

THE

ARCHITECTURAL

FORUM

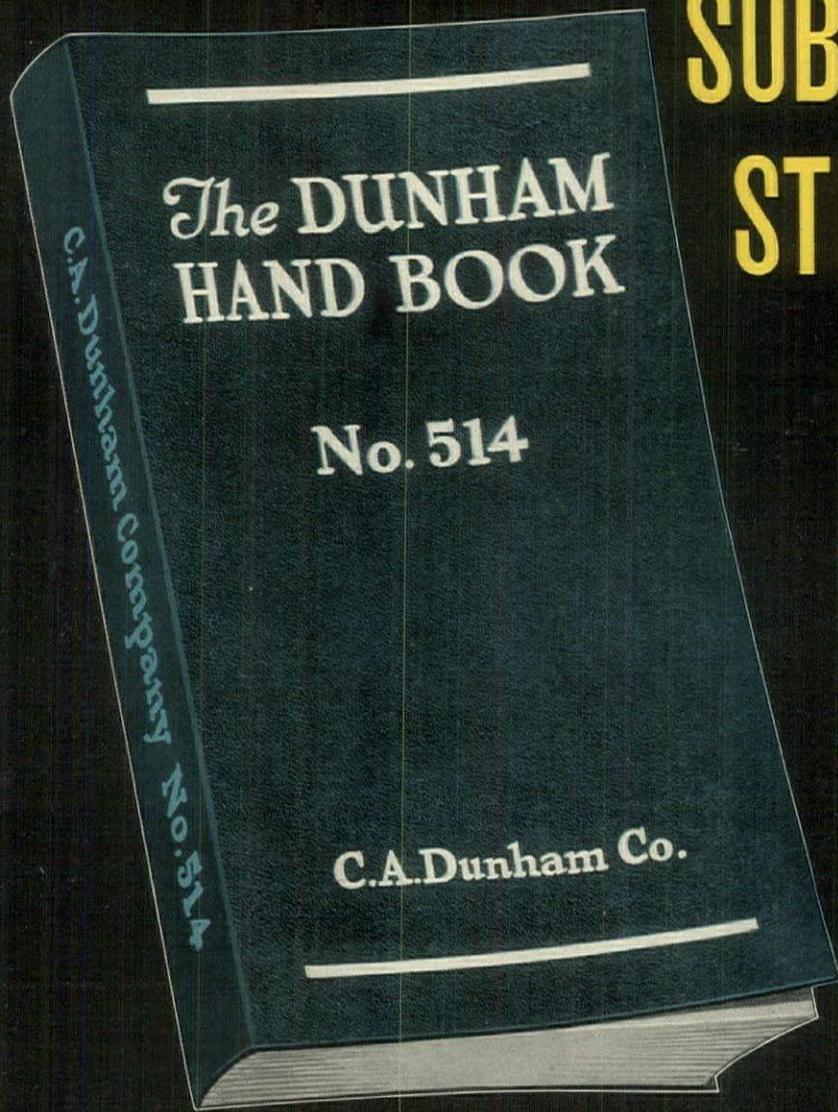
INCLUDING "BUILDING MONEY"

NOVEMBER, 1935

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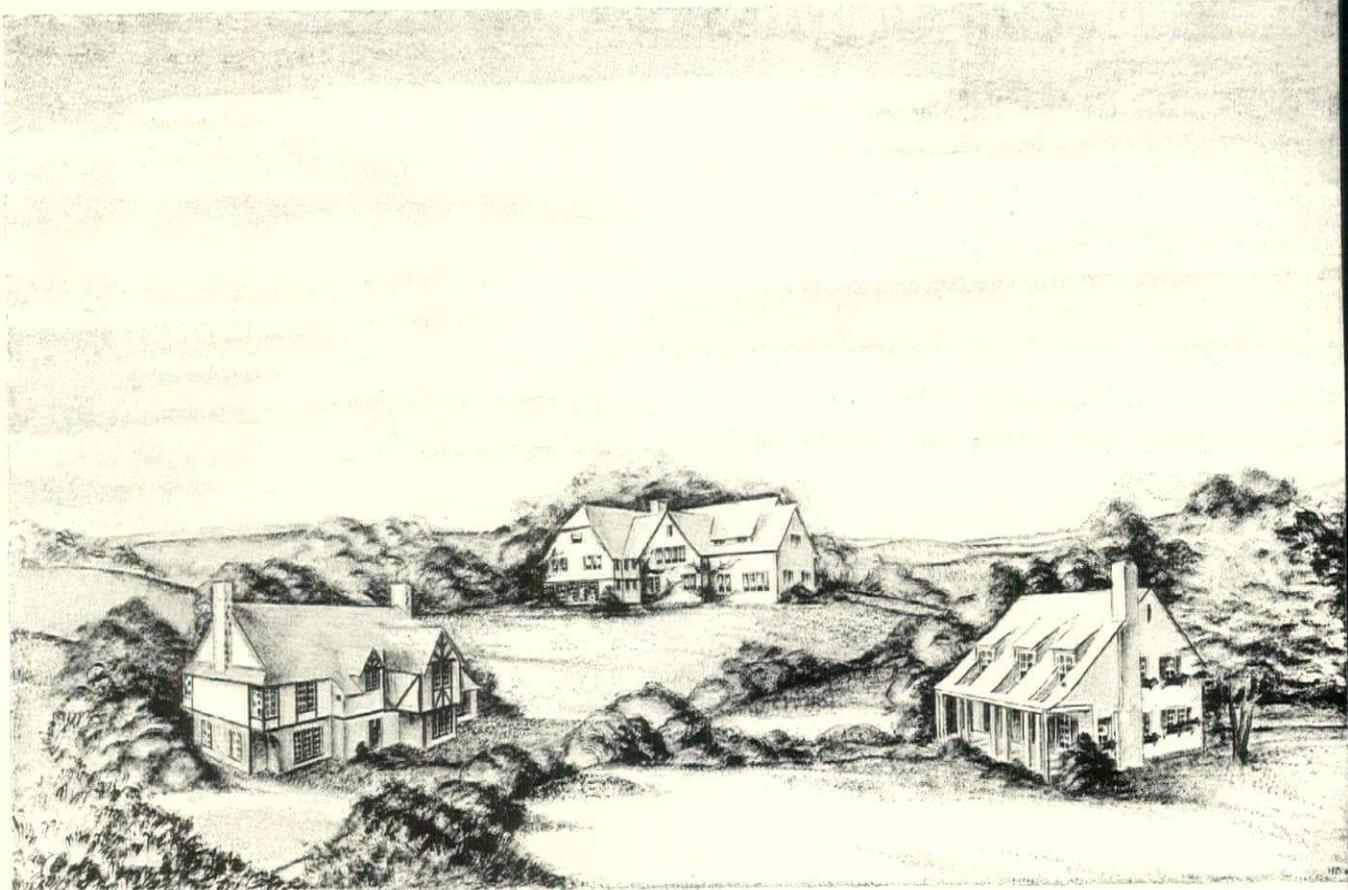
NOVEMBER 1935

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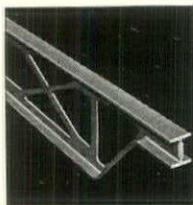
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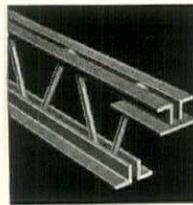
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THE MONTH IN BUILDING

VOLUME. Supplementing the Labor Department's report of an increase in residential building of 160 per cent in September over September a year ago came FHA's justifiable boast that it was writing insurance for mortgages and remodeling work at the rate of \$2,000,000 a day. Its remodeling insurance totaled \$182,255,380 on October 16; and on the same date the amount of mortgages selected with appraisal fees paid was \$197,246,488, with an additional \$21,371,874 for four low cost housing projects.

There was nowhere on the horizon any sign that home building's pace would have to slacken. The industry itself is even more bullish than it was in the summer months, with earnings of building companies approaching new 5-year highs:

(Sept. quarter except where otherwise stated; 000's omitted; D = deficit)

| | 1935 | 1934 |
|-------------------------------------------------------------------------|-------|--------|
| American Window Glass (year ended Aug. 30) .. | \$221 | \$187D |
| Celotex (nine mos. ended July 31) | 6D | — |
| Detroit-Michigan Stove (year ended July 31) .. | 31 | 73D |
| General Paint (nine mos. ended Aug. 31) | 207 | 132 |
| Johns-Manville | 775 | 551 |
| Libbey-Owens-Ford | 1,311 | 287 |
| Masonite (year ended Aug. 31) | 1,004 | 380 |
| Minneapolis - Honeywell Regulator | 787 | 237 |
| Owens-Illinois (year end- ed Sept. 30) | 7,894 | 6,085 |
| Thatcher Manufacturing (stoves, boilers, fur- naces, glass) | 295 | 174 |
| Wood Preserving (year ended Dec. 31) | 441* | 481D* |

*1934 compared with 1933. Report just issued.

TUGWELLTOWN. Those who guessed that Rexford Tugwell's new Resettlement Administration would lead to naught but the framing of a long range policy of industrial decentralization proved wrong last month when work was started on the first of four satellite towns to be built immediately out of his \$246,000,000 appropriation. In Berwin Heights, Md., 3,000 homes are to be built of semi-prefabricated concrete blocks for \$5,500,000. To put his first unit over, Tugwell retained as expert help as he could find, among them Henry Wright, Tracy Augur, Fred-

erick Biggers, Catherine Bauer and Jacob Crane.

Protests from a few indignant Marylanders that a "Red" nest was being set down in their midst were short lived in the realization that 3,000 new families, whether pink or not, would not be unwelcome contributors to local prosperity. (Next month THE ARCHITECTURAL FORUM will treat fully of Tugwelltown.)

LABOR RIFT. As everybody in building knows, there is no telling exactly how far union wage scales determine building costs and volume, let alone exactly what effects are wreaked by frequent rows within the building trades. Obviously, however, the year-and-a-half-old embroglio within the A. F. of L.'s Building Trades Department cannot have had other than a vastly adverse effect upon the industry.

With the demise of the NRA, some hopes were placed upon an early settlement of the trouble. This seemed possible because the row apparently had started over proper representation under the Construction Code. The fracas all began shortly after the Code's completion early last year. The Code provided that the president of the Building Trades Department should sit upon a temporary adjudication board, a fring-line adjunct of the Planning and Adjustment Board. This left three big unions, the bricklayers, carpenters and electricians, which had dropped out of the Building Trades Department, without representation on this all-important board. The two factions of building workers have been at odds ever since. Each now maintains separate offices and a separate organization, and each claims to be the rightful Building Trades Department.

Last month, long enough after the NRA's demise to make it plain that all the fault, at least, was not the Code's, the feud still boiled. And this despite the widely publicized announcement by the A. F. of L., in convention last month at Atlantic City, that the trouble was slated for quick settlement. Representatives of the two factions, due to meet for arbitration "within 24 hours," had not yet gotten together after 240.

EXPANDING EXAMPLES. Particularly interesting in light of the release of FHA's amended regulations for low cost housing, now to be financed by mortgage bonds (see page 520), is the fact that three prospering low cost housing developments

in the East have chosen this as a time to expand.

New units were under construction last month in Pittsburgh for the Buhl Foundation's unique Chatham Village project, and in New York City for both the City and Suburban Homes Co. and Phipps Houses, Inc., two low-rent housing companies which undoubtedly would have been limited dividend companies had New York had its State housing law for chartering such when they were formed. All three of these projects have been phenomenally successful (ARCH. FORUM, January, 1935, p. 98). Though philanthropic enterprises, they have been excellent profit-producers and stand as examples well worth emulating.

Plans for the additions were interesting when contrasted with older units in the same projects. All were going strong on smaller dwelling units. The Chatham Village addition, which will add 68 new homes to the old unit consisting of 129 attached, single-family dwellings, is 47 per cent of the Village's popular "studio" type. This compares with 24 per cent of such units in the existing development. Seven of the new units, however, are larger than any in the older portion, with four bedrooms and two bathrooms each.

The City and Suburban, and Phipps developments which are being added to are mammoth six-story apartment groups in Long Island's Borough of Queens. One hundred and twenty-seven new apartments will bring the total number of units in the former's Celtic Park development to 357. Whereas the older units had no two-room apartments, the new will have 24, or 19 per cent, and no five-room apartments as in the old. In the Phipps addition, the percentage of four-room apartments is being cut down from 45 per cent to 25 per cent, and the two's and three's predominate.

DISCOUNTER. Encouraging to those who have believed from the first that there was not too much the matter with the Federal Home Loan Bank System as a discounting agency were the figures of member loans for October 5, showing an all-time high of \$91,122,064. This was an increase of 27 per cent in the last six months. Though the Federal Home Loan Bank Board has feared to attempt to collect data from all the banks on the disposition of the loans, there was little doubt in the minds of Board members that the loans were going out to create new construction lending.

LETTERS

Stewart McDonald's Record

Forum:

Your magazine seems to have it in for Stewart McDonald, head of FHA. It has carried two or three stories disparaging his business experience, etc., stressing his civic office as Police Commissioner at St. Louis as his only claim to distinction. Actually, his business record consists of taking a bankrupt carriage factory in 1907 and, with the addition of only \$17,000 cash, turning it into an automobile factory which he sold out twenty years later for approximately \$4,000,000.

During this period he established himself as one of the outstanding business men of St. Louis and was requested many times by banks and other financial institutions to help them by serving on the Board of Directors of sick manufacturing institutions, such as Wagner Electric Mfg. Co., Sechler Implement & Plow Co., Standard Steel Car Co., Electrol Company, Seagrave Manufacturing Co. In all but one instance he succeeded in putting these back on their feet.

As far as real estate mortgage experience, etc., is concerned, he probably—in the course of twenty-five years' business experience in St. Louis—made more money than all the real estate men there put together. He served on the Board of Directors of the Merchants-Laclede National Bank and the Mississippi Valley Trust Company. The latter was one of the largest dealers in mortgages, real estate, etc., in the Middle West.

Incidentally, while he isn't an architect, he is a graduate of Cornell, and holds a degree in Mechanical Engineering and Electrical Engineering. And has developed many electrical and mechanical devices, some of which are adaptable to home use, such as the oil burners, etc. And with the mechanization of the home (including modern plumbing, electrical cooking, refrigeration, and other devices) this experience hooks up very well with modern architecture. He was one of the very first to start the time payment system in the purchase of motor cars which, of course, is the very essence of the FHA program.

H. M. D. MARTIN

Washington, D. C.

To FORUM Reader H. M. D. Martin thanks for a factual portrait of Housing Administrator McDonald's career. THE FORUM defers to no one in its admiration of Mr. McDonald's Washington record to date.—Ed.

Antonin Raymond Credo

Forum:

It was very kind indeed of you to give so much valuable space in your August issue to a review of the book of my work published here in Japan, and gratifying that you should find my work of interest.

Perhaps you will accept my correcting a few minor errors or misunderstandings which occur in your review and adding a few remarks on points which I consider important.

I left Frank Lloyd Wright for private reasons a year or more before his leaving Japan to return to the U. S. In fact, aside from a perspective rendering of the project I had very little to do with the work on the Imperial Hotel. I had worked with Frank Lloyd Wright in 1916 and I am greatly indebted to him.

However, I feel, although it is no great importance, that you lay too much stress on the question of the influence of Frank Lloyd Wright and Corbusier on my work at the expense of those vital qualities which make it valuable. Even to speak of the Japanese influence is to see the truth from a superficial angle. There is a strong Japanese influence in my work but it is one of spirit and not of form. The Karuizawa structures contain nothing of the traditional Japanese forms, and certainly nothing of Frank Lloyd Wright.

Should we be too afraid of precedent or influence we could do nothing at all. It does not matter from *where we take* anything but *what we do* with it.

Wouldn't it have been of interest to put the date, that is 1923, under the illustration of the fireplace corner in my house in Tokyo? Please look up your own publication for 1923, look up Corbusier's work of that time and Wright's and Van de Velde's and I think that you will find my house to be a pioneer in more than one respect.

My inspiration comes chiefly and directly from the requirements of the particular project. You will find that the materials used are used because they are the most *economical* for the project and that their volume is the very *minimum* required. This volume is determined by painstaking engineering. Engineers and architects work side by side in my office. I pay very strict attention to the local climatic conditions, earthquakes, typhoons, dampness, prevailing winds, etc., determining the orientation of rooms, cross ventilation, waterproofing, insulation, etc., and find a direct solution for these problems, without which no building can be of any lasting worth and value.

I am endeavoring to learn and to follow Japan's great love of nature and of things natural. I have no patience whatsoever with any kind of imitation and use most materials in their natural, unfinished state.

My plans make it possible for nature to enter into the structure by inside gardens, large openings, etc., in the true Japanese spirit. I use new, modern materials, without disguise and only because they are more *economical* and *efficient* than old materials.

The finding of the very simplest form for everything is the only true solution. By

this ascetic elimination of unessentials I arrive at new forms as a matter of *process*. I do not search for new forms for the sake of finding *new forms*.

Frank Lloyd Wright sacrifices a great deal to a desired form and a dramatic effect and Corbusier is often a fantastic engineer.

I sacrifice a great deal to a practical solution and *begin* with engineering instead of *ending* with it.

The important factors offering unlimited possibilities for esthetic expression are the *mass*, looking from the outside, space from the inside and *texture* and *color* of surface both inside and out. Every other esthetic consideration is secondary and either clarifies or more likely mars the architectural expression.

Proportions are part of the mass and space.

I adhere to those principles through thick and thin and I practice what I believe. My book proves it to a careful student and my newest work, not contained in the book, will reveal it still more.

ANTONIN RAYMOND

Tokyo

Hervey Allenish

Forum:

I am a very hard-working man, and since your most estimable "MARCH OF TIME" reaches us here on the frontier at the ungawdly hour of 9.30 P.M. it has become my custom to fold myself in the sheets, switch on my bed-side radio and drowse until awakened by the elegantly harmonious discord of your program's never-varying initial tantivy.

No exception was last night, but when the last balloon full of heroin had been recovered, when the November revolution had been thwarted, I lay in a half-conscious, reminiscent mood, thinking of my 1927-1928 sojourn in Central America. Thus, I missed the name of the 12mo or was it an 8vo of plans, specifications, and photographs of American homes. All I caught was that it was to be a Hervey Allenish opus and that the cost was one dollar. I am a subscriber to *Time* and to *Time's* demi-tasse, LETTERS. For my six dollars I have received the equivalent of eleven dollars and ninety-seven cents' worth of newspapers and magazines. Therefore, I said to me, "If *Time* is publishing this hyar book of houses it's prob'ly worth seven dollars of the coin of any realm."

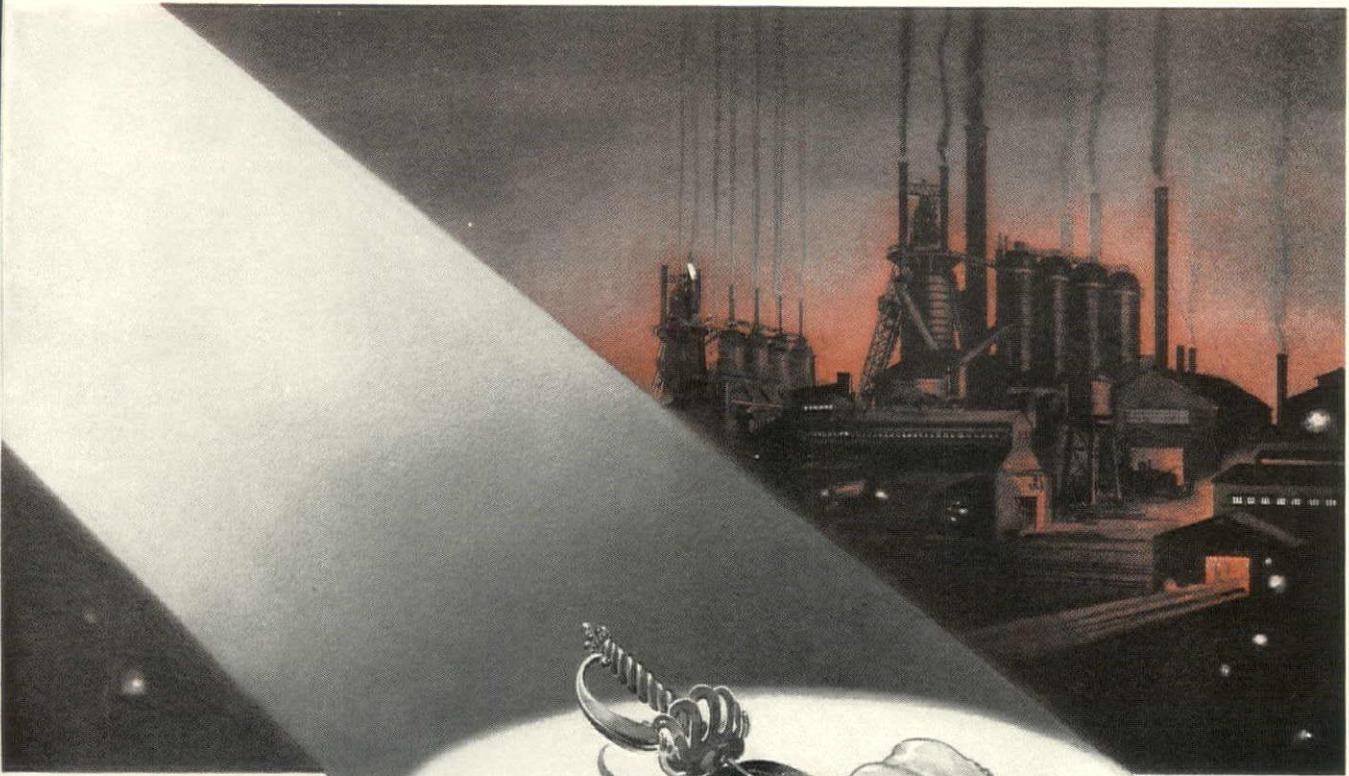
Hence my check.

PATRICK TYRE

Tyler, Tex.

To *Time* and *Letters* Subscriber Tyre goes a two-year subscription to THE FORUM. Starting with the October Small House Reference Number.—Ed.

(Continued on page 7)



A GREATER REPUBLIC STEEL CORPORATION
accepts the challenge of industry . . .

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Even before the acquisition of these companies, Republic was the world's largest producer of alloy steels, including the famous Agathon line, ENDURO perfected stainless steels and the new Republic Double Strength high tensile steels that are lightening the weight of nearly every type of transportation unit. Republic has been the sole maker of rust-resisting Toncan Iron for more than 27 years—the pioneer in the development of electric resistance welded pipe—the maker of Sil-con low-loss electrical sheets and coiled strip.

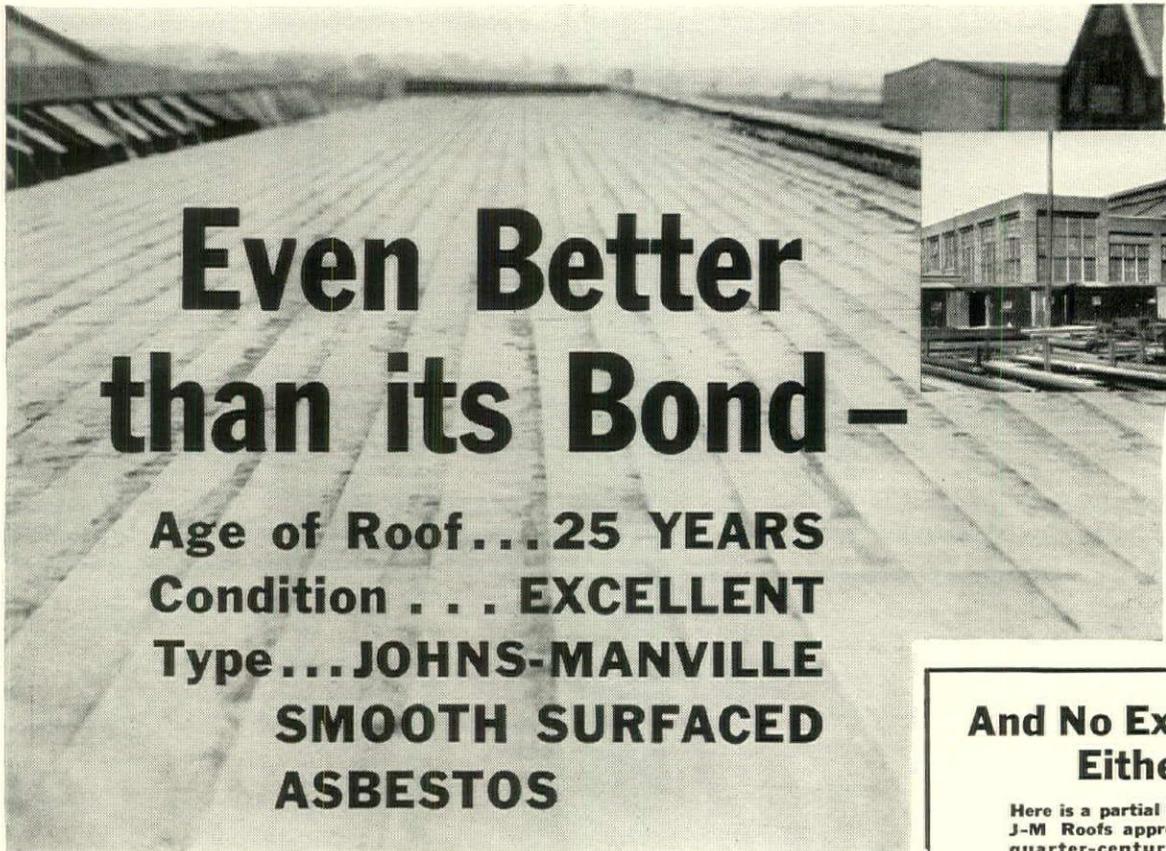
In addition to making these trade-marked products, Republic continues to occupy an important place among the producers of high quality plain carbon steels in practically all commercial shapes.

A greater Republic Steel Corporation accepts the challenge of industry—looks optimistically to the future—keeps pace with the increasing demand for ever better steels—steels lighter in weight—steels of greater strength—steels more resistant to corrosion and high temperatures—steels that strike a new note in beauty—steels more dependable, longer lasting and more economical.



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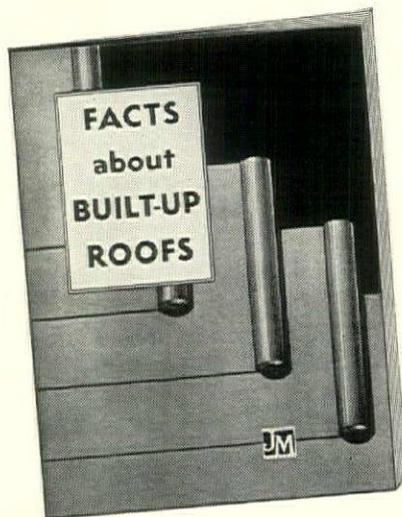
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- 22 Years old** at Chicago, Ill. (Sears, Roebuck & Co.) (Grocery Building)
- 23 Years old** at Louisville, Kentucky (American Medicinal Spirits Co.)
- 23 Years old** at Kansas City, Mo. (Kansas City Star)
- 25 Years old** at South Bend, Ind. (Oliver Farm Equipment Co.)
- 23 Years old** at Detroit, Mich. (Detroit Baseball Co., Navin Park)
- 22 Years old** at Bluefield, West Va. (Huff, Andrews & Thomas Company)
- 21 Years old** at Seattle, Wash. (Lincoln High School)

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LETTERS

(Continued from page 4)

German Housing Today

Forum:

Governmental home construction is today the chief activity of German building. It therefore serves as a good illustration of the attitude of the Government towards architecture. The official Nazi policy is a reversal from modernism to the traditional forms and methods of the 19th century. The day of Seimenstadt and Zehlendorf in Berlin, of Romerstadt in Frankfurt, of Hornbeck in Hamburg, and of the scores of other well-planned communities is over. It has been decided that buildings with broad flat surfaces, simple lines, and flat roofs are non-Aryan. Simple, small cottages are now being erected, offering no opportunities for the highly developed skill of the German designers.

The present housing program has been in motion since early in 1932, a year before Hitler came into power. It was then becoming more and more evident that even with her well-planned, large scale developments, Germany's housing shortage was still very acute. To relieve the pressure upon the cities and for reasons of economy, Germany developed her program along the lines of subsistence homesteads. The best examples of the new housing which I saw were on the outskirts of the large cities of southwestern Germany. Let us look at what is being done at Stuttgart as a typical example.

The houses are built on land adjoining and belonging to the city of Stuttgart. The groups or colonies number several hundred houses each, at various stages of completion. They are built in monotonously uniform rows. Each single or semidetached dwelling has a plot of ground measuring about 50 x 200 ft. The plots are just large enough to grow some vegetables and to maintain some small live stock; a questionable subsistence. The isolation of the colonies from the cities and their separation from any possible place of employment makes one wonder how the inhabitants could exist even if the garden patches were large enough to supply the food that they needed. Two of the Stuttgart groups which I visited each required about an hour's car ride and a very long walk to reach them.

The homes are far from spacious. They usually have three or four small rooms, of which one is an attic room. There is an outdoor tool closet. The mechanical equipment—heating, lighting, plumbing and draining—is of the simplest. The water closet is out of doors. Frequently the water supply is from an outside hand pump.

These houses seem all the more primitive in comparison with Stuttgart's ultra modern housing community, the Weissenhof Siedlung, which was built as a modern home exposition.

The organization of the workers for the construction of the houses more closely follows a pattern which we are accustomed to associating with Russia than with the master craftsman method of early Germany. The men selected to build the houses are the people who will live in them. Most are clerks and trades people, unemployed or partially employed and of Nazi preference. Enough skilled building men are included to see that the work is properly executed. Workmanship varies mainly with the ability of these skilled men to teach people who have not been accustomed to handling tools, and with the enthusiasm of the workers. In one group, the masonry walls looked as though they could easily be pushed in, while the wood framing appeared like the work of master journeymen. Wives, sisters and children help with the odd jobs. I was told that when all the houses are "under roof" lots are drawn to determine which family will get which house. This is to prevent the men from working more diligently on a specific house, which is somewhat ironical in view of the super-individualistic ideology of present day Germany. Just how satisfactorily this system of drawing lots works out is hard to judge.

To finance the housing program, the government grants a loan of two thousand five hundred marks—about \$1,000—to the home builder. Two thousand marks is for the house and land and the remainder for seeds, tools, live stock, etc. The interest charge on the loan is from three to four per cent, and the amortization period is thirty years. Barring failure to pay, the tenant will then hold his home in absolute ownership.

Today Germany repudiates the cooperative concept. Not only do her communities have no cooperative enterprises, but there are no private or State industries to supplement the portion of subsistence which can be earned by working the individual garden plots.

The construction of these German subsistence communities is certainly moving ahead rapidly. Only time can test the success or failure of the scheme, although I must confess to pessimism. The isolation of the unemployed can certainly be no solution for the economic ills of any nation. Even the building of economically planned towns such as Rexford Tugwell has de-

scribed or like the often referred to English "Garden Cities," Letchworth and Welwyn, which have a diversity of industries sufficient to insure the financial stability of the city and its inhabitants, cannot be successful unless there are ample outside markets to absorb the products which the town produces. Really self-sufficient communities, entirely independent of outside products and markets are a denial of the advantages of modern complex civilization. The solution of the housing problem can only be considered in conjunction with a working socio-economic setup. This fact, I am afraid, is not being fully appreciated by the Germans in their present program.

If architecture is the reflection of historic trends, then Germany's reversion to reactionary styles is the logical complement to her attempt at general economic and cultural reversion. It is not so much her architects as her governmental policies which are at fault. Pre-Nazi German architects had helped to set the pace for new forms and ideas in building. Not until the present policy of cultural strangulation is ended can there be renewed health in German architecture.

RICHARD B. FERNBACH

Philadelphia, Pa.

MITitillations

Forum:

Please let me congratulate you on your October number for you have performed a real service for which every architect and builder should be grateful. Read, in connection with price differentials as given, for instance, in the *Engineering News-Record*, it makes a most interesting contribution to our knowledge of comparative values. I hope you will reserve a few copies for a short time as I have advised our students to purchase copies for permanent reference.

ROSS F. TUCKER

Professor in Charge

Department of Civil and Sanitary Engineering,
Course in Building Construction
Massachusetts Institute of Technology
Cambridge, Mass.

Ripleyesque

Forum:

SMALL HOUSE REFERENCE NUMBER ARCHITECTURAL FORUM MAGNIFICENT AND RIPLEYESQUE ACHIEVEMENT STOP CONGRATULATIONS FROM THE INNER SANCTUM ON A PUBLIC SERVICE OF THE HIGHEST SOCIAL SIGNIFICANCE AND INDIVIDUAL USEFULNESS.

LINCOLN SCHUSTER

New York City

PRODUCTS AND PRACTICE

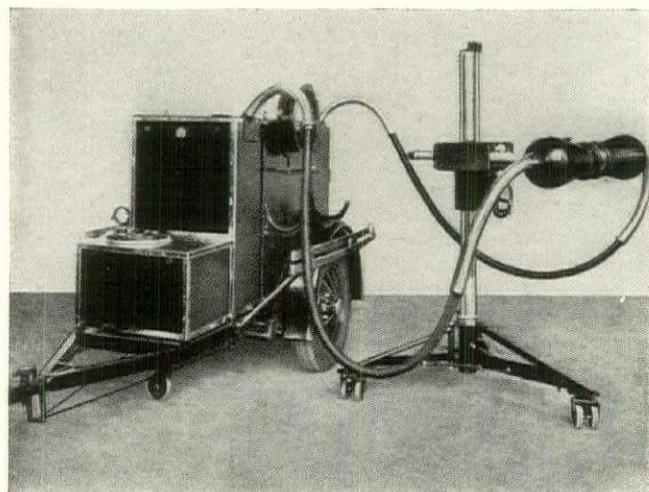
The X-ray, after a successful probation period in industrial plants, enters the building field as the first rapid and certain method of accurately testing the soundness of welded joints.

WHEN the Irving Trust Company of New York put up its new building at 1 Wall Street a few years ago, the Board of Directors sent out engraved notes of apology to some five hundred of their neighbors, asking their indulgence "during the unavoidably noisy weeks that lie ahead," while the steel frame was being erected. It was a gentlemanly gesture to make, but the development of welding indicates that it may soon be an unnecessary one.

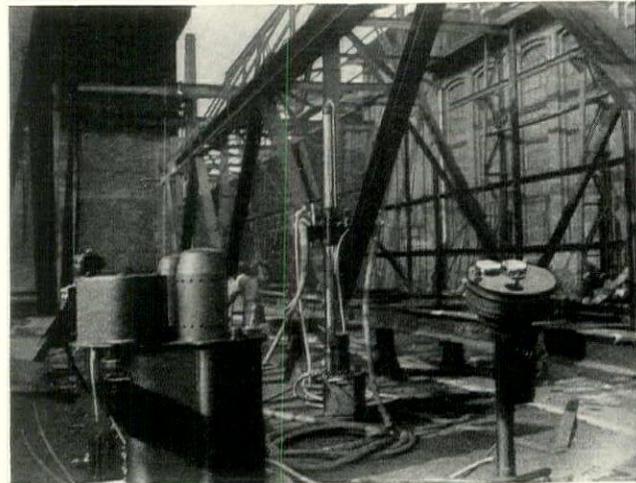
A weld is a place where two pieces of metal have been fused together. When properly made, the joint is often stronger than the neighboring metal; a bad weld, however, is extremely dangerous structurally as well as deceptive in appearance. This means of joining the frame of a steel building is frowned upon in many localities, forbidden in some, and not without reason. Welding requires skill; more important, it requires an absolutely certain and rapid method of ascertaining whether the joint is sound or not. This method is now available, and has been already put into use in industrial plants with pronounced success: it is the X-ray.

The modern X-ray apparatus is simple in design, compact, and easily adaptable to the examination of welded structures. An ordinary power line of 220 volts supplies the current to the high-tension transformer which steps it up to 220,000

Data and photographs in this article were obtained from Herbert R. Isenburger co-author, of "Industrial Radiography," John Wiley & Sons, New York, 1934.



Portable X-Ray Equipment



X-Ray Machines in the Field

volts. The tube is mounted in a shockproof case and can be mounted on a stand or clamped to the member to be examined. With this equipment it does not take more than a minute to obtain an exograph through 1½ inches of steel.

An X-ray test of a welded joint will reveal defects on photographic plate down to 1 per cent of a 2-inch member in steel that is thinner it will reveal even finer cracks. Visual examination can be made with a fluorescent screen and it will show up defects ranging from 5 to 10 per cent of the total thickness. The advantages of this method are rapidity and ease of examination; photographic film shows the condition more accurately, and moreover provides a permanent record which should be of considerable importance if anything should go wrong.

An examination made with X-ray apparatus will reveal improper fusion between weld and parent metal, gas inclusions in the weld zone, and shrinkage cracks developed during or after welding. Consistent use of this method will reveal that a certain intensity of the electric arc will produce the best results, and a study of this data will tend to raise the general quality of the work and minimize improper welds.

With a general upturn in building in the offing, and the advent of several steel companies into the small house field the availability of this method of weld testing indicates a greatly increased use of welding in the building field.

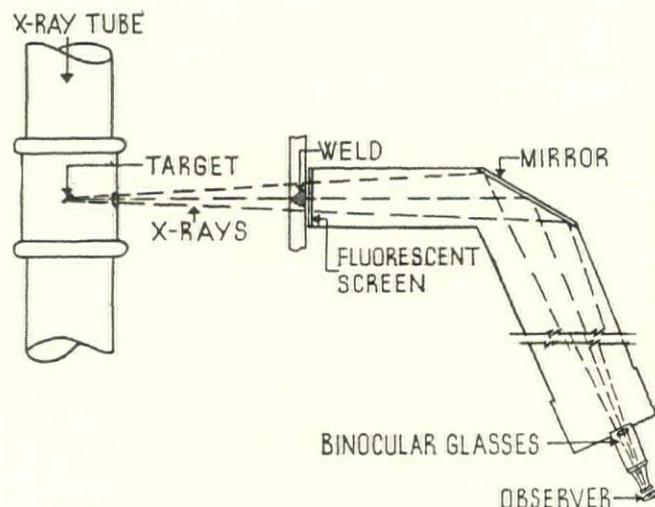
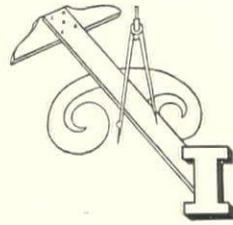


Diagram Showing Visual Testing Apparatus

attractive floors that

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BUSINESS !



IN retail stores, colorful custom-designed floors of Armstrong's Linoleum can increase your client's sales by guiding customers to back-of-the-store displays that might otherwise be overlooked. And by being unlike other floors in town, they can serve to "trade-mark" your client's store in his customers' minds. He'll appreciate both these advantages.

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**Armstrong's
LINOLEUM
FLOORS**

BELOW—Hats and shirts, inset in a field of Armstrong's Pattern 09 Marbelle Linoleum individualize this floor of Armstrong's Linoleum in the Harry Kraus Shirt Shop, Indianapolis.



ABOVE—This custom-cut Armstrong's Linoleum Floor in portswear department of Elder and Johnston Company, Dayton, is Armstrong's Plain Linoleum in ruby, black, orange, jade, and tan. Armstrong's Architects' Service Bureau offers, without charge, complete technical assistance in the design of modern floors.

