgow School of Art.

In his other objectives Mr. Howarth has possibly been less successful. In presenting Mackintosh’s work and the tradition out of which it grew, Mr. Howarth has organized his material in a way which is rather difficult for the reader and in which some sense of important chronological connection and formal development is lost. He begins by discussing the Scottish tradition in building and the architects who were practicing in Glasgow during the nineties. Next he considers Mackintosh’s architecture and interior design in great detail but without chronological se-

quence. Only in a later section does he discuss the earlier work of Webb, Shaw, MacMurdo and Voysey. Yet without a knowledge of these architects’ experiments one can hardly be felt to understand the full tradition of nineteenth century British architecture out of which Mackintosh developed. His tradition was certainly not simply a Scottish one, as the author earlier, though I am sure unintentionally, might have led us to believe. Similarly, the *art nouveau* elements in the earliest designs of Mackintosh and his wife remain unrelated to their sources in Morris, Japanese prints and Aubrey Beardsley until a much later section of the book.

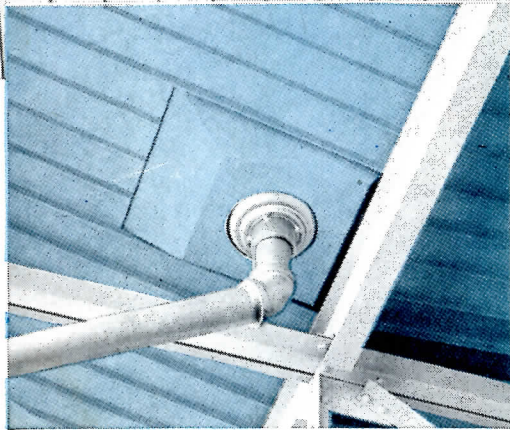
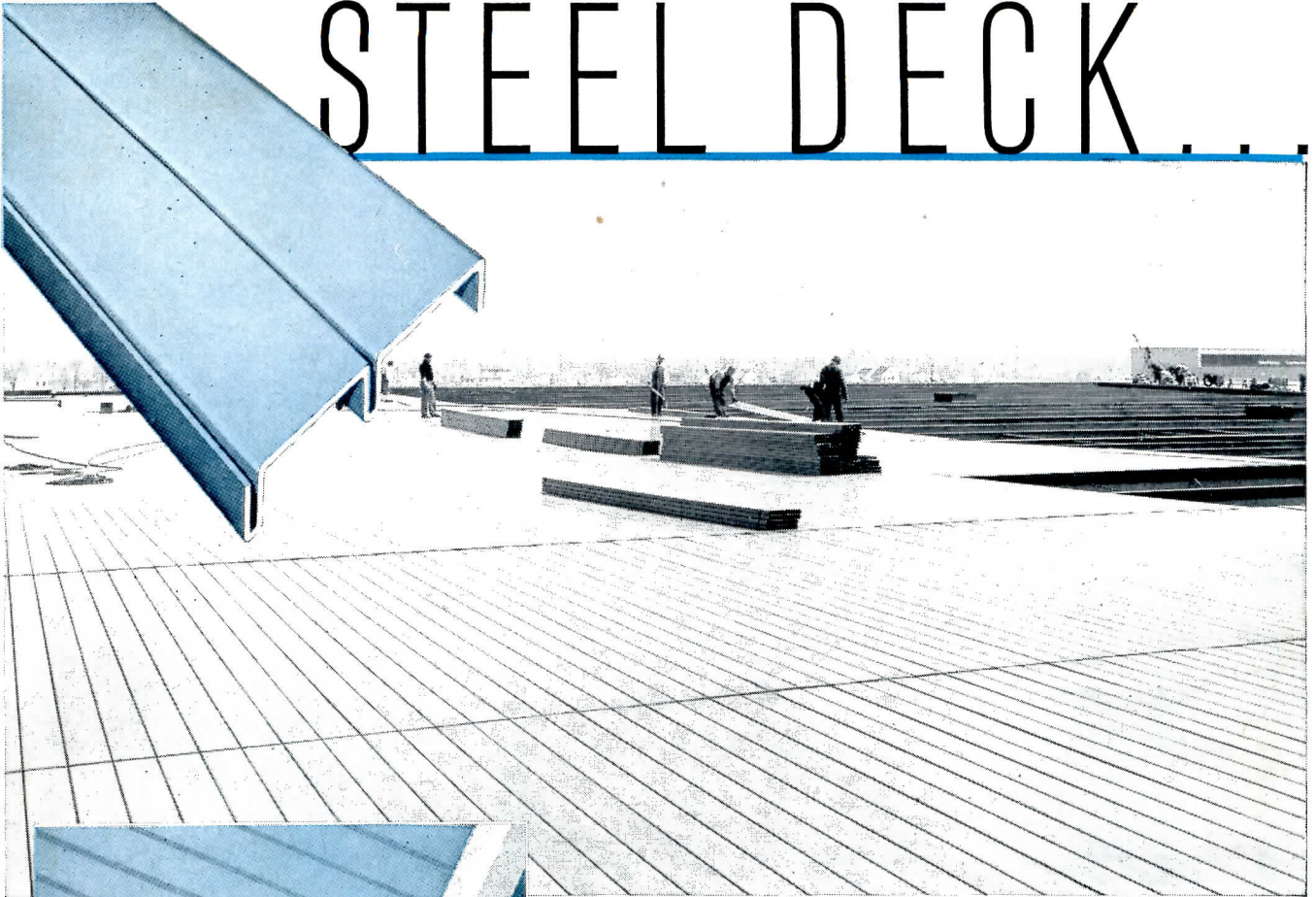
If Mr. Howarth thus does not fully succeed in clearly establishing the relationship of Mackintosh to his tradition, he similarly has some difficulty in presenting a coherent picture of the position of Mackintosh in relation to, and his effect upon, contemporary and later developments on the Continent. There are probably two reasons for this. The first is implicit in the material itself: the fact that even after Mr. Howarth’s researches the production of Mackintosh remains thin and, to all intents and purposes, ceases after 1909. This problem is clearly recognized by the author himself, and he is to be congratulated for his admirable restraint in common among biographers, in not claiming more for his subject than the facts themselves warrant. The second reason lies deeper and has, up to now, infected many studies of *Art Nouveau*, including the rather fragmentary section of Mr. Howarth’s book which deals with the problem. This reason lies in judging the importance of *Art Nouveau* forms according to the standards of the later “International Style.” That is to say, International Style rectangularity is taken as the expressive and rational norm of modern architecture. Therefore *Art Nouveau* curvilinearity is taken as irrational and without important meaning for the future. Giedion’s *Space, Time and Architecture* did much to set up this standard and, as he himself notes, Mr. Howarth’s attitudes toward the devel-

(Continued on page 48)



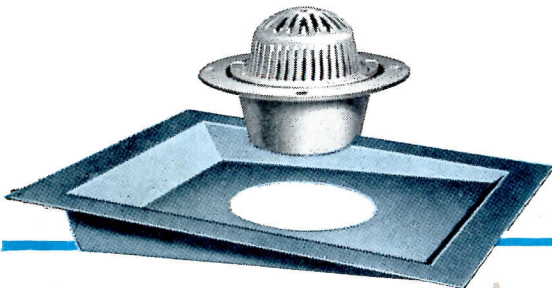
Interior by Mackintosh from
*Charles Rennie Mackintosh
and the Modern Movement*
By Thomas Howarth

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Built-up saddles are eliminated in Steel Deck Roofs. Purlins can be set to create valleys at sump locations in the drainage area. Steel Deck can be warped to conform. No additional deck plates are required—no cutting, fitting or bending necessary.



SUMP RECESSES and SUMPS

Mahon Roof Sump Recesses for use with Mahon Steel Deck can be furnished to fit any roof pitch. Mahon Cast Iron Sumps can also be furnished for 4", 5", and 6" conductors.

New Concept in Roof Construction Adds to Steel Deck's Advantages!

New roof building methods give Steel Deck even greater advantage over other types of deck material. An effective, new type vapor seal provides safeguard against pitch seepage under extreme fire conditions. Now, more than ever before, Steel Deck is the most practical deck material available for modern roof construction. Year after year, Steel Deck roofs a greater percentage of new construction. The reason for this is simple . . . the over-all cost of a Steel Deck Roof is less than any other type of permanent, firesafe material. Steel Deck's light weight, and the fact that it can be insulated to the exact degree to meet local requirements, permits substantial savings in the supporting structure—total dead roof load will prove to be less than any other type in any given locality. Mahon Steel Deck is available in Galvanized or Enamel Coated Steel . . . stiffening ribs are vertical—no angular or horizontal surfaces where troublesome dust may accumulate. In the enamel coating process, the metal is chemically cleaned, phosphated, and treated with a chromic acid solution to provide paint bond, and the protective coating of synthetic enamel is baked on at 350° F. prior to roll-forming. Consider these extra-value features . . . See Sweet's Files for complete information, or write for Catalog B-54-A.

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

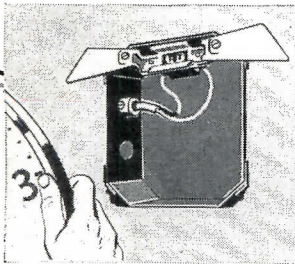
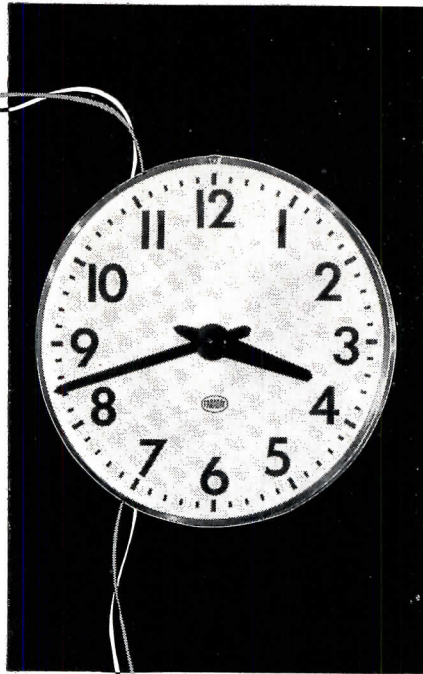
Detroit 34, Michigan • Chicago 4, Illinois • Representatives in all Principal Cities

Manufacturers of Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms; Insulated Metal Walls of Aluminum, Stainless or Galvanized Steel; Insulated Metal Wall Panels; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Fire Doors and Shutters.

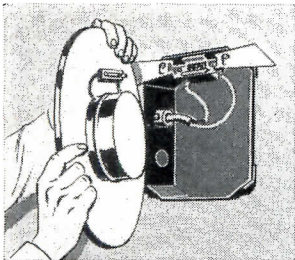
M A H O N

FARADAY

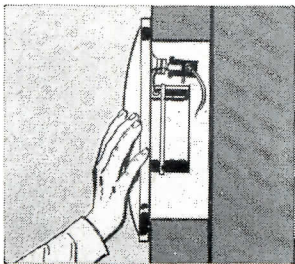
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Clock plugs easily into
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Clock securely mounted,
yet easily removed.

● This ultra-thin Faraday clock incorporates design advances that greatly simplify installation and give it a distinctive beauty, unmatched in clocks of flush design. It is installed, securely and easily, by plugging it into a pre-wired wall outlet—yet it can be removed from the wall with equal ease. Once installed, its polished aluminum rim projects only 7/16"—and actually looks as though it were mounted in the wall.

The Faraday Flush Clock is unusually easy to read—from many angles—because of its special flat center convex crystal and crisp black numerals against a white face. It is operated by a high-quality, impulse or synchronous movement. Available in a wide variety of standard diameters as individual synchronous clocks or as a part of a complete program system. Write for details.

*Patent applied for.

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REQUIRED READING

(Continued from page 46)

opment of the twentieth century architecture are largely based on those of Giedion. Yet the standard is undoubtedly a faulty one, and it would be refreshing and perhaps of considerable importance if those historians who are now once more studying *Art Nouveau* would set up a counter standard. It might be something like this: Spatial and structural continuities are, in actual fact, the unique potentials of twentieth century building. Concrete, for example, is by its nature a monolith in which the forces are continuous throughout the shell. Moreover, the pattern of the moment of bending in structures can be shown to be curvilinear. Thus, curvilinear continuities, in which discontinuous differentiation between load and support no longer has meaning, would seem to hold intrinsic possibilities for modern building. Toward these possibilities the whipping, continuous curves of beam and lintel in Horta, the sinuous iron work brackets of Mackintosh, and the undulating walls of Gaudi would seem to have been groping. Certainly they are closer to such possibilities—at least emotionally and plastically—than is the concrete expressed as discontinuous timber work of Perret or the rectangular planarity of Gropius and Mies. Thus *Art Nouveau* would no longer need to be apologized for, and its importance in relation to a long future, in which the International Style might be felt to be only one of many interludes, might be established.

Mr. Howarth's book, like many English publications, could also have been strengthened by a firmer knowledge of contemporary events in America. Mackintosh's tensile interweaving of skeletal elements in his interiors, especially in the library of 1907-1908 in the Glasgow School of Art, should be related to the earlier skeletal interweavings of Stanford White in 1880 (McCormick and Appleton Houses and the Newport Casino), Louis Sullivan in 1890 and 1895 (Wainwright and Guaranty Buildings), Frank Lloyd Wright in 1902, 1904 and 1906 (Willitts House, Larkin Building and Unity Temple). Here again a profound and international principle of structural and visual interweaving, easily of importance beyond the International Style, would seem to have been at work in the late nineteenth and early twentieth centuries. (A minor point in this connec-

(Continued on page 332)

COVENTRY

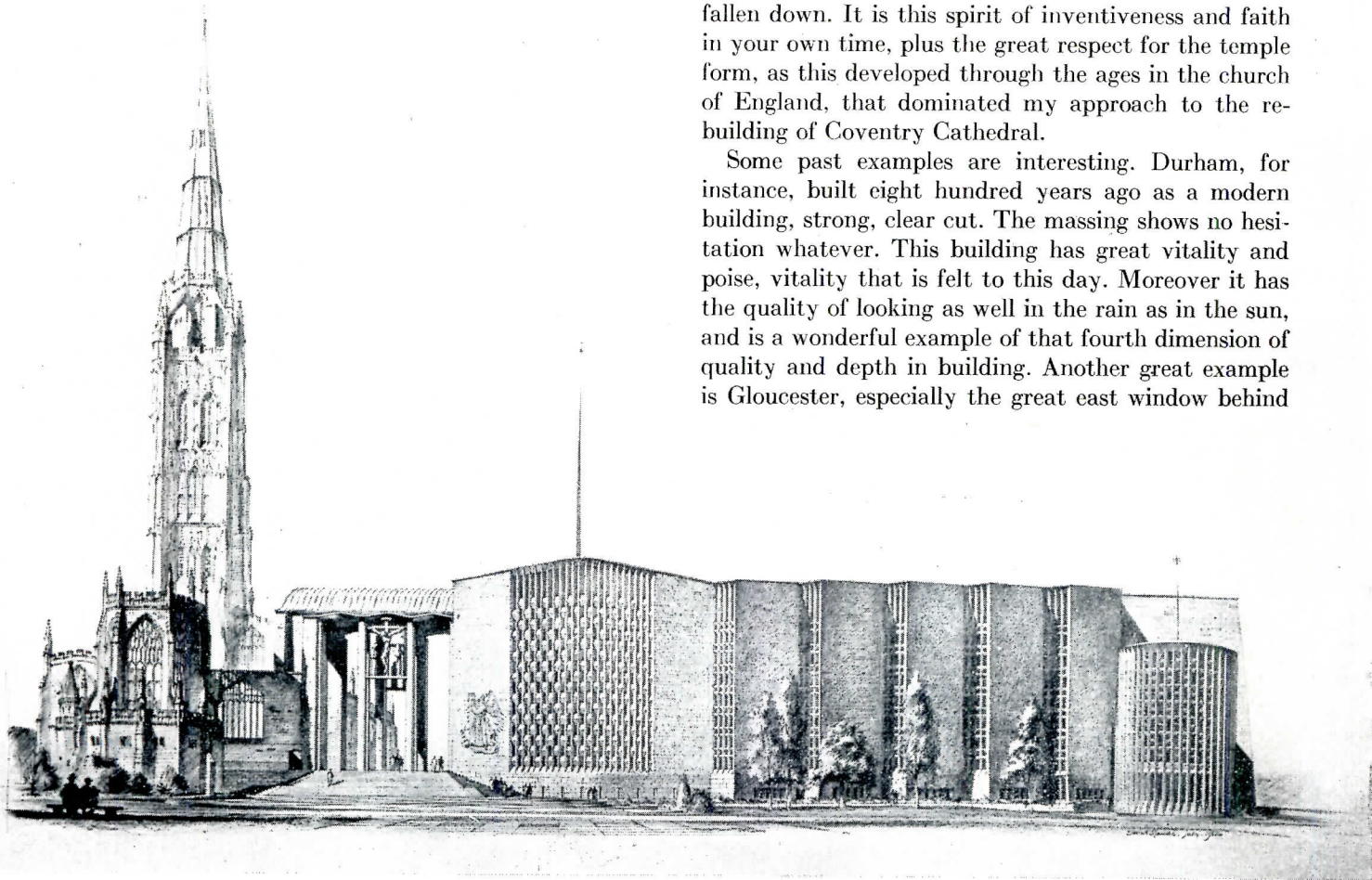


A CONTEMPORARY EXPRESSION OF CATHEDRAL TRADITIONS

A RARE ASSIGNMENT TODAY, the design of a cathedral poses some problems for contemporary architecture. This design for the new Coventry Cathedral, to replace the one bombed out, represents a thoughtful effort to develop, in modern materials and methods, the traditional thinking on church concepts and inspirational necessities. It was chosen from 219 schemes in competition. On the following pages the architect relates his reasoning.—Ed.

A CONTEMPORARY EXPRESSION OF CATHEDRAL TRADITIONS

By Basil Spence, O.B.E., A.R.A., A.R.S.A.



WHY did you design a "modernistic" cathedral when there were so many wonderful examples of pure gothic architecture in England which could be your model, giving perfect opportunities for a detailed copy? This question was often put to me during the last three months, while I was travelling through Canada.

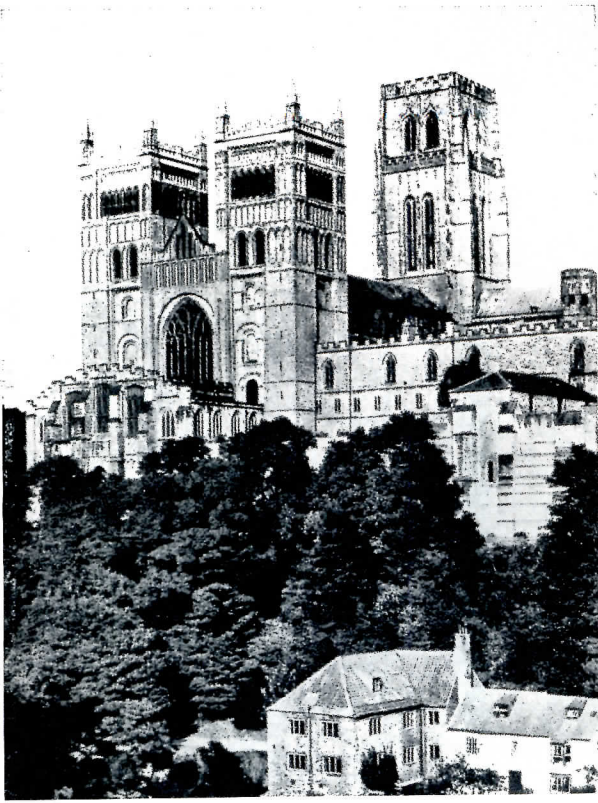
The answer is simply that I have studied these ancient cathedrals very carefully, being a Pugin student, for knowledge of Gothic was absolutely necessary before the prize could be awarded; and what I have tried to do is to apply what I thought to be the underlying principles of our own native architecture here in Britain.

Gothic architecture displays certain qualities, perhaps the most arresting of which is that their buildings were always modern when they were built, displaying a strong faith in their time, invention and courage. Things were done sometimes without adequate knowledge, with the result that spires and even vaults have fallen down. It is this spirit of inventiveness and faith in your own time, plus the great respect for the temple form, as this developed through the ages in the church of England, that dominated my approach to the rebuilding of Coventry Cathedral.

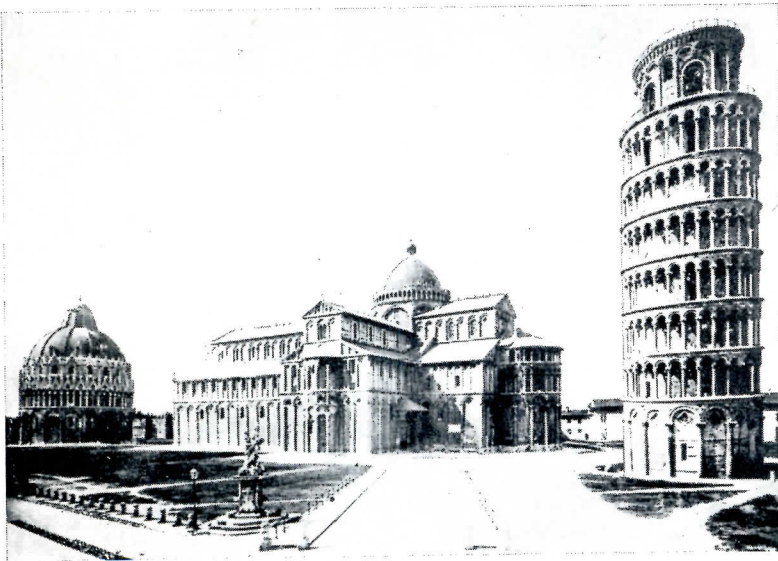
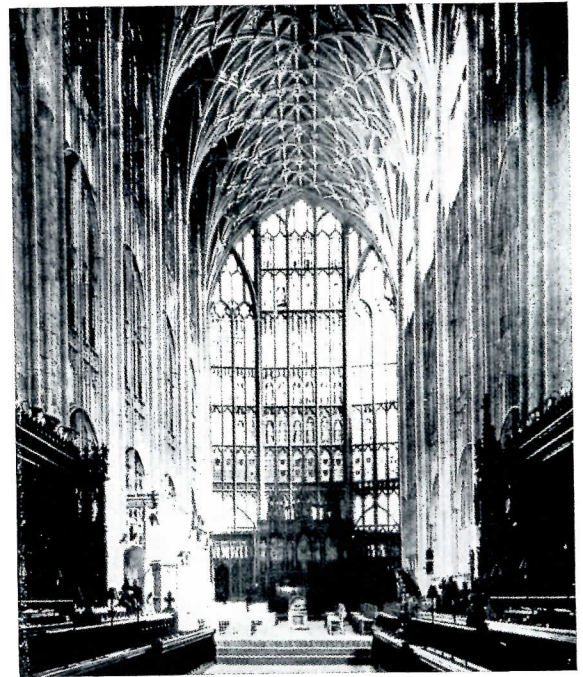
Some past examples are interesting. Durham, for instance, built eight hundred years ago as a modern building, strong, clear cut. The massing shows no hesitation whatever. This building has great vitality and poise, vitality that is felt to this day. Moreover it has the quality of looking as well in the rain as in the sun, and is a wonderful example of that fourth dimension of quality and depth in building. Another great example is Gloucester, especially the great east window behind

the altar and the choir. Built in the middle of the fourteenth century and replacing a Norman choir, it showed the wisdom of the ecclesiastical authorities in encouraging the latest methods of design and construction, as the Romanesque architecture which it replaced was mostly wall and little window, whereas now this beautiful cathedral has a great east window 70 feet high and 40 feet across.

But England alone does not hold all the examples. An architect must throw his net wide. Let us look at



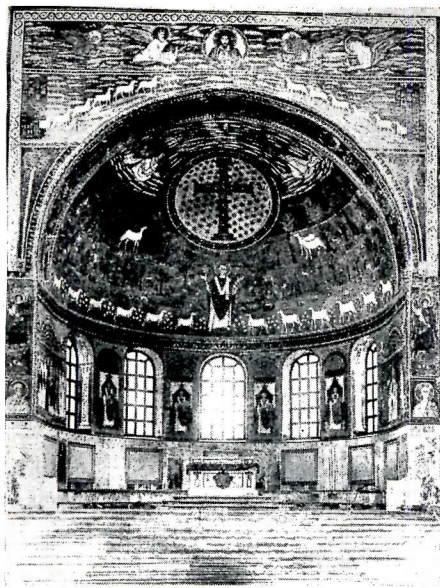
Among the cathedrals which gave inspiration to the author include Durham (left) for its "great vitality and poise"; Gloucester (below), "especially the great east window"; and Pisa (below, left) for the clarity of its grouping and its "quality"



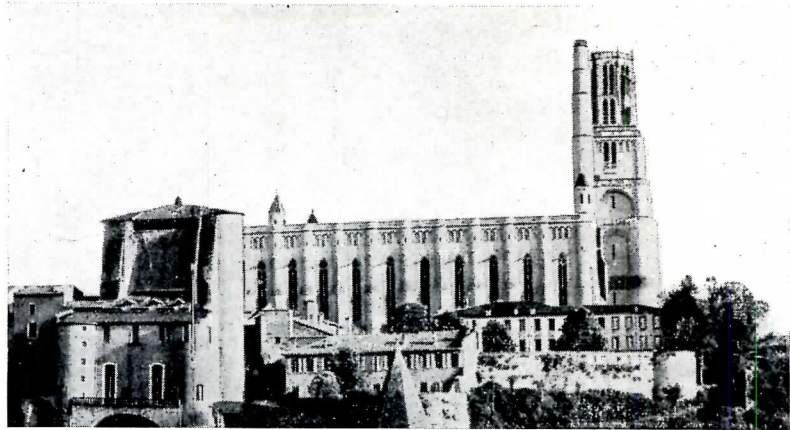
Pisa with the four elements, the basilica, the baptistry, the campanile and the campo santo, placed together with Grecian clarity and exactness, buildings that group in the third dimension and possess the fourth, quality.

At Ravenna, too, there are buildings which inspired me greatly, St. Apollinare in Classe, which is just outside Ravenna, built many hundreds of years ago as an early Christian basilica. This has for its massing a simple dignity of immaculate proportion and fenestration. The elements are all clearly defined, but externally

it does not say much. It is a dignified building with an invitation to enter. It is the interior which matters, for here is the altar and it is here where men worship. The altar is enshrined in the most beautiful and dignified material, culminating in the apse, which is one of the most lovely mosaics I have ever seen, still a blaze of colour and as brilliant today as it ever was. The interior is rich with marbles and is flooded with a soft golden light through the alabaster windows. This building truly functions. Entering, the great surprise sweeps the



Also Ravenna (left) — “the altar is enshrined in the most beautiful and dignified materials”; and Albi for its impressive grandeur



visitor off his feet and turns him from a common visitor into a worshipper. It is this philosophy of design which had a strong bearing on the line I took in the rebuilding of Coventry Cathedral.

Very similar also is the effect at Albi in the south of France, a romantic town dominated by the cathedral, which is on the highest ground, standing there like a great hen with little chicks around her. But when you walk up to the cliff-like walls there is an impressive grandeur about the exterior, which is perhaps lacking in many other examples; it is severe and very dignified. It is only when one enters that the real magnificence of this building is appreciated. The philosophy is the same as that at Ravenna.

When I received my conditions for the rebuilding of Coventry, while I was in Edinburgh, I read them and was tremendously stimulated. I would like to quote the preface written by the Bishop and the Provost.

“The Cathedral is to speak to us and to generations to come of the Majesty, the Eternity and the Glory of God. God, therefore, direct you.

“It is a Cathedral of the Church of England. In terms of function, what should such a Cathedral express? It stands as a witness to the central dogmatic truths of the Christian Faith. Architecturally it should seize on those truths and thrust them upon the man who comes in from the street.

“The doctrine and the worship of the Church of England is liturgically centred in the Eucharist. The Cathedral should be built to enshrine the altar. This should be the ideal of the architect, not to conceive a building and to place in it an altar, but to conceive an altar and to create a building.

“In the Anglican liturgy it is the people’s altar; the altar should gather the people, it should offer access for worship and invitation to Communion.

“With the altar — in the unity of worship — there is the preaching of the Gospel among our people of Coventry and the interpretation of the Word.

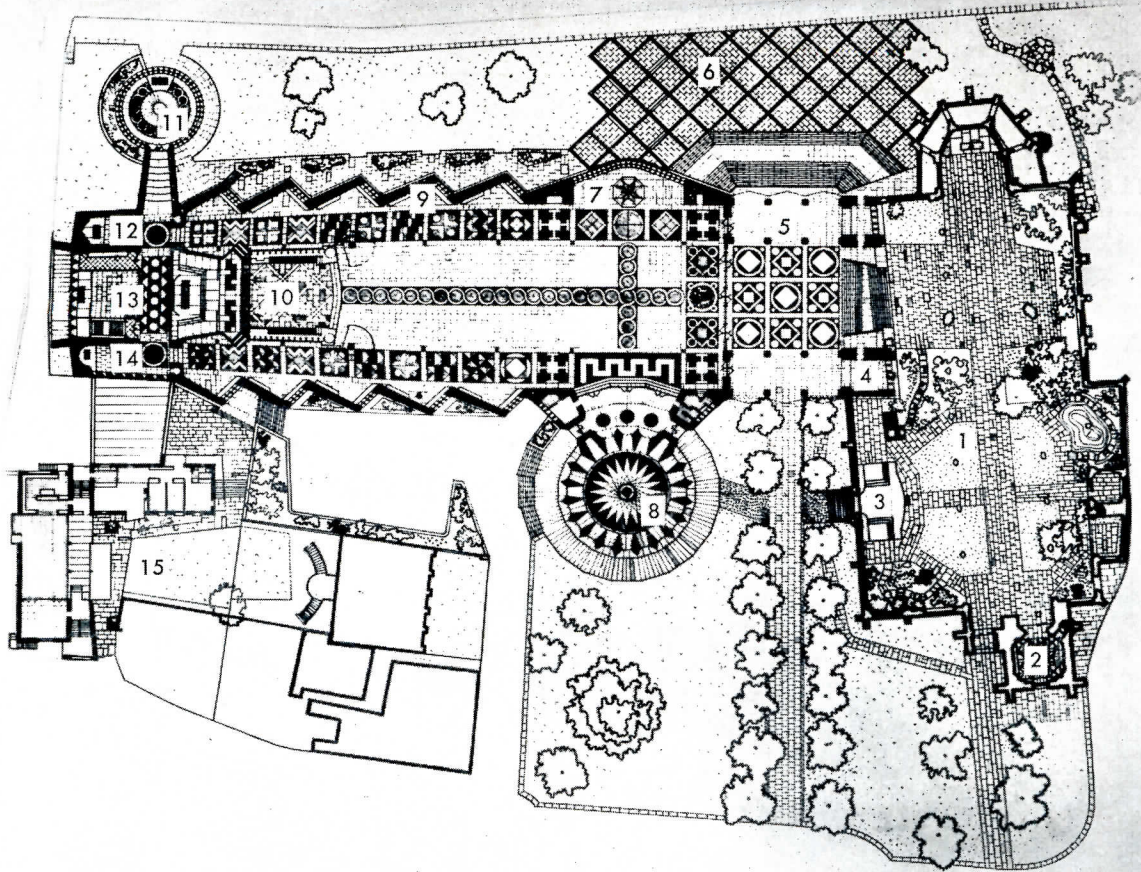
“The theology of the Cathedral we put before you to direct your thought. Prayer will be with you from the

Cathedral Crypt and from the Diocese of Coventry. May God be with you in this great matter.”

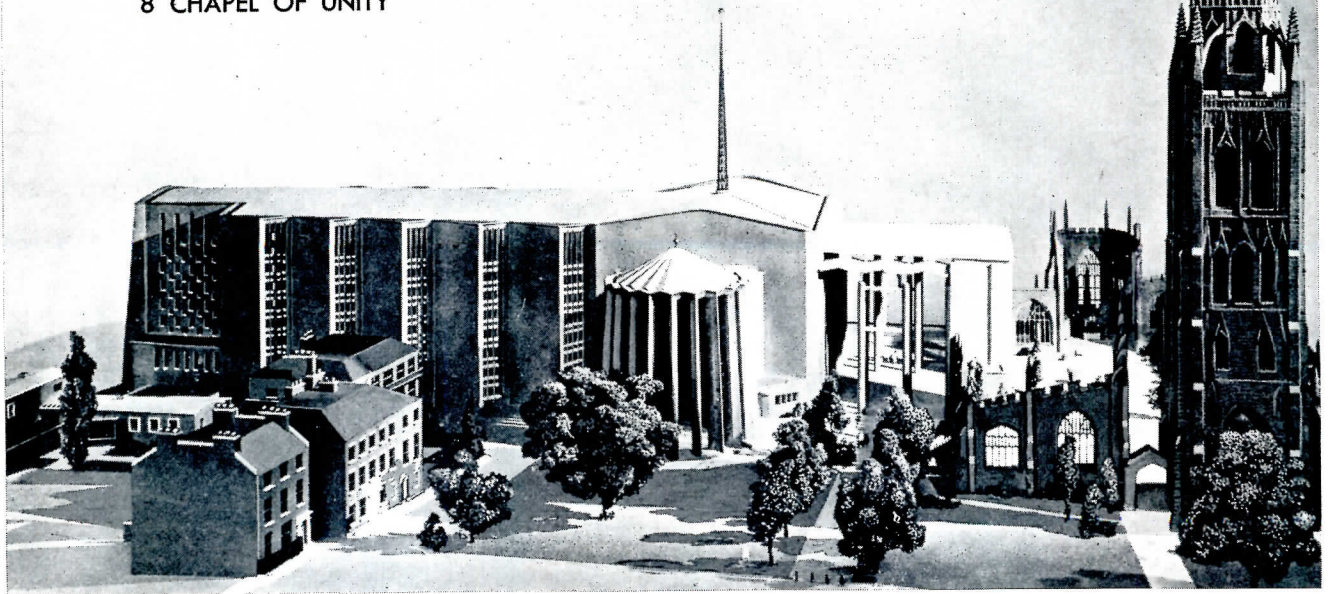
I determined at once to visit the site and see for myself. This Cathedral, as we all know, was bombed during the first of the great German air raids on Britain. It was destroyed by fire bombs on November 14th, 1940. There was great loss of life and property, but when I set foot in these ruins I realized I was walking on hallowed ground. Instead of the beautiful six hundred-year-old roof, this cathedral, because a cathedral it still is, has the skies as a vault. This feeling of reverence was intensified when I walked up to the altar which was erected during the war by a stone mason, from the stones which had fallen from the upper parts of the cathedral. Behind it is the charred cross made of beams that had not quite burnt out. This is an eloquent symbol, and a relic of faith during Britain’s darkest hour, and I must admit to feelings of deep emotion when I saw this and read the words carved behind — “Father forgive.”

I went to the site and looked out through the ruined windows over the ground reserved for the cathedral, and in a flash I saw in my mind’s eye a beautiful new one growing out of the old, keeping the ruins as an integral part of the whole scheme. The picture I saw was a sparkling and beautiful altar at the end of a long vista backed by a great picture, the body of the nave spread out in front of the altar, but I did not see it clearly because in front of my eyes floated the bodies of the saints and the martyrs and it was through their bodies that the altar could be seen. We all know the price of this new altar — 1200 people killed and many, many more maimed and injured for life, 5,000 homes wiped out even with the people in them, 60,000 homes damaged, apart from the tremendous industrial damage. So the new altar will be seen through the saints and martyrs.

I took back with me to Edinburgh this idea seed, which continued to grow from that moment. Part of the new accommodation required is a chapel of unity where all church denominations could worship. This is a won-



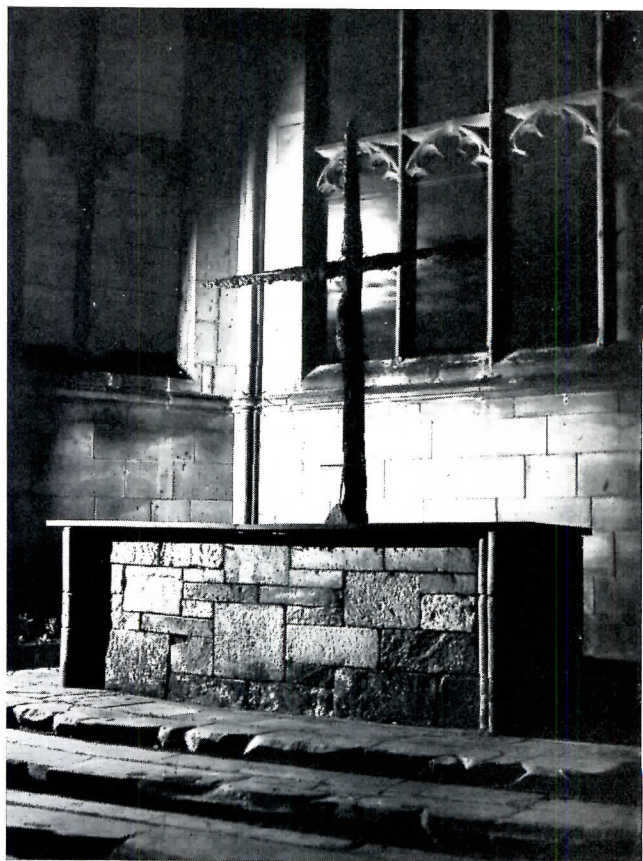
- | | |
|--------------------------|-----------------------------------|
| 1 CATHEDRAL RUINS | 9 HALLOWING PLACES |
| 2 TOWER | 10 CHANCEL |
| 3 OPEN AIR STAGE | 11 GUILD CHAPEL AND CHAPTER HOUSE |
| 4 CRYPT CHAPEL ENTRANCES | 12 CHAPEL OF THE RESURRECTION |
| 5 ENTRANCE PORCH | 13 LADY CHAPEL |
| 6 FORECOURT | 14 CHILDREN'S CHAPEL |
| 7 FONT | 15 CHRISTIAN SERVICE CENTRE |
| 8 CHAPEL OF UNITY | |



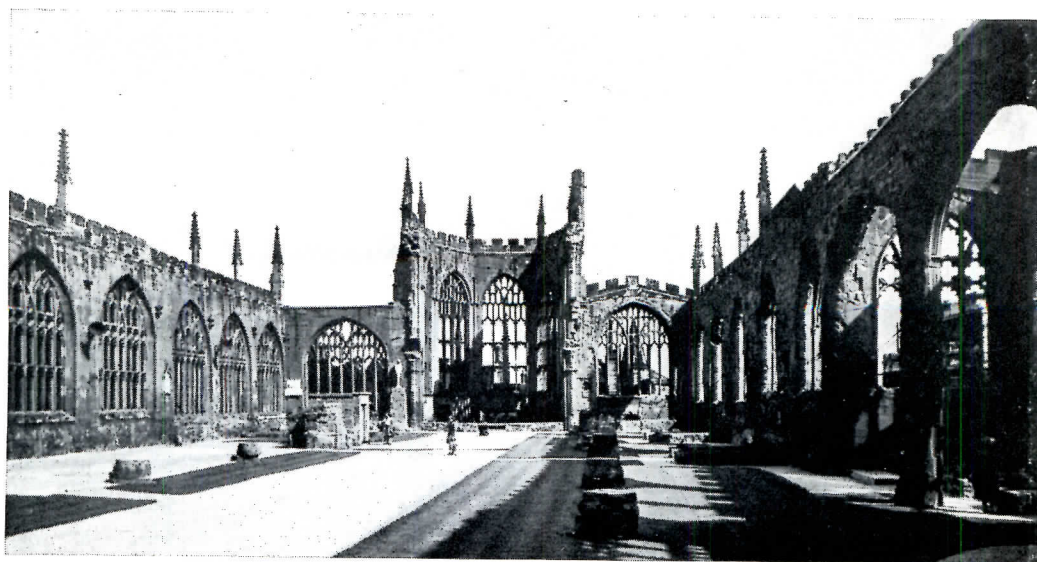
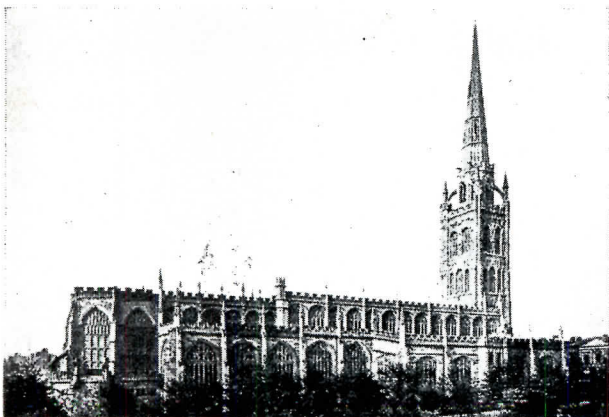
derful idea, worthy of strong architectural expression. I felt that this chapel could express unity and strength, and looking for a symbol to express it, I chose the star — a great star which will form a pattern on the floor, as the Star of Bethlehem was the first sign of Christian unity.

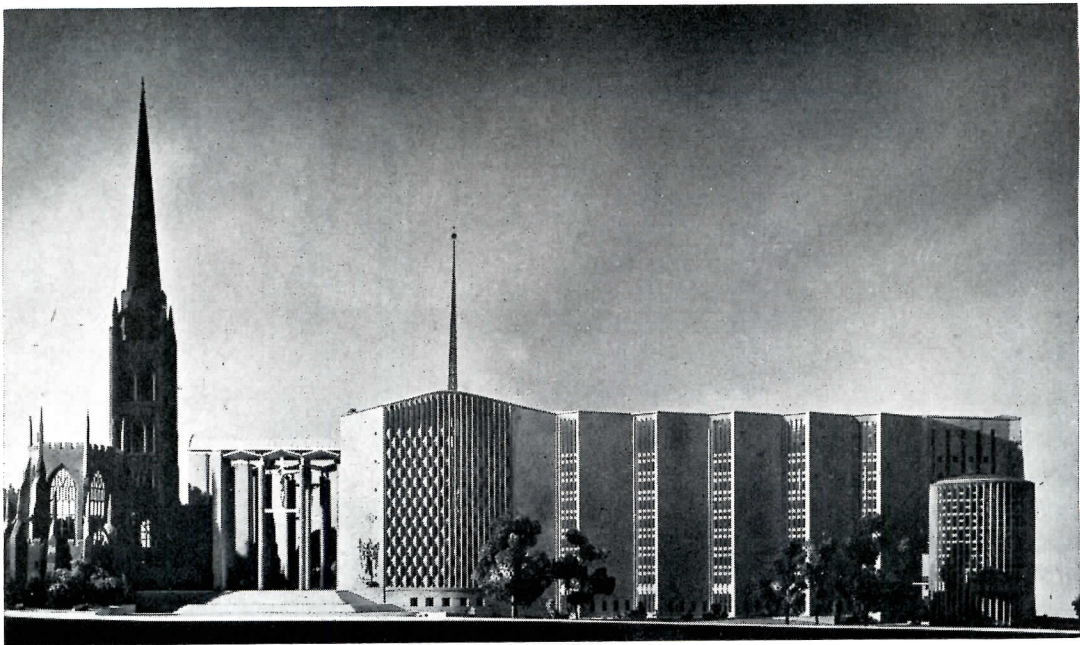
So opposite this chapel inside the new cathedral is the font. Because the font represents birth and virility and the rebirth of this cathedral, it is a very important feature. The font has a cover, a tall spire-shaped form, which rises to 80 feet. Behind it is a great window of 198 little windows. In each of these, I hope to have stained glass designs representing the saints in infancy, and the window will be carried out in the clear pure colours of birth and innocence.

People entering the cathedral first will see no other windows apart from this one, but their eyes should be drawn toward the altar, and beyond it to a great tapestry over 80 feet high and over 40 feet across. On this, in brilliant colours will be woven the figure of Our Lord seated in the glory of the Father with the four beasts, exactly as Saint John the Divine describes in his vision of the fourth chapter, Book of the Revelation. This tapestry is being designed by Graham Sutherland.

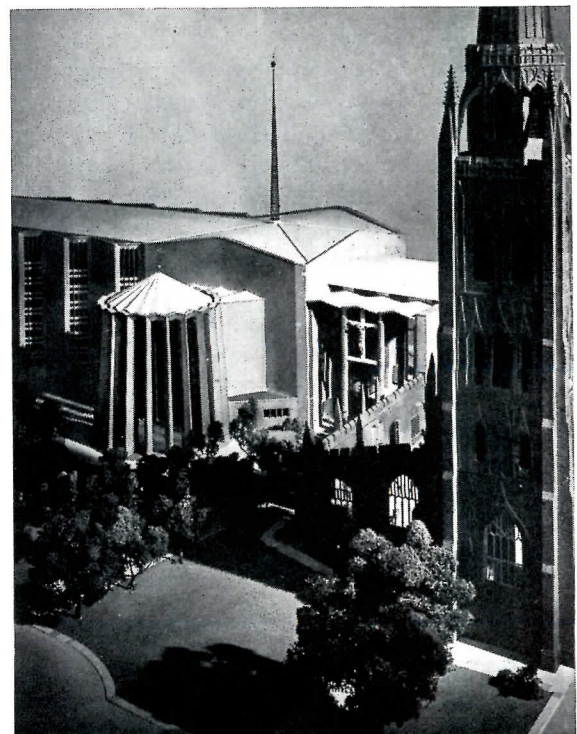


From Coventry Mr. Spence found inspiration in the simple altar built by a stone mason in the ruins of the cathedral, "a relic of faith during Britain's darkest hour," and from the ruins themselves, which he insisted be preserved as an integral part of the scheme for the new church





"... I saw in my mind's eye a beautiful new one growing out of the old . . . a sparkling and beautiful altar at the end of a long vista . . . but I did not see it clearly because in front of my eyes floated the bodies of the saints . . ."



As you walk toward the altar you will realize that the windows reveal themselves as you reach them, because they are blotted from view by cliffs of stone, and you will only see them as you pass them.

There are five pairs of windows 70 feet high on opposite sides of the nave, each pair representing an age of man. The first pair grow from our birth — and represent childhood. These are strong virile windows in stained glass, strongly patterned. The colour is predominantly green and other colours allied to green, such as yellow and blue. These will present the young shoots growing out from the ground to the full height.

The next pair shows childhood growing into manhood and womanhood, the age of passion and strength, and these windows are predominantly red.

The next are the middle life with the experiences of middle life represented by the colours of the rainbow, some dark, some light, some brilliant and some dull.

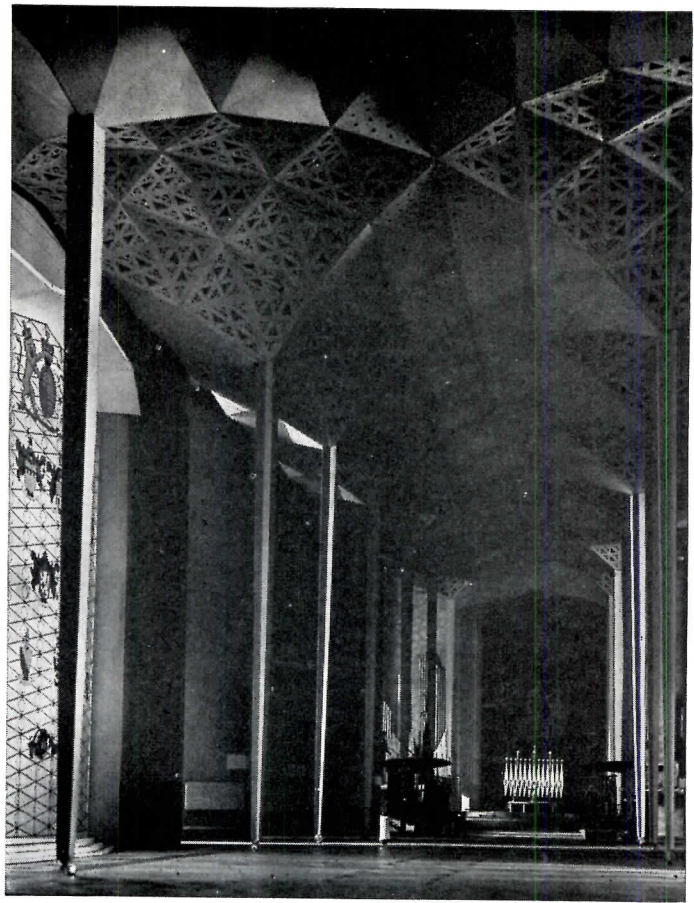
Still going toward the altar, the next pair represent the richness and wisdom of old age and are deep blue and purple, flecked with gold.

You will notice that the windows are gradually becoming darker and richer as you move toward the altar; the last pair represent the after-life. These are the altar windows of golden glass. The light from these windows shines directly on to the altar, so as you approach the holy table there will always be this aura of golden light around it. But when you reach the altar and turn around, for the first time you will see all the windows at once. I do not know of a church so far built that does this. As you know life, you experience the present and can look back into the past, but you cannot see the future. But when you reach the altar, the whole pattern is revealed for the first time.

The two ranges of windows leading up to this climax represent on the right, the perfect side which is God, and on the left, the "man" side, a reflection of the perfect side but imperfect in its reflection, as man is always striving for perfection — rather like trees reflected in a pool disturbed by the wind. One is the truth and the other is rather an uncertain reflection of the truth. But at the altar both are joined in a blaze of glory.

As an instance of this, the wisdom window on the man side represents a great and beautiful chalice as the most beautiful thing a man can make in his wisdom. This is a strikingly rich window showing this chalice studded with jewels and brilliant in purple, blue and gold. But on the God side, the window represents the lily of perfection as the miracle of planting a seed. Something so perfect as a lily growing cannot be imitated and even under a microscope the lily is still perfect.

A cathedral in England has a greater purpose than a church in which only to hold services. The Cathedral will open every day and must speak all the time, even when there is no sermon to be heard or anthem to be listened to. It must speak itself. The object of this cathedral is to turn the visitor who may go into the cathedral alone for a half hour's peace — to turn him from a visitor into a worshipper.

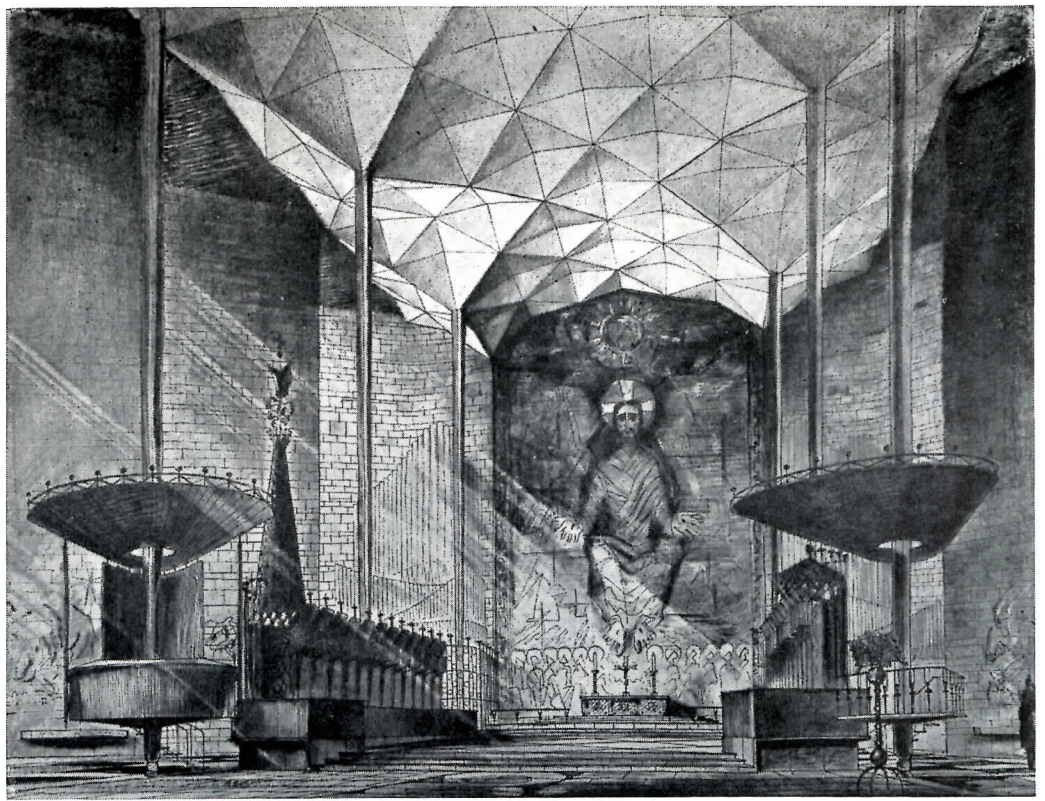
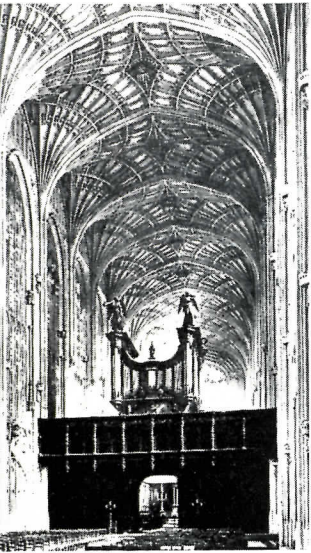


Work has already started. The glass, which is possibly one of the largest single commissions for stained glass ever given, has already started. When these windows are shown to the world, it will be realized that the artists in the Royal College of Art are recreating the spirit that existed when the glass was put into Chartres and in York and Canterbury. These windows are contemporary but they pay great respect to the past, and knowledge from the past is used as an inspiration and a stimulus.

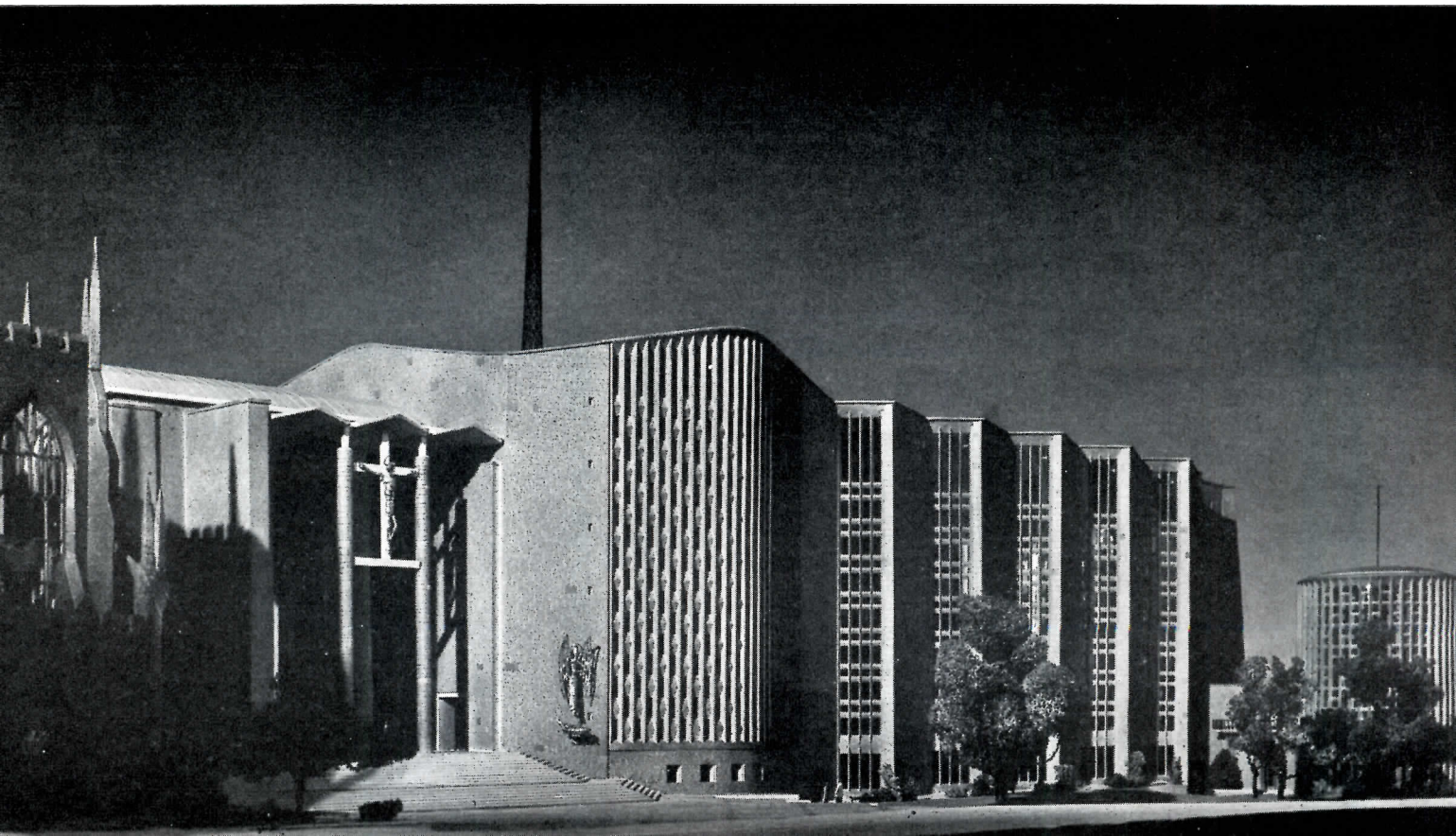
The tapestry designs by Sutherland are well advanced, and this brilliant English artist will produce a tapestry for what must surely be one of the most difficult problems any artist in recent years has had to face — an ecclesiastical subject on the vast scale of 80 feet high and 40 feet across.

Work has started too on the great west screen of engraved glass. The artist, John Hutton, has been designing and experimenting with glass engraving for the last year. This wall of glass is larger than the tapestry.

The organ, which should in itself be a work of art, has been ordered; and it may be worth while noting that the Canadian College of Organists has already donated \$30,000 towards this. And finally, the stone for the Cathedral is being cut now, and we hope to start on excavations and site during April 1954.

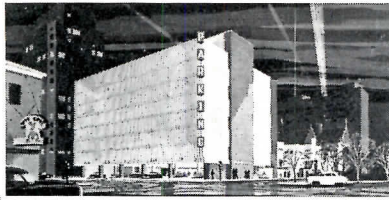


The vault will be a free standing structure within the building, of concrete on 14 steel columns or legs resting on crystal balls. The author mentions in his notes the inspirational quality of the vault in King's College Chapel, Cambridge (shown at left)

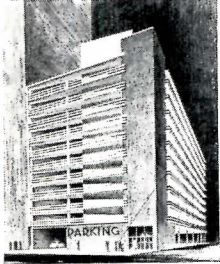


NINE GARAGES FOR CITY OF CHICAGO

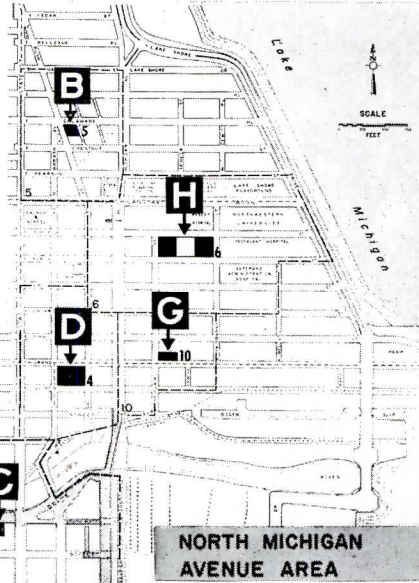
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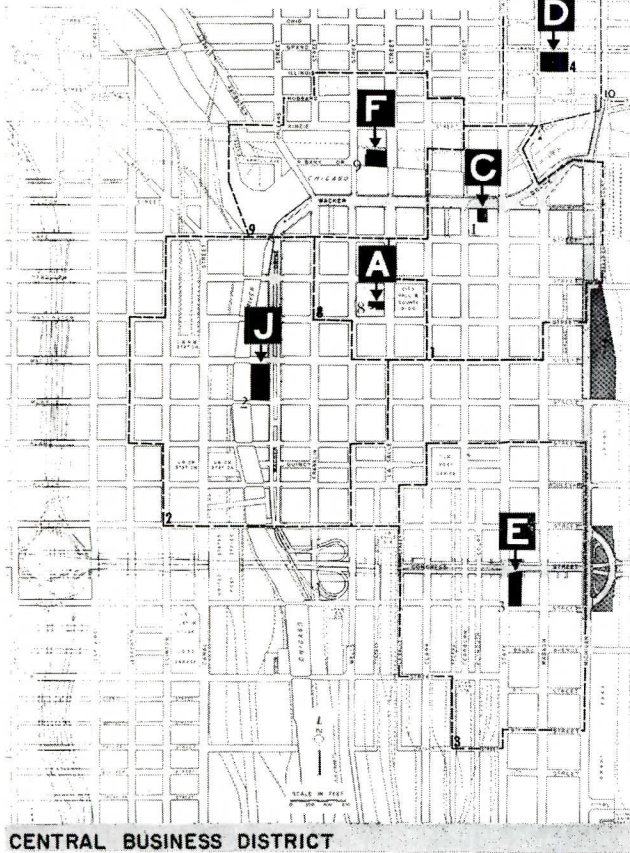
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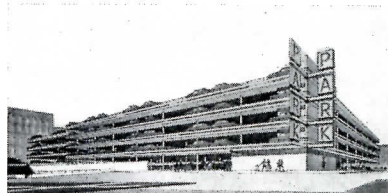
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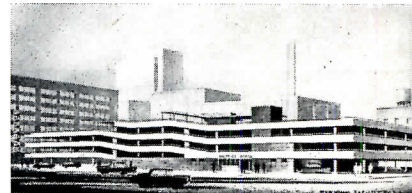
NORTH MICHIGAN AVENUE AREA



CENTRAL BUSINESS DISTRICT



D

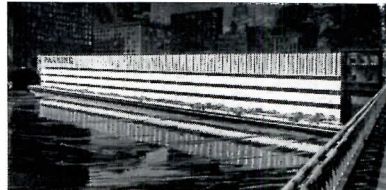


E

H



J



MAKE A FRONTAL ATTACK ON PARKING PROBLEM

Variety of Concepts by Nine Different Architects

GENERAL ADMINISTRATION:

The Chicago Department of Public Works, Bureau of Engineering;

Martin H. Kennelly, Mayor

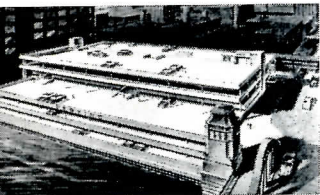
V. E. Gunlock, Commissioner

Dick Van Gorp, Chief Engineer

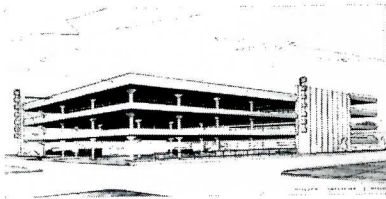
M. J. Glicken, Architect

CONSULTING ENGINEERS:

De Leuw, Cather & Co.