RIGHT—In main sales room of Selix Clothing Company, San Francisco, floor is Armstrong's Pattern 01 and Pattern 017 Marbelle Linoleum, with black linoleum borders and interliners.



BELOW—Plain and Jasper Linoleum form this custom-cut Armstrong Floor in shop of Duane Bakers, Baltimore. Colors are brown and tan.



MACBETH PRESENTS *Chip-Proof* LIGHTING GLOBES

WITH FLAME

SEALED EDGE

• Decreased breakage hazard and increased speed and safety in globe handling have been made possible by the new Macbeth "Chip-Proof" Globes. Rough, unsealed edges have many minute defects which may expand under the slightest strain and eventually cause breakage. The edges of Macbeth "Chip-Proof" Globes, instead of being ground, are sealed by a flame which seals and rounds the fitter rim to a velvet smoothness. This process also reinforces the edge with a strong shoulder of extra glass which gives added strength to the

entire globe. A former weak point of all globes has been made a strong point in Macbeth "Chip-Proof" Globes. • Macbeth "Chip-Proof" Globes are also more convenient and safe for both installation and cleaning. Their smooth edges cannot possibly injure hands or arms. These advantages of "Chip-Proof" Globes are available without extra cost in Macbeth Globes exclusively. A Macbeth representative will be glad to demonstrate this new globe efficiency at your convenience. Descriptive printed matter will be mailed on request.

MACBETH-EVANS GLASS CO., Charleroi, Pa.



FORUM OF EVENTS

AL WAVE

PERSONAL in the Philadelphia *Evening Bulletin*: "PLAN wanted for bungalow, 4 x 22, for Florida Keys, strong enough possible to withstand tidal wave. State if plan is accepted. H-374 Bulletin."

TO THE COURT

LAST month, "the honorable, the chief justice and the associate justices of the Supreme Court of the United States" moved the \$10,000,000 marble structure de-



Ewing Gallwey

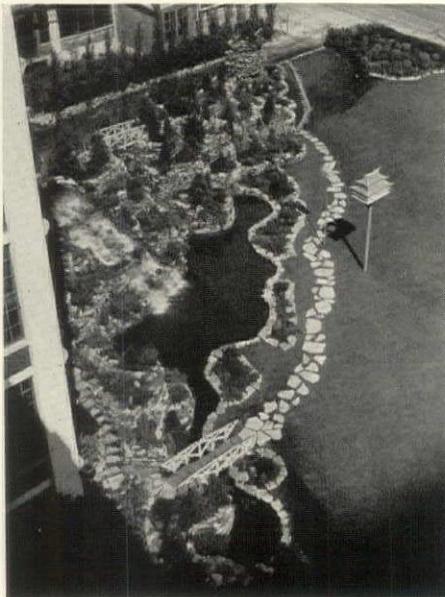
CASS GILBERT'S COURTHOUSE

For the Judges: \$35 worth of chairs
 ed for them by the late Cass Gilbert. of architectural curiosity: two spiral supporting marble staircases. Wash- ington reporters who had already made architectural news with stories of the re- freshed White House kitchen found little to say about a building which has al- ready become a city landmark and which has been pictured and described in every newspaper in the land. Known to every- one was the sculpture of Robert Aitken which included figures of himself, Cass Gil- bert and Chief Justice William Howard Taft (who was the building's most active proponent) as a boy. Less known were the facts as that the building used 455,000 lb. of marble, that it houses a set of chairs for the judges and a large dining room on the third floor, a kitchen equipped to serve 200 and a cafeteria on the first. Al- though the architects pleaded with the jus- tices to accept furniture more in keeping with the sumptuous dignity of their new court, to a man they insisted on using the chairs from the old Court. Approximate value of these nine chairs is \$35. The fur- nishings throughout the building cost about \$10,000.

MEMORIALS

U.S. memorials run a wild gamut from the restrained dignity of such buildings as the Lincoln Memorial in Washington, D. C., to oddities of no architectural parentage and only slight local fame. Last month brought news of a memorial, which if it did not merit extravagant architectural praise, is of general interest because it was un-

usual and of particular interest to the 25,- 000 spectators who watched its dedication. Conceived by Walter E. Olson, president of Chicago's Olson Rug Co., as a tribute to the American Indian, and erected at the cost of \$20,000 in a plot near his factory, the memorial is believed to be the largest rock garden in the world. It is 150 ft. long, rises to a distance of 25 ft., and has three waterfalls, one of which requires 1,000 gal- lons of water a minute to operate. Most of the stones came from an old Illinois wall near the Kankakee River. Last month vis-



Hedrich-Blessing

ROCK GARDEN

Kankakee stones; Japanese bird house

itors, at the rate of 5,000 a week, were peer- ing at the garden, its odd plants and shrubs, a Japanese pagoda bird house, somewhat unusual in a U.S. Indian memorial.

HARVARD FELLOWSHIP

HARVARD'S School of Architecture is richly and contentedly endowed with scholarships and fellowships. Last month Harvard added one more fellowship to a list which already includes such fellowships as the

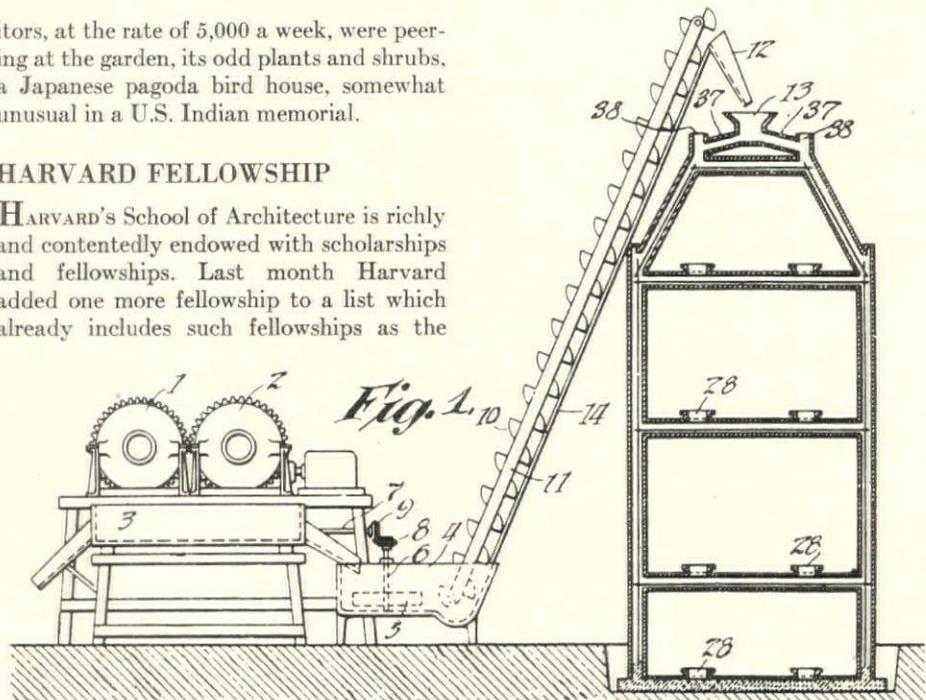
Nelson Robinson, Jr. (\$2,500), the Julia Amory Appleton Traveling Fellowship (\$2,500), the Charles Eliot Traveling Fel- lowship in Landscape Architecture (\$1,500), offered by the faculty of architec- ture. Harvard's latest and biggest is in memory of Arthur W. Wheelwright, 1887. A gift of \$100,000 will provide annual in- come of approximately \$3,500, will provide travel abroad to a graduating student "chosen on his complete record rather than by any one test, examination or competi- tion."

EDISON CONCRETE

ASK any man in the street who Thomas Alva Edison was and he will answer "the electrical wizard." Not one in a hundred would answer "an important cement man." Yet it happened that in Mr. Edison's mid- dle years he sank his fortune into a plant for extracting iron from low-grade ore. And hardly had he done so when tremen- dous iron deposits were discovered in Michigan. After a stock-taking of his huge investment in motionless machinery, Mr. Edison decided to devote it to the produc- tion of cement.

From that came Mr. Edison's idea for a molded concrete low cost house. His plan: to pour a concrete house, to cost a mere \$500. The catch: the iron molds (which would serve to build an unlimited number of dwellings) would cost the de- veloper \$25,000. The patented mold method provided for creating an entire house, complete with sides, roofs, parti-

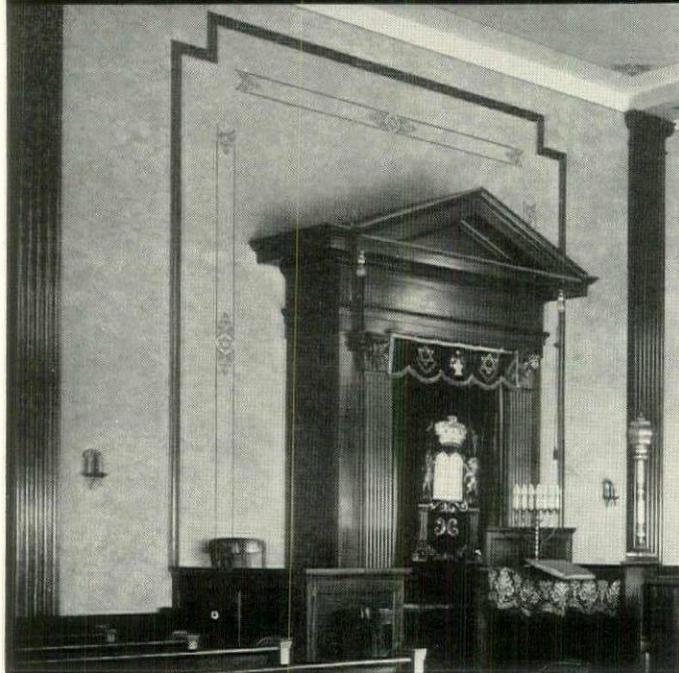
(Continued on page 28)



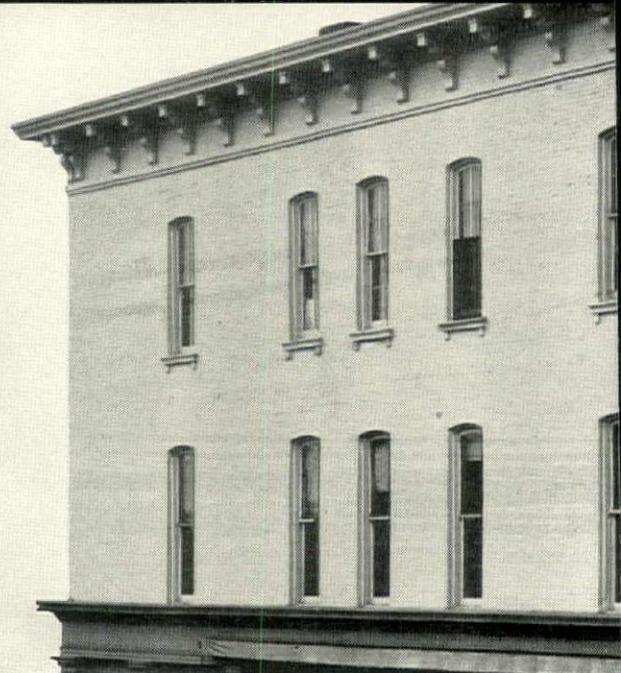
THOMAS EDISON'S CONCRETE HOUSE

Michigan made him think of it

INTERIOR DECORATION... PROTECTION EXTERIOR



Interior of Jewish Synagogue, Council Bluffs, Iowa, painted with Dutch Boy White-Lead and Lead Mixing Oil by painting contractor, H. J. Mosher. The members of the church are reported exceedingly well pleased with the appearance.



Brick exterior of First National Bank, Council Bluffs, also painted by Mr. H. J. Mosher with Dutch Boy White-Lead and Lead Mixing Oil. Bank officials were so well pleased, they had interior finished with the same paint.

use the same **FLAT PAINT** for Both.

● Here's a flat finish so sturdy it stands up outside, and at the same time so rich and beautiful you'll be proud to use it for the finest interior decoration.

The fact that it defies the weather on outside jobs (for this flat paint thoroughly seals and waterproofs stucco, concrete, brick and stone) gives you a good idea how it withstands wear and repeated washing on inside jobs. This is a finish that is difficult to soil perma-

nently. Ink stains, pencil marks, finger smudges, grease and dirt can all be completely removed.

All your painter needs to produce this vastly improved flat paint is Dutch Boy White-Lead and its special companion product...Dutch Boy Lead Mixing Oil.

In addition to extraordinary durability and white-lead's characteristic beauty, you also get these other important advantages:

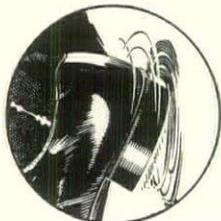
Easy to mix—just add

Lead Mixing Oil to white-lead. Levels out smooth and even. Requires no stippling. Has excellent sealing qualities. Hides fire-cracks. Brushes with the ease and spreading rate of all white-lead paint. Gives a white-lead "flat" at a reduced cost per gallon.

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111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 820 West Superior Ave., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co., Pa., 316 Fourth Avenue, Pittsburgh; John Lewis & Bros. Co., Widener Bldg., Philadelphia.

STANDS THE HEEL TEST



You can actually grind your heel against a Lead Mixing Oil job that is thoroughly dry and then clean off the dirt without damage.



DUTCH BOY

Lead Mixing Oil

for use with





IN THIS bathroom, Black Carrara Walls, accented with White Carrara cap and base, create a feeling of richness, beauty and elegance that endows the room with definite individuality. Note how the Carrara is decorated above the bathtub by sand-blasting and painting.

Bathroom Walls of Carrara are:

GOOD LOOKING * PERMANENT * PRACTICAL

WALLS of Carrara Structural Glass can *make* a bathroom. With its smooth, reflective surfaces, its mellow color tones, its versatility and ready adaptability to many kinds of treatment, this modern wall material offers the architect an entirely new range of interesting possibilities in bathroom . . . or kitchen . . . design.

Carrara's practical features recommend it no less than its unique beauty. It will not check, craze, stain, absorb odors. It is impervious to grease, grime, moisture. And its good looks, therefore, do not deteriorate with time. It is

easily kept clean by merely wiping it periodically with a damp cloth. And its cost is surprisingly low for such an obviously superior material.

Architects like Carrara . . . because it helps them design bathrooms and kitchens of unusual originality and effectiveness . . . and because Carrara is as fine a medium for remodeling work as it is for new construction. We believe you will find our booklet "Personality Bathrooms and Character Kitchens" a valuable addition to your files. It contains complete information, and interesting pictures of suggested installations. Send the coupon for your free copy.

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HERMAN NELSON CORPORATION

READY TO SERVE

THE President, during the past few weeks, has approved allotments to finance thousands of PWA projects. A very large percentage of these projects are public school buildings. In order that the President's stipulations regarding construction schedules may be met, school authorities and their architects and engineers will be very busy during the next few months. In spite of the many things to be done during the short time available, these school authorities, architects and engineers will wish to give careful consideration to the air conditioning problems which the construction of these schools presents. • The Herman Nelson Corporation offers the co-operation of its entire organization in this work. Its representatives throughout the country are at the service of those responsible for the air conditioning of these schools. Each of these representatives is a specialist in school classroom air conditioning. All but a few of them spend their entire time in this class of work. On these pages we list them with their addresses. Any school authority, architect or engineer who desires the assistance and co-operation of this organization is requested to get in touch with the nearest representative, or with the Home Office at Moline, Illinois.

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LE CORBUSIER

C H A R L E S - E D O U A R D J E A N N E R E T



European

Marking the first visit to the U. S. of the French architect whose untrammelled thought has done much to clarify and direct the trend of today's architecture, THE ARCHITECTURAL FORUM presents a page of quotations from his now historic book *Vers une Architecture* (Paris 1923). These ideas were first formulated in the magazine *L'Esprit Nouveau*, founded by him in 1919, but no longer published. The statements headed 1935 were given THE ARCHITECTURAL FORUM in an interview in which Le Corbusier discussed his new, and what he considers his major work, *La Ville Radieuse*.

THE HOUSE IS A MACHINE FOR LIVING IN.

The "styles" are a lie.

Architecture has nothing to do with the various "styles." The styles of Louis XIV, XV, XVI, or Gothic are to architecture what a feather is on a woman's head; it is something pretty, though not always, and never anything more.

Style is a unity of principle animating all the work of an epoch, the result of a state of mind which has its own special character.

Our own epoch is determining day by day its own style. Our eyes, unhappily, are unable yet to discern it. The problem of the house has not yet been stated.

The house is a machine for living in. The primordial instinct of every human being is to assure himself of a shelter. The various classes of workers in society today *no longer have dwellings adapted to their needs; neither the artisan nor the intellectual.*

It is a question of building which is at the root of the social unrest of today: Architecture or Revolution.

Architecture can be found in the telephone and in the Parthenon. How easily could it be at home in our houses! Houses make the street and the street makes the town, and the town is a personality which takes to itself a soul, which can feel, suffer and wonder. How at home architecture could be in street and town!

The purpose of construction is *to make things hold together*; architecture, *to move us*

We have the American grain elevators and factories, the magnificent First Fruits of the new age. The American engineers overwhelm with their calculations our expiring architecture.

There is one profession and one only, namely architecture, in which progress is not considered necessary, where laziness is enthroned, and in which the reference is always to yesterday.

935

ARCHITECTURE IS THE KNOWING, CORRECT AND MAGNIFICENT PLAY OF FORM UNDER LIGHT.

- It is because we have practiced city planning as if it were a two-dimensional science that cities have been deprived of the means of bringing the "essential pleasures." City planning is a three-dimensional science.
- If we cling to traditional practices of architecture, we will be unable to produce the dwellings that we need, either in quantity or in quality.
- We must reorganize land ownership and make the earth ready for all projects that advance public welfare.
- You can do the most exact planning. But your plans may be unrealizable because the laws of Society, Institutions and Authority oppose them. I believe that planning is putting Authority's back to the wall.
- A new social conscience will bring about, sooner than you imagine, the steps necessary for this most elementary need: the city dwelling; that is, architecture and city planning, indissolubly linked.
- This aim dominates everything: tear Man away from the chaos of the first machine age; bring to him his "essential pleasures."

INTERNATIONAL BUILDING



ROCKEFELLER CENTER, NEW YORK

ON May 1, 1935 the Palazzo d'Italia and the International Building, seventh and eighth units in the development of Rockefeller Center, were opened to the public, signaling thereby the completion of the Fifth Avenue front and the addition of 827,149 sq. ft. of office space to the fourteen-odd million still available on Manhattan Island. More modest than its predecessor, the 70-story RCA building, the new tower rises 38 stories from the street, displays but small quantities of the Art which kicked up such a ruckus during the earlier stages of the development, and makes its one big splash with a marble-lined, copper-ceilinged lobby four stories in height, whose focal point is a pair of the shiniest, rankiest escalators in the city. Structurally the International Building differs but slightly from its predecessors: the same conservative approach which governed their design obtained here as well; mechanically it incorporates several innovations, at least one of which—the so-called “Selective Pooling” system—marks what is probably the most important single advance in the technique of large-scale cooling since the first days of the industry.

The form of the building is severe, and rather chunky; the tower rises straight to its full height, terminated by a two-story open loggia which conceals machinery and storage equipment; the top is unbroken save for some ornament which softens the line but does not alter the shape. The setbacks which flank the main body of the tower were determined not by esthetic considerations but by the banks of elevators: as a bank drops out the sides are set back so as not to increase the depth of the office space unduly; this condition is made clear by the plans which follow. The immense importance of practical requirements in the determination of the forms of such structures as the International Building, frequently lost sight of in criticism, and it is a point which cannot be stressed too much.

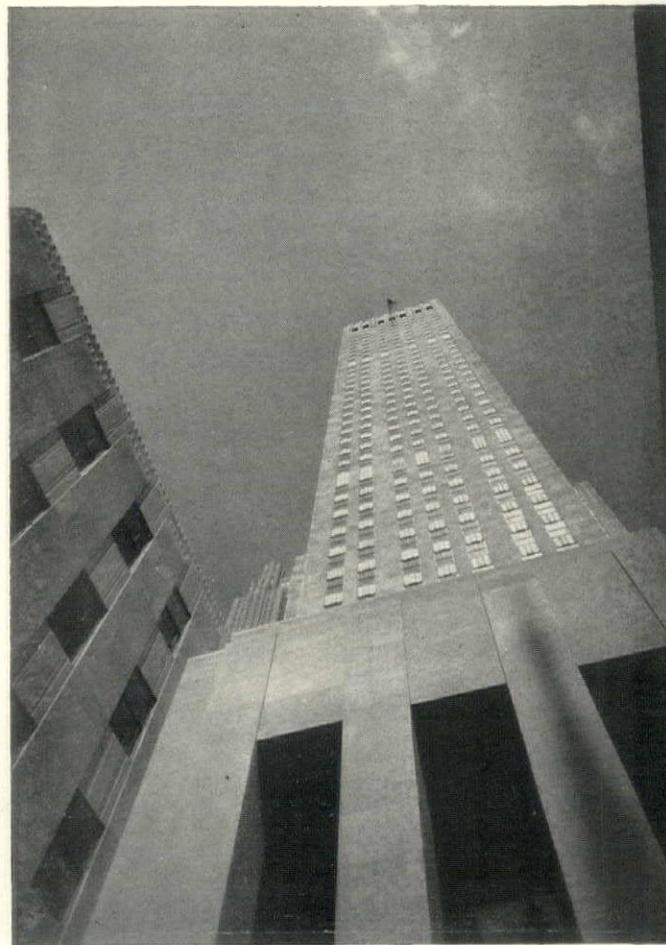
The Rockefeller Center development has had one purpose since its inception, and that purpose has been to invest a certain amount of money in a manner that would ensure a reasonable return on that amount. This primary consideration, the creation of rentable space in sufficient quantity to pay taxes, operating costs, and a profit, has never been for an instant lost sight of. Esthetic considerations became important only as they contributed to the rentability of the space available, and the great numbers of sculptors and painters on the project were employed, not because of any philanthropic desire on the part of the owners to play Mæcebras, but because of a conviction that “art paid.” In a set-up of this type the men who manipulate costs and possible returns hold the strings: the architect works within the strictest possible limits. Yet in spite of these restrictions it is the architect who in the end is the creator of whatever there may be of beauty and distinction. The dramatic qualities of the

CORBETT, HARRISON AND MACMURRAY
HOOD AND FOUILHOUX
REINHARD AND HOFMEISTER

ARCHITECTS

JOHN LOWRY, INC.
GENERAL CONTRACTOR

PHOTOGRAPHS BY F. S. LINCOLN

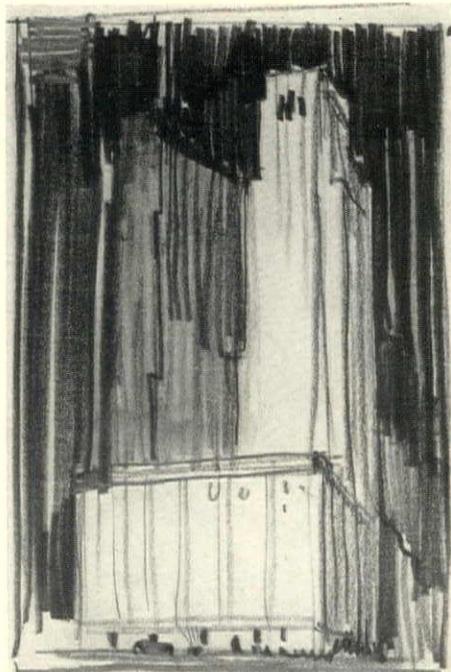




Buildings in this project, the exciting contrasts of volumes, the architectural qualities, attained within the boundaries imposed by financial considerations. For those who rebel against this "shackling" of art, it might be well to remember the Greeks who designed within a set form for three centuries, or the Italian painters of the Quattrocento.

An examination of the stages through which the International Building passed, from the first sketches to the completed structure will show the nature and the extent of the limits within which the architects worked. In the beginning it was proposed to build a department store where the two wings are now located; this required that the office space be placed in a slender tower at the back of the lot, 45 stories in height. When the department store idea was dropped the building was redesigned as a 30-story tower with two nine-story extensions in front. A later attempt, which retained the wings but reduced the tower to 14 stories, was discarded. The building reached its final form only after the British Empire Building and its twin were completed, at which time it was observed that a repetition of these units along the avenue would have an agreeable effect; this concession to appearances pushed the tower up to 38 stories, which height gave the required rentable space. In all its phases the building took its form from the rental department, not the architects' office; but once determined it was within the architects' power to make or ruin it.

The court which leads to the main entrance of the International Building is of splendid and imposing design. Huge piers, without ornament, give the composition solidity and dignity; while in the daytime the plate glass windows reflect the elaborate facade of the Cathedral of St. Patrick across the avenue, furnishing a contrast as exciting as it is unexpected. In the center of the court stands a curious wooden affair shaped like the top of an obelisk, where it is planned to place a statue of some sort at a future date; this element, regardless of its intrinsic merit, is likely to be superfluous in an area where a clean sweep of pavement leaves nothing to be desired. The main hall, directly beyond the entrance, is one of the best things of its kind that has yet been done. Four stories in height, with four thin columns extending from floor to ceiling without bases, caps, or any interruptions save some indirect lighting fixtures, it is a most convincing solution. The columns are covered with a veneer of marble whose contrasting colors give it a lack of solidity which emphasizes the existence of the steel within. This emphasis is further carried out by the shapes of columns, whose H-plan echoes the form of the structural members. The walls are covered with richly veined Greek marbles whose patterns are sufficient decoration in themselves. Similarly, the floors are plain save for the texture of the terrazzo. The copper leaf ceiling is a highly successful innovation which originated in an ash tray whose color and surface so delighted one of the archi-



DEPARTMENT STORE AND TOWER

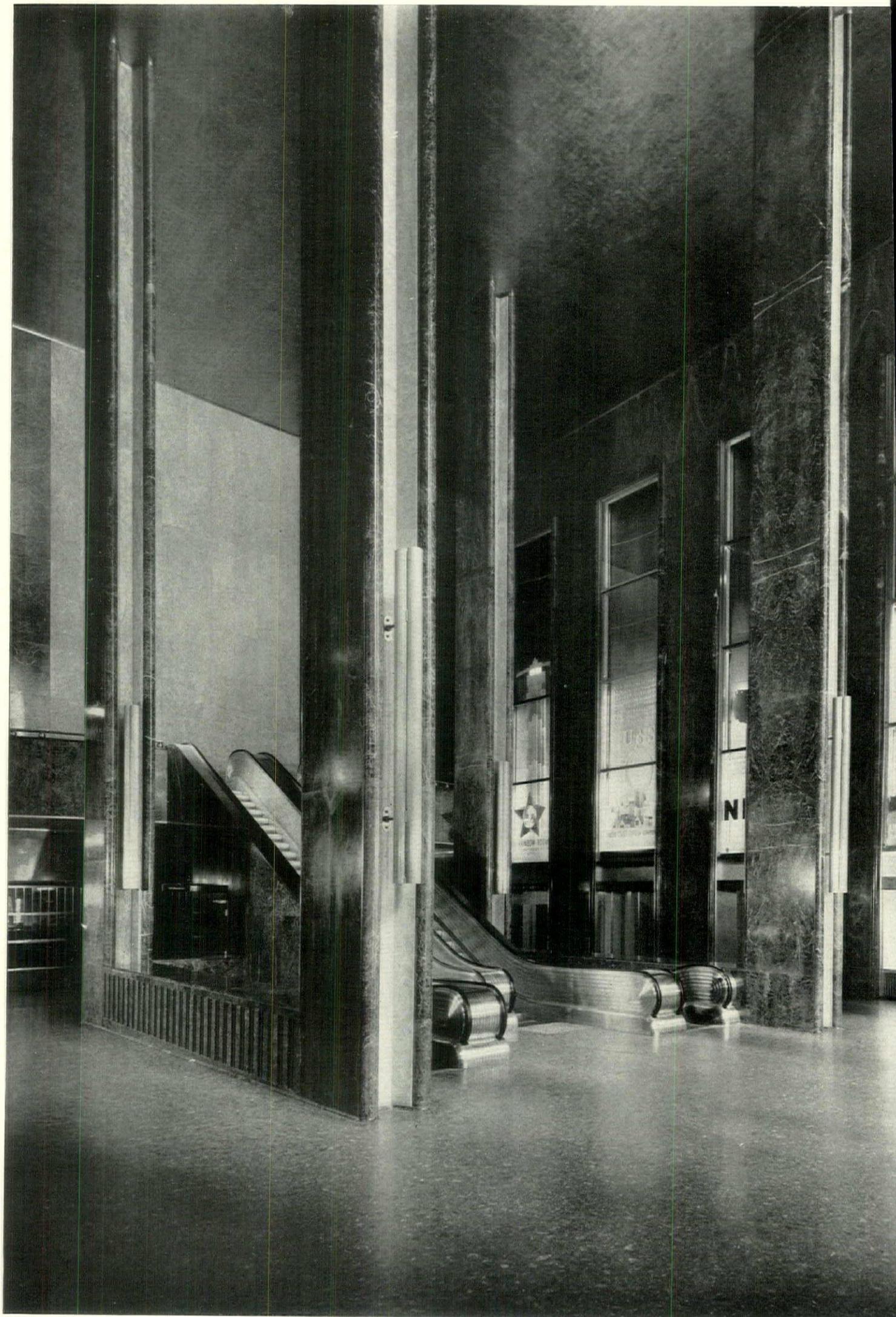


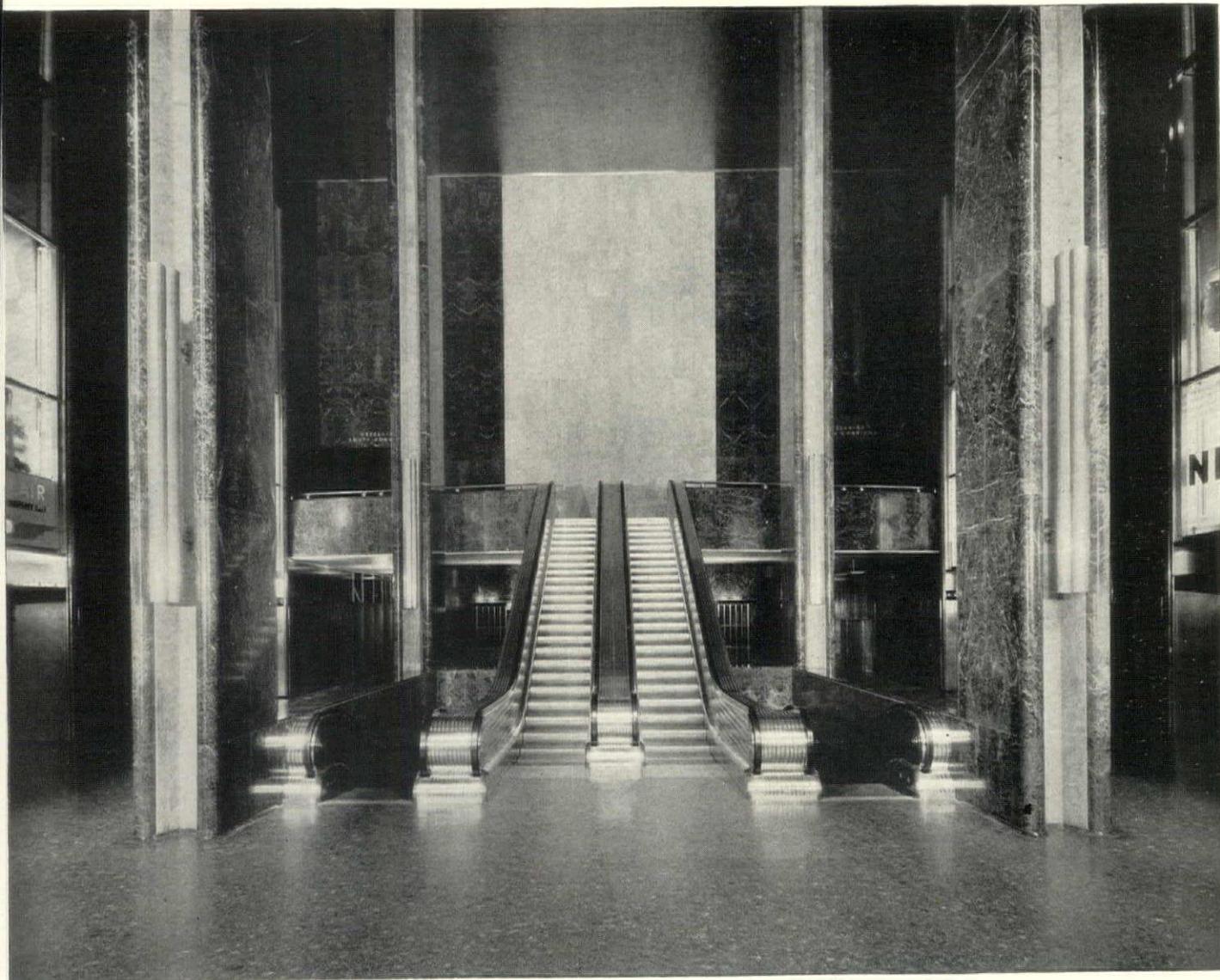
NINE-STORY WINGS AND TOWER



NINE-STORY WINGS; TOWER LOWERED
SKETCHES OF PRELIMINARY STUDIES

INTERNATIONAL BUILDING





THE GREAT HALL

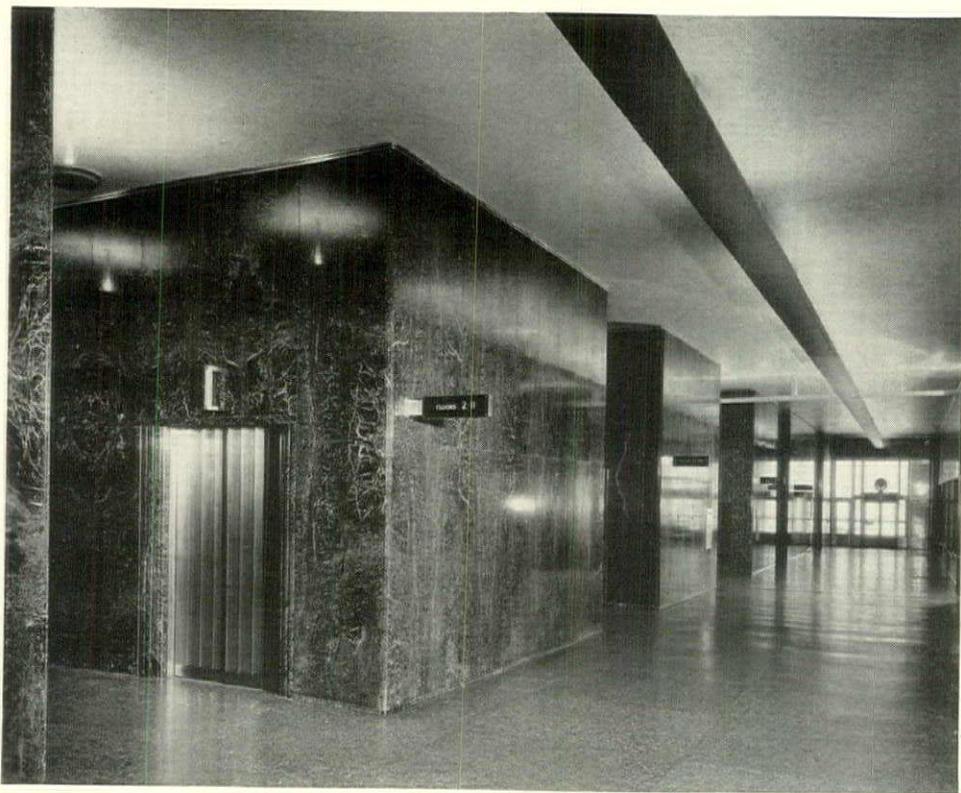
fects that he adopted it for this hall. The show windows, which extend almost the full height of the room, are still in an experimental stage. It has been planned to use the hall for exhibitions of a character not yet definitely determined, and the show windows will become a part of this display. At present various schemes are being tried to discover what type of thing will be best suited to the space. The escalators in the center of the room lead down to a shopping concourse, and up to an exhibition level. The hard, machined perfection of their forms is in complete harmony with the almost mechanical severity of the room. Lighting is provided by the show windows at the sides of the room, by reflectors inserted in the channels of the columns, and by the large windows which open on the entrance court. Although the room is high, and covered for the most part with a dark material, these lighting sources, aided by the reflecting surface of the ceiling, give adequate illumination.