F



G

THE ARCHITECTS:

A *Friedman, Alschuler and Sincere*

B *Loebl, Schlossman and Bennett*

C *Shaw, Metz and Dolio*

D *Schmidt, Garden and Erickson*

E *Everett F. Quinn and Associates*

F *Graham, Anderson, Probst and White*

G *McClurg, Shoemaker and McClurg*

H *Holabird and Root and Burgee*

J *Naess and Murphy*

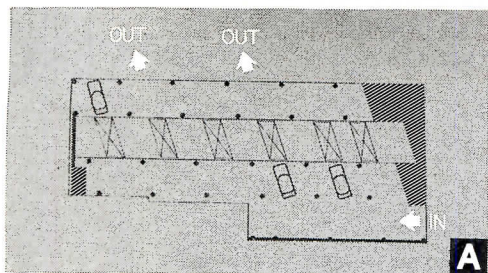
A PROBLEM typical of nearly every American city is that of providing adequate and convenient off-street parking for the increasing stream of cars that is strangling urban commerce and mobility. Consultants warn that, unless attacked, the problem will become worse, since suburban growth and the development of peripheral shopping centers is expected to offset only in part the anticipated population increase and wider ownership of cars.

In characteristically vigorous fashion, Chicago is doing something about it — constructing nine garages to provide approximately 6650 parking spaces; a multi-project which should yield tangible relief to that mid-west metropolis within 18 months. Total cost of land and buildings will approach 22 million. Of interest is the fact that the city has hired various local architectural firms and engineering consultants to design the structures. The program culminates nearly ten years of effort by city officials, civic organizations, business firms, and individuals, and received its official start when the city authorized the bond issue in September, 1952. The development is based upon a complete study of the entire problem made by De Leuw, Cather & Co., Engineers, who were retained by the five banking firms marketing the bonds.

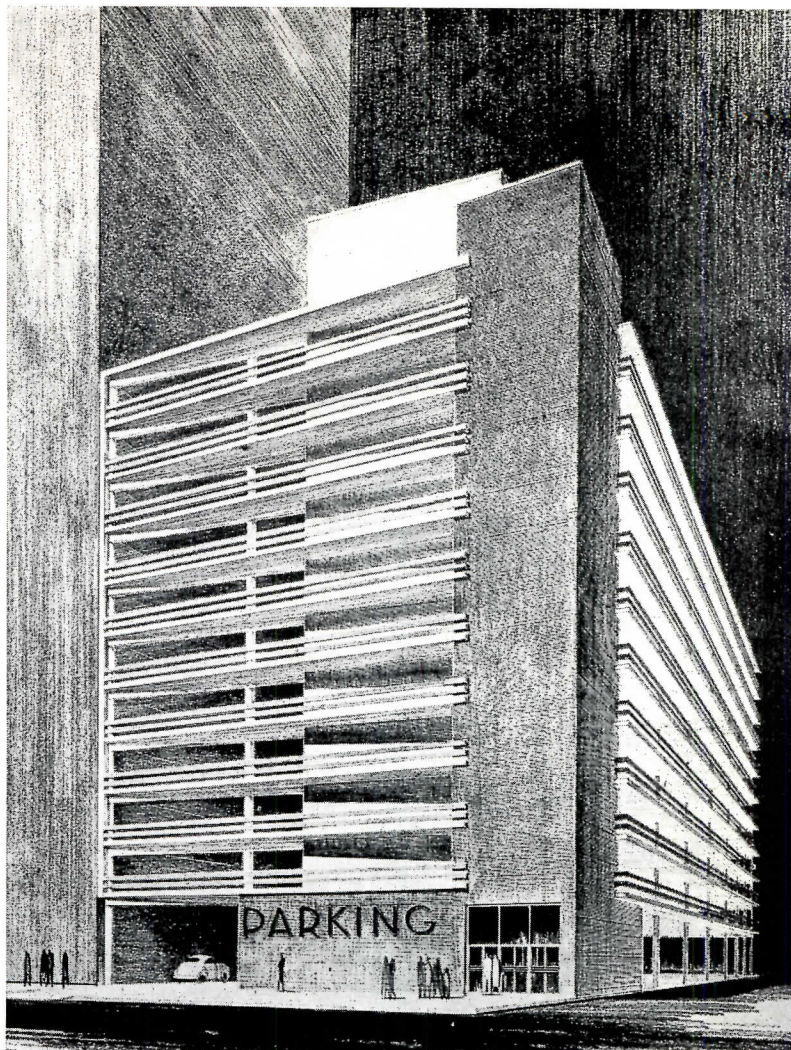
Five of the nine structures will be built in the "Loop" or central business district (lower portion of map), and four in the North Michigan Avenue area (top of map). Construction of three is under way; the remainder will be advertised by summer; and all of the buildings are scheduled for completion by summer, 1955.

Each of the garages will be classified as fireproof and will be built with floors and ramps of flat slab or concrete pan construction and with parking areas open to the air. Several have precast or aluminum louvers to minimize noise and screen the cars from view. In addition to concrete spandrels, three schemes have aluminum railings for peripheral barriers while one design features vertical cables held in tension by special springs as an outer guard. Certain exterior portions will have brick or granite facings. Waiting rooms, offices, etc. will be of glazed tile with aluminum trim, windows, and doors.

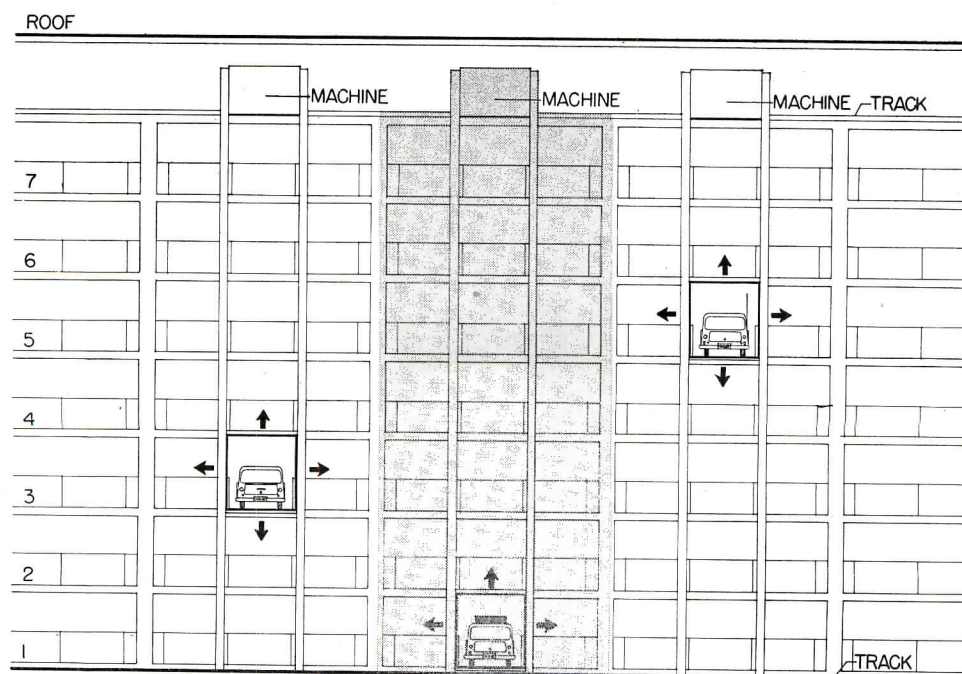
Of the nine schemes, six are of the ramp type, while three are of the "hoist" type, described more fully on the following two pages.

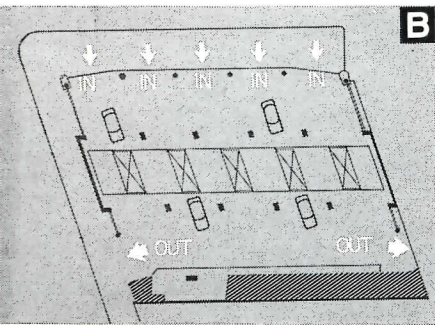
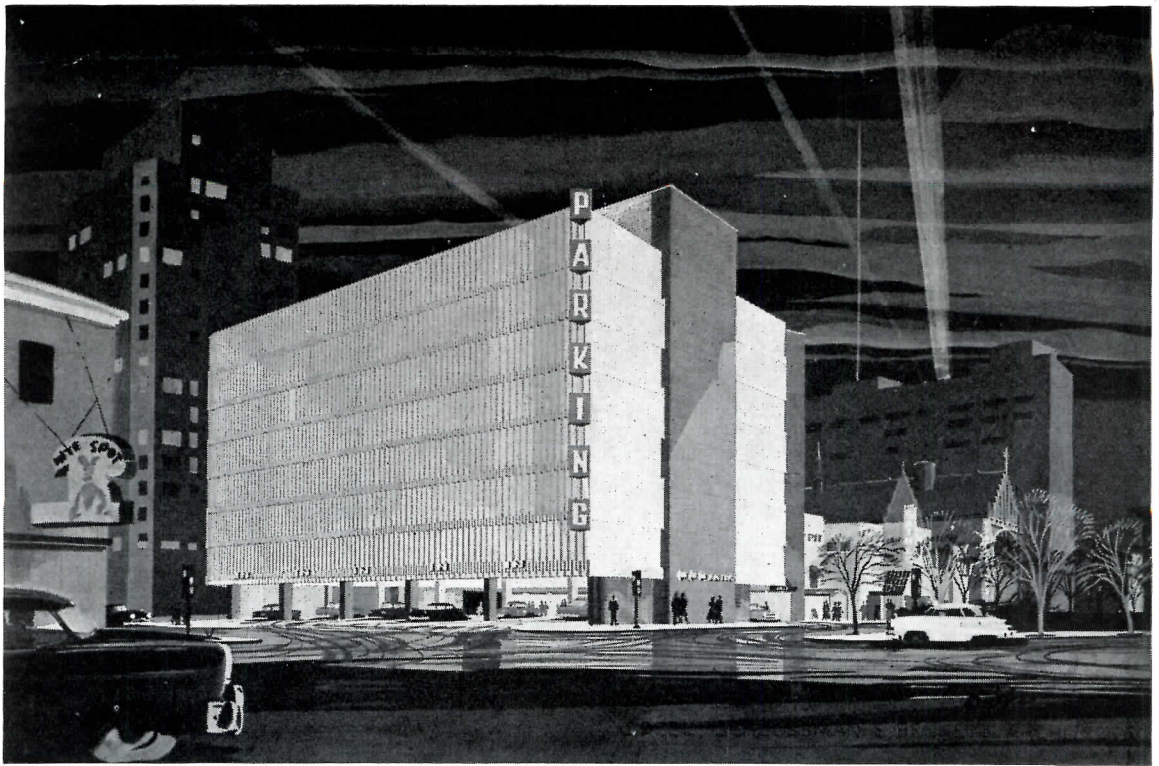


The 12-level scheme designed by Friedman, Alschuler and Sincere, Architects (right and above) will accommodate 495 cars and is intended primarily for short time parkers. The hoist shaft, separating entrances and exits, will be brick sheathed, with granite faced lobby. Open floor slabs of architectural concrete will have aluminum guard rails

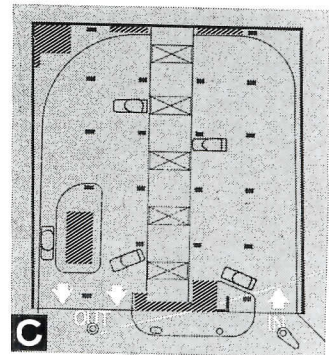


Three of the nine facilities will be of the "hoist" type, using equipment developed by the Bowser Engineering Co. of Des Moines, Iowa, which features an elevator suspended from a crane so that the automatically controlled travel to or from a preselected parking stall is vertical, horizontal, or diagonal. It is claimed for the system that the average time required to park or deliver a car is one minute. The diagram below illustrates the scheme.

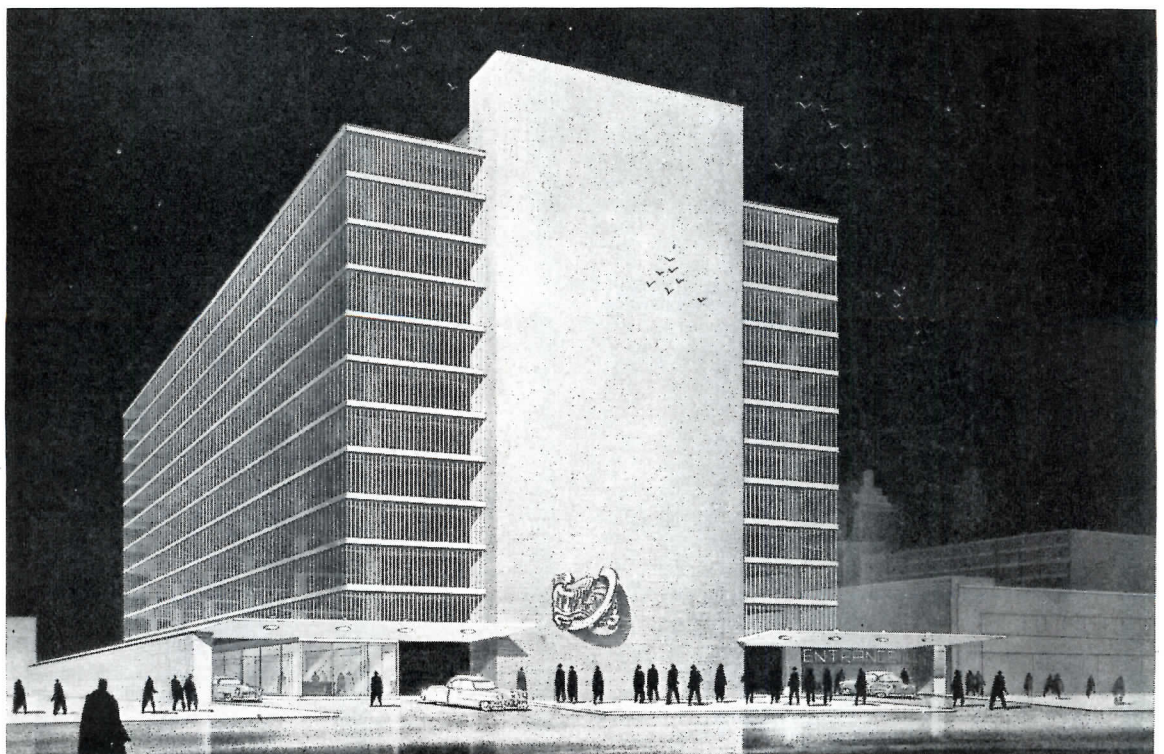


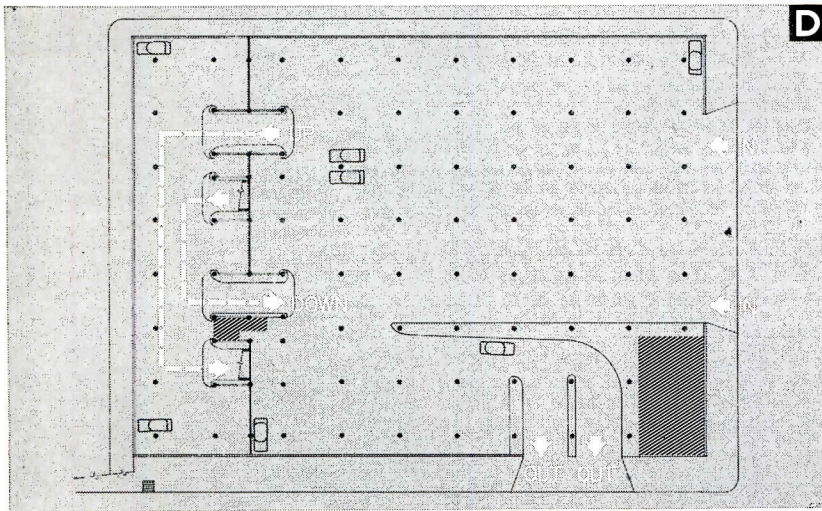
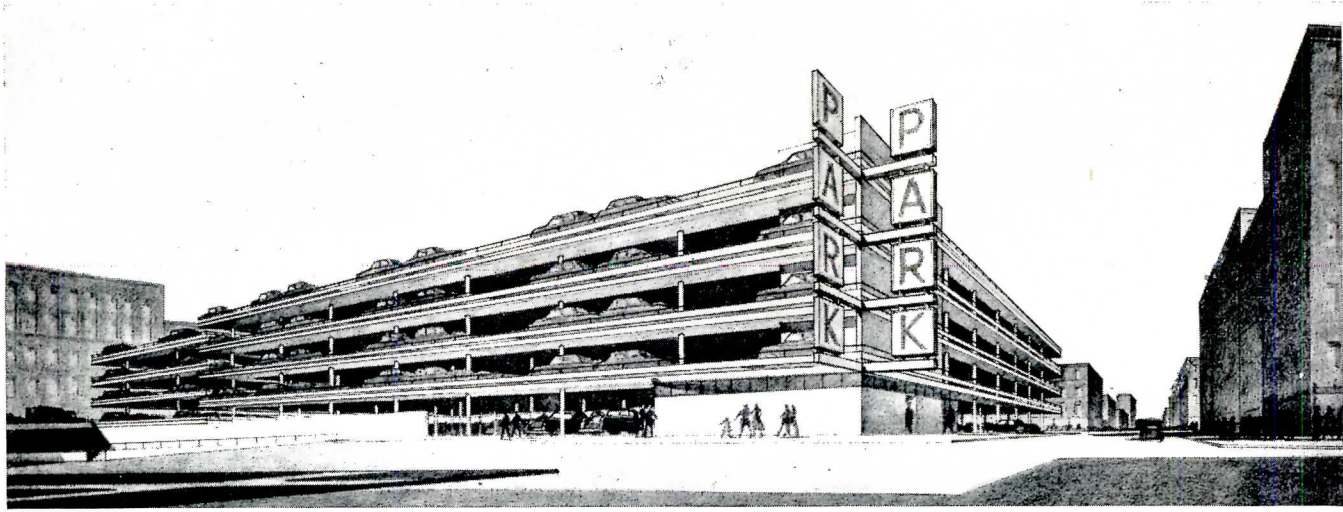


Architects Loeb, Schlossman and Bennett's 8-level scheme for 420 cars (above and left) is characterized by an outer screen of precast louvers to hide cars yet allow ventilation. The central elevator shaft is glazed brick faced

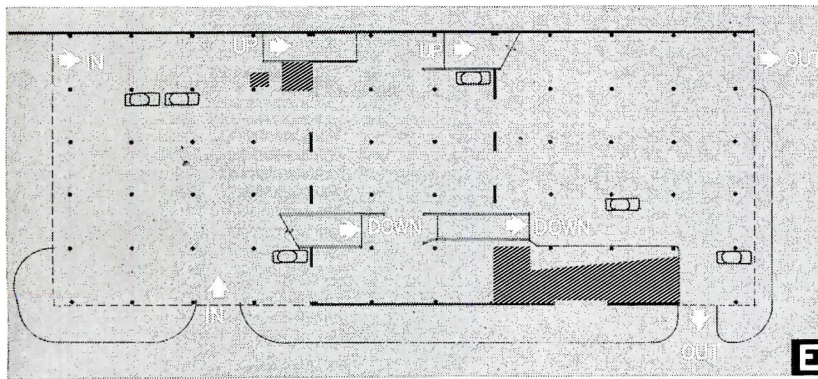


The design by Shaw, Metz and Dolio, Architects, (below and right) will park 715 cars on 14 levels and features a protection barrier of stainless cables in tension. Lift shaft is blue glazed brick with aluminum sculpture by Milton Horn

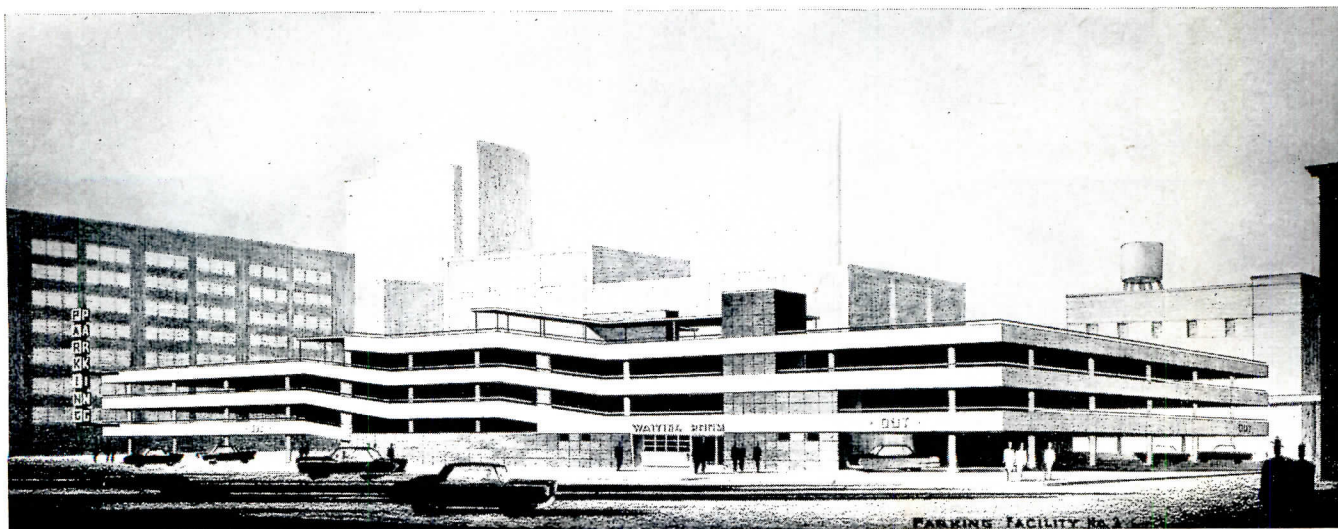


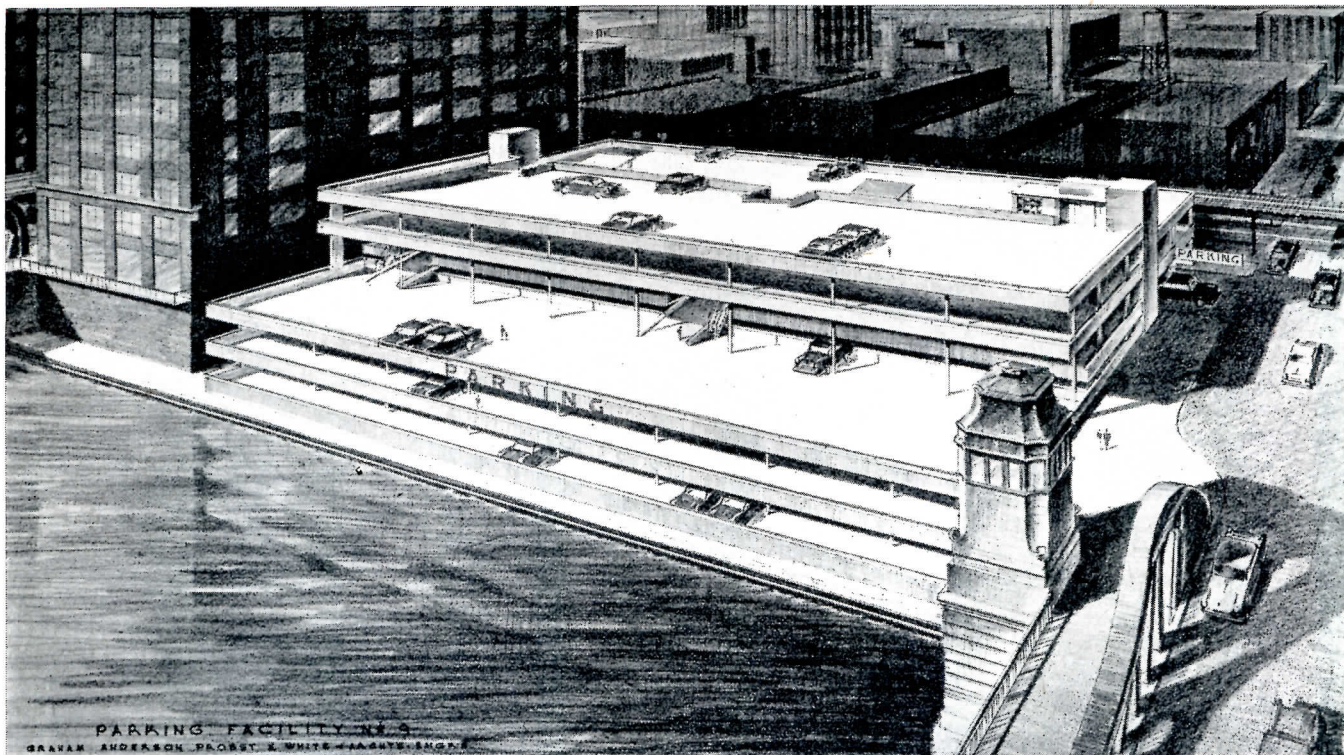


A ramp-type structure for 1000 cars, the garage designed by Schmidt, Garden and Erickson, Architects (above and left) consists of five split levels. The horizontal treatment is emphasized by the concrete and aluminum guard rails; entrances are of face brick. Intensity of perimeter lighting automatically controlled photo-electrically



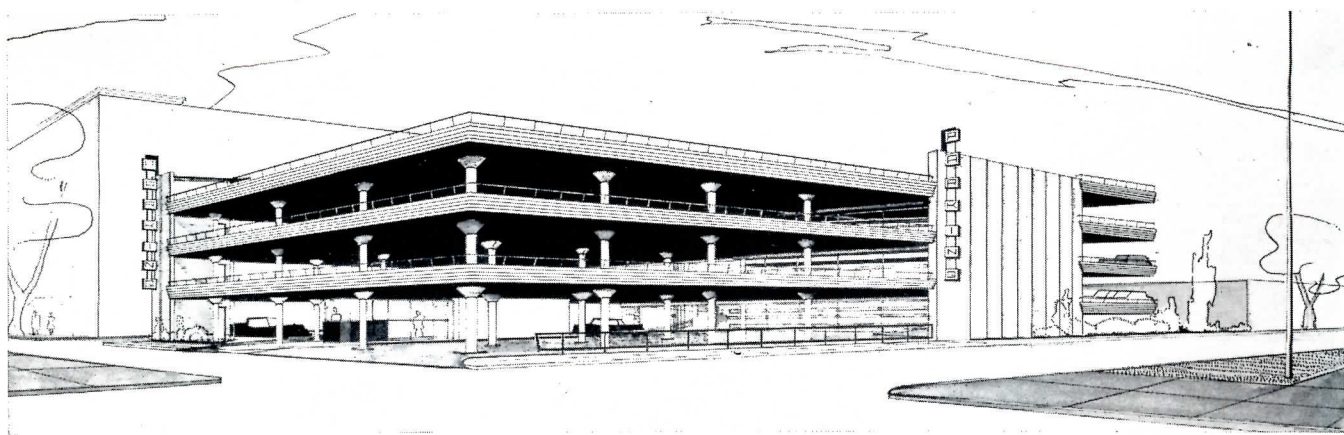
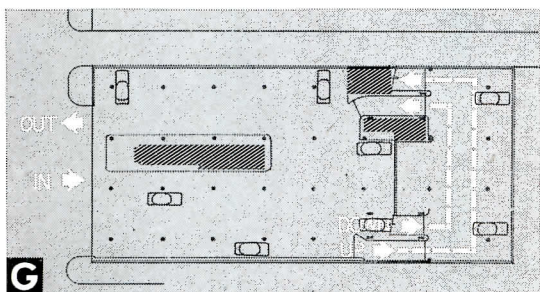
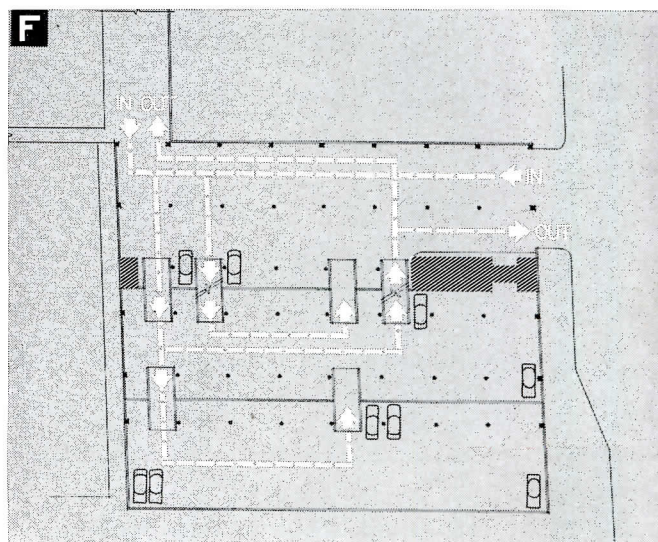
Capable of accommodating 665 cars, the ramp-type garage designed by Everett F. Quinn and Associates, Architects (below and left) is a split-level scheme four stories in height. The granite and face brick treatment at the entrances contrasts with the perimeter concrete guard rails at the various levels

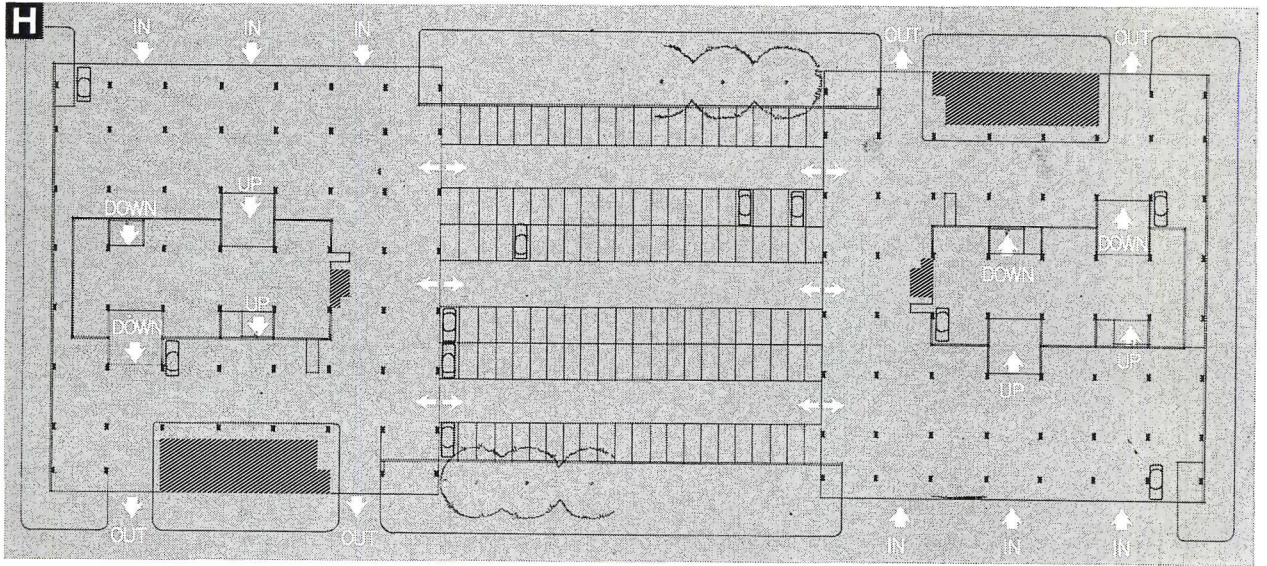
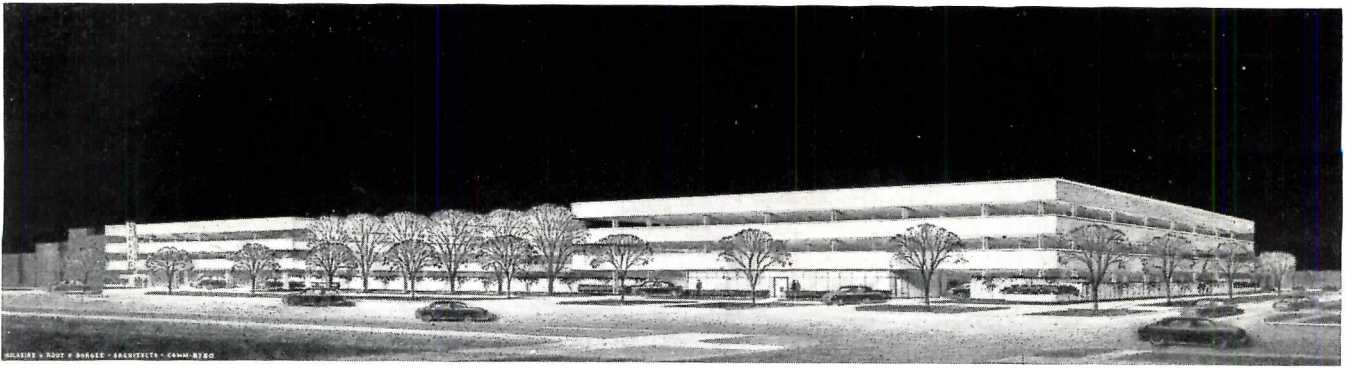




Part three level — part five, the design by Architects Graham, Anderson, Probst and White (above and right) will park 650 cars

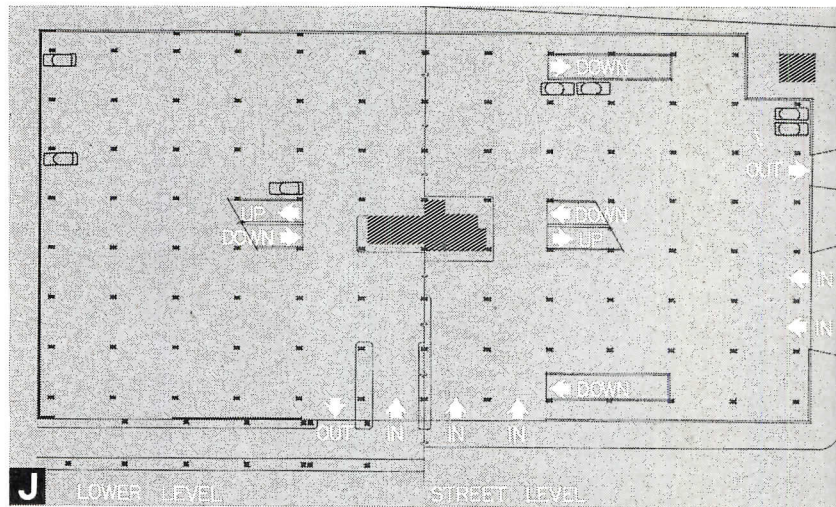
Architects McClurg, Shoemaker and McClurg's four level scheme (plan and rendering below) is designed to accommodate 260 cars





Unusual solution by Architects Holabird and Root and Burgee (plan and rendering above) consists of two buildings bounding a central parking lot enclosed by two serpentine walls!

Prominently located on South Wacker Drive, the five level, ramp-type garage designed by Architects Naess and Murphy (right and below) will park 1230 cars



Hospitals and Health Facilities

STUDY

NUMBER 208

ARCHITECTURAL RECORD'S BUILDING TYPES[®]

FEDERAL HOSPITAL PROGRAM TO ADD NEW BUILDING TYPES

HOSPITAL BUILDING TYPES STUDIES IN ARCHITECTURAL RECORD

Hospitals.....	July	1937
Chronic Hospitals.....	Aug.	1938
Hospitals.....	Dec.	1939
Health Centers.....	Sept.	1940
Hospitals.....	Aug.	1941
Hospitals in Wartime.....	Aug.	1942
Hospitals.....	May	1943
The General Hospital.....	Aug.	1944
Coordinated Hospital Service Plan.....	Aug.	1945
Elements of the General Hospital.....	June, July, Aug.	1946
Hospitals.....	June	1947
Type Plans for the General Hospital.....	Jan.	1948
Hospitals.....	May	1949
Hospitals.....	Feb.	1950
Mental Hospitals.....	Oct.	1950
Tuberculosis Hospitals.....	Apr.	1951
Hospitals and Health Centers.....	Oct.	1951
Revised Elements of the General Hospital.....	Apr.	1952
Hill-Burton Hospitals.....	Oct.	1952
Hospital Planning Studies.....	Feb.	1953
Mental Hospitals.....	Nov.	1953

BOOKS:

"Psychiatric Sections in General Hospitals,"
by Paul Haun, M.D.

"Design and Construction of General Hospitals,"
by U. S. Public Health Service, published jointly
by ARCHITECTURAL RECORD and *The Modern Hospital*

IN HIS RECENT MESSAGE to Congress, President Eisenhower made a strong plea for extension and broadening of the federally-aided program of building health facilities. He told the Congress:

"The modern hospital — in caring for the sick, in research and in professional educational programs — is indispensable to good medical care. New hospital construction continues to lag behind the need. The total number of acceptable beds in this nation in all categories of non-Federal hospital services is now about 1,060,000. Based on studies conducted by state hospital authorities, the need for additional hospital beds of all types — chronic disease, mental, tuberculosis, as well as general — is conservatively estimated at more than 500,000.

"A program of matching state and local tax funds and private funds in the construction of both public and voluntary non-profit hospitals where these are most needed is therefore essential."

The president then asked for extension of the program into new types of buildings. In his own words:

"I present four proposals to expand or extend the present program:

"1. Added assistance in the construction of non-profit hospitals for the care of the chronically ill. These would be of a type more economical to build and operate than general hospitals.

"2. Assistance in the construction of non-profit medically supervised nursing and convalescent homes.

"3. Assistance in the construction of non-profit rehabilitation facilities for the disabled.

"4. Assistance in the construction of non-profit diagnostic or treatment centers for ambulatory patients."

To activate the president's proposals, bills have been introduced in both the House and the Senate. The bills both call for the same authorization of federal funds: \$20 million for diagnostic and treatment centers; \$20 million for chronic disease hospitals; \$10 million for rehabilitation facilities; \$10 million for nursing homes; and \$2 million for state surveys of needs, or a total of \$62,000,000. These amounts would, of course, be in addition to the federal funds for normal hospital construction under the Hill-Burton program. The president asked for \$50 million for that program in "fiscal '55."

000,000 has been completed in the last six years without such aid."

It doesn't require any reading-between-the-lines to see that the administration, however much it is interested in health, has given close inspection to the organization and operation of the existing federal hospital program. It has found them good. It has found a sound base on which to continue additional hospital construction and add new types of health facilities. Here the president said: "I recommend that . . . special funds be made available to the states to help pay for surveys of their needs. This is the procedure that the Congress wisely required in connection with federal assistance in the construction of hospitals under the original act. We should also continue to observe the principle of state and local determination of their needs without federal interference."



Mrs. Oveta Culp Hobby, Secretary of Health, Education and Welfare; Dr. John W. Cronin, Chief, Division of Hospital Facilities, Public Health Service; Marshall Shaffer, Chief, Technical Services Branch, Division of Hospital Facilities, Public Health Service

The fate of those proposals, at this writing, is not known. But the import is clear — the country has launched a major program of extending its hospital and health facilities through new construction, and that program is gaining, not losing, momentum. We want better health facilities; we are going to build them.

There are some other items worth looking at in the current situation. One that is obvious but important is that the Hill-Burton program, administered by the Public Health Service, has been an unusually happy experience as federal grants-in-aid programs go. It has not been a political football. It has not built an autocratic bureaucracy. It has relied on local initiative, has preserved local determination of need, local decision. For architects it is important that local designers have been used, and have been encouraged, while meeting some federal standards, to meet local desires. The program has, therefore, enlisted and combined local, state and federal participation, and local, state and federal funds.

An extremely important point, brought out by the president, is that it is one federal program that has not discouraged any private building enterprises. The president said: "This Federally stimulated accomplishment [106,000 hospital beds, 464 public health centers] has by no means retarded the building of hospitals without Federal aid. Construction costing in excess of \$1,000,

Presumably, then, the program for the new types of facilities will be patterned after that of the old. It should be useful, therefore, to look closely into the operation of that program to see what has made it run so satisfactorily, and what might be expected in the future.

Here are some of the highlights:

1. A master plan, drawn even in advance of the Act, with priorities established. First priorities were given to health centers and hospitals for rural areas where the need was greatest.

2. Existence of state agencies to formulate and administer a state-wide program.

3. Preservation of local initiative by sponsor, architect, engineer, with federal and state functions limited. Each building program is initiated by some local group, which must build and operate its own hospital. The local sponsoring group applies for state and federal aid, hires its own architect, builder, and hospital staff.

Not the least important is the freedom given the local architect in the design and equipment of the building.

4. Prototype plans for guidance only. The Public Health Service staff of architects, under Marshall Shaffer, has carried on intensive studies of hospital planning, with the collaboration of medical, administrative and nursing groups. It has issued basic plan-

ning guides in the form of graphic type-plans for various departments of the hospital, type-plans for various sizes of buildings (published in previous Building Types Studies in ARCHITECTURAL RECORD). These were always understood, however, to be merely background information for the local architect, roughly the equivalent of research studies in planning, available to the architect but not mandatory in any sense.

5. Small, capable federal staff. The effort has always been to give guidance, never to do the actual work in any category of hospital activity. This principle of the program, growing out of the principle of local determination, has kept federal administrative costs to a very small figure — something like one-tenth of one per cent of the construction funds actually spent.

6. Cooperation of professional and industry groups at all stages of the program. Of current importance is the Federal Hospital Council, an advisory group of prominent laymen sitting on policy matters. This council has a Technical Committee on Architectural Standards, comprising four architects and two doctors. In formative years of the program other groups were very active, including the American Hospital Association, American Medical Association, American Institute of Architects, and others.

Those points, quickly stated, stand out as important, but they were not so quickly achieved. There is a thread of cooperation running through the entire operation which represents a massive accomplishment but which required long and careful nursing, as well as thoughtful planning. In any case, there now exists a great, nationwide network of dedicated individuals and groups, working formally and informally to extend and improve hospital building. It has frequently been observed, for example, that the mere existence of the state agencies may have done more good in the hospital field than the federal funds that originally caused their formation. The reason is, of course, that for the first time each state has an active group with a sure knowledge of state needs, a strong conviction and a program. Even without federal funds this sort of thing would be constructive.

In the same way, education in hospital matters has spread widely. This was a conscious part of the early plan, and Shaffer and others did much urging to initiate seminars on hospital planning, both in the A.I.A. and in the hospital organizations. To say that this effort has improved the design of hospitals would be putting it mildly — it has also clarified the need for hospital facilities and spread the determination to have them. Though less tangible than federal dollars, these factors may be more important in the end.

Architects and engineers will not miss another thread running through the entire scheme — every step was calculated to preserve existing professional and commercial relationships, to work within established practices and procedures. There is a carefully worked out procedure for submitting building proposals, plans, and

contracts for the purpose of enlisting state and federal aid, but it is designed merely to expedite matters and save needless loss of time and money; it does not require a single step that would violate established practices. There is, for example, an understanding as to when the architect starts working drawings, and the effect of this has invariably been to save drawing time, by withholding this step until the building program has been thoroughly discussed and agreed upon, and the commitment made for funds. Single-line schematics are used up to this point, for all discussions of space allocations, circulation problems and so on. Thus when the working drawings are begun, the arguments have been settled and drawings do not involve false starts and major changes.

Similarly there is a model contract specification, a sort of reviewing guide, which was worked out with the help of the A.I.A. and the A.G.C., again largely to simplify procedures, not to dictate them, and, again too, to conform with established practices.

On the whole the Hill-Burton hospital program has been a satisfactory experience for everybody concerned. As a matter of fact, opinions on the workings of the program were exhaustively surveyed by the American Hospital Association, and summarized thus:

1. There has been general acceptance of Hill-Burton principles and program.

2. Hill-Burton is a well administered program.

3. It has resulted in better patient care through licensure of hospitals and improved standards of health care in hospitals and health centers.

4. Hill-Burton has provided a better distribution of hospitals and related health care.

5. Organized planning for hospital and health needs of all the people has been stimulated.

6. Better architecture is one of many excellent by-products.

7. Staffing and operational problems, even in small hospitals, have been partially met.

8. Hill-Burton has stimulated better hospital administration.

9. The program has preserved states' rights.

10. State Advisory Councils have contributed to broad thinking and sound planning.

11. It has been an asset to civil defense.

12. The program has advanced the cause of hospital safety.

13. Hill-Burton is an effective pattern of Federal, State, and local cooperation.

14. Present authorization of \$150 million is adequate.

15. Present allotment formula is acceptable.

It is clear that, at a critical period, the Hill-Burton program has been re-examined and has passed its tests cum laude. It is clear also that this satisfactory experience promises well for continuation and extension of the whole program of health facilities.

Emerson Goble

LARGE HOSPITAL WITH A CHEERFUL LOOK

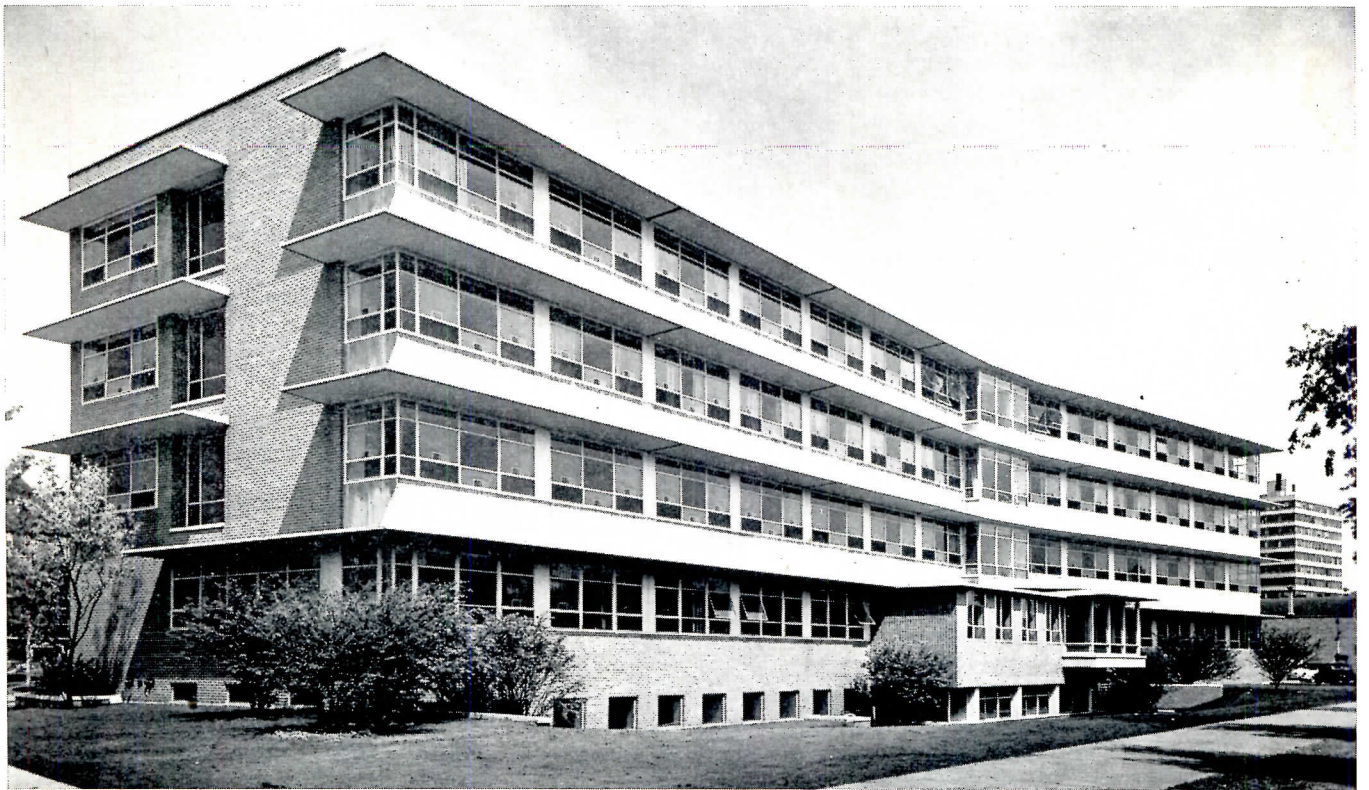
108-Bed Hospital Planned for Three More Stories, 117 More Beds

A HOSPITAL with a cheerful look is a rare accomplishment, in spite of frequent comments on its desirability. Here is one in which a non-institutional character was a prime objective of the architects. And while the black-and-white photographs indicate considerable success in this effort, they do not fully convey the results, for gay colors play a strong part in the interiors.

As for the exterior, while the experienced eye may note the obvious form of a large hospital, it would also observe some niceties of treatment which tend to relieve

*Louis A. Weiss Memorial
Hospital, Chicago*

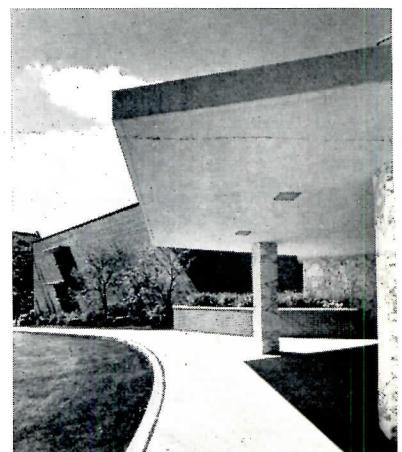
*Loebl, Schlossman & Bennett,
Architects-Engineers*



Chicago Architectural Photographing Co.

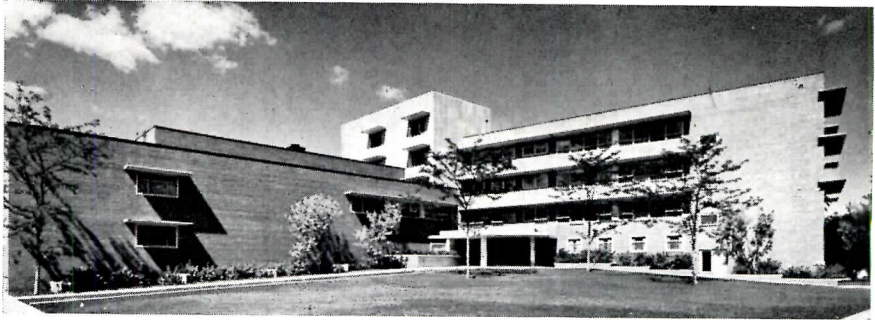
the usual harshness of a hospital. The long horizontals of the sunshades are broken by several projections, and the fenestration suggests the scale of interior spaces. One notes also the bend in the straight lines; this breaks the corridors, to cut in half the long corridor views inside the building. The landscaping also breaks the continuity of the walls, and carries a promise of something other than bleak formality inside the building.

"We have aimed," say the architects, "to lessen patient apprehension of medication and surgery and to hasten recuperation by the elimination of sterile, medical, impersonal atmospheres." Ceilings in corridors and patient rooms are only 8 ft, considerably lower than most hospital standards; they not only cut the cubage of the building, but contribute to a residential scale.





Chicago Architectural Photographing Co.



Chicago Architectural Photographing Co



Hedrich-Blessing

Large glass areas at corridor ends admit sunlight and cheer. Colors, materials and furnishings were selected and correlated for warmth, variety and friendliness (interior furnishings by Knoll Associates). Most patient rooms enjoy the view of Lake Michigan. The combination of wall-to-wall windows and projecting canopies give the advantages of view and light without undue brightness or glare. Gay draperies are used for light control.

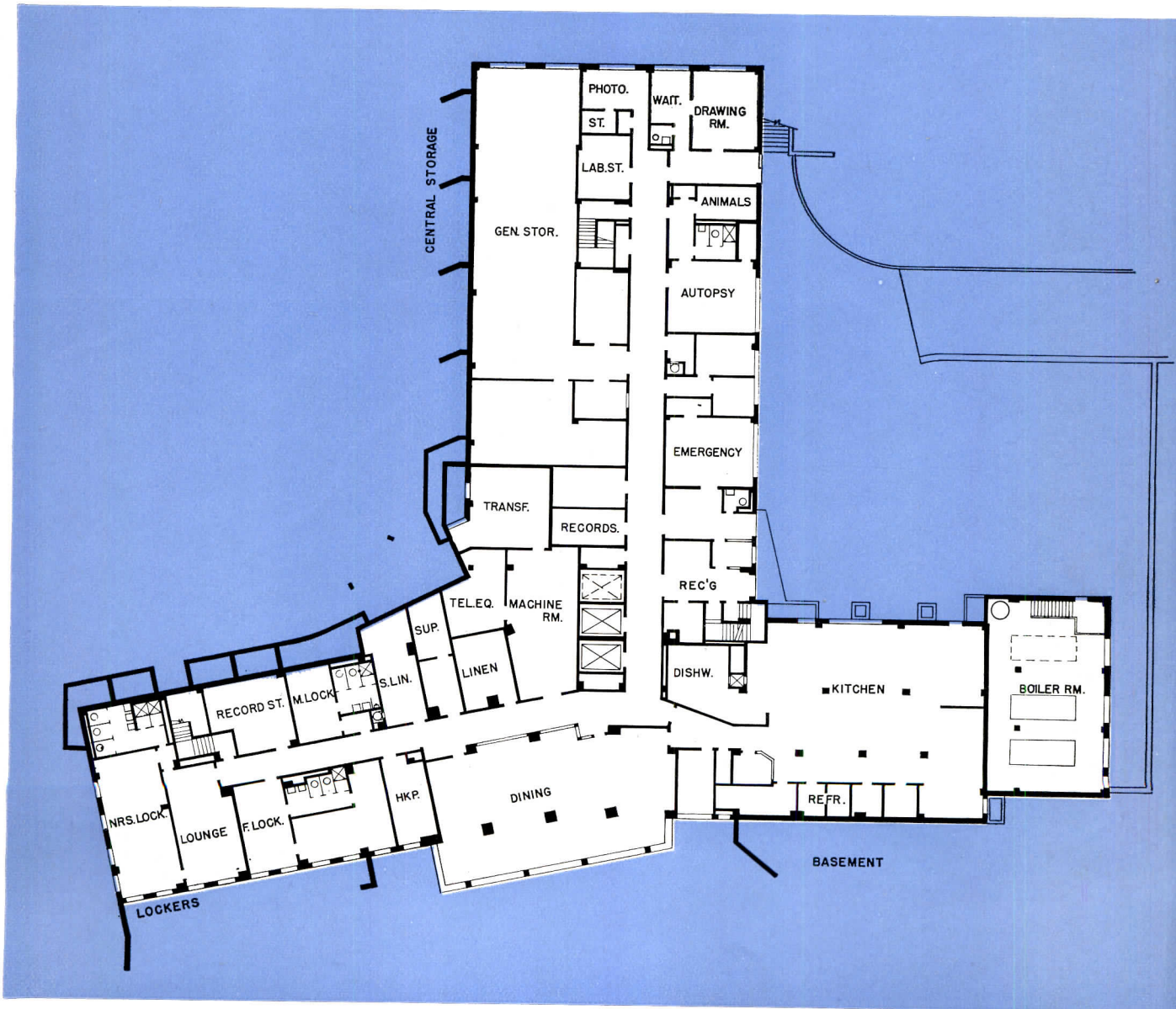
The building can accommodate 108 patients in its present size, though its "chassis" is adequate for an eventual bed capacity of 225. It has no obstetrical or pediatric departments at present; these may be added when the building is extended by the addition of three more floors. It occupies a full block on Marine Drive on Chicago's north side, with an additional half block now used for parking, though this extra plot may later be developed with a doctors' office building. Including all fixed equipment, the building cost approximately \$3,000,000, exclusive of land, landscaping and professional fees.



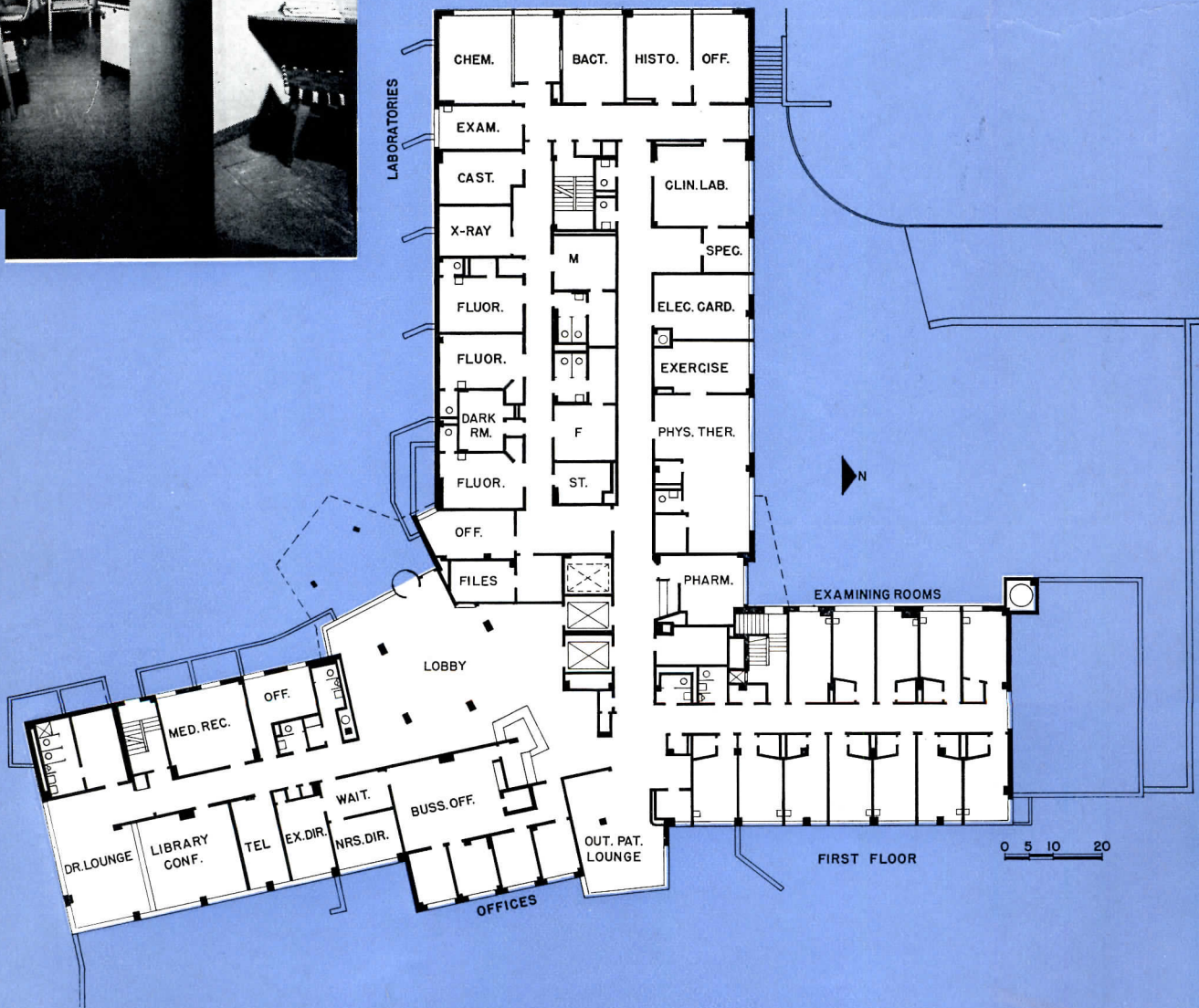
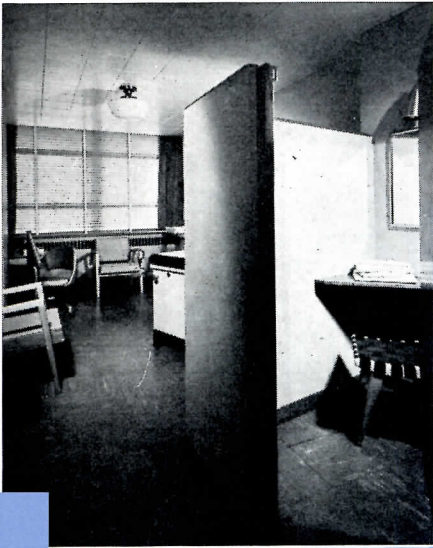
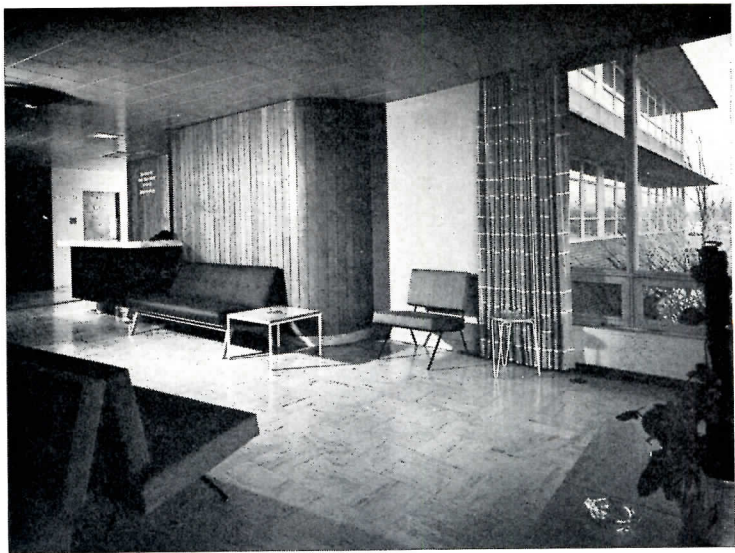
Interiors generally were planned to obviate the usual institutional character of a hospital. Nurses' station (below) is opposite elevators at center of the bent top of the T, commanding views of corridors in both directions. View at bottom of page shows combination doctors' lounge library and conference room, on first floor

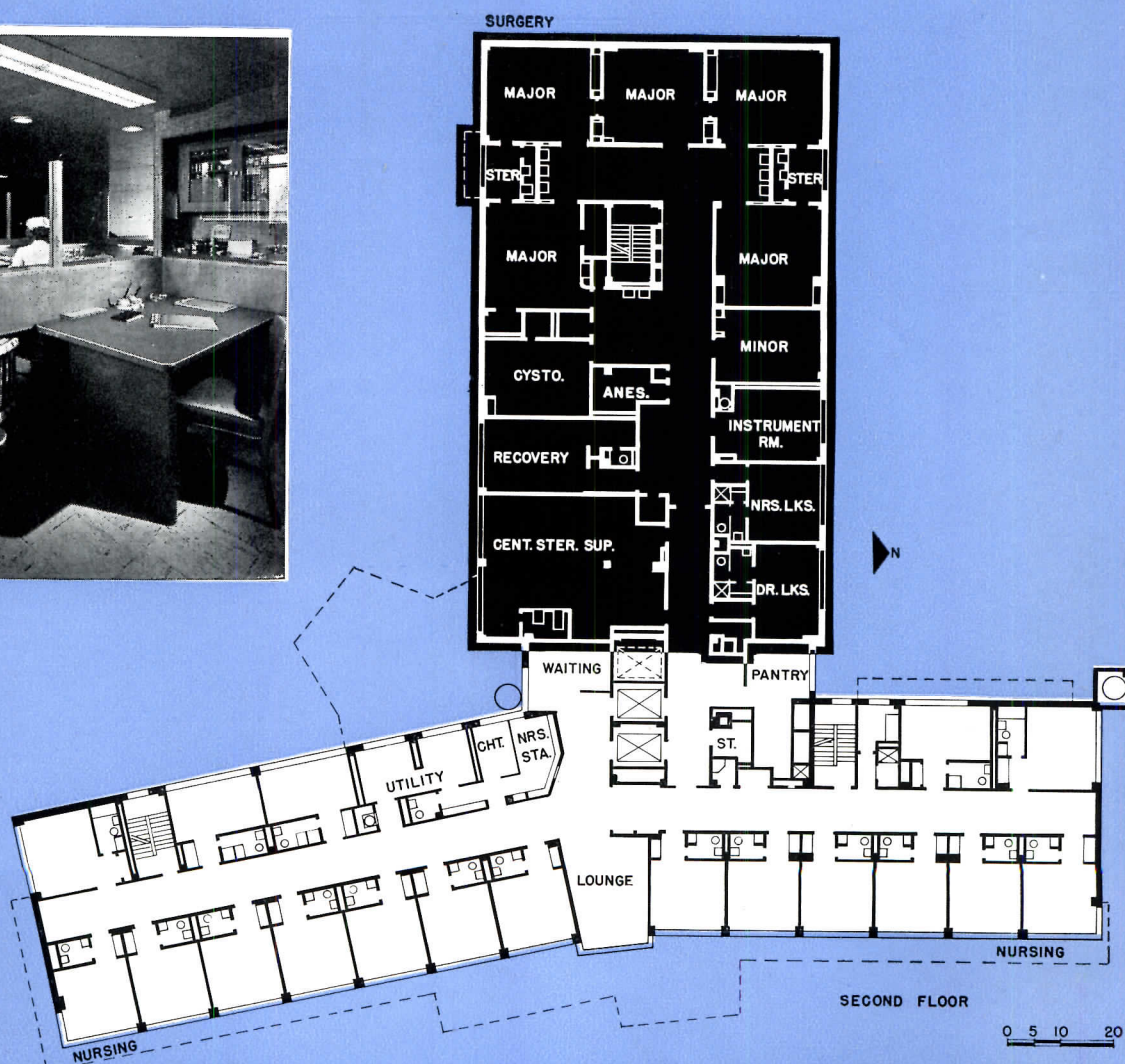
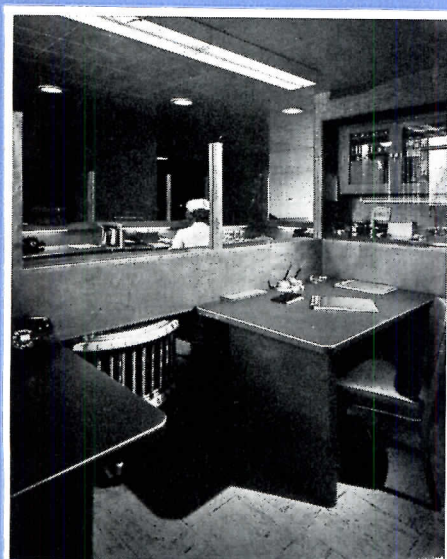
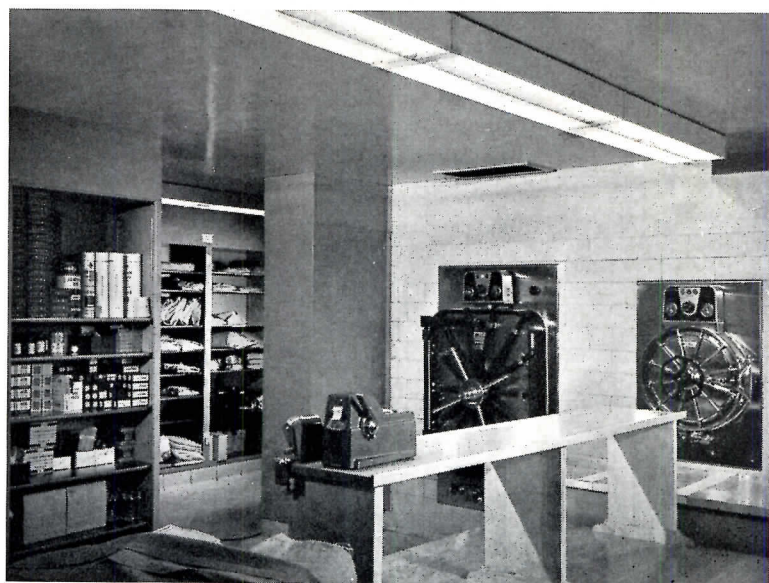


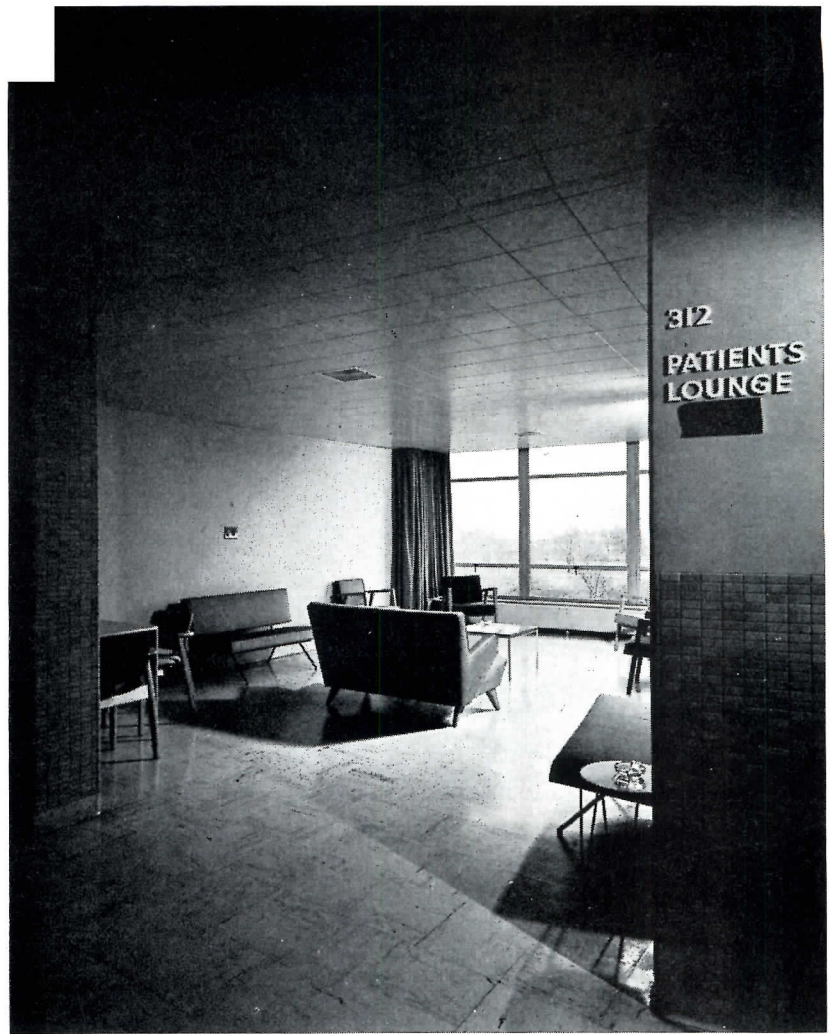
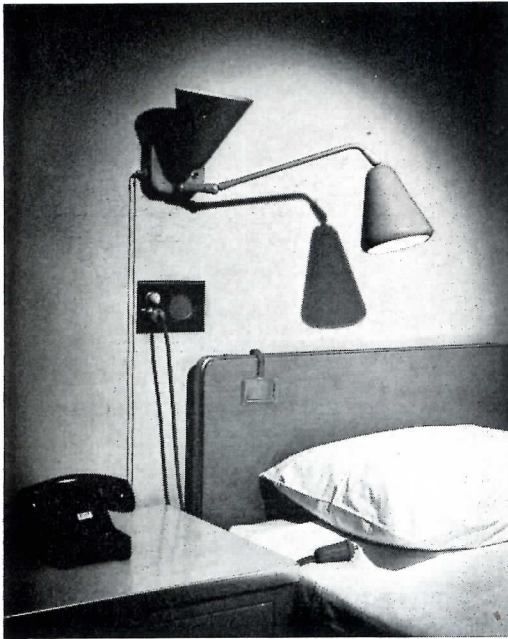
Hedrich-Blessing



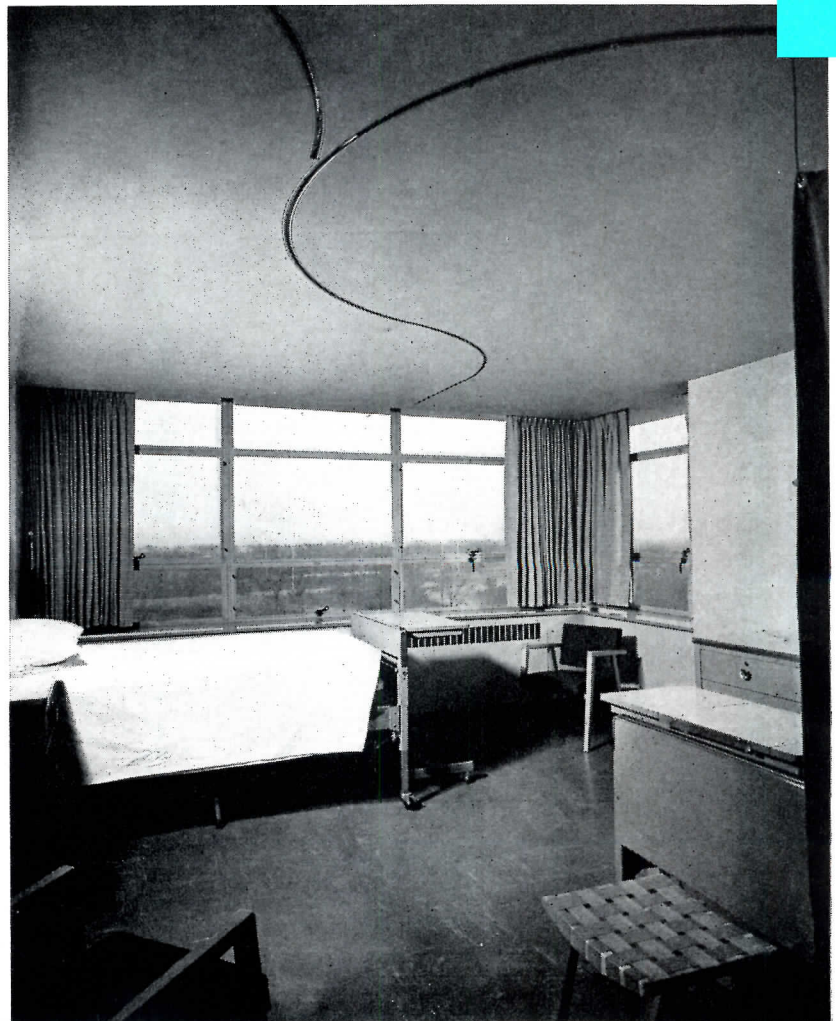
Patient food service is by individual tray from main kitchen; trays come off conveyor belt, 10 at a time, go via trucks directly to elevator; total time to patient, 5 minutes. Hospital has large outpatient department, with a dozen examining rooms (below) and separate outpatients' lobby (right) next to laboratory, X-ray, therapy departments







Virtually all patient rooms have two beds, mainly for economy reasons. But all beds parallel windows, so that both patients have equal advantages of light, view, air. Curtain tracks in curvilinear forms permit curtains to be arranged so that nurses or visitors have access to either bed without traversing other patient's area. This arrangement means more wall space than conventional rooms, also some duplication of call systems and oxygen outlets, but was considered here to be worth the difference, especially since there really are no single rooms in the whole hospital



PUBLIC HEALTH CENTER FOR A RURAL AREA

Athens-Clarke County Health Center, Athens, Ga.



Heery and Heery, Architects

H. K. Nicholson, Engineer associated

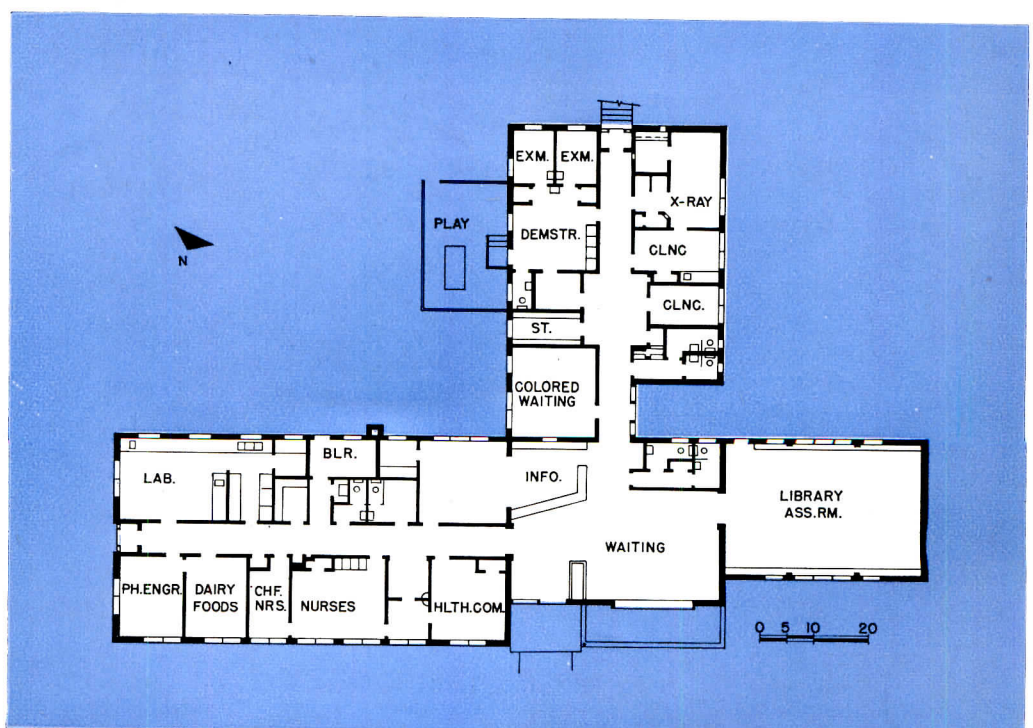
J. W. Austin Jr., Mechanical Engineer

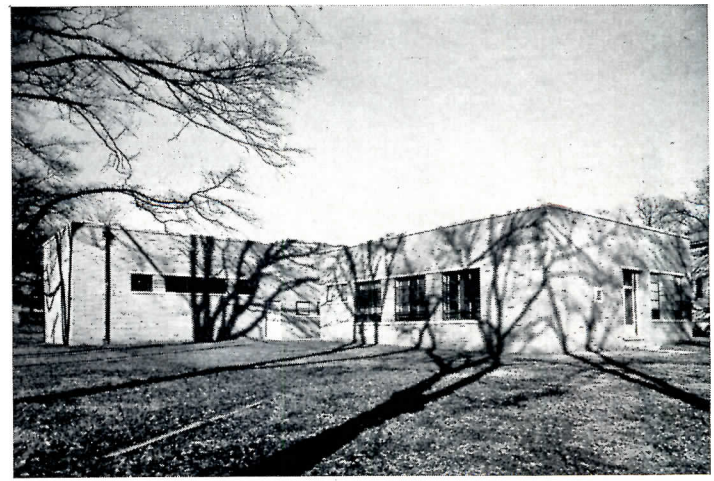
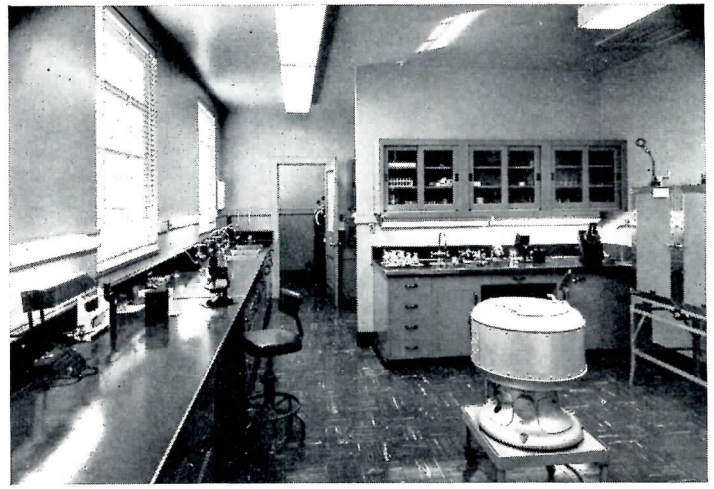
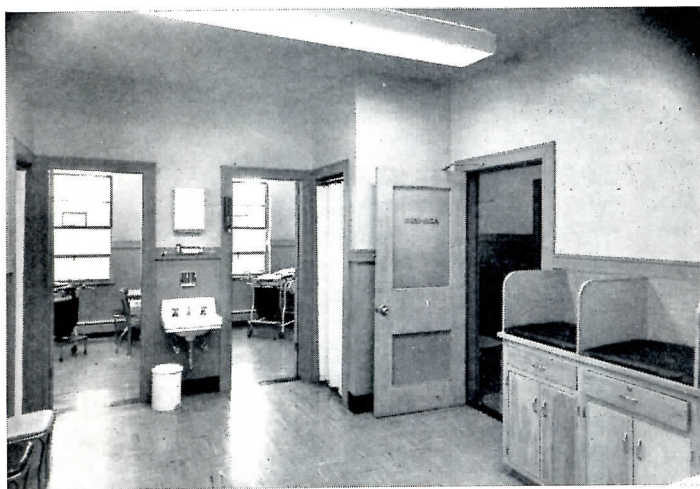
William Leroy Edwards, Electrical Engineer

THE SOUTH has seen a great many health centers spring up under the federal program of extending health facilities to areas where the need has been great. This was one of the earlier ones to be completed, and is fairly representative of the accommodations provided for the nursing staff and laboratory technicians and doctors who not only guard the community against contamination and epidemic diseases, but also train citizens, especially mothers, in matters of health.

The plan divided logically into two main wings, one for clinical services, one for public health workers. The assembly room is placed so that it can be used for lectures and demonstrations without disturbing the operations in other parts of the building.

The building is of ordinary construction, with masonry bearing walls, concrete floor on ground, wood partitions and roof construction. Heating is gas fired, radiant hot water, with wrought iron coils in the floor.





NURSES' HOME ATTRACTS VITAL PERSONNEL

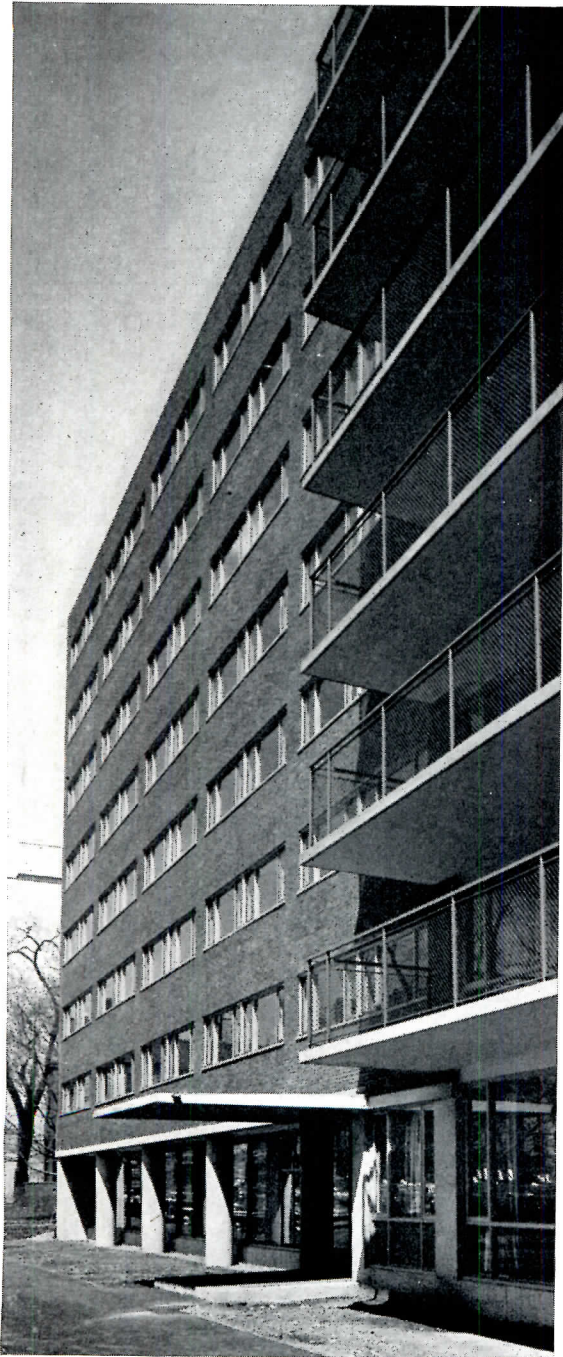
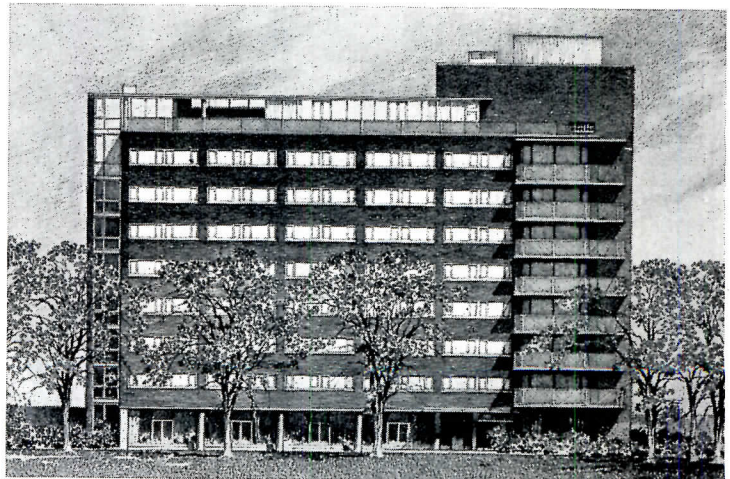
Nurses' Home, Massachusetts General Hospital, Boston

Shepley, Bulfinch, Richardson & Abbott, Architects

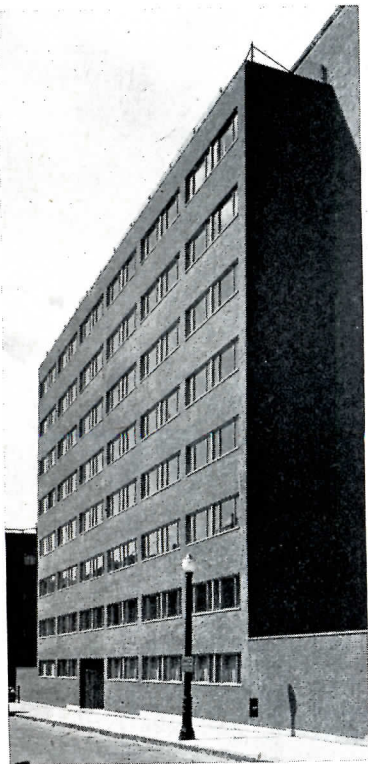
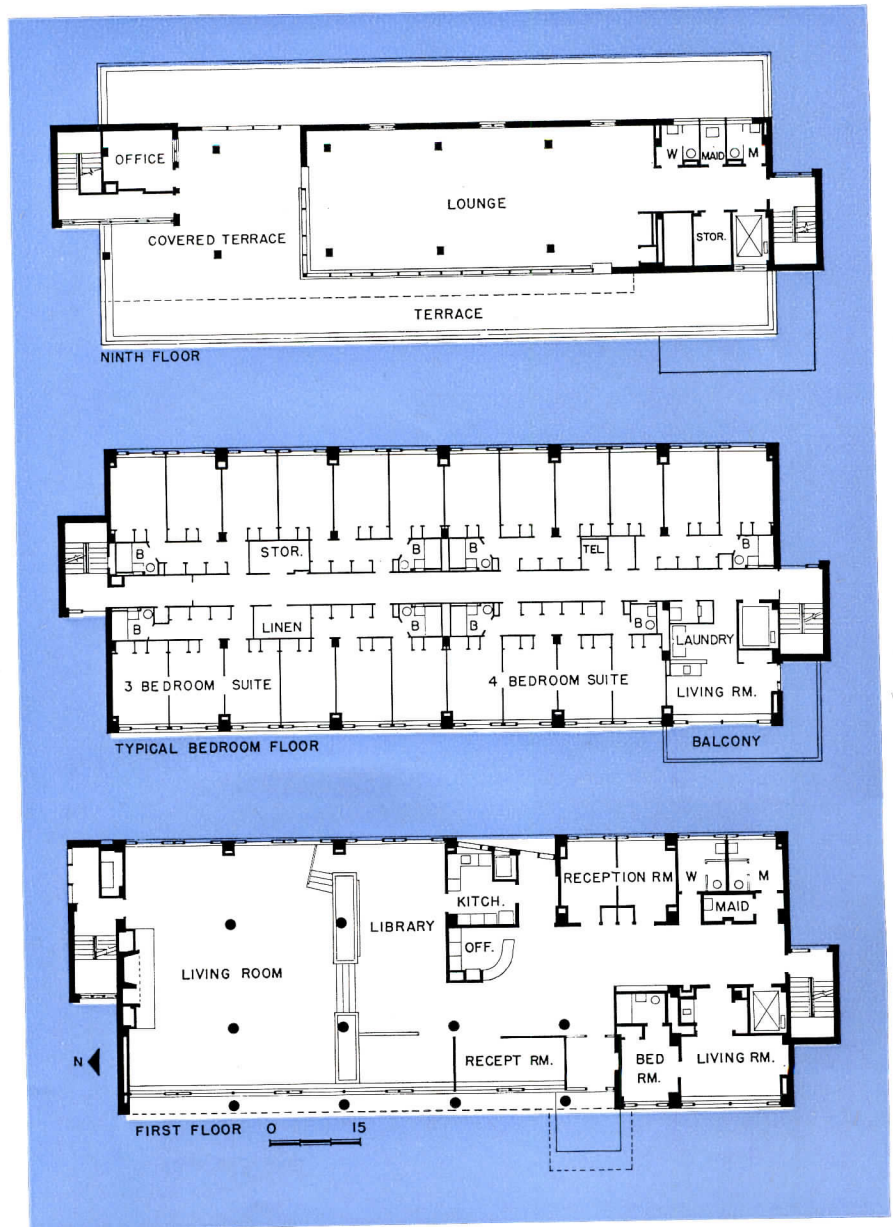
NURSES' HOMES are a recognized part of the Hill-Burton program, as frequently the nursing situation determines the whole hospital operation. This is an exceptionally nice one, with pleasant but economical accommodations.

The problem was to house as many nurses as possible within the allotted budget. The rooms were organized in suites of three for student nurses and in suites of two bedrooms and one sitting room for graduates, the arrangements being interchangeable. All suites were equipped with private bath accessible. Basement contains a trunk room along with various services. Mr. Shepley comments that the three-room suites have worked out very well indeed and are very popular with the nurses. They like especially the extra closets in the sub-corridors. The small living room on each floor has also proved successful; in the early stages of planning there was a living room on each floor which took the equal of two bedrooms, also a tea kitchen and a small laundry. For the sake of economy these were combined together and a balcony was added.

The cost, exclusive of landscaping and fees, was \$786,542. This comes to \$1.86 per cu ft, or \$5975 per nurse accommodated.



Robert D. Harvey Studio



LABORATORY FOR STATE HEALTH DEPARTMENT

Hygienic Laboratory Building for West Virginia Department of Health, Charleston, W. Va.

HEALTH LABORATORIES are an important part of the health program under Hill-Burton, but actually not many projects in this category have been completed. Perhaps a brief record of this project will serve to illustrate both the need and the difficulties involved.

The hygienic laboratory of the State of West Virginia has been plagued for years by inadequate housing, renting quarters in five different buildings. Many attempts were made to get the several departments together — the state water commission, health department and its industrial hygiene bureau, and the sanitary engineering division. In the end the funds were forthcoming only for the state health department, involving some \$500,000 of state and federal funds. This building, then, houses only the hygienic laboratory division of the health department.

The problem then was to plan a building of functional design, with the highly specialized and varied facilities necessary for exacting bacteriological, immunological and chemical routine and research work, with adequate protection against laboratory-acquired infections among workers. Along with the usual requirements of a building, were: sanitary finishes of interior surfaces, for ready washability, maximum dust prevention, safety venting from infected areas, means for area asepsis, exceptionally good lighting.

The architects and the laboratory personnel worked together on layout sketches, and the final plans incorporate the basic principles of the model plans for state health laboratories of the Committee on Laboratory Quarters of the Conference of State and Provincial Public Health Laboratory Directors. A one-story scheme was adopted as most suitable for flow of work. Maximum flexibility was achieved by the use of movable steel partitions wherever possible, and the building was planned for later extensions if needed.

The building has brick load-bearing walls, with 2-in. concrete slab roof construction on bar joists. Interior of outside wall is finished with clear-glazed facing tile; this finish is also used for solid partition walls in areas for refrigeration, sterilization, shipping, also locker and toilet rooms. Floors are largely asphalt tile, though ceramic tile is used in service areas. Ceilings are of acoustic tile.

The building was planned for central air conditioning, using corridor as return plenum. Certain of the laboratory rooms were planned for 100 per cent make-up air, to prevent virus infections from reaching other rooms. As yet, however, the budget has not extended to the air conditioning equipment.

C. E. Silling & Associates, Architects

*John Paul Jones, Cary and Millar,
Mechanical and Electrical Engineers*

R. W. Haworth, Structural Engineer

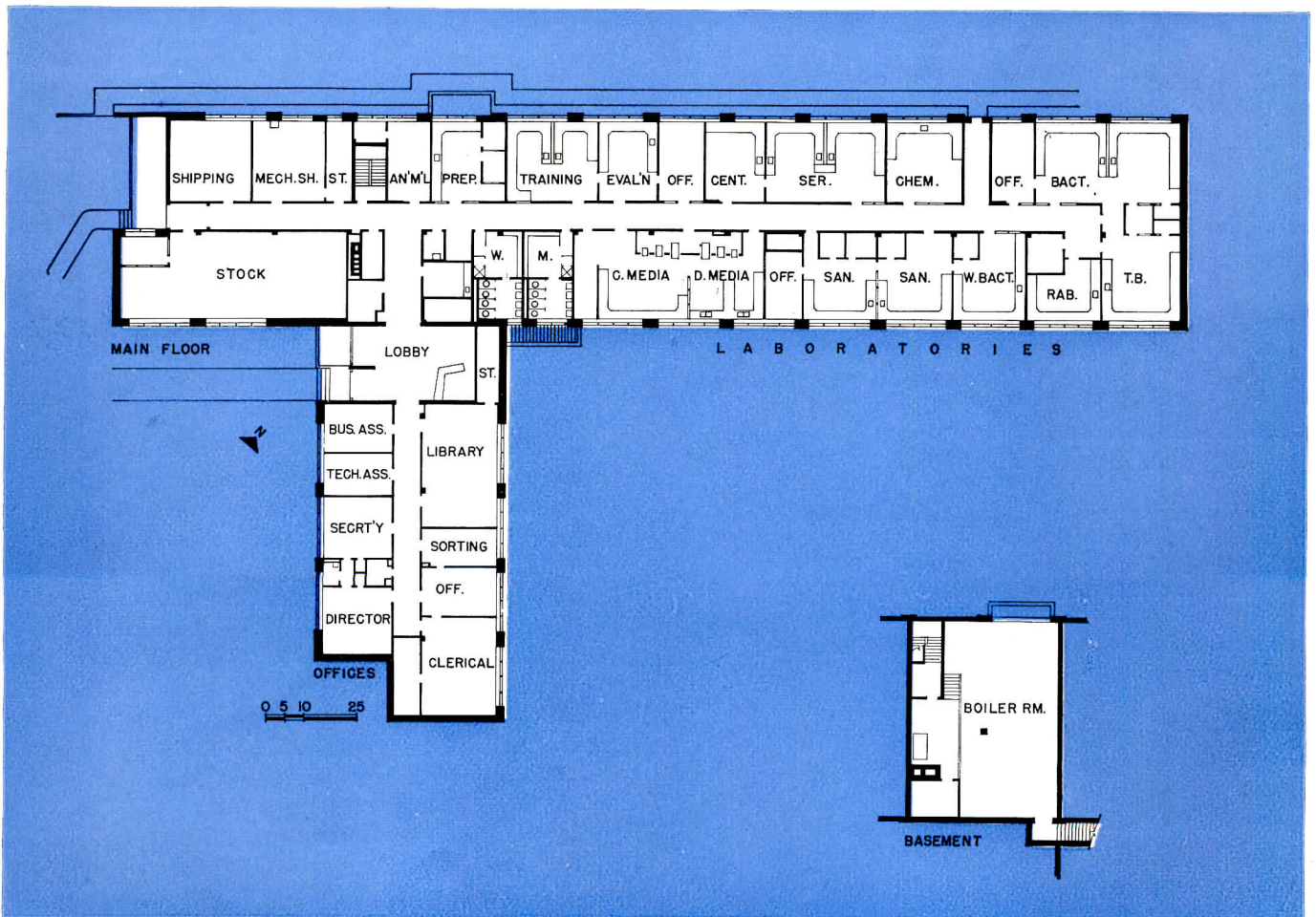
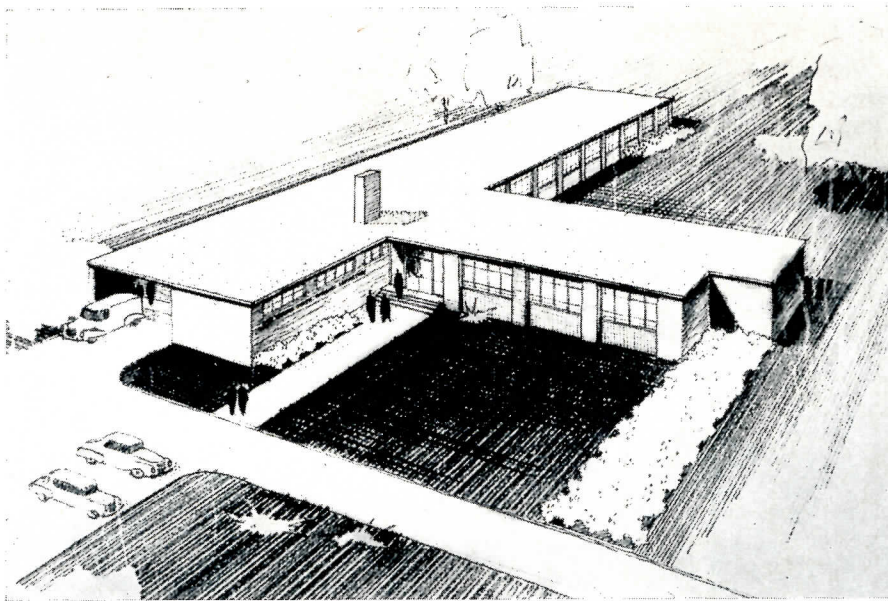
COST DATA

Date of Contract—Feb. 18, 1953

Total Construction costs	\$462,000
Total Laboratory Furnishings	52,560
Total Cubage	406,760 cu ft
Total square feet	23,298 sq ft
Construction cost per cu ft	\$1.1358
Furnishing cost per cu ft	.129
	<hr/>
Total	\$1.2648

General		
Construction	Total Cost	Cu ft Cost
General		
Construction	\$327,541	\$.8052
Heating, Plumbing, Ventilating	95,868	.2356
Electrical	38,591	.0948
	<hr/>	<hr/>
Totals	\$462,000	\$1.1356

Architects' fees and loose equipment costs not included in above. Also an item of \$35,000 for air conditioning equipment not yet installed will eventually be added to above costs.



MEDICAL SCHOOL AND TEACHING HOSPITAL

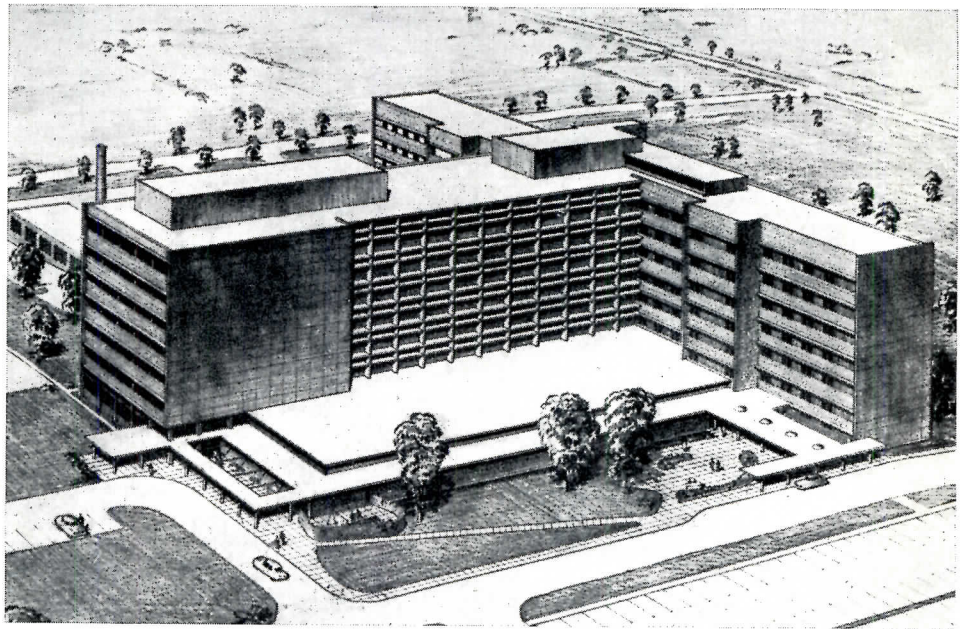
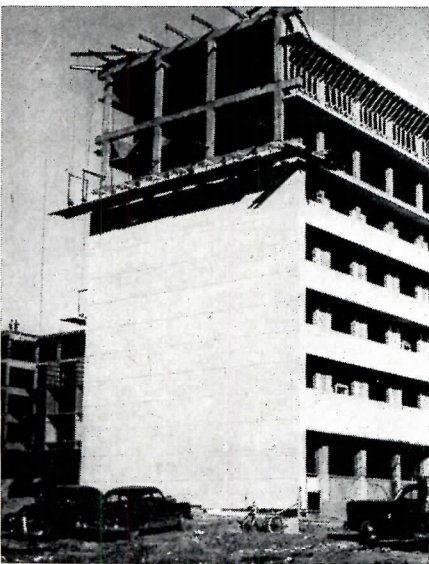
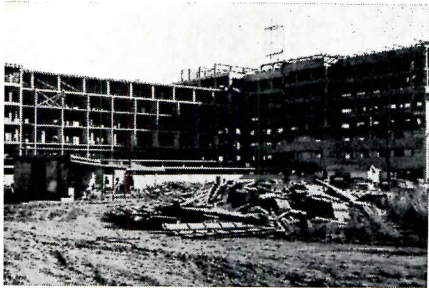
University Medical School and Teaching Hospital, Jackson, Miss.

*MNO Associated
Architects*

*E. L. Mulvaney
R. W. Naef
N. W. Overstreet*

WHILE THE HILL-BURTON PROGRAM gives major attention to small hospitals for rural areas, it also contemplates that teaching and training are vital to the extension of the country's health facilities. Thus the Coordinated Hospital System points toward the teaching hospital as the top level of medical science. Here, then, is one of the few large new institutions, to fill a great need in the developing South.

As a planning assignment it was a major study in schematics, with three architectural firms uniting to handle one of the most complicated tasks of recent years. Developing the program took about six months, the schematics another four months. From these preliminaries a model was built, for study of the building that would result. At this point an interesting story begins. The architects, solemnly viewing the model,



A. C. Bachmeyer, M.D., Medical Consultant

*Gardner & Howe associated with
Post & Witty, Structural Engineers*

*Landauer & Shaffer, Mechanical and Electrical
Engineers*

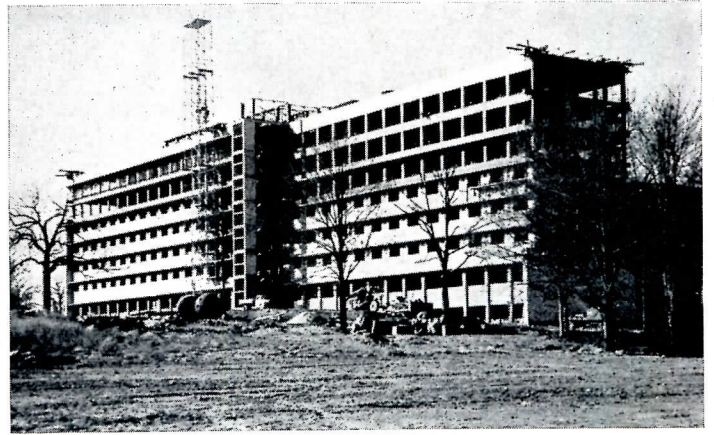
Olmstead Brothers, Site Planners

agreed that they were unhappy. They concluded further that everybody was too close to the functions of the project to make an unbiased study of the mass. They then called in an outside architect, W. R. Allen, Jr., to contribute a fresh viewpoint. He went to Jackson to study the organization of the building with a view to simplification, and offered a new scheme in sketch renderings. The principals decided that much of his detail would strain the cost budget — which also had been watched closely — but that his overall scheme was acceptable. It involved considerable reshuffling in plan, but it did improve the mass. They concluded then that the whole experience had been quite salutary, for it had helped them out of a planning rut. From then on the thinking was clarified and the present schematics quickly followed.

The schematics, presented on following pages, have been analyzed exhaustively, and will bear as close scrutiny as one may care to give them. To relate all of the program and the reasoning in it would require a prodigious presentation; a few highlights will have to suffice.

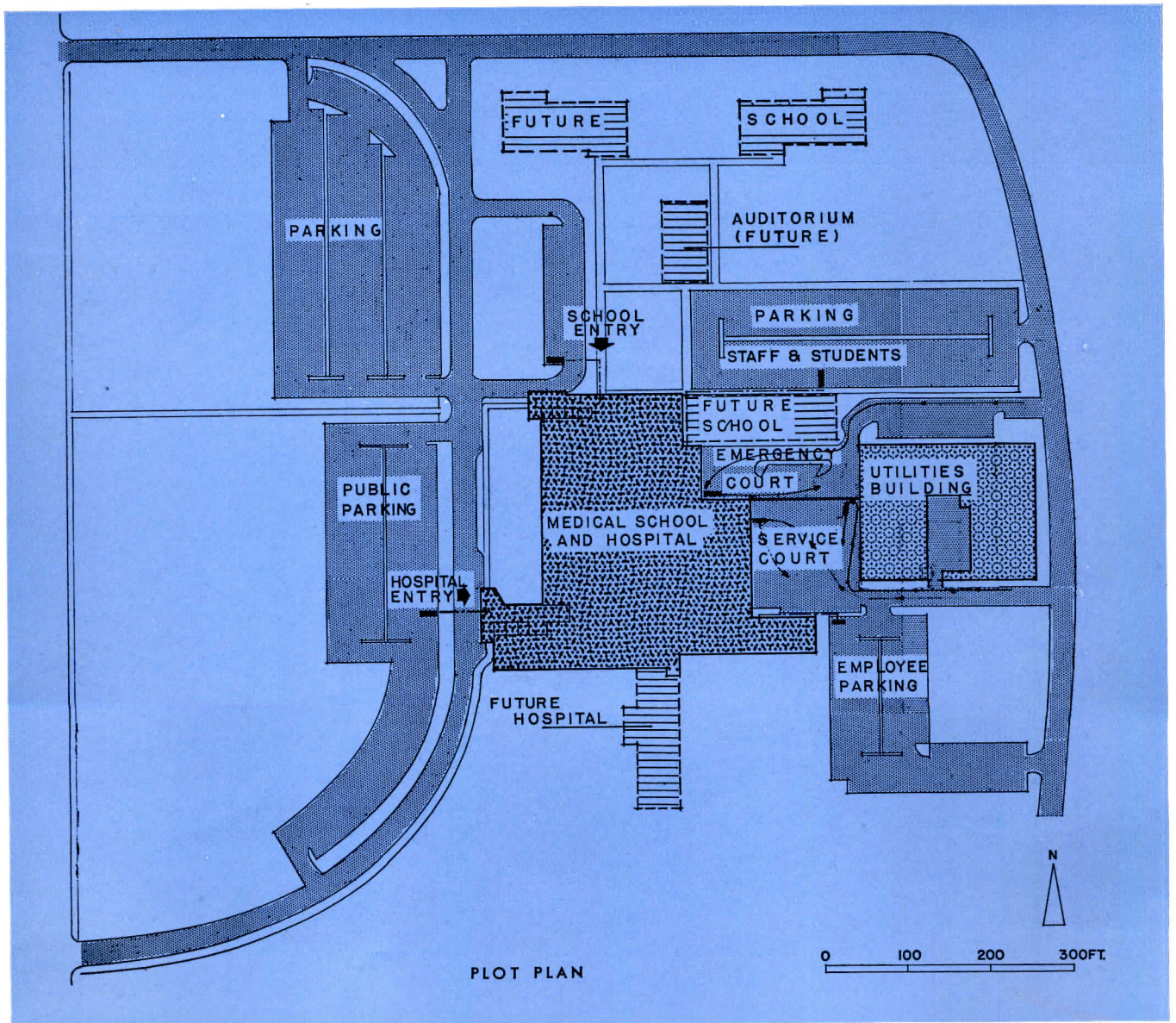
The diagrams clearly show the dual purpose of school and hospital, the bottom of the T form providing, on each floor, an isolated location for laboratories and lecture rooms. The T shape proves useful, too, for keeping two nursing units per floor separated from each other and from medical and surgical departments. The double corridor device is cleverly used to maintain separations of functions and keep the travel distances within bounds.

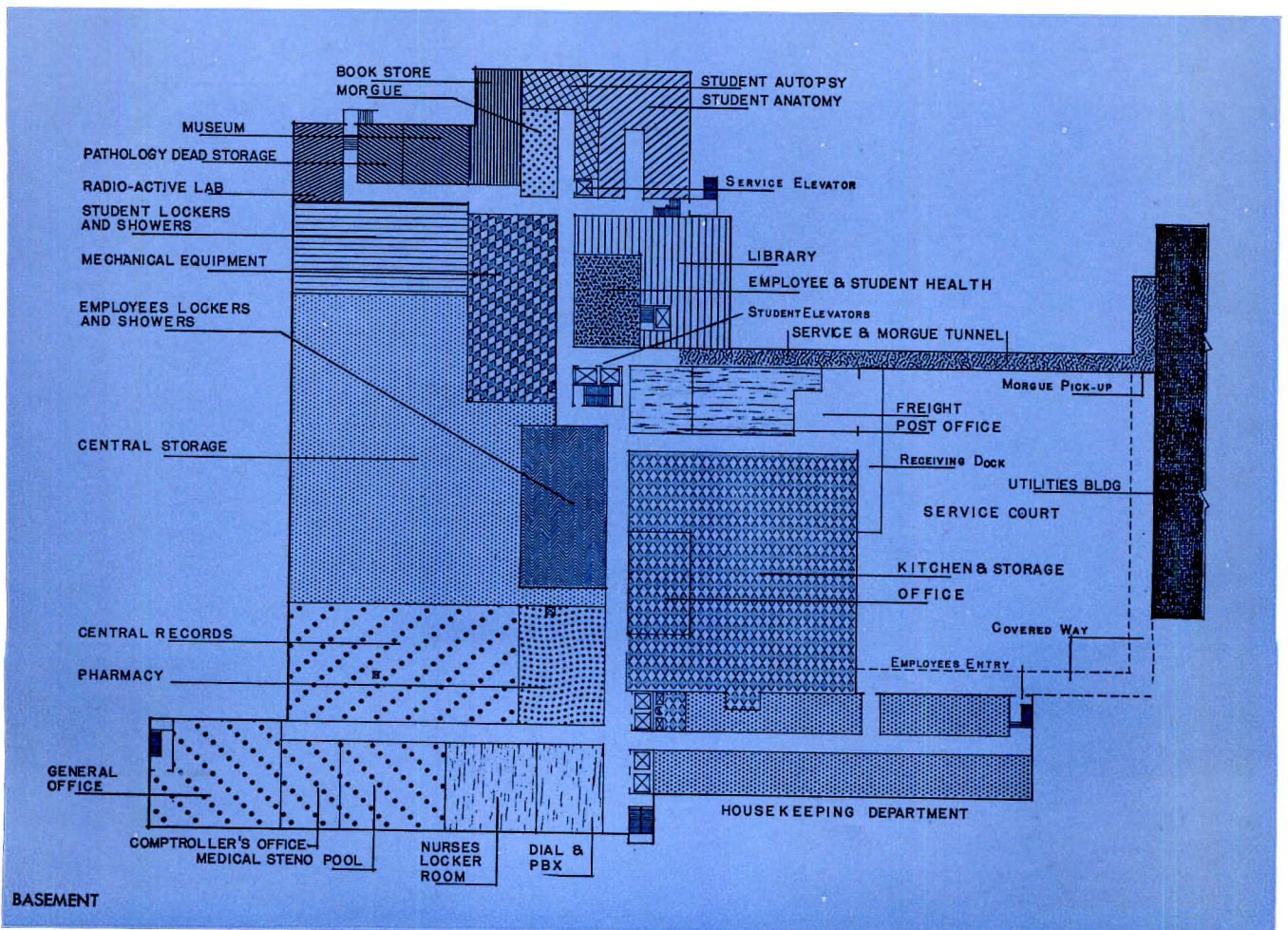
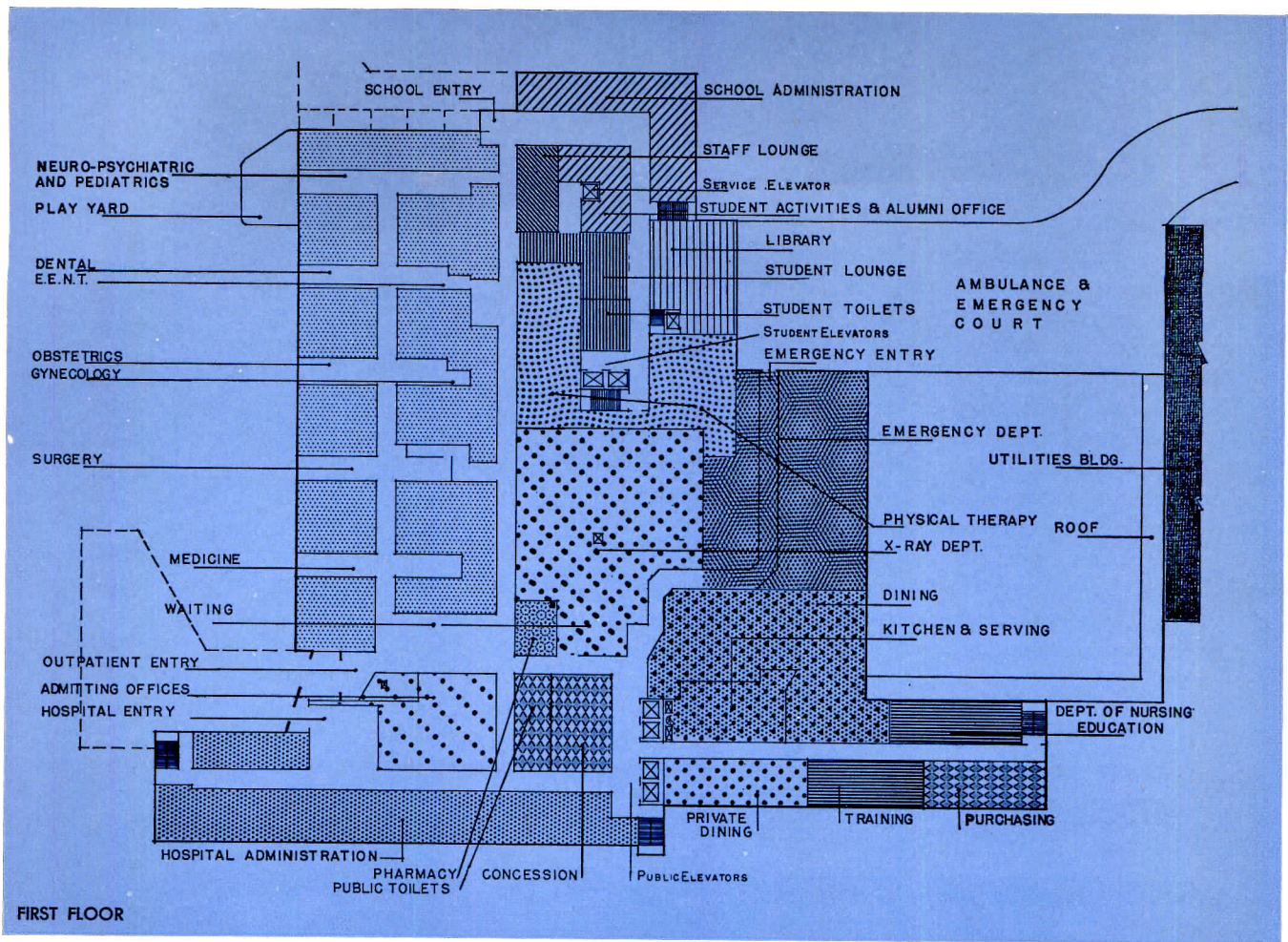
The first floor development, with huge outpatient department, called for shoehorn operations on a vast

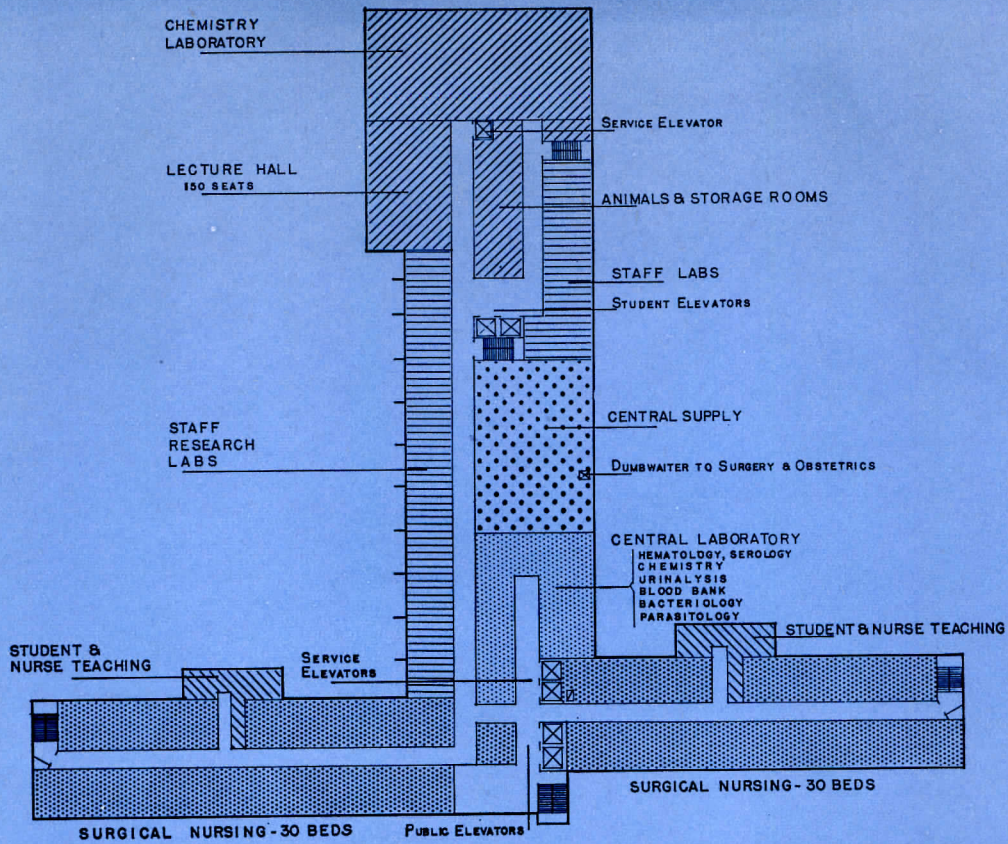


scale. Note especially the scheme for clinical departments, with cross corridors; this space will have clerestory windows.

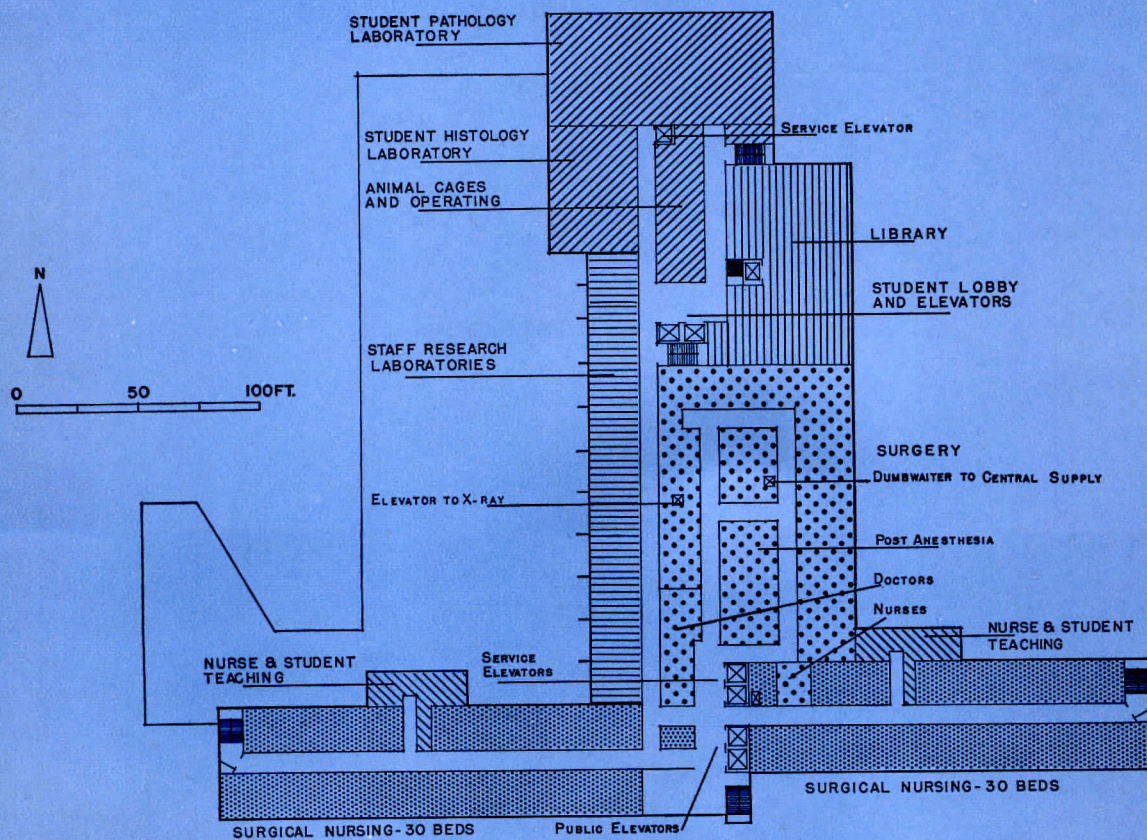
The building is scheduled for completion early in 1955, and will cost approximately \$9,000,000.