Passages to the elevators are provided on either side of the escalators. Here, in both side and elevator corridors, long troughs, suspended from the center of the ceilings, furnish the illumination, their long lines giving direction to the plan. An unusual amount of daylight is admitted through the large entrance openings which are situated at the ends of both long



ELEVATOR BANK LIGHTING

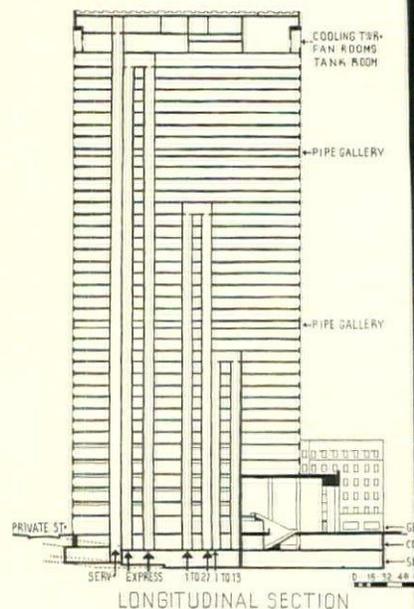
INTERNATIONAL BUILDING



ELEVATOR BANK AT SECOND FLOOR LEVEL



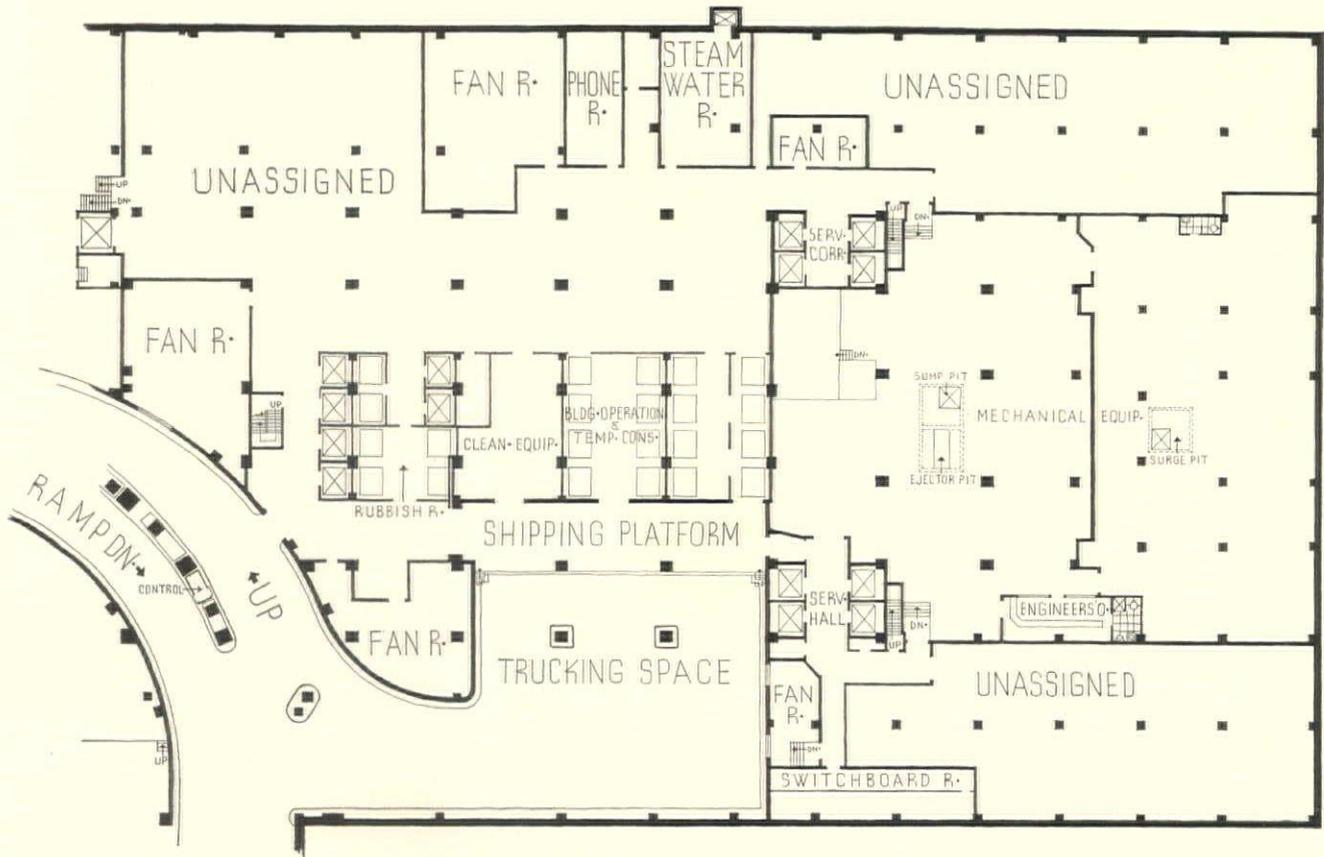
and transverse corridors. Like the main hall, the elevator corridors have a similar quality of precision, and show the same reliance on surface pattern. Elevator doors are simple surfaces of polished metal, and moldings are eliminated for the most part. The cabs, better lighted than those in the RCA building, are of metal, covered with wood veneer interrupted at intervals by horizontal strips of metal. Their most distinguished feature is a patented ventilating device, installed in the center of the ceiling of each cab. Its refined, precise form strikes the keynote for the entire treatment of the first floor, whose consistently maintained quality of sleek mechanical perfection is as appropriate a solution for the commercial building as has yet been seen.



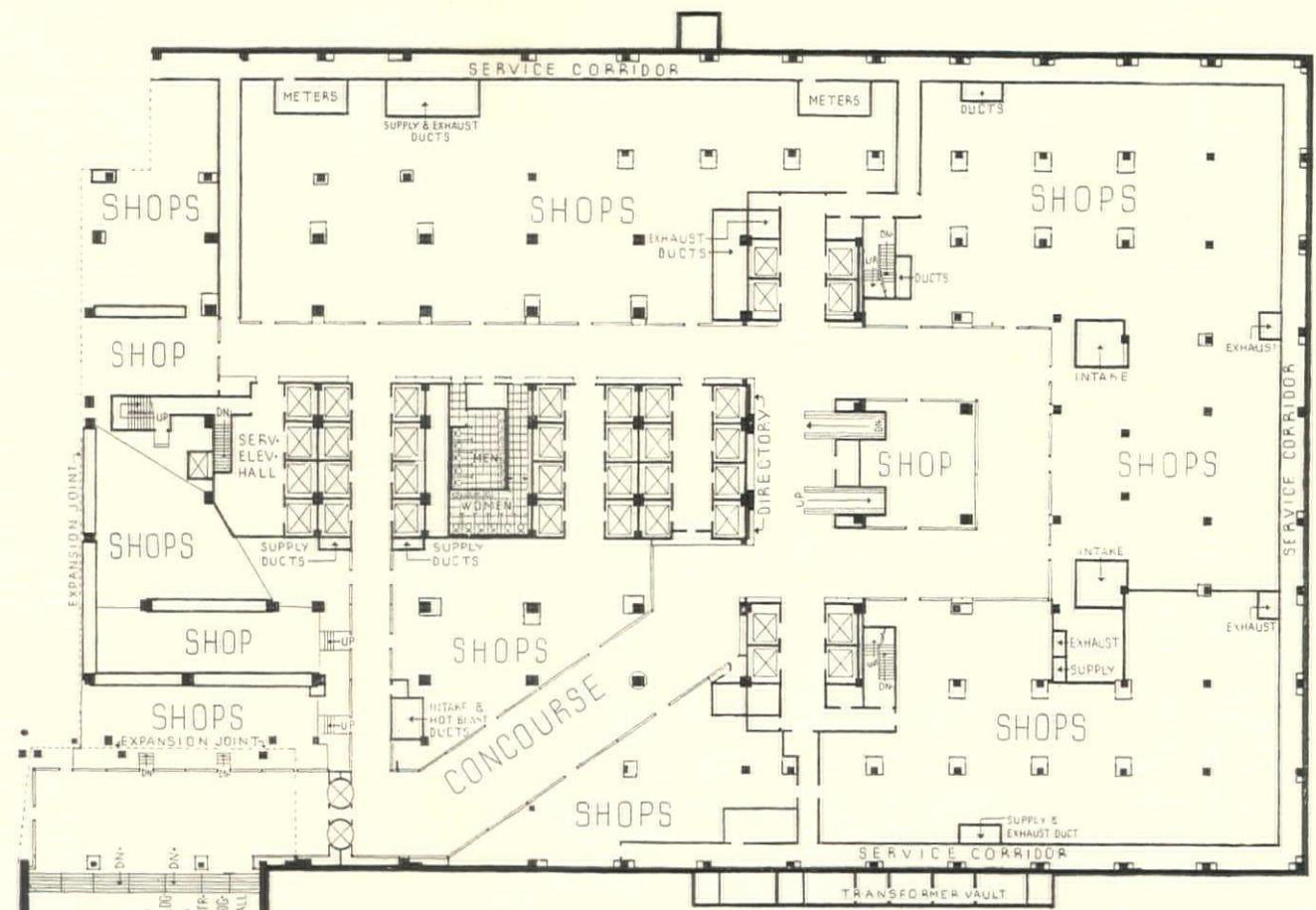
LONGITUDINAL SECTION



TYPICAL ELEVATOR CAB INTERI



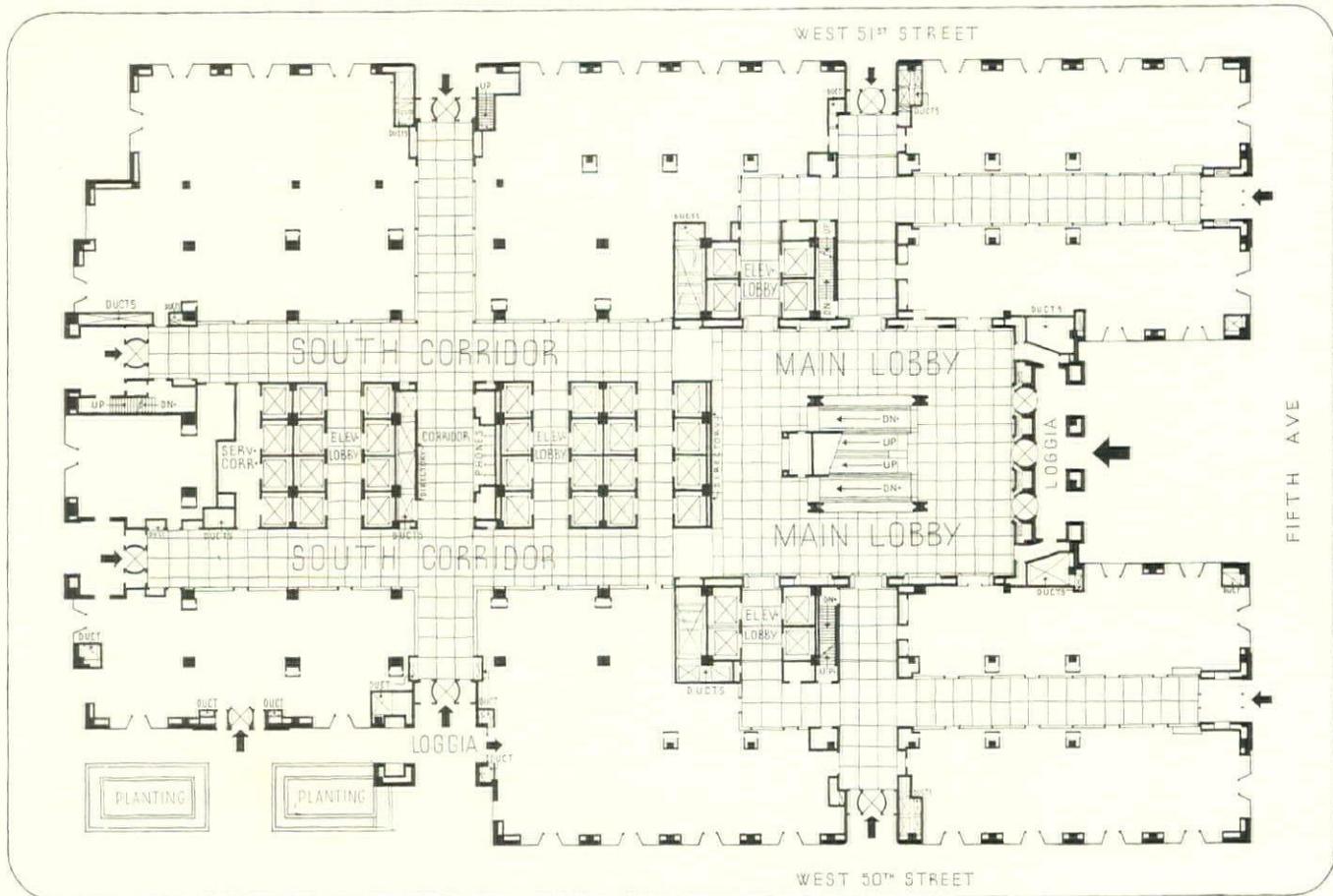
BASEMENT



SCALE IN FEET
0 5 10 20 30 40

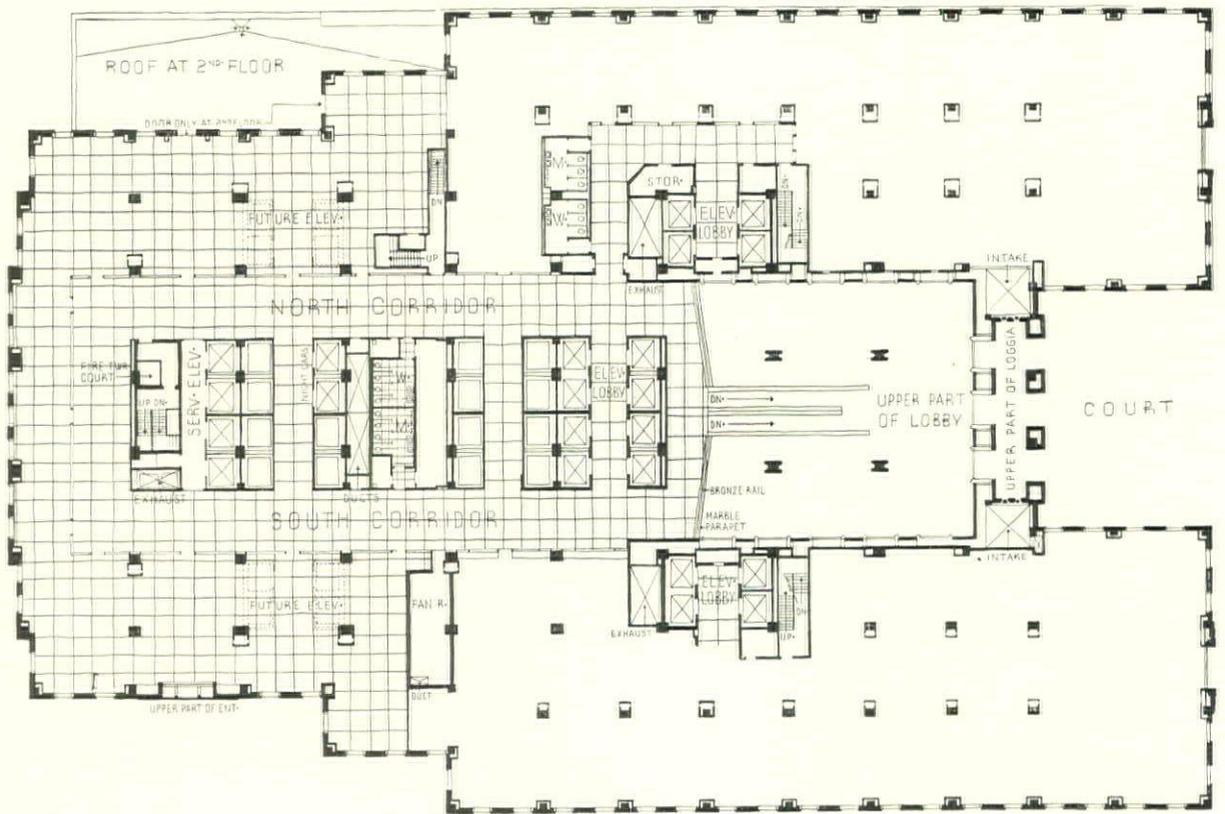
CONCOURSE LEVEL

INTERNATIONAL BUILDING

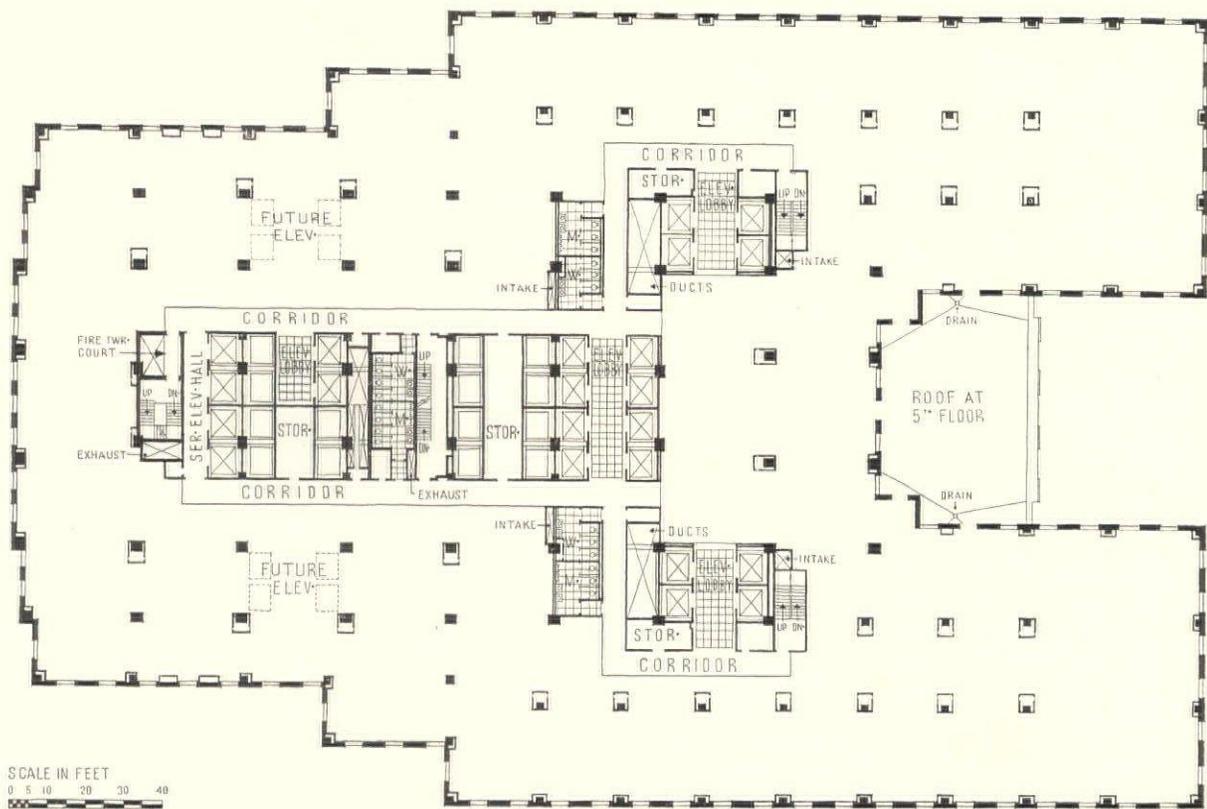


SCALE IN FEET
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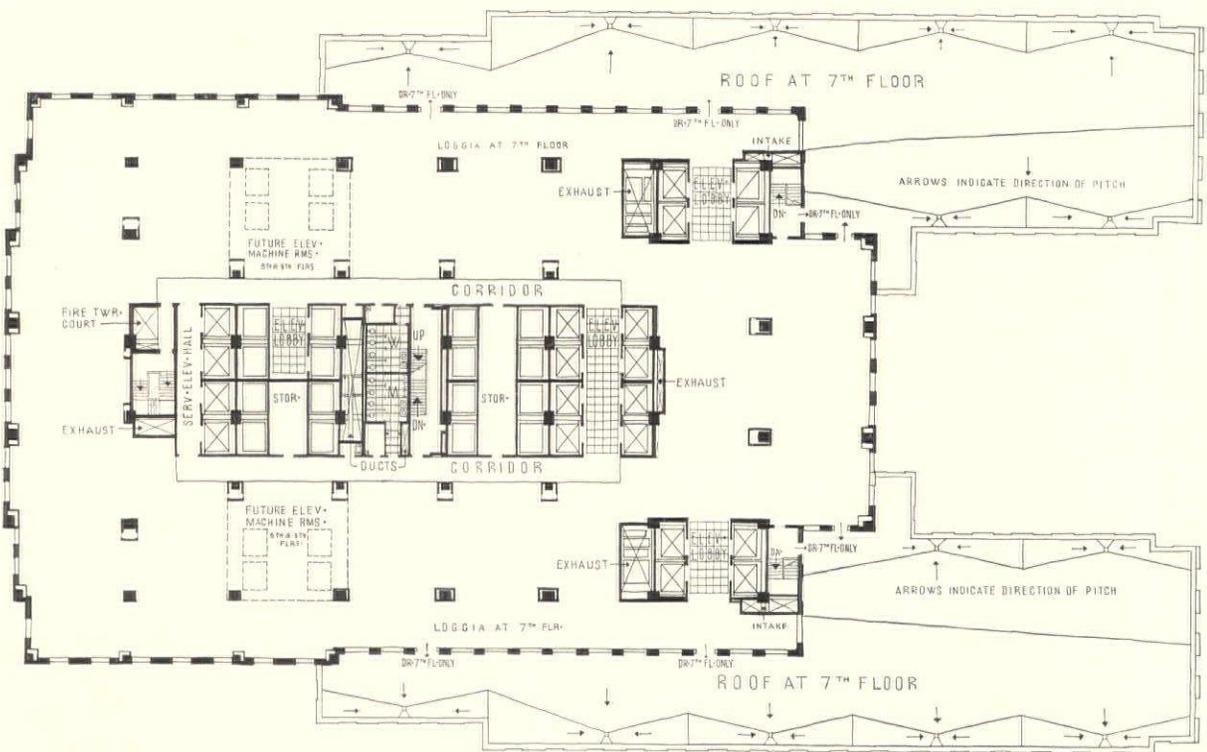
GROUND FLOOR



2ND FLOOR

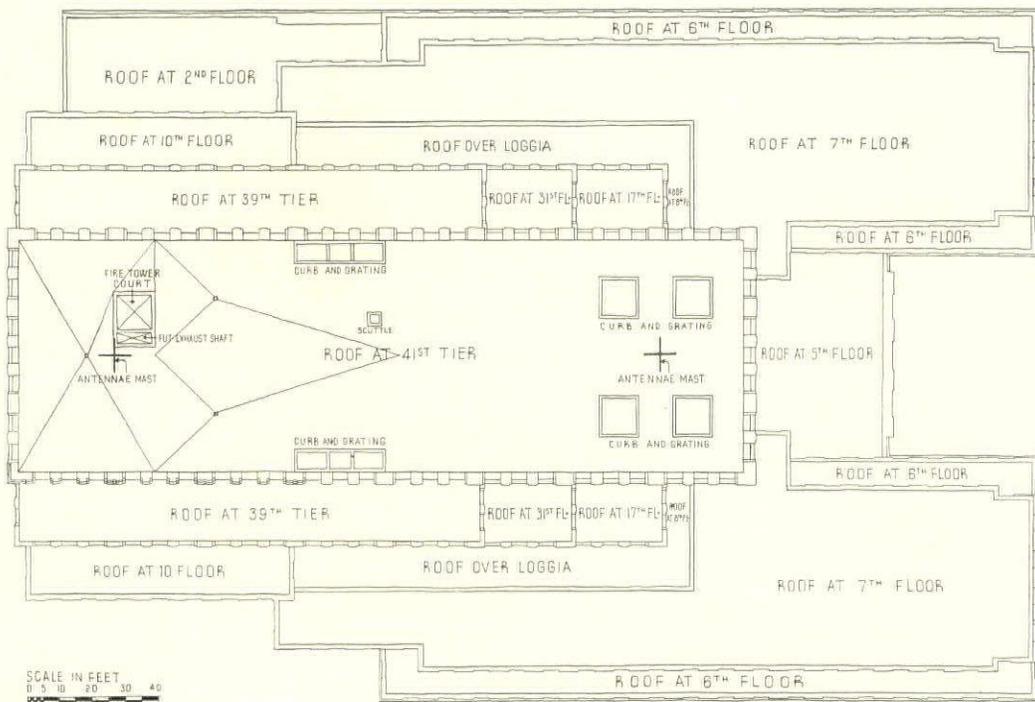
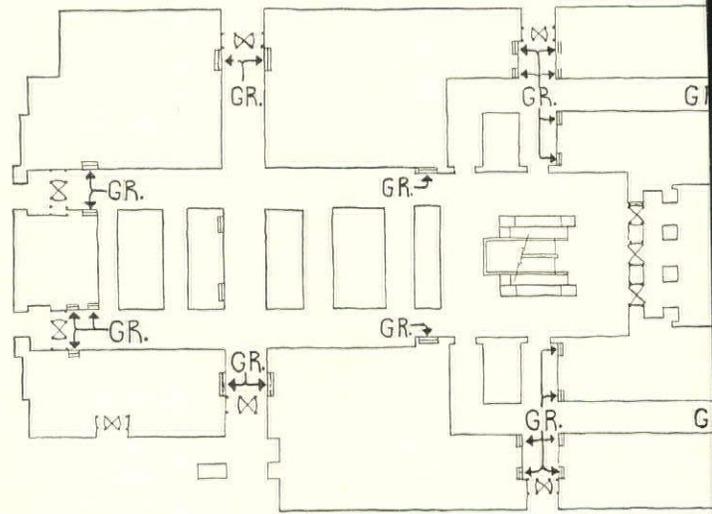
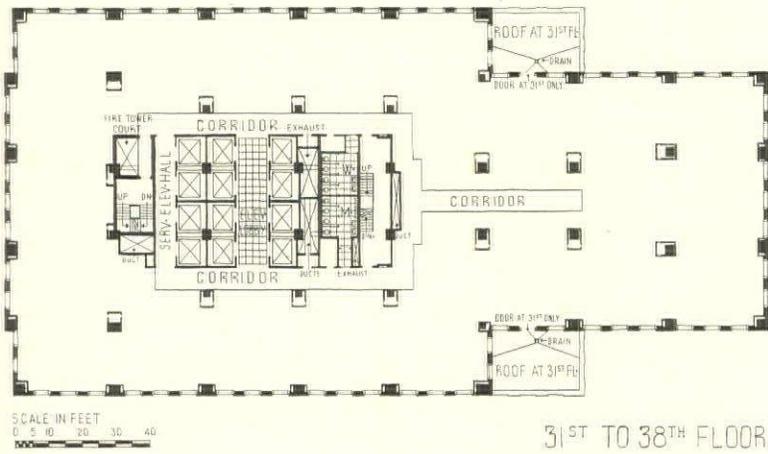
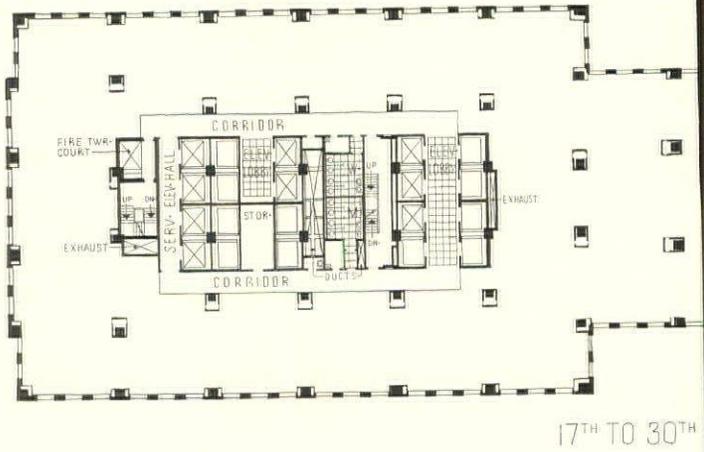
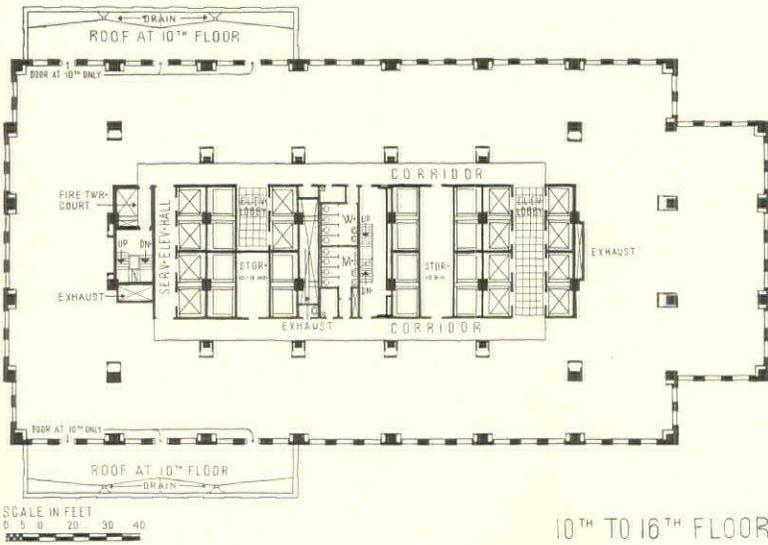


5TH FLOOR



7TH 8TH & 9TH FLOORS

INTERNATIONAL BUILDING



CAVATION AND ENCLOSURE OF BASEMENTS—Entire area rock-cut excavation. Basement walls and sub-basement floor slabs are stone concrete with 1" drolithic finish on both. "ESCO" on basement floors, Preservative Products Co. drolithic waterproofing by Western Waterproofing Co. Tile drainage system in the rock fill under the floor slab. Main tiles by Robinson Clay Products Co. structural steel columns fireproofed with one concrete to ceiling of first floor, in main hall to fifth floor. All column fireproofing above is cinder concrete. Cement Lehigh Portland Cement Co. and Universal Atlas Portland Cement Co.

STRUCTURAL STEEL FRAME—Steel from Carnegie Steel Co., fabricated by American Bridge Co. All beams and columns given a heavy coat of mastic paint before masonry is set up. Dampproofing and protection steel by Goroco Products Co.

FLOOR ARCHES—All roof and floor arches in general are short span cinder concrete arches, reinforced with wire mesh in accordance with the Building Regulations of the City of New York. Washington Concrete

SHEET METAL WORK—All sheet metal work, including all flashing, is copper. Flashing concealed at copings, and at walls adjacent to roof, being carried through entire width of wall, approximately 2'-0" above ecks. Sheet copper by Revere Copper and Brass Co.

ROOFING—All roofing in Promenade tile set in fill over a five-ply built-up composition roofing, except roofs reserved for gardens. Composition roofing Flintcote; lead coat by Redkote Products Co.

EXTERIOR WALLS—Exterior walls and piers built up with 4" limestone ashlar, backed with 8" common brick. Brick by Jova Brick Works. Mastic waterproofing on back of all brick exterior walls. Plastering on exterior walls is on expanded metal lath set in vertical channels which are attached to Simp-L-on furring brackets set in horizontal course of brick masonry. Brackets allow 3" approximately for clearance. The bottom of plastering and lathing is supported 1" clear of floor. This allows concealment of radiator piping and electrical conduits carried in wall, a detachable metal base being used for access to piping. All other bases where piping does not exist are 6" cement. NOTE: In previous buildings of the development 3" tile was used instead of Simp-L-on furring.

SCULPTURE—Sculpture over entrances of International Building and Palazzo d'Italia by Piccirilli Bros. Glass panels in same entrances modeled by Attilio Piccirilli; panels cast in sections by Corning Glass Co. Sculpture facing Rockefeller Plaza on 50th Street by Lee Lawrie. Other sculpture over entrances by Gaston Lachaise. Panels of the parapets of Palazzo d'Italia and International Building which face 5th Avenue by Leo Lonnelli.

INTERIOR PARTITIONS—Hollow tile block encloses all stairways, elevator shafts, corridors, toilet rooms, pipe and duct spaces. Gypsum blocks plastered, metal and glass are building standard for partitions in rentable areas. Structural glass partitions, Pittsburgh Plate Glass Co. Hollow tile by New Jersey Hollow Tile Corp., Gypsum blocks, J. S. Gypsum Co.

METAL FURRING AND LATHING—All suspended ceilings of expanded metal lath. Galvanized metal rail type corner beads used for all vertical external corners including window jambs. In large plastered areas

metal expansion joints are used to prevent cracks.

PLASTER WORK—All plaster work 3 coats on metal lath, 2 coats on masonry walls. Portland cement plaster 6'-0" high was used above tile base in all Janitors' closets.

PAINTING—All exterior and interior metal work, except bronze and copper, primed and painted with lead and oil. All hollow metal doors have baked-on enamel finish. All plastered walls are painted oil paint glazed; ceilings painted with water paint.

GRANITE—The base of the building and window bulkheads are finished in polished Deer Island granite. Entrance vestibules and curbing are also granite. Justin R. Clary & Son.

LIMESTONE—Used in general for ashlar facing of walls, for copings, and for piers and spandrels in the lower stories. Entrance doorways, piers, and spandrels in lower stories are buff Indiana limestone. All other places, rustic buff limestone with sand and shot sawn finish. Pressure relieving corrugated lead joints used horizontally in stone joints, approximately 23' apart, by Cowing Pressure Relieving Joint Co.

METAL WINDOWS—All windows above shop fronts are double hung steel, Campbell Metal Window Corp. Glazing, polished plate clear window glass by Pittsburgh Plate Glass Co.

ALUMINUM SPANDRELS—All spandrels in the tower above roof setbacks are cast aluminum, shot and soap rubbed finish, and connected with brackets to the building steel. Mastic paint was used as a separator between steel and aluminum connections. Spandrels by G. E. Halback & Co.

SHOP FRONTS—Natural bronze for all exterior shop fronts and entrance doors by General Bronze Corp. All revolving doors, swing doors, and trim are natural bronze. All store name inscriptions are natural bronze letters set in front of black structural glass over show windows. All glass, plate and structural, by Pittsburgh Plate Glass Co. Awnings by New York Awning Co.

ROLLING STEEL SHUTTERS—All rolling steel shutters by Kinnear Mfg. Co.

FLAG POLES—American Mast and Spar Co. **ASPHALT PAVING**—"Colprovia," by Limestone Products Corp.

HEATING AND VENTILATING—System installed by Almirall and Co., Inc. All specialties manufactured by C. A. Dunham Co., radiators, American Radiator Co., pipe, National Tube Co., fittings and valves, Crane Co., insulation and pipe covering, Keasbey and Mattison Co., temperature regulation, Powers Regulator Co., gauges, alarms, and gauge board, Consolidated, Ashcroft, Hancock Co., registers and grilles, Tuttle and Bailey Mfg. Co., pressure reducing valves, Curtis, D'Este Co., expansion joints, Fulton Co., carbon monoxide recorder, Mine Safety Appliances Co., ozone machines, Montgomery Brothers, automatic dampers, Preferred Utilities Co., fan foundations, Korfund Co., drip pumps, Ames Pump Co., wire screens, Jos. Hopkins Wire Works, economizers, Davis Engineering Co., thermometers, Taylor Instrument Companies, sheet metal (sheets), Republic Iron & Steel Co., fans, B. F. Sturtevant Co., motors, Crocker-Wheeler Electric Manufacturing Co., controllers, Sundh Electric, Clark Controller Co., belts, American Pulley Co., air filters, American Air Filter Co.

SELECTIVE COOLING SYSTEM—This marks the most important advance in the cooling and air conditioning of large buildings since the industry began. Instead of a

system of ducts throughout the building, which would use up too much of the rentable area, a complete set of piping has been installed through which cold water is passed. These pipes can be tapped at any wet column, connected to a coil and a blower unit, and no further equipment outside of a few ducts is necessary. The system provides maximum flexibility, as a tenant has the option of using air cooling or not, and all compressors and individual refrigerating plants are eliminated. Air is taken from the corridors, which is 5 to 15 degrees cooler than the air outside the building in summer; this reduces the amount of refrigeration necessary to bring the air to the required temperature. The same units can be used in winter for humidification if desired. The system was designed by Clyde R. Place, consulting engineer for Rockefeller Center, and installed by Baker, Smith and Co. Pipe, Byers wrought iron for screw pipe, Toncan pipe for welding, polished brass for trimmings, Anaconda. Screwed fittings, Crane Company. Welded fittings, Tube Turns, Inc. Valves, Crane Co., 2½" and over flanged iron body, O. S. & Y. bronze fitted, Crane Co's 2" and smaller, bronze bodies. Covering, Johns-Manville. Thermometers, Consolidated Ashcroft. Pumps, Lecourtenay. Motors, Crocker-Wheeler. Controllers, Sundh Electric—Clark Controller Co. Fans, Sturtevant. Fan drives, American Pulley Co. Air compressor, Ingersoll-Rand. Refrigeration machines, Carrier Engineering Corp. Dehumidifiers, American Blower Co. Steam heating stacks, Arco, Blast. Thermostats, damper motors, Powers Regulator Co. Non-corrosive paint, W. A. Briggs. Water meters, venturi type. Hangers, special construction. Radiators, Murray. Ducts, Republic Steel Corp.

ELECTRICAL SYSTEMS—Installed by J. Livingston and Co. Conduit by National Electric Products Co. Wire, Habirshaw Wire and Cable Co. Wiring devices, Bryant Electric Co. Switchboards and panels, Metropolitan Electric and Mfg. Co. Underfloor duct, Watson Bros. Outlet boxes, General Electric Co. Cable supports and insulated bushings, O. Z. Cable Co. Fire alarm, Edwards Electric Co. Watchman system and elevator signal system, Edwards Electric Co. and Autocall Co. Telephone strip boxes, Lexington Electric Co.

INTERIOR FINISH

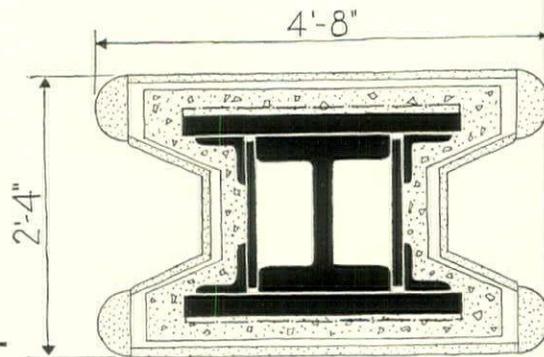
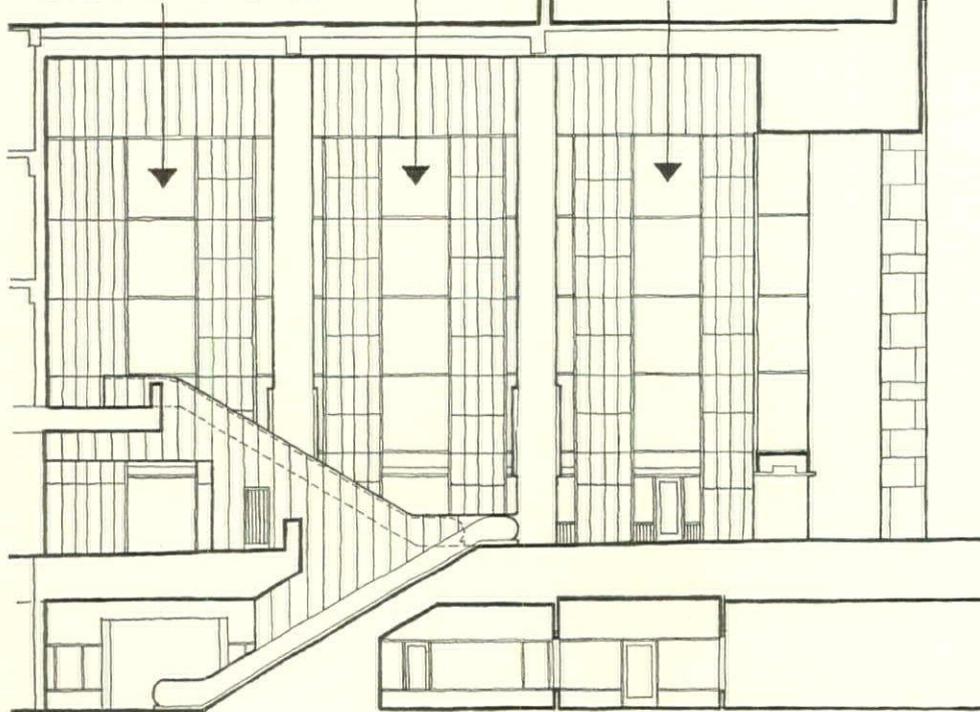
SUB-BASEMENT—Walls and ceilings painted with a brick and cement paint. Steel wainscot used throughout trucking platform and truck area with white-enameled brick above to ceiling.

ROCKEFELLER CONCOURSE—Shopping walls and ceilings plastered and painted. Floors of corridors finished two-toned terrazzo with bronze strips; all terrazzo by V. Foscatto, Inc. Corridor walls French gray marble facing to ceiling, capped with nickel bronze mold. Ceiling plastered and painted. All windows, doors, and lettering trim are nickel bronze; interior bronze by the Gorham Co.

GROUND FLOOR—Walls and ceilings in rental areas plastered and painted; floors cement. Corridor ceilings are suspended metal lath plastered and painted. Ceiling of main lobby is finished with copper leaf and glazed. Walls in main lobby and tower elevator corridor are finished in Tinos marble, an imported Greek marble. Marble by J. F. McGowan Marble Co. Corridor walls of the Palazzo d'Italia and the International Building are finished in imported Pink Travertine. The floors, lobbies, and elevator halls are finished in terrazzo with nickel bronze di-

INTERNATIONAL BUILDING

DISPLAY CASES—34'-0" HIGH—7'-6" WIDE



PLAN OF COLUMNS
AT ESCALATORS

LONGITUDINAL SECTION THROUGH MAIN LOBBY

viding strips. All door and window trim is nickel bronze. The show windows in the main halls extend from the window bulkhead at the ground floor to the ceiling line, under the 5th floor level. The windows are continuous in height and are subdivided with structural glass floor panels which are removable. Interiors of show windows are covered with fabric by J. H. Thorp & Co. Louvered and spot lights are set in the sides of the cases. Show window lighting supplied jointly by the Frink, Holophane, Sunlight, and Century Companies.