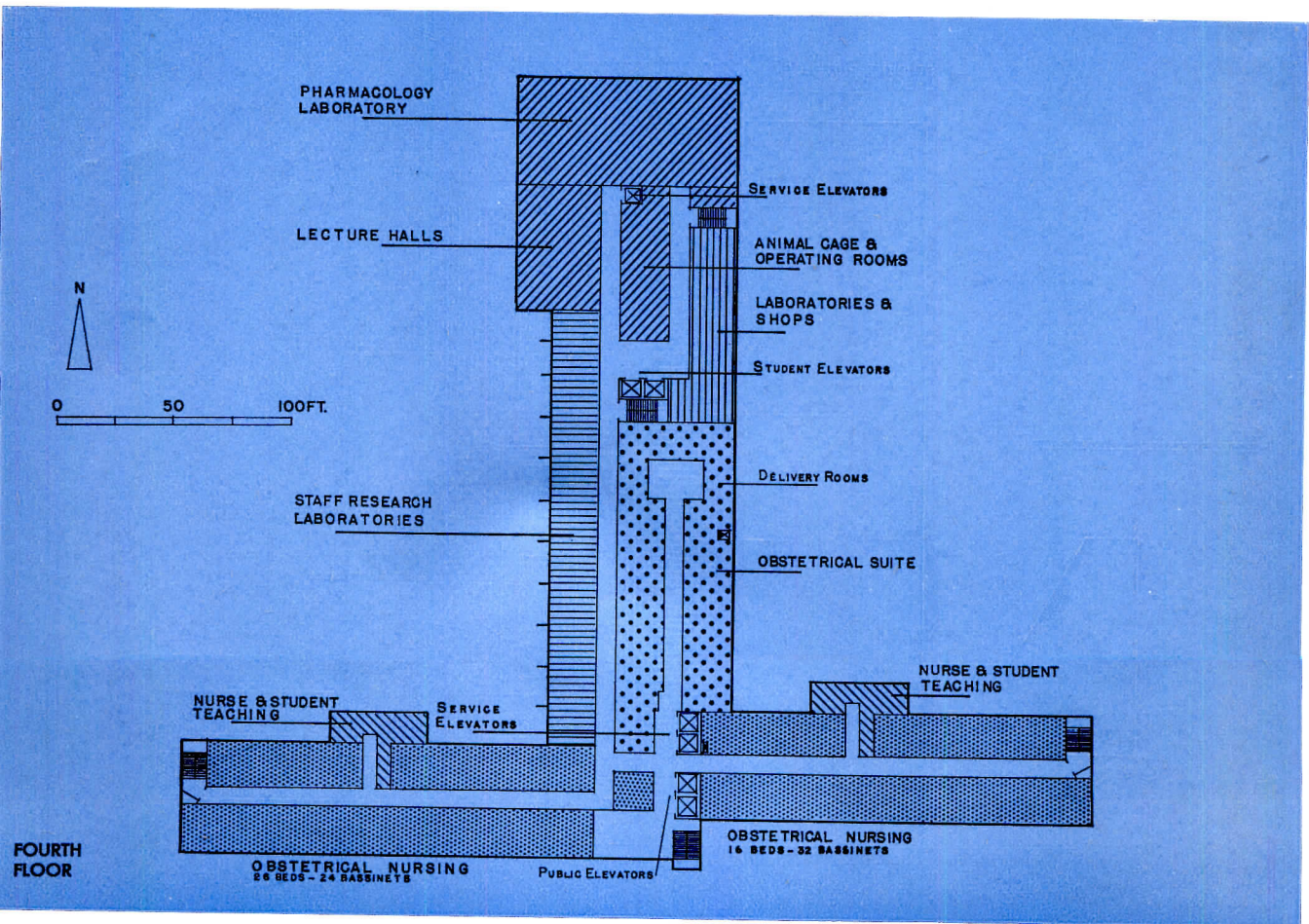
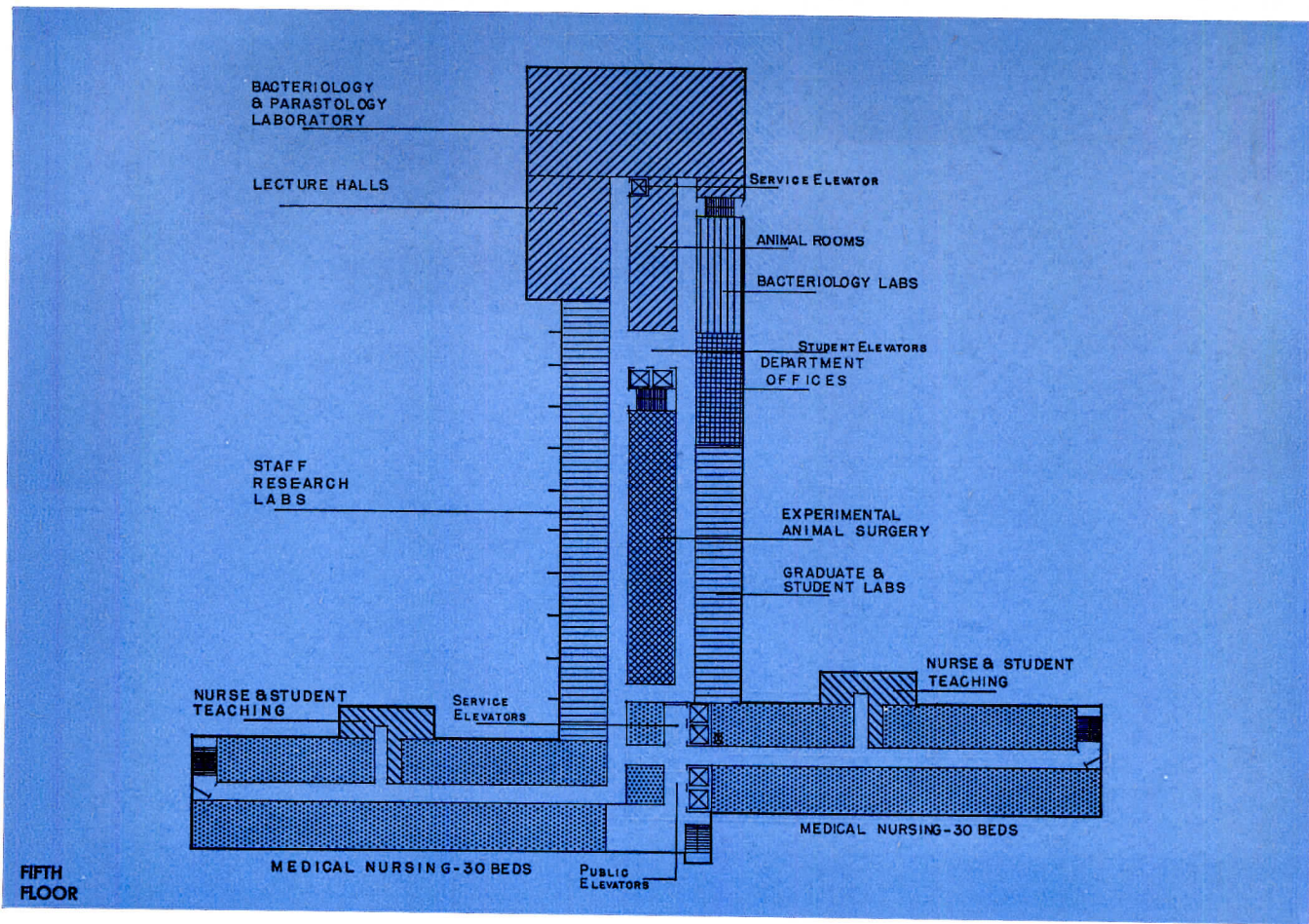




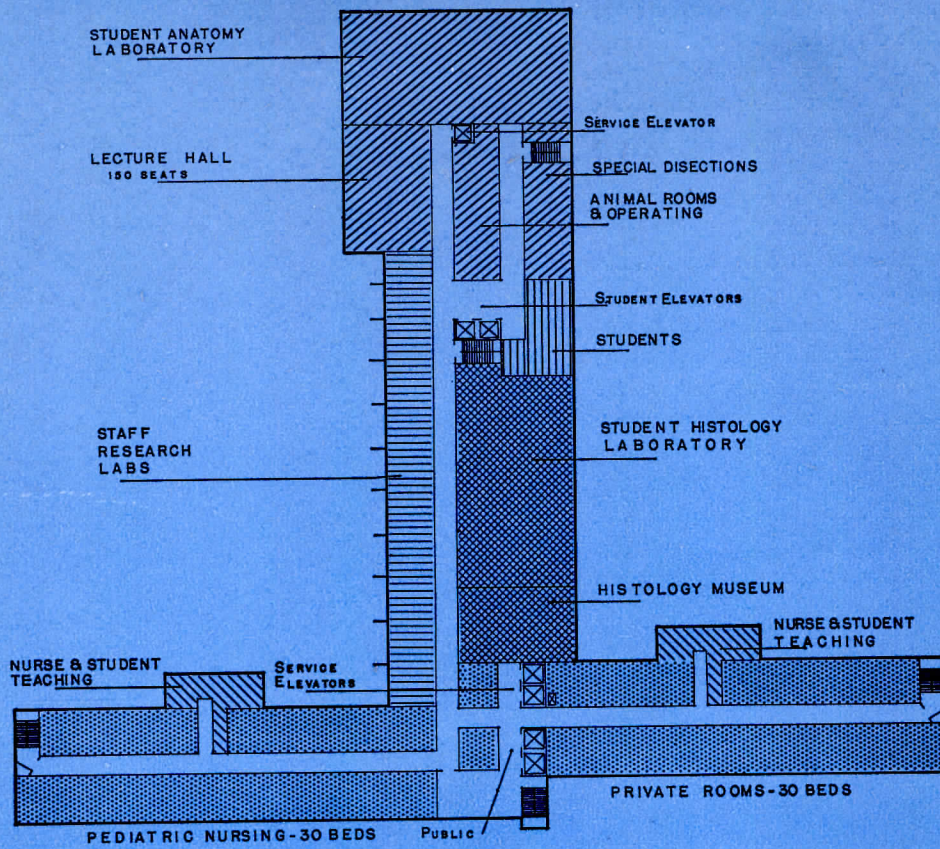
THIRD FLOOR



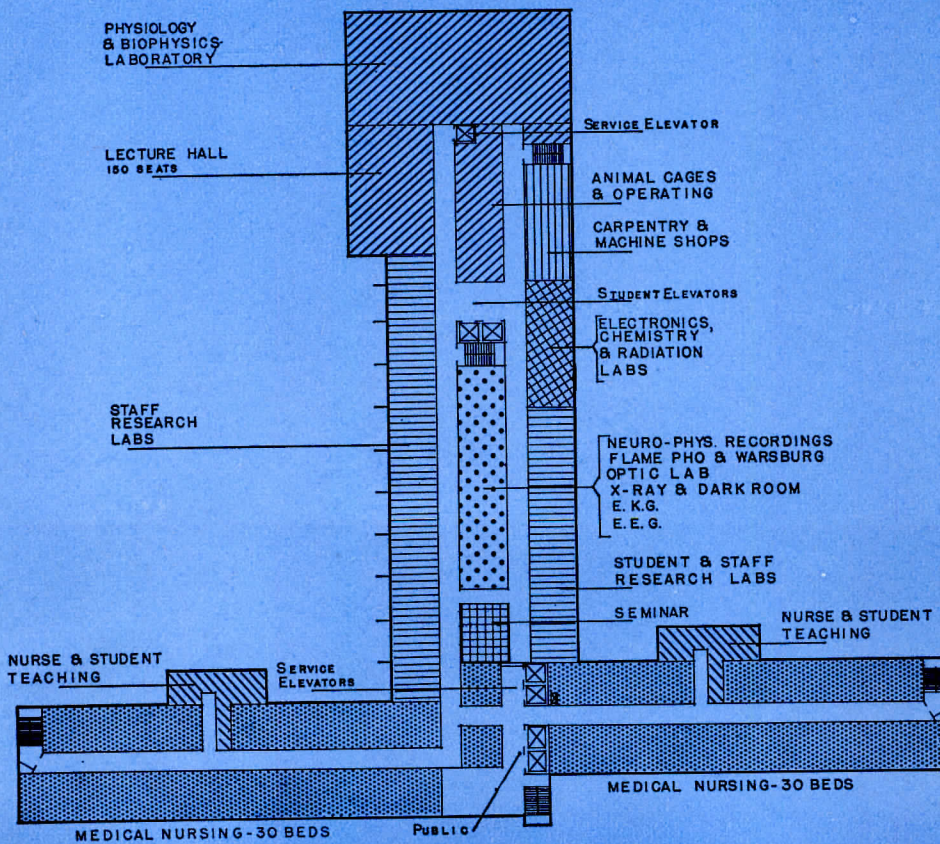
SECOND FLOOR



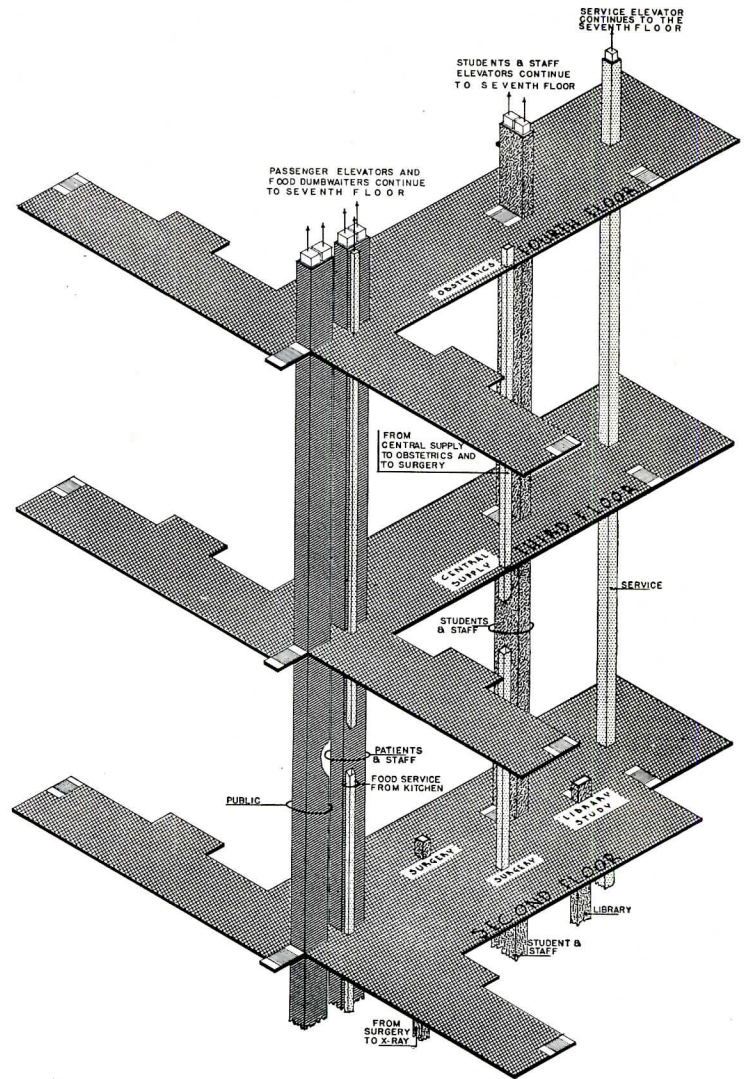
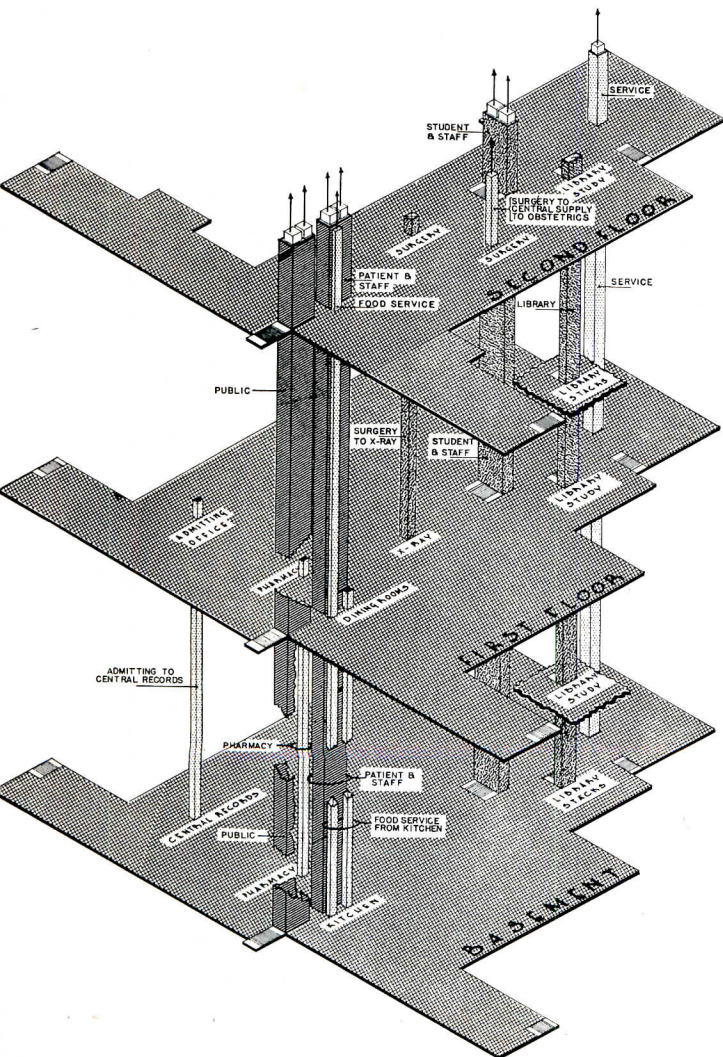
SEVENTH FLOOR



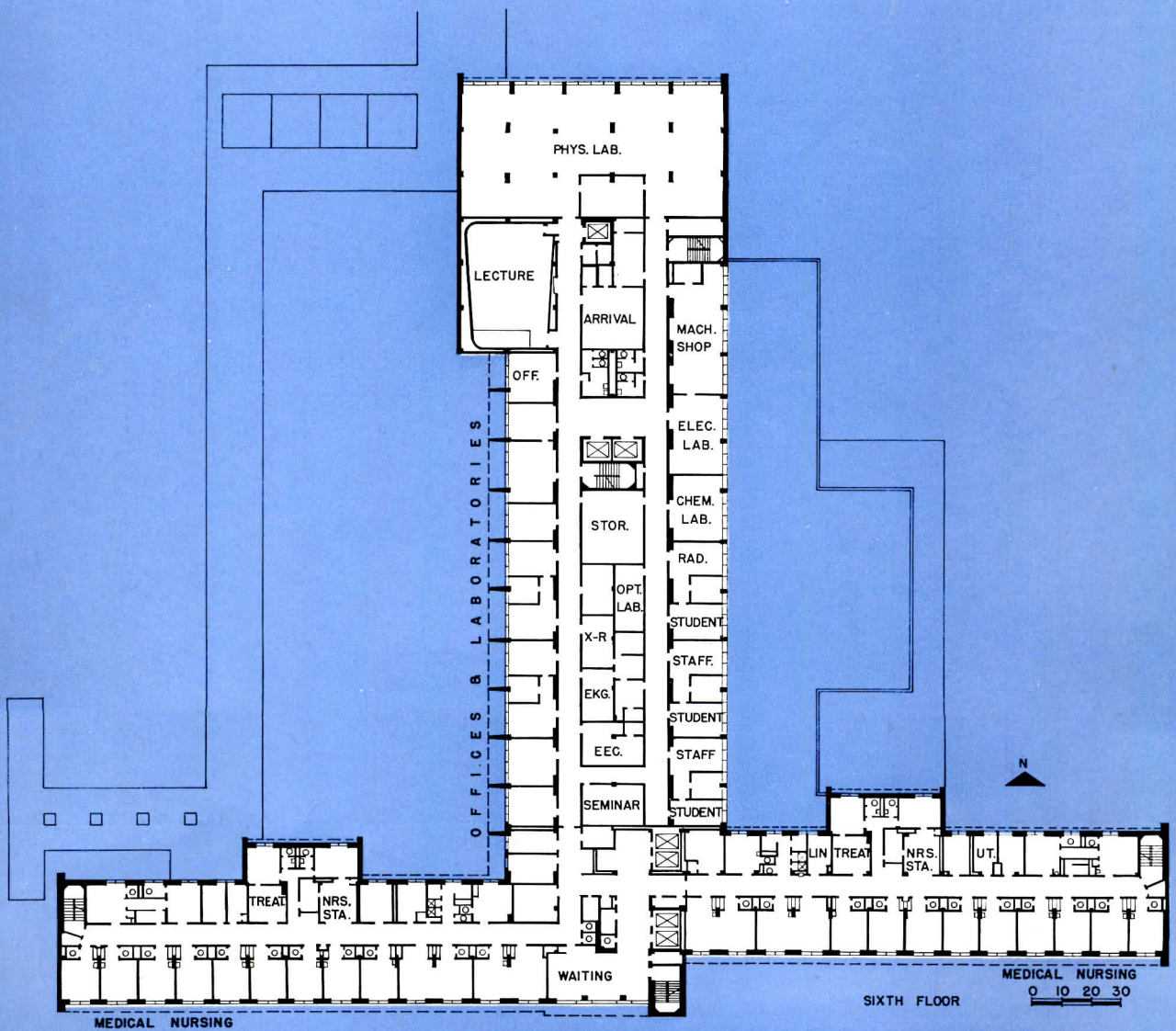
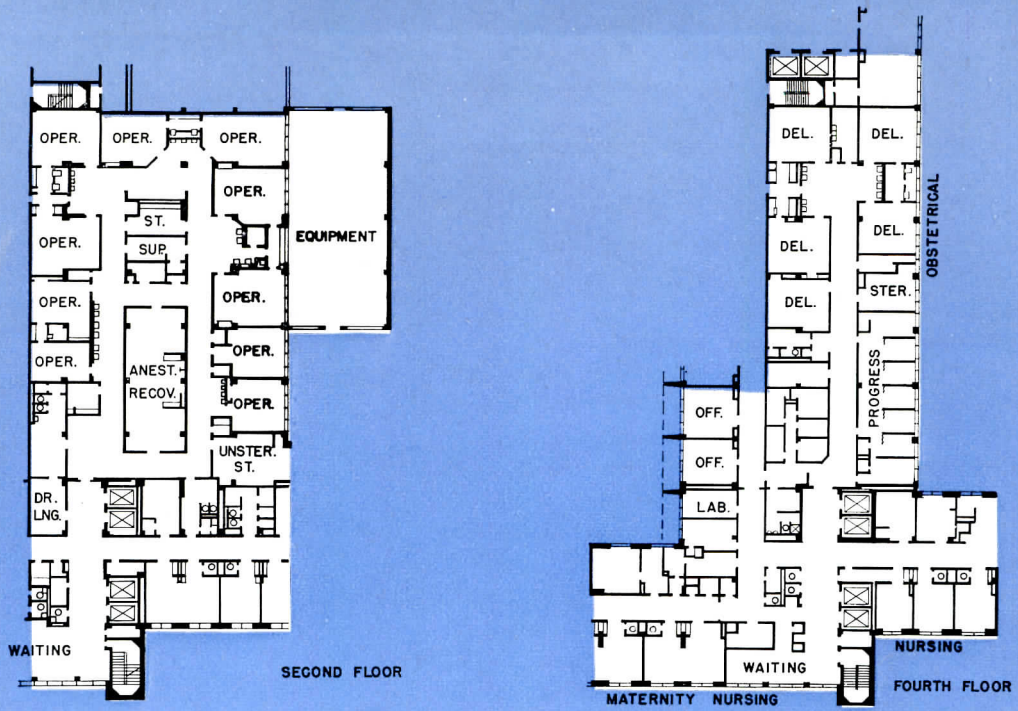
SIXTH FLOOR



The diagrams of vertical supply and transportation systems, shown below, could become a good argument for the vertical type of hospital building, particularly when the plan is confused by the addition of a medical school. In this regard, notice especially the separate elevator connecting a stacked-up system of libraries. This puts individual study libraries close to their respective fields of subject matter, but connects them for easy cross reference. Students and staff have elevators of their own, to keep school traffic out of hospital circulation as much as possible. Individual dumbwaiters connect central sterilizing to obstetrics and to surgery, also surgery to x-ray. There are also dumbwaiters from the central records room to the admitting office, and between pharmacies on various levels. In the main, however, the heavy traffic concentrates in the elevators and food service dumbwaiters at the juncture of the T. Two banks of elevators keep staff and service separate from the public.



The double corridor is used on all floors. The sixth floor plan, opposite page, is typical in this respect, with double corridor serving two outer rows of offices and laboratories, with storage rooms and dark laboratory spaces between the two corridors. On the second floor, at surgery, the double corridor becomes triple, a sort of double corridor to the second power. Here, and in the fourth floor obstetrical suite, the double corridor becomes a device for providing a cul de sac location.



90-BED HOSPITAL WITH EXCEPTIONAL PLAN

Memorial Hospital of Sheridan County, Sheridan, Wyoming

WHILE THIS HOSPITAL warrants study for its well integrated plan, the visitor is first struck by the magnificence of its site, high above the city with uninterrupted views of mountains on three sides. There is some significance here too, as the hospital was originally contemplated for a poor site within the city, and the new site, with its "beauty, clarity, feeling of stability, along with a sense of excitement" was not accepted without a struggle.

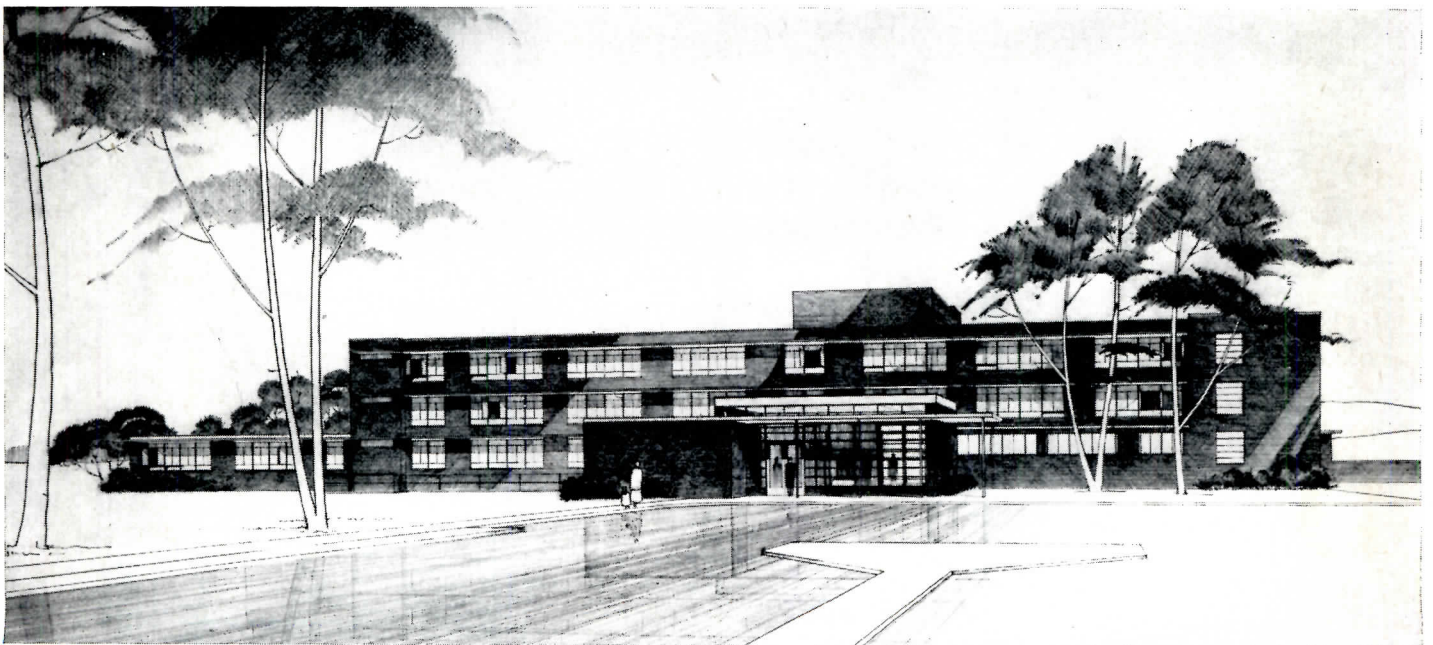
The keynote of the first floor planning is the grouping together of all direct patient services. Such a highly integrated correlation promotes not only construction economy but also economy and convenience of operation by a minimum personnel. Notice especially the manner in which surgical and obstetrical suites are isolated from each other and from the rest of the hospital, while still being adjacent to elevators. The central sterilizing department feeds sterile supplies in three directions from a pivotal location (with a dumbwaiter serving upper floors). Routing of soiled materials is very nearly as simple. One of the elevators can be isolated for exclusively surgical use. Obstetrical suite opens only to the maternity corridor. The maternity

Fisher & Fisher, Architects

*James Hamilton & Associates,
Medical Consultants*

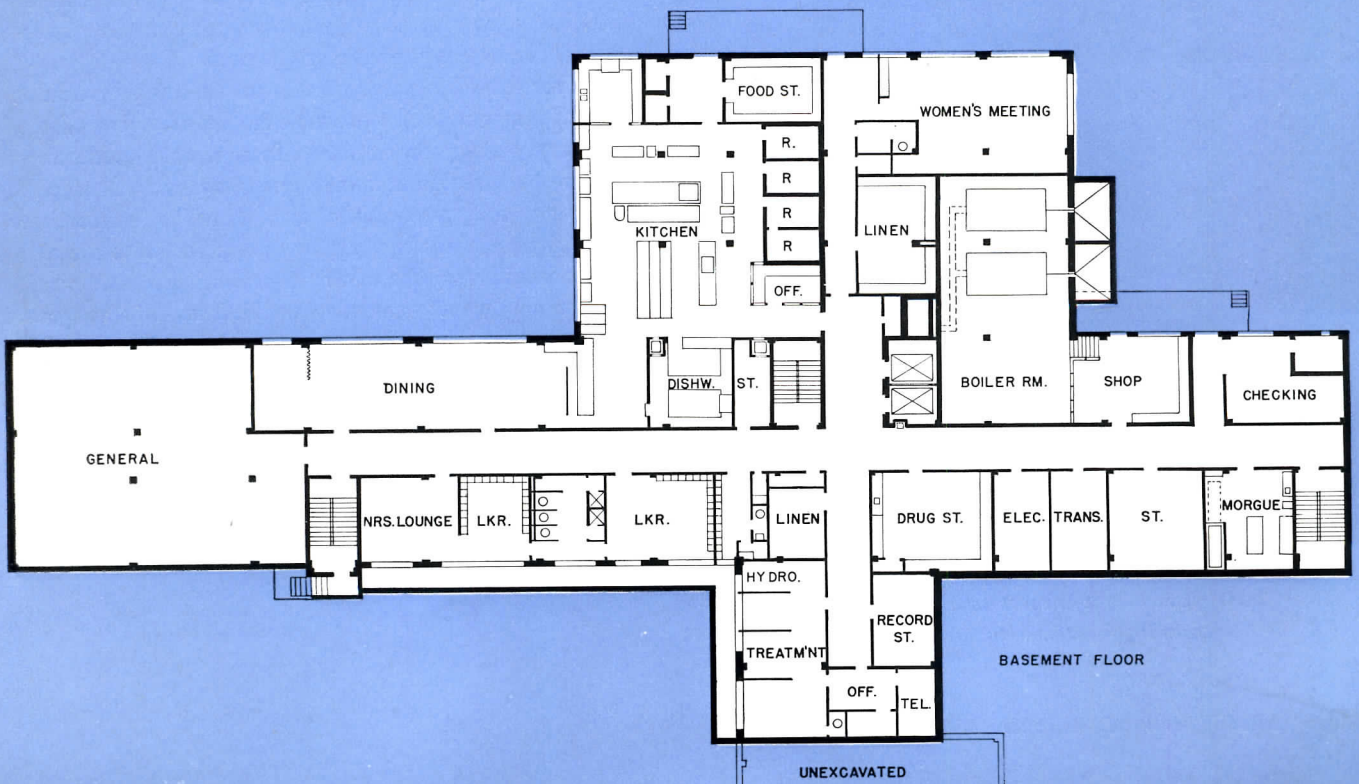
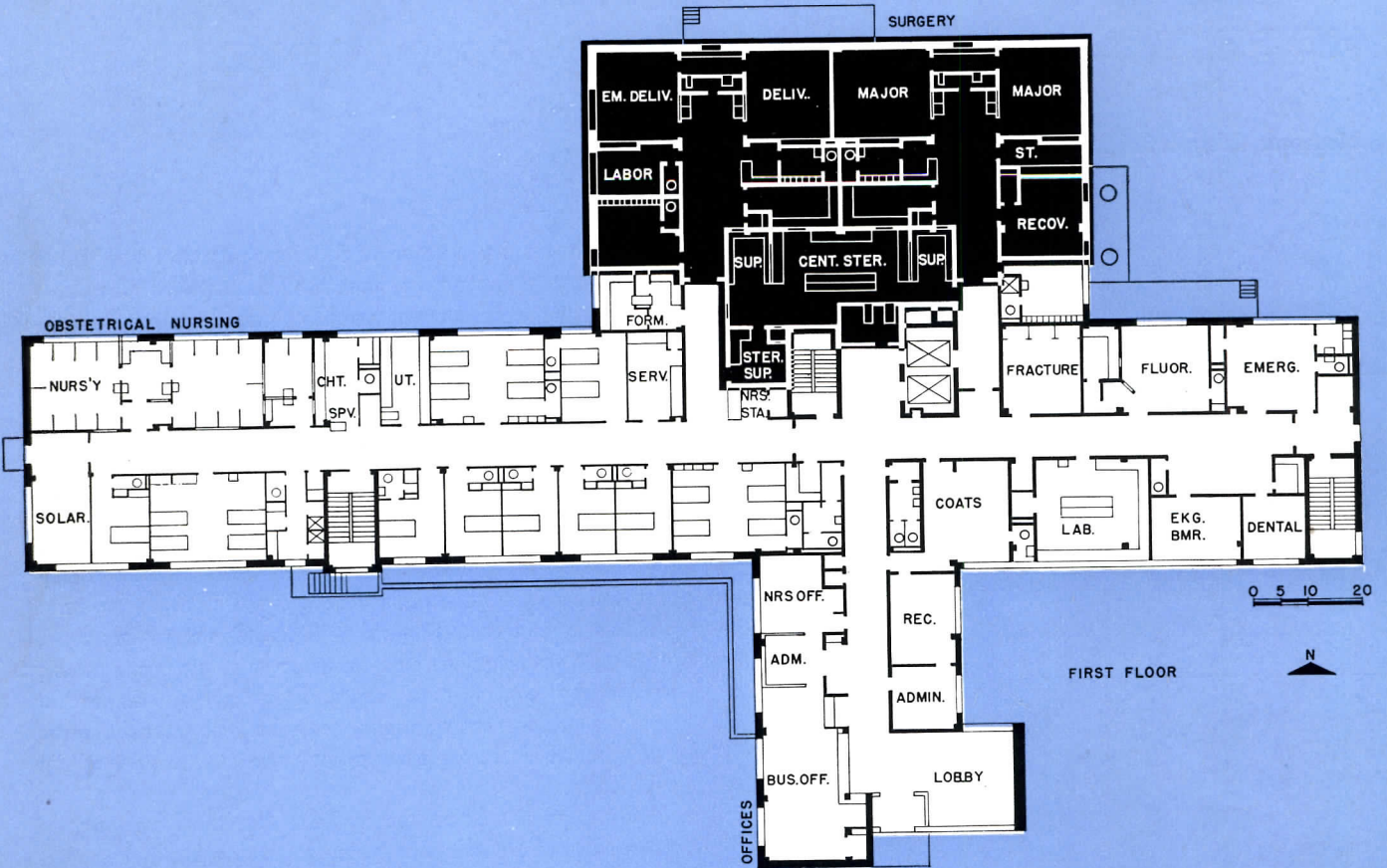
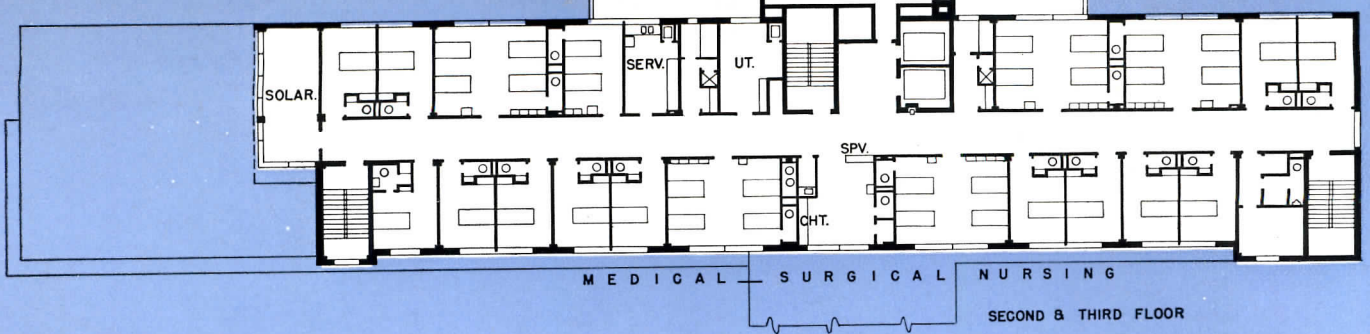
Milo S. Ketchum, Structural Engineer

*Marshall & Johnson, Inc.,
Mechanical Engineers*



nursing unit is kept separate from other patient areas.

A feature of the nursing units is elimination of the two-bed room, this at the suggestion of the medical consultant. He feels that the coincidence of personality maladjustment between two persons is high.

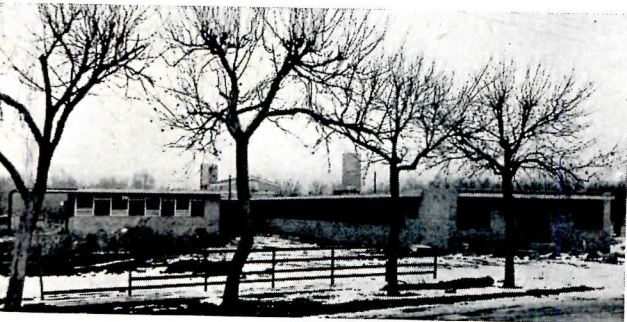




HOSPITAL FOR A TOWN OF 5,000 PEOPLE

Pioneers Memorial Hospital, Rocky Ford, Col.

Charles H. Kellogg, Architect



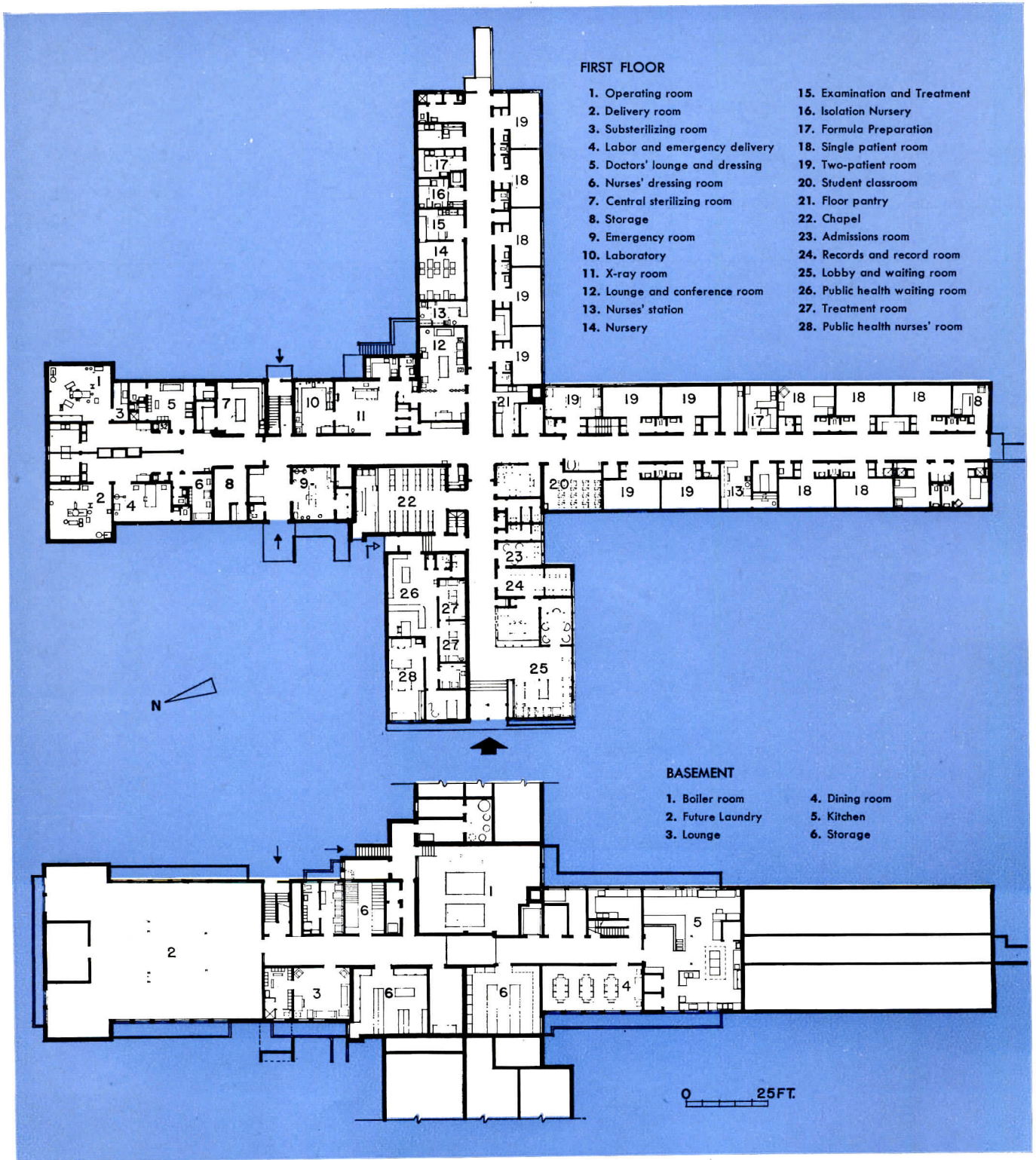
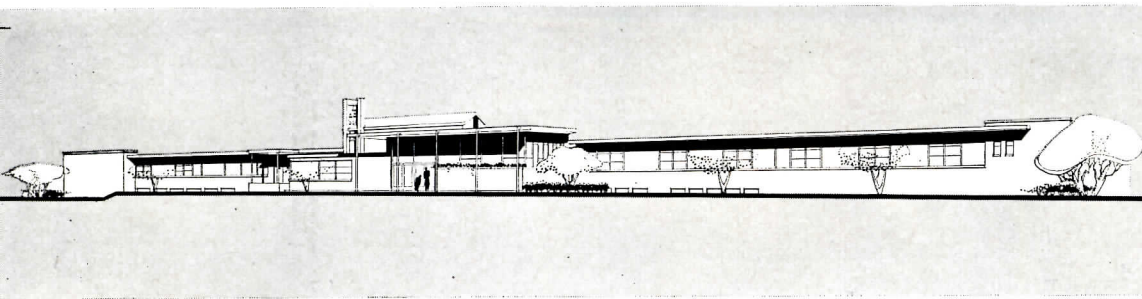
One of the purposes of the Hill-Burton hospital program is admirably illustrated by this hospital for a town of 5,000. Initiated by local citizens, built with local, state and federal funds, it demonstrates the possibility of extending hospital services to small towns and rural areas. This one also houses a branch of the Otero County Health Department; also it was designed for certain training functions for nursing personnel

A HOSPITAL for a town of 5,000 population is of itself a commentary on accomplishments of the Hill-Burton program. It was usually considered uneconomical, and it was said that so small a hospital as 30 beds could not really be operated. But when a community decides it needs a hospital it doesn't stop for rules-of-thumb. Actually this hospital operates as one outlying unit of the Mennonite General Hospital at La Junta, Col.; it will also serve as a partial training unit. These considerations have had their affect on the planning.

This is another of the new hospitals to use many two-bed rooms with beds paralleling the windows, each patient enjoying the same outlook. Overhanging roofs give protection from the summer sun, and rooms are cooled by evaporative units. Each room has either private or connecting toilet, with bedpan attachments. All but the three isolation rooms are thus arranged for two beds.

It is unusual, of course, to have two nursing stations for a total of 30 beds, but here the separation is kept between surgical and maternity groups. Also the two stations are part of the training program. During night hours, however, the two stations merge in the supervisor's office at the junction of the cross.

A design principle emphasized was planning for a minimum of personnel. One example is the grouping of the laboratory, X-ray department, lounge and conference room, so that one technician can operate both X-ray and laboratory, and is quickly available for conference with doctors. Rooms in the administrative suite are also interconnected for the convenience of a small staff. The kitchen layout was also studied in this respect; the architect reports that the kitchen can be staffed by just two people.



SPRAWLING HOSPITAL FOR THE WIDE OPEN SPACES

D. M. Cogdell Memorial Hospital, Snyder, Texas

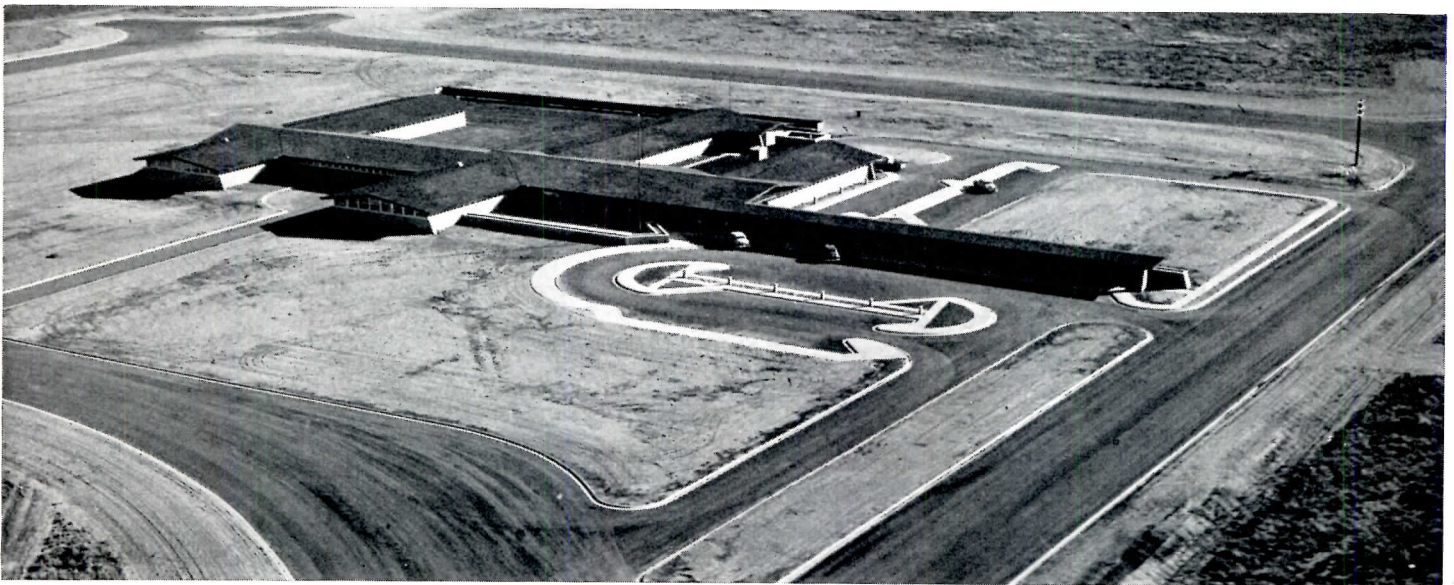
The Butler-Brasher Company, Architects-Engineers

ON THE FLAT LANDS of Texas it is a little difficult to imagine any straining for compactness. Perhaps it is natural, then, that this hospital rambles around the countryside with all the freedom in the world. And in the flat limitlessness of the country it finds a design motive which is strongly expressed.

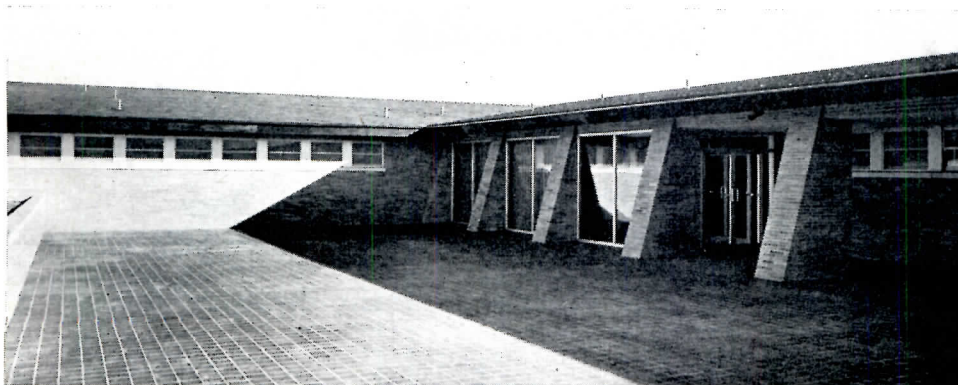
Though by usual standards it is a small hospital (50 beds nominal capacity) it has quite extensive facilities. And it puts these facilities where it wants them — a full surgical suite in its own wing, a maternity suite in another. X-ray department, laboratory, emergency room, and central sterilizing group around the surgical suite, convenient to it yet positively isolated from it.

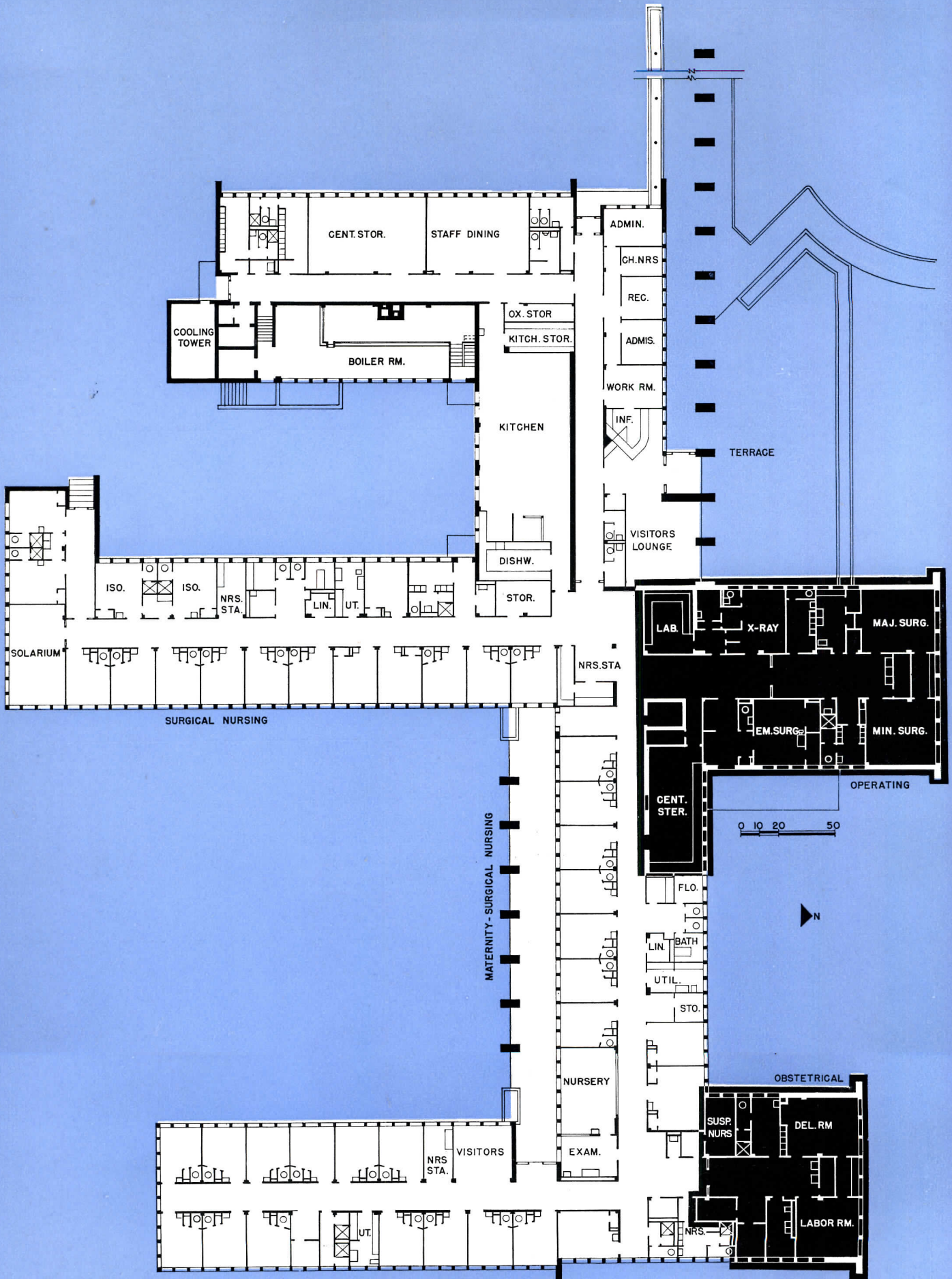
COST DATA

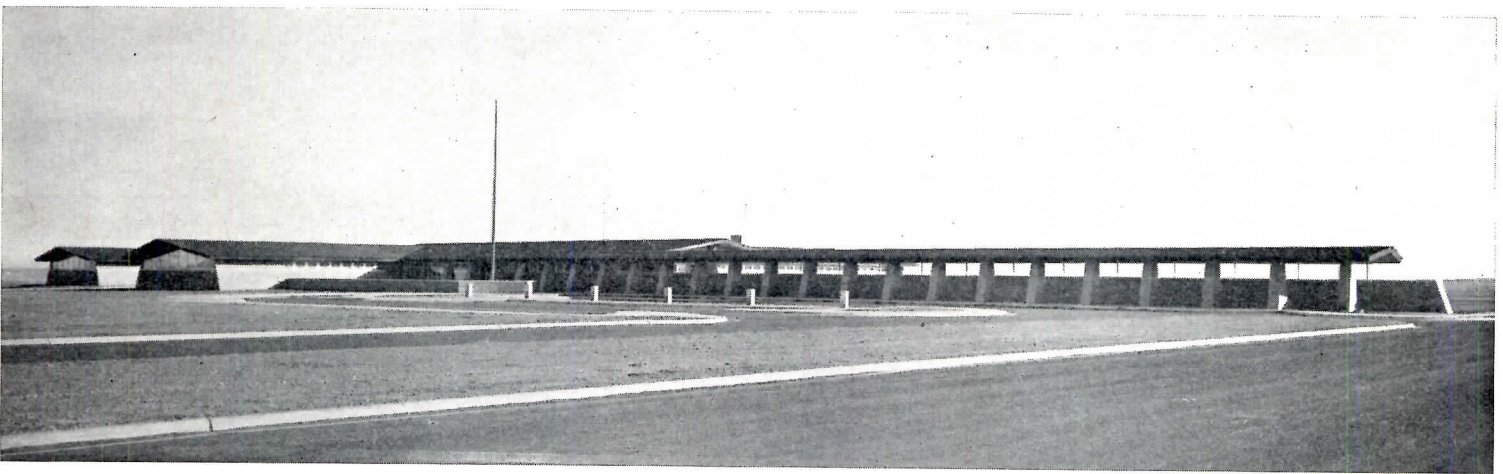
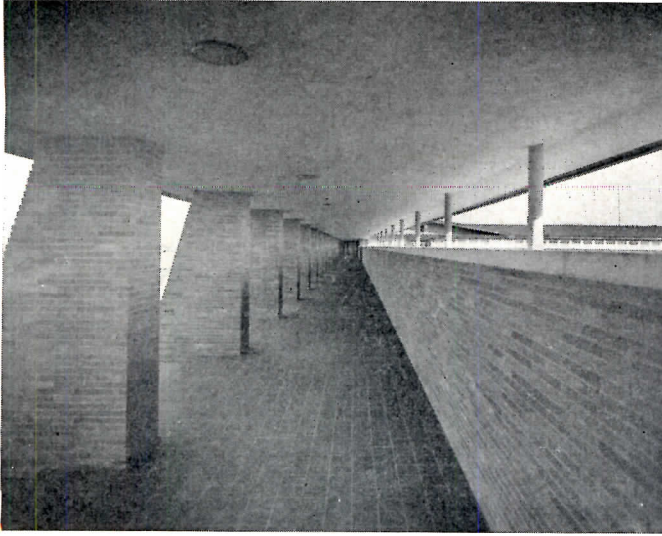
Construction.....	\$643,581.80
Mechanical.....	229,613.00
Electrical.....	58,024.80
	<hr/>
	\$931,219.60
Architectural.....	55,873.17
	<hr/>
	\$987,092.77
X-ray, Group I & II Equipment.....	91,449.50
	<hr/>
	\$1,078,542.27



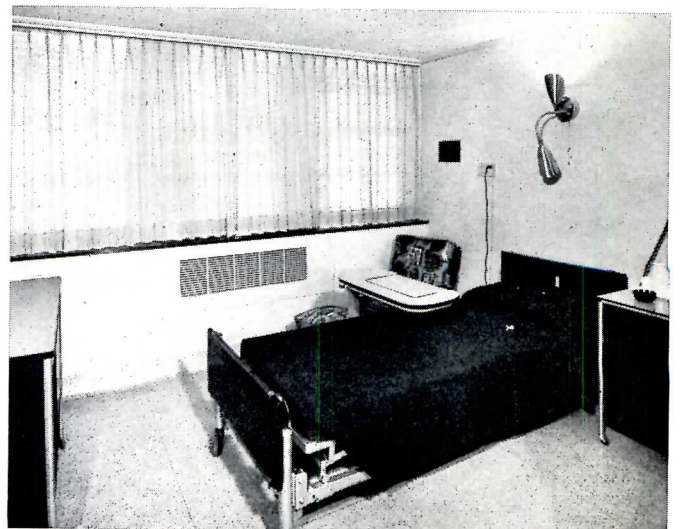
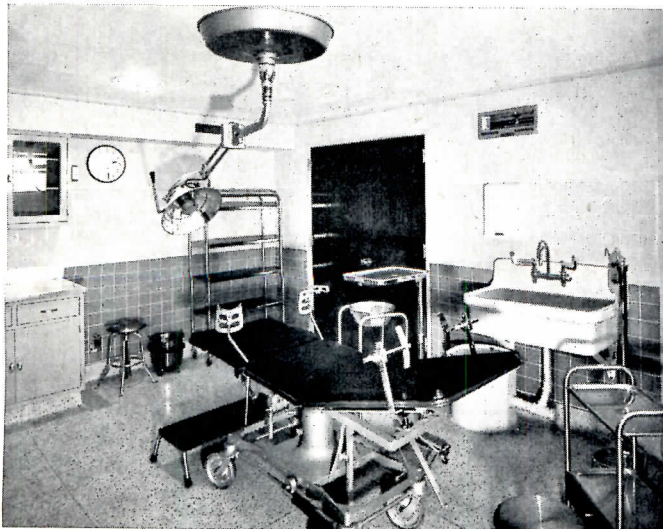
The two principal nursing units shoot off logically from those two main departments — surgical and maternity — though they are connected by a third nursing unit which can take either type of patient. While at a glance the travel distances seem long, it will be noted that most activity for the nurses is concentrated.

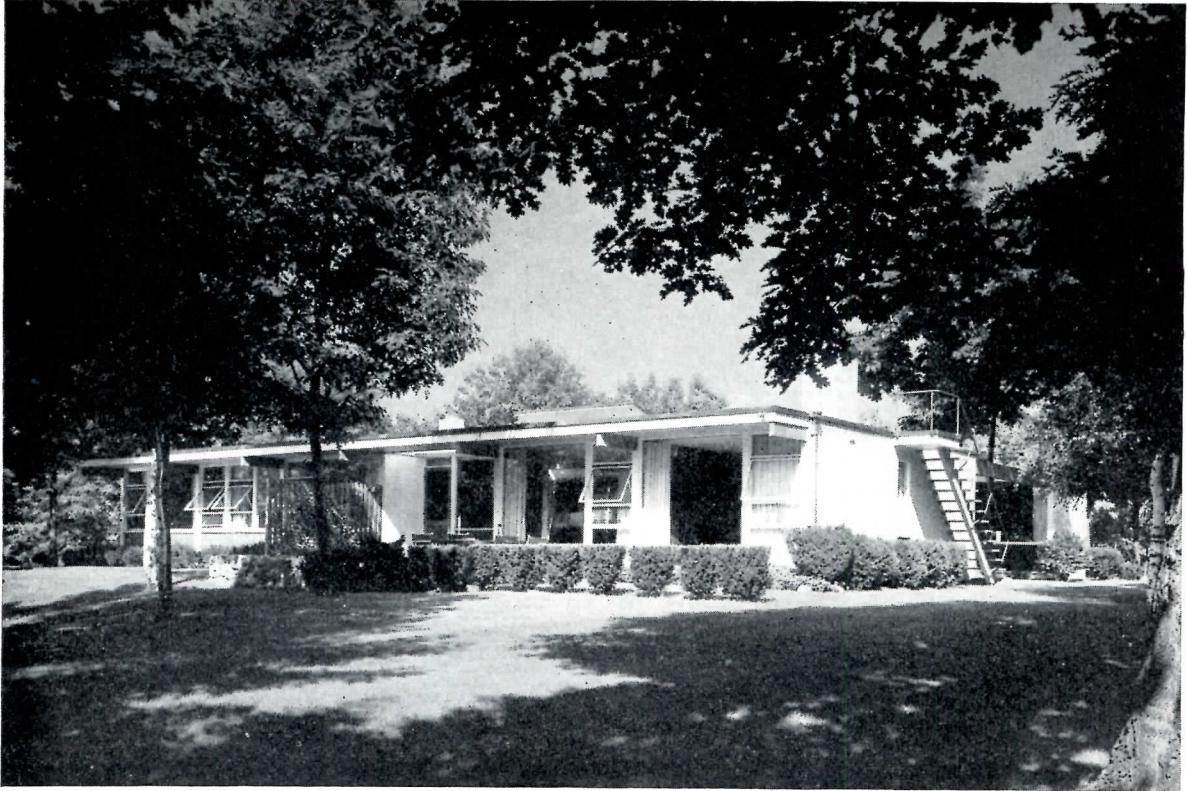






A hospital for a limitless land, this scheme makes a virtue out of distances. Though, as the plan of the previous page shows, the building is sharply departmentalized, so that walking is not the factor that might be supposed. Certainly it is a hospital that gives minimum meaning to the horrible notion of "confinement," and, once landscaped, will offer many pleasant views





1. Hugh Stubbins, Architect

3 HOUSES

Each Designed to Meet the Problems of its Specific Setting

A HOUSE designed for its particular site, capitalizing on the environmental advantages and minimizing the shortcomings in the surroundings, seems such an obvious and natural solution when one builds — yet the percentage of residences so conceived is undoubtedly shockingly small. Architects have only scratched the surface as far as volume of residential work is concerned; but herewith are three examples showing the lasting benefits of complete architectural service.

There is a Massachusetts house designed to overlook a river in two directions; a residence on a flat, treeless plot in a built-up neighborhood in Alabama; and a home on a secluded rock ledge in the Connecticut hills. Three disparate properties, each holding a house tailored to a specific scene.

2. Sherlock, Smith & Adams,
Architects



Joseph W. Mollitor

3. Joseph Salerno,
Architect

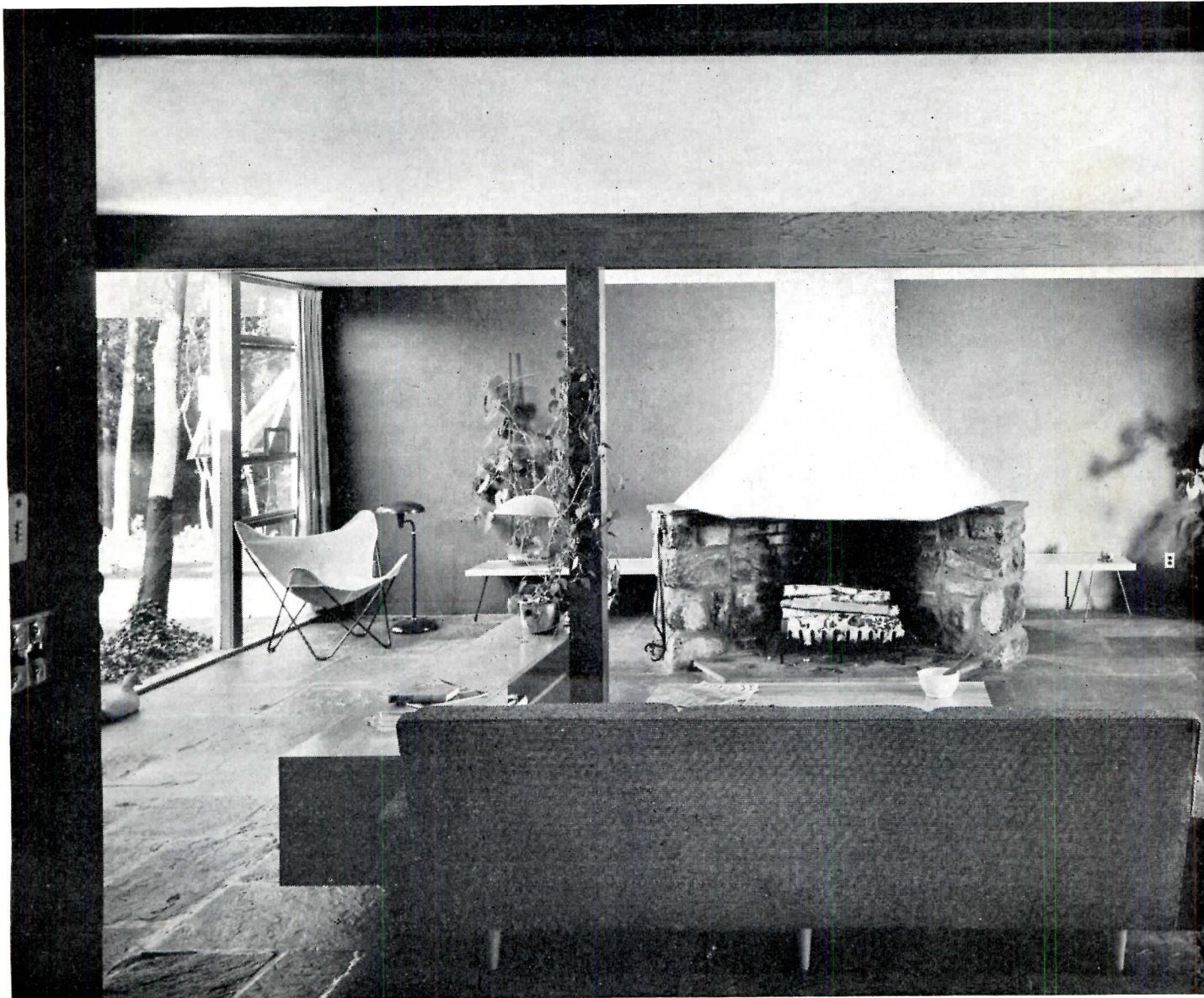


P. E. Guerrero



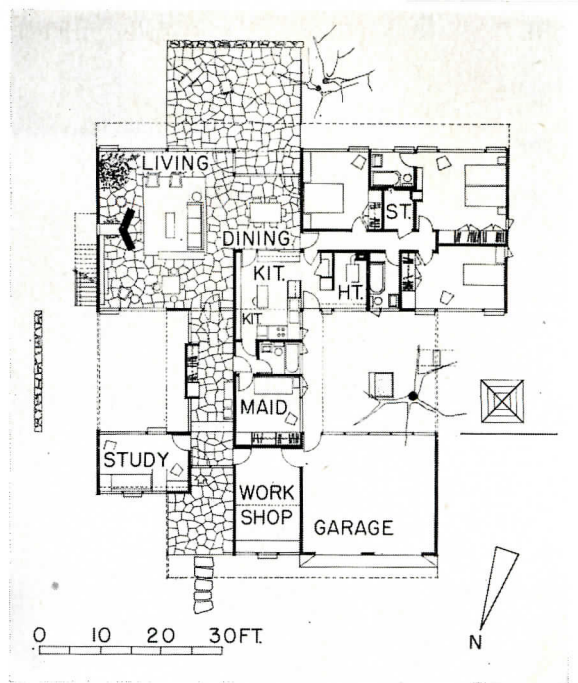
1. THE VIEW SHAPED THIS HOUSE

Hugh Stubbins, Architect



THE HIGHLY SUCCESSFUL two-way character of the living area, below, came about in gaining a view of the Charles River in two directions. The outside stair to the dead-level roof, p. 191, was requested by the client for the same reason. The unusual free-standing fireplace is built of stone and plaster.

Study of the plan and photographs will reveal several points worth noting: living, dining and principal bedrooms oriented to the view, with bedrooms set apart for privacy by a plan recess and wood slat screen, bottom photo; the long entrance hall, photo below plan, which separates study and workshop from living and can be entered from the garage; the central kitchen, located adjacent the children's play court and drying yard for control and access; the orderly organization of the plan elements within a modular post and lintel structural system, which is in turn frankly expressed in the finished house, both inside and out.



Weston, Massachusetts

© Ezra Stoller

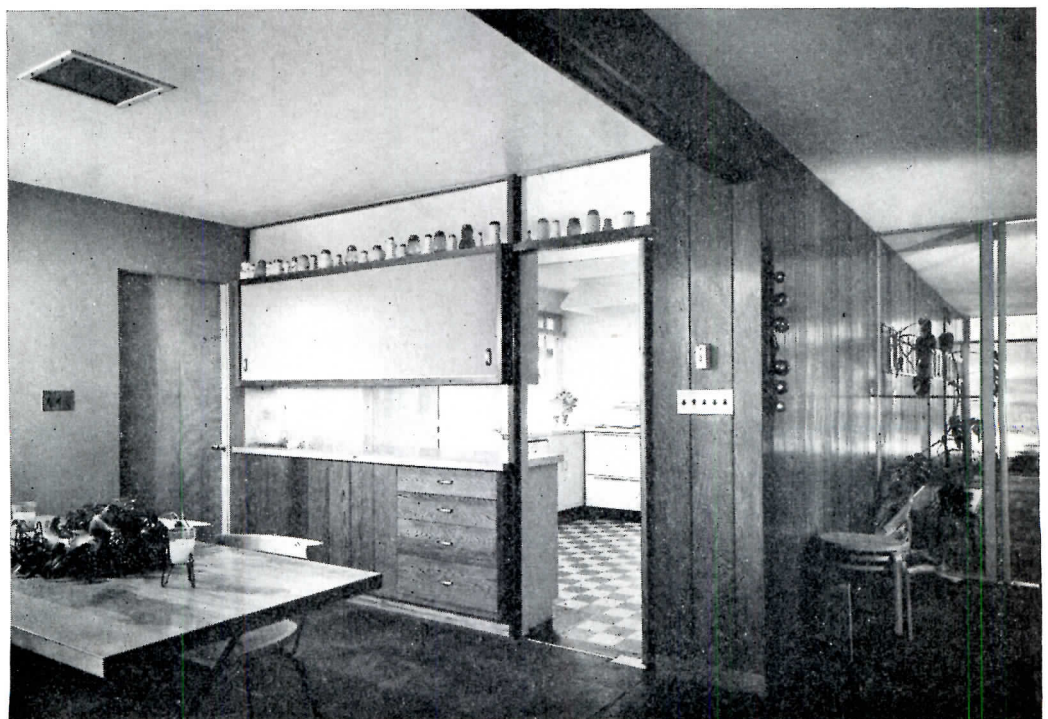


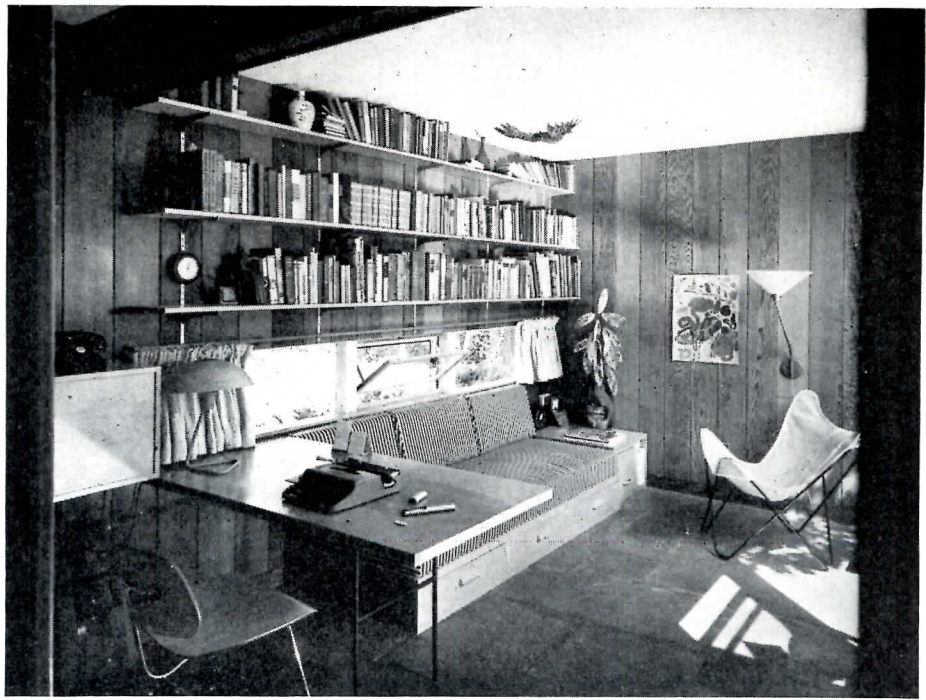


The photo immediately below shows the cheerful dining area and its adjacent terrace for outdoor dining with the river view. The kitchen divider is a two-way pass through cabinet, bottom photo, finished in natural redwood with sliding panels of obscure glass and plastic. The kitchen, left, achieves balanced light and ventilation from a clerestory and the windows opposite.

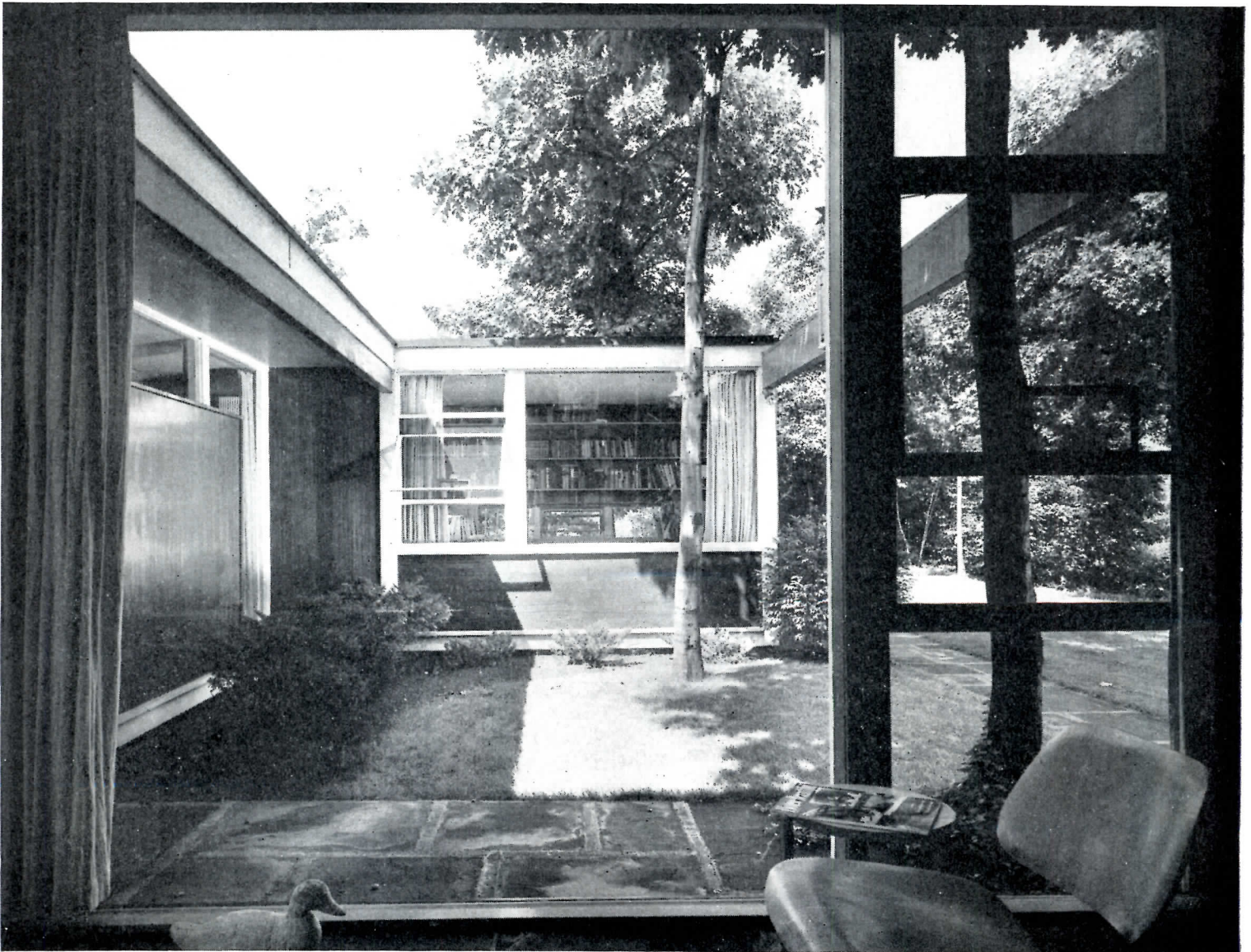
On the right page, bottom, is a view of the court between living area and study, top photo. This pleasant in-and-out and tying-together relationship is enhanced by the device of carrying through the modular lintel for structural expression and unity.

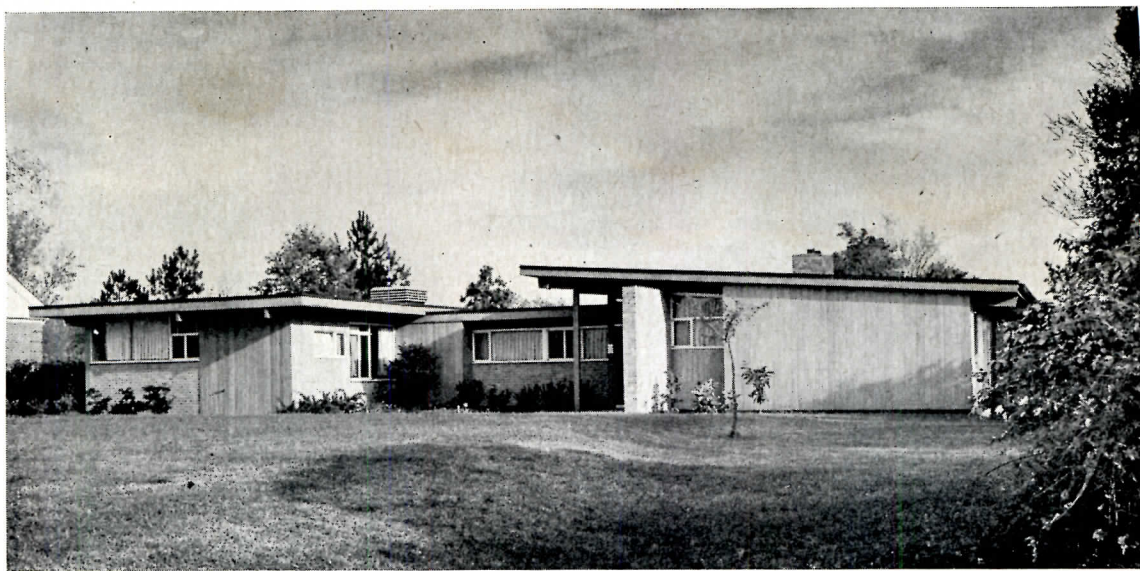
1. THE VIEW SHAPED THIS HOUSE
Hugh Stubbins, Architect



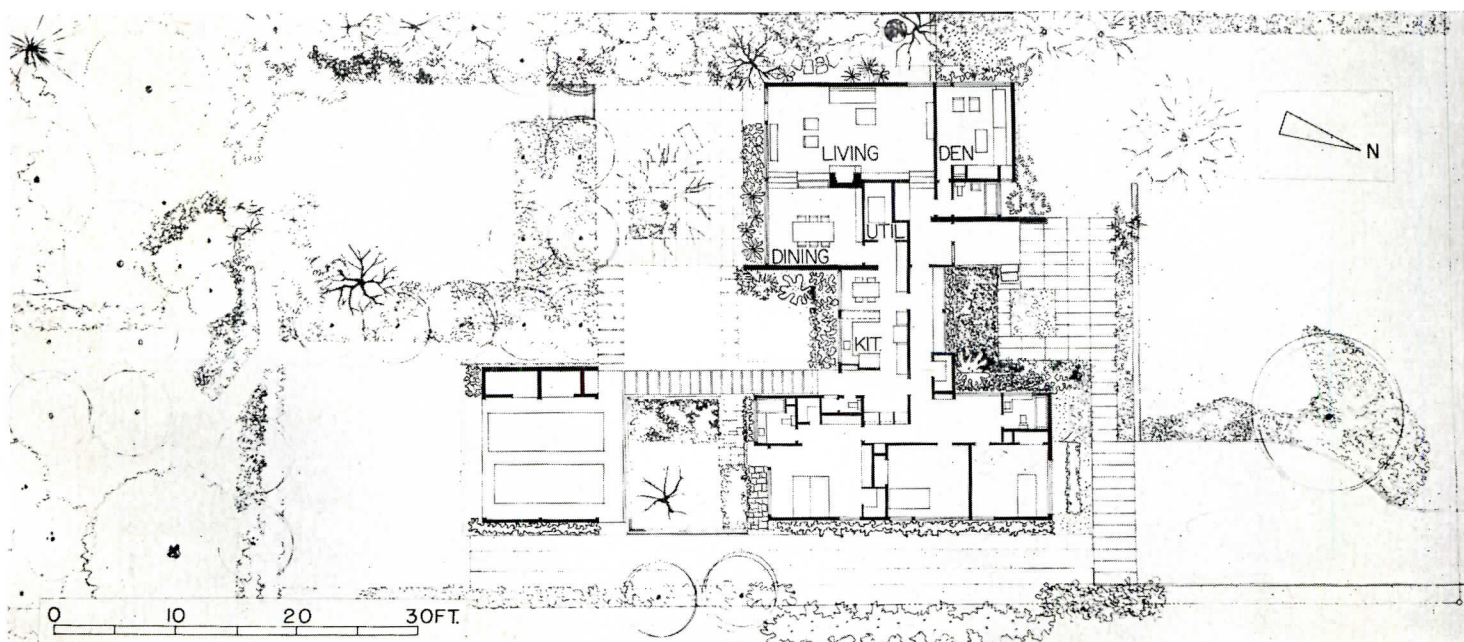


© Ezra Stoller

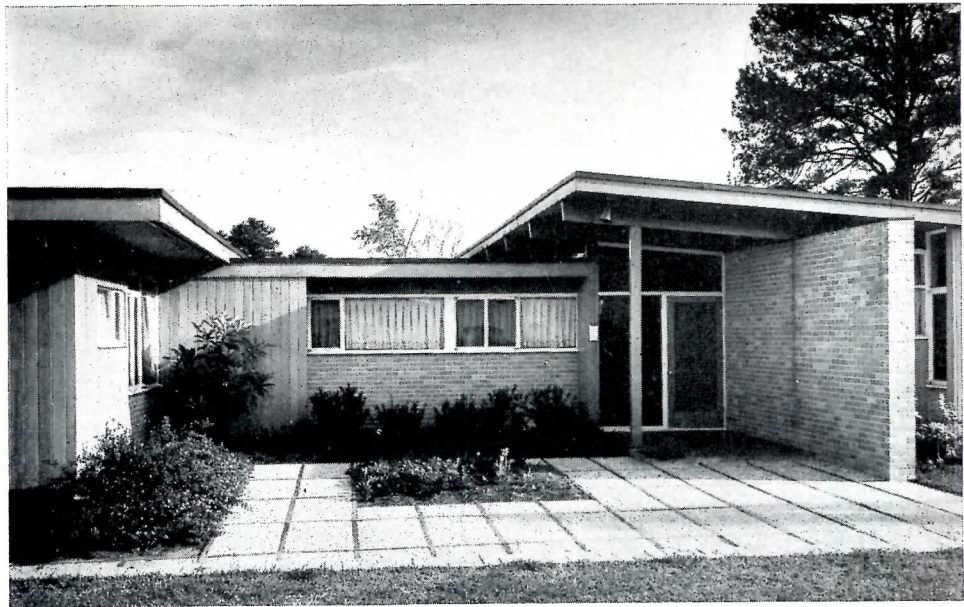




2. TRADITIONAL NEIGHBORHOOD AND



TREELESS LOT

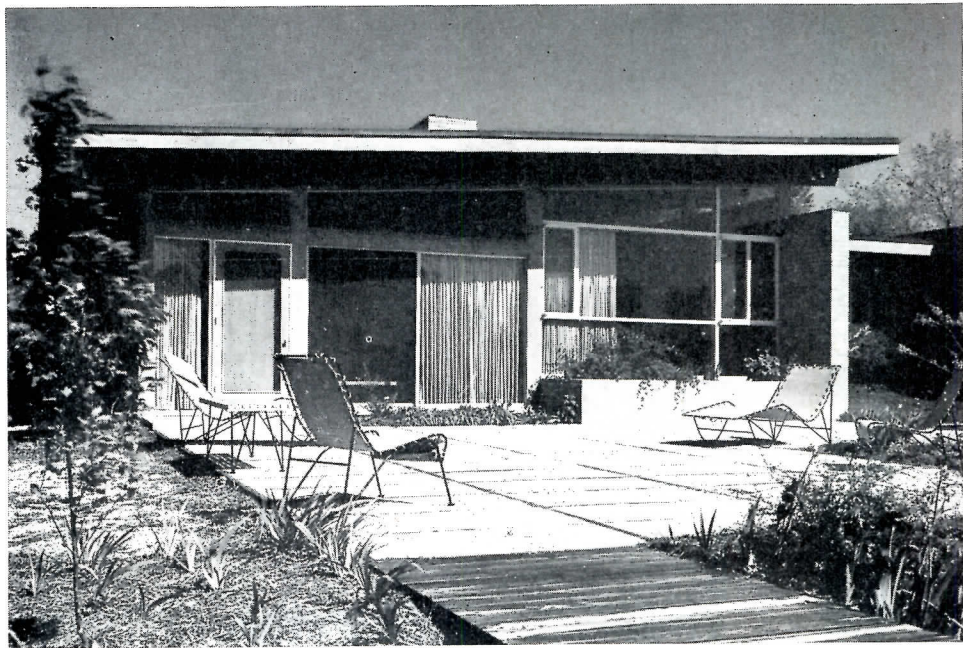


*The Samuel P. Baum Residence,
Montgomery, Alabama*

*Sherlock, Smith & Adams,
Architects
Charles M. Kelley, in charge*

*Edward L. Daugherty,
Landscape Architect*

Bear Brothers, Contractor



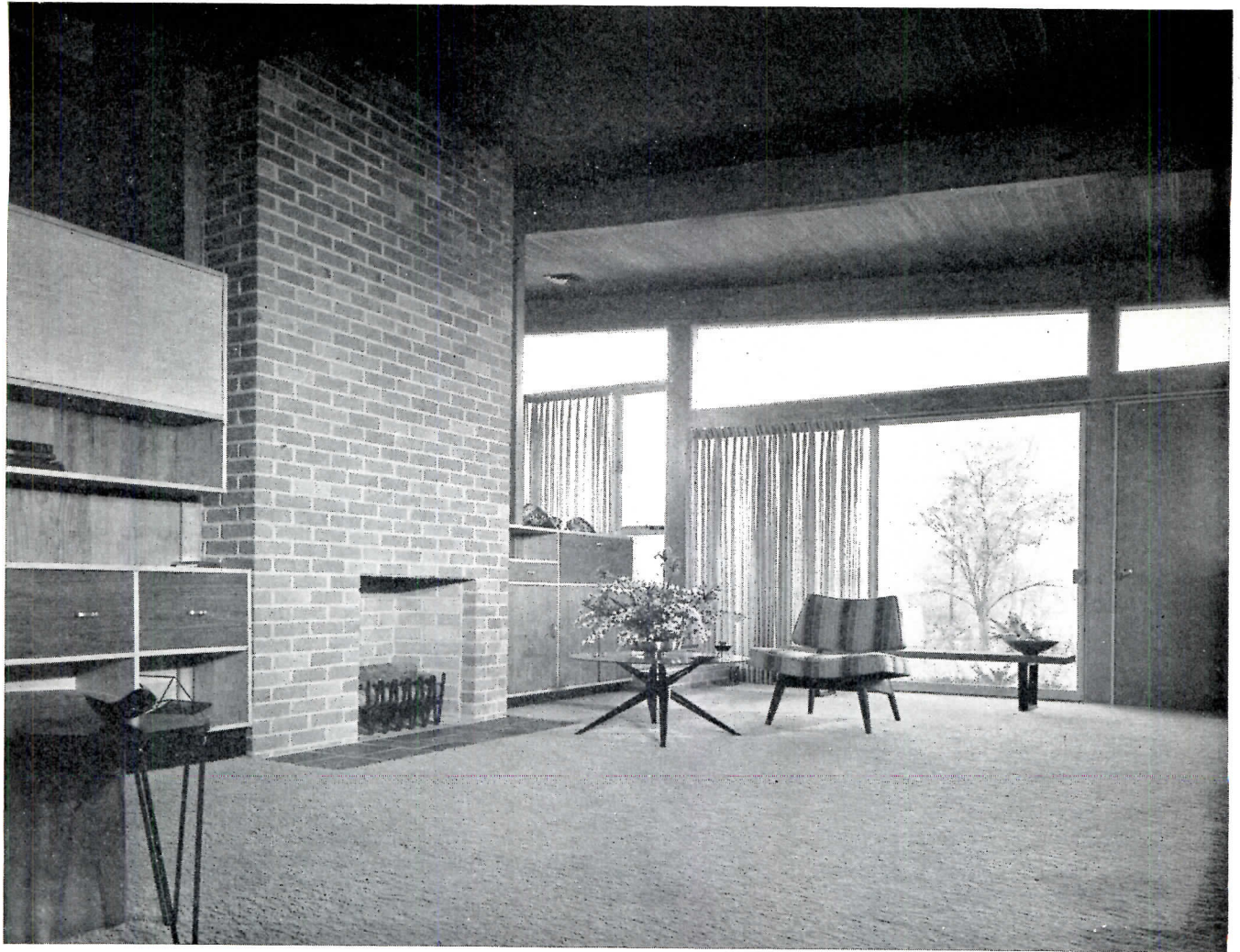
Joseph W. McIlitor

LOCATED between two-story traditional houses in an established neighborhood on a plot devoid of trees, this house (see plan) makes the best of its situation. Principal rooms are located to face the south, or off-street portion of the site and to overlook a terrace and sunken garden. A deed restriction forbidding a garage "at the front of the house" led to removing the future carport south of the master bedroom to create a screened garden between.

The scheme stretches the living, service and sleeping zones across the plot; placing the kitchen between the other two zones makes it not only a noise buffer, but in addition a convenient control point for the children's indoor and outdoor play.

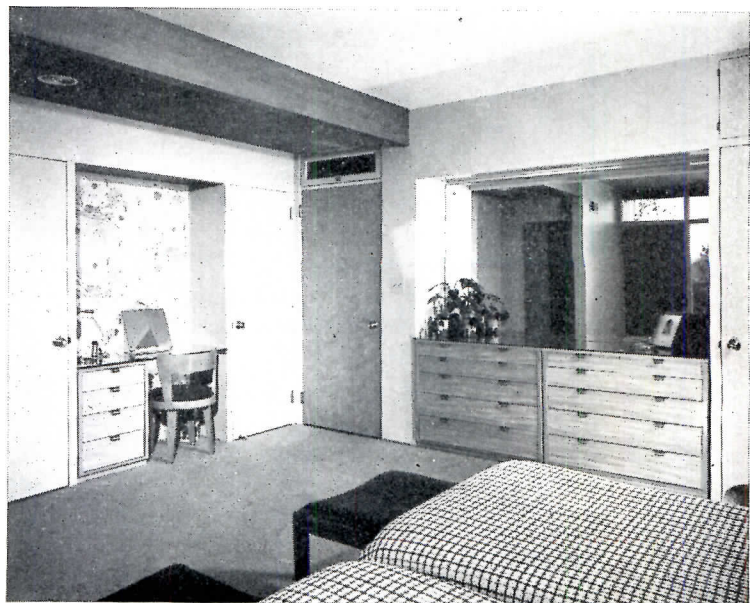
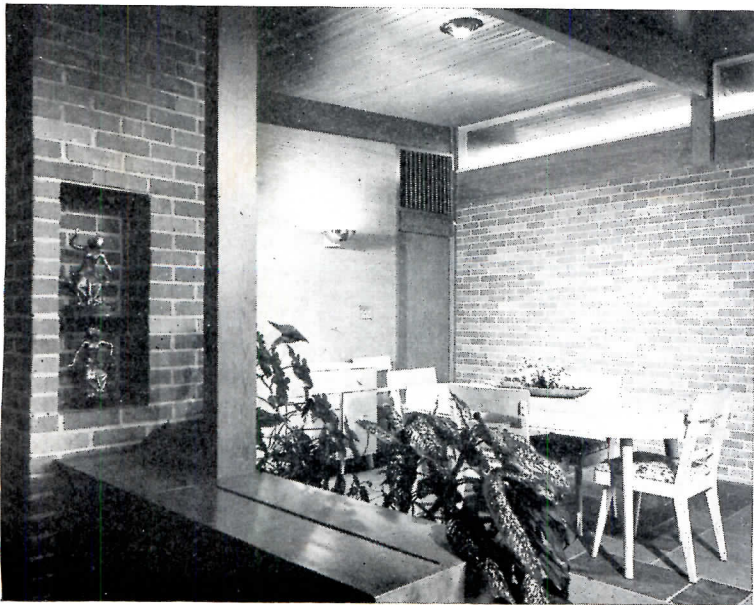
2. TRADITIONAL NEIGHBORHOOD, TREELESS LOT

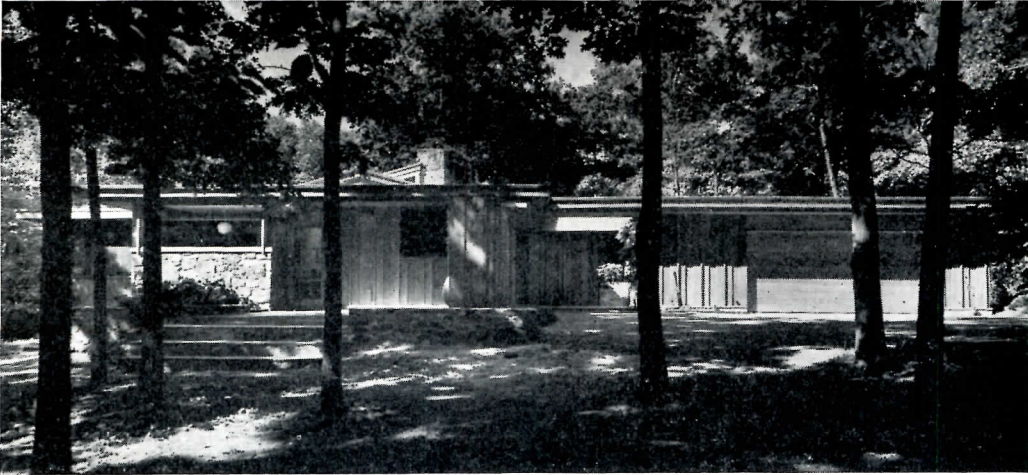
Sherlock, Smith & Adams, Architects



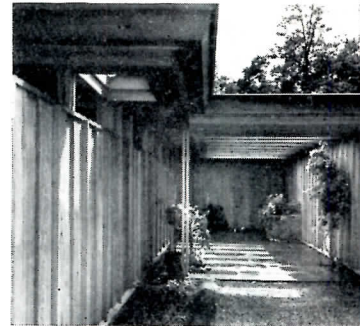
Both the living and dining areas orient south for privacy and winter sun, as does the master bedroom. Materials: pink brick, cypress in natural finish, painted plaster, striated plywood in natural finish; floors of carpet, plastic tile, oak, or flagstone.

Joseph W. Molitor





The elevation to the west is shown below. The east facade, above, is divided by the entrance loggia, at right



P. E. Guerrero

3. ON A ROCK LEDGE IN THE WOODS

The Fromkin House, Westport, Conn.

Joseph Salerno, Architect

James Fanning, Landscape Architect

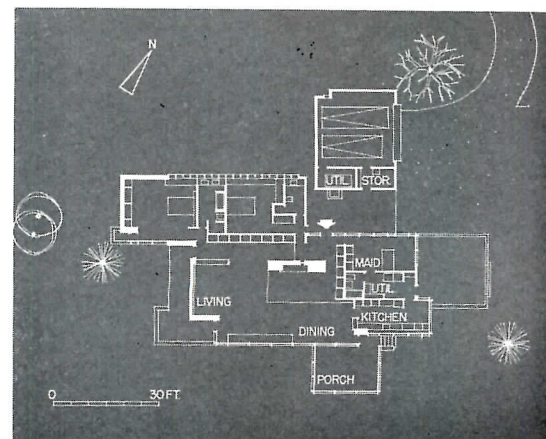
Richard Goemann, Heating Engineer

Charles Cornell, Foreman

THE ARCHITECT put it quite well when he said, "The central idea was to do as little as possible to a beautiful site. Here was a rock ledge in a secluded area overlooking a small park of lovely trees to the south. Locating the house on the ledge required no study whatsoever; from the points of view of approach, elevation, view, orientation, and the best trees, there was no other possible location for it.

"All of the landscaping was executed with material that was already growing there or might have been. Hemlock, laurel and azalea are the basic plants, with vinca minor used as ground cover. There are no 'gardens' or 'lawns' in the usual sense."

The plan is essentially three more or less enclosed blocks disposed to define a large living area. The entrance is a court or loggia between these elements.



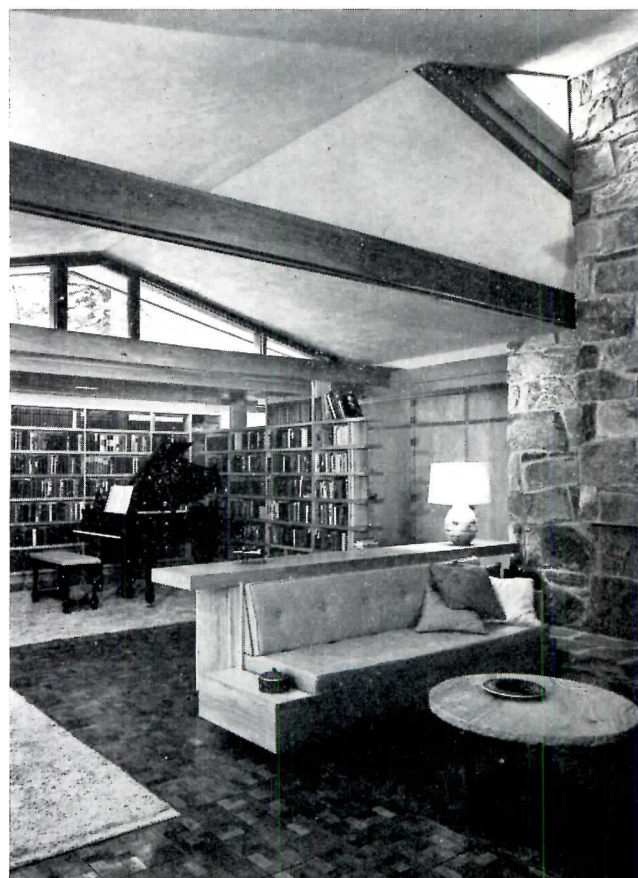
3. ON A ROCK LEDGE IN THE WOODS

Joseph Salerno, Architect

ARCHITECTURAL INTERIORS

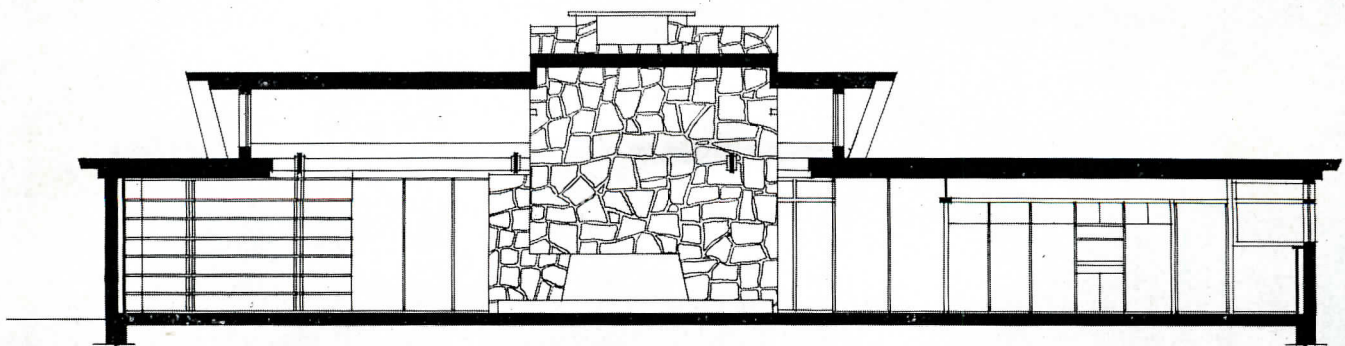
Design | Details | Materials | Equipment

FOR clearer spatial definition, the living room is subdivided by fireplace seating and the large mass of the fireplace and by built-in bookshelves. Such a scheme furnishes space for reading, music and also occasional large scale entertaining as well. The room seems comfortable whether it contains two or thirty. The considerable amount of natural light is supplemented by artificial light from incandescent tubes, which yields a pleasant effect. From any spot, one is constantly aware of the magnificent wooded view.



P. E. Guerrero

The pitched roof promontory above the living room both trusses the greater span and yields gable-end cross light



0 5 10 15FT.

Music Reading

Conversation

Dining

Kitchen

The added height sets the living area apart as a flexible, multi-use space which dominates the entire composition



P. E. Guerrero

The kitchen, two views above, boasts windows to the south and southeast. Note especially the large number of built-in features in all areas of the house; this is true also in bedrooms, photograph below



BASIC ELEMENTS IN THE PLANNING OF ELECTRICAL SYSTEMS

By Felix B. Graham,
Chief of Electrical Department
Syska & Hennessy, Inc., Consulting Engineers

Article 2: Office Buildings

THE MAJOR CHARACTERISTICS of electrical distribution systems vary in relative importance, according to the type of building in which they are to be installed. Some of these were mentioned in the first article. Below is a list suggesting the sequence of importance for these characteristics in a multi-tenant office building:

1. Safety (minimum hazard to life and property)
2. Flexibility
3. Reliability
4. Durability
5. Ease of maintenance
6. Low initial cost
7. Small space requirements
8. Appearance
9. Adherence to owner's standards

Such a list cannot be hard and fast — it will have to be scrutinized and possibly adjusted for each case. The reasoning behind it is as follows:

(1) *Safety*: There can be no doubt that safety deserves uppermost consideration.

(2) *Flexibility*: Since the final space layouts usually have not been established at the time of design, and tenants' requirements change frequently throughout the life of a building, the electrical system must be designed so that changes and additions can be made with a minimum of cost and inconvenience.

(3) *Reliability*: Interruption of electrical service causes great inconvenience and loss of time and work. Fortunately, most large office buildings are located in areas supplied from dependable network systems of power companies. Where this is not the case, multiple power services and partial-load, stand-by power plants may be advisable.

(4) *Durability*: The importance of durability varies with accessibility and anticipated length of service. For example, conduit buried in a concrete slab must be of very good quality. But a switchplate located in a space which is likely to change in a few years need not be the most durable type.

(5) *Maintenance*: Ease of maintenance also comes ahead of initial cost. A slight increase in cost for more easily main-

tained equipment is usually made up many times in savings on upkeep and repair.

(6) *Initial cost*: Naturally this must be carefully considered, but it should not be overemphasized. Electrical work accounts for 10 to 15 per cent of the total cost of an office building. Lighting fixtures are a very small portion of the total cost of the building, regardless of the quality of the lighting system. Yet, fixtures are usually among the first items to get the axe.

(7) *Space Requirements*: Since every square foot of rentable area is a potential source of income, the system should use as little rentable space as possible. However, overcrowding limits accessibility and future expansion, and it causes excessive heat to build up, reducing equipment life.

(8) *Appearance*: This is oftentimes of lesser importance than initial cost, because most of the electrical work is either concealed within the structure or in mechanical spaces.

(9) *Standards*: When working on government projects, the electrical designer must adhere to established rules and standards.

What Does the Owner Install?

The extent of the initial electrical installation in an office building is governed by its type. There is the multi-tenant building, erected with a minimum of electrical equipment. In this case the owner may provide only the most basic distribution system and ceiling outlets. The tenant then must install his own fixtures, under-floor duct, receptacles, and all those other items enumerated in the chart following the text.

Or it may be that the owner of the multi-tenant building installs under-floor duct, fixtures, receptacles, clocks and similar items.

It is the one-tenant building, exemplified by the home office building of a large company, where all requirements must be thought of, designed and installed initially.

Lighting still is assumed by some to

be the principal element of the electrical system. This is far from the case. The chart shows what a comparatively small portion of the whole system it is, in terms of all functions, but not, of course, power consumption.

This is not meant to underrate the role of lighting.

Lighting

Specifically, here are lighting recommendations for typical office building areas:

FOOT-CANDLE LEVELS

General office work	30-35 ft-c
Accounting, bookkeeping, business machines	40-50 ft-c
Drafting	60-70 ft-c
Inactive files, reception room, active stairways, washrooms, service areas, corridors	10-15 ft-c
Infrequently used hallways, corridors	5-10 ft-c

For the lighting to be comfortable, the installation should be designed not to exceed the brightness ratios recommended by the Illuminating Engineering Society. These are as follows:

BRIGHTNESS RATIOS

Between task and adjacent surroundings	3 to 1
Between task and more remote surfaces	10 to 1
Between luminaires or windows and adjacent surfaces	20 to 1
Elsewhere between objects within the normal field of vision	40 to 1

Brightness of fixtures should not exceed these values expressed in foot-lamberts:

FIXTURE BRIGHTNESSES

From 3 to 30 deg above horizontal	225 to 450 max
From 30 to 45 deg above horizontal	450 to 900 max
From 45 to 90 deg above horizontal	1000 to 2300 max

(A bare fluorescent lamp has a brightness of about 1800 foot-lamberts)

Interiors should be finished to attain the following reflectances:

ROOM AND FURNISHINGS REFLECTANCES

Ceiling	.80+15%
Walls	.50=15%
Furniture	.35=25%
Office Machines and Equipment	.35=25%
Floors	.35=25%

Spacing for even illumination depends on the type of fixture and varies from 50 to 125 per cent of mounting height or ceiling height.

Underfloor Distribution

Requirements for power and communications throughout the office area can be supplied with flexibility by underfloor duct or cellular steel raceways.

Underfloor duct systems are comprised of individual ducts spaced ideally at such intervals that no matter where a desk is placed, part of the desk is over a duct run. In most ducts, there are preset inserts on 2-ft centers, which are covered by the finish floor. Wires are fished through the ducts from junction box to junction box — which are 20 to 60 ft apart. When there is need for a receptacle, a receptacle standpipe is installed.

Depending on the anticipated needs, a system has one, two or three ducts; one duct for telephone, one duct for 120-v power, and one duct for signal and communication wires. Perpendicular to the distribution ducts run the feeder ducts which connect to the lighting panelboards or telephone splice cabinets, either directly or through conduit.

Insufficient connections from underfloor ducts to telephone cabinets can be a bottleneck, and therefore should be provided in generous quantities. Also, the various splice boxes on one floor should be interconnected for greatest flexibility.

With cellular steel floor, the whole floor is a series of raceways. The cells can be used for electric, telephone and signal wires as well as for lighting outlets on the ceiling below — with limitations of accessibility from below. Outlets can be set almost anywhere in the floor.

The Electrical Load

Modern office buildings require from 5 to 7 watts per sq ft without electrically driven refrigeration compressors or 7 to 9 watts per sq ft with compressors of this type. One-half or more of this demand is power. The building utilities include: (1) elevators, (2) moving stairways, (3) air conditioning, (4) ventilation, (5) heating pumps, (6) boiler room auxiliaries, (7) fire pump, (8) air com-

pressors. Additional equipment is shown on the accompanying chart.

Elevator motors are as large as 75 hp. Adjacent elevators should be supplied by feeders that can work as alternates: in case of a feeder failure, the passengers in the affected car can be brought to safety by means of the adjacent car.

Electrically driven refrigeration compressor motors usually take more power than any other equipment. Some of these motors have been as high as 1500 hp. Starting equipment for such large motors must be specially designed to limit the inrush of current to a level which will not affect excessively the voltage on the remainder of the electrical system.

Chilled water and condenser water pumps, cooling tower fans, and air circulating fans account for a large portion of the electrical load. Some air conditioning systems employ window units with electrically powered fans. These fans have a rating of only $\frac{1}{2}$ or $\frac{1}{12}$ hp. But the motors have an inherently low power factor and low efficiency, so that where several hundred of such window units occur in one building, the feeders supplying these small units can be very large.

High Voltage Systems

To distribute such large magnitudes of current requires large amounts of copper. The greater the current, the more the copper. For a given load, if the voltage is doubled, the current and, therefore, copper requirements are cut in half. This is the reason for the recent trend to higher voltage distribution and utilization in large buildings. The most common new system is referred to as the 265/460 v or 277/480 v system.

This system is similar to the customary 120/208 v system in the method of connection. Voltage between any two phase wires is 480 v, and between any phase and neutral, 277 v. Motors are connected three-phase, 480 v; lighting, single phase, 277 v. Only fluorescent or mercury vapor lighting is suitable for 277-v operation.

Lighting at 277 v has been used for some time in industrial plants where the major part of the load consists of 480-v power spread all over the plant. The relatively minor 120-v requirements are supplied through local 480/120-v transformers.

The prime advantage of a high voltage system is that, with 480-v distribution, it requires less than half of the copper used in a 208-v system, which in turn

reduces conduit sizes. No increase in conductor insulation is required since standard building wire insulation is rated at 600 v. Conductor sizes are, in addition, kept small by the lesser voltage drop of the high voltage system, making it particularly suitable where long feeders are involved.

On the other hand, a 480/277-v system introduces into the building two or three additional voltages, and, with them, different equipment and some complications. Three phase motors will operate on 480 v. Fractional horsepower motors need 120 v. Fluorescent lighting operates on 277 v, incandescent lighting on 120 v. Electrically operated office equipment requires 120 v for smaller sizes, 208 or 220 v for the heavier machines. All receptacle and underfloor duct outlets supplying the multitude of local appliances used in a modern building must be connected to a 120-v system, which is the voltage at which the auxiliaries, such as clocks, fire alarms, communications and similar systems are supplied.

A recent development which enhances the use of a high voltage system is the local switch for 277-v operation, similar to that now used for 120 v.

Communications and Alarms

For the telephone system, the owner's responsibility is to provide outlets, empty raceways and splice boxes. Telephone instruments, wires, cables and all connections are provided by the telephone company.

When a fire alarm system is installed, it must be audible everywhere within the building. Fire alarm stations should project out from the wall so that they can be seen in long corridors. Gongs may be recessed in partitions, if desirable, for appearance. The supervisory trouble bell should be located in a space where someone is present at all times, so that if any part of the mechanical system fails, it can be investigated and corrected without delay.

Watchmen's tour systems are available in two types — wired and non-wired, the latter being more common.

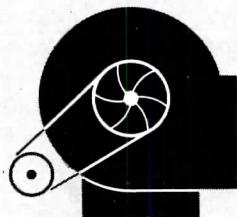
Clocks may be the complete master type with self-regulation, or the type without self-regulation. Three basic master systems are available: (1) minute-impulse, wired; (2) synchronous, wired; and (3) synchronous, electronically controlled.

For a chart outlining office building electrical systems, please turn the page ➔

BUILDING UTILITIES

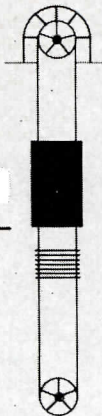
AIR HANDLING

- Supply Air Fans
- Return Air Fans
- Garage Exhaust Fans
- Toilet Exhaust Fans
- Window Air Conditioners



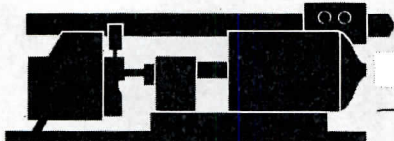
TRANSPORTATION

- Elevators
- Moving Stairways
- Dumb-waiters
- Conveyors
- Hoists
- Door Operators



COOLING

- Refrigeration Machine
- Condenser Water Pump
- Chilled Water Pump
- Cooling Tower



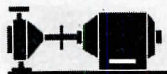
MAINTENANCE

- Central Vacuum Cleaning System
- Incinerator
- Waste Paper Baler and Hoist
- Shop Machinery
- Floor Machines



WATER CIRCULATION

- Domestic Water Pumps
- Hot Water Circulating Pumps
- Sump Pumps
- Ejector Pumps
- Fire Pump
- Sprinkler Pump
- Chilled Drinking Water Pumps

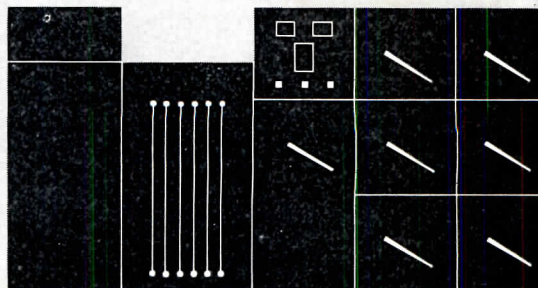
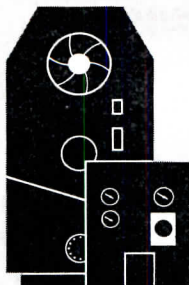


**EQUIPMENT CONTROL AND
ALARMS**

- Remote Control and Indicating Board
- Air Compressors
- Temperature Indicating System
- Sump Pit
- Ejector Pit
- House Tank
- Cooling Tower Water
- Steam Pressure
- Elevator
- Air Duct Smoke and Fire

HEATING

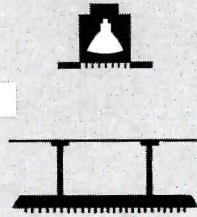
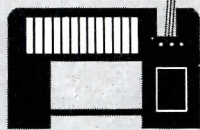
- Oil Burner
- Oil Heaters
- Fuel Pumps
- Stokers
- Forced Draft Fans
- Induced Draft Fans
- Boiler Gauge Lights
- Emergency Shut-off
- Snow Melting System
- Liquid Pumps
- Electrical Cables



BUILDING FUNCTIONS

OFFICE EQUIPMENT

- Desk Lights
- Local Fans
- Dictating Machine
- Central Dictation System
- Electric Typewriters
- Calculating Machines
- Addressographs
- Water Coolers
- Postage Meters
- Business Machines, e.g.
 - Punched Card Sorter
 - Electronic Statistical Machine
- Printing (Blueprints, etc.)
- Microfilm Viewing Apparatus



LIGHTING

- General Lighting
- Architectural Lighting
- Signs
- Obstruction Lighting
- Building Flood Lighting
- Stairs
- Exits
- Sidewalk Lighting
- Emergency Lighting

MISCELLANEOUS

- Building Lightning Protection
- Tenants Requirements (food service equipment, lighting, air conditioning, etc.) for:
 - Drug Store
 - Restaurant
 - Bank
 - Gift Shop
 - Tailor Shop
 - Newsstand, etc.
- Vending Machines

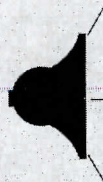


COMMUNICATIONS

- Telephone
 - Main Terminal Room
 - Switchboard Room
 - House Cables
 - Terminal Boxes
 - Individual Wires to Phones
 - Instruments
- Leased Lines for:
 - Teletype
 - Time Signals
 - Stock Market Tickers
 - Central Station Alarms
 - TV Master Antenna System
 - Inter-Office Communications

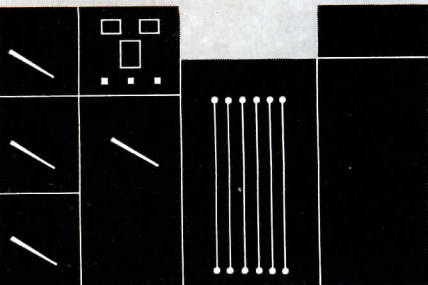
SECURITY ALARMS

- Watchman System
 - Central, wired
 - Portable, non-wired
- Burglar
- Hold-up
- Exit Door
- Fire
- Sprinkler
- Garage Air Carbon Monoxide
- Fire Standpipe Signalling



SOUND

- Wired Music
- Public Address System
- Paging

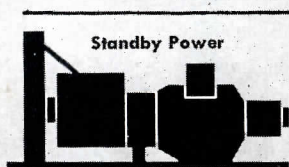


- Incoming Electrical Power
- Transformers
- Network Protectors
- Main Switchboard
- Metering Equipment
- Transformer Vaults



TIME

- Clock System
 - Master Clock
 - Individual Clocks
 - Dismissal Signals
 - Attendance Recorders
 - Time Stamps



1. Equipment for the Disabled: Architects

**TWO DEVELOPMENTS IN HOSPITAL
EQUIPMENT AND CONSTRUCTION**

1. Institute of Physical Medicine and Rehabilitation,
New York University — Bellevue Medical Center, New
York City, Skidmore, Owings & Merrill, Architects

2. Jackson-Madison County General Hospital,
Jackson, Tennessee
J. Frazer Smith & Associates, Architects & Engineers



Acme Newspictures

As the first of its type, the Institute of Physical Medicine and Rehabilitation has become a prototype for similar centers over the world. It was conceived by its director, Dr. Howard A. Rusk, and designed—including the special equipment shown here—by the architects in collaboration with Dr. Rusk. • The cafeteria serving table, made almost entirely of stainless steel,

2. Dry-Wall Construction: Architect gave contractor option of using two-ply gypsum

DURING THE PLANNING stages of this hospital, there was an acute shortage of plasterers in the area where it was to be built. So the architect wrote the specifications giving the general contractor the option of using 2-ply gypsum wallboard instead of plaster on nearly all of the walls and ceilings in the 125-bed hospital. The contractor chose dry-wall construction, and this hospital is believed to be the first to have used it.

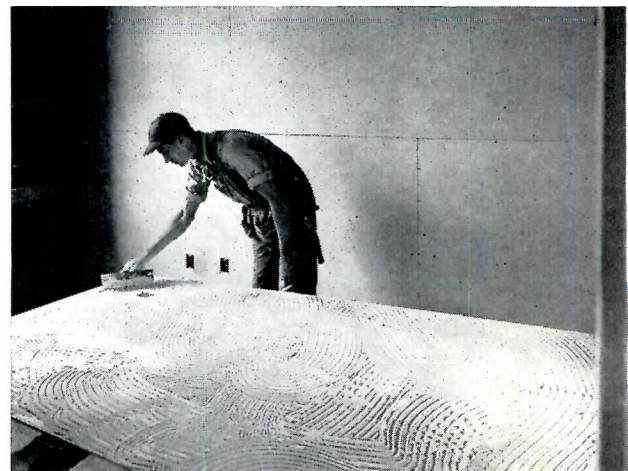
This was four years ago, and, now, dry wall has been used again in the hospital's new 75-bed wing.

The architect, Frazer Smith, has two reasons for giving the contractor the option of using dry wall or plaster: (1) he doesn't want to bar plaster if the contractor finds it more economical, and (2) he feels that either lath and plaster or 2-plys of $\frac{3}{8}$ -in. gypsum wallboard are satisfactory for an institutional building.



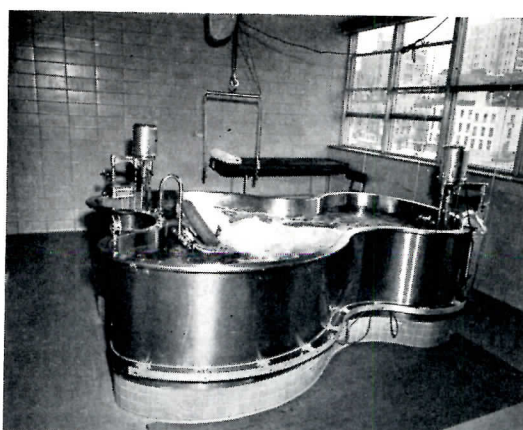
Fedrich-Blessing

Crew nailing first layer of gypsum wallboard to wood studs. Layers are each $\frac{3}{8}$ -in. thick



Spreading adhesive over back of face layer, which will be applied in vertical strips over first layer

work with a doctor and manufacturers in its design



is easily accessible to both wheel chair patients and employees. The entire unit can be moved, if necessary, during cleaning.

- Telephone booths, 3 by 5 ft, serve standard use and also allow wheel chair and stretcher patients easy access. Interiors are surfaced with perforated stainless steel acoustical liners.
- The stainless steel shower chair, designed by the architects and

Dr. Rusk, is arranged so that wheel chair patients can be seated with minimum effort; after it is swung into the shower stall, it can be locked in place. • A stainless steel Hubbard-Currence tank is used in hydrotherapy. The tank rests on a tile base to aid sanitation. • A smaller tank, constructed entirely of seamless welded, stainless steel, is used for arm therapy treatment.

panels

The 2-ply gypsum wallboard, which is used in all the patient nursing areas, all administrative areas, the dietary area and parts of the diagnostic and treatment areas, is said to meet fire-resistant requirements for this type of occupancy. When applied over wood studs, 2-plys of 3/8-in. gypsum board provide a 1-hr rating.