TYPICAL FLOORS—Walls of hollow tile plastered; ceilings plastered on slab and painted. Elevator corridors on lower typical floors: base, Red Levanto Melange; wall, Jaune Nile. Upper typical floors: base, Red Levanto Melange; wall, ivory vein floor to ceiling. Marble by Wm. Bradley & Son. Plaster ceiling painted, floors terrazzo. Corridor walls and ceilings plastered, 4" marble base with cork tile floor. All asphalt, rubber tile, and cork floors by David E. Kennedy, Inc.

TOILET ROOMS—Vitreous ceramic tile floors, glazed tile wainscoting in black finish and black structural glass toilet partitions with plastered walls and suspended metal lath and plaster ceilings. Janitors' closets have vitreous ceramic tile floors, glazed tile base, and cement plaster wainscoting above. Tile by Del Turco Bros., Harrison, N. J. Fixtures by Crane Co. Metal toilet stall doors, Schwindt Bros.

STAIRS—All building stairs are steel construction with iron balusters and steel newels, pipe hand rails and wall rails. Stairs by Albee-Godfrey-Whale Creek Co., Brooklyn, N. Y.

DOORS AND FRAMES—All doors, except those in public areas in shopping basement and ground floor, are hollow metal with combination steel bucks and trim; the doors are generally glazed full length and provided with glazed hollow steel transoms above. All hollow metal work, doors and bucks, by Dahlstrom Metal Door Co., Kalamein doors by Herrmann & Grace.

SADDLES—All door saddles in tenant rentable areas are aluminum, by Aluminum Company of America.

ALUMINUM RAILINGS—Sexauer & Lemke. **LIGHTING**—Office and corridor fixtures, Westinghouse Electric and Manufacturing Co. Other office fixtures by Graybar Electric Co. Special fixtures by Kantack, Inc.

SPRINKLER EQUIPMENT—By the Grinnell Co.

VENETIAN BLINDS—Mackin Venetian Blind Co.

ELEVATOR FRONTS—On typical floors, elevator fronts have complete frames of steel angles with combination steel bucks and frames, cast iron non-slip sills, steel doors with baked enamel finish. Elevator fronts by Art Metal Construction Co. Shopping basement and ground floor doors have nickel bronze fronts, jambs, and trim. Freight elevator doors, Peelle Co., Inc.

ELEVATORS—Equipment by Westinghouse Mfg. Co. A new feature, "quota control" limits the number of calls any cab will answer, ensuring more even service. An immediate signal device is another innovation: pressure of the signal button is followed immediately by lighting of the lamp at the door where the next cab is due. It is estimated that this will speed up loading by ten per cent. Speeds vary from 600 to 1200 ft. per minute. Both passenger and service elevators are of self-leveling gearless traction type. Doors equipped with two electric eyes to prevent accidents resulting from doors closing before passengers are on elevator.

ELEVATOR CABS—Metal, with veneer of Camaletta wood; a new construction designed to eliminate cab squeaks. Lighting direct. Flooring, "Royalite" rubber flooring, by Architectural Flooring Products Co. Cabs by W. S. Tyler Co.

ESCALATORS—Four, in main hall, serving the shopping basement and the mezzanine level. Nickel bronze finish. Otis Elevator Co. **MAIL BOXES AND CHUTES**—Nickel bronze finish on boxes. Mail chutes have special cigarette ejector at each letter drop to prevent fires from lighted cigarettes which have occurred frequently in the New York area. Cutler Mail Chute Co.

DIRECTORY BOARDS—Nickel bronze frames, Tablet and Ticket Co.

HARDWARE—Natural bronze on typical floors, nickel bronze on ground floor and shopping basement, P. & F. Corbin Co.



Photo-Ad

New materials—leather, stainless metals, glass—with qualities of lightness, color and durability adapt themselves so perfectly to the modern bar that they have become as typical of today's drinking place as the mahogany bar and brass rail of yesterday. In the Hotel La Salle Bar, and its two selected Chicago contemporaries which follow, the designer has displayed architectural ingenuity in interpreting these materials with no sacrifice to individuality.

BAR—Walls covered with silver paper (W. H. S. Lloyd Co.) with murals executed in white oil paint by David Leavitt, Chicago artist. Subject: Circus scenes.
Ceiling: Dark red. (Wallhide, Pittsburgh Plate Glass Co.).
Floor: Dark red linoleum. (Armstrong Cork Products Co.).
Woodwork: Painted white. Venetian blind: white.
Bar-top of turquoise blue Formica (Formica Insulation Co.). Sides of bar painted dark red

to match ceiling. All trim chromium. Work-board, including sinks, cocktail and beer stations (General Electric).

LIGHTING—Solar Light Co., Chicago.
FURNITURE—Wall seats of scarlet imitation leather (U. S. Rubber Co.). Tables painted turquoise blue; tops of Formica. Arm chairs of maple with scarlet imitation leather coverings. Bar stools of maple with white leather seats. (Garland Upholstering Co., Chicago.)

HARRY'S NEW YORK CABARET, CHICAGO, ILLINOIS



Hedrich-Blessi

The first and second floor of a 60-year old building of ordinary construction once occupied by the Lipton Tea Co. now house two sleek adjuncts to contemporary living: Harry's New York Bar on the first floor and the Globe Trotters Club on the second. The bar front matches the copper and stainless steel fireplace (right) with the horizontal lines repeating the blue and white bands of the wall. Aquaria behind the bar are indirectly lighted. Mural in the club dining room represents the club's seven private rooms each of which is decorated in a style typical of London, Paris, Berlin, Naples, Shanghai, Vienna and Havana.



DINING ROOM

BAR LOUNGE

Walls—deep blue.
 Fireplace—copper, stainless steel, black tile.
 Murals—white and gold.
 Carpet—mulberry.
 Furniture—upholstered in yellows, terra cotta, alligator skin.
 Ceiling—yellow.

BAR

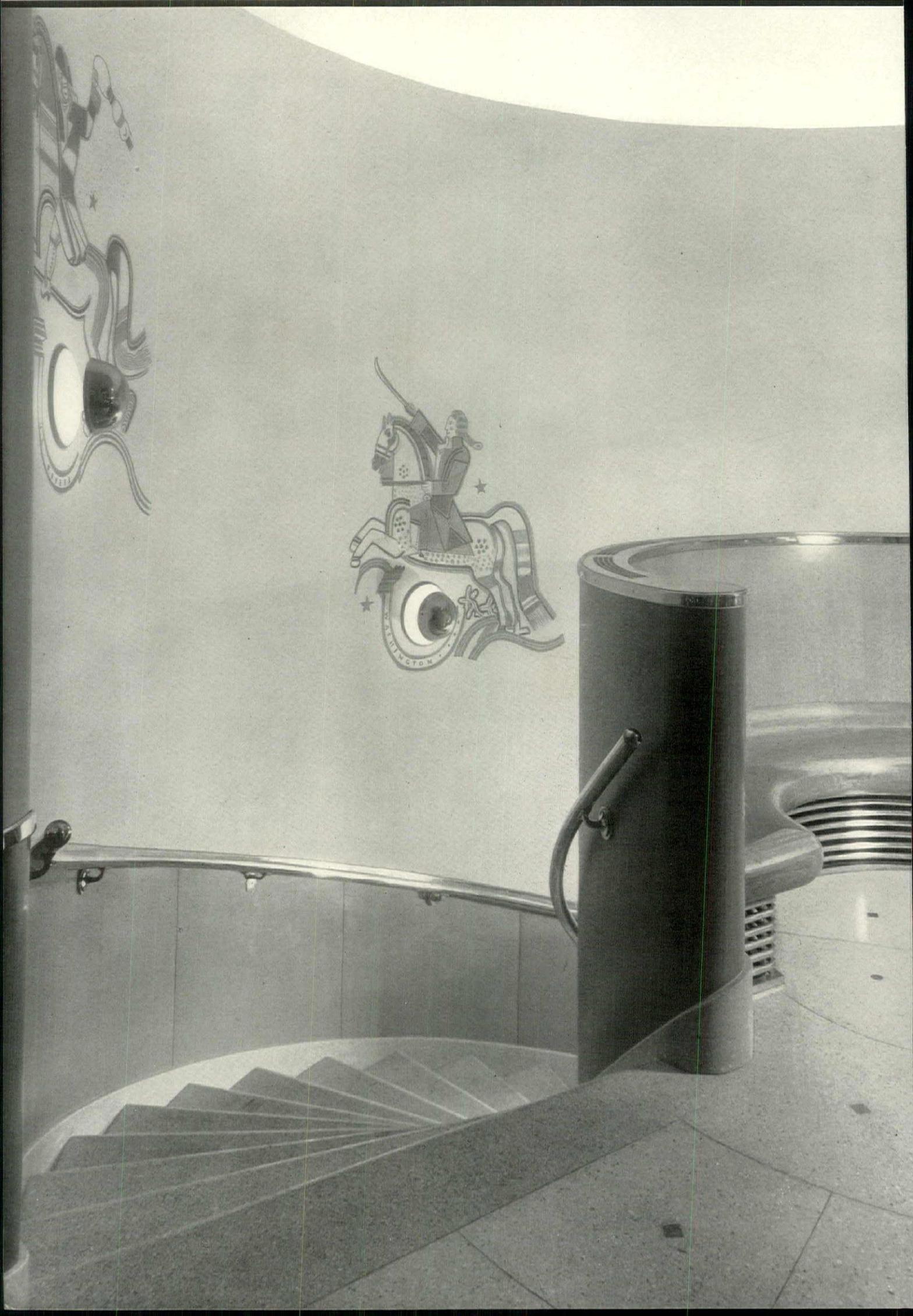
Ceiling—deep ultramarine.
 Walls—dull black.
 Decorations—white and blue.
 Bar Front—copper, stainless steel, with deep blue bands.
 Carpet—mulberry.

CLUB DINING ROOM

Ceiling—eggshell white.
 Walls—orange.
 Ornamental plaster—coral, white, finished with emerald green glaze.
 Drapery—reddish brown and yellow ripple mohair.

Bar furniture designed by Harry Lund, manufactured by Wisconsin Chair Co. and Warren McArthur. Bar front and fireplace made from Anaconda sheet copper and Enduro Steel, Republic Steel Corp. Carpets by Sloan Claridge.





CHICAGO, ILLINOIS

GRAHAM, ANDERSON, PROBST & WHITE, ARCHITECTS
ALFRED SHAW, DESIGNER

EDGAR MILLER, MURAL PAINTER

GEORGE A. FULLER, GENERAL CONTRACTOR



Hedrich-Blessing Photos

Latest and architecturally most up to date of their long line of successful Chicago restaurants, is the Eitel Brothers' Yankee Grill on the main floor and lower arcade of the Field Building. Designer Alfred Shaw of Graham, Anderson, Probst & White chose an American theme which dictated a color scheme mainly red, white and blue, and executed it in a modern adaptation of Viennese baroque. This treatment provoked such gay notes as Edgar Miller's equestrian figures of Washington and Paul Revere on the winding stair hall connecting the two levels. The patriotic motif is further carried out in the oyster bar's lighting fixtures of flags, stars and spread eagles, and extends even to the white and blue costumes of the waitresses. The restaurant was planned to serve every kind of meal from breakfast to private dinner party in decoratively suitable surroundings. The major dining divisions are: main dining room, marine room, grill, buffet, oyster bar, lunch room and two private rooms, one seating 30, the other 60. The last two units may be thrown together to form a single banquet room. Total seating capacity of the restaurant is approxi-

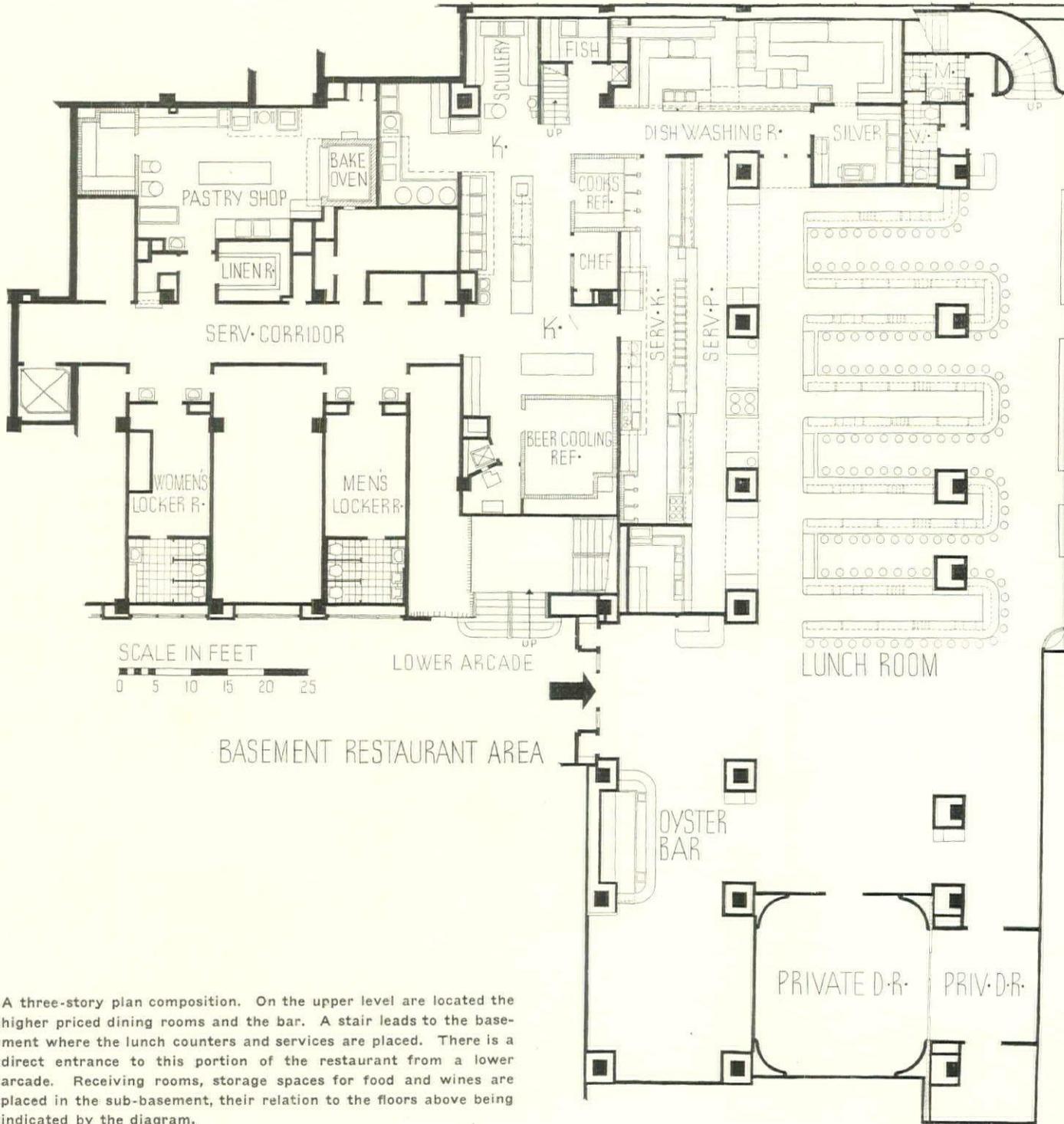




LUNCH ROOM

mately 600. Between the grill and buffet on the upper floor (level with the Field Building's main lobby) is a glass trout tank, replenished once a week with game fish from Wisconsin. Here patrons use nets to catch the fish they want prepared. A still further step in taking the customers into the restaurant's confidence is a service kitchen opening off the grill, permitting diners to watch the preparation of the food. The rooms are air conditioned throughout. Rubber tile floors and acoustic tile on walls and ceilings keep the restaurant's inevitable clatter at a minimum. (Plans are shown on page 477.)

YANKEE GRILL, CHICAGO



A three-story plan composition. On the upper level are located the higher priced dining rooms and the bar. A stair leads to the basement where the lunch counters and services are placed. There is a direct entrance to this portion of the restaurant from a lower arcade. Receiving rooms, storage spaces for food and wines are placed in the sub-basement, their relation to the floors above being indicated by the diagram.

CONSTRUCTION OUTLINE

CONSTRUCTION

General contractor—George A. Fuller Co.
 Concrete work—Melvin White, Inc.
 Structural steel—Wendnagel & Co.
 Partitions—National Fireproofing Corp.
 Plastering—McNulty Bros. Co.

WALL AND FLOOR FINISHES

Marble—Vermont Marble Co.
 Art marble—Chicago Art Marble Co.
 Ceramic and quarry tile—John Caretti & Co.
 Ceramic tile—Mosaic Tile Co.
 Sanacoustic tile—Johns-Manville Sales Corp.

Rubber tile and linoleum—Melville Rubber Tile Co.
 Rubber tile—Stedman Rubber Tile Co.
 Cork acoustic tile—O. W. Richardson Rug & Furniture Co., Armstrong Cork Co.
 Carpets and linoleum—Marshall Field & Co.
 Paints and varnishes—Pratt & Lambert, Inc.

IRON WORK

Ornamental iron—E. M. Weymer Co.
 Metal partitions—Sanymetal Products Co., Inc.
 Hollow metal doors—Variety Fire Door Co.

HARDWARE

P. & F. Corbin Co.

GLASS

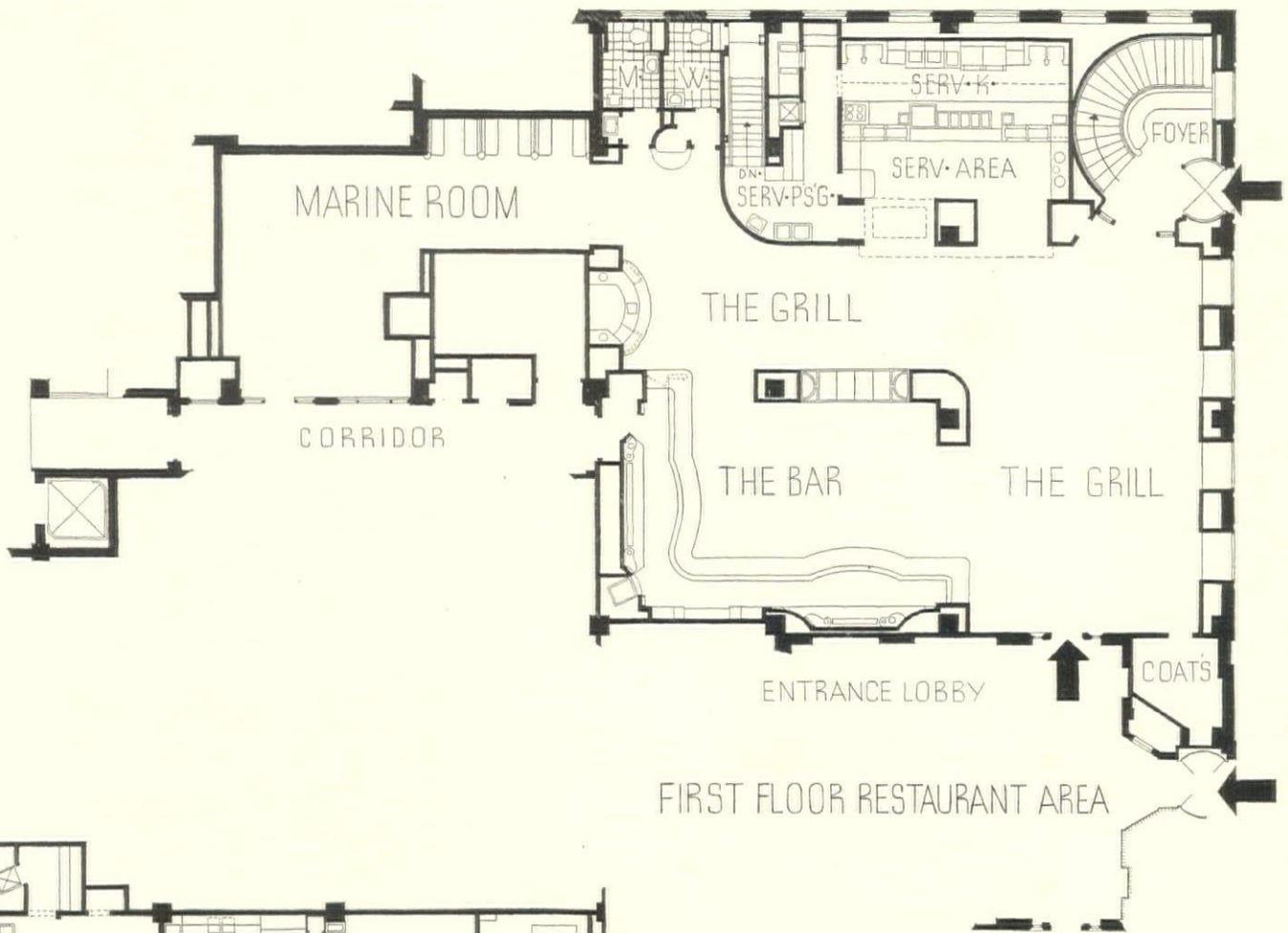
Glass and mirrors—Hooker Glass & Paint Mfg. Co.
 Carrara structural glass—Pittsburgh Plate Glass Co.

WIRING

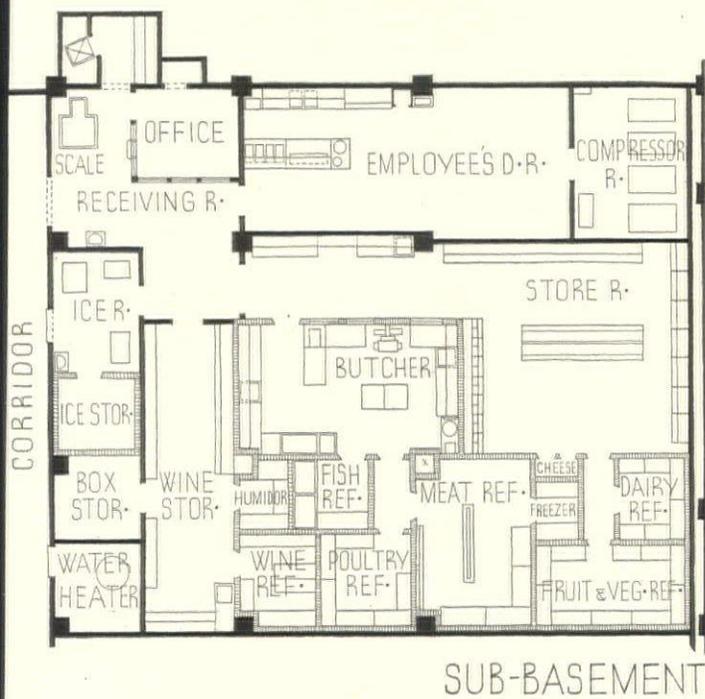
A. S. Schulman Electric Co.

LIGHTING

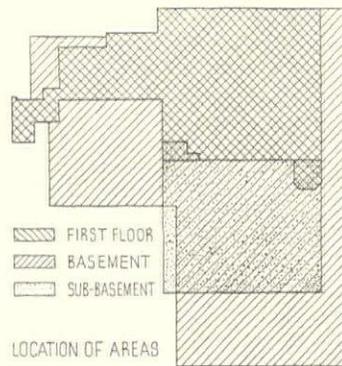
Fixtures—Cooper-McGurk-Stewart, Inc., Walter G. Warren & Co.
 Illuminated signs and reflectors—Frink Co.



FIRST FLOOR RESTAURANT AREA



SUB-BASEMENT



PLUMBING
By O'Callaghan Bros.
Sprinkler system—P. Nacey Co.

HEATING
Robert Gordon, Inc.

VENTILATING
R. B. Hayward Co.

AIR CONDITIONING
Carrier Engineering Corp.

AIR COMPRESSOR
Kellogg Compressor Service

ELEVATOR AND DUMBWAITERS
Otis Elevator Co.

WOODWORK
Cabinets—Schick-Johnson Co.
Lunch and cigar counters—Reliance Cabinet Co.
Micarta—Westinghouse Electric & Mfg. Co.

BAR FIXTURES
Bastian-Blessing Co.

SIGNS AND LETTERING
Eugene M. Bornhoff

KITCHEN
Equipment—Duparquet Range Co., G. S. Blakeslee & Co.

Electric cooking equipment—Edison General Electric Appliance Co., Inc.
Gas ranges—Vulcan Range Co.
Bakers oven—Middleby-Marshall Oven Co.
Refrigerators, built-in—United Cork Companies.
Refrigerating plant—Robert Gordon, Inc.
Refrigerating equipment—Carrier Engineering Corp.
Subveyor—Samuel Olson Mfg. Co. Inc.
Dishwashers—Crescent dishwasher.
Kitchen machines—Hobart Mfg. Co.
Electric toasters—Waters-Genter Co.
Platform scale—Fairbanks, Morse & Co.
Steel shelving—Berger Mfg. Co.

AN AMERICAN COUNTERPART

to Europe's mortgage banks is the minus quantity in U. S. low cost housing finance.

by ERNST KAHN*

ALL experts agree that a shortage of houses is imminent; they differ only in estimating its size. The famine of shelter will not only be a curse for millions of newly married couples and hundreds of thousands now doubling up with others, but simultaneously it will subject the much larger number of present lessees to vertical raising of rents.

The inevitable demand for the fixing of maximum rents by the authorities will not assure the necessary result, because such artificial emergency measures automatically diminish the supply by discouraging capital from going into housing—and thus prolong the shortage.

There are many who short-sightedly contend that the approaching crisis must be met by building out of public means, little realizing the gigantic financial and political consequences of such a procedure.

It is quite possible that the Government may have to grant some kind of help in order to inaugurate low cost housing. Those who look on public subsidy of any kind as an evil may find it sometimes inevitable. The question is, how to keep it within limits and at the same time to examine the possibilities of offering rents, after a period of transition, to all tenants on a reasonable basis. In other words, to find out, how if at all, the costs of housing can be sufficiently reduced.

The first fact beneath the surface is that the major part of the rent receipts is usually required for the payment of interest on the invested capital. Any attempt to lower rents consequently should start with a lowering of high money rates.

In applying this maxim to American housing, one quickly discovers an altogether abnormal situation. Mortgages in this country are available only under conditions contrasting most unfavorably with other countries. The average rate of interest charged in the U. S. is at least twice as high as in most European countries.

This astonishing situation is even more puzzling if one compares money rates in other fields of business on both sides of the Atlantic. The discount rate, the yield of Government securities, and the yield of good industrial bonds are much lower in the U. S. than in Europe. In fact, the only major exception seems to be the mortgage market. There must be good reasons for such a surprising and serious anomaly. Does capital consider this type of

*The third of three articles by Ernst Kahn, formerly general manager of housing in Frankfurt, Germany. The first (Aug. 1935, p. 90) proposed a plan for interest subsidies to private housing companies; the second (Sept. 1935, p. 203) outlined methods of rent reduction through lowered capital and operating charges.

An article in opposition to Mr. Kahn's first two articles by W. F. R. Ballard appears on p. 18, together with Mr. Kahn's reply.

investment proportionately more risky? Is organization of the mortgage market deficient? Or is there a concurrence of greater risk and inefficiency?

A partial explanation may be found in a comparison of the different units which supply mortgage money here and abroad, as seen in the following table:

PRINCIPAL SOURCES FOR URBAN MORTGAGES

| UNITED STATES | ENGLAND | CONTINENTAL EUROPE |
|------------------------------|--------------------------|--------------------------|
| | | Mortgage Banks |
| Building & Loan Associations | Building Societies | |
| Life Insurance Companies | Life Insurance Companies | Life Insurance Companies |
| Savings Banks | Savings Banks | Savings Banks |
| Commercial Banks | | |
| Private capital & Trusts | Private capital & Trusts | Private capital |
| | | Social Insurance |

There are three sources common to all the territories: life insurance companies, saving banks and individual lenders. Yet the table shows characteristic distinctions as to the other sources. For instance, two sources of urban long term credit in continental Europe not known over here are social insurance funds and mortgage banks.

Social insurance funds have proved ideal for housing in Europe

Because the United States has just adopted Social Insurance, it should be worth while to recall the splendid rôle which this institution has played in low cost housing. It is safe to say, at least in Germany, that the beginning of rehousing was largely made possible by money from this source. When, nearly fifty years ago, German philanthropists showed their willingness to put up their equity to launch limited dividend corporations for low cost housing, mortgage rates were too high to produce low rental housing. The promoters consequently approached the then newly established social insurance agencies asking for money below the prevailing rate, pointing out that better shelter for the insured workmen would lower the rate of death, disability and sickness and would thus keep down the outlay for these cases. The advanced conception of these agencies induced them to grant mortgages for model housing at an extraordinarily low rate (3½ per cent). Since that time the administrators of the social insurance institutions have considered it a noble tradition and a sound policy to allocate as much of their funds as possible to low cost housing. The latest statistics show that 37 per cent of their assets are invested in mortgages. This percentage presumably would be still higher if the agencies were

wholly free to invest the funds as they saw fit, but the Government forces them to invest a considerable part of the funds in Government securities.

In order to protect their interests, the social insurance groups early established an efficient accounting system, and in the course of events became the actual supervisors of low cost housing. The high character of their supervision is now accepted as the best safeguard against any shortcomings both by the Government and other mortgagees. It is to be hoped that the forthcoming regulations for the newly established Social Insurance in the U. S. will follow the European practice and take an active part in financing low cost housing.

Public confidence is at the base of the European Mortgage Bank System

Important as Social Insurance funds are for housing, this source is overshadowed by the activity of the continental mortgage banks. Before explaining their operations, it should be made clear that the European mortgage banks have nothing whatsoever in common with the notorious American mortgage institutions which were largely responsible for the complete disorganization of the American real estate market, and which caused popular distrust in the mortgage as an investment. In striking contrast to this attitude, the man on the street in continental Europe considers a mortgage bond the safest and most desirable investment he can make. Consequently the mortgage banks can sell their bonds at low yields and thus grant surprisingly cheap mortgages. In some countries these mortgage bonds are considered a decidedly more attractive investment than Government bonds. The old-established European mortgage banks, some of them a hundred years old or more, have never defaulted on an issue.

In explaining the extraordinary popularity of the European mortgage debenture to an American public, it must be pointed out that in practically all essentials the European bond differs markedly from the type of bonds hitherto issued in the U. S.

The American mortgage debenture is, or was as a rule, secured by one specific loan, granted on more or less conservative appraisal, on a single property; the European mortgage bond is based on the entire portfolio of mortgage loans made by the issuing bank. This consequently involves a beneficial spread of the risk. Whereas in case of default of the underlying property the American debenture becomes automatically obsolete, the arrearage on a mortgage held by a European bank is born by the totality of the bondholders.

Losses to bondholders, even when individual mortgage defaults were at their highest, rarely occurred because of the sound ratios, fixed by law, between capital and surplus and the amount of bonds issued. No such regulation was considered necessary when American mortgage companies were doing such an enormous business during boom times.

Furthermore, the salability of European bonds is practically unrestricted. They are, as a rule, subject only to very slight fluctuation as the market is always protected. No mortgage bank would dare to offer its bonds unless they had been officially listed on the stock exchange. Nor would the stock exchange list the security unless it

had been thoroughly investigated. There are, as you say over here, no "cats and dogs" among European mortgage bonds.

Further protection is afforded the bondholder in Germany through the mortgage bank legislation passed after the crisis of 1900. Permission to start a mortgage bank in the first place became subject to a special charter which in practice was most difficult to obtain. The law created special inspectors for each bank, chosen from ranking public officials and business men of integrity. Bonds could be issued only against an equal amount of first mortgages acknowledged as such deposited with trustees. Mortgages granted on property without permanent residential usage were not eligible as security (this applied especially to industrial plants). The act, similar in many respects to the recent American Securities Act, contains stringent regulations as to accounting and publicity.

The popularity of Mortgage Bonds with European investors could not have been achieved without exemplary publicity. In fact, like SEC offerings, their reports, in accordance with the law, give almost all the information necessary to form an opinion as to the merits and the demerits of the management. The mortgages granted are split up as to size, geographical distribution, etc. The number and character of houses foreclosed during the year and the sales value compared with the mortgage granted on the property have to be stated. And the exact percentage of arrears on interest has to be given.

The very fact of having to make such painfully detailed reports induces the management to be extremely conservative and to avoid unnecessary risks. These reports are published and analyzed in detail by the financial press, sometimes supplemented by additional information. The newspapers' keen interest in the mortgage banks, their watchful eye on any irregularity, have had its full share in establishing the high standard.

Government policy and public opinion tried from the beginning to influence the mortgage banks to grant amortized instead of term mortgages. Before the War the adoption of this system was vigorously opposed by real estate interests in larger cities, whereas it was favored in smaller towns. The explanation is found in the character of pre-War European conditions. Investment in housing, just as in America, was considered as an attractive field for the speculator. He seldom bought or built as a permanent investment but with the intention of selling as quickly as possible at a profit. This type of operator transacts his business with as small a capital as possible and has little use for the idea of gradual debt redemption. Hence the success of the agitation for amortized mortgages in districts remote from real estate speculation.

The situation was thoroughly changed after the War when the systematic encouragement of low cost housing brought new elements into metropolitan life. They gladly accepted the amortized mortgage as a sound basis for their financing. Consequently the amortized mortgage is today the rule rather than the exception.

Stability of price through market support supplies the buying stimulus

American students of European mortgage banks often wonder why the bonds of these institutions show little

fluctuation. The explanation lies simply in the realization by the mortgage bankers that price stability is the very foundation of the marketability of the bonds. Stability through market regulation not only creates confidence in the investor but it is also an indispensable condition for new business. Any mortgage granted naturally has to be based on the price at which the bond can be sold. In the absence of stable quotations wild fluctuations would take place; and a sound calculation (consequently fair offerings to the market) and competition with other agencies in the field would soon become impossible. Hence the attentive observation and regulation of the market by the mortgage banks. Their representatives on the stock exchanges buy, at least in normal times, any amount of bonds that may be offered without allowing the quotation to sag too quickly. That, of course, does not mean that prices are kept at a high level for any length of time if the general trend warrants a drop. No investor can expect to sell his bonds at top prices when higher money rates lead to a sinking of the whole list.

Considering the present well deserved unpopularity of mortgage debentures in America the reader may be astonished that in poverty-stricken Germany mortgage bonds totaling four billion marks were sold on the home market in the decade following the inflation. And it is the man in the street who is the primary buyer of mortgage bonds.

Besides him, both savings banks and insurance companies consider mortgage bonds as prime investments and prefer them to complete purchase of mortgages. The reason is obvious—whereas in times of emergency the mortgage is only negotiable at a heavy loss, if at all, the bonds are seldom sold at a loss. Furthermore, the sale of bonds can be transacted secretly, whereas an offering of mortgages may involve a dangerous loss of prestige.

Furthermore, savings banks and insurance companies, far from looking at mortgage banks as disagreeable competitors, consider their bonds as a welcome additional investment. Many of them are aware that they enjoy neither the experience nor the organization to safeguard really first class mortgages, whereas the mortgage banks are supposed to base their activity on a highly specialized knowledge of market conditions.

The sale of new bonds is usually performed through the medium of commercial banks and brokers, who receive a commission, which sometimes is rather high. This is especially true with new issues. In order to avoid purely speculative buying, the commission has to be reimbursed in case the bonds are resold before a certain time. In other words: the sale of new issues is generally blocked for about a year in order to limit the offerings and to warrant the right type of conservative purchaser. Formerly the banks often paid the mortgagor not in cash but in bonds, thus leaving the problem of selling the bonds to the house owners. This procedure has been given up almost entirely as it worked against both the mortgagee and the mortgagor.

Two per cent profit on each issue is the mortgage bank's share

The success of the European mortgage banks is dependent on the offering of cheap mortgages to the house owner. This consequently limits the profit. As a rule the

mortgage bank has to be satisfied with a margin of per cent between the interest charged and interest received, plus a margin of about 2 per cent between the price received for the bond and the money paid the mortgagor. To give an example: If the bank can sell \$100,000 of 4 per cent mortgage bonds at 98, i.e., \$98,000, the bank will charge the borrower for a mortgage the full \$100,000 at 4½ per cent interest, and pay him only \$96,000. Whereas the spread of .5 per cent is supposed to cover the overhead expenses, the margin of per cent is pure profit.

Though the profit on the specific transactions has to be kept within narrow limits and though any speculative profit is out of the question, the capital invested in mortgage bank shares as a rule yields a rather satisfactory and stable return.

It was and is customary of European mortgage banks to put a considerable percentage of their profit in reserve and increase their dividends only slowly. Some of these corporations show an accumulated surplus bigger than their capital stock. Besides being strong protection against eventualities, this conservative policy enabled them to issue more bonds, because the limit of circulation is determined by the capital stock *plus* the undivided surplus.

This practice of constantly increasing the surplus rather than raising the dividends too quickly popularized the mortgage bank stocks. As a result the banks have never had difficulty in issuing new stocks whenever circumstances required it. It is common practice to sell the new shares at a considerable premium, thus adding anew to their reserves, or to grant valuable "rights" to stockholders. As a rule, the banks steered a middle course in combining both possibilities.

Limited competition is preferable to a monopoly or open competition

If these principles of European mortgage banks are accepted as a pattern for similar institutions over here it becomes a question whether this type of business should be open to anybody who otherwise is willing and able to fulfill certain minimum requirements fixed by the authorities, or whether it should be subject to a charter granted only to a strictly limited number of privileged ones.

Europe offers different answers to this question. France, for instance, has reserved the right of issuing mortgage bank bonds to a single institution, the famous old *Crédit Foncier de France*, whereas Germany had granted this privilege long before the War to some forty banks. The different attitude may be partly explained by the different character of these countries. France is highly centralized, whereas Germany originally was a federation of rather independent states, similar to this country. This historical explanation may offer a suggestion to the United States should such corporations be launched here.

Looking at the problem from an economic and practical point of view the best solution seems to lie in limiting competition. A certain restriction in the number of banks is automatically provided by the obviously large initial capital requirements, for profitable operation is dependent on large scale operations and geographically diversified

banks. It is worth while noting that in later years the two-score private German mortgage banks have been merged into a smaller number of units of considerable size and strength. In a country like the U. S., which covers a continent, a monopoly granted to one single institution would not be advisable, quite apart from the fact that it would be altogether against the American tradition.

Up to this point, our description of European mortgage banks has been based exclusively on corporations run by private initiative and working with private capital. This type is the most common in Europe. There are, however, instances where the equity has been supplied by central governments, states or other public bodies. After the War when State Socialism was widespread and when some of the private mortgage banks were either not in the position, or not willing, to be of sufficient help in fighting the housing emergency, public interference was frequently deemed necessary. Though the initial activities of these public banks were received with some skepticism they proved quite satisfactory, particularly for small, private homes. Obviously, as a matter of principle they never loaned on speculative property. In states and provinces where the old established banks had always considered it their duty to encourage the small house owner, even if this line of business was less remunerative and involved more detail work than the granting of a comparatively small number of big mortgages, the establishment of public or semi-public institutions was unnecessary.