Some plaster was used in the original hospital, but it is a specially formulated

type used in the X-ray room for protection against radiation.

In the corridors and other areas where sound control is important, suspended-type acoustical tile was specified. In service areas and other areas subject to abuse, the specifications called for the application of cement asbestos panels over a 1/2-in. gypsum wallboard base.

In addition to this hospital, the con-

tractor also chose dry-wall construction for the Obion County General Hospital in Union City, Tenn.; the Le Bonheur Children's Hospital in Memphis; and the Sherwood Forrest and Kansas Street Schools in Memphis.

The economy of 2-ply gypsum wallboard was demonstrated, according to Frazer Smith, by the fact that it was chosen almost invariably by the contractor when he was given the option.



Temporary nailing of face layer. Minimum nailing holds panel until adhesive develops adequate bond



Installing cement asbestos panels over wallboard in corridor



Metal runner for ceiling is installed with powder-actuated tool

PRODUCT REPORTS

Materials / Equipment / Furnishings / Services

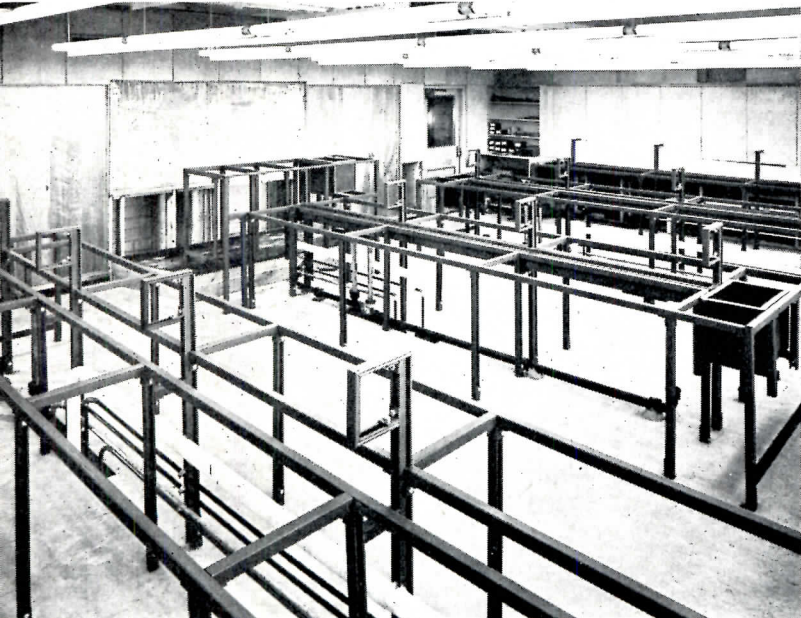


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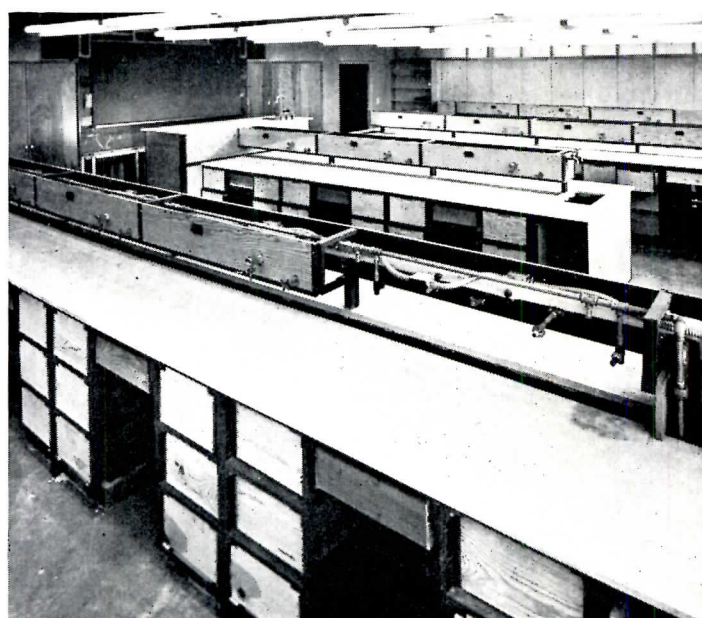


2.

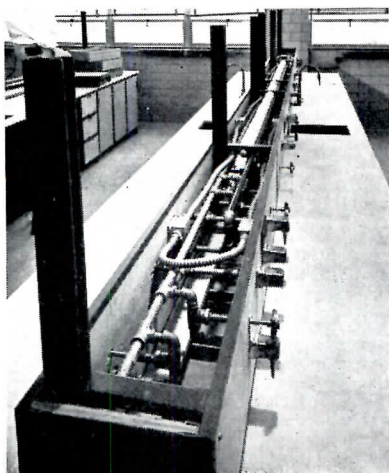
1. Graduate lab in use 2. Basic framework for double width, four unit bench with sink and lead-lined wood drain in place 3. Details of framework. Top and drain in place 4. Overall view framework for 30 students elementary lab. Raised section in middle background is instructor's desk



4.



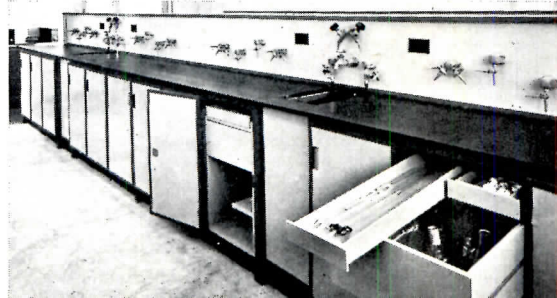
5.



7.



8.



9.



SIMPLIFIED FRAMING METHODS—6: Trussed Rafters

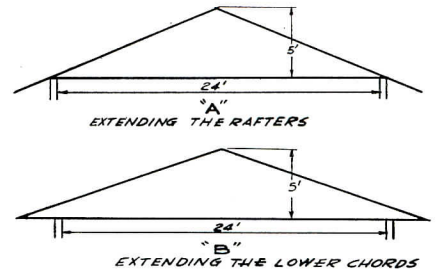
Presented through the cooperation of the National Association of Home Builders Research Institute

The following pages are extracts of "Trade Secrets Report No. 2" prepared for the N.A.H.B. Research Institute under the direction of Leonard G. Haeger, with Lee Frankl, Consultant. The report stresses economies of using trussed rafters in houses, and is based on the following:

1. To use basic engineering data for the design of trussed rafters.

2. To pre-cut truss members from smaller sizes of lumber. To pre-assemble trusses on the site, or to purchase complete truss units—if economical and if deliveries are arranged to a construction schedule.

3. To use trusses so as to increase flexibility in the design of interiors for a basic slab or basement plan, and installed as A or B at right.



King Post Truss

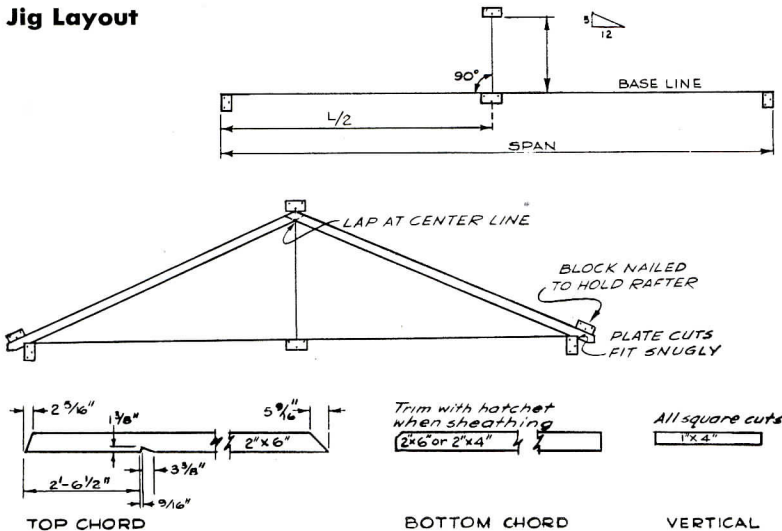
The simplest of all truss designs, the King Post Truss, consists of rafters and ceiling joist with a fourth member connecting the peak and the joist and at right angles to the joist. It is recommended for spans up to 20'-8" outside to outside of sup-

porting walls, and spaced 2'-0" o.c.

This truss design was used in the "Industry Engineered Homes Program" sponsored by the Producers' Council and the National Retail Lumber Dealers Association. The research program and the con-

struction of 6 houses using a 16'-8" span was carried out by the Small Homes Council of the University of Illinois under the direction of James T. Lendrum. Since then, the Small Homes Council has developed additional data described here.

Jig Layout



Measure and snap chalk base line on subfloor. The length is outside to outside of supporting walls. Mark center lines at right angles to base line. The length of the center line is governed by a 5/12 pitch. Material must be 1100 p.s.i. stress grade or better. This is equivalent to coastal region douglas fir #2.

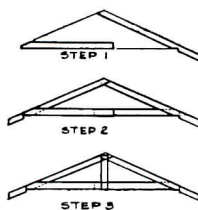
Place built-up jig blocks, at ends and centers, of base line at the peak. Cut one pair of top-chords—see member size table. Place chords with notches fitted over jig blocks. These chords lap precisely over center line at peak; the plate cuts must fit snugly on jig blocks. Place two more jig blocks above rafter heels—above plate cuts.

Check all cuts on top chords. When correct use as a pattern.

Cutting Diagrams

Assemble truss members in the following order. Lay right top chord and left bottom chord in jig. The left top chord and right bottom chord are then placed. They lap the first two chords placed. Finally the vertical post is placed.

Nail according to schedule.



*Member lengths are for 30" overhang. Change is needed.

MEMBER SIZE TABLE

SPAN (OUT. TO OUT.)	16'-0"	17'-0"	17'-4"	17'-8"	18'-0"	18'-4"	18'-8"	19'-0"	19'-4"	19'-8"	20'-0"	20'-4"	20'-8"	
TOP * CHORD				2-2" x 6"-14'5"	14'5"						2-2" x 6"-16'5"	16'5"		NO ATTIC STORAGE
BOTTOM CHORD		2-2" x 4"-10'5"	10'5"			2-2" x 4"-12'5"	12'5"							
VERTICAL	1-1" x 4"-4'1"	4'1"				1-1" x 4"-5'	5'							
TOP * CHORD				2-2" x 6"-14'5"	14'5"						2-2" x 6"-16'5"	16'5"		ATTIC STORAGE
BOTTOM CHORD		2-2" x 6"-10'5"	10'5"			2-2" x 6"-12'5"	12'5"							
VERTICAL		1-1" x 4"-5"	5"											

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Executive Office, Technical Center of National Malleable and Steel Castings Company, Cleveland, Ohio. Dalton & Dalton and Associates, Architects.

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Write for the new 68-page Mills Catalog or see it in Sweet's Architectural File.

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Representatives in All Principal Cities

SIMPLIFIED FRAMING METHODS—7: Trussed Rafters

Presented through the cooperation of the National Association of Home Builders Research Institute

King Post Truss (continued)

SPAN	NO ATTIC STORAGE	ATTIC STORAGE	NO ATTIC STORAGE	ATTIC STORAGE	NO ATTIC STORAGE	ATTIC STORAGE
16'-8" & LESS	8-10d.	14-10d.	8-10d.	15-10d.	4-8d.	5-8d.
16'-9" - 17'-8"	9-10d.	15-10d.	8-10d.	14-10d.	4-8d.	5-8d.
17'-9" - 18'-8"	9-10d.	15-10d.	9-10d.	14-10d.	4-8d.	5-8d.
18'-9" - 19'-8"	10-10d.	16-10d.	9-10d.	15-10d.	4-8d.	5-8d.
19'-9" - 20'-8"	11-10d.	17-10d.	10-10d.	16-10d.	4-8d.	6-8d.

NO ATTIC STORAGE	SPACING 24" O.C.	ATTIC STORAGE 20 p.s.f. include necessary sheathing
2.5 p.s.f.	ROOFING	2.5 p.s.f.
2.5 p.s.f.	SHEATHING	2.5 p.s.f.
2.5 p.s.f.	TRUSSES	2.5 p.s.f.
20.0 p.s.f.	SNOW	20.0 p.s.f.
23.0 p.s.f. (uplift)	WIND	23.0 p.s.f. (uplift)

W Truss

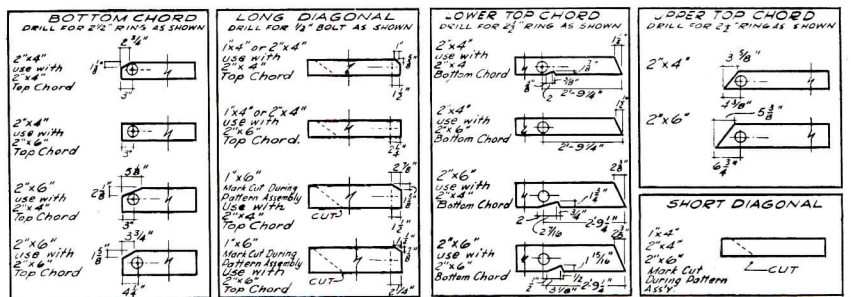
Small Homes Council 5/12 slope, 20'-8" to 32'-8" spans, 2'-0" o.c. spacing

- Determine out-to-out dimensions of span.
- Locate span on member size table.

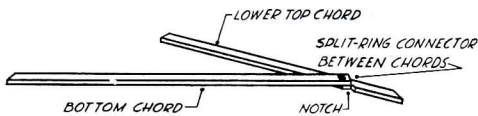
NO ATTIC STORAGE												ATTIC STORAGE													
SPAN	21'	22'	23'	24'	25'	26'	27'	28'	29'	30'	31'	32'	SPAN	21'	22'	23'	24'	25'	26'	27'	28'	29'	30'	31'	32'
Two upper top chords	One 2"x4"x14'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	Two 2"x4"x14'	One 2"x4"x14'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	One 2"x4"x16'	Two 2"x4"x10'		
Two lower top chords	Two 2"x4"x10'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'	Two 2"x4"x12'		
Two bottom chords	Two 2"x4"x12'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'	Two 2"x4"x14'		
Two short diagonals	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'	One 1"x4"x8'		
Two long diagonals	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'	One 1"x4"x14'		

*The length of these members provide a 30" horizontal overhang. If a different overhang is needed, change lengths & cutting diagrams.
 **Laterally brace long diagonals at center with scabs or solid bridging.

3. Cut all members for one truss. Drill for split rings and bolts as shown in cutting diagrams (right):

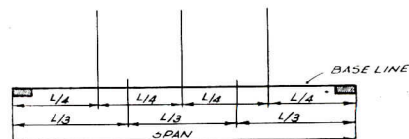
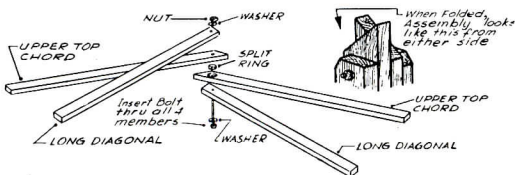


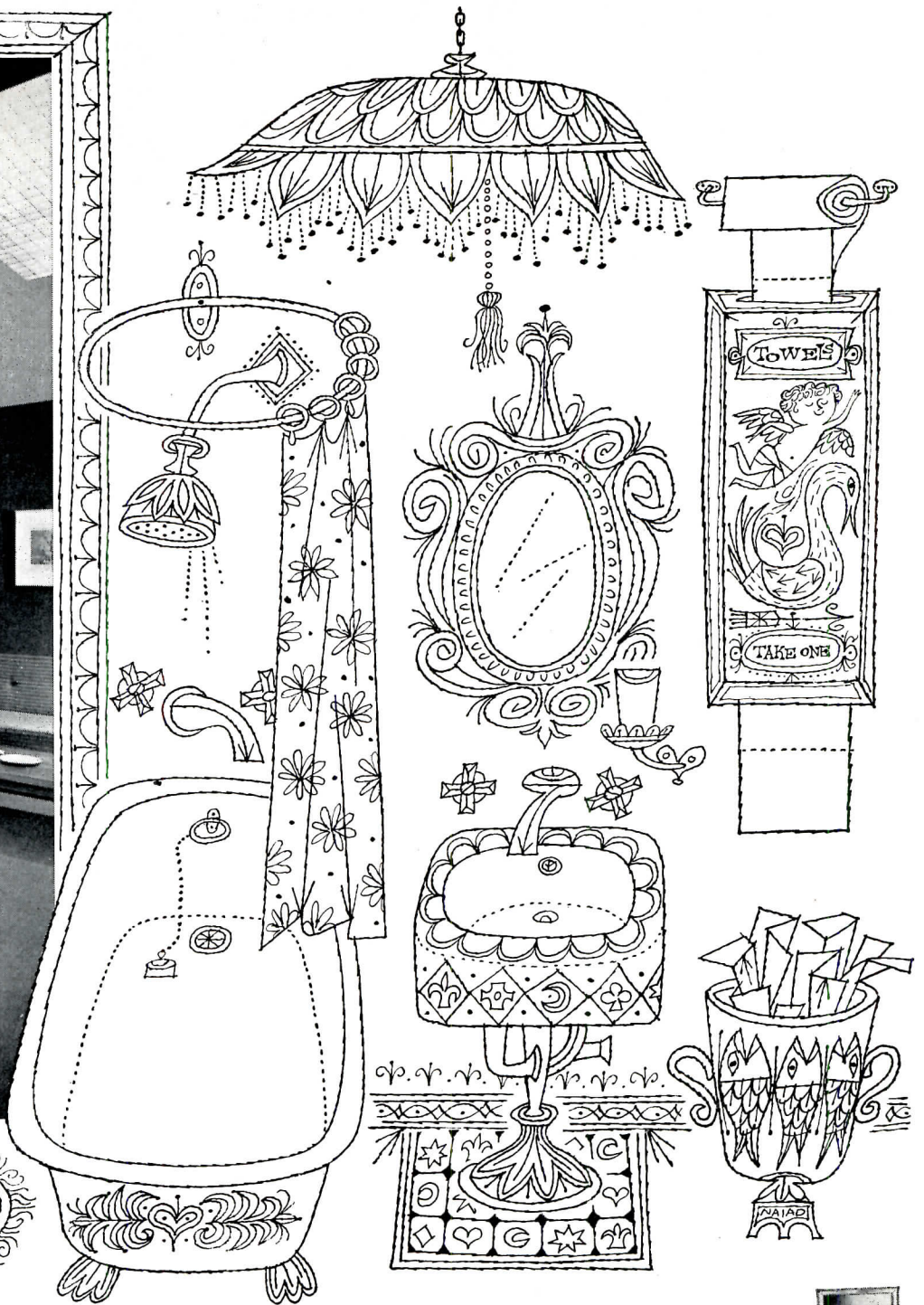
4. Make identical heel assemblies for each end of truss using split ring:



6. Measure and mark base lines on subfloor. Divide base as shown. Place jig blocks at each end:

5. Make one peak joint assembly:





MAKE IT ALL MODERN

— SPECIFY RECESSED SCOTT DESIGNED FIXTURES

Some old-fashioned washrooms may be quaint, but very few are practical. Seems to us that washrooms ought to be as modern as the rest of a building.

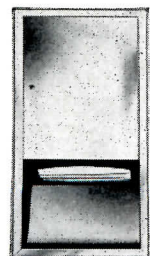
It has been our concern for a long time now to help you in planning functional washrooms. For example, we offer a number of ScotTissue Towel fixtures — recessed

and otherwise — that can make life a lot easier for everybody.

We've printed a full-color booklet showing what we've learned over the years about washroom design. Send for your copy on your company's letterhead today.

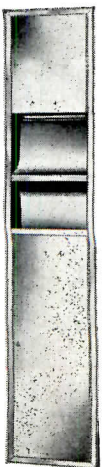
Write Scott Paper Company, Dept. AR-4, Chester, Pa.

"ScottTissue," Reg. U. S. Pat. Off.



Scott No. 943 Recessed Towel Cabinet.

Scott No. 945 Recessed Towel Cabinet and Waste Receptacle.



SCOTTISSUE TOWELS

SYMBOL OF THE RIGHT KIND OF WASHROOM

Lippincott & Margulies choose



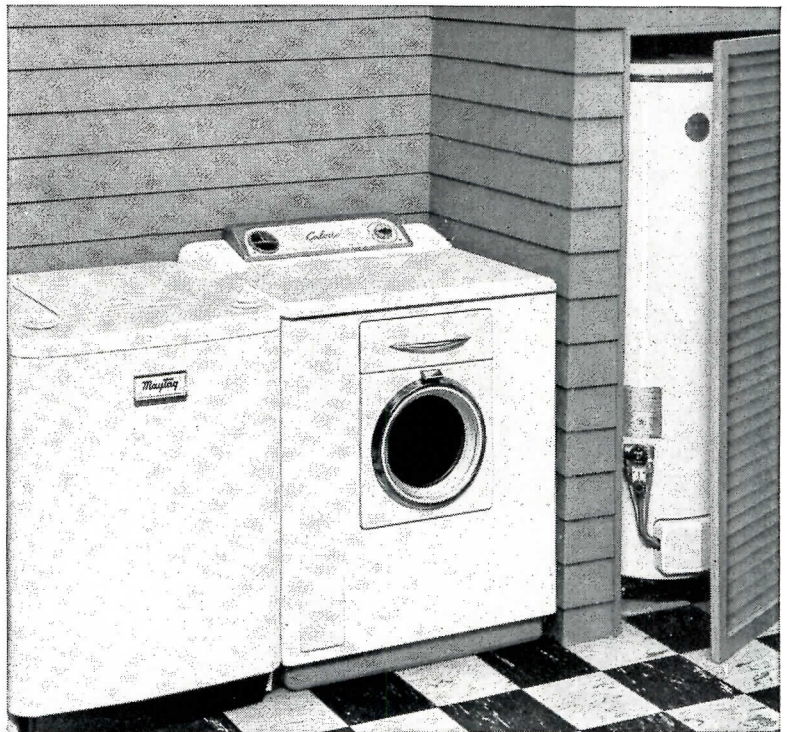
The Purple Tree Cocktail Lounge, a new attraction in the Hotel Hamilton, Washington, D. C. On the floor—Bigelow's Empire-Saxony in a marbled block pattern, green and gray shades.

... nothing makes as much sense as Gas

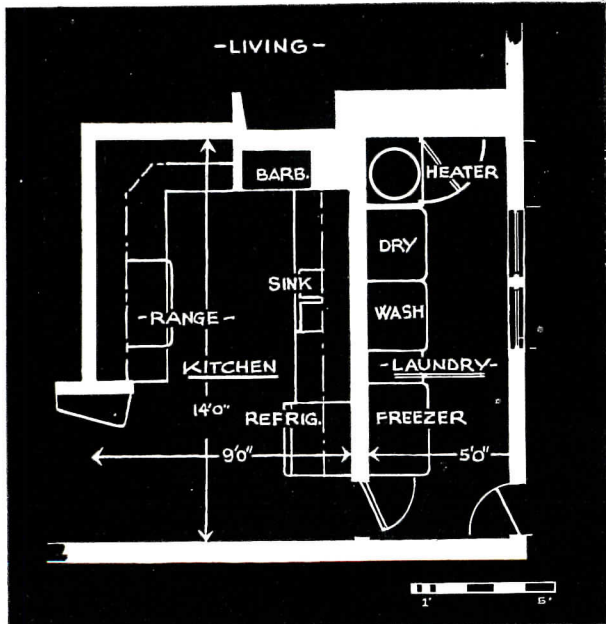
This New Freedom Gas Kitchen* features an automatic Gas range, made to "CP" standards by the **Hardwick** company.

Royal Wood cabinets by the **Mengel Co.**

Kitchens sell homes, and this **Servel** Gas refrigerator certainly helps sell a kitchen. It puts ice in a basket automatically, does away with messy trays. Few women (and not a man in the world) can resist it—or the home that has it.



Bryant automatic Gas water-heater; **Caloric** automatic Gas clothes dryer.



The Gas clothes dryer is another extra that frequently clinches a sale. Most development home purchasers have heard of it, read about it, dreamed about it, but few ever thought it would really be theirs. (If you're considering any dryer but Gas, just remember that professional laundries prefer Gas dryers 30-1.)

The Gas water-heater is demonstrably superior. Not only does it cost less to install and use, but a 30-gallon tank actually delivers more hot water than an 80-gallon tank run by any other all-automatic fuel. Gas—dependable, efficient Gas—is 3 times faster.

AMERICAN GAS ASSOCIATION

Your local Gas company will be happy to work with you on any problem.

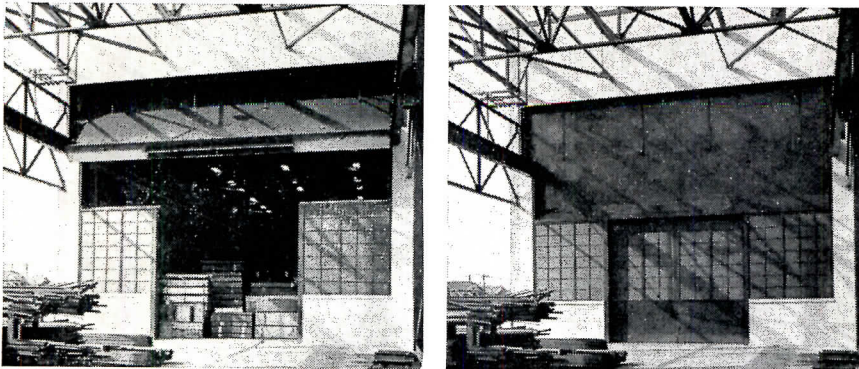
Only Gas  costs so little to install and operate

GAS—the modern fuel for automatic cooking . . . refrigeration . . . water-heating . . . house-heating . . . air-conditioning . . . clothes-drying . . . incineration.

*Reg. A. G. A.

(Continued from page 223)

Open and Shut Case



Architect—Albert Kahn Associated Architects and Engineers, Inc.
General Contractor—Maxon Construction Company, Dayton, Ohio.

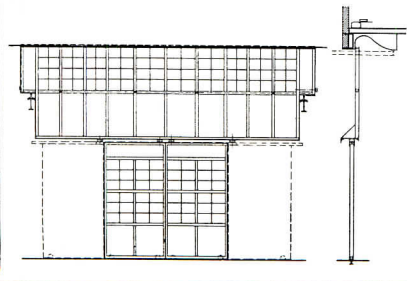
... of increased working efficiency and reduction of heating costs!

When a craneway extends from inside a building to an outside railroad siding or storage yard it's an open and shut case that Byrne can provide the finest in a dependable closure. This craneway opening shown above provides a substantial reduction in heating costs with the added advantage of increased working efficiency.

Byrne crane entrances combine upward acting doors at the crane rails with swinging or sliding doors below. The upper door is always motorized, the lower doors may be specified for manual or motor operation. Interlocks insure complete safety, with automatic or selective controls located as desired.

Crane entrance doors are furnished in steel, or aluminum which is gaining increasing acceptance as a construction material. Windows may be installed as desired for consistent architecture.

Byrne Crane Entrance Door Operation



For successful development of crane entrance doors, our engineering consultation is furnished without obligation.

FOR INFORMATION
regarding Byrne doors and facilities consult Sweet's Catalog or write direct for our brochure.

BYRNE doors, inc.

Dept. r-3

1421 East 8 Mile Road, Ferndale, Detroit 20, Mich.

101 Park Ave., New York 17, N. Y.
Cafritz Bldg., Washington 6, D. C.

are exposed while the motor starter enclosure is open on a line starter combination. According to the manufacturer there is no unnecessary "down time" on machines and equipment when *Unilet* units are installed.

Other features include: U. L. approval on banked circuit breaker *Unilets* up to groups of three for Forms 1 and 2;



lightweight construction for easy installation without the use of heavy lift equipment; standardized mounting frames for interchangeability of most well-known makes of circuit breakers and motor starters in certain sizes; simplified "straight-thru" wiring; versatile hub adaptors which permit use of over-size conduit and conductors; and streamlined push-button and pilot-duty control.

This new Appleton Unilet line covers all breaker-starter control equipment of leading firms rated to 225-ampere breaker loads and to 100 H.P. on 3-phase induction motors at 600 volt max. *Appleton Electric Co., 1701-59 Wellington Ave., Chicago 13, Ill.*

SUMMER AIR CONDITIONER

A new Summer Air Conditioner, model SAC, which is sized and finished to match the FES and FEC Series winter heating units by Janitrol, is announced by Surface Combustion Corporation of Toledo. The manufacturers claim several features, including a quiet compressor operation, especially desirable in residential and certain commercial installations. This quietness is further achieved by use of thick fiber glass acoustical and thermal insulation which protects the unit from extreme heat while adding to the sound deadening features.

Three models are offered in the summer air conditioner line. The five-ton capacity unit is a combination of the two and three-ton capacity models. All are housed in the Janitrol blue-gray finish steel casing no larger than the average refrigerator. Standard equipment includes a resilient mounted centrifugal fan, driven by a 230-volt 60 cycle single phase continuous duty motor. The mo-

(Continued on page 230)

**Start Out With an Original
MEDUSA WHITE...
PORTLAND CEMENT**

**End Up With a
Masterpiece!**

● Architects looking for inexpensive ways to give their work outstanding individuality should consider starting with an original—Medusa White—the first white portland cement.

For 47 years the use of Medusa White Portland Cement plain or waterproofed, white or tinted has been giving "the look of a masterpiece" to countless applications such as mortar, stucco, cast stone, cast slabs, white concrete, terrazzo or sculpture. The diamond blue-white color responsible for the achievements of Medusa White has never been surpassed in color value or dependability. Medusa White is a product of The Medusa Portland Cement Company with 60 years experience in making finer cements.



MEDUSA Portland Cement Company

1000 Midland Building

Cleveland 15, Ohio

SALES OFFICES

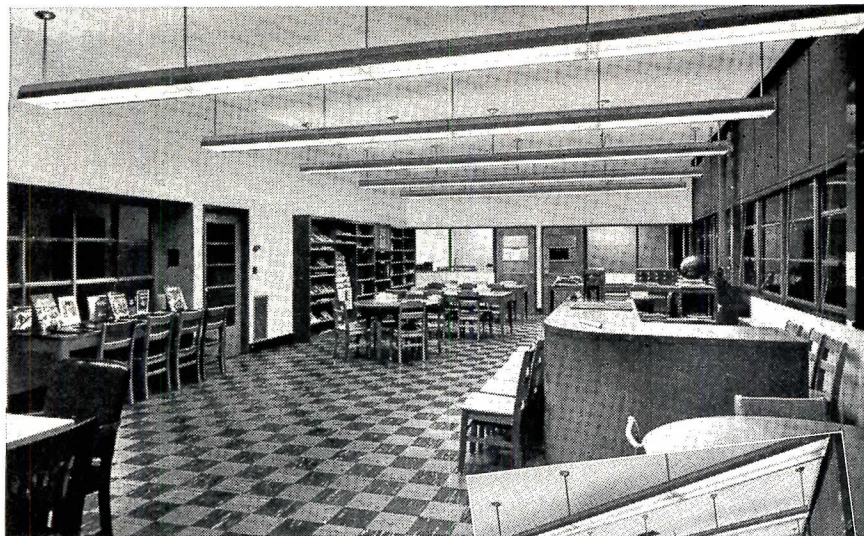
Chicago, Illinois
Pittsburgh, Pa.
Milwaukee, Wisc.

Toledo, Ohio
New York, N. Y.
York, Pennsylvania

WHITE • WATERPROOFED WHITE • GRAY
WATERPROOFED GRAY • AIR ENTRAINING • HIGH EARLY
STRENGTH • STONESSET • BRIKSET
WHITE TILE GROUT CEMENT

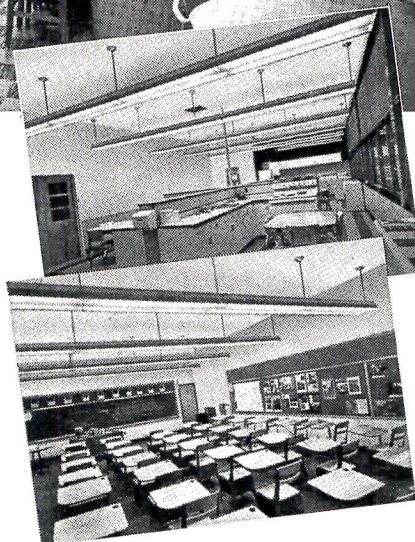
MAKERS OF AMERICA'S FINEST PORTLAND CEMENTS FOR OVER SIXTY YEARS

Where Lighting Keeps Pace With MODERN SCHOOL PLANNING



New Sylvania IC Fluorescent Fixtures meet highest standards of new Thomas Jefferson Junior High School, Clairton, Penna.

Notice the soft, well-diffused light provided by these Sylvania IC Low-Brightness Fluorescent Fixtures in this modern classroom installation. Architect: Joseph Hoover, Hoover Bldg., Pittsburgh, Penna. Electrical Engineer: Elwood S. Towers, Investment Bldg., Pittsburgh.



In planning this handsome new junior high school, educational authorities, architects, and lighting engineers agreed that the new Sylvania IC Low-Brightness Fluorescent Fixtures met their strict requirements for uniform light distribution, quick easy installation, low maintenance, and attractive appearance. The 40-watt T-17 low-brightness lamps minimize reflected glare, and the excellent 42° crosswise shielding shields the lamps from direct view.

Writes Mr. Joseph Hoover, Architect of this up-to-the-minute school: "In designing school buildings, we endeavor to provide the most efficient classrooms and facilities possible. The Jefferson Junior High is an example of this idea in operation. Essential to these requirements is proper lighting, providing even distribution, correct intensities, easy maintenance, low replacement, and competitive costs. We believe the Sylvania IC Units meet these requirements."

Let us give you full information concerning the many advantages of Sylvania's new line of IC Fluorescent Fixtures. For illustrated folder simply address Sylvania, Dept. 4X-1303, today.

SYLVANIA

Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

In Canada: Sylvania Electric (Canada) Ltd., University Tower Bldg., St. Catherine St., Montreal, P. Q.

LIGHTING · RADIO · ELECTRONICS · TELEVISION

THE RECORD REPORTS

1955 Budget (Continued from page 20)

5000 classrooms for 140,000 children. The budget also contains a \$59 million recommended appropriation for school operating assistance. This is \$14 million below the amount for fiscal 1954.

Hospitals—Here the new budget calls for a sizeable reduction in appropriations for Hill-Burton hospital construction but adds some \$62 million in authorization for building hospitals for the chronically ill, diagnostic centers and nursing homes. The budget message posed as one main element of the public health program "a broadening of the present Federal grant-in-aid program for hospital construction to stimulate provision of diagnostic and treatment centers, rehabilitation facilities, nursing homes and additional chronic disease hospitals, and to help finance state surveys of their needs for such facilities."

Appropriation of \$50 million for the Hill-Burton program would continue the downhill slide in outlays for these private hospitals. The current year's figure is \$65 million, and fiscal 1953 saw \$75 million spent in Federal monies. The Budget Bureau estimates that \$50 million will stimulate construction of about 150 hospitals. Addition of these would bring to 2306 the number approved under the Hill-Burton law.

Housing—Activities of the Federal National Mortgage Association and increased use of private financing for the public housing program have enabled the Administration to show a \$277 million credit in net estimated expenditures for all housing purposes in fiscal 1955. Gross outlays are placed at \$1903 million and receipts will exceed these by the \$277 million, the budget indicated. The net figure compares with an expenditure of \$549 million in 1953 and revised estimates of \$57 million in 1954.

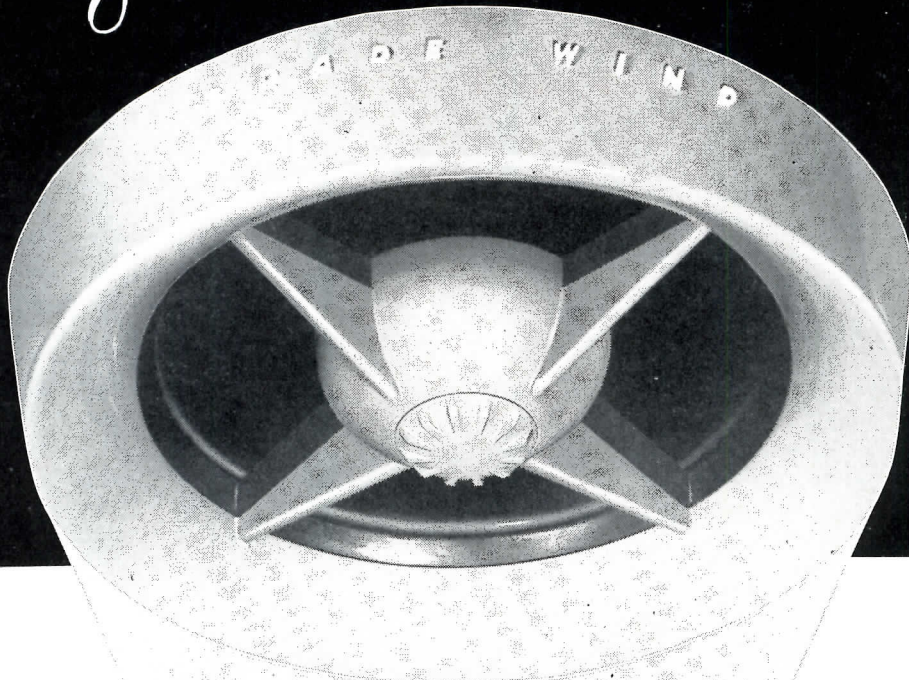
The budget was critical of present housing programs, describing them as "designed in the main to meet short-run emergencies or . . . developed piecemeal without a clear underlying policy. As a result, housing laws have become a patchwork which only experts can understand."

It was pointed out that most local projects approved for Federal assistance

(Continued on page 290)

Sensational, New Axial Flow Ventilator

By **TRADE-WIND**



TREMENDOUS SUCTION . . . UNUSUALLY QUIET . . . PRIZE DESIGN!

Terrific performance at half the power—unmatched beauty—and tagged with a low L-O-W price is this new AXIAL FLOW ventilator which Trade-Wind has developed under wraps over the past three years.


This revolutionary ALL NEW design now for the first time brings all the great advantages of straight-through axial air flow to the home ventilator field—and at a price that makes kitchen ventilation a BIG feature even for the lowest priced house.

In styling the AXIAL FLOW is as outstanding as its performance. Completely original with its deep intake scroll, it's a prize beauty created by one of America's top industrial designers.

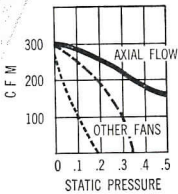
There's nothing that comes close to matching this all-new axial flow development by Trade-Wind. See it, test it, compare it and you'll understand why the Trade-Wind AXIAL FLOW will sweep the light construction market.

REVOLUTIONARY PERFORMANCE of the AXIAL FLOW is indicated in this chart. Note the ability to overcome duct resistance — characteristic of all Trade-Wind ventilators.

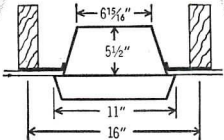
STYLED BY HUNT LEWIS.
The outstanding originality of the Trade-Wind AXIAL FLOW styling was created by Hunt Lewis, nationally famous industrial designer.



THE NEW Trade-Wind has been designed for the easiest installation. The mounting bars are quickly nailed between joists, the conduit box is fully exposed and the duct work takes any 7" round pipe.



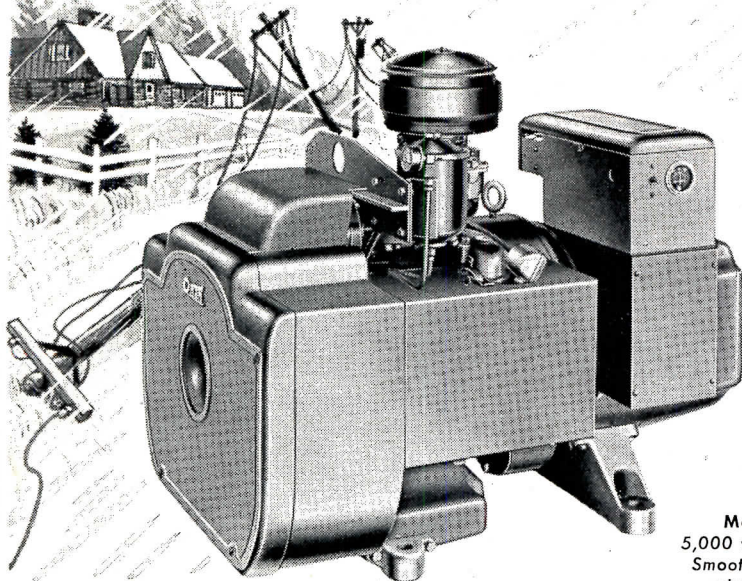
Static Pressure	Axial Flow (C.F.M.)	Other Fans (C.F.M.)
0	300	300
0.1	280	250
0.2	260	200
0.3	240	150
0.4	220	100
0.5	200	50



Write or Wire for Complete Information

ORIGINATED BY TRADE-WIND MOTORFANS, INC., 5707 S. MAIN ST., LOS ANGELES 27, CALIF.

Specify built-in protection against power interruptions



Model 5CW
5,000 watts A.C.
Smooth-running,
quiet, compact

Include, in your plans, an **ONAN** *Emergency* Electric Plant

The homes you design become unlivable and even unsafe when storms, floods or other disasters interrupt electric power.

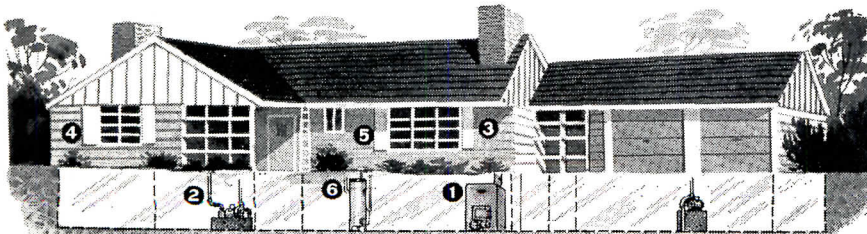
Suburban homes are especially vulnerable because of their complete dependence upon electricity. When power interruptions occur, these homes are without heat, water, refrigeration and lights. Freeze-ups and food spoilage can cause severe losses; fire hazards are increased.

You can insure the homes you design against power interruptions by specifying a low-cost Onan Emergency Electric Plant in your plans. When power interruptions occur,

the Onan Electric Plant supplies regular 115-volt 60-cycle A.C. electricity for all essential uses *as long as the emergency exists*. Automatic controls start the Onan unit when power fails and stop it when power is restored; protect the home at night or when the family is away.

Very little space is required for installation in basement or garage. Hook-up to the wiring system is simple and inexpensive. Write today for folder describing Onan Standby Electric Plants; gasoline driven, 1,000 to 50,000 watts A.C. Helpful literature on installation and wiring is also available.

PROVIDES ELECTRIC POWER FOR THESE ESSENTIAL USES—



1. Automatic oil, gas or coal furnaces. 2. Electric water system. 3. Home freezer and refrigerator. 4. Lights, radio, etc. 5. Electric range (limited use). 6. Water heater.

Write for Standby Power Folder

D. W. ONAN & SONS INC.



7436 University Ave. S.E.

Minneapolis 14, Minnesota

THE RECORD REPORTS

1955 Budget (Continued from page 288)

are still in the planning stage. By the end of fiscal 1955, it is expected clearance and redevelopment will be completed or under way on 180 projects. Approximately 50 had been started by the first of this year. The President said urban redevelopment requires (1) enlistment of greater local and private participation, (2) slum prevention as well as elimination, and (3) rehabilitation of rundown houses and neighborhoods.

A shuffling of the secondary mortgage market operation was expected to entice more private funds into housing loans. Also asked was a sliding scale authority for establishing maximum interest rates on government-backed mortgages. The Administration argued that the greater flexibility would encourage an adequate but not excessive supply of private mortgage funds for all parts of the country. This proposal, said the budget, would make unnecessary any large future purchases of mortgages by the government such as those required in the past when FHA- and VA-guaranteed mortgages were unattractive to private lenders.

Civil Defense — The budget reflected a new concept of civil defense. As Budget Director Joseph M. Dodge put it, "we are buying space instead of shelter." This was a reference to the continuing policy of trying to arrange for people to get out of heavily-populated areas in event of attack, rather than for them to seek shelter within these metropolitan locations. More stress is being laid on improving warning systems and on dispersal of populations. No funds were proposed for construction of mass shelters.

A line of demarcation between Federal, and state and local, responsibility was drawn by the budget message: "It will be the Federal responsibility . . . to provide warning of impending attacks, and to stockpile medical supplies. The Federal government will not assume the responsibilities which belong to local governments and volunteer forces, but will supplement state and local resources, provide necessary information on weapons effects and advise and assist states and localities." A sum of \$68 million was proposed as the Federal outlay for these purposes in fiscal 1955.

The Name **HOPE'S** *Guarantees*
HOSPITAL WINDOWS



Mt. Wilson State Hospital, Mt. Wilson, Maryland

Buckler, Fenbagen, Meyer and Ayers, Architects

Cramer-Vollmerhausen Co., Inc., Contractors

The 1017 Hope's "Hopkin's" Windows and 22 casement doors installed in Hope's Biltin subframes, enhance the clean modern lines and pleasing proportions of this hospital.

Hope's Steel Windows are the choice of architects for hospital fenestration for many reasons. They are unsurpassed for structural strength. They

last the life of the building. They require a minimum of maintenance. They clean safely and easily from inside. They provide any desired amount of draft-free ventilation. Their operating mechanism is completely dependable. When closed they form a weather-tight seal. And in addition their variety in layout offers complete freedom in design.

Write for Catalog 134AR

HOPE'S WINDOWS, INC., Jamestown, N. Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

WASHINGTON

(Continued from page 38)

PRESIDENT WOULD EXTEND HOSPITAL AID PROGRAM

If Congress accepts the President's proposals for construction of health facilities, architects will be designing diagnostic centers, nursing homes and hospitals for the chronically ill as well as the more conventional types of hospitals under the Hill-Burton Act.

In a special message transmitted to Congress in January, President Eisenhower praised the accomplishments of the Hill-Burton program, but insisted it did not go far enough in providing all types of health facilities required in this country.

Not all illness needs to be treated in elaborate general hospitals that are costly to construct and operate, the President said. Certain non-acute illness conditions, including those of aged people requiring institutional bed care, can be handled in facilities more economical to build and operate than general hospitals, with their diagnostic, surgical and treatment equipment and full staffs of professionals.

Today, said the Chief Executive, beds in our hospitals for the chronically ill take care of only one out of every six persons suffering from such long-term illnesses as cancer, arthritis, and heart disease. It was pointed out that if there were more nursing and convalescent home facilities, beds in general hospitals would be released for the care of the acutely ill, and it might also help to relieve some of the serious problems created by the present shortage of trained nurses.

The President is thinking in terms of special facilities for the treatment of special ailments. Many thousands remain disabled due to the lack of such facilities and services, he maintained.

The health message carried these recommendations for amendments to Hill-Burton:

1. Added assistance in the construction of non-profit hospitals for the care of the chronically ill. These would be of a type more economical to build and operate than general hospitals.

2. Assistance in the construction of non-profit medically supervised nursing and convalescent homes.

(Continued on page 296)

You'll have full information on cost-cutting doors for every need in this new 1954 Kinneer catalog.

It gives you full, up-to-the-minute information on how to save maximum space, cut costs, boost efficiency and get more protection at doorways in old or new buildings. In addition to complete data on Kinneer Steel Rolling Doors — the doors with the famous, *Kinneer-originated* curtain of interlocking steel slats—it tells all about Kinneer Steel Rolling Fire Doors, sectional-type Kinneer RōL-TOP Doors, and the protective Kinneer Steel Rolling Grilles. Write for your FREE copy TODAY!

SAVING WAYS IN DOORWAYS

KINNEAR
ROLLING DOORS

The **KINNEAR**
Manufacturing Company

FACTORIES: { 1860-80 Fields Ave., Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.

Offices and Agents in Principal Cities

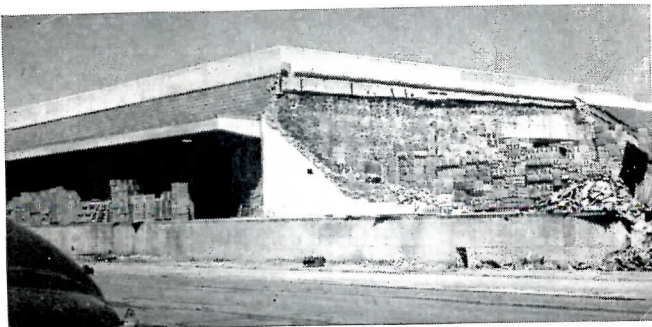


Though 50% of this block was destroyed, the Roosevelt Hotel (background) with reinforced concrete frame and floors came through undamaged structurally.

Reinforced Concrete Construction Withstands Destructive Waco, Texas Tornado



Above: Two-story building at right with reinforced concrete floors, walls and roof came through the tornado without structural damage but the adjacent structure suffered extensively. Below: This one-story warehouse was built in two sections. The section with reinforced concrete frame, floors and roof was undamaged; the other part was demolished.



The tornado that struck Waco, Tex. on May 11, 1953 killed 115 persons and wrecked property worth millions of dollars. It ripped a path of destruction one mile wide and four miles long.

Nevertheless some buildings within this area of devastation withstood the full fury of the tornado. An engineering report made following a thorough examination of the damage said, "Without exception structures with reinforced concrete frames suffered little damage."

This is graphic evidence that reinforced concrete construction can "take it." Schools, hospitals, factories, office buildings, apartments—any structure—can be designed in concrete to resist the violent lateral forces and bursting pressures of tornadoes, hurricanes and atomic blast.

In addition reinforced concrete construction offers the durability, strength, firesafety, attractive appearance and *low annual cost* that are desirable in any structure. For more information write for a copy of free, illustrated literature, distributed only in the United States and Canada.

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Type "BL" Limit-Load Ventilating Fan is *smooth* air handling. From inlet to outlet, air is moved through the fan almost "without a ripple". This new standard of air handling promises

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THE RECORD REPORTS

WASHINGTON

(Continued from page 294)

3. Assistance in the construction of non-profit rehabilitation facilities for the disabled.

4. Assistance in the construction of non-profit diagnostic or treatment centers for ambulatory patients.

A part of the Presidential plan is a new survey of state needs in these fields. This would extend surveys provided for in the Hill-Burton statute.

Legislation has been introduced to carry out the Eisenhower recommendations. The bills seek some \$62 million in additional authorization to cover the additional types of facilities. The budget calls for only \$50 million for construction of Hill-Burton hospitals of the present type, but a supplemental request probably will seek funds for the special construction.

**ADVANCE PLANNING FUNDS
SOUGHT IN 1955 BUDGET**

Revival of the "advance planning" programs which meant work for private architects was sought in the fiscal 1955 budget, which provides for a \$10 million authorization, and \$3 million expenditure, for the advance planning of local public works.

The Administration is anxious to get the program underway, as evidenced by the announcement the request for appropriations would come as a supplemental asking for fiscal 1954, the current year.

Budget Director Dodge, when asked why the appropriation would be sought ahead of other fiscal 1955 items, said, "We want to avoid the usual hiatus connected with initiating a public works planning program."

The proposal appeared to be an out-and-out renewal of the old advance planning program. This involved direct interest-free loans to state and local governments to aid them in preparing for future expansion in public works construction.

Under the first and second advance planning programs (operating since 1944) approved advances totaled \$65.1 million. These provided for construction costing an estimated \$3648 million.

Last fall the Housing and Home Fi-

(Continued on page 298)



Thermopane windows make this library comfortable, light and cheerful. Birmingham (Michigan) High School. Architect: Swanson Associates, Birmingham.

“We can tell you what’s good in school design”

“Our new school has large windows that let you see out and make the room light and cheerful. Now we don’t feel ‘cooped-up.’”

Recently students and teachers in several new schools were asked what they liked best about the new buildings. Both groups were enthusiastic about the “large windows”, the “abundance of daylight” and the “daylight quality”.

Most of today’s truly modern schools use large areas of clear glass to banish the “cooped-up” feeling. These Daylight Walls, stretching from sill to ceiling, add a feeling of spaciousness, bring light

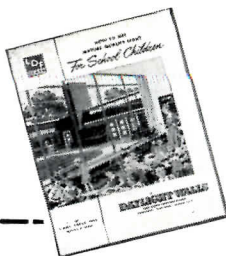
and view inside . . . make the classroom a part of the world beyond.

School boards like Daylight Walls, too. They are economical to build (less masonry, lath, plaster and paint). Economical to maintain (glass is easy to clean, doesn’t wear out). When glazed with *Thermopane** insulating glass, heating costs are lower and areas close to windows are comfortable on coldest days.

For more facts on school design, write for the booklet described below or call your nearby Libbey-Owens-Ford Distributor or Dealer. *®

FREE BOOK ON SCHOOL DAYLIGHTING

If you have anything to do with school design, you will enjoy reading the new, authoritative publication on school daylighting, *How to get Nature-Quality Light for School Children*. For a free copy write Libbey-Owens-Ford Glass Co., 4134 Nicholas Bldg., Toledo 3, Ohio.



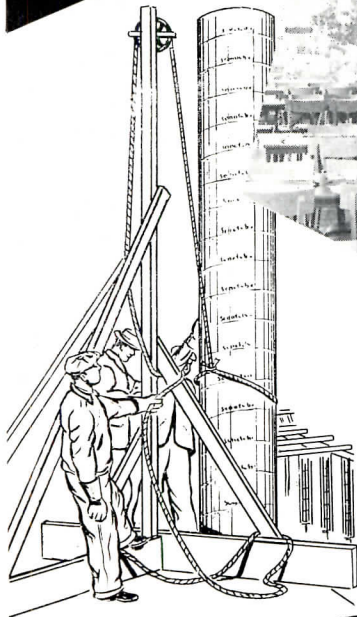
THERMOPANE • PLATE GLASS • WINDOW GLASS

DAYLIGHT WALLS

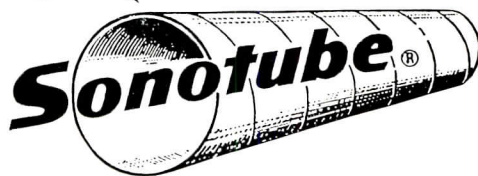
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THE RECORD REPORTS

WASHINGTON

(Continued from page 296)

nance Agency, which now handles the remnants of the first two programs, reported that 7757 jobs were included in all applications where advances had been approved. Plans had been completed on 7536 projects, and construction had been started and loans repaid on 3476.

SCHOOL AID BILLS WOULD FOLLOW HILL-BURTON ACT

Two bills to provide Federal aid for the construction of elementary and secondary schools in all the states were introduced early in the second session of the 83rd Congress. Altogether, the measures had 45 sponsors.

The first, proposed by Senator McClellan (D-Ark.), and 24 others, based its new formula for distribution of Federal funds on the Hill-Burton hospital construction act. Factors would be number of school students and per capita income of the state balanced against the average per capita income of the country. The idea was to channel the most money to states with greatest school building needs.

This same general plan was followed in the Hill-Sparkman bill coming a few days later. Senators Lister Hill and John Sparkman, both of Alabama, also based state share of Federal money on per capita incomes and number of children of school age.

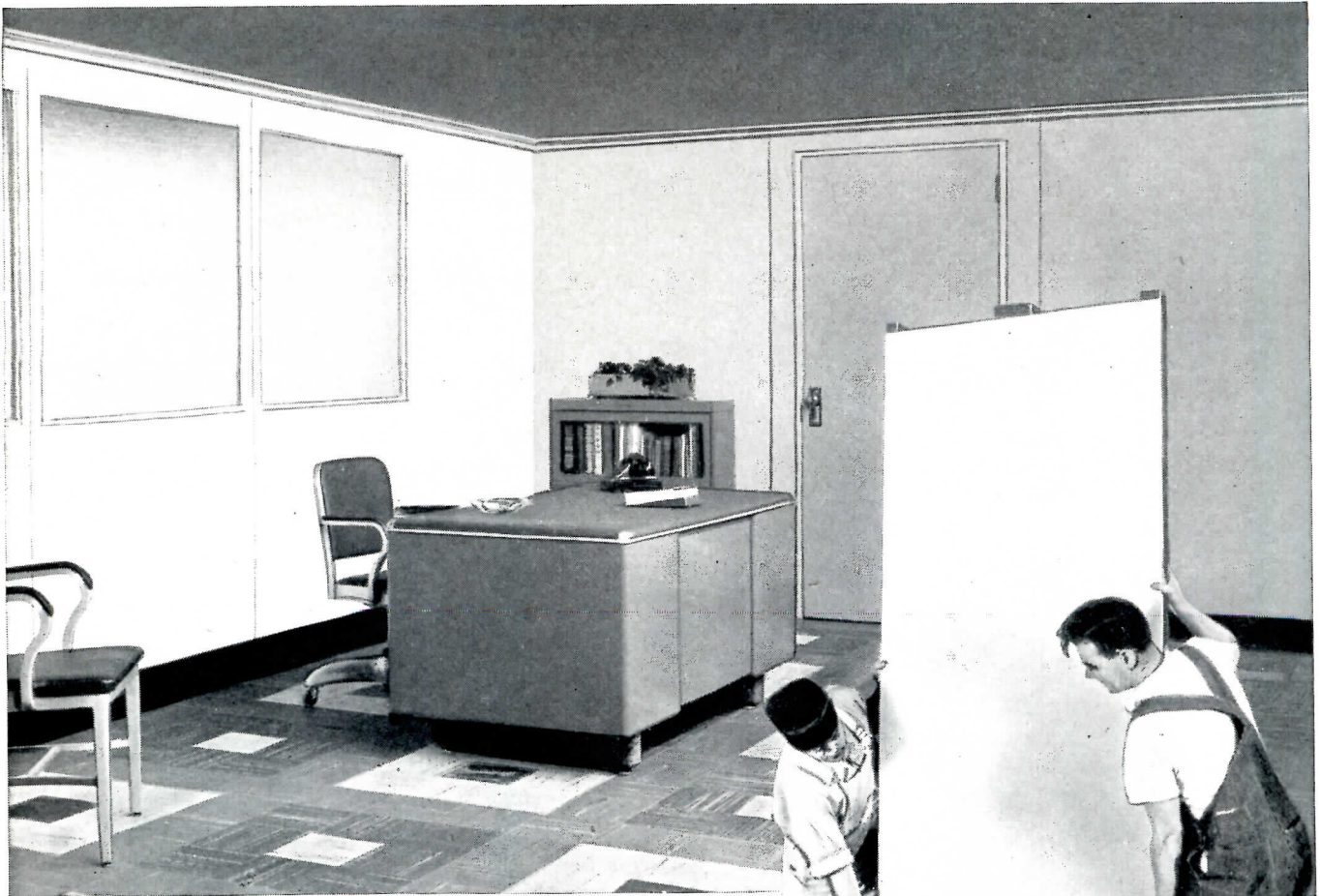
Both measures would leave administration to the states and in both instances authors declared there was need for immediate Congressional action to correct a worsening condition.

ARCHITECTS COVERED IN NEW SECURITY PROPOSAL

Architects and engineers are included in the new group of some 10 million persons who would be brought under the protection of the Old Age and Survivors Insurance System by the proposed Eisenhower program.

They were mentioned, along with doctors, dentists, lawyers and accountants, in the President's message to Congress on this subject.

(Continued on page 300)



J-M Movable Walls in both solid panels and panels with glass openings are combined to create this attractive and efficient office

Make your space fit your needs!

Johns-Manville Asbestos Movable Walls provide offices when and where you want them

YOU can rearrange existing offices or partition new space quickly and economically with Johns-Manville Asbestos Movable Walls.

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Johns-Manville Asbestos Movable Walls may be used as ceiling-high or free-standing partitions. The

complete wall, including doors, glazing and hardware, is installed by Johns-Manville's own construction men under the supervision of trained J-M engineers—*responsibility is undivided.*

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INSTALLED NATIONALLY BY JOHNS-MANVILLE

WASHINGTON

(Continued from page 298)

The President also urged Congress to liberalize the current retirement qualifications and change the mandate to provide that a beneficiary might earn up to \$1000 a year before losing any benefits. For amounts earned above \$1000, only one month's benefit would be deducted for each additional \$80 earned. Architects and engineers have been concerned, should they come under the system, about the present \$75 per month limitation. Mr. Eisenhower said this imposed "an undue restraint on enterprise and initiative."

The American Institute of Architects, which has been conducting a chapter-by-chapter poll of its members to determine what stand by the Institute they would favor, said last month it would make no announcement until the results had been studied by the Board of Directors at a meeting scheduled early this month. The scattered results made known by individual chapters, however, showed a balance in favor of the legislation.

HOW MUCH FOR DESIGN?

ARMY TREND IS UPWARD

Engineering and design of facilities constructed by the Army Corps of Engineers in fiscal 1953 cost two and one half cents of each dollar spent, and more than half of this went to private architect-engineer firms, according to a Corps report.

Supervision and inspection at the site cost an additional two cents, and a part of this also went to private firms. Design and field supervision costs thus came to 4.5 per cent of the total cost, a figure the Corps of Engineers believes compares favorably with the "usual fee of six per cent" paid by private industry for similar services.

Construction contractors received 93.4 cents of each dollar going into jobs completed in fiscal 1953. General "overhead" costs were considered low by the Corps — amounting to 2.1 cents of each dollar of the cost of completed jobs; that is, the stateside military construction program's share of the costs of overall administration by ACE's division and district offices.

The construction industry's 93.4 cents

(Continued on page 302)

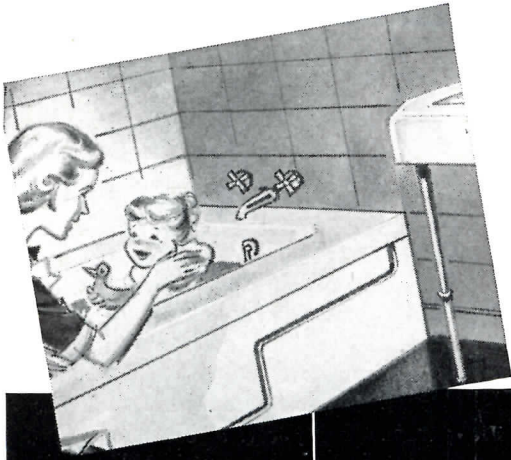
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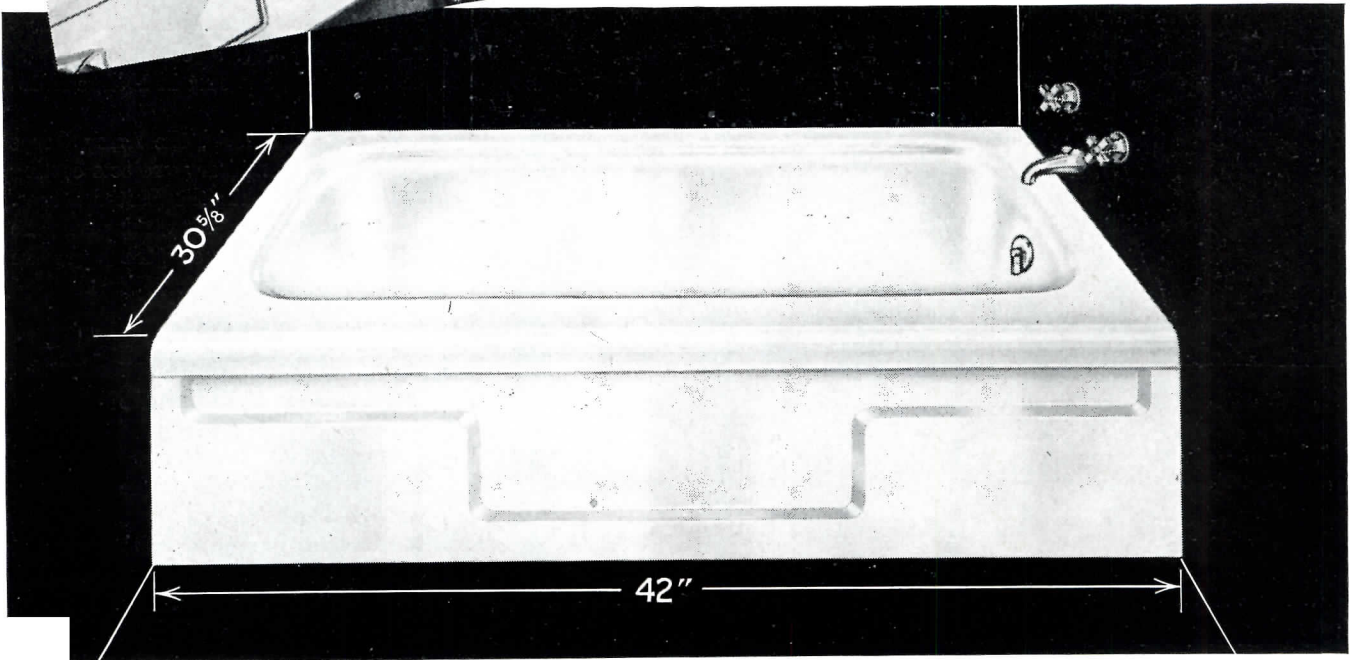
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FOR THAT *Extra* BATHROOM
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"JUNIOR" SIZE BATHTUB



Quite frequently in new construction and especially on remodeling jobs, you find a demand for a second bathroom but space is at a premium. Here's where the AllianceWare "Junior Size" tub—Model B-42-S—gives you all the advantages of space-saving.

From front to back—this tub is the same as standard AllianceWare tubs—30 5/8". The length, however, is only 42"—the height is 12"—an especially convenient height for bathing small children—an easy tub for the elderly person to step into—and an excellent idea for a shower receptor.

Made from 14-gauge enameling steel, this model has every other quality feature of AllianceWare tubs. A wide seat forms the outer rim; an integral wall guard extends a full inch on three sides where the tub joins the wall; the finish is AllianceWare quality, stainproof porcelain enamel in white, pink, green, blue, tan, or grey. Write for complete information and installation diagram.

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FOR MODERNIZATION...FOR A SHOWER RECEPTOR
 You'll go a long way to find a more suitable tub for modernizing jobs where space is limited. And as a shower receptor this tub far exceeds in convenience and roominess the ordinary shower stall.

WASHINGTON

(Continued from page 300)

share of each dollar spent on military construction in the United States represents another gain in a steady upward trend. It compares with 91.3 cents in 1950, 91.8 cents in 1951, and 92.3 cents in 1952.

Payments to private architect-engineer firms have followed a similar pattern. The figures: .4 cents in 1950, .7 cents in 1951, one cent in 1952, and 1.3 cents in 1953.

During fiscal 1953, the Army Corps completed 190 military projects costing \$145,098,108 within the United States. Still in progress the first of this year were 4045 jobs of all types with aggregate cost estimated at \$2,130,291,000.

MOVE TO CURB BACKLOG OF UNOBLIGATED FUNDS

Congressional pressure is being applied to the Defense Department to curtail its huge backlog of unobligated construction funds, cut red tape in the building program, and expedite military construction all along the line. A recommendation for a \$100 million cut in armed forces estimates for fiscal 1955 expenditures by a subcommittee of the House Appropriations Committee early in the new session of Congress has provided an especially sharp nudge.

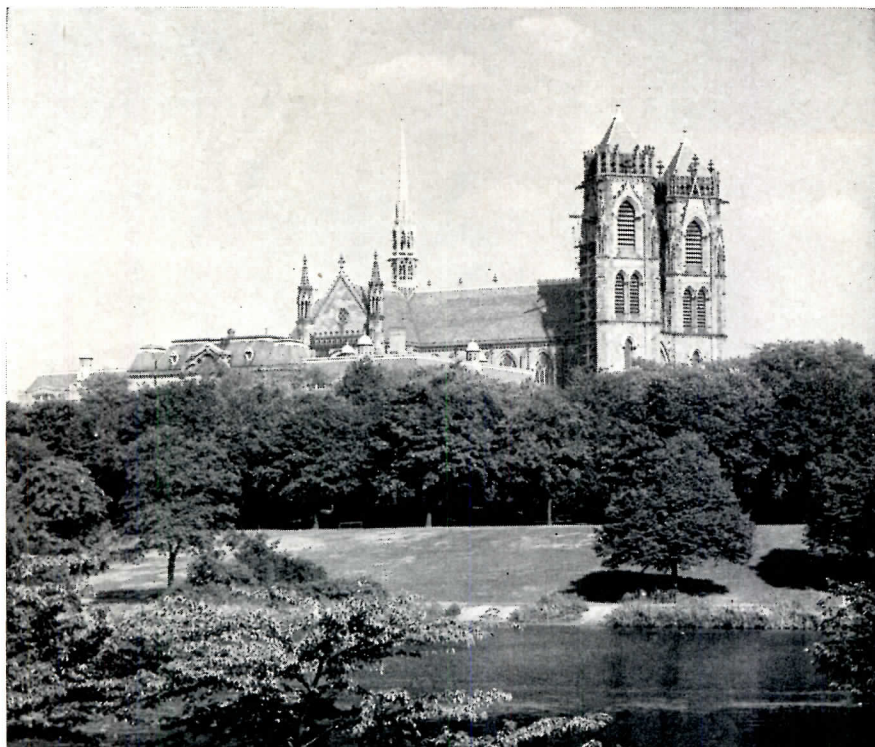
The recent report to the Appropriations Committee on civil functions and military construction couples its recommended cuts in expenditures with a request for a thorough review of the military construction program of the Defense Department with special attention to the mounting unobligated balances.

The status of appropriations (as of September 30, 1953) showed this situation:

Out of total appropriations of \$9,395,739,139, a sum of \$6,222,925,095 had been obligated and only \$4,720,380,896 expended. The Navy came closest to using all the money Congress had given it and for that reason did not share to the extent that Army and Air Force did in the criticism voiced in the report. Navy had obligated \$1,388,878,190 and spent \$1,077,359,849. Its appropriations were \$1,804,514,040.

Air Force, on the other hand, had been

(Continued on page 304)



Paul C. Reilly, Architect Sears & Kopf, Consult. Engrs. Frank A. McBride Co., Heating Contractors

Newark's Cathedral of the Sacred Heart

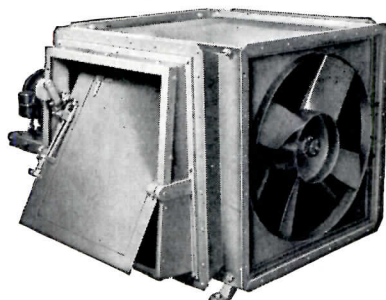
One of the World's Great Cathedrals
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Now moving to completion after fifty years of building, this magnificent edifice combines the architectural splendor of the past with today's utilitarian advancements. An example is the up-to-the-minute equipment that comfortably heats the spacious interior.

Handling a total load of 70,000 sq. ft. EDR are three H. B. Smith gas fired boilers. Even though a chimney was provided, consulting engineers decided that proper draft and removal of waste gases required a WING Draft Inducer for each boiler. Barometric dampers with relief gates were mounted integrally on each Draft Inducer.

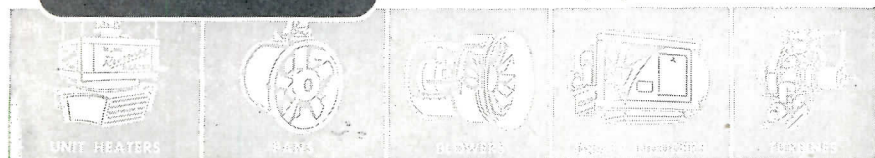
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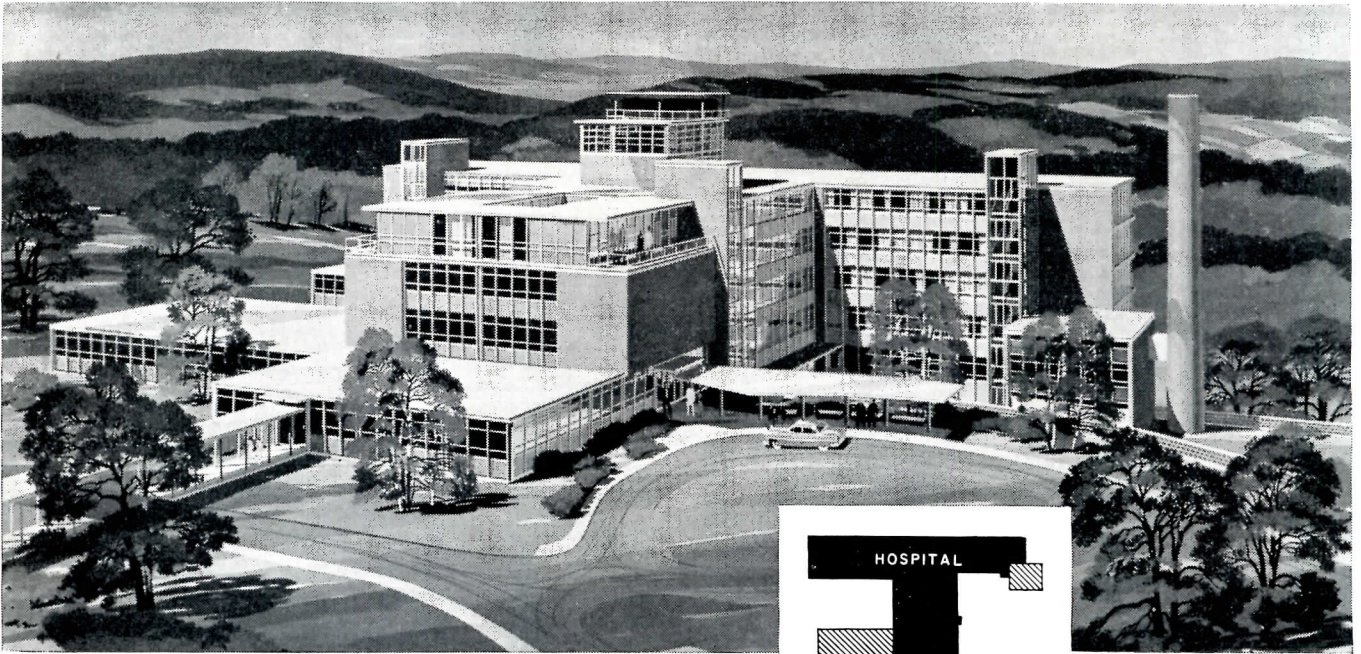


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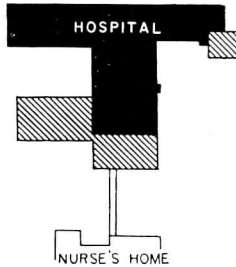
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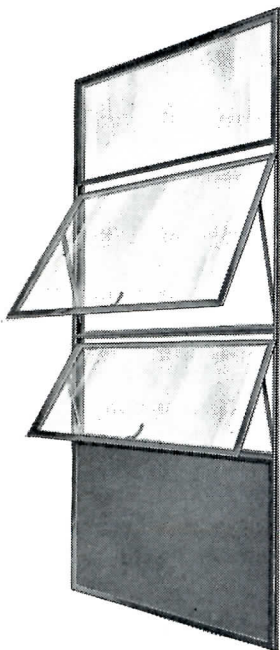




Beckley Central Hospital, Beckley, W. Va.
 Memorial Hospital Association of Kentucky, Inc.
 Isadore Rosenfield, architect.
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TRUSCON'S NEW VISION-VENT WALL offers Mass-production Economy of Standard Steel Windows



This exciting new Truscon development opens entirely new concepts of window walls in steel and glass. Vision-Vent is a new building unit incorporating all mass-production and installation economies of standard steel windows. It is designed to cover entire wall surfaces.

Vision-Vent was developed in cooperation with architects, contractors and building owners. Initial application is a chain of ten hospitals built for the Memorial Hospital Association of Kentucky. Anticipated results of this new Truscon construction method are (1) simplicity of design, (2) weather resistance, (3) low first cost, (4) low maintenance cost.

Each Vision-Vent unit is complete—with fixed lights, awning type ventilators, and insulated steel panels. All elements may be varied to meet functional and appearance requirements. Insulated panels—in colored porcelain enamel or in stainless steel—have a "U" factor of .197, equal to that of an ordinary masonry spandrel wall. They retain interior heat. And, they provide for efficient air-conditioning. Minimum wall thickness provides extra square feet of floor space. Erection goes forward in any weather.

Vision-Vent construction is recommended for use in the design of all types of single or multi-story buildings. Truscon window engineers will be glad to study your requirements, and develop design details and costs. More details in Sweet's, or write:

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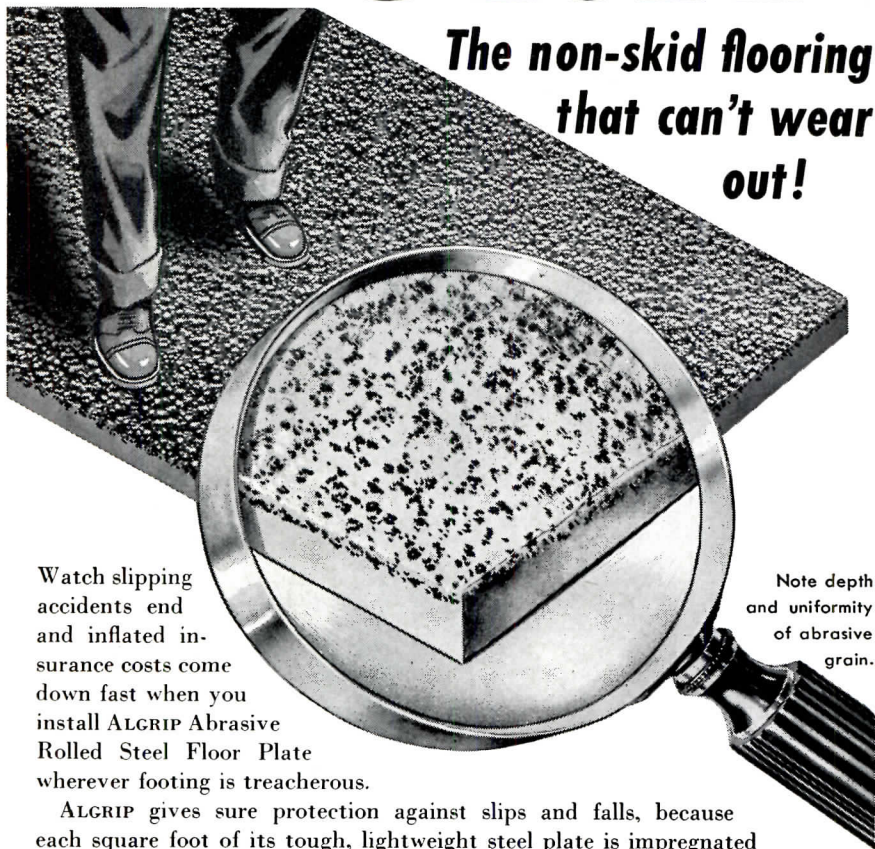
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ALGRIP gives sure protection against slips and falls, because each square foot of its tough, lightweight steel plate is impregnated with hundreds of tiny abrasive particles to a controlled depth of penetration, providing a rugged surface that stays non-slip—even on steep inclines! ALGRIP's "grinding-wheel" grain will never become smooth because hard wear only exposes new gripping particles... a safety bonus exclusive with ALGRIP.

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WASHINGTON

(Continued from page 302)

given \$5,264,203,770 by Congress, had obligated \$3,446,026,998, and spent \$2,549,928,694. Army's score: \$2,327,021,329 in total appropriations, \$1,388,019,907 obligated and \$1,093,092,353 spent.

The redesigning of many facilities to cut costs by removing unnecessary frills was credited with increasing the backlogs. Savings from favorable bids and adherence to austerity standards also contributed. All this the committee favored, of course. But it still held that basically the high balances represented and "revealed" an inability on the part of the Defense Department to carry out a construction program which was presented to Congress as essential to the support of the Armed Forces. This was said to be especially true in the Department of the Army and in the Air Force.

"The committee looks forward to the day," said its report, "when the Department of Defense can present a program that will justify this committee to provide funds free from many of the reviews and controls that are now necessary."

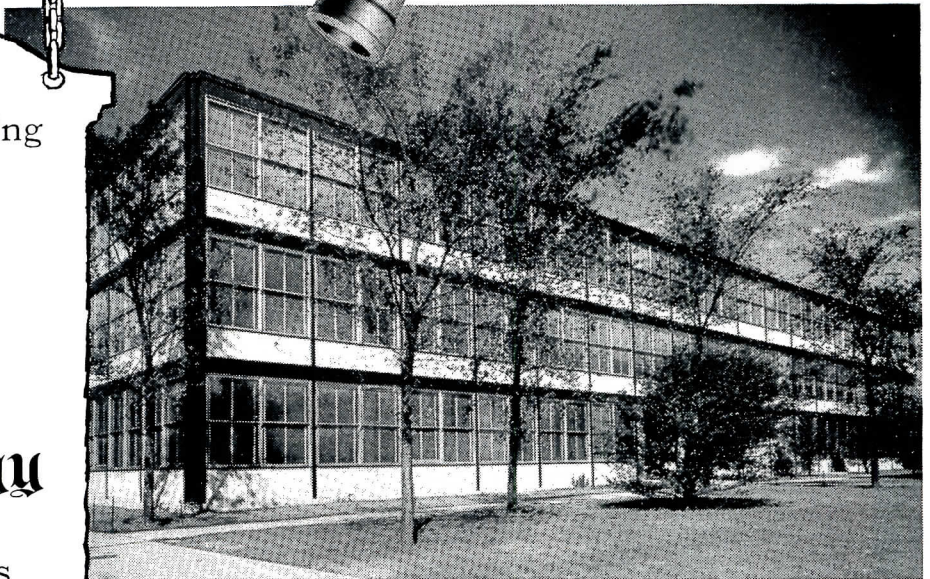
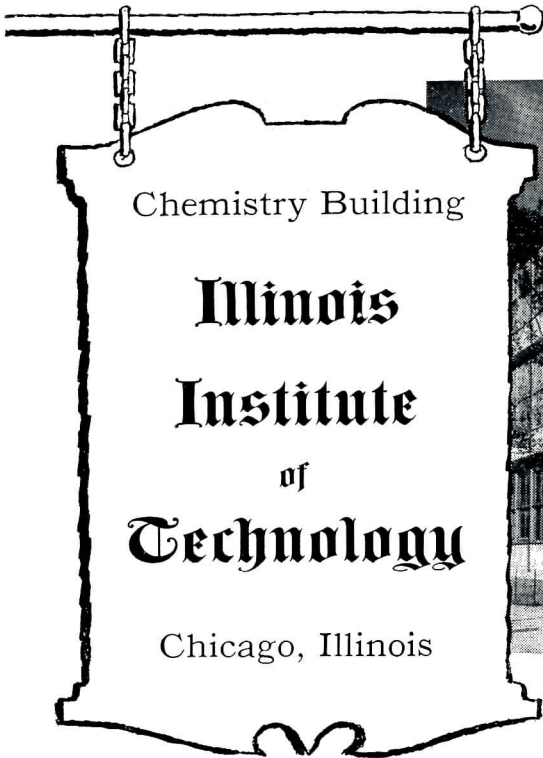
"For the present, however, we feel obligated to be very specific about the allocation of funds, and the attention of responsible officials is called to the fact that clearances herein are limited specifically to the justified line items, except as modified herein, and to them only."

The subcommittee, headed by Rep. Glenn R. Davis (R-Wis.), trimmed current Army, Navy and Air Force construction estimates mightily. This particular action, however, involved no new appropriations since the services planned to use unobligated balances from prior money. A \$100,297,000 reduction in the total Armed Forces estimate of \$368,989,130 was made by the House unit, leaving the total fund at \$268,692,130. A Senate counterpart group made similar approvals.

The lineup on subcommittee action: Army estimates totaled \$63,868,000; the committee approved \$43,181,500, a reduction of \$20,686,500. Navy estimates were \$87,781,130; committee action lowered these to \$68,945,630, a drop of \$18,835,500. Air Force had asked committee sanction for spending \$217,340,000, but the committee allowed it only \$156,565,000, down \$60,775,000

(Continued on page 306)

Another important Duriron installation



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The Chemistry Building at I.I.T. is one of more than a dozen new buildings already completed in a long-range program which will give the Institute one of the world's most modern campuses. *Duriron Acidproof pipe* was installed to handle drainage of corrosive liquids.

Sales records show more and more schools, hospitals and industrial buildings rely on Duriron. Duriron is a high silicon iron alloy resistant to corrosion, abrasion and erosion. It provides resistance throughout the thickness of the pipe wall. Duriron is installed by regular plumbing methods. Duriron will usually outlast the building in which it is installed.

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DURIRON ACIDPROOF DRAIN PIPE

THE DURIRON COMPANY, Inc., 405 North Findlay Street, Dayton 1, Ohio

WASHINGTON

(Continued from page 304)

ADDENDA

- Edmund R. Purves, executive director of the American Institute of Architects, has been added to the advisory committee of national housing leaders set up last May by Federal Housing Administration Commissioner Guy T. O. Hollyday. The FHA announcement said Mr. Purves' appointment reflected "the increased emphasis FHA is placing on architectural design as an essential factor" in improvement of housing standards.

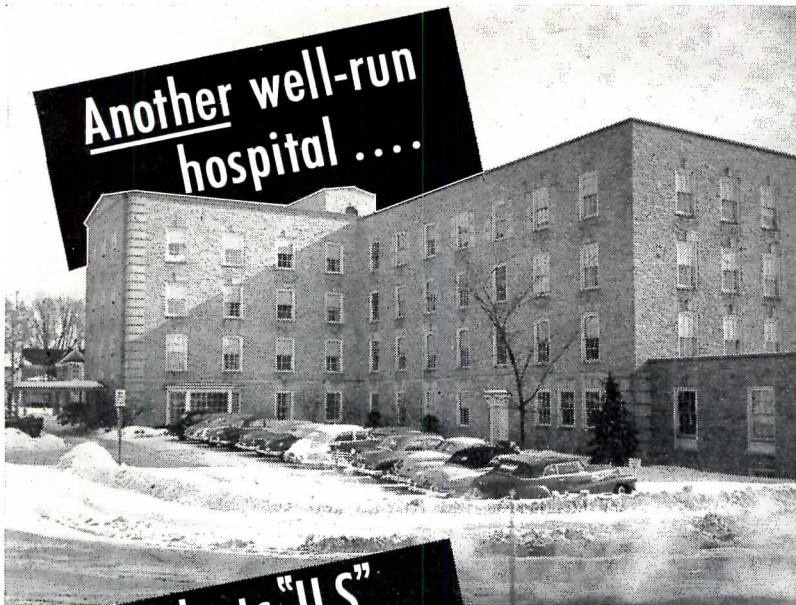
- Private research organizations will conduct 90-day studies of the operation of several of the major Federal-aid-to-construction programs in five selected states for the information of the President's Commission on Intergovernmental Relations. The programs to be studied: hospital construction (surveys and plans); school construction in "Federally impacted" areas; postwar Federal highway laws; annual contributions in the low-rent housing program, capital grants for slum clearance and urban redevelopment, and loans for both. Kansas, Wyoming, Michigan, Mississippi and Washington are the states selected for the studies.

- The House Armed Services Committee gave the go-ahead to construction of four bases in Spain. The committee's approval was required under the law, although funds already had been appropriated by Congress. The multi-billion dollar Spanish base program will be started with the expenditure of \$49 million on the four bases which will cost approximately \$200 million, Committee Chairman Dewey Short said.

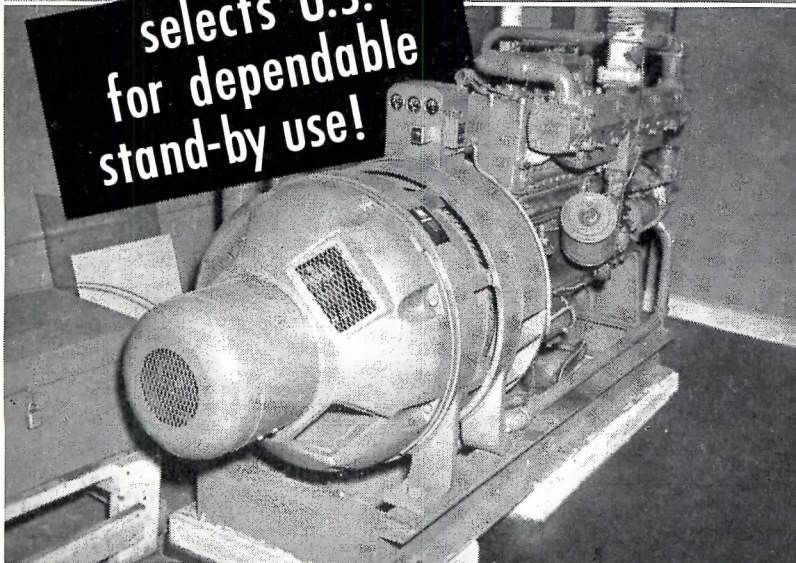
- The figure for 1953 housing starts stood at 1,102,400, with the recent announcement by the Bureau of labor statistics of preliminary figures for December. The December total was 68,000, an average figure for the month. The 12-month total was the third largest number of residential starts ever recorded by BLS. It was topped only by the all-time-record year of 1950, and the 1,131,300 units started in 1952.

(Continued on page 308)

Another well-run hospital . . .



selects "U.S." for dependable stand-by use!



Thecla Clark Memorial Hospital at Neenah, Wisconsin, has installed a 100 KW "U.S." electric plant for stand-by service. In case the regular source of power fails, the dependable "U.S." unit will start up automatically and furnish power for lights, operating room, refrigeration, heating plant, elevator—everything!

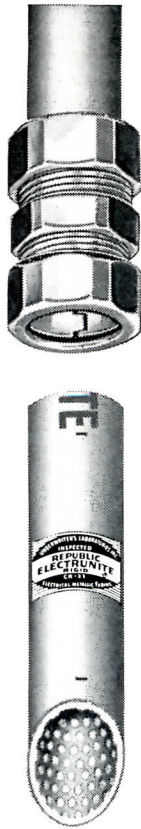
If you are considering a stand-by unit, it will pay you to get the facts about "U.S." Electric Plants. Units from 1/2 to 200 KW. Complete line includes over 300 models. Write for information.

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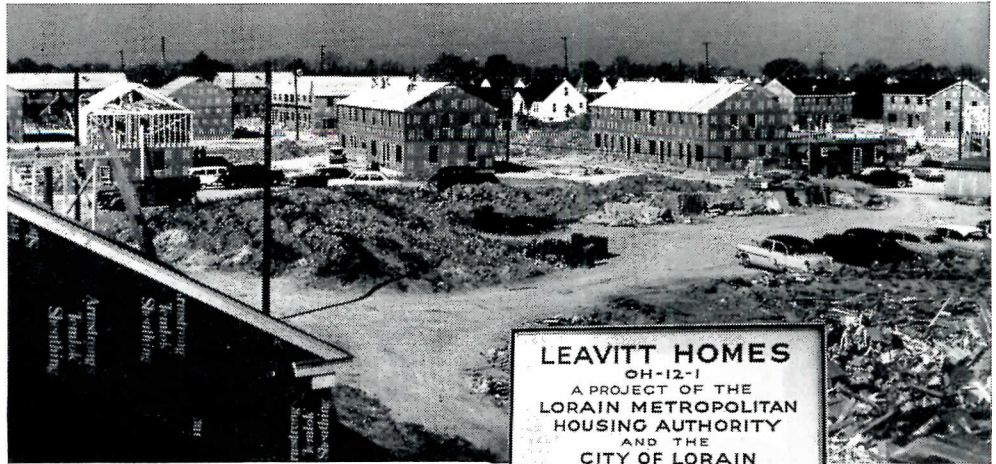
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No lines to turn in close or awkward places when you're using Republic E.M.T. since every coupling is a union.

Whether it's in steel, frame or concrete type construction, Republic, the "Inch-Marked®" E.M.T., provides trouble-free protection to wiring circuits. Besides giving the mechanical protection of steel, Republic ELECTRUNITE E.M.T. acts as an emergency path to ground when needed. It's approved by the National Electrical Code for open, concealed and concrete slab construction. And it carries the Underwriters' Seal of approval on every length.

Unbroken corrosion resistance from end to end is another reason why so many architects specify Republic E.M.T. Runs are joined with galvanized vibration-proof compression-type fittings that fit over the tubing. The zinc coating on the raceway isn't disturbed because there are no threads to cut . . . And the surface coating will not be scratched because wrenches fit on the hexagon nuts. A few simple tools will do the job.

The combination of these safety advantages, plus "Inch-Marking," the ELECTRUNITE Bending System and the ELECTRUNITE Bender, can substantially lower the cost of raceway installations. You'll find more facts in Sweet's File. Or write for Booklet SA-54.

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REPUBLIC

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● "INCH-MARKED" *The Mark of Quality*

Prudential Life Ins. Co. Bldg., Houston
Kenneth Franzheim, Architect



THE RECORD REPORTS

WASHINGTON
(Continued from page 306)

• "Careful preliminary investigation to determine engineering and economic feasibility is required to produce well-conceived construction projects," said President Eisenhower in his budget message; and an appropriation of \$15.4 million is asked for preliminary investigations of all types of construction projects contemplated.

• The nation's capital is the latest test-tube of the National Association of Home Builders for determining the workability of a slum rehabilitation program. N.A.H.B.'s slum clearance expert, G. Yates Cook, has set up a pilot plan in Washington, D. C. to rid this city of what have been described as some of the worst slums in the entire country. If the plan proves successful, N.A.H.B. will use the same pattern in other communities in a nationwide fight against urban decay. N.A.H.B. gets an added advantage in the choice of Washington; members of Congress, close at hand, can be told the benefits and observe them personally as they develop.

• Maj. Gen. Samuel D. Sturgis Jr., chief of the Army Corps of Engineers, wants to see the Corps regain its former "professional standards." In his opinion this is necessary if future wars (as foreseen in military's "new look") are to be won by technology. At present, 85 per cent of the officers on active duty in the Corps are reservists and only 15 per cent are professional engineers. Maj.-Gen. Sturgis would like to see commissions given out to engineering graduates or experienced construction men. The engineering profession has been hard hit, he says: everybody is a manager, not an engineer.

• Congress was being urged by construction industry groups to hurry action of the judicial review bill—the Senate-passed measure which would give contractors relief from a long-standing grievance. The measure seeks to correct an alleged injustice which, by Supreme Court ruling, permits a Federal contracting officer or department head to have the last word in contract disputes. No appeal from such rulings now is permitted unless fraud can be established.

(More news on page 310)

**Rugged
Beauty...**

why architects specify --- **Wright Rubber Tile**



Wright answers MORE of the architect's problems. It is the only rubber tile in the world in two degrees of hardness—soft WRIGHTEX is especially quiet and resilient—hard WRIGHTFLOR is especially dense and durable. Both products—for nearly 35 years—have been characterized by long wear, brilliant colors and easy maintenance... good reason why leading architects the world over continue to specify Wright Rubber Tile.

EASY-TO-MAINTAIN Wright Rubber Tile was used in heavy-traffic areas at Prudential in Houston.

QUIET, COMFORTABLE Wright Rubber Tile was used in executive offices and board rooms.

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● Gentlemen: Please send me full information and specifications on Wrightex and Wrightflor.

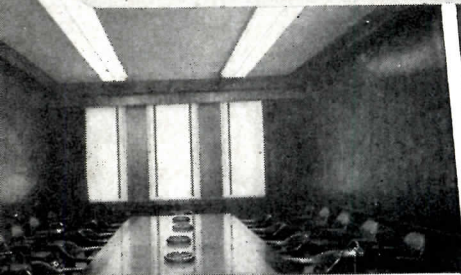
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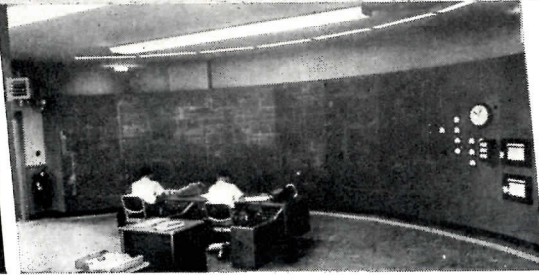
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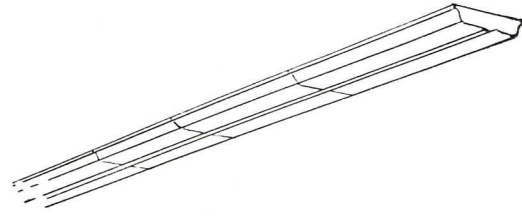
HOLOPHANE NO. 9300 Sets New Lighting Standards in a Wide Variety of Modern Interiors . . .



Director's Room, Public Utility, Atlantic City, N. J.



Marlowe Central Station, West Virginia



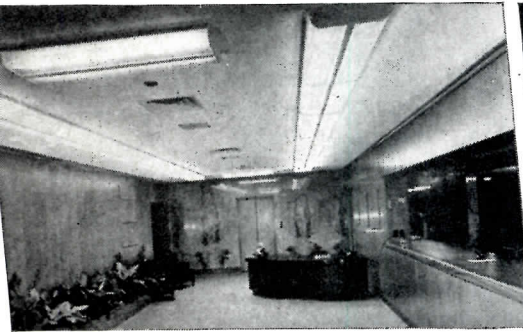
Across the country . . . wherever they have been installed . . . No. 9300 Surface-Attached HOLOFLUX* units have earned unanimous approval for their lighting superiority . . . Their shallow depth creates the modern, distinctive look of recessed units, without the cost of roughing-in. Enclosed prismatic construction assures greatest fluorescent light output with complete absence of cumulative glare, even in continuous runs . . . As the photographs herewith indicate, HOLOFLUX units are ideal for an almost unlimited range of applications. Architects and engineers are invited to consult Holophane engineers, without obligation.



Plant Offices, Irvington, N. J.



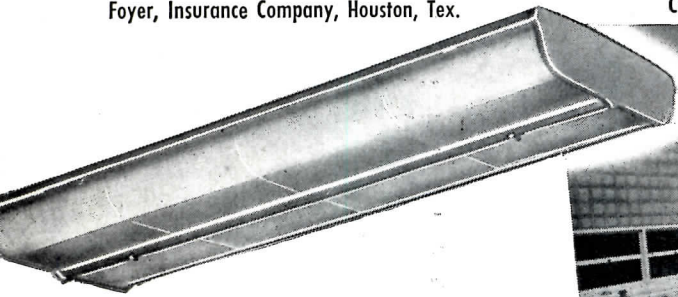
Tonsorial Parlor, Philadelphia, Pa.



Foyer, Insurance Company, Houston, Tex.



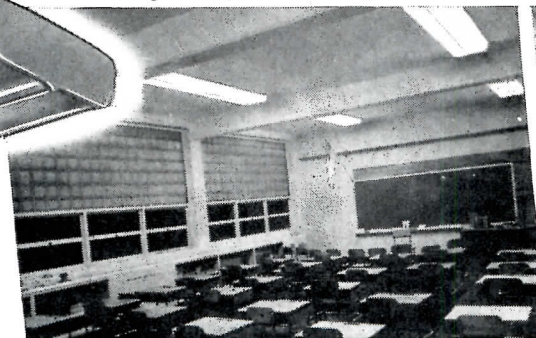
College Library, Detroit, Michigan



Features of HOLOFLUX Units

- Low Brightness
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- Easy Installation
- Distinguished Appearance
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ON THE CALENDAR

March

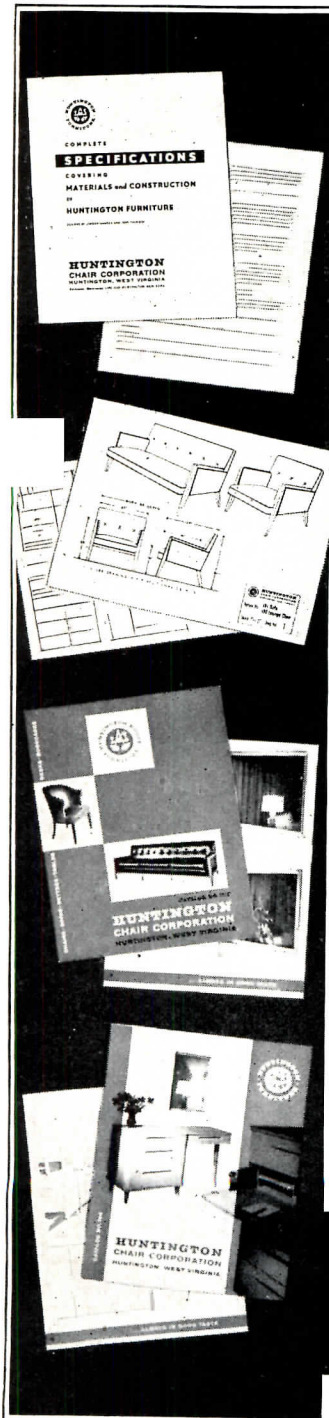
- 1-4 Annual convention, Associated General Contractors of America — Hotel Statler, Los Angeles
- 2-3 Conference on Schools, sponsored by the University of Kansas in cooperation with the Kansas Chapter of the American Institute of Architects and Kansas City A.I.A. — University of Kansas
- 2-5 Department of Audio-Visual Instruction, National Education Association — Chicago
- 3-6 Spring meeting of the Board of Directors, American Institute of Architects — Washington

- 4-6 National Conference on Higher Education, Association for Higher Education, National Education Association — Chicago
- 4-6 Businessman's Conference on Urban Problems, sponsored by the U. S. Chamber of Commerce and the San Diego Chamber — San Diego
- 4 The work of Gio Ponti and Gyorgy Kepes in an architecture and design exhibit; until April 4 — Institute of Contemporary Art, 138 Newberry St., Boston
- 8-11 National Electrical Manufacturers' Association — Edgewater Beach Hotel, Chicago
- 10-12 Fortieth Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit
- 10 Street Scene: an exhibition of the work of Yale students and of historical material; until May 2 — Museum of Modern Art, 11 W. 53rd St., New York City
- 11 Technical Development and Its Impact on Sculpture; sixth in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City
- 15-19 Tenth Annual Conference and Exhibition, National Association of Corrosion Engineers — Kansas City
- 18-21 Annual meeting of the Committee on Art Education; theme, "Art Education and the Creative Process" — Museum of Modern Art, 11 W. 53rd St., New York City
- 22-26 First annual Southern Homes Show, sponsored by Textile Hall Corporation — Textile Hall, Greenville, S. C.

April

- 1-6 Sixth Annual National Brickmason Apprentice Competition, sponsored by the Bricklayers, Masons and Plasterers International Union — Los Angeles
- 8 Future Directions and Changes: What Is the Expression of Our Times? last in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York

(Continued on page 312)



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— always in good Taste

HUNTINGTON manufactures a complete line of seating units, beds, cases and occasional furniture for every use.

HUNTINGTON also manufactures high quality precision made pre-built units for nurses' and students' quarters. If your client is quality minded write us for quotations.

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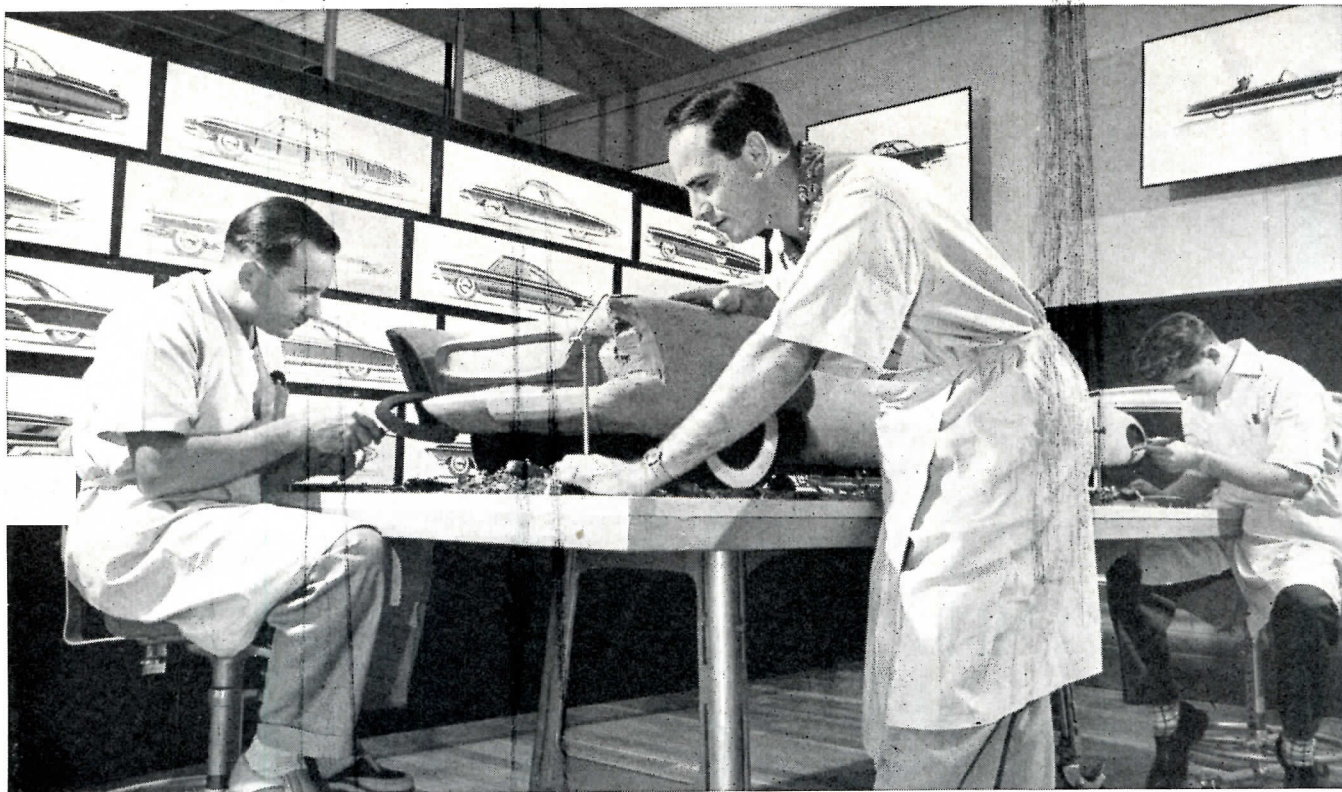
City _____

Attach to your letterhead and mail to:
Huntington Chair Corporation, Huntington, W. Va.



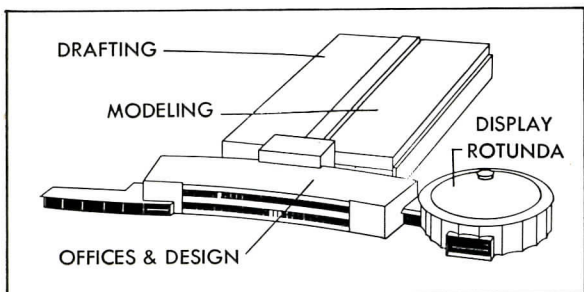
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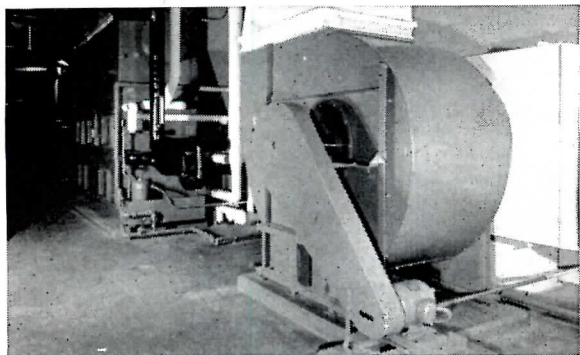


Advanced Styling Section of Ford Motor Company's new \$11.5 million Styling Building, Dearborn, Michigan.

Ford "dream shop" has built-in climate!



The design-office wing and display rotunda are served by a central system. It includes: 7 supply fans; 34 exhaust fans; heating and cooling coils and sprayed-coil dehumidifiers — all furnished by American Blower.



Air for drafting rooms and modeling studios is conditioned by 24 specially built, automatically controlled American Blower Air-Conditioning Units. Each unit contains heating and cooling coils and capillary air washers.

This "dream shop" at the Ford Engineering Staff's Advanced Styling Section is just one of many styling areas which depend on clean, conditioned air.

For example, in 12 roomy studios clay-modeling teams work under lights which produce shadowless illumination — and intense heat! To absorb this heat and provide the proper climate for working with clay models, specially designed air-conditioning systems were installed for each studio and drafting room. American Blower Air Handling and Air-Conditioning Equipment was used for this unusual assignment.

The expert know-how of American Blower engineers is on tap for industry at all times. If you have an air-handling or air-conditioning problem, phone your nearest American Blower or Canadian Sirocco Branch Office.

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 CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

- 13-14 Sixth Annual National Engineering Conference, American Institute of Steel Construction — Hotel Schroeder, Milwaukee
- 15 Design in Scandinavia, an exhibition; until May 15 — Brooklyn Museum, Eastern Pkwy., Brooklyn
- 26-28 Annual meeting, United States

Chamber of Commerce — Washington

- May _____
- 3-5 Annual Meeting, Air Pollution Control Association — Patten Hotel, Chattanooga, Tenn.
 - 3-7 Semi-Annual Convention, Society of Motion Picture and Tele-

- vision Engineers — Washington
- 3-14 British Industries Fair — Olympia and Earls Court, London, and Castle Bromwich, Birmingham, England
- 5-7 Eighth National Meeting, Forest Products Research Society, and 1954 Woodworkers' Industry Show — Grand Rapids, Mich.
- 5-7 Second Welding and Allied Industry Exposition — Memorial Auditorium, Buffalo, N. Y.
- 5-16 1954 Annual Exhibition, Philadelphia Chapter, American Institute of Architects — Philadelphia Art Alliance, 251 S. 18th St., Philadelphia
- 7-8 1954 Convention, Michigan Engineering Society — Jackson, Mich.
- 10-14 Annual assembly, Royal Architectural Institute of Canada — Montreal
- 17-20 Second Basic Materials Exposition — International Amphitheater, Chicago
- 18-21 American Planning and Civic Association Conference — Columbus, Ohio
- 26-29 1954 British Architects Conference — Torquay, England. Information: C. D. Spragg, Secretary, Royal Institute of British Architects, 66 Portland Place, London W. 1, England
- 31 Canadian International Trade Fair; until June 11 — Exhibition Park, Toronto, Canada

Famous Builders Cannot Make Mistakes



They Use

IRONITE® WATERPROOFING

One mistake can ruin any famous builder's reputation. That's why he so carefully plans and checks every detail.

Of primary concern is the *protection* he provides his structures against eventual water and moisture damage. For more than a half century he has found IRONITE® WATERPROOFING — the *metallic* water resistant compound — the best method known. IRONITE metallic particles are carried in suspension into all cavities in porous surfaces. They oxidize and expand to form an indestructable union with those surfaces.

Can you use IRONITE? Probably. Write for Pamphlet No. 701 to IRONITE COMPANY, Room 729, 208 South LaSalle St. Bldg. Chicago 4, Illinois

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- Tunnels
- Bank Vaults
- Oil Tanks
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OFFICE NOTES

Offices Opened

- Beemer Harrell has opened an office for the practice of architecture at 566 Tenth Street Dr., N. W., Hickory, N. C.
- David J. Katz, Architect, has announced the opening of his offices at 355 Arthur St., Gary, Ind.
- Waisman and Ross, Architects and Consulting Engineers, have announced the opening of their new office. The firm's address is 308 Great Western Bldg., 356 Main St., Winnipeg, Manitoba, Canada.

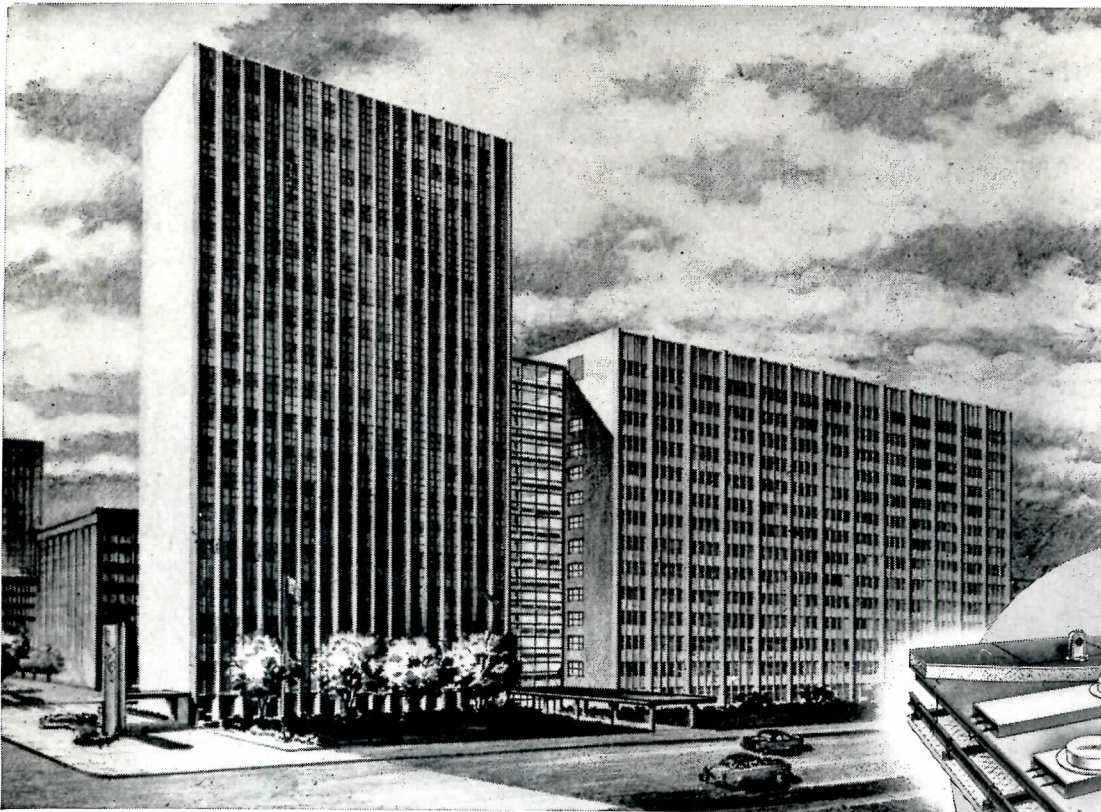
(Continued on page 314)



IRONITE COMPANY

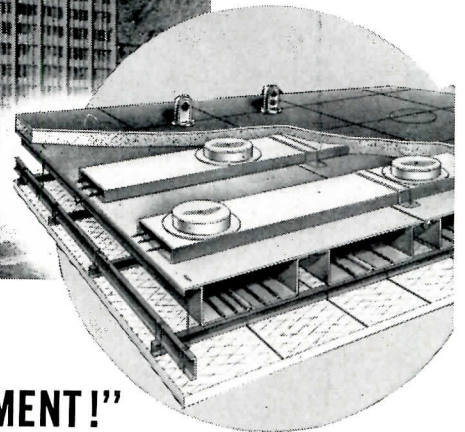


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New \$26,000,000 City County Building, Detroit, Michigan. Harley, Ellington & Day, Inc., Architects and Engineers; Bryant & Detwiler Co., General Contractors.

Nepco header ducts connected to top surfaces of Fenestra structural steel panel subfloor enable all of the large-area cells to be used as electrical raceways.



The Challenge: "PROTECT THIS BUILDING INVESTMENT!"

The Answer: "AN ADVANCED ELECTRIFIED FLOOR SYSTEM!"

*Here, an advanced new floor system—Fenestra-Nepco Electrifyfloor . . . is protecting this great new multimillion-dollar building from future electrical obsolescence—electrical outlets can be installed *any time* . . . in *any* or *every* square foot of floor space . . . for any future change in electrical needs!*

It saved 1,000 tons of structural steel! The cellular steel floors with their integral wiring system, combine such great structural strength with such light weight, that both structural steel and foundation costs were slashed.

It saved 6 months' building time! As many as 7 floors went in at the same time—as soon as a few of the cellular floor panels were laid and interlocked, that part of the floor served as material storage space and a working platform.

New Fenestra-Nepco Electrifyfloor was developed jointly by Fenestra* (Detroit Steel Products Company) and Nepco (National Electric Products Company)—two great names in the construction field.

If *you* want to protect a building investment, write to Detroit Steel Products Company, Dept. AR-3, 2252 E. Grand Blvd., Detroit 11, Mich.

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Fenestra nepco Electrifyfloor

New Firms, Firm Changes

• K. Izumi, M.R.A.I.C., A.R.I.B.A., has formed a partnership with Gordon R. Arnott. The firm will be known as Izumi and Arnott, and will have offices at Rooms 11-12, 1818 Scarth St., Regina, Sask., Canada. Mr. Arnott was formerly with the Aluminum Company of Canada, Ltd.

• J. H. Lehman, consulting engineer, announces that he has resumed his practice following a tour of duty with the United States Navy. His offices are located at 227 S. Robertson Blvd., Beverly Hills, Cal.

• Harold E. Nefe, Architect, and Paul L. Diek have opened offices at 2120 W. Wells St., Milwaukee 3, Wis. The new

partnership will be known as Nefe & Diek.

• The former firm of Painter & Weeks has taken the name of Painter, Weeks and McCarty. Offices will remain at 618 W. Church Ave., Knoxville, Tenn.

• John Lyon Reid, A.I.A., has announced the promotion to partnership of four associates: Richard S. Banwell, Architect; Burton L. Rockwell Jr., Architect; William L. Gillis, Architect; and Dr. Alexander G. Tarics, C.E. The firm, to be known as John Lyon Reid and Partners, will have offices at 1069 Market St., San Francisco 3, Cal.

• Roger O. Austin, Architect; Carl F. W. Kaelber Jr., Architect; Herbert P. Kopf, Engineer; William P. Roberts, Architect; Nicholas J. Masucci, Architect; and Edward J. Ribson, Architect, have been admitted into the firm of Waasdorp & Northrup, Architects, as members and associates of the firm. Offices are located in Rochester, N. Y.

New Addresses

• Ash & Harrison, Architects, 307½ Laura, Room 212, Wichita, Kans.

Theodore W. Dominick, Architect, 1308 18th St., N.W., Washington 6, D. C.

Howard T. Fisher & Associates, 270 Park Ave., New York 17, N. Y.

Bruce E. Heiser, Architect, 251 Post St., Room 312, San Francisco, Cal.

NEW GUIDE FOR CITIES ON HOUSING STANDARDS

A new guide for cities interested in developing and enforcing minimum housing standards, or revising their present codes, comes from the Housing and Home Finance Agency as another publication of its research division ("Local Development and Enforcement of Housing Codes" Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.; price, 40 cents per copy).

The guide deals primarily with the technical problems of code formulation and administration. It is not interested directly in development of civic concern for sound codes and their effective enforcement in which civic and business interests play a major role.

(More news on page 316)

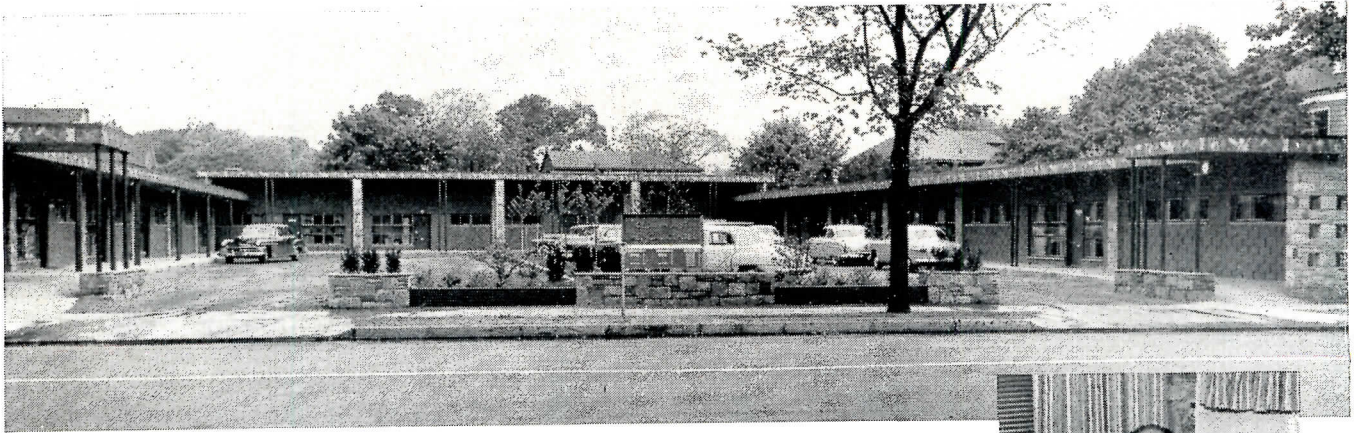
Because of its importance, this new product announcement is being made by Mr. N. A. Gussack, President, Grant Pulley & Hardware Corporation.

“This is our latest in sliding door hardware: the Grant 7000. We think it’s the finest non-custom hardware made. It works like a dream! I hope you’ll write for data today.”

Grant

*Grant Pulley and Hardware Corporation
31-71 Whitestone Parkway,
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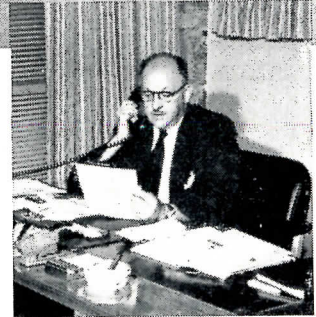
Cedarhurst Medical Center, 650 Central Ave., Cedarhurst, N.Y.

**"Our new medical center
with its new ideas in comfort
required the best in
modern heating"**

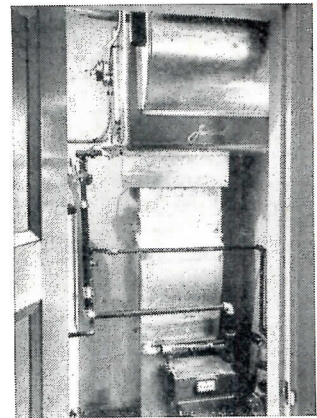
This functionally modern, U-shaped medical center contains 17 doctors' suites located a few steps from the 50-car, center parking court. Each suite is independent, with its own reception, laboratory, bath and utility rooms. Every tenant controls and supplies his own heat through his individual Janitrol Unit Heater.

Mr. Monroe Miller, the realtor-builder, specified Janitrol Gas-Fired Unit Heaters to "meet the medical requirements for cleanliness, dependability and quiet operation." The heated air is supplied to each room through concealed ducts, with underground returns. The same ducts will carry cooled air for summer conditioning, which will be added at a future date.

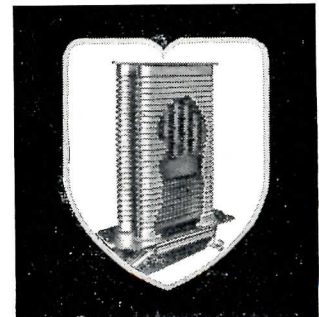
For your current work and future planning obtain the latest data on unit heater performance and installation practices. Write for your complimentary copy of A.I.A. File 30-C-43.