Continental mortgage rates are better than Great Britain's

Summarizing, one may safely state that the European mortgage banks have a splendid record. Inaugurated in times of scarce money and insufficient organization of long term credit, they soon brought about revolutionary changes. The most convincing evidence of their achievement is shown by a comparison of continental with English conditions. Though England enjoys considerably cheaper money rates, not only for short term and commercial credit but also for long term governmental and industrial loans, it is decidedly far behind continental Europe in mortgage lending. The rôle played by the mortgage banks on the continent, in the United Kingdom is primarily in the hands of the Building Societies. Although their reputation is excellent, and their business tremendous, they charge and have to charge comparatively high rates, because they base their mortgages on short term deposits and consequently have to maintain comparatively high liquidity.

I do not contend that the continental mortgage banks meet fully the demand for urban mortgages. This has never been the case in any country. They are just one of a number of agencies serving the mortgage market.

But because they devote all their energy to mortgage lending, their influence on long term credit is significant. And as they are obviously in a position to offer relatively favorable conditions, they induce other mortgage lenders to reduce their rates. So great has been their influence that when the mortgage banks are for one reason or another, not in the market at all, mortgage money is available on relatively easy terms.

In studying American housing, the foreign visitor is bound to be thrilled in reading for the first time the National Housing Act. Apart from all the other achievements of this law, it seems to me that the Act contains a foundation for the most efficient mortgage bank system in the world. I believe that the Housing Act if only put into practice and cautiously carried out may within due time furnish the United States, up to now suffering from the poorest mortgage system I have ever seen, with the finest apparatus for long term credit imaginable. I am reminded that the automobile, originally invented in Europe, found its perfection in this country.

The deplorable apathy in the U. S. toward National Mortgage Associations

Knowing the American aptitude for pushing an idea to its successful conclusion, I have been amazed that nothing has been done up to now to create National Mortgage Associations under Title III of the Act.

It is a great disappointment to find Wall Street and other financial centers indifferent to the opportunity presented. Whether this inactivity is the consequence of past heavy losses or bad conscience it is difficult to say. The unwillingness to organize mortgage associations seems to me not only bad business but un-American. On the other hand, it would be wise if Washington, no matter how strict its regulation may be, were to give a fair chance to business. The Administration must realize that the organization of mortgage banks should not be barred by denying a chance for a legitimate profit. Again, business has to realize that strict supervision and most stringent regulations are indispensable in this field if heavy losses, not only for the public but also for the promoters, are to be avoided. National Mortgage Associations are bound to fail unless conservatively managed.

Under the Housing Act, America should be in a position to organize an instrument for long term credit second to none in the world. Apart from the Act's happy conception, this optimism is based on the tremendous wealth of the country. Every day the banks and the public are faced with the problem of how to invest their ready cash and their savings conservatively without freezing them. The European mortgage bonds, already described at length, proved fully satisfactory both for the little fellow and the big institution. It is true, of course, that the discouraging mortgage losses the public has suffered in the past few years will not be forgotten until the fundamental difference between those problematic securities and the first class bonds we have in mind is realized.

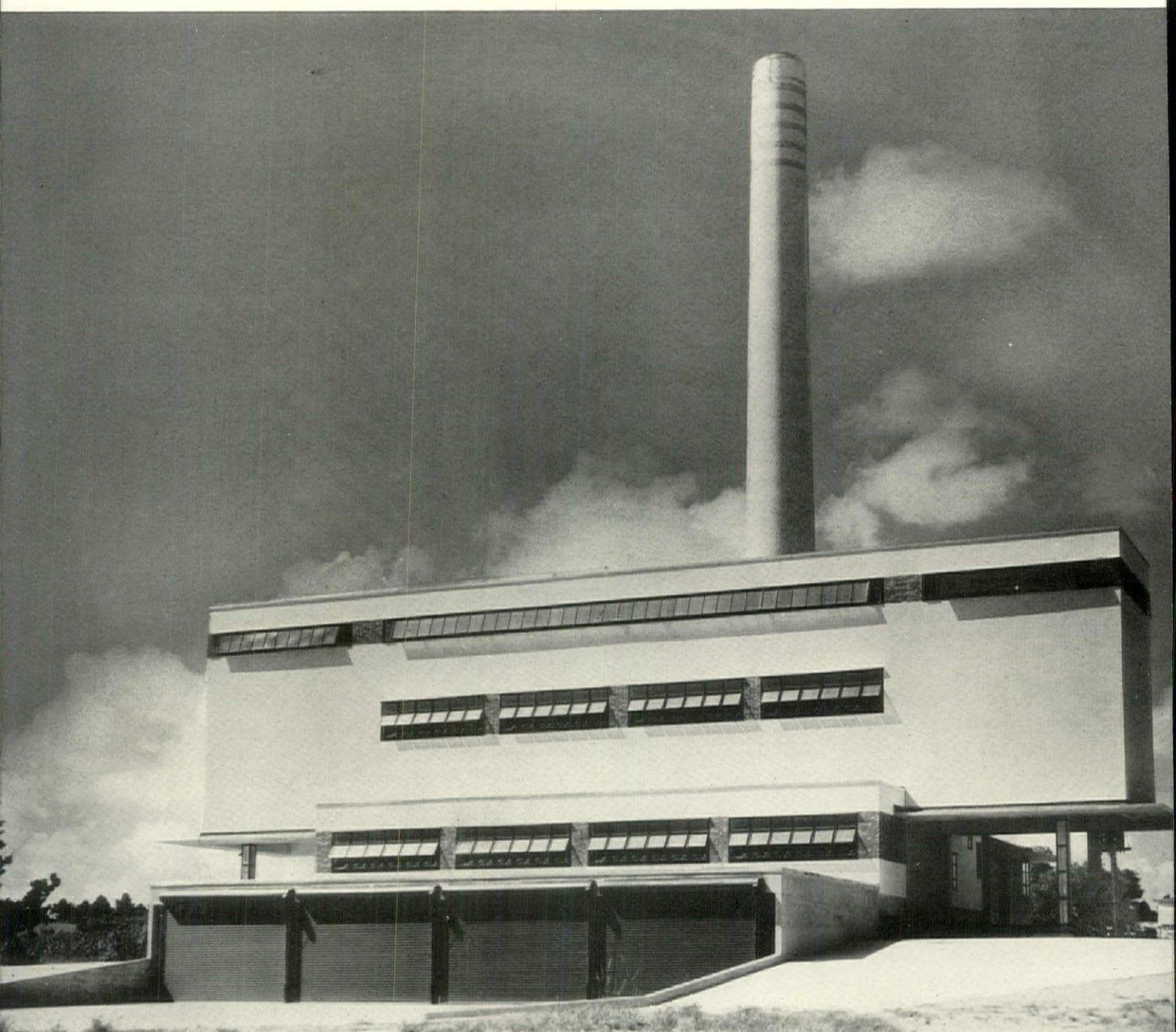
Consequently it may take some years before these bonds can be offered cheap enough to bring rents for the masses down to a sufficiently low level. But the impending shortage of shelter will not permit further postponement of a gigantic building activity. A further delay may cause serious economic, social and sanitary consequences. It was because of this emergency that we suggested for a limited time a yearly subsidy to enable low cost housing (ARCH. FORUM, August, 1935, p. 89).

In order to keep governmental assistance within as narrow limits as possible it is indispensable to organize these new agencies as quickly and as efficiently as possible.

MUNICIPAL INCINERATOR

SHREVEPORT, LOUISIANA

JONES, ROESSLE, OLSCHNER AND WIENER, ARCHITECTS



MAIN APPROACH

THE Shreveport Municipal Incinerator is the first major S. S. building of its kind where complete design and supervision service has been rendered by a firm of architects.

Because of their highly specialized nature, incinerator buildings are usually designed and built by the companies installing the equipment. A field requiring much detailed technical knowledge, it has rarely interested architects, who have realized that in competitive bidding against companies specializing in this type of work the odds were so high to be attractive.

The Shreveport incinerator is a strikingly clean piece of design. Its unfamiliar appearance arises from the fact that the plan is a radical departure from customary practice, and a plan without precedent has quite logically resulted in a building as new as it is sound. Both the plan and fine architectural quality of the exterior are cogent reasons why competent architects need not bar themselves from industrial work where their collaboration has not hitherto been considered essential.

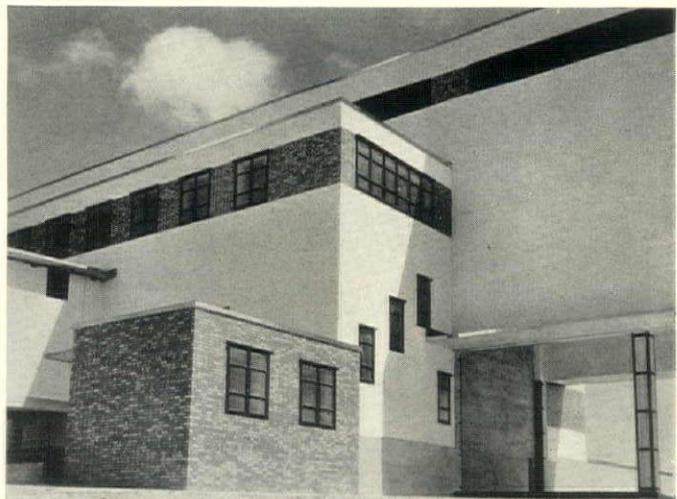
In theory the functioning of an incinerator is simple. Garbage is brought to the building by trucks; if the building has a hillside site the trucks enter at the top level, dumping the refuse into charging hoppers located directly over the furnaces. In large incinerators the question of site is less important; accordingly, the Shreveport building receives its waste on the ground floor where it is stored in large concrete bins. From the bins, cranes or conveyors transport the garbage to the hoppers, through which it is released into the furnaces. Here, on a series of grates, it burns, the gases passing into a combustion chamber. The temperature in this chamber is maintained at about 1800° F. to ensure the complete burning of the gases, otherwise the unburned gases pass out of the chimney and become a nuisance. Between the combustion chamber and the chimney there is usually a preheater, a unit consisting of a series of pipes. The outgoing gases pass through the pipes, which heat the incoming air to about 1450°, thereby greatly facilitating the burning of wet refuse. No fuel is used in the furnaces, the garbage itself acting as fuel. From the furnaces the ashes drop to the first floor level, falling through hoppers directly into trucks, or into ash disposal pits.

The typical plan of an incinerator the size of the Shreveport plant, with its capacity of 150 tons per 24 hours, consists of a receiving bin and furnaces, with the stoking room in between. The Shreveport incinerator contains two bins at opposite ends of the building. The advantages of this arrangement are that one can be cleaned without shutting down the plant and that wet and dry refuse can be separated. This plan permits placing the stoking room on an outside wall, giving it light and direct ventilation. The direct gravity passage of ashes from furnaces to trucks (see section) reduces not only initial cost but also operating expenses. The use of the ash removal floor as a garage provides added convenience at slight additional cost. Economy is achieved by the use of the concrete frame.

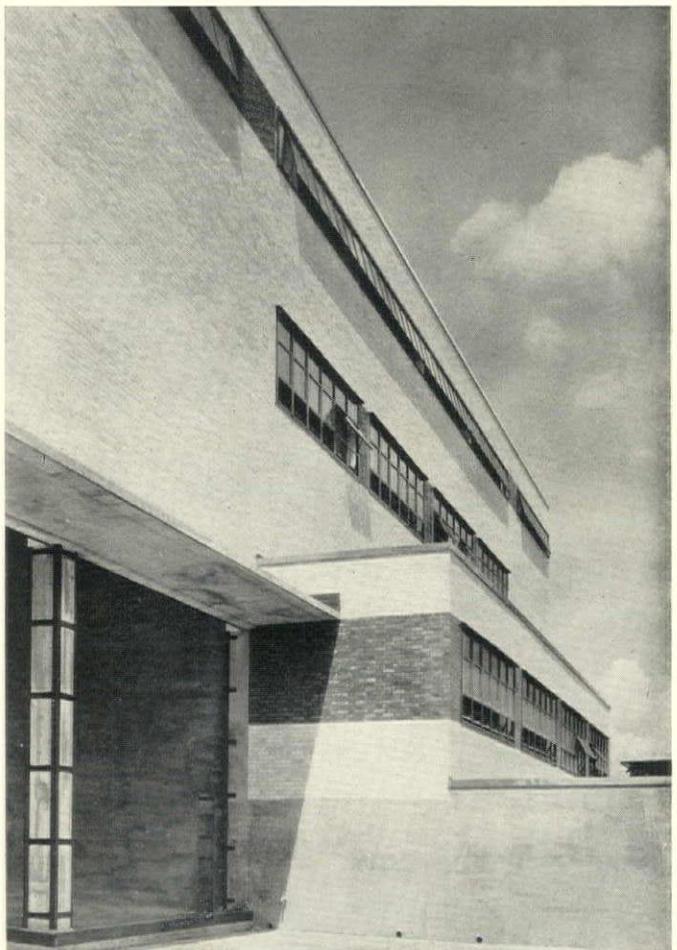
The building was constructed with PWA funds at a total cost, including paving, garage, and architects' fee, of \$180,000.



REAR



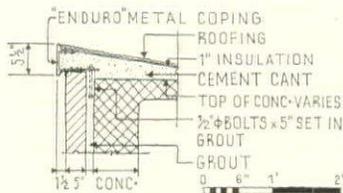
RECEIVING BIN AND HOISTING SHAFT



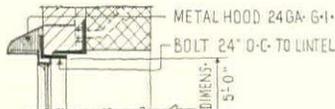
FRONT



DETAIL OF METAL EDGING FOR ALL CANTILEVER SLABS AROUND HOISTING AND AT SCALE ROOM AND TOILETS



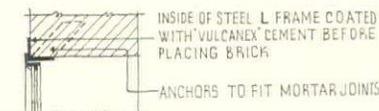
DETAIL OF COPING AND FACING FOR ALL WALLS AT ROOF



SECTION THROUGH HEAD



SECTION THROUGH SILL



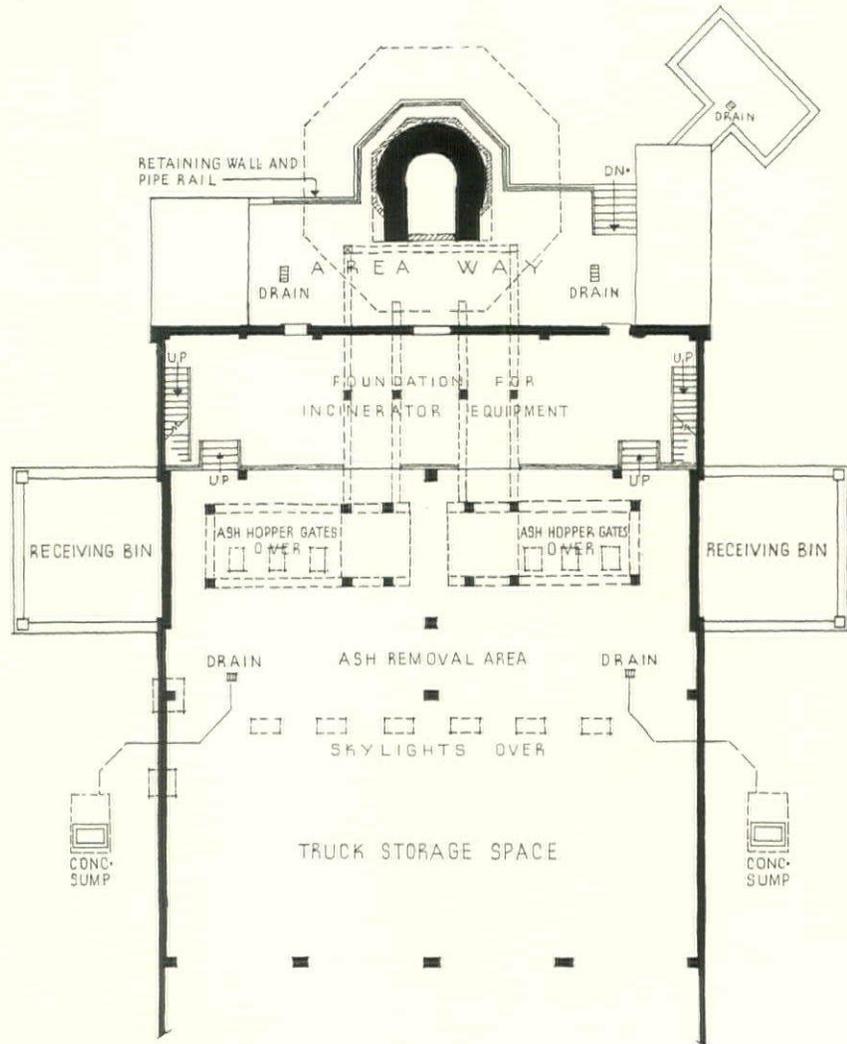
PLAN AT JAMB



DETAILS OF ALL STEEL SASH THROUGHOUT EXCEPT CLERE-STORY

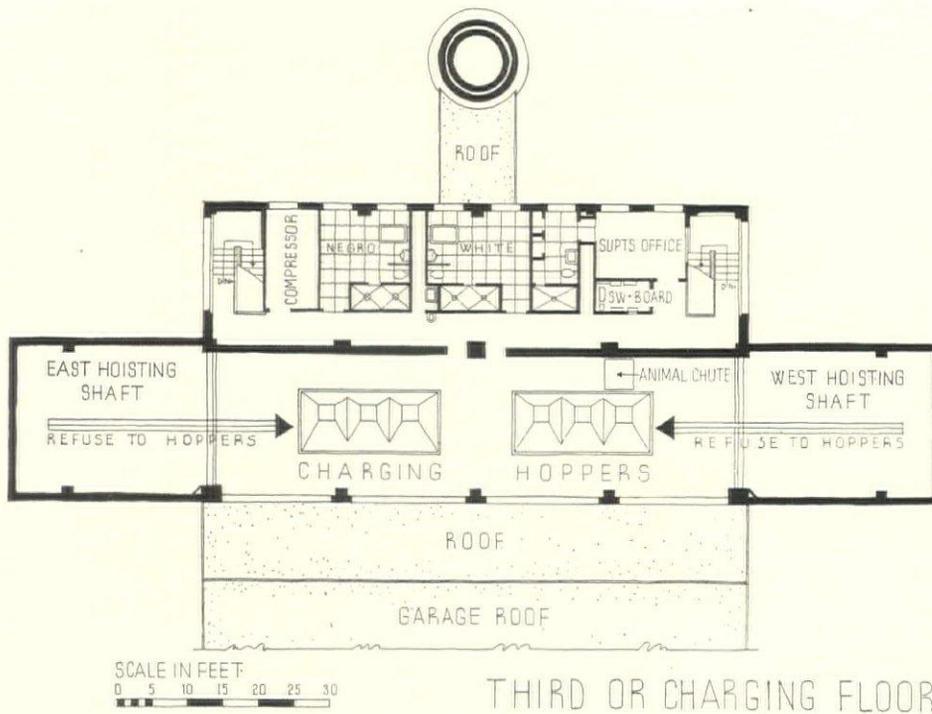


REAR



SCALE IN FEET

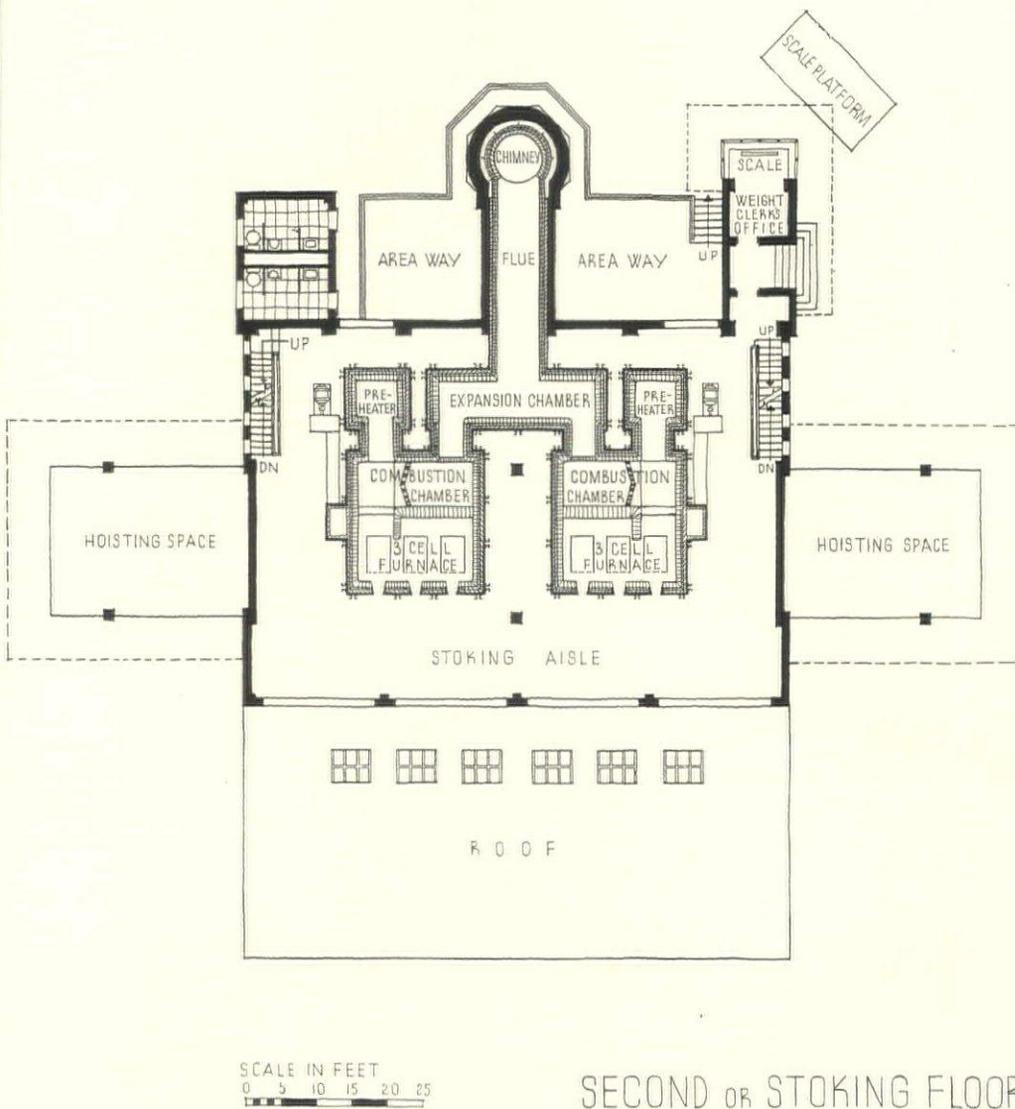
FIRST OR ASH HANDLING FLOOR



THIRD OR CHARGING FLOOR

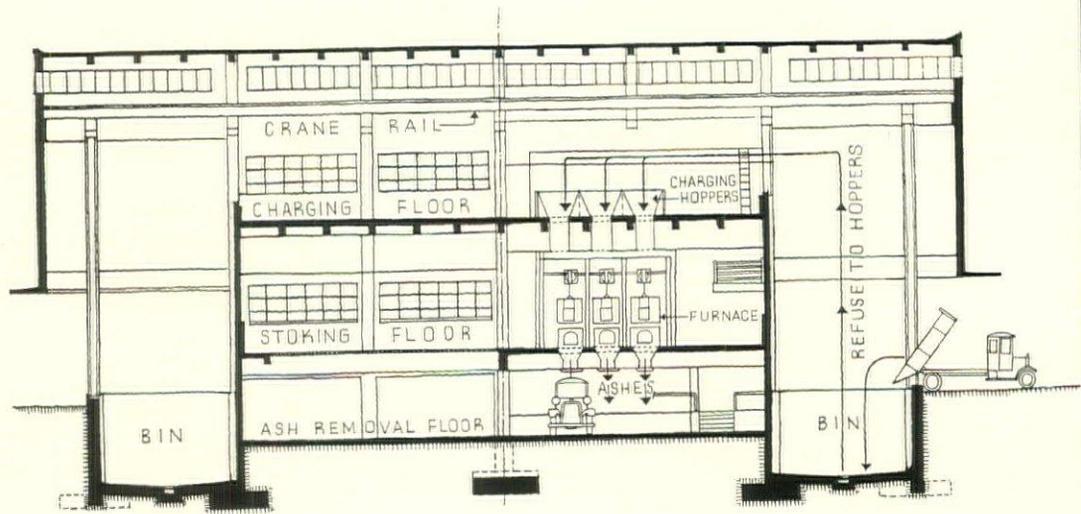
The first, or ash handling floor (see plan on opposite page) has concrete bins at either end for receiving the garbage. From the bins it is taken by cranes and grab buckets to the top floor (charging floor) where it is dumped into two sets of charging hoppers. A set of signal lights informs the operator what type of refuse is needed, and in what quantities, and he can control the charging by means of pneumatically operated hopper gates which are so designed as to keep fumes and smoke from coming up from the furnaces into the charging room. The superintendent's office is located on this floor as well as toilets and showers for the workmen, an arrangement which is not necessary, but desirable. In this particular plan the disposition of these services works out very well.

The second, or stoking floor contains the burning equipment of the plant. The theory of garbage incineration is that if a sufficiently intense fire is maintained in the furnace and charging is done in sufficiently small quantities, there is no need for additional fuel of any kind. In a well-designed and operated incinerator this works out in practice as well. To facilitate combustion, preheater units are almost invariably added. These units consist of a large number of pipes through which heated gases from the combustion chamber are passed; incoming air circulates around these pipes and its temperature is raised thereby to about 1450° F., after which it is blown into the furnaces. The combustion chamber is necessary to ensure the complete burning of the gases before they pass out of the chimney; otherwise there is a possibility of odors around the plant. The expansion chamber provides space for expansion of the gases before they pass into the chimney, and the long flue which extends to the chimney also acts in this capacity. In case the gases are not sufficiently cooled by the time they reach the chimney, additional protection is furnished by a corset of steel around the fire-brick lining. An unusual amount of light and air is provided by the large windows, and the stoking aisle is ample.



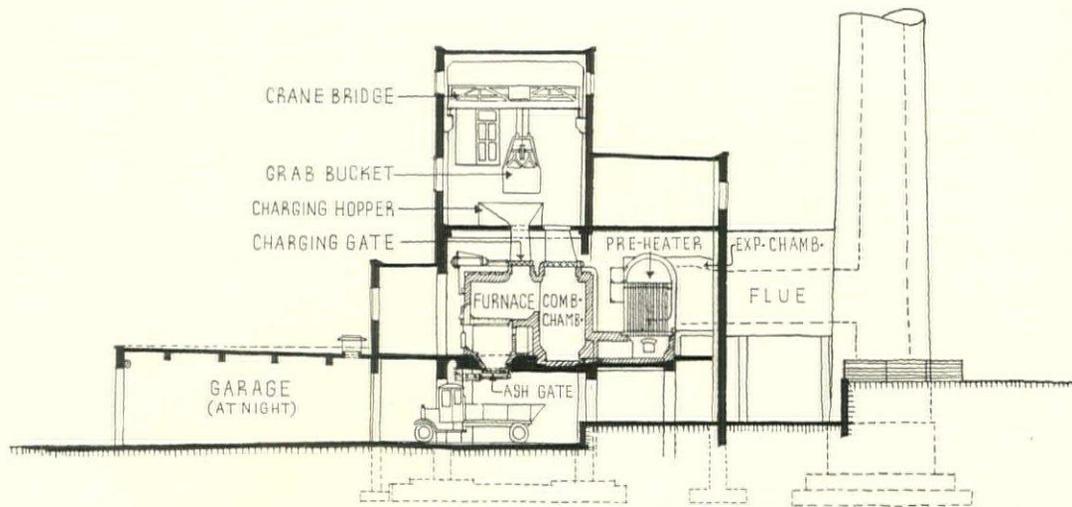
SECOND OR STOKING FLOOR

The longitudinal section illustrates clearly the passage of the refuse from truck to bin, up to the charging hoppers, down through the furnaces into ash hoppers, and from these into trucks. This direct disposal method for ashes saves time, space, and expense, reducing the handling to a minimum. The ash handling floor in this building has been extended so that the space may be used at night for storage of the trucks.



LONGITUDINAL SECTION

Transverse section through furnace and preheater unit, showing the relation between furnace, combustion chamber, preheater, expansion chamber, and chimney. The slope of the site is not utilized here to shorten the passage of materials from one part of the plant to another, as is frequently done in incinerators of smaller capacity. Furnaces and other parts of the burning system are supported on heavy reinforced concrete beams and columns, which occupy a large portion of the first floor space.



TRANSVERSE SECTION

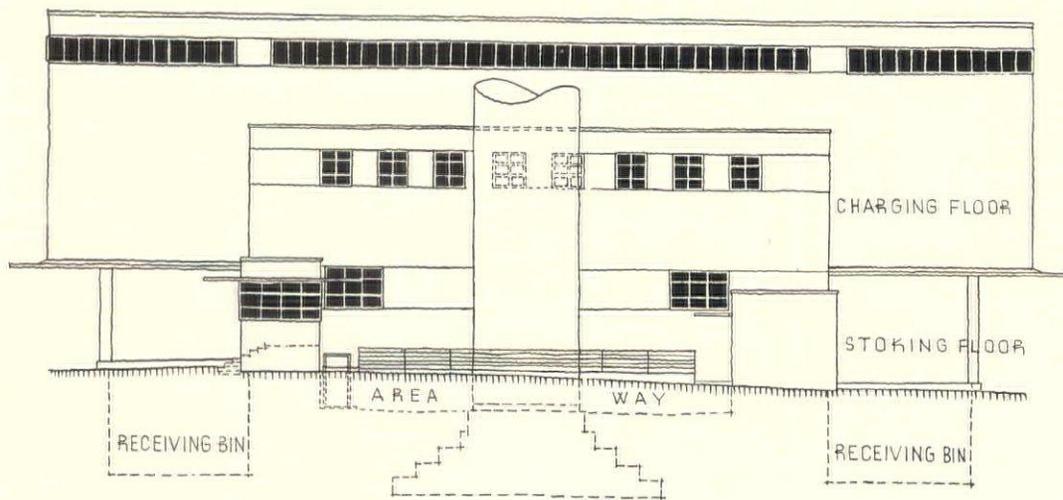
CONSTRUCTION OUTLINE

STRUCTURAL FRAME—Reinforced concrete. Portland cement by Universal Atlas Cement Co., Waco, Texas. Forms of Masonite Presdwood.
WALLS—Reinforced concrete. Brick, Reliance Clay Products Co., Dallas, Texas.
WAINSCOTS—Glazed terra cotta, Ayer-McCarrell Reagan Co., Brazil, Ind.
FLOORS—Cement with metallic hardener.
CEILINGs—Reinforced concrete.
WINDOWS—Steel sash.

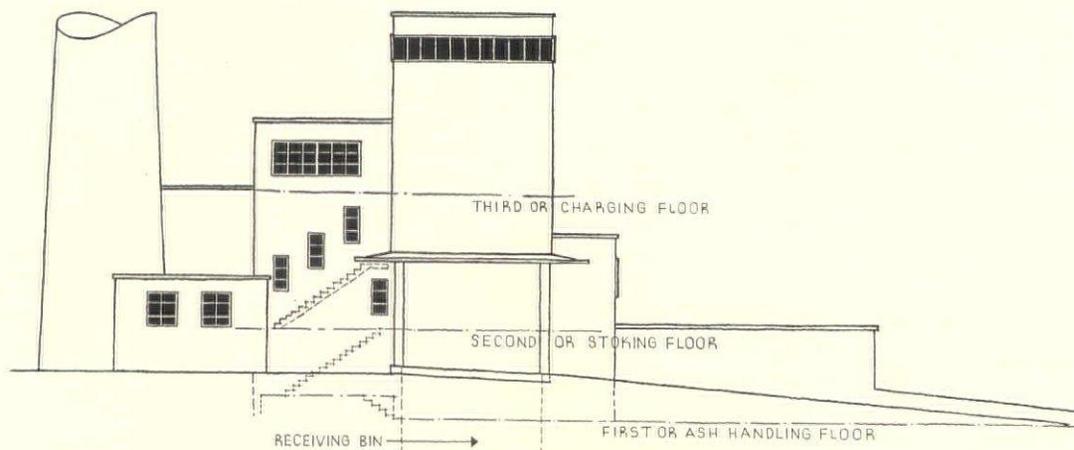
UPPER WINDOWS — Continuous type, chain-operated.
GLASS—Libbey-Owens-Ford Co.
GLASS DOORS—Rolling steel, Kinnear Mfg. Co.
ALL OTHER DOORS—Metal-covered, hospital type metal-covered frames. J. L. O'Hearn Co., Dallas, Texas.
ROOF—Composition type laid on insulation board, Johns-Manville Corp.
COPING—No parapet.

Stainless steel coping around all walls approximately 4" above roof level. Republic Steel Corp., Youngstown, Ohio.
DECK PLATES—Mosher Steel Co., Dallas, Texas.
PAINTING—All interior concrete and brick painted white. American Paint Co., Dallas, Texas.
CHIMNEY—Radial brick construction, by M. W. Kellogg Co., New York. Lining, first-quality firebrick, by Thermo Firebrick Co.,

SECTIONS AND ELEVATIONS



SOUTH ELEVATION



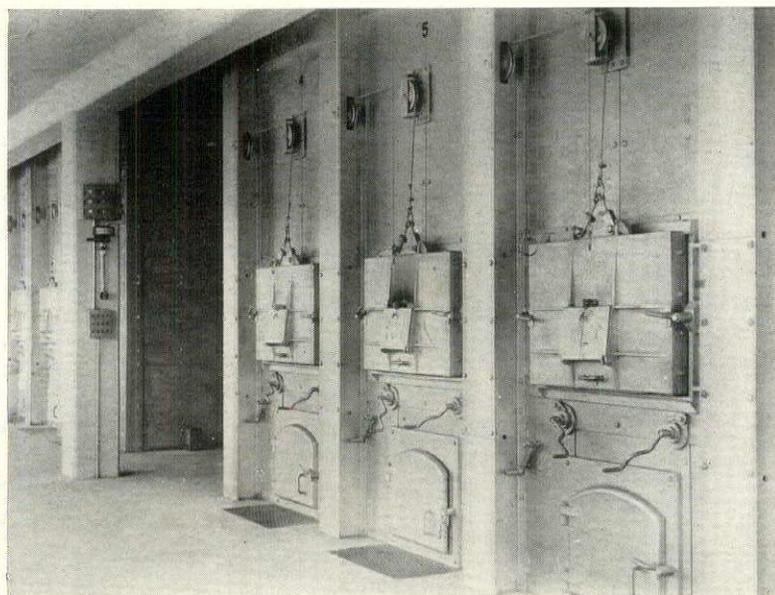
SCALE IN FEET
0 5 10 15 20 25 30

EAST ELEVATION

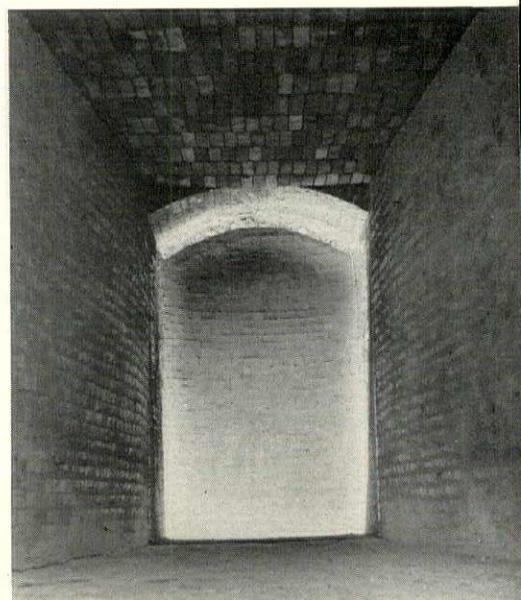
phur Springs, Texas. Around lining is
orset of vertical and horizontal bands of
el, serving to hold it in place when ex-
ended by hot smoke and gases.
ANE AND BUCKET—Capacity $1\frac{1}{2}$ cubic
ds, Harnischfeger Corp, Milwaukee, Wis.
RNACES—"Mutual Assistance" H. E.
ns patent. Walls, $13\frac{1}{2}$ " 3200 degree F.
brick, $4\frac{1}{2}$ " insulating brick set in form-
k of structural steel columns, stays, and
tes. Ceilings of suspended fireclay flat
h brick, 12" thick, with 3" insulation on

top. Lower part of furnace below each cell
designed as a hopper for storage and quen-
ing of ashes.
PREHEATERS—Walls and ceiling similar
to furnaces, containing removable tubes of
cast iron with chromium and nickel con-
tent. Green Fuel Economizer Co., Beacon,
N. Y.
FURNACE AND PREHEATER INSULA-
TION—Johns-Manville Corp.
PYROMETERS AND THERMOCOUPLES—
Brown Instrument Co., Philadelphia, Pa.

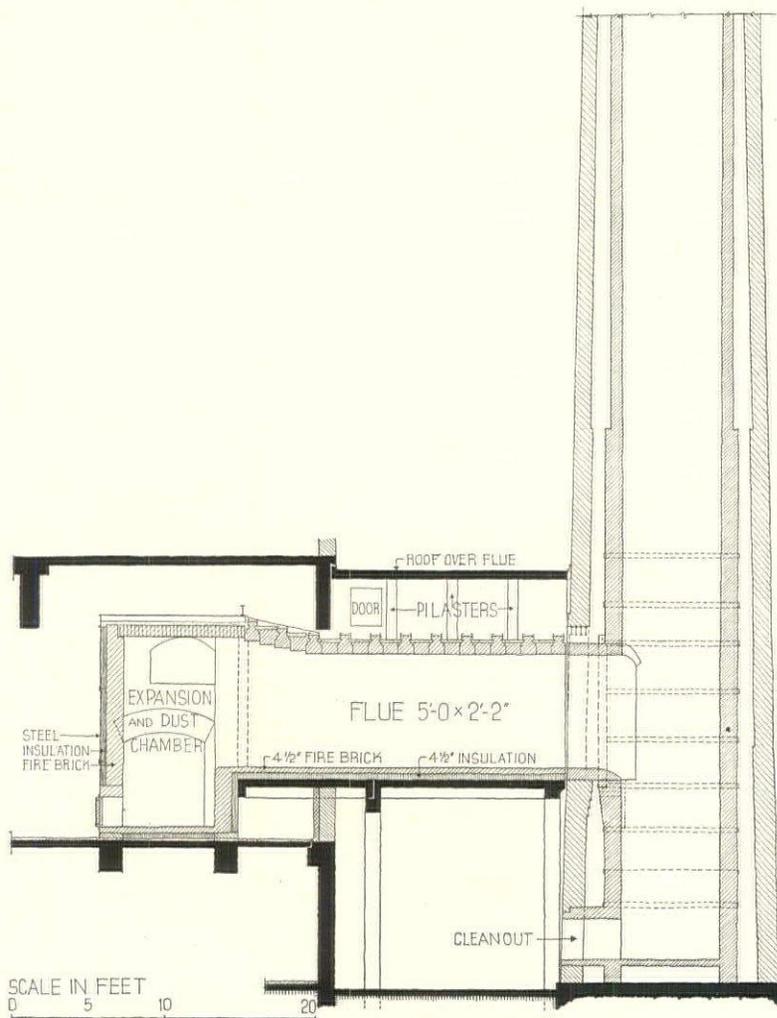
ELECTRIC LIGHT SYSTEM—For use of
stokers and crane operators to control
quantity and type of refuse for furnaces.
AIR COMPRESSORS — Compressors and
storage tanks to furnish air for the controls
which operate charging hoppers and ash
hoppers. Curtis Mfg. Co., Saint Louis, Mo.
BLOWER SYSTEM — American Blower
Corp., Detroit, Mich.
TRUCK SCALE—Howe Scale Co., Rutland,
Va.