A statement by Mr. Monroe Miller, President, Central at Grove Realities, Inc., Cedarhurst, N. Y.



The compact Janitrol unit, mounted overhead in the utility room leaves ample space for adding Janitrol summer cooling.



Dura-tube the armored heart that's practically indestructible! These vital heating tubes, exclusive with Janitrol, mean longer life. Over 1/4 million have been installed without replacement for any reason!

Janitrol Gas-Fired **UNIT HEATERS**

DIVISION OF SURFACE COMBUSTION CORPORATION • 400 Dublin Ave., Columbus 16, Ohio

Makers of Surface Industrial Furnaces and Kathabar Humidity Conditioning.

CONSTRUCTION IN ASIA IS SUBJECT OF I.L.O. REPORT

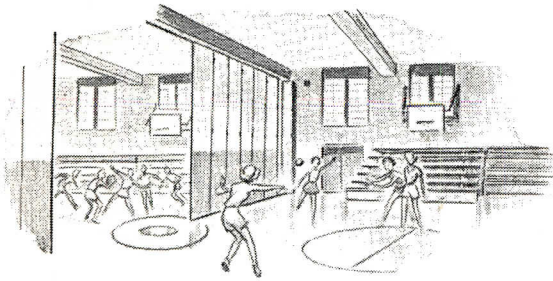
The International Labour Office, United Nations labor agency, last year sent Michael O'Callaghan, a civil engineer, to Asia to study labor conditions in the construction field. Mr. O'Callaghan's report sheds a vivid light on the very different problems confronting construction in Asia from those in the West.

The most obvious contrast is the al-

most complete lack of machinery, and the use of human beings for the hauling of heavy construction materials — rock, concrete, sand and water. Mr. O'Callaghan reports that a good part of this transportation force is made up of women and children, including girls of nine and ten years of age and women in advanced stages of pregnancy. Mr.

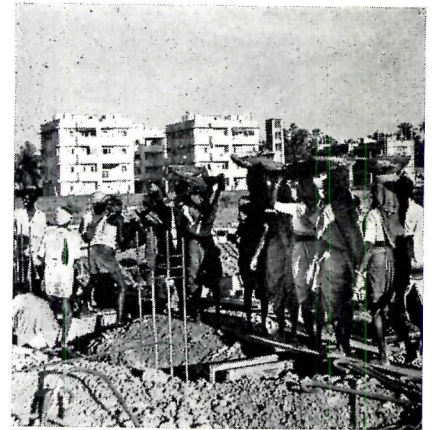


Women and young girls make up a good part of the labor force in Asia, and are often employed on construction sites to transport heavy building materials by this ancient method



Horn Folding Partitions divide a gym into separate areas—one for boys, one for girls; or one for teaching stations, one for games.

For intra-school games or practice, **Horn Folding Gym Seats** are out-of-the-way when folded. Extend Gym Seats and fold Partitions when events attract spectators. Roll in a **Horn Folding Stage** for assemblies or meetings.



O'Callaghan says that builders find this mode of transportation unsatisfactory — they far prefer to use donkeys for hauling, but human labor is cheaper!

Safety precautions, Mr. O'Callaghan goes on, are also a problem. Scaffolding, for example, is most often made of bamboo, which has the advantages of great flexibility and tensile strength. The framework of these scaffoldings, however, is seldom cross-braced; foot-board and hand-holds are rarely provided, although most of the workers are barefoot and the loads they carry are heavy.

Housing for Workers

Each construction project, Mr. O'Callaghan points out, also presents the problem of housing its workers. Not only must the builder provide a roof for the construction worker, but often for his

(Continued on page 318)

It's simple arithmetic! The addition of modern Horn equipment multiplies classroom and gymnasium use. Horn Folding Partitions, Gym Seats, Stages, and Horn Classroom Wardrobes provide maximum flexibility and efficient use of floor space in schools.

GYMNASIUM

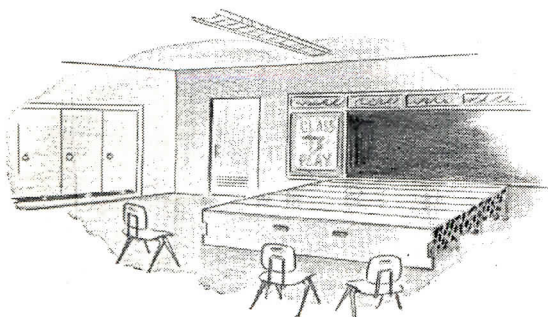


CLASSROOMS

How to get the most out of your

Installing Horn equipment in your classrooms and gym adds up to flexibility plus efficiency—plus economy. Horn representatives in your area will help you determine your needs for multi-purpose Horn equipment. Write today for name of your Horn representative.

School Equipment Division of
THE BRUNSWICK-BALKE-COLLENDER COMPANY
623 South Wabash Avenue • Chicago 5, Illinois



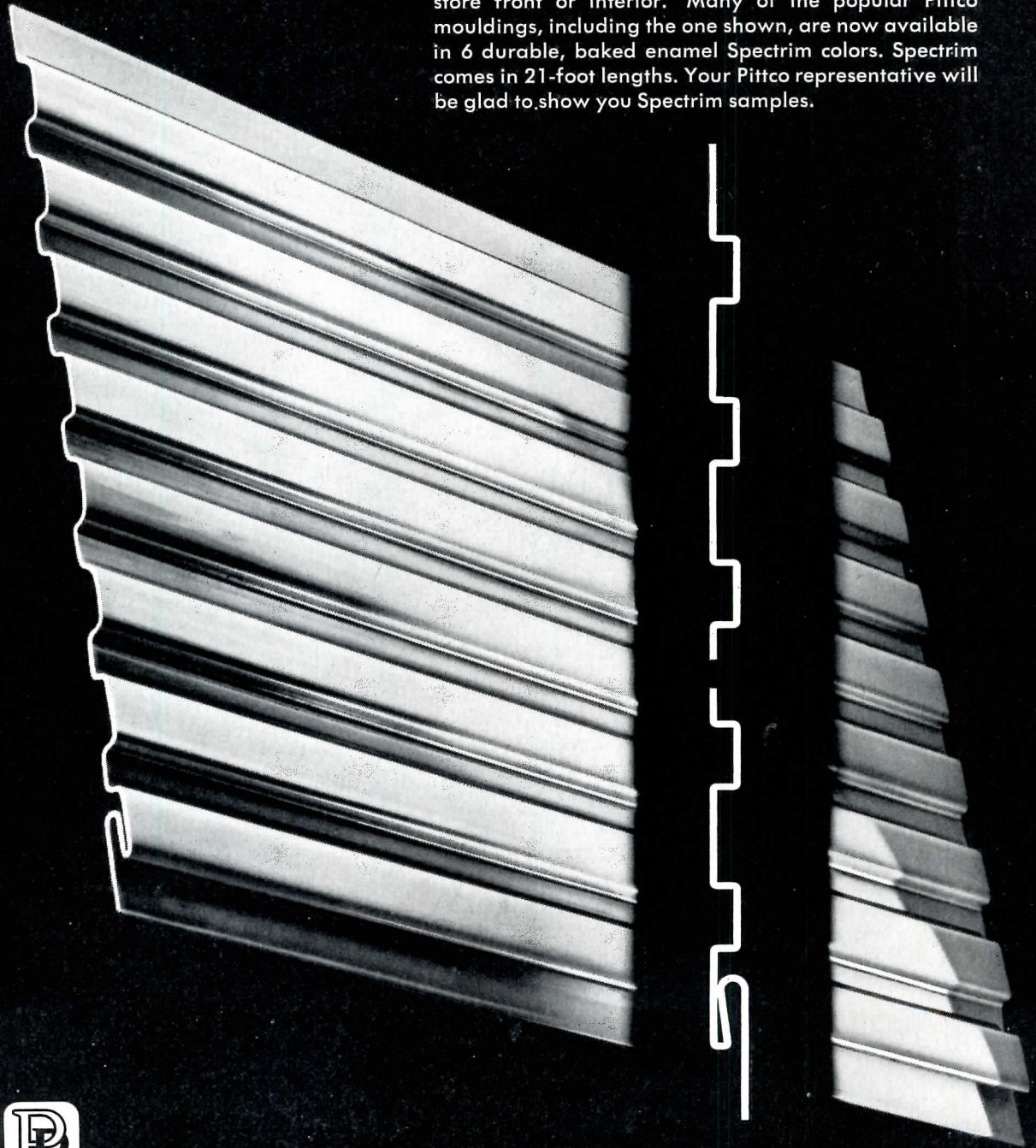
Divide classrooms with **Horn Folding Partitions**, too—for study and for recitation or into junior classes and senior classes. The **Mobile Stage** is useful in the classroom for smaller meetings, student performances, public speaking instruction.

The **Horn Classroom Wardrobe** provides adequate storage space for supplies and clothing, and its bulletin or chalkboard facing puts wall space to use.

SPECTRIM®

New Pittco Alumilite facing in colors

... adds new tone and texture to a building facade, store front or interior. Many of the popular Pittco mouldings, including the one shown, are now available in 6 durable, baked enamel Spectrim colors. Spectrim comes in 21-foot lengths. Your Pittco representative will be glad to show you Spectrim samples.



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PITTSBURGH PLATE GLASS COMPANY

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(Continued from page 316)

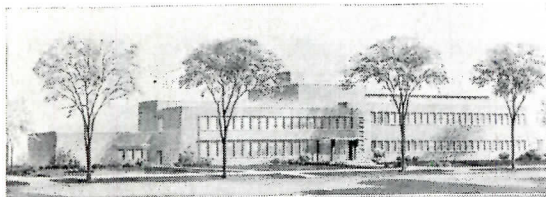
entire family as well, for it is traditional in some parts of Asia for the worker to take his entire family with him to each new job. On large projects such as dam construction and irrigation projects, the number of people to be housed may go up to several thousand.

The housing provided for these workers reflects a consistent disparity between the status of skilled and unskilled

workers. Skilled workers are on the whole very well housed, their bungalows equipped with electric light and washing and sanitary facilities. The only fault with their housing, Mr. O'Callaghan found, is that it is very overcrowded. He remarks, however, that this housing is equal to and in some ways superior to the housing provided for construction workers in Europe.



Scaffolding in Asia is most often made of strong and flexible bamboo, but is very seldom cross-braced. Workers must cling to the bamboo with their fingers and toes, for the scaffoldings are not usually equipped with foot-boards



New Research Building of Wyandotte Chemicals Corporation, Wyandotte, Michigan.

One of Wyandotte's Laboratories showing Kewaunee Equipment with KemROCK Tops.



KemROCK

is one of our

TOP salesmen!

- Back of every piece of Kewaunee Equipment is nearly 50 years of constant advance in design, construction and working convenience that has kept pace with the progress of Industries, Hospitals and Educational Institutions.

- And when it comes to Tables, Sinks and other Laboratory pieces requiring "Tops" defiantly resistant to acids, alkalis, solvents, heat and abrasion—KemROCK steps into the picture as one of Kewaunee's "Top" salesmen. For example, back in 1941 Wyandotte Chemicals Corporation first ordered

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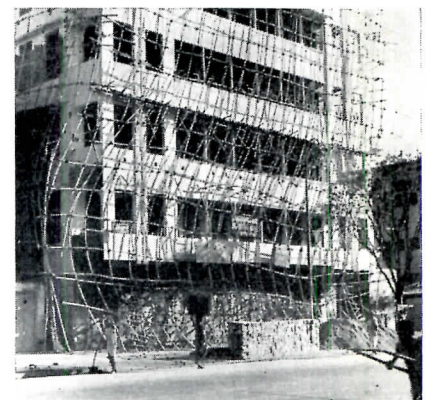
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Shelter for Unskilled Workers

The situation of the unskilled workers, however, is another story. Wages for unskilled laborers, Mr. O'Callaghan reports, may be as little as 14 per cent of those of skilled laborers. This is in contrast to the 80 or even 90 per cent of skilled workers' wages which unskilled workers may earn in more industrially advanced countries.

Shelter for these unskilled workers is intolerable from the European point of view, says Mr. O'Callaghan. They live in shacks which are most often made of corrugated iron sheets supported by a crude timber frame, or of reed matting supported by a bamboo frame. They usually build these shelters themselves.

Sanitation facilities are described as "generally rudimentary," with very few outdoor taps furnished for very many large families; in some cases running water may be available only at certain

(Continued on page 320)

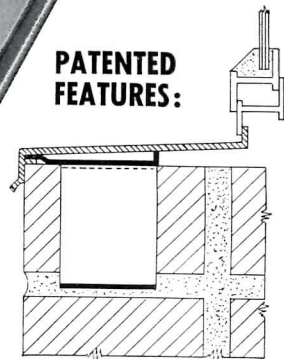
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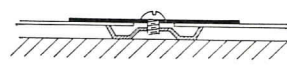
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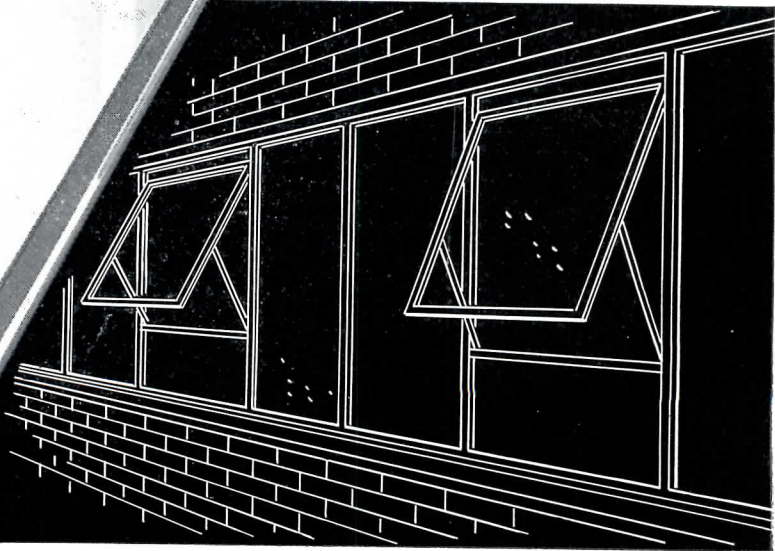
PATENTED FEATURES:



detail of anchor



detail of expansion joint



THE RECORD REPORTS

(Continued from page 318)

times of the day. However, Mr. O'Callaghan did find evidence of "sincere efforts" to maintain hygienic conditions.

In summing up, Mr. O'Callaghan notes that the problem of housing construction laborers is difficult in all parts of the world because of the temporary nature of such housing, but that the problem is of course aggravated in Asia by the very low standard of living.



Housing for skilled workers (above), says the I.L.O. report, is overcrowded, but otherwise satisfactory; cottages are usually supplied with electricity and water. Shelters for the unskilled workers, on the other hand, are usually shanty structures built by workers (below)



Such company-operated cottage hospitals as this one, the report stated, were not common on the sites which Mr. O'Callaghan visited on his trip

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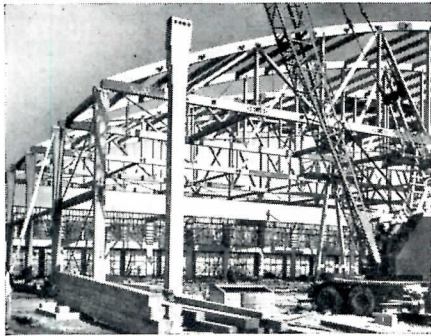
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2514

(More news on page 322)

Hangar of Westchester County Airport, White Plains, N. Y., is 750 feet wide and 150 feet deep, divided into three equal bays and spanned by 250-foot timber trusses of Timber Structures, Inc. Glulam timber columns are stepped out to support two adjoining trusses. Architect is Julian K. Jostremsky; consulting engineers are Tuck & Eipel; general contractors are Thompson-Starrett Co., Inc., all of New York City.



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These 250-foot timber trusses, the longest ever made, saved more than \$100,000 over the cost of alternate steel trusses in construction of this clear span aircraft hangar. In addition they give permanent service with little if any maintenance, and earn fire insurance rates equivalent to those of exposed steel construction.

Top and bottom truss chords are heavy glued laminated timbers, fabricated in four sections and jointed with shear plated steel splice plates. Dimensionally stable and free from seasoning action, they are typical of the quality of trusses, arches and beams of Timber Structures, Inc., which provide the basis for permanent, maintenance-free structures. For detailed information about these timber structural units see your nearest Timber Structures office, or write us for booklet, "Modern Construction".

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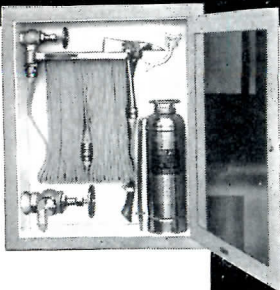
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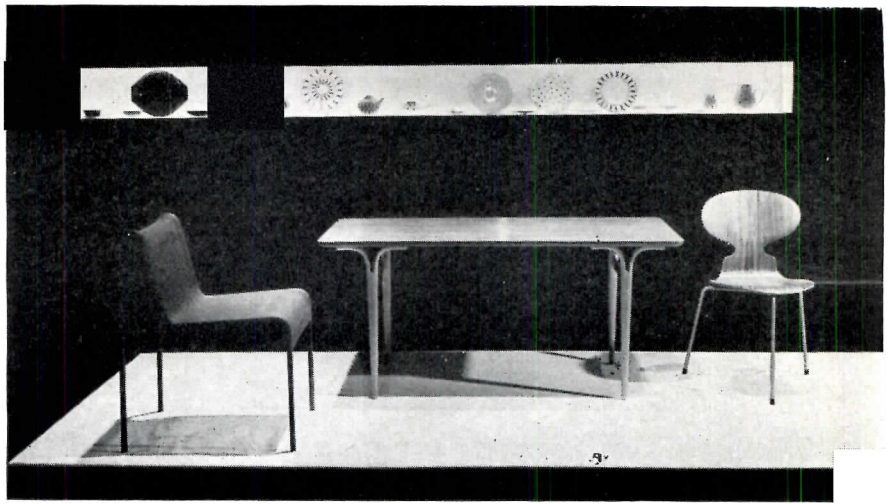
W. D. ALLEN

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THE RECORD REPORTS

(Continued from page 320)

Shown at the Good Design 1954 exhibit, left to right: a dining chair designed by Harold Cohen & Davis Pratt has steel frame, spun nylon cover; a work table designed by Bruno Mathsson; another dining chair, made of walnut or beech with plastic-covered metal legs, by Arne Jacobsen



GOOD DESIGN SHOW OPENS ONCE AGAIN IN CHICAGO

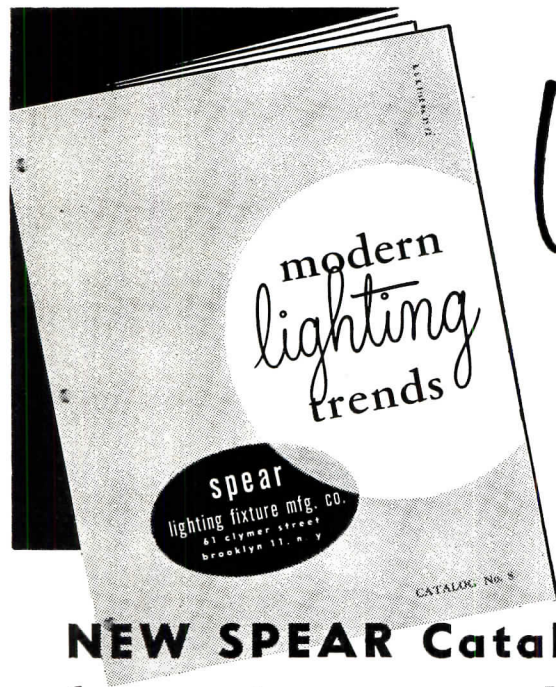
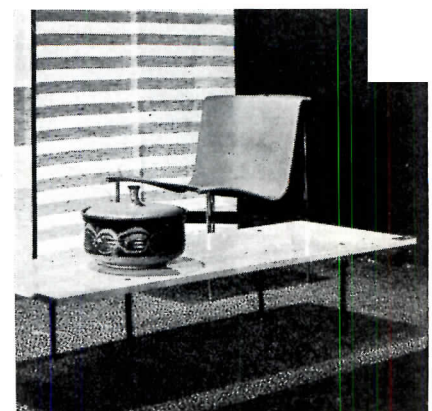
"Good Design 1954" opened in January at the Merchandise Mart in Chicago. This is the ninth of the semi-annual exhibits sponsored by the Museum of Modern Art in New York and the Merchandise Mart.

The Selection Committee, which was composed of Lazette van Houten, former Home Furnishings Editor of *Retailing Daily*, Edward Wormley, furniture designer and Edgar Kaufmann, permanent chairman of the committee, chose 350 items for the exhibit, the largest number of items ever picked for one of the Good Design shows.

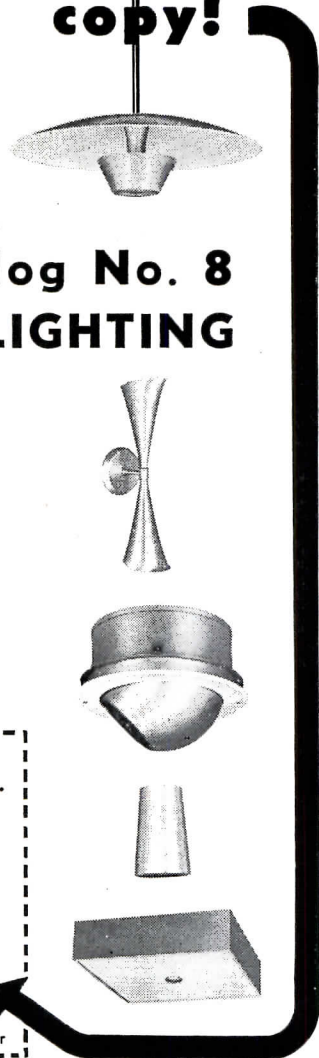
The committee observed in these selections the continuation of the two
(Continued on page 324)



Above: stainless steel flatware by Italian architect-designer Gio Ponti. Below: the covered stone-ware jar was designed by Peter H. Voulkos; chair and table were selected for June show, were designed by Katavolos, Littell & Kelley



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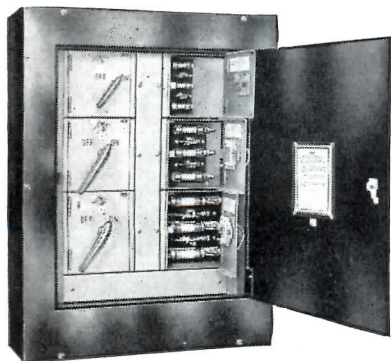
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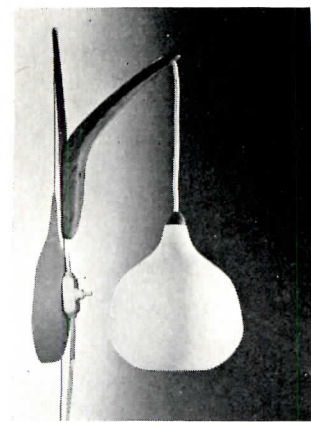
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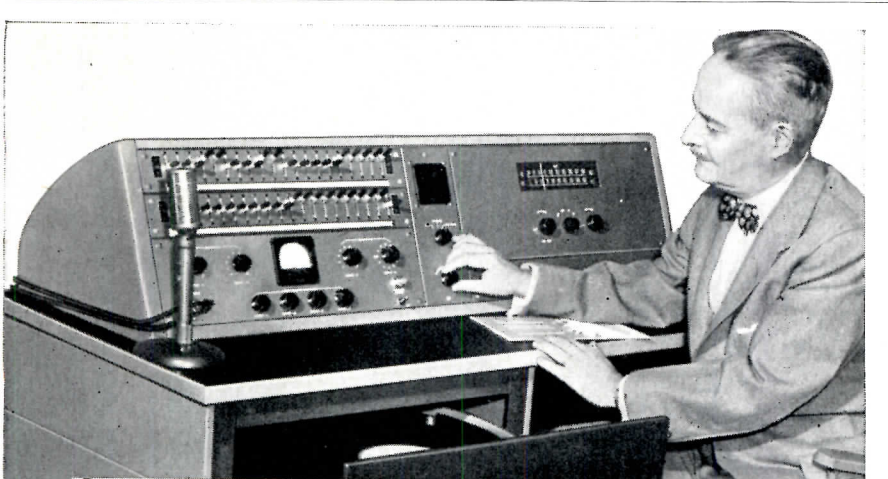
trends of "formal" and "informal" modern — formal modern being defined as having clear-cut shapes and definite colors, informal as using softer shapes and colors.

The most outstanding development shown by the January selection, said Mr. Kaufmann, was the "rationalization and experimentation newly apparent in the design of storage units." Re-

calling the innovations introduced in the cabinets designed by Charles Eames in 1951, Mr. Kaufmann remarked, "This season for the first time several other designers and manufacturers have taken further steps in this direction, carrying the essential concept notably nearer to the refinement and improvement which promise to make it an enduring feature of modern homes. Two of these were



Two lamps designed by Osten Krittiansson, above with milk glass shade, below with an oak shade. At bottom: lamp shades designed by Sesto Chiarello are of glass fiber in plastic; reversible vases and cups are by Willem Heesen



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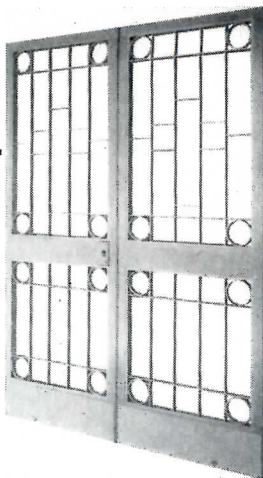
selected for the current additions to Good Design. It is notable and important that neither of these echo the visual character of Eames's first ventures; reminding us that the basic ideas which build the tradition of modern design are capable of rich variety and personal inflection at the hand of capable designers."

The installation design by Alexander Girard was held over from the previous exhibition.

The Museum also announced plans for the June Good Design show, which will celebrate the fifth anniversary of the show and the 25th anniversary of the founding of the Museum. This exhibition will include both a forecast of design and a résumé of designs shown in the exhibits from 1950-1954.

(More news on page 326)

Entrance to Psychiatric Ward, St. Vincent's Hospital, Worcester, Mass. Architects: Curtin and Riley. The above doors are shown at the factory before being packed for shipment. Note special aluminum grilles and application of special psychiatric lock.



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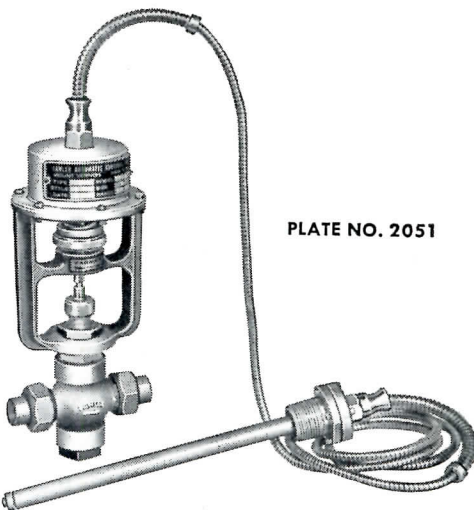


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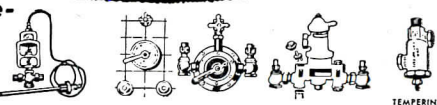
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THE RECORD REPORTS

(Continued from page 324)

VIRGINIA A.I.A. CHAPTER MEETS WITH ENGINEERS

The Virginia Chapter of the American Institute of Architects and the Virginia Society of Professional Engineers met in Richmond at the end of January for a three-day joint session focused most importantly on school building.

A forum on "School Needs and Con-

struction" went into the problems created by population growth with its constantly increasing strain on public school facilities, and discussed school design and construction standards and research.

The group also heard an address by John W. McLeod of Washington, chairman of the A.I.A. School Buildings Committee. Mr. McLeod discussed research into the problem of school design and engineering.

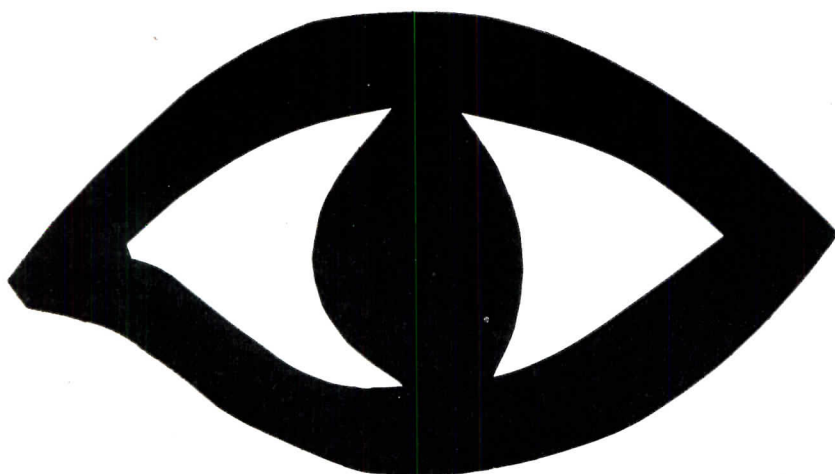
Another session posed a familiar question: "What the Architectural Magazines Want for Publication." An archi-

tectural editor's view was presented by *Progressive Architecture's* Charles Magruder; and the Virginians were advised by Washington and Lee University Professor Dr. Marshall W. Fishwick that a tendency to the traditional approach — "the Williamsburg blight," he called it — puts them at a disadvantage with the magazines today.

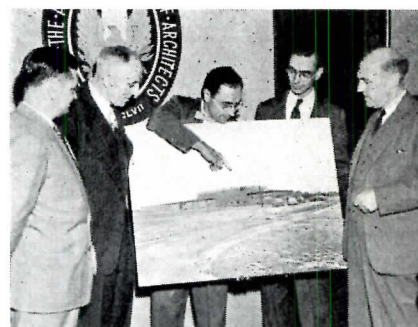


John W. McLeod, Chairman of the A.I.A.'s School Buildings Committee, as he addressed the assembled members of the Virginia Chapter

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Members of the school panel were Louis A. Oliver, Norfolk architect; Dr. N. E. Niles, associate chief of the School Housing Section, U. S. Office of Education; Charles A. Pearson Jr., chapter member and moderator; Richard P. Hankins, Richmond engineer; and Arthur E. Chapman, supervisor of school building, Virginia State Department of Education



Virginia Chapter's officers, from left to right: Carl M. Lindner Jr., secretary; Charles C. Justice, retiring president; Paul D. Woodward, president; Henry B. Boynton, vice president; and Herbert L. Smith III, treasurer

(More news on page 328)

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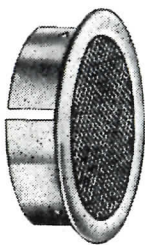
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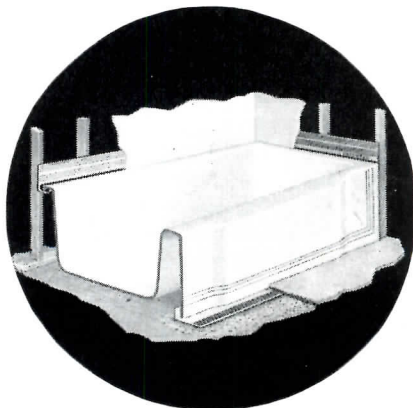
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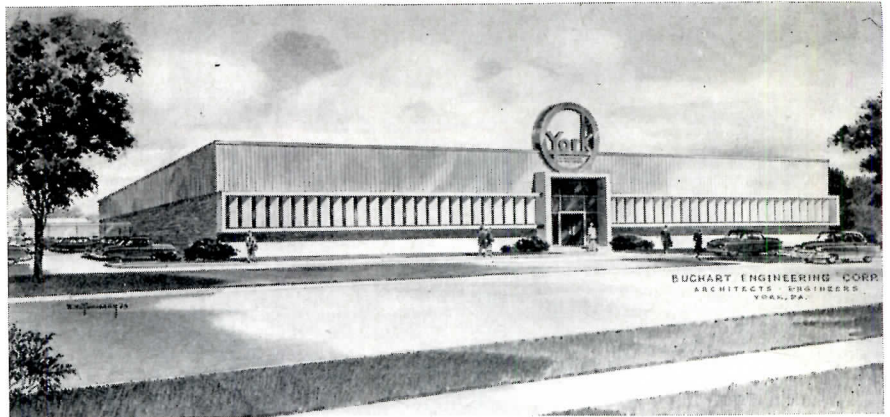
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(Continued from page 326)

YORK BUILDS LAB FOR NEW PRODUCT RESEARCH

A new research and engineering laboratory to concentrate on packaged air conditioning, refrigeration and ice makers is being constructed by York Cor-



Research and engineering laboratory will have exteriors of aluminum and brick, provide facilities for York's research in packaged air conditioning, refrigeration and ice makers

poration on its Grantley site in York, Pa. Buchart Engineering Corporation are the architects and engineers; York's own Engineering Division will design and install the internal facilities.

Testing Facilities Included

The new building, to cost about \$900,000, including equipment, will be 150 ft wide and 240 ft long, with exteriors of aluminum and brick. There will be separate research studios for conducting many different projects simultaneously and offices, with modern drafting facilities, for the engineering staff. A major feature will be a completely-tooled shop for production of models of new developments as they emerge — to facilitate laboratory or field tests on new designs at a very early stage.

The present engineering laboratory at the West York plant will be retained for developing the larger refrigeration and air conditioning equipment.

Research Houses Planned

Also in connection with its research program, York is constructing two new residences to be used for testing its recently-developed year-round residential heating and air conditioning system. Cost of the houses, including equipment, was expected to be something over \$75,000. The houses, located in the Strathcona Hills section of York, will contain no unusual features except for complete year-round air conditioning — the idea being to test two different residential air conditioning systems under conditions typical in a medium-priced house. Occupants of the houses will aid in the tests.



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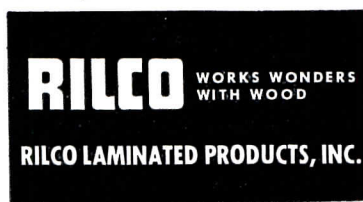
"We used Rilco Laminated Arches and Purlins," says Ramey and Himes, "to express the structure in an honest and interesting manner, and make the structural framing an integral part of the character in the church building.

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"The natural wood of the arches and purlins gives a warm, pleasing feeling that blends with the brickwork and paneling of the chancel."

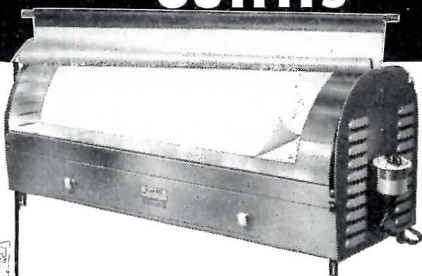
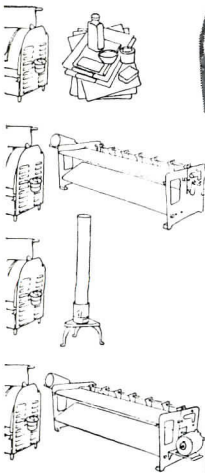
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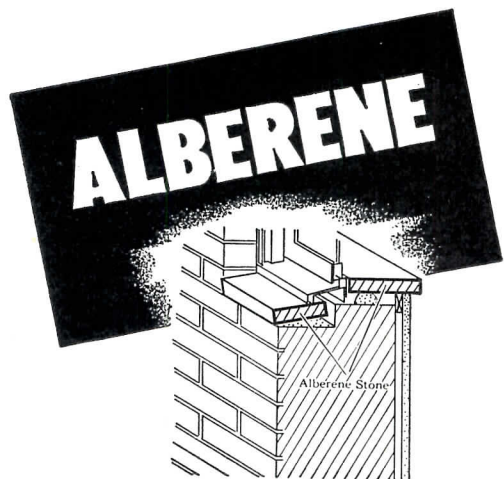


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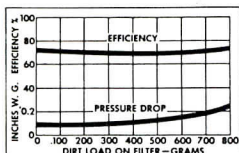
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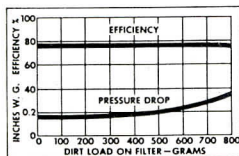
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REQUIRED READING

(Continued from page 48)

tion: it would have been preferable if Frank Lloyd Wright's name could have been given correctly. He is generally, though not always, referred to as Lloyd Wright (his son) throughout the book, especially in the chronological appendix and on the dust jacket. Non-de-plume for non-de-plume, on page 171, is distressing, though hardly so important an error). One fact which Americans should ponder is the obvious importance for American culture of the innumerable clients who were willing to employ Wright and his contemporaries of the Second Chicago School during the early twentieth century, because Mr. Howarth quite convincingly attributes Mackintosh's too early decline to his lack of adequate patronage and to the personal frustration and melancholia which this entailed.

While Mackintosh cannot be said to emerge from Mr. Howarth's sincere effort as a more central personality in the development of modern architecture than was previously believed, it is still welcome to have this book devoted to him. From its fine illustrations and from Mr. Howarth's meticulous descriptions, the primary forms of the architect's design unforgettably appear in all their important contradictions: the mightily expressionist masses of a baronial past, the groping, searching tendrils of *Art Nouveau*.

ART IN THE ICE AGE



Art in the Ice Age. By Maringer and Bandi, Frederick A. Praeger, Inc. (New York, N. Y.) 1953. 12½ by 9½ in., illus. \$12.50

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(Continued on page 336)

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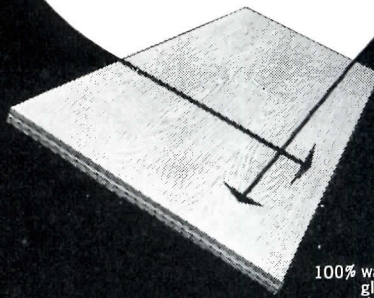
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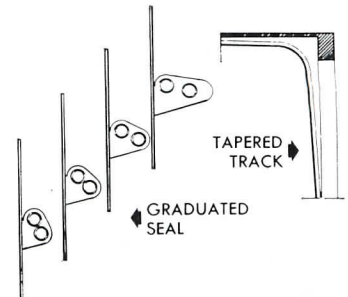
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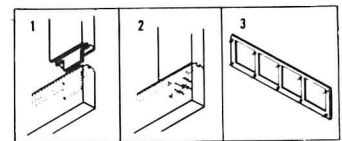
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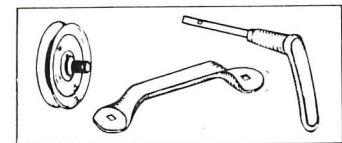
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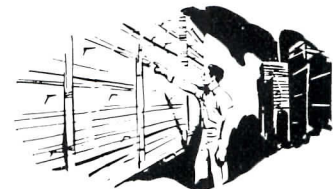
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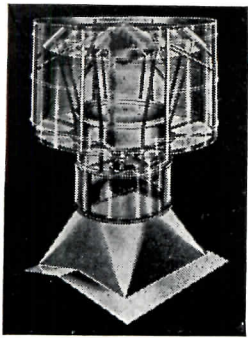
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(Continued from page 332)

excavating in Grotte de Chaffaud near Vienne. His discovery caused great excitement among archaeologists and incited new excavations in France, Germany, Spain, Scandinavia and Northern Russia. The objects exciting artistically as well as historically are well presented in this book which describes the habitat and environment of the Ice-Age artist, as well as the subject matter, the techniques and the state of preservation of the art work. The text is profusely illustrated with colored plates and black and white drawings (which, perhaps, illustrate the spirit of this art better than the color plates) and a map of the sites. — M. B.

THE ART OF DISPLAY

Display. By George Nelson. Interiors Library No. 3. Whitney Publications, Inc. (18 E. 50 St. New York, N. Y.) 1953. 9 1/4 by 12 1/4 in. 190 pp, illus. \$12.50

A new Book, *Display* edited by George Nelson has been added to the Interiors Library. The word "display," as explained in the introduction by Mr. Nelson, is derived from a Latin root meaning to unfold or spread out and this is exactly what this book does. It spreads out before the eyes of the reader, be he designer or layman, some of the most exciting aspects of the design world.

There is a looseness and ease which characterizes the make-up of the book and in the writing of both the introduction and the captions. With clarity design, or display, is given a broader meaning than usual and includes such categories as showrooms, exhibitions and shop design as well as window displays — virtually every three dimensional design activity in which the main purpose is to show something.

Since the very idea of display is permeated with a set time element the designer does not feel the necessity for creating for eternity and the coming generations but only for himself, his generation and most likely for the limited time of a few weeks. This release from the judgement of posterity gives him an opportunity to relax and enjoy himself, which has much to do with the freshness and gaiety associated with this work. However, it has happened. Take the case of the Eiffel Tower — designed for a summer's exposition — it was kept as the symbol of a city.

This is a research book of value and charm to the designer who will find pleasure in reviewing its contents, and

(Continued on page 338)

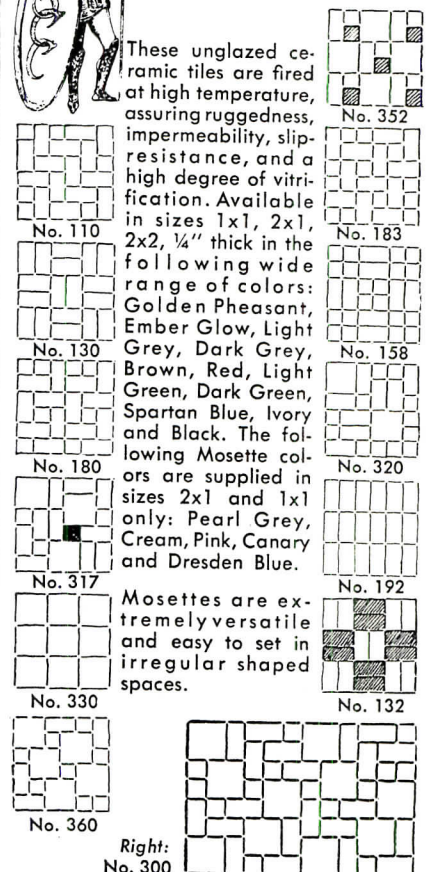
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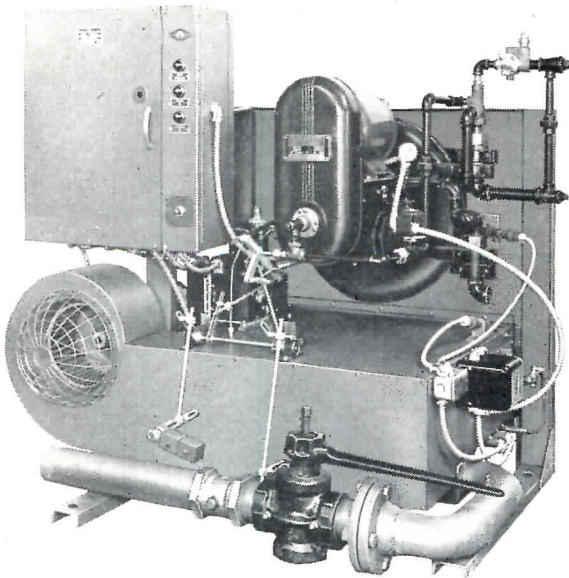


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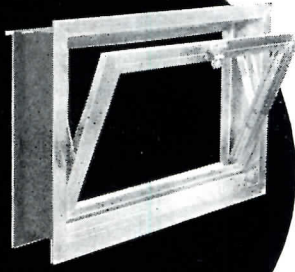
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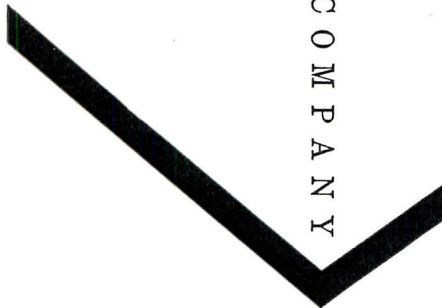
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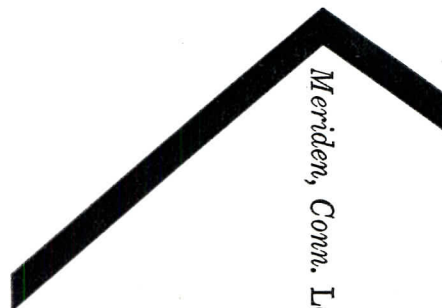
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(Continued from page 336)

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The book includes 300 photographs, well displayed and well printed and diagrammatic drawings in black and white and color which clarify the various display techniques. It contains the work of over 125 designers and architects of international note.

CHINESE ART

A Short History of Chinese Art. By Hugo Munsterberg. Philosophical Library (New York, N. Y.) 1953. 5½ by 8¾ in. 227 pp., illus. \$3.50

As the title indicates, this is a brief, though not slapdash, survey of the great body of Chinese art from the prehistoric Yang Shao period through the last days of the Ching dynasty. Each era is described in terms of its historical and cultural background, its works from the point of view of both techniques and aesthetics. In spite of the author's careful scholarship, however, a clear understanding of the text is hampered by sadly inadequate illustration. — G. M. A.

FROM EGYPT TO EAMES

World Furniture Treasures. By Lester Margon. Reinhold Publishing Corp. (New York, N. Y.) 1954. 8½ by 10½ in., 186 pp., illus. \$7.50

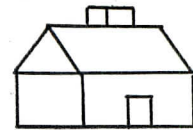
The author, director of the Interior Design Shop, N. Y., contends that good furniture design fulfills utilitarian demands, affords aesthetic pleasure and expresses the taste, culture and milieu of the time. This book illustrates how the construction and design of furniture as far back as ancient Egyptian chairs were so good that their basic patterns survive today in a variety of forms.

Planning Guide for Radiologic Installation. By Wendell G. Scott, M.D. Yearbook Publishers, Inc. (200 E. Illinois St., Chicago) 1953. 10¼ by 7¼ in. 336 pp., illus. \$8.00

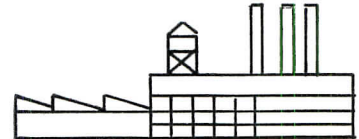
This volume should be of particular interest to architects engaged in the design of medical buildings as well as all hospital consultants. It contains the results of more than a year of preparation by committees of the American Society of Radiologists and the various chapters have been written by men chosen for their particular knowledge in the field.

(Continued on page 342)

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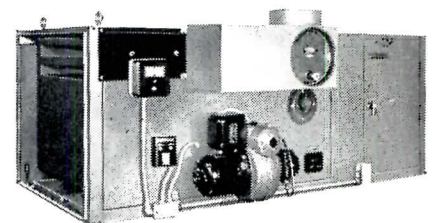


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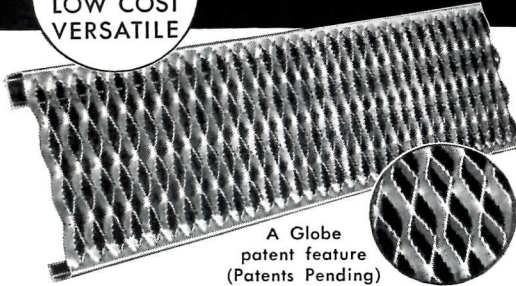
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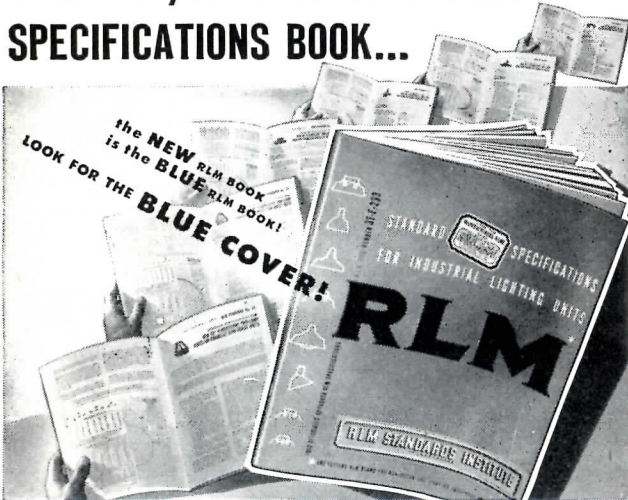


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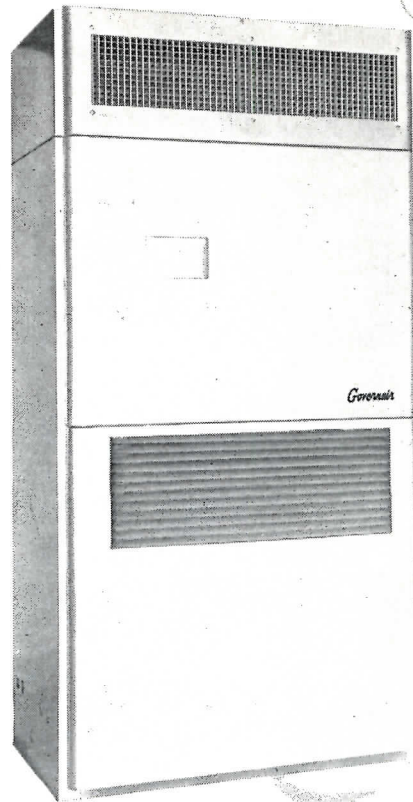
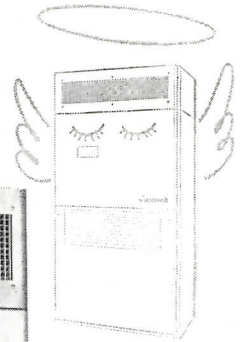
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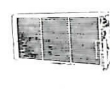
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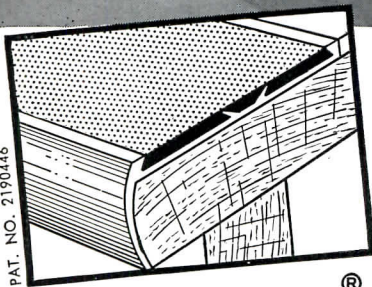
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(Continued from page 338)

The chapters are for the most part devoted to descriptions of procedure, the equipment needed and the functioning of the areas discussed. A thorough description of the needs of the x-ray office or department were presented rather than merely the sort of plans that manufacturers of x-ray equipment distribute. Included are the types of rooms needed for fluoroscopy and photo fluorographic installations together with descriptions of equipment for operating rooms and special diagnostic examinations, film storage areas, illuminators, darkroom facilities, dental installations and dressing room arrangements.

HOME BUILDERS EDIT BOOK

Housing U. S. A. By NAHB, Simmons-Boardman Corp. (New York, N. Y.) 1954. Illus. \$5.00

This is a comprehensive collection of articles edited and correlated by a 14-man editorial group composed of American builders and housing experts, all past presidents of NAHB. In non-technical language it tells of the emergence of housing as a modern industry and the concurrent development of today's home builder. Subjects treated include mortgage credit, the U. S. housing inventory and production capacity, builder research, public relations and merchandising programs, urban redevelopment and the slum problems. Also covered are the federal housing agencies and the government's role in housing, cooperative and low cost housing, public housing programs, building codes, housing and manpower in national emergencies, inflation, taxes, and housing in Europe.

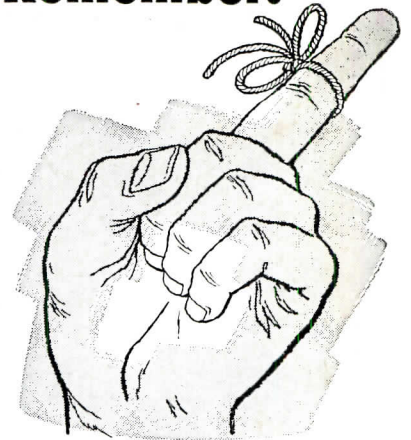
YEAR BOOK-5

Architect's Year Book 5. By Elek Books Ltd. (London, England) 1953. 10 by 7 1/2 in. 294 pp., illus.

The aim of the editors of the Architect's Year Book is to present current thought on the philosophy and practice in the art and techniques of modern architecture as well as studies of the past, using it as a source of fundamental precepts. The fifth volume contains articles on the Bauhaus idea, space painting in architecture, systems in proportion. Walter Gropius and Frank Lloyd Wright

Also included are developments abroad; town planning including the Chandigarh, India, Capital city project; technical articles on artificial lighting, precast concrete, prestressed concrete, bellrock panels and modern wood windows.

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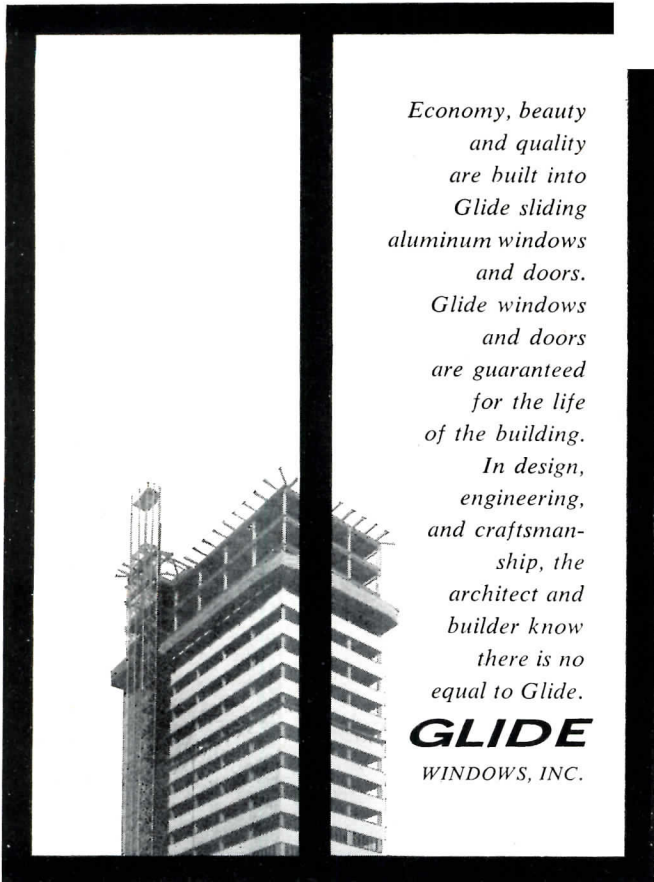
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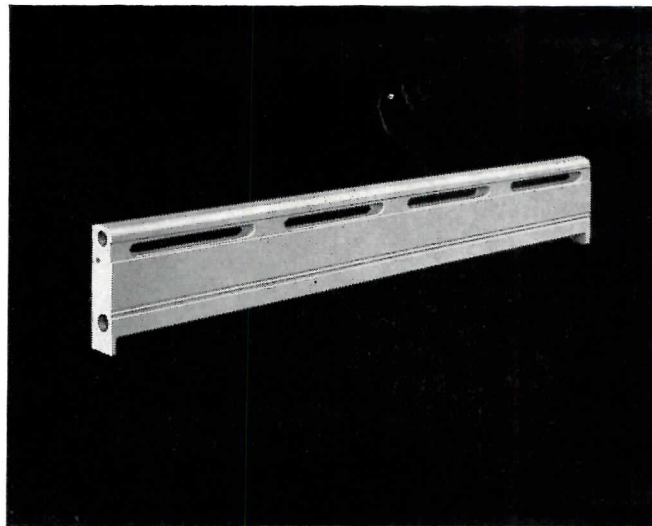


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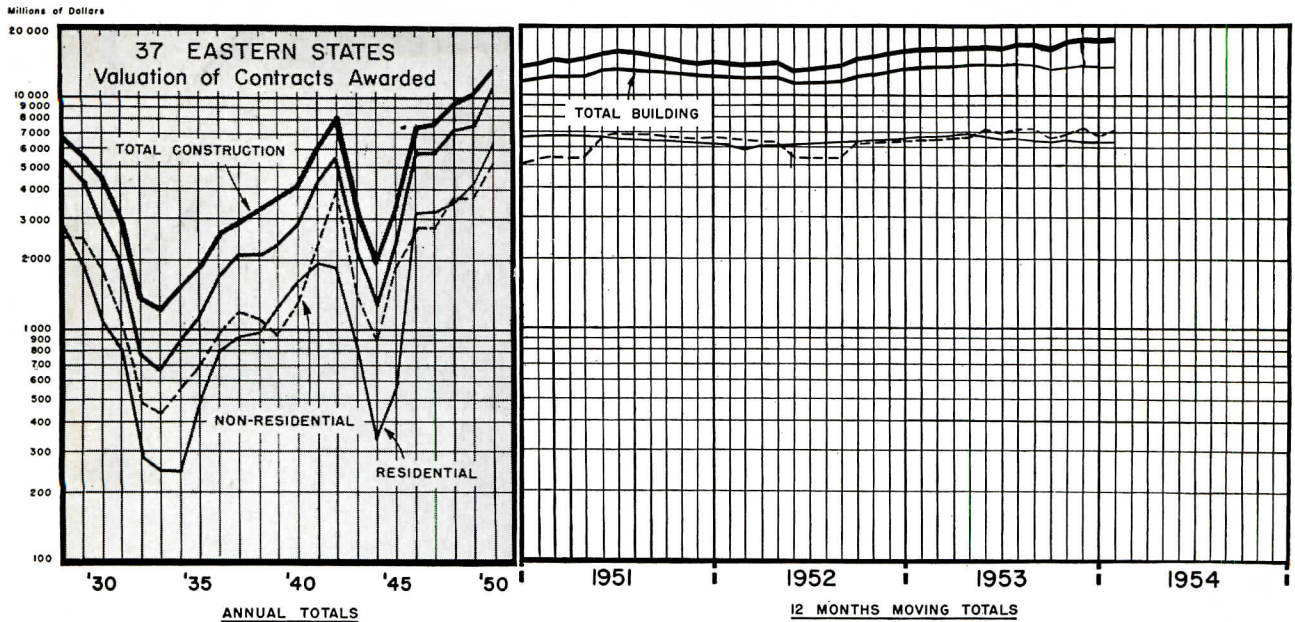
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CURRENT TRENDS IN CONSTRUCTION



Charts by Dodge Statistical Research Service

FIRST 1954 FIGURES SET ALL-TIME RECORD

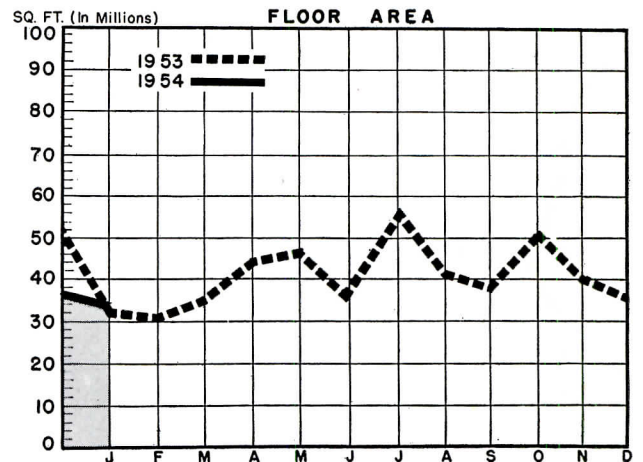
VALUATION OF TOTAL CONTRACTS AWARDED in January dropped 11 per cent below the December level as a result of declining activity in nonresidential and heavy engineering construction. All three major construction groups, however, showed dollar volume gains over January 1953: total valuation was up seven per cent, to set a new record for the first month of any year.

Nonresidential awards for January dropped 12 per cent from the December valuation and registered a seven per cent decline in physical volume. As compared with last January, however, dollar volume for the month represents a 16 per cent improvement, and floor area showed a five per cent gain.

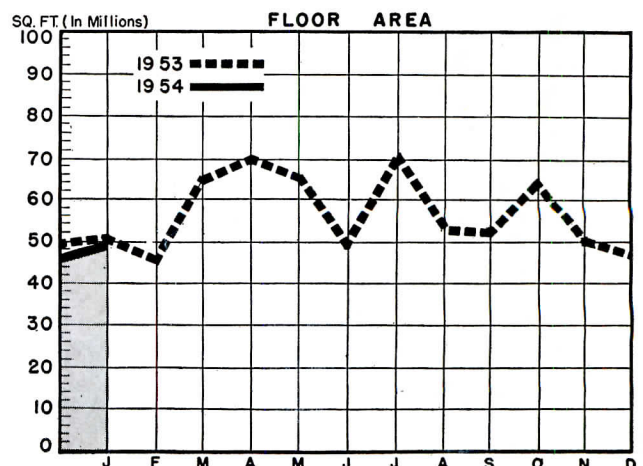
Value of residential building in January rose seven per cent above the previous month's figure and one per cent over January 1953. Physical volume for the month registered a three per cent gain over December, but fell six per cent below January a year ago.

Valuation of heavy engineering work for the month declined 34 per cent from the December level, but showed a four per cent gain over last January.

NONRESIDENTIAL BUILDING (37 EASTERN STATES)



RESIDENTIAL BUILDING (37 EASTERN STATES)



HOSPITAL CONSTRUCTION*

F. W. Dodge Contracts Awarded—37 Eastern States (millions of dollars)

Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
1939	72.2	6.0	1950	615.6	51.3
1945	108.7	9.1	1951	550.6	45.9
1949	527.5	44.0	1952	401.5	33.5
1953 (403.8)			1954		
Jan.	34.2	July	28.6	Jan.	37.6
Feb.	17.0	Aug.	55.7		
Mar.	26.2	Sept.	32.3		
Apr.	23.0	Oct.	59.7		
May	23.0	Nov.	37.8		
June	27.6	Dec.	38.6		

*See Building Types Study No. 208, pp. 159-190