STOKING DOORS OF FURNACE

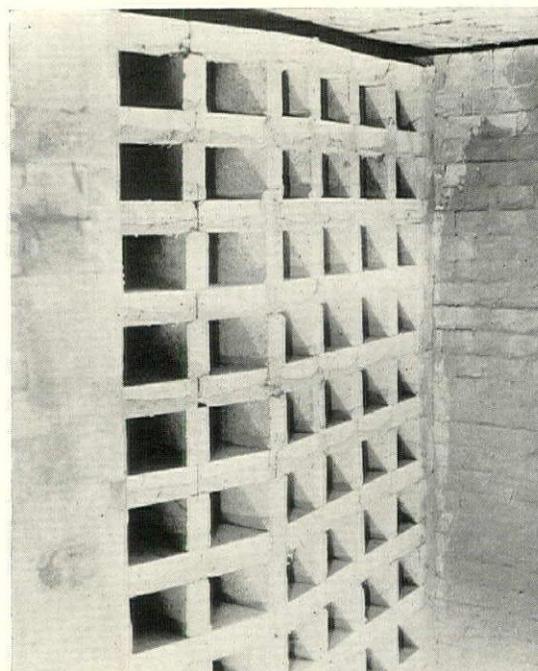


FLUE LOOKING TOWARD CHIMNEY

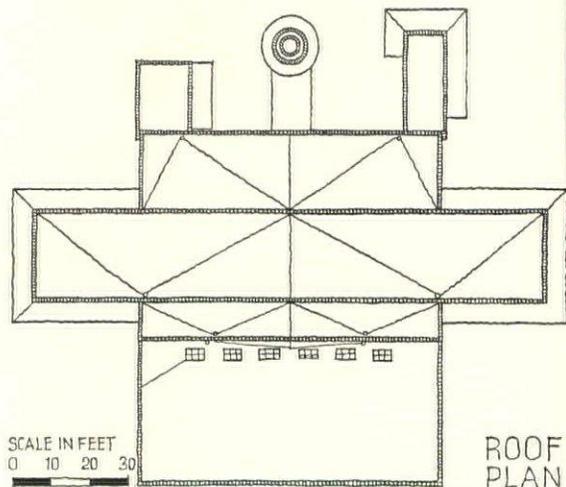


SECTION THRU EXPANSION CHAMBER AND CHIMNEY

The above section, taken on the center line of the building, shows in detail the provisions made for disposal of burned gases after they have left the combustion chambers and preheaters. The dotted lines at the base of the chimney indicate the location of the steel reinforcing which is wrapped around the flue lining. The photographs illustrate typical details of the furnace doors, flue, and dust baffles. There are several of the latter, designed to trap dust from the burned garbage which is swept out by the hot gases.



DUST BAFFLE IN COMBUSTION CHAMBER



ROOF PLAN

FAIR OAKS, GLENCOE, ILLINOIS

B. LEO STEIF AND COMPANY, ARCHITECTS

ELIZABETH HOWERTON, LANDSCAPE ARCHITECT

WATSON AND BOALER, INTERIOR FURNISHINGS



1890



1908



1909



1909

BECAUSE it provides a case study in the development of American residential style since 1870, "Fair Oaks" is an almost unique remodeling exhibit. Since it was built it has undergone an extraordinary series of face-liftings, most of which are illustrated. The date of the original house is not known, but the records have it that it was purchased in 1871 by General Charles Howard, a veteran of the Civil War. The house, typical of the style of the period, was a richly ornamented and romantically conceived composition, with high rooms, elaborate chandeliers holding oil lamps, ponderous cornices and great marble fireplaces.

The first alteration was made in 1880; the five bedrooms of the original house were inadequate for the generous living of the times, and an addition, known in the family as "The Tower," was built to increase the accommodations by three bedrooms and one bath. The year 1895 saw the porch replaced by a wide veranda, and the building of separate quarters for two horses and a cow. In 1908 "Fair Oaks" caught fire, losing its roof and most of the second floor, and the rebuilding which followed produced a house far more comfortable to live in, but minus its original Victorian character and with no new one to take its place. The gables were suppressed and hipped roofs substituted, the tower rebuilt with a flat roof, gingerbread removed, modern fireplaces installed, and other elements of the interiors were altered.

In its present state, illustrated in the pages which follow, the house shows a complete transformation both inside and out. Its Colonial treatment reflects the taste of today precisely as its predecessors of the 1890's and the early 1900's met the requirements of their time. Only the years to come can tell whether this present form will fare any better than the earlier ones. "Fair Oaks" today shows no trace of the vicissitudes of its seventy-odd years, and only one feature, the curious bay on the garden side of the house, remains as an indication of its Victorian origin.

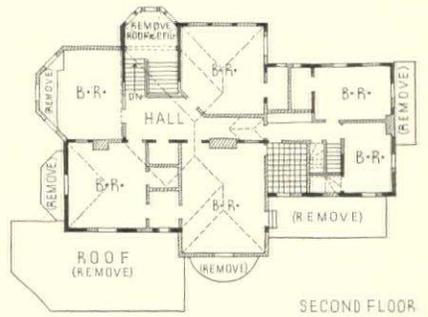




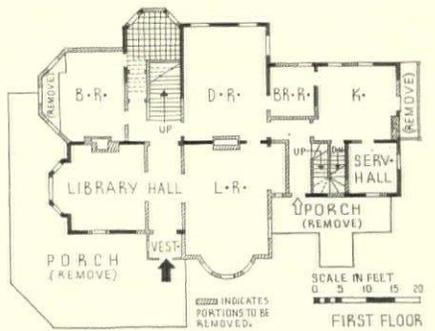
FRONT



REAR



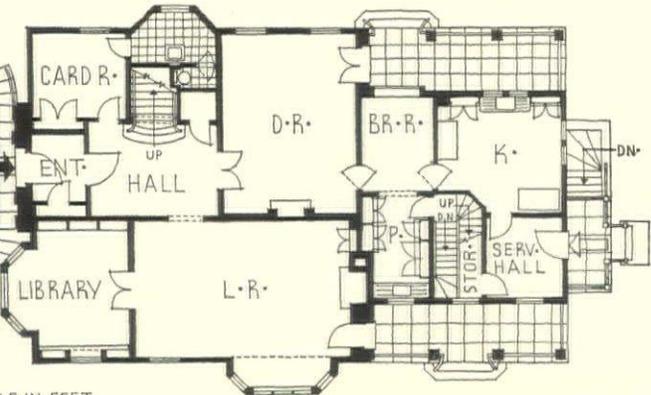
SECOND FLOOR



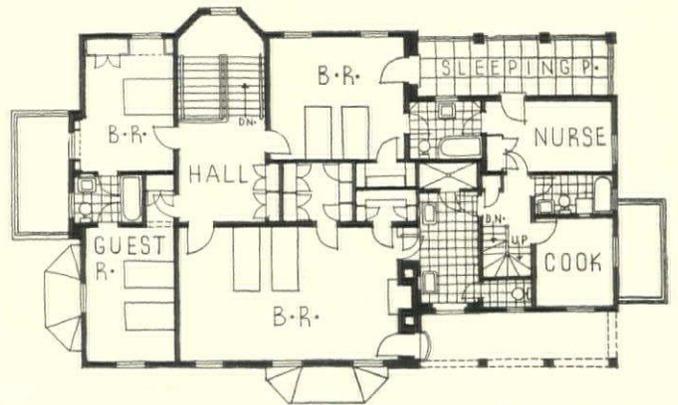
SCALE IN FEET
0 5 10 15 20
FIRST FLOOR

BEFORE PLANS

PRESENT PLANS



FIRST FLOOR



SECOND FLOOR



DETAIL REAR TERRACE



ENTRANCE HALL

ENTRANCE PORCH



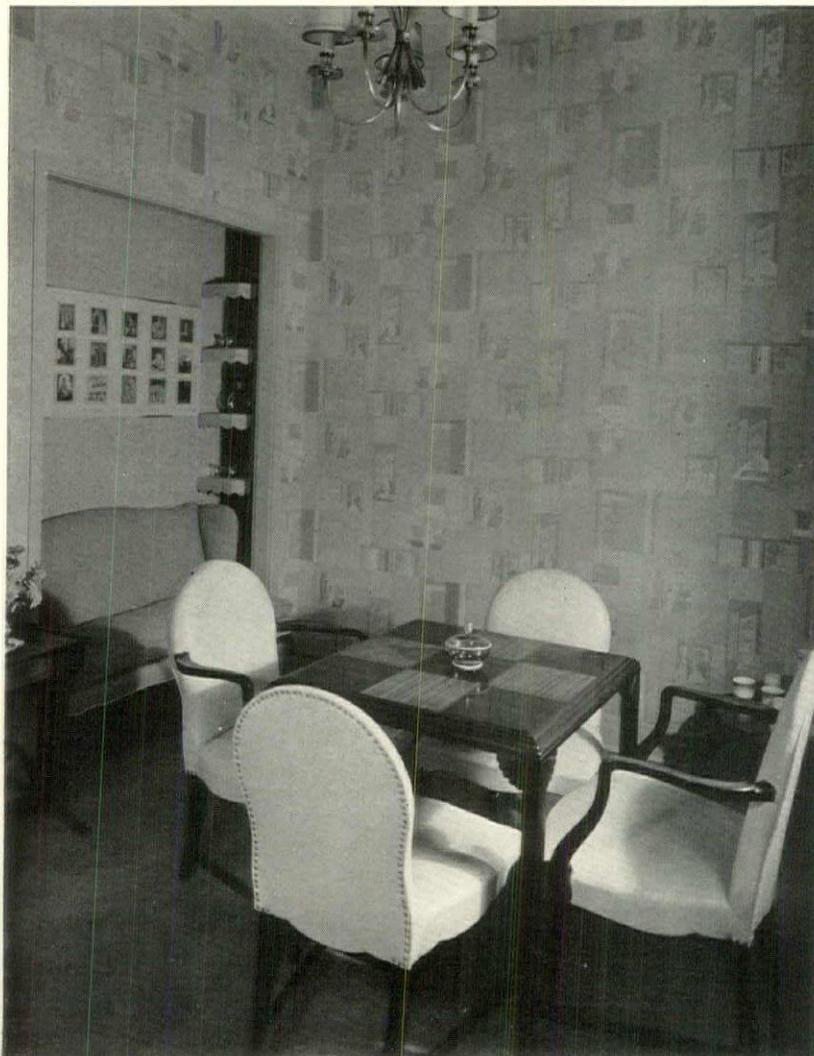
NG ROOM





BREAKFAST ROOM

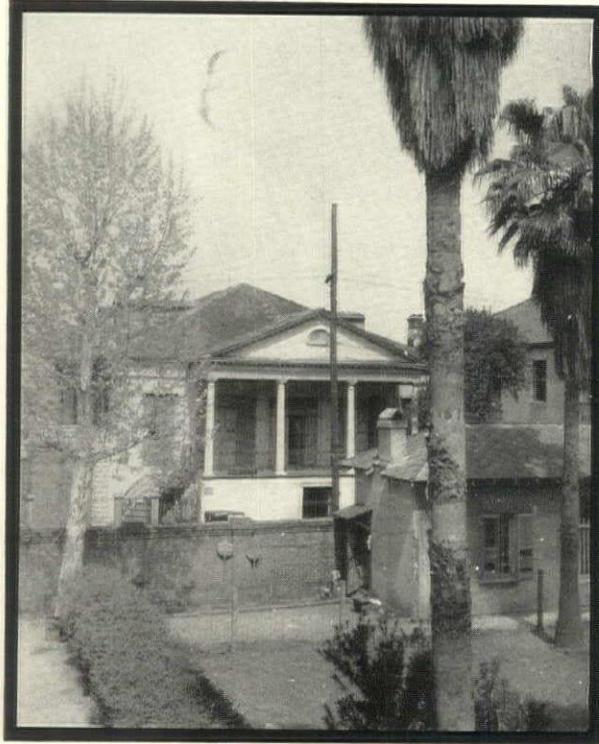
CARD ROOM



- FOUNDATION**
 Walls—rubble stone and concrete.
 Cellar floor—cement.
 Waterproofing—Ironite, Western Water-proofing Co.
- FRAME CONSTRUCTION**
 Longleaf yellow pine.
- EXTERIOR SURFACE**
 Clapboards—redwood.
- ROOF**
 Wood shingles on shingle lath—"Weatherbest."
 Valleys }
 Gutters } copper.
 Flashing }
 Down spouts }
 Composition sheathing paper—Sisalkraft building paper.
- DOOR AND WINDOW FRAMES**
 Sash and frames }
 Double hung } white pine.
 Casement }
 Steel sash—Lemco steel sash.
 Doors and frames (exterior)—white pine.
 Garage doors—Overhead Door Co.
- PORCHES**
 Brick floor—brick pavers.
- GLASS**
 Double strength, quality A, Libbey-Owens-Ford Glass Co.
- EXTERIOR PAINT**
 Shingles—dipped.
 Siding }
 Priming } Cabot's white.
 Finish coat }
 Trim and sash }
 Priming—Pratt & Lambert Undercoater.
 Finish coat—Pratt & Lambert Vitrolite.
- LATH AND PLASTERING**
 Lathing—wire throughout.
 Plastering }
 Patent plaster—Red Top, U. S. Gypsum Co.
 Finishing coat—lime putty and plaster of Paris.
- INTERIOR WOODWORK**
 Floors—narrow width select oak.
 Trim—birch.
- INSULATING**
 Outside walls } Celotex.
 Roof rafters }
 Attic floor—Thermofill, U. S. Gypsum Co.
 Weatherstripping—Chamberlin Metal Weather Strip Co., Inc.
- INTERIOR FINISHES**
 Floors—waxed.
 Trim } back primed and 4 coats enamel
 Doors } finish.
 Sash—3 coats enamel finish.
 Walls—servants' quarters painted, stippled and starched, balance partially canvas-covered, painted, glazed and starched, partially wallpaper.
- WIRING**
 Electrical fixtures—special by Walter G. Warren Co., Chicago.
- LIGHTING**
 Direct.
- PLUMBING**
 Kitchen }
 Sink—Kohler.
 Cabinet—wood.
 Stove—Cribben & Sexton, Chicago.
 Refrigerator—General Electric.
- BATHROOM**
 Fixtures—Kohler Co.
 Wainscot and floor—tile.
- PIPES**
 Wrought iron.
- HEATING**
 2 pipe return feed Dunham vacuum system.
 Oil burner—U. S. Ray Mfg. Co.
 Boilers—Weil McLain Co., Chicago.
 Radiators—copper, cast iron in service portion.
 Hot water heater—Bell & Gossett Co., indirect heater.
 Thermostat and regulators—Minneapolis-Honeywell.
- CHIMNEY**
 Fireplaces }
 Facings } marble.
 Hearths }
 Mantels—wood.
 Damper—Colonial Fireplace Co.
- HARDWARE**
 Interior and exterior—P. & F. Corbin.
- SCREENS**
 Chamberlin roll screens.
- SPECIAL EQUIPMENT**
 Garbage burner—Cribben & Sexton.

HISTORIC AMERICAN BUILDINGS

HISTORIC AMERICAN BUILDINGS SURVEY



5
NUM BER

BEAUREGARD HOUSE

1113 CHARTRES ST. NEW ORLEANS, LA.

J. H. CORREJOLLES, ARCHITECT

JAMES LAMBERT, BUILDER

OWNER Beauregard House, Incorporated, 1113 Chartres Street, New Orleans, Louisiana

DATE OF ERECTION Latter part of 1826.

PRESENT CONDITION

The building is in fair condition; the brickwork shows almost no cracks or distortions and though the woodwork is in good shape, the whole is in need of intelligent and careful attention. The original building shows practically no departure from the original plan. Later additions are the kitchen in the west corner and the one-story buildings at either side of the courtyard. The dining room was formerly the gallery, the present rear porch being an addition.

NUMBER OF STORIES Raised basement single story residence.

MATERIALS OF CONSTRUCTION

Walls of the building are soft burned brick, stuccoed. Framing timbers, joists and rafters of cypress. Interior walls and ceilings are plastered. The principal rooms have marble mantels, plaster cor-

nices and center ceiling ornaments. Floors of all porches are yellow pine.

OTHER EXISTING RECORDS

Building Contract between Joseph Le Carpentier, owner, and James Lambert, Contractor, dated August 11, 1826, is among the notarial records of Felix de Armas at the New Orleans Court House. Page 497

Original Building Plans:

Photostats of building plans attached to above mentioned building contract, to wit:

1. Floor plans by Jh. Correjolles, Architect
2. Front elevation by Jh. Correjolles, Architect
3. Plat showing garden, by Chas. H. de Armas, Surveyor, dated Oct. 7, 1865.
N. C. Curtis "New Orleans, Its Old Houses, Shops, and Public Buildings."
New Orleans City Directory, 1829
Chain of Titles on file at New Orleans Court House.
See Page 498.

THE BEAUREGARD HOUSE, NEW ORLEANS, LOUISIANA

GENERAL DESCRIPTION

"BE it known that on the 11th day of August in the Year of Our Lord one thousand eight hundred and twenty-six."

Thus in properly reverent phrase and with most of the ensuing specifications in French measure begins the contract for building the Beauregard House of New Orleans (the contract in full appears on page 497). The Republic was half a century old, English was its legal language but the liquids and diphthongs of France were what you heard most in New Orleans. One War was over and the next, which was to give fame to the House's most distinguished tenant, was not yet conspicuously threatening. There was steamboat traffic on the Mississippi. New Orleans, with French shrewdness and practicality, was building. In the little notary office of Felix de Armas, Joseph Le Carpentier, auctioneer, and James Lambert, carpenter-contractor, bowed and smiled civilly. They had with them the architectural plans of Jh. Correjolle and they knew exactly what kind of house they were planning to build, how much it would cost and at what intervals the money should be paid. Lambert also knew how long it would take to build. Before the New Year Joseph Le Carpentier was able to move into his new home, situated on a lot he had purchased three days after the previous New Year from the Ursuline sisters. And Architect Correjolle had done his work well. The original building shows almost no departures from the original plans.

There is unfortunately no way of foretelling which of any one year's crop of moderately priced private residences will become famous. Thus the early records of many a house famed today are lost or obscured. This is so of the Beauregard House. Fame came to it fortuitously because General P. G. T. Beauregard took residence there in 1866. He never owned the house and lived in it only two years. This was sufficient, however, to persuade the General Beauregard Memorial Association to purchase the house in 1930 and save it from a then imminent commercial fate. Today it is a memorial to Pierre Gustave Toutant Beauregard, wounded at Chapultepec, bombardier of Fort Sumter, commander of the Southern Army of the Potomac, adjutant-general of Louisiana and manager of the Louisiana lottery.

Le Carpentier, original builder of the house, lived in it only until 1834. From that year until 1838 it was occupied by Alonzo and Ernest Morphy, Alonzo being the father of Paul Morphy, a famed chess player, who is supposed to have been born in the house in 1837. What happened to the house until the time General Beauregard moved in, nobody knows in clear detail. Nobody knew the house would some day be a memorial and nobody took the care to keep its history.

One incident, however, is on the record. In 1898, an Italian family of wine merchants, the Giaconas, bought the house and owned it until 1925. It was during their occupancy that the New Orleans Mafia riots took place and legend has it that the house sheltered not one but several murders. Whether true or not, the rumor adds spice to an otherwise routine history.

The house is not "Old New Orleans" . . . but a type prevalent in the South, derived from the Taft House in Cincinnati and the house now standing on the grounds of the Johns Hopkins University, called "Homewood." However, the detail is not as pure, but a blending of local sources. The Greek Revival iron rail and fence (a later change, as can be seen from the contract drawings) could hardly have been designed by the original architect of the building.

The plan of the house is very simple and has an air of spaciousness. The principal entrance is from the front gallery into a large hall which runs the full length of the house, opening at the rear into the dining room. The principal rooms are arranged on both sides of the hall. In the rear of the house is a large paved courtyard, with slave quarters.

The principal feature of the exterior design is the front gallery, which consists of a raised, pedimented portico with four columns, reached by two flanking curved granite stairways. The rails of the stairs and gallery are of wrought iron of a Greek pattern, with some cast ornament. At the foot of each stair are iron gates hung from granite gate posts. The original columns of the portico were turned from cypress logs, but they have recently been replaced with crudely cast concrete ones. Two of the old columns, minus caps and bases, were found in the basement and measured.

The central doorway is a finely detailed double wood paneled door with sidelights and a rectangular transom. Engaged Ionic colonnettes separate the doorway and the sidelights. A similar one, having simple pilasters instead of the colonnettes, is found at the opposite end of the hall, between it and the dining room. Practically all the interior doors are similar to the ones which open from the two front rooms onto the gallery, but are wood paneled instead of having the upper part glazed, and the transoms and interior trim are identical.

The windows at the side of the house are large double hung ones, divided by narrow muntins into small lights. They have splayed paneled jambs extending to the floor with a wood panel filling the space below the windows. All the rooms have plaster cornices and several have center ceiling ornaments. In each of the principal rooms there are ordinary marble mantels placed on a narrow chimney breast against the wall.

From the dining room double doors with elliptical transoms and sidelights open on the rear gallery which extends across the entire rear of the house. This dining room was formerly the gallery, the present gallery being an addition. There are six rectangular wood posts on the gallery and a wood stair leads down from it to the paved courtyard. The balustrade of the gallery and stair are of wood. At the west corner of the house is a small wing containing the kitchen, also a later addition.

The attic is reached by a small enclosed stairway which comes down into the anteroom at one end of the dining room. This stair once came all the way to the floor but now comes down only about halfway. In the attic are two finished rooms lighted by dormer windows, two on each side and one at the rear center. The roof is hipped with a low pitch, and is covered with slate with terra cotta hip and ridge tiles.

At the rear of the courtyard is a two-story brick building used as slave quarters. There is a wood balcony with turned wood columns on the second floor, from which access is gained to the rooms. The columns and balustrade were recently restored. This building is now connected with the house by the one-story work shops of recent construction which close both sides of the court.

The original grounds extended over a space adjacent to the present building, running along Ursulines Street to a depth of 160 ft. This was planted to a well-arranged symmetrical garden, with numerous walks, an arbor, and in the rear was a shed and an open space, probably used for stable and carriage storage.

CONTRACT FOR BUILDING THE BEAUREGARD HOUSE

BETWEEN JOSEPH LE CARPENTIER AND JAMES LAMBERT

AUGUST 11, 1826

BE IT known that on the 11th day of August in the Year of Our Lord one thousand eight hundred and twenty-six and in the Fifty-first of the Independence of the United States of America:

Before me, Felix de Armas, notary public, in and for the City and Parish of New Orleans, in the State of Louisiana, one of the United States aforesaid, and in the presence of witnesses hereinafter named and undersigned;

Personally came and appeared Mr. Joseph Le Carpentier of this city, on the one part;

And Mr. James Lambert also of this city on the other part; which parties have declared that they have entered into the following articles of agreement, to wit:

That the said party of the second part shall and will forthwith (MARGINAL NOTE: begin, and have on or before the first day of February next finished) in a good and workmanlike manner and according to the best of his art and skill, in the City of New Orleans aforesaid, on a lot of ground belonging to the said party of the first part, situated at the corner of Ursulines and Conde Streets, measuring one hundred and fifty feet in front on the former street and one hundred and twenty-five feet on the latter, which the said party of the first part bought of the Ursuline Nuns, on the fourth of January, 1825, by act passed before Marc Lafitte, a notary in this city, well and substantially for what relates the carpenters and joiners work, erect, build, set up and finish one main good and substantial new two-story brick house, according to plans or draughts hereto annexed after being signed ne variation by the said parties to these presents, and one two-story brick kitchen and servants' house; the said buildings to be of such quality of material as shall be furnished by the said party of the first part at his own proper costs, such as paint, oil, glazing, locks, hinges and fastenings, nails, and . . . without exception, other than the materials of wood which shall be furnished by the said party of the second part, at his own proper costs, which materials shall be composed of pine, with the exceptions hereinafter mentioned — The painting and glazing shall be executed (that is shall be ordered) by the said party of the first part, and the execution thereof shall be at his own proper costs:

The said main building shall be erected fifty-one feet front on Conde Street and sixty-eight feet deep, out to out, French measure. There shall be twenty-five doors and windows on the first story (MARGINAL NOTE: Made with cypress) with good framed and attorned doors and shutters, the windows in the said first story shall have cannisters — In the second story there shall be twelve windows in the ends and two in the rear, they shall be boxed, framed, pannel jambs and pilastered, the shutters to be framed with moldings — four front and two rear; outside doors to have sashes and fan lights — one front and one rear doors to have circular heads, fan lights, and side-lights; Nine onside double doors with ransom sash; four six pannel doors trimmed in the cabinets — three back arches trimmed with pilasters and venetian blinds — The joists shall be three by twelve inches and placed two feet from center to center, and be of yellow pine — The floors to be one and a quarter inches thick, to be of cypress planks and six by seven inches wide, and secret nailed — There shall be a stud partition to go through the house, and likewise for the two cabinets on the back gallery (MARGINAL NOTE: from which cabinets there shall be two stairs, going one to the garrett and the other to the cellar. J. LeC.; J. L.; F. de A., N. P.) which partition shall be lathed — the garrett joists shall be three by ten inches, and two feet apart —

The floor to be one inch thick of pine. The roof to have a gallow frame, hip rafters, sufficiently strong to support a slate roof — There shall be a cornice to run all around the house — There shall be two stairs to run together in front of the house, with turned columns and pediment — There shall be a wash house, kitchen and privy as per plan — There shall be one fine railing in the front of Conde Street, and opposite the main house, and one fence on each side and immediately after the said railing to fence the whole front of the said lot on Conde Street — There shall also be one fence eighty-five feet long, similar to the one now existing on the said lot of ground, towards Ursulines Street, to fence the said lot in its depth — and there shall further be two railings (MARGINAL NOTE: to separate the lot whereon shall stand the said buildings from the empty portions of the said lot on each side of said building — There shall further be one gate fronting Ursulines Street. J. LeC.) It is well understood that said party of the ('first part' deleted) second part, for what relates the carpenters and joiners solely, shall furnish the said buildings in the best style and manner possible and in every respect for the workmanship, as the house of Mr. St. Martin in Conde Street, adjoining the lot whereon the buildings herein contemplated are to be erected:

It is further understood that in the event of the said party of the first part having omitted anything for the full completion of the said carpenters and joiners work, that the said party of the second part, upon the other party furnishing all the materials soever as is herein agreed upon, shall thus completely finish the same:

In consideration whereof, the said party of the first part shall pay the other party the sum of four thousand dollars, in manner following, to wit: 1. One thousand dollars cash, which the said party of the first part has actually and in presence of the notary and witnesses undersigned, paid to the said party of the second part, who acknowledges the receipt thereof — 2nd: One thousand dollars when the roof is ready to receive the slate, 3d and two thousand dollars four months after the completion of the said work and after the keys of the said house shall be delivered by the said party of the second part to the said party of the first part —

In case of any dispute arising between the parties in the foregoing articles, the same shall be forthwith left to the determination of two disinterested parties, one to be chosen by each of the parties, and in case of disagreement on their part they shall have the right to appoint a third person, and whatever award or umpirage they shall give shall be binding on the said parties to these presents:

Thus the whole has been agreed between the said parties: Done and passed, at New Orleans aforesaid, in my office in the presence of Messrs. Michel J. B. L. Fourcisq and Albert de Armas, both witnesses hereto required and residing in this city and the said parties have hereunto set their hands, together with the said notary and witnesses, on the day and year first before written.

Three references in the margin approved; (two words erased to be null.)

Albert de Armas
Fourcisq

J. LeCarpentier
James Lambert
Felix de Armas — N.P.

CHAIN OF TITLES

Act before A. B. Kooric, N.P., June 16, 1930. Owen, to Beaugard House, Inc., 2nd District, Squ Chartres, Ursulines, Royal & Governor Nichols, L Plan C. A. De Armas, Surveyor, October 14, 1860 nexted to Act E. Bouny, N.P., October 28, 1865. 60 Chartres and Ursulines and measures 73.2.5 on Char 160' .1'' .2''' and 74'9''5''' rear 1113 Chartres.

Act before Judith Hyams Douglas, N.P., July 8 Anthony Manino et al to Allison Owen.

Act before Michel Provosty, N. P., September 2, Mrs. C. Giacona et al to Anthony Manino.

Act before Theo. Cotonio, N.P., October 14, 1921 O. Giacona to Corrado Giacona.

Act before Theo. Cotonio, N.P., November 6, Corrado Giacona et al to Mrs. Ursula Lingara, W Francesco Giacona.

Act before U. Mariononi, N.P., March 1, 1917, D ica Giocona et al to Mrs. Pietro Giocona, Widow dren renounce their one-half share in favor of mother, making the other sole owner.

Act before P. J. Patorno, N.P., March 29, 1907 rado Giocona to Pietro Giocona.

Act before E. J. Dreyfous, N.P., March 17, 1904, N. Larose & Edward Louis Fernandez to Corrado Gio Larose & Fernandes acquired by inheritance Jun 1896 and May 3, 1901.

Succession Mrs. Louise Marie Lanata, wife of Jan Larose-Minard C. D. C. No. 50208, July 1st, 189 James N. Larose-Minard one-half interest No. 420- quired succession, Antoine Lanato, March 16, 1894 C

Succession Angela Louise Lanata, wife of Ed Fernandez C.D.C. No. 64887, May 6, 1901 to Ed Fernandez one-half interest act before James Trahey, April 10, 1894.

Antoine Lanata acquired from the succession of Lanata C.D.C. No. 33378 — 2nd D.C. as per act p before Ed. G. Gortschalk, N.P., April 19, 1870.

Dominique Lanata acquired from L. A. Garidel a act before E. Bouny, N.P., October 28, 1865.

Eusebe Bouny, N.P., October 28, 1865, Mrs. I. Garidel to D. Lanata. Plan Charles de Armas. N.P. C ber 7, 1865 (Lot 1). Mrs. L. A. Garidel, Marie Josep A. Andry. Mrs. L. A. Garidel acquired by inheriting her mother Josephine Laveau Tredeau, Widow of Ma Andre (133' 2'' 5''' x 160' 10'' 0''' forming corner C tres and Ursulines.)

Act before Felix Grima, N.P., June 21, 1841, credito John Ami Merle to Josephine Laveau Tredeau, Widow Manuel Andry (Building, etc.) acquired one portio Mr. Joseph Carpentier, Act before L. T. Claire, N May 17, 1833.

Oct. 4, 1833: One portion of Mr. Correjjolles — Act I Claire, N.P.

July 11, 1834: One portion of Mr. Correjjolles — Act I Claire, N.P.

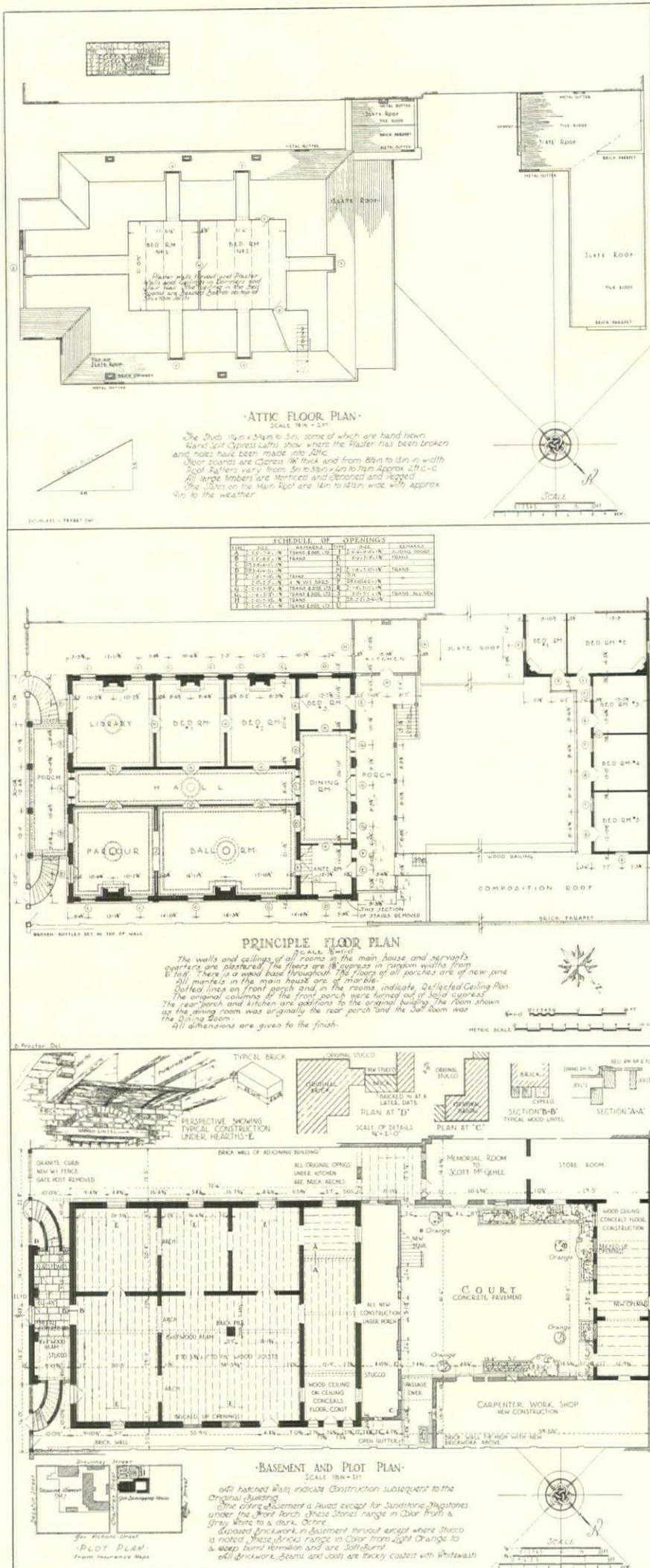
February 6, 1837: One portion of Mr. Correjjolles — L. T. Claire, N.P.

June 21, 1841: One portion known as residence of John Merle, by act before F. Grima, N.P.

Act before L. T. Claire, N.P., May 17, 1833, Joseph Le Carpentier, residing on Chartres between Hospital Ursulines to John Ami Merle, residing on Levee St Mandeville and Spain 64' more or less on Chartres by 1 (American measure) with buildings one lot adjoining preceding 20' on Ursuline by 70' in depth.

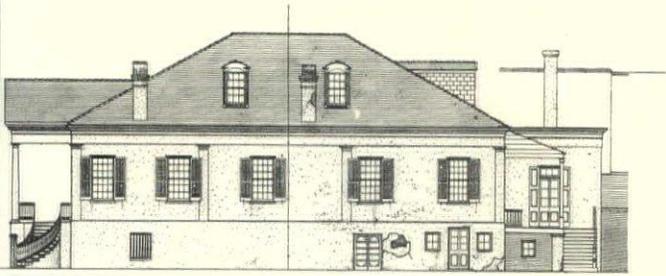
Ursuline Nuns to J. Le Carpentier: Corner of Char and Ursuline measuring (French) 150' on Ursuline by 1 on Chartres Lots 11-12-13-14 — Act before Marc Laf January 4, 1825.

Ursuline nuns acquired from French Crown thro Governor Bienville.



One time Residence of
 GEN. P. G. T. BEAUREGARD
 BUILT IN 1824

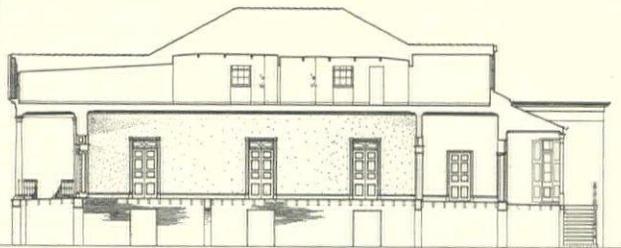
There is evidence of three colors on the Stucco. First a deep Pink or Red, then an Ochre and now a Gray. The Fence Posts and Steps are a dark Gray Granite. The Stucco is lined off to represent Stone joints.



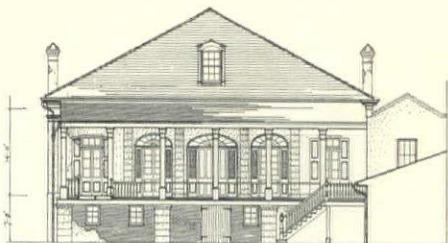
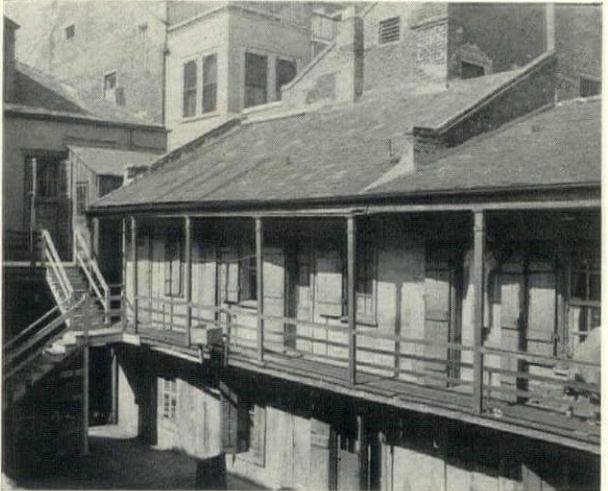
N. E. SIDE ELEVATION



S. E.
 FRONT ELEVATION
 -CHARTRES STREET ELEVATION-
 SCALE - 1/4" = 1'-0"

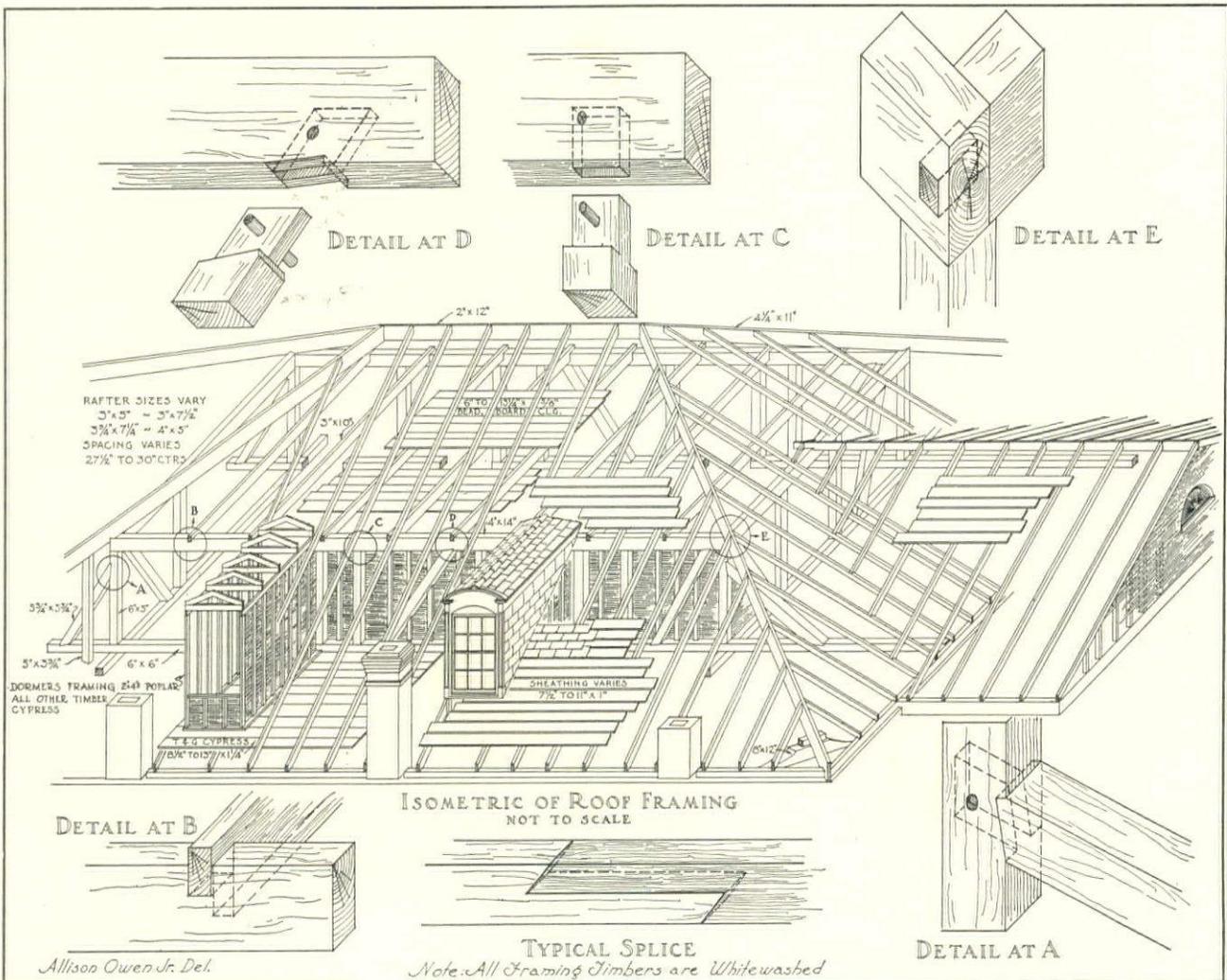
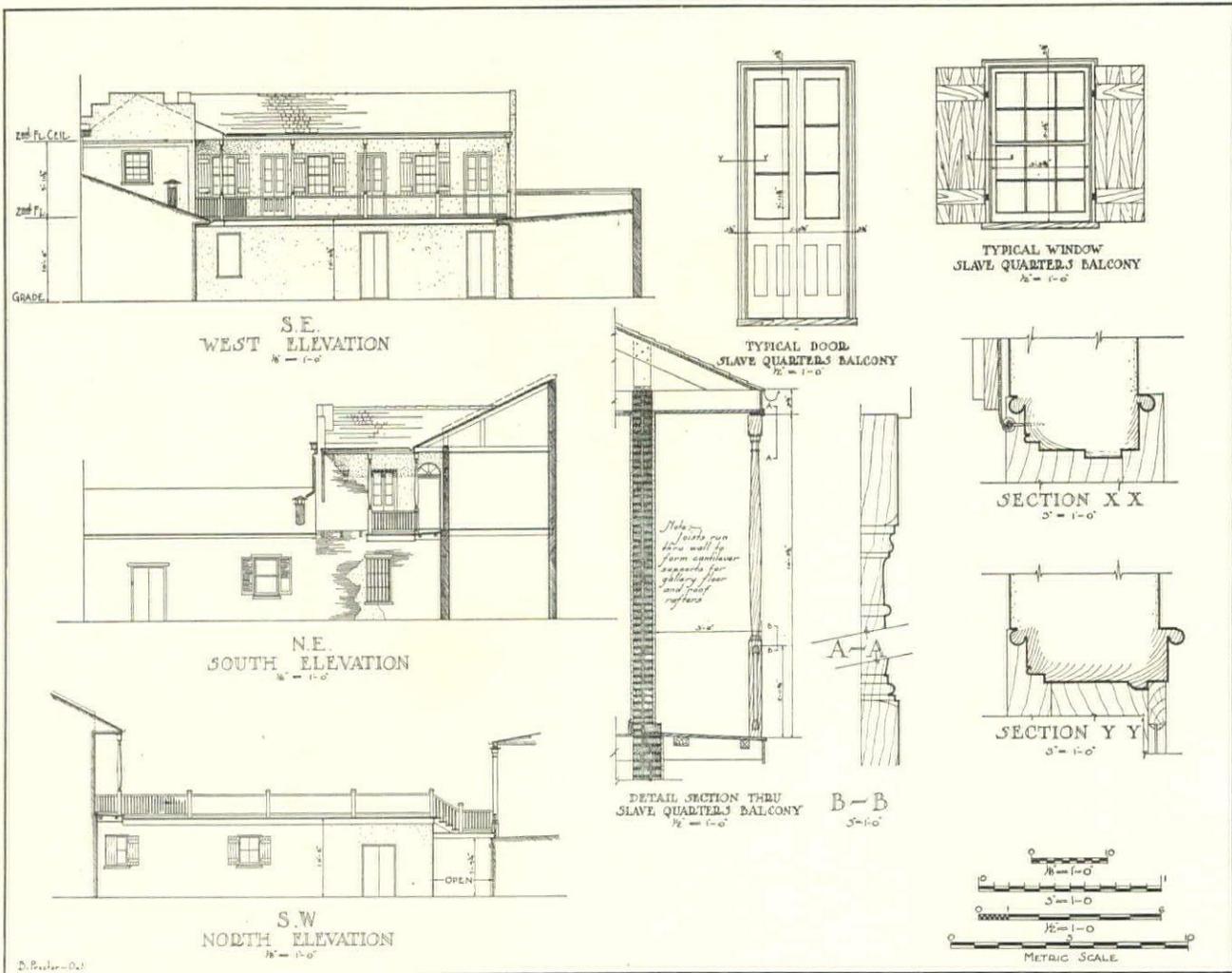


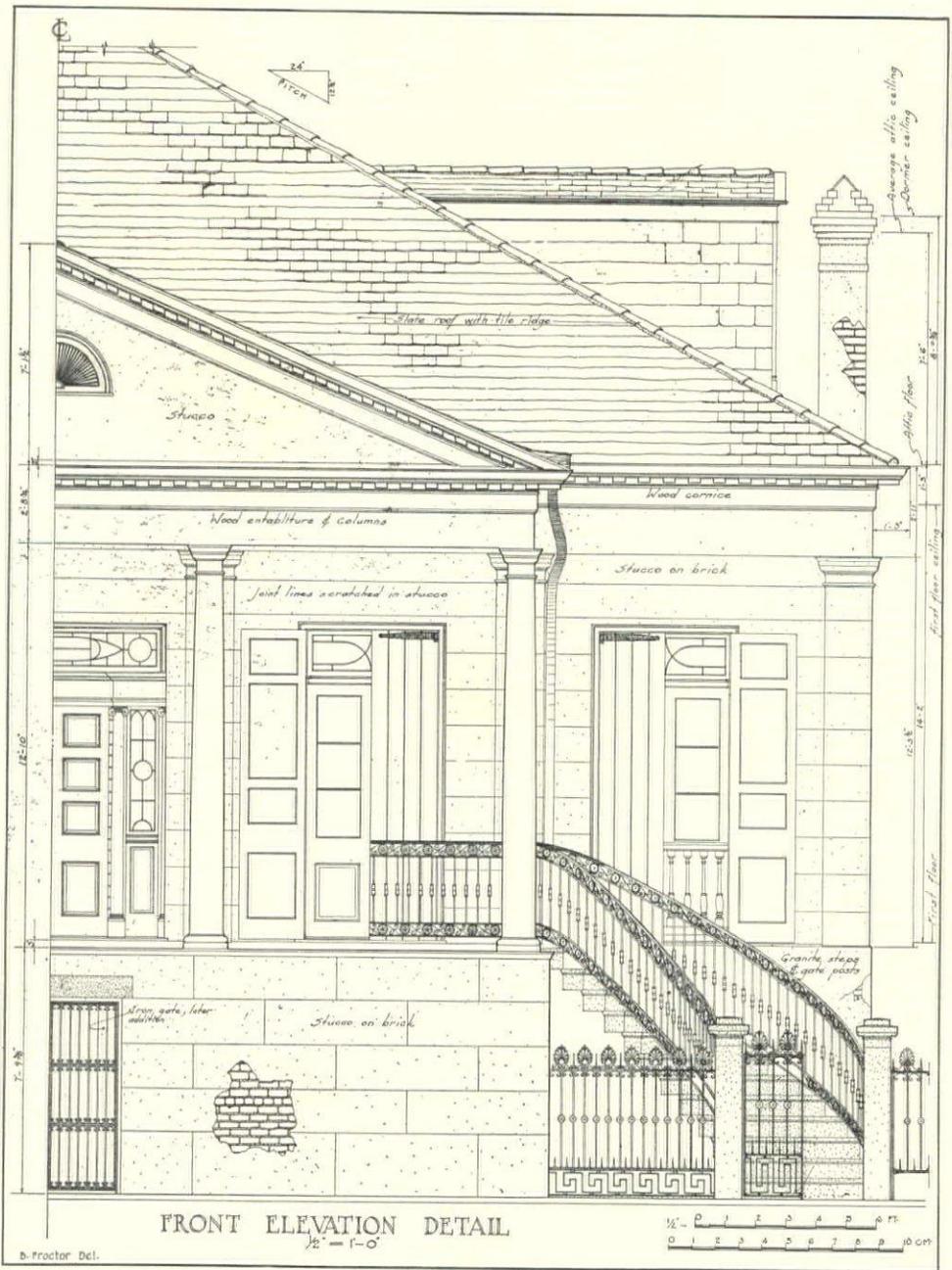
LONGITUDINAL SECTION



N. W.
 REAR ELEVATION
 SCALE - 1/4" = 1'-0"

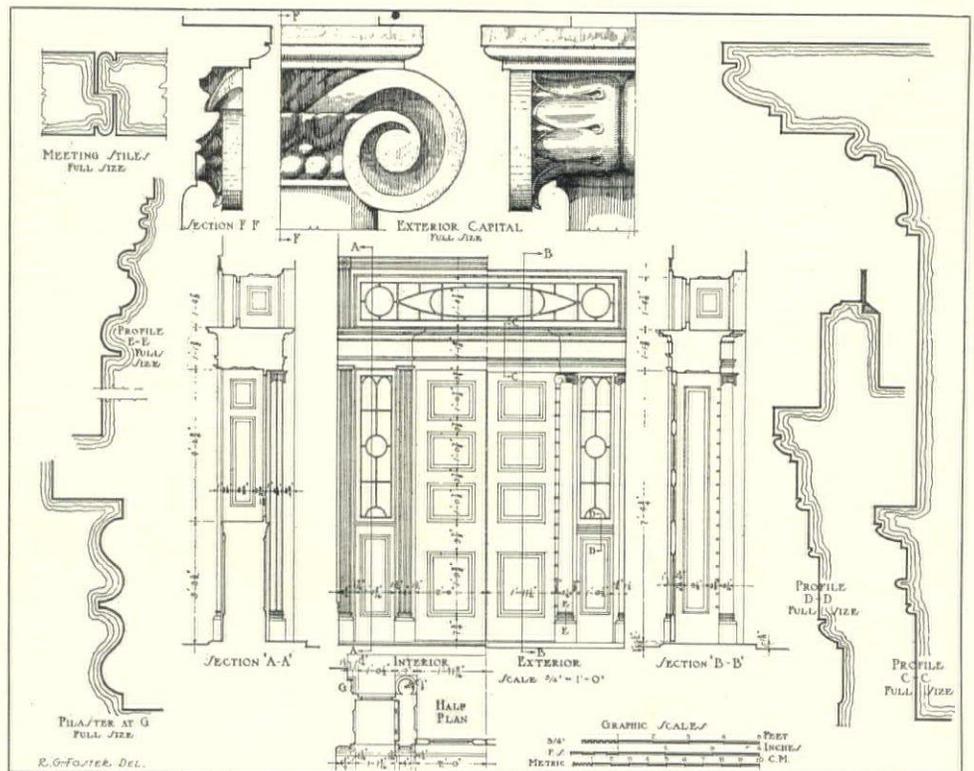




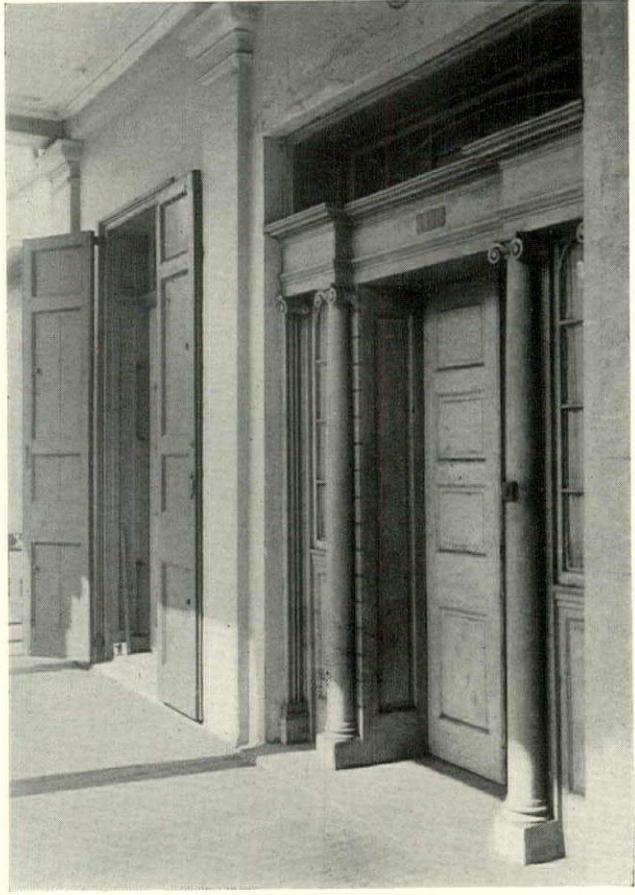
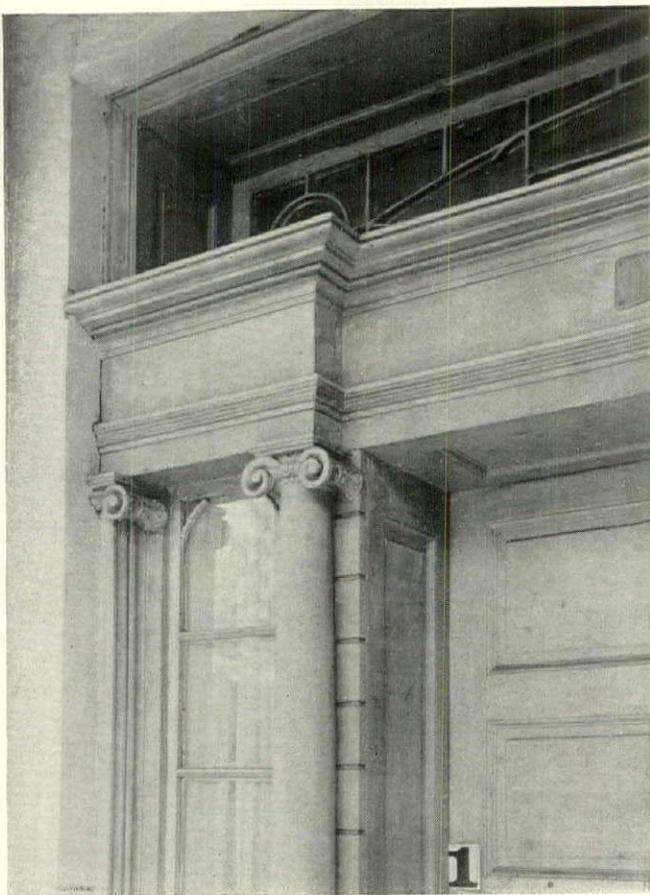


FRONT ELEVATION DETAIL

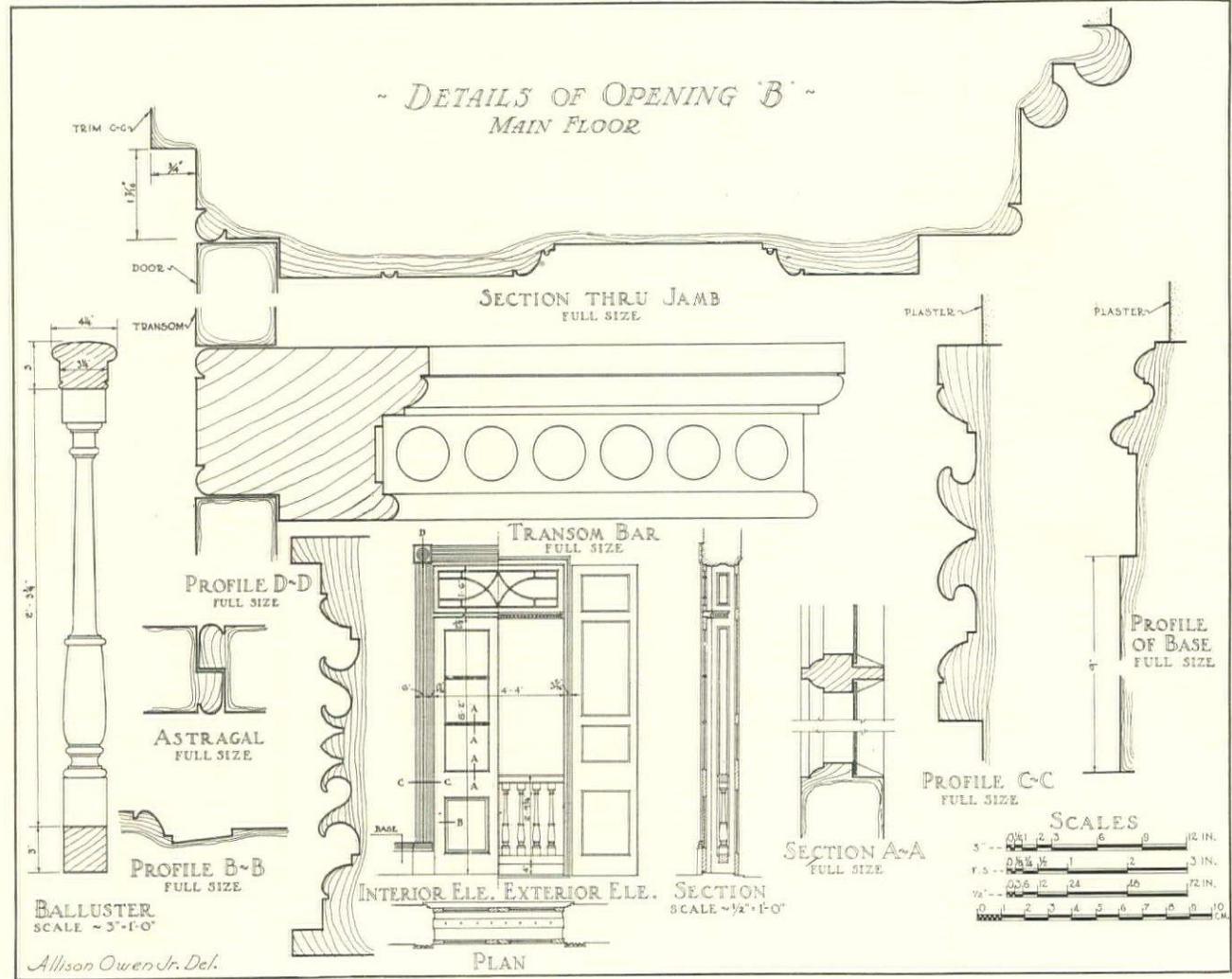
b. Proctor Del.

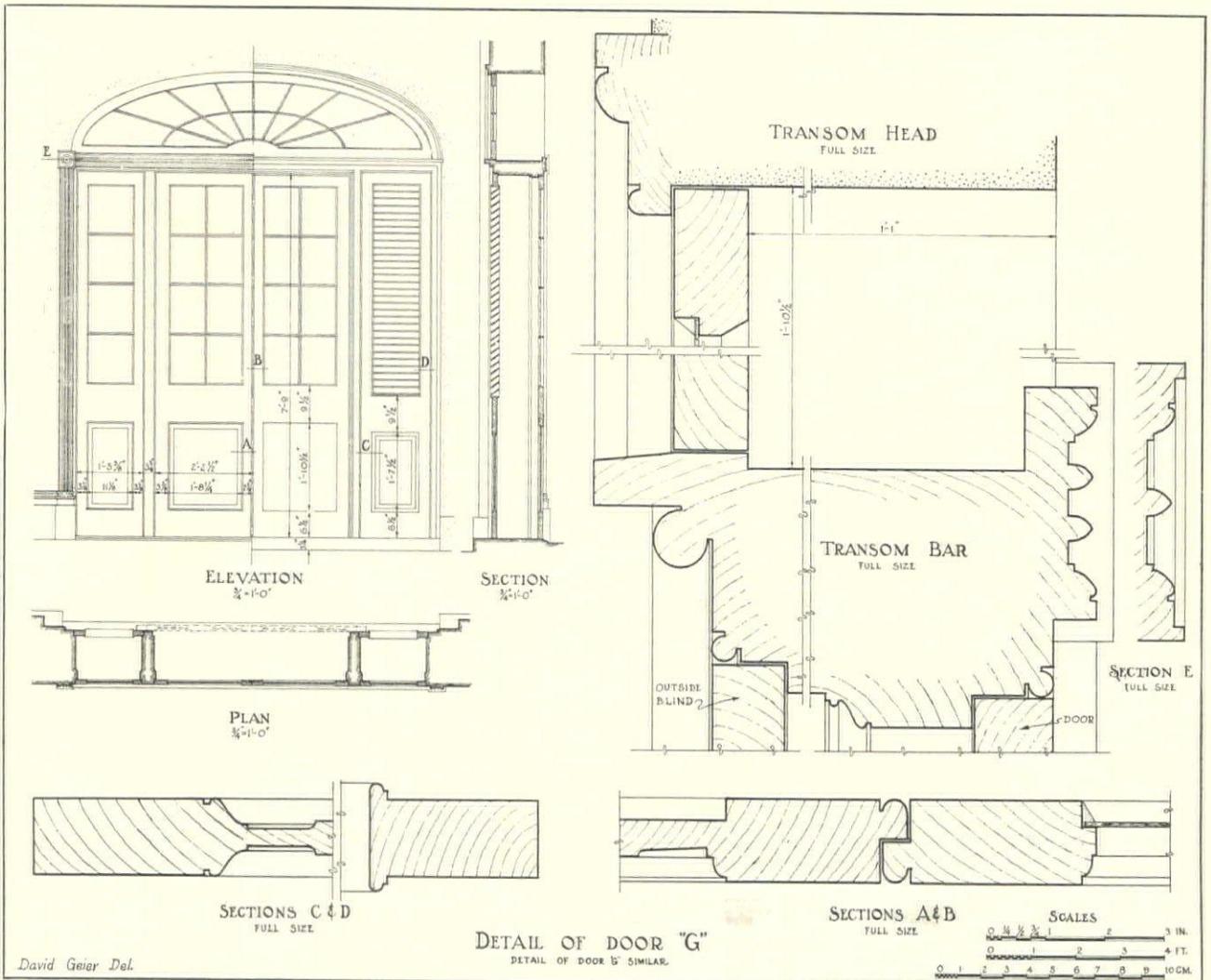
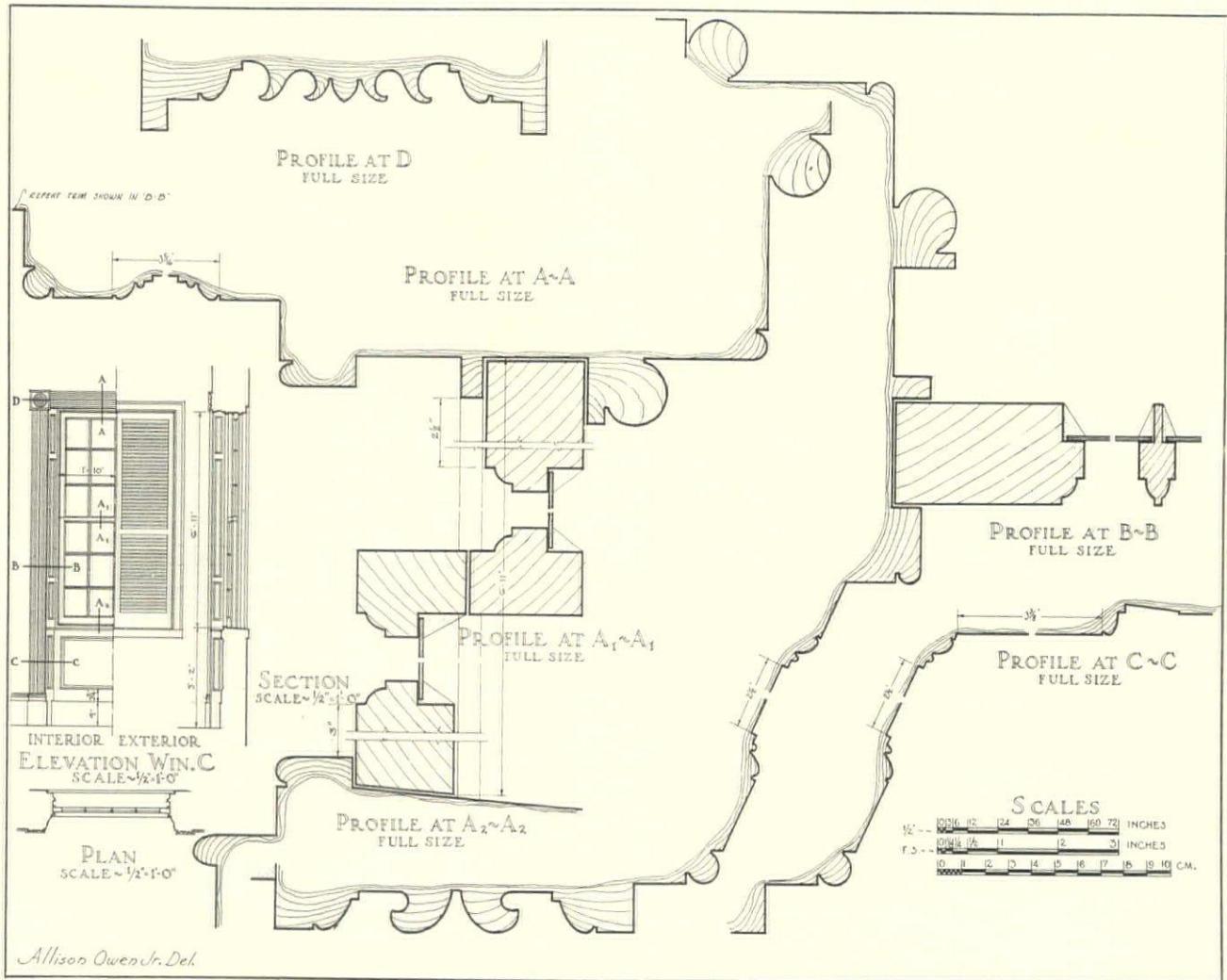


FRONT PORCH AND
MAIN ENTRANCE
DOOR DETAILS



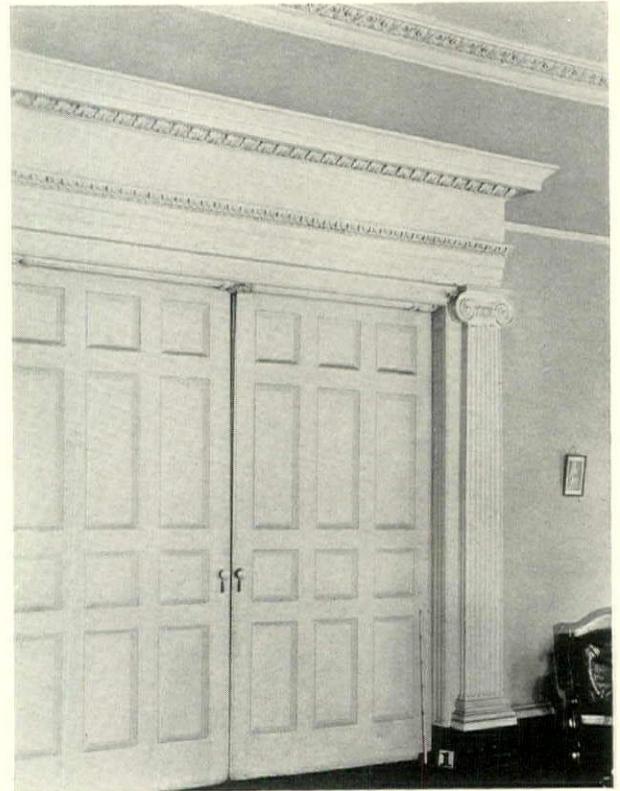
MAIN ENTRANCE (see detail page 501)



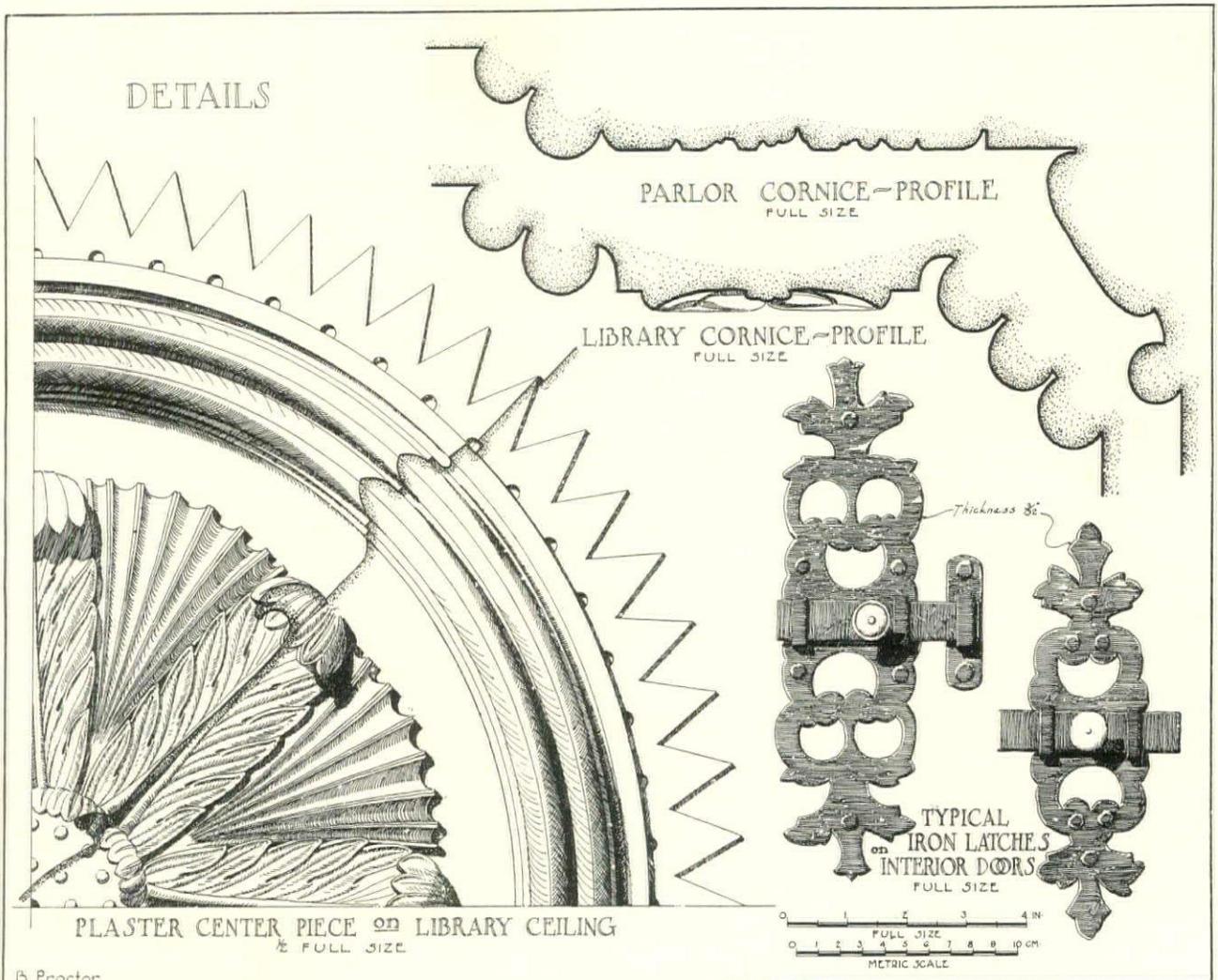




BEDROOM DOOR



PARLOR TO BALLROOM DOOR



B. Proctor

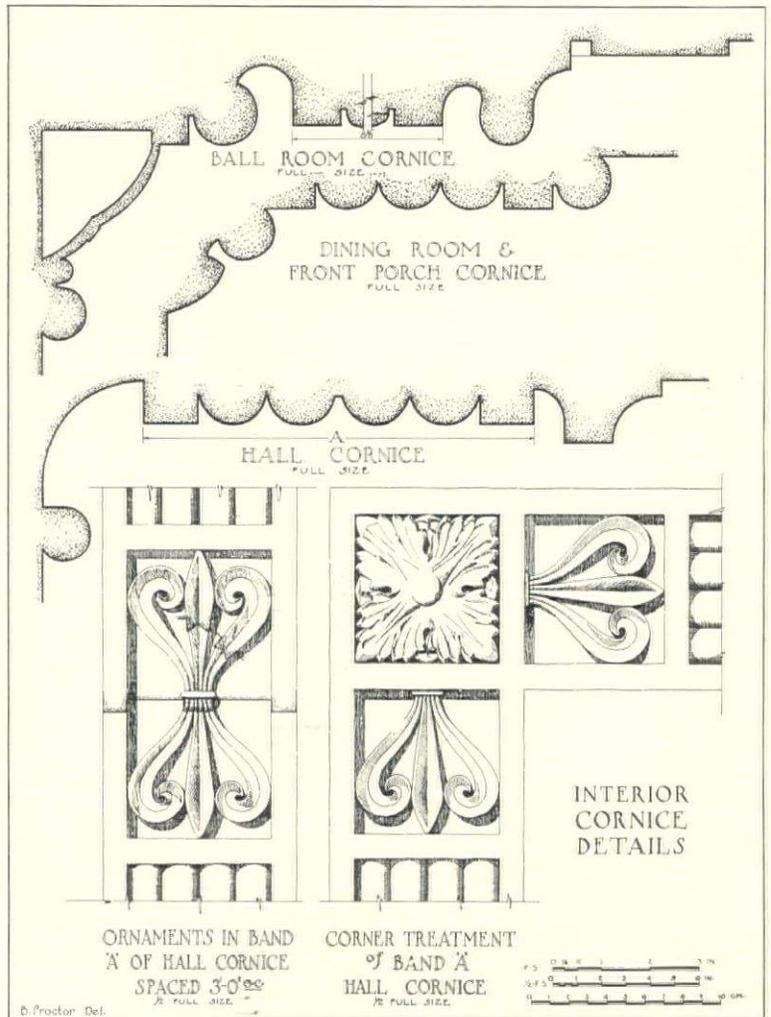
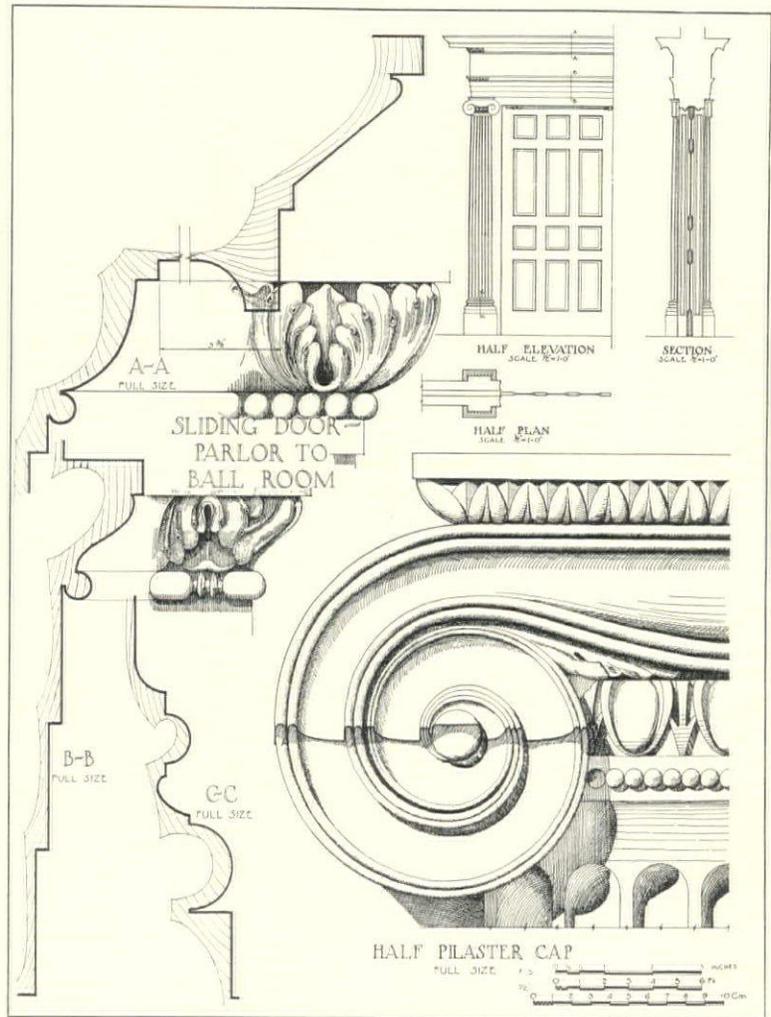


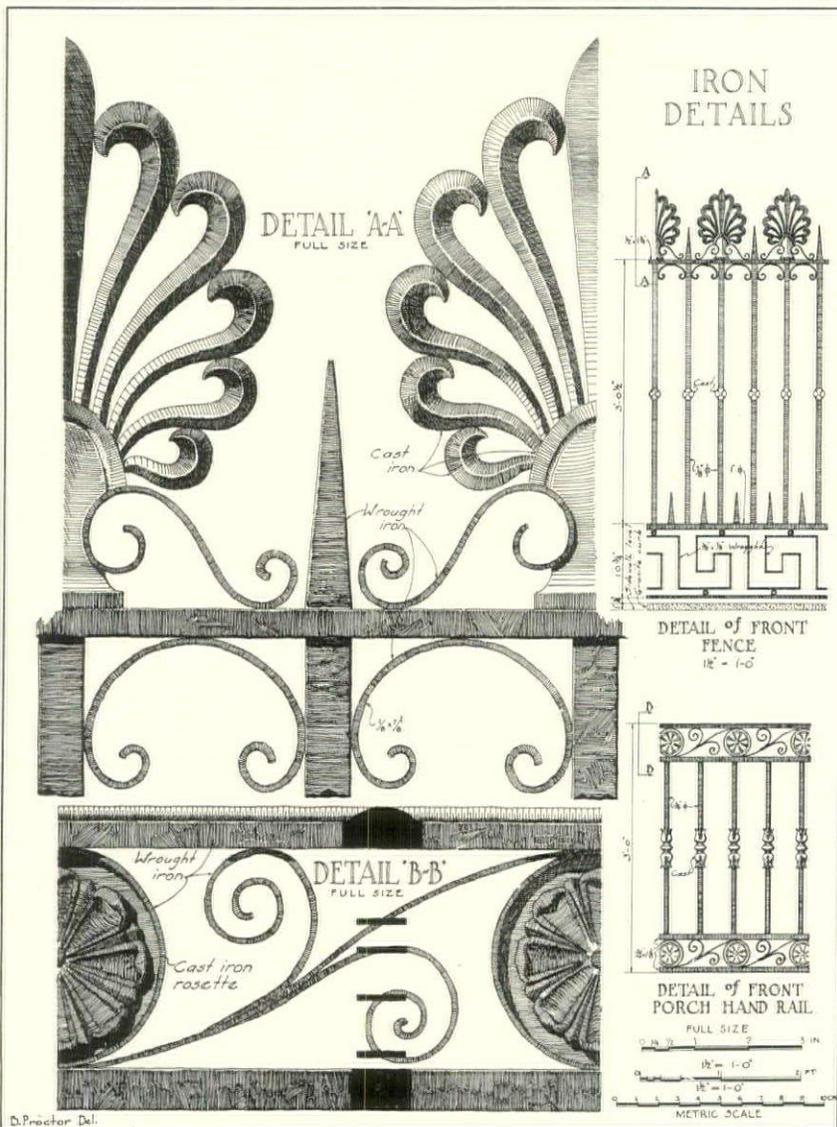
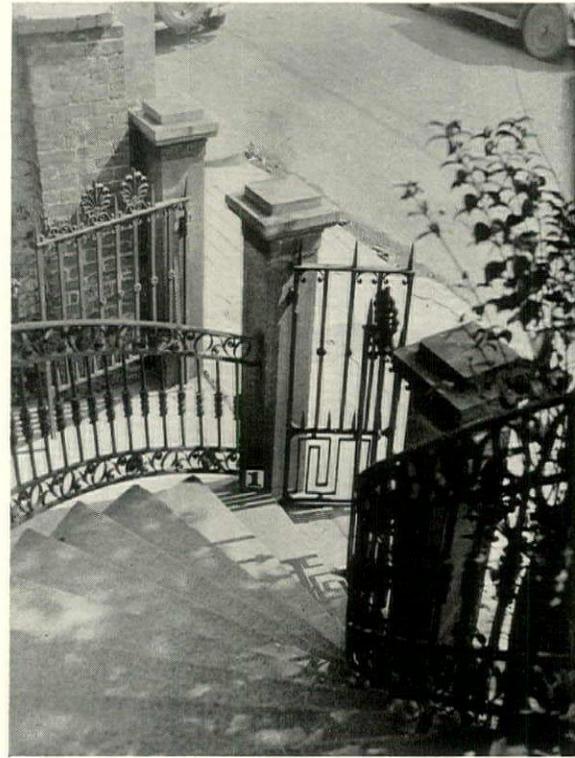
HALL CEILING



FRONT PORCH CEILING DETAIL

INTERIOR DETAILS





WROUGHT IRON DETAILS
FRONT PORCH

SMALL HOUSES

Following the pattern of the October Small House Reference Number, THE ARCHITECTURAL FORUM will continue to publish regularly studies of recently built small U. S. houses. The two pages devoted to each house offer photographs, plans, full construction outlines, and cost. All of the houses presented are within the price range eligible for FHA mortgage insurance.

102. HOUSE FOR ERNEST GREENWOOD, SCARSDALE



Harold Haliday Costain Phot

While fairly typical in its planning, this house offers a much-needed change from the usual Colonial facade. Flush siding, two-story pilasters, and arches give an air of elegance to what might otherwise be a commonplace elevation. Flush siding, frequently used in New England around the end of the 1700's, provides an extremely pleasant surface; its practical disadvantages are probably responsible for its infrequent use at the present time. It has, however, great decorative possibilities, and when the detail is as well handled as on the doorway of this house, it is most effective. The planting is good; it is refreshing to find a house of this type without the usual pair of scrubby evergreens flanking the front door. The example set here is one that might be followed with profit.

CONSTRUCTION OUTLINE

Cost: \$18,718. Cubage: 46,795, at 40 cents per cubic foot.

FOUNDATION

Walls—concrete block, J. C. Mahlstedt Lumber & Coal Co., New Rochelle, N. Y.

Columns—lally.

Cellar floor—concrete.

Waterproofing—membrane and fibrous cloth, Minwax Co., New York City.

FRAME CONSTRUCTION

Fir; spruce bridging.

EXTERIOR SURFACE

Common brick veneer—Stile Co., New York City.

Flush siding.

Stucco—white, Artstone Rocor Corp., Brooklyn, New York.

ROOF

Pennsylvania black slate on sheathing.

Valleys—closed.

Gutters—built-in and hanging.

Flashing } 16 oz. copper.

Down spouts } 16 oz. copper.

Composition sheathing paper—30 lb. felt.

Copper—Anaconda.

DOOR AND WINDOW FRAMES

Sash and frames

Double hung } wood.

Casement } wood.

Steel sash—cellar, "Fenestra" by Detroit Steel Products Co.

Garage doors—overhead type by Overhead Door Co., New York City.

PORCHES

Reinforced concrete.

GLASS

Double thick, quality A, "Lustra Glass" by Pittsburgh Plate Glass Co.

EXTERIOR PAINT

Siding }

Trim } lead and oil, mixed at job.

Sash }

LATH AND PLASTERING

Lathing—metal, 3.4 lb. painted diamond mesh.

Plastering

Patent plaster—King's Windsor.

Finishing coat—"Ivory" lime and "Diamond" plaster of Paris, U. S. Gypsum Co.

INTERIOR WOODWORK

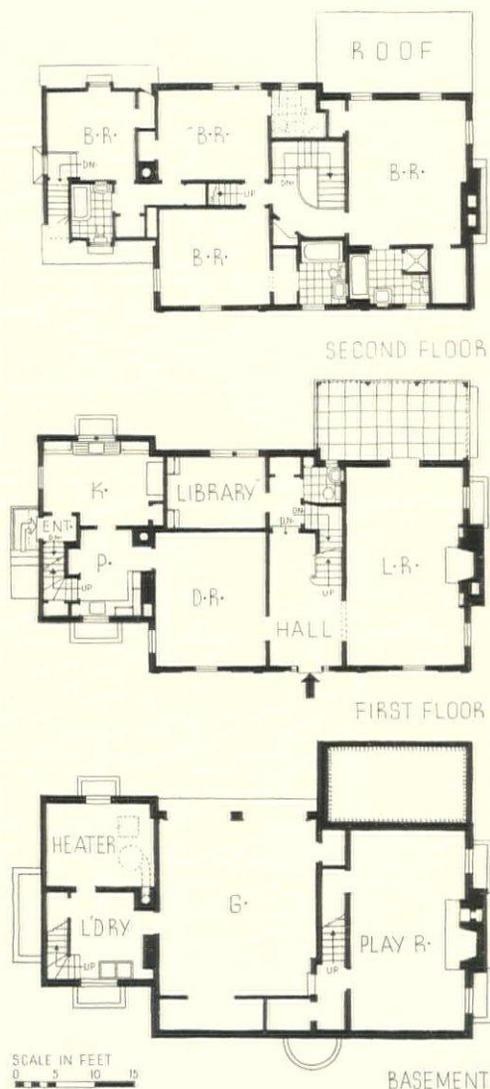
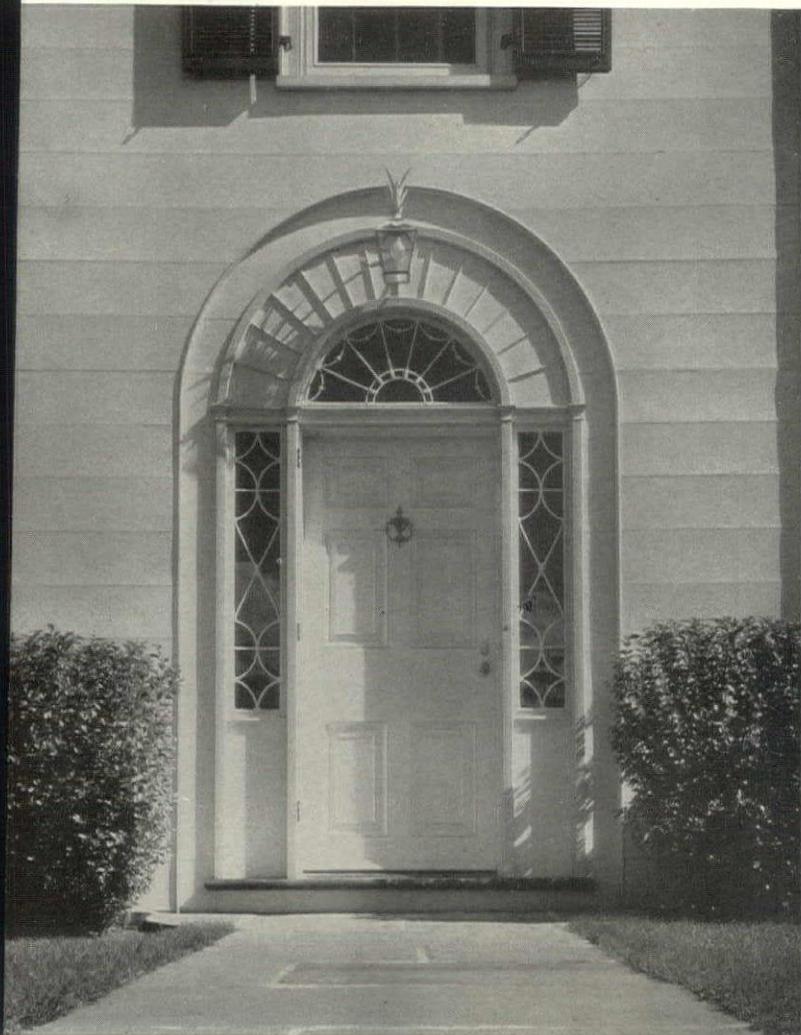
Trim and floors—clear plain white oak, W. Ritter Co., New York City.

Painted surfaces

Shelving and cabinets } white pine.

INSULATING

Outside walls } rock wool, "Gimco" by
Roof rafters } General Insulating Co.
Attic floor }



PLAN: An interesting plan in several respects. Excellent location of garage: stairs lead to hall, with coat closet and lavatory readily accessible. A small library provides space for work and study; it occupies the space frequently given over to a breakfast room. Note space for bathroom to be installed at some future date; planning ahead in this way saves much time and expense when the installation can finally be made.

Weatherstripping—metal, H. Kammerer, Mt. Vernon, N. Y.

INTERIOR FINISHES

Floors—flat finish, Minwax Co.
 Trim }
 Doors } enamel, Sherwin-Williams Co.
 Sash }
 Walls—Sherwin-Williams Co.
 Wallpaper—Thibaut and Lloyd.

WIRING

Cable—BX.
 Electrical fixtures—Lightolier Co.
 Switches—toggle.

LIGHTING

Direct.

PLUMBING

Kitchen
 Sink—model KC-4, The Conover Co., Chicago.

Cabinet—wood; milled to detail.
 Stove—gas.
 Refrigerator—electric.

BATHROOM

Fixtures—tile.
 Cabinets—"Morton" by Fred W. Lee Co., New York City.
 Bath tubs—Neo-classic "Pembroke" by Standard Sanitary Mfg. Co.
 Toilets—one-piece.
 Seats—white, Church Mfg. Co.
 Showers—Standard Sanitary Mfg. Co.
 Shower curtains—Para Permonte Moire.
 Floor—linoleum, Congoleum-Nairn Inc.

PIPES

Brass.

HEATING

Oil.
 Boiler—General Electric Co.

AIR CONDITIONING

Central—General Electric Co.

CHIMNEY

Fireplaces
 Facings }
 Hearths } black slate.
 Mantels—wood by mill.
 Damper—Covert Co.

HARDWARE

Interior and exterior—brass, Charles Ar-
 curarius, New York City.

SCREENS

Wood frame, H. Kammerer Co., Mt. Ver-
 non, N. Y.

WINDOW DRESSING

Venetian blinds—Eastern Venetian Blind
 Co., New York City.

103. HOUSE AT SHAKER HEIGHTS, OHIO



Carl F. Waite

The appearance of this substantial suburban house gains much from the large number of trees on the property. Privacy is obtained by placing the entrance in the corner formed by the jutting out of the dining room and the path which approaches on an angle from the street. The living room, opening to the rear on a covered terrace, is placed with its narrow end towards the front. The use of stone veneer for the first floor gives an appearance of solidity to the house and at the same time introduces a pleasing element of horizontality.

CONSTRUCTION OUTLINE Cost: \$16,000. Cubage: 39,184 at 40 cents per cubic foot

FOUNDATION

Walls—12" tile, Cleveland Builders Supply Co.

Piers—brick.

Cellar floor—concrete, cement finish, Medusa Cement Co.

Waterproofing—tar and pitch over cement plaster, Toch Bros.

FRAME CONSTRUCTION

Pine; Douglas fir studding.

EXTERIOR SURFACE

Stone veneer—The Green Road Stone Co., Cleveland.

Shingles—cedar double-dipt, Cabot Co.

ROOF

Wood shingles on shingle lath—cedar shingles, Cabot Co.

Valleys—open.

Gutters

Down spouts } Toncan metal.

Salt glazed tile drains.

Composition sheathing paper—15 lb. building paper.

DOOR AND WINDOW FRAMES

Sash and frames—pine, double hung.

Doors and frames (exterior)—pine.

Garage doors—Sitka spruce, Overhead Door Co., Cleveland.

PORCHES

2" flagstone on reinforced concrete slab.

GLASS

Flat drawn sheet, Libbey-Owens-Ford Glass Co.

EXTERIOR PAINT

Shingles—double dipped.

Siding

Trim } Priming—lead and oil.

Sash } Finish coat—lead and oil, 3 coats.

LATH AND PLASTERING

Lathing

Composition plaster base—Rocklath, U. S. Gypsum Co.

INTERIOR WOODWORK

Trim—gum.

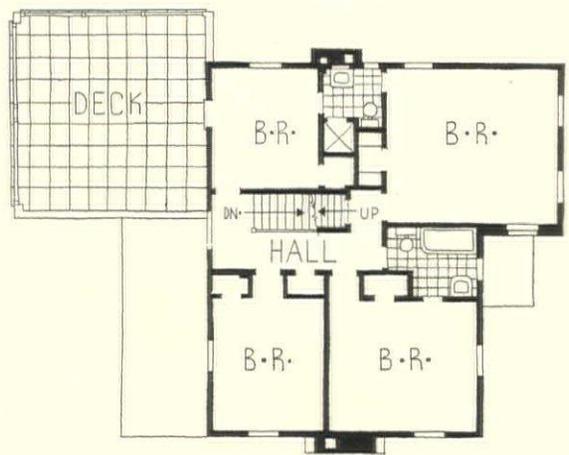
Floors—oak.

Shelving and cabinets—gum.

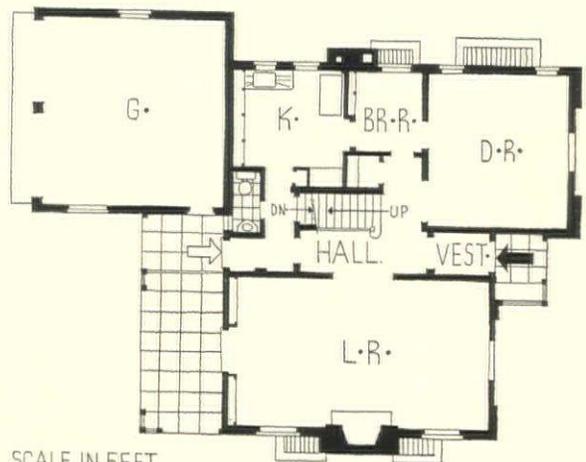
Stock millwork—Curtis Millwork Co.

INSULATING

None.



SECOND FLOOR



SCALE IN FEET
0 5 10 15 20

FIRST FLOOR

PLAN: The entrance hall gains in apparent size by the use of wide openings to dining and living rooms. Coat closet conveniently located; placing of lavatory is unconventional but good, and its proximity to kitchen plumbing results in a saving. Garage well placed in relation to house, its roof becoming a large deck. For average requirements one private bath in a house of this size might have been advisable.

Weatherstripping—Barland Strip, Cleveland, Ohio.

PLUMBING

Kitchen

Sink—acid-resisting enamel, Standard Sanitary Mfg. Co.

Floor—rubber tile, Goodyear Tire and Rubber Co.

BATHROOM

Bath tubs } vitreous china, Standard
Toilets } Sanitary Mfg. Co.

Seats—Church Mfg. Co.

Wainscot—matt glazed Romany tile, Franklin Tile Co.

Floors—ceramic tile.

HEATING

Gas.

Boiler—Bryant Boiler Co., Cleveland.

Radiators—Corto, American Radiator Co.
Hot water heater—52 gallon galvanized iron tank, Mustey side arm heater.

Thermostat and regulators—Minneapolis-Honeywell with clock.

CHIMNEY

Fireplaces

Facings } Amherst Sandstone Co.
Hearths }
Damper—Donley Bros.

HARDWARE

Interior and exterior—solid bronze.

SCREENS

Wood frames, copper mesh.

INTERIOR PAINTING

Floors—1 coat stain filler, 2 coats flat varnish.

Trim—4 coats enamel.

Doors—filler coat shellac, 4 coats enamel.

Sash—4 coats enamel.

Walls—papered.

WIRING

Cable—knob and tube.

Electrical fixtures—The Hamilton Studios, Cleveland, Ohio.

LIGHTING

Direct.

PIPES

Wrought iron by Byers Co.



REAR AND TERRACE

A simply handled solution of a sloping site which permits the placing of the principal rooms so that they face away from the street. The fenestration of this house demonstrates how easily the large windows demanded at the present time can be fitted into a traditional type of architecture. The owner, who held a fellowship in painting at the American Academy in Rome, has decorated the ceiling of the living room with painted ornament in the Italian manner, giving the interior a richness rarely encountered in the small house.

CONSTRUCTION OUTLINE Cost: \$5,500. Cubage: 18,750, at 29 cents per cubic foot

FOUNDATION

Walls—concrete.
Cellar floor—cement.

FRAME CONSTRUCTION

Wood.

EXTERIOR SURFACE

Brick veneer.

ROOF

Wood shingles on shingle lath—cedar shingles.
Gutters } copper, Chase Brass and
Down spouts } Copper Co.

DOOR AND WINDOW FRAMES

Sash—Lemco steel casements.
Doors and frames (exterior)—wood.

GLASS

Libbey-Owens-Ford Glass Co.

EXTERIOR PAINT

Trim } oil.
Sash }

LATH AND PLASTERING

Lathing—metal, Milcor Steel Co.
Plastering—sand finish for finishing coat.

INTERIOR WOODWORK

Floors—oak.

Shelving and cabinets—white wood.
Stock millwork—pine and white wood.

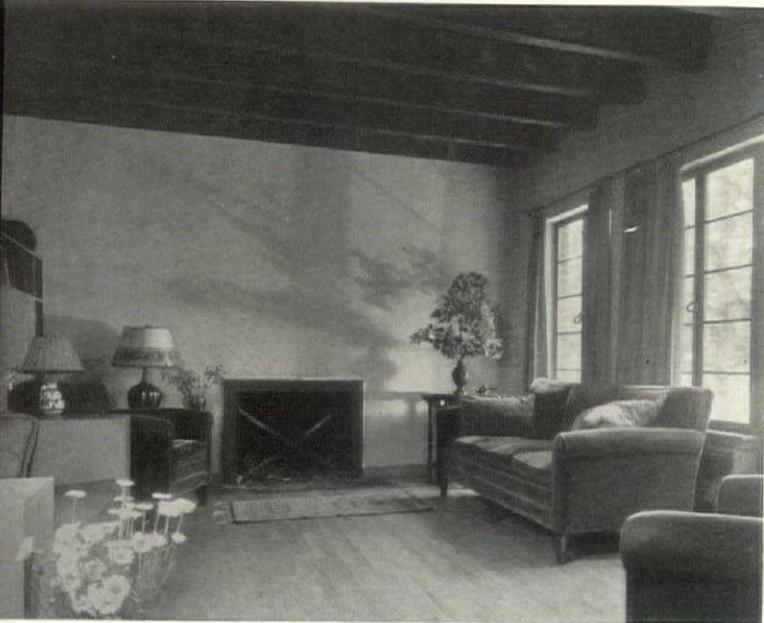
INSULATING

Outside walls } rock wool, Johns-Manvill
Attic floor }

INTERIOR PAINTING

Floors—acid stain and wax.

Trim }
Doors } oil.
Sash }
Walls }

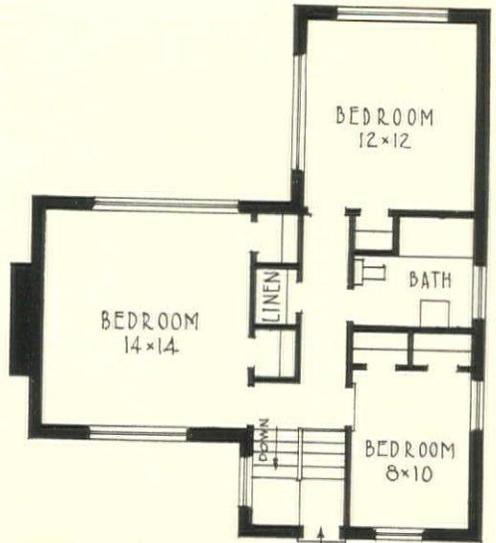


LIVING ROOM

Garrison Photos

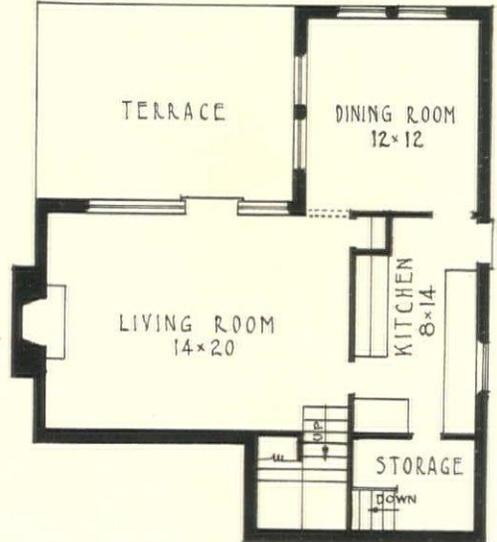


ENTRANCE



SECOND STORY

ENTRANCE



FIRST STORY

PLAN: Entrance arrangement dictated by sloping site; placing the vestibule half-way between first and second floor levels gives privacy to bedrooms, ease of access to living room. Ample wall space for furniture in living room; the unbroken wall around the fireplace permits good decorative treatment. Dining room and bedrooms small but adequate.

WIRING

Cable—BX, General Electric Co.
Electrical fixtures—wrought iron.

LIGHTING

Direct.

PLUMBING

Kitchen

Sink—enameled iron, Standard Sanitary Mfg. Co.

Stove—gas.

Refrigerator—General Electric.

BATHROOM

Fixtures—Standard Sanitary Mfg. Co.

Cabinets—steel, chrome finish.

Bath tubs—enameled iron } Standard
Toilets—vitreous china } Sanitary
Mfg. Co.

Seats—Climax, Church Mfg. Co.

Floor—tile.

PIPES

Brass and copper, Chase Brass & Copper Co.

HEATING

Oil—A.B.C. Oil and Burner Co.

Boilers—National Rad. Co.

Radiators—copper, Modine Mfg. Co.

Piping—copper, Chase Brass and Copper Co.

Valves—Hoffman.

Hot water heater—in boiler.

CHIMNEY

Fireplaces

Facings—slate.

Hearths—soap stone.

Damper—H. W. Covert Co.

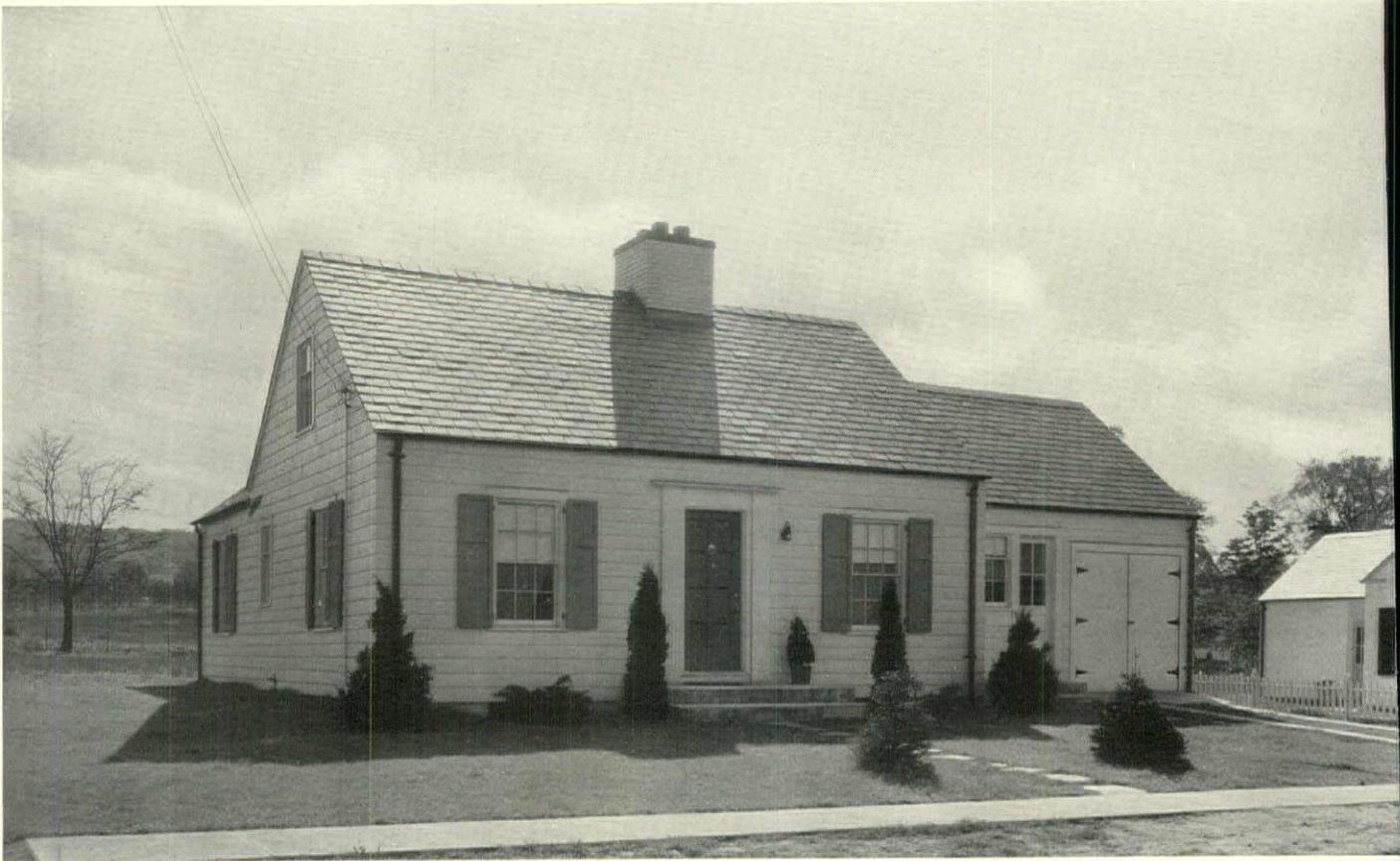
HARDWARE

Interior and exterior—bronze, Sargent & Co.

SCREENS

Steel frames, copper bronze mesh.

105. HOUSE FOR McMORROW CONTRACTING CORP.



Unschooling in subdivision practice, the lawyer who built this house as the second of six to launch his firm's development, ran counter to the usual procedure in the New York area by refusing to sacrifice either design plan, or construction for attractive gadgetry. Money that normally might have been spent for decorative chimney braces went into insulation; overornamental moldings were stricken from the budget and the funds diverted to plumbing. If not a brilliant piece of residential design, this house is clean, simple, and in good taste.

CONSTRUCTION OUTLINE

Cost: \$5,300. Cubage: 22,200, at 24 cents per cubic foot.

FOUNDATION

Walls—cinder concrete blocks.
Columns—lally.
Cellar floor—concrete, integral cement finish.

FRAME CONSTRUCTION

Wood—Douglas fir.

EXTERIOR SURFACE

Shingles—18" Perfection.

ROOF

Black slate on heavy asphalt felt.
Gutters and leaders—16 oz. cold rolled copper.
Flashing—16 oz. soft copper.
Salt-glazed tile drains for leaders below ground.

DOOR AND WINDOW FRAMES

Sash and frame—white pine.

Steel sash—Reynolds metal in basement.

Garage doors—1 $\frac{3}{4}$ " white pine.

TERRACE

Flagstones on sand bed.

GLASS

Single strength, grade A.

EXTERIOR PAINT

Siding }
Trim } 3 coats lead and oil paint
Sash }

LATH AND PLASTERING

Lathing
Exterior—Reynolds Metallated Ecod Fabric galvanized.
Interior—Reynolds Plain Ecod Fabric.
Plastering
Patent plaster—2 coats gypsum white.

Finishing coat—lime paste ground with plaster of Paris, "Snow" quicklime by New England Co.

INTERIOR WOODWORK

Floors— $\frac{7}{8}$ " red oak, pine in kitchen
Trim—white pine.

INSULATING

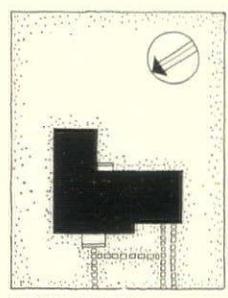
Attic floor—Reynolds type "B" Memulation.

INTERIOR PAINTING

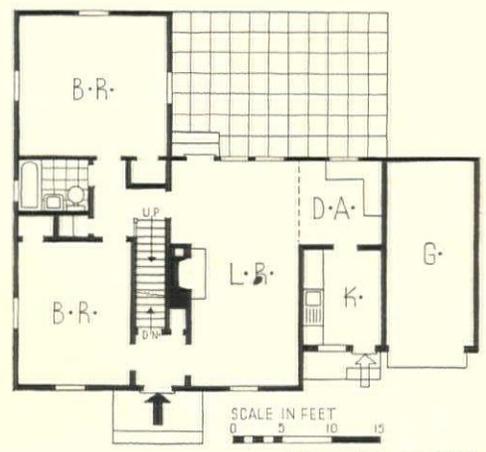
Floors—Minwax.
Trim } painted 3 coats, kitchen 3 coats
Doors } enamel.
Sash }
Wallpaper—living room, bedrooms, dining alcove, Richard Thibaut.



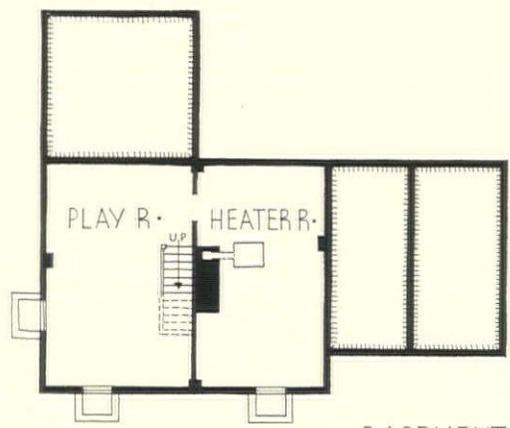
REAR



SCALE IN FEET
0 10 20 30 40
PLOT PLAN



SCALE IN FEET
0 5 10 15
GROUND FLOOR



BASEMENT

PLAN: Virtually every square foot of space has been well utilized. Dining alcove off living room an excellent solution for house this size. Kitchen very compactly arranged; the combination of units illustrated shows the influence of apartment house layout on the small house. Stairs leading directly to basement playroom from front hall make this room more conveniently accessible than is usually the case.

- WIRING
Cable—BX.
- LIGHTING
Direct.
- PLUMBING
Kitchen
Sink
Cabinet
Stove—gas
Refrigerator—"Universal,"
Landers, Frary & Clark
Floor—linoleum, Armstrong Cork Co.
- BATHROOM
Lavatories—Richmond Radiator Co.
Cabinets—National Metal Art Mfg. Co.
Bath tubs
Toilets
Showers

Murphy
kitchen
unit.

Seats—Church Mfg. Co.
Wall finish—glazed tile.
Floor—basket-weave tile.

PIPES
Supply—brass, hot and cold water,
Bridgeport Brass Co.

HEATING
Oil—one-pipe system, Supreme Oil
Burner.
Boilers }
Radiators } Richmond Radiator Co.
Piping—steel.
Valves—American Brass Co.
Hot water heater—Taco Heaters, Inc.
Thermostat

CHIMNEY
Common brick, terra cotta flue linings,
cement cap.
Fireplace
Facing—common brick, painted.
Lining and hearth—fire brick.
Mantels—wood molding.
Damper—Covert.

HARDWARE
Interior } locks by P. & F. Corbin, butts
Exterior } by Stanley Works.

WINDOW DRESSING
Blinds—white pine, paneled.
SPECIAL EQUIPMENT
Septic tank—Nustone Products Corp.



Gustav Anderson Photos

The exterior of this house incorporates several variations of the conventional forms. Most noticeable is the curved entrance motif, which not only looks well in relation to the facade, but provides extra space in the hall. The large casement windows on the ground floor admit about twice as much light as the customary double-hung window, and look very well in spite of the shutters, which, incidentally, could not be operated from the inside of the house without the greatest difficulty. The use of materials is excellent, and the texture of the brick wall particularly pleasing.

CONSTRUCTION OUTLINE Cost: \$12,000. Cubage: 36,500, at 33 cents per cubic

FOUNDATION

Walls—12" concrete.
Columns and piers—concrete.
Cellar floor—4" concrete, cement finish.
Waterproofing—Truscon integral water-proof paste.

MASONRY CONSTRUCTION

4" cinder block walls with faced brick, 4" brick tied by header course every seventh course.

EXTERIOR SURFACE

Brick veneer, whitewashed.

ROOF

Slate on sheathing—Bangor black slate.
Valleys
Gutters
Flashing
Down spouts } copper.
Salt glazed tile drains below ground.

DOOR AND WINDOW FRAMES

Sash and frames
Steel sash—Truscon Steel Co.
Door and frames (exterior)—local mill-work.
Garage doors—overhead.

PORCHES

Reinforced concrete.

GLASS

Libbey-Owens-Ford Glass Co.

EXTERIOR PAINT

Trim
Priming } Atlantic white lead.
Finish coat }
Sash
Priming—red lead.
Finish coat—aluminum.

LATH AND PLASTERING

Lathing

Wire—Truscon Hy-rib for ceilings and
Triplex for walls.

Plastering
Finishing coat—white King's Windsor.

INTERIOR WOODWORK

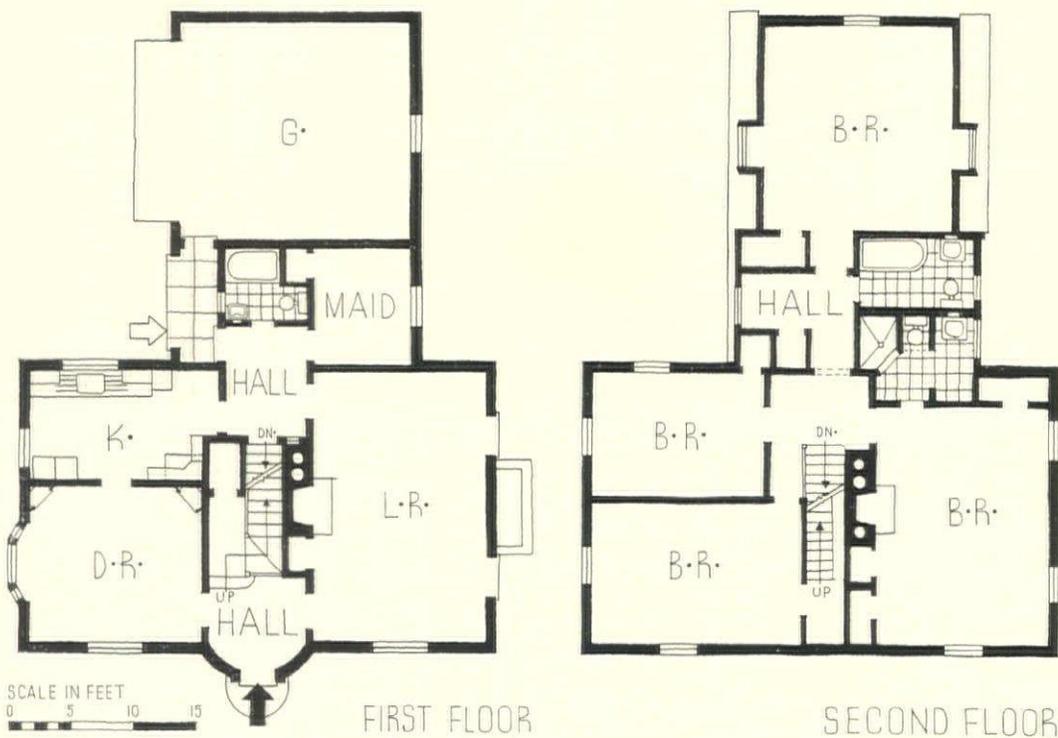
Floors—oak planks.
Trim
Stainwoods—knotty pine.
Painted surfaces—white pine.
Shelving and cabinets—local millwork.

INSULATING

Outside walls—air space in hollow blocks and between blocks and plaster.
Weatherstripping—American Weatherstripping Co.

INTERIOR FINISHES

Floors—stained, Minwax.



PLAN: The stair arrangement is unusual, necessitated probably by the short length of run from first to second floor. Garage and service portion well handled. Placing the maid's room on the ground floor leaves the upstairs available for larger bedrooms. Baths are well placed.

Trim
Doors } paint and enamel.
Sash }
Walls }
Wallpaper—Salubra.

WIRING
Cable—General Electric Co.
Electric fixtures—David Kojan.
Switches—General Electric Co.

LIGHTING
Direct.

PLUMBING
Kitchen
Sink — Monel metal, International Nickel Co.
Cabinet—local mill.
Stove—Estate, Detroit Stove Co.

Refrigerator—Westinghouse Electric & Mfg. Co.
Washing machine—Maytag Co.

BATHROOM
Fixtures—Speakman Co.
Cabinets—G. M. Ketcham Mfg. Corp.
Bath tubs } Standard Sanitary Mfg. Co.
Toilets }
Seats—Church Mfg. Co.
Tile—National Tile Co.

PIPES
85 per cent copper (red brass), sweat joints.

HEATING
Oil-fired steam system.
Boilers—Electrol by Kewanee Boiler Corp.
Radiators—Richmond Radiator Co.
Valves—Hoffman Specialty Inc.

Hot water heater—Taco Heaters, Inc.
Thermostat and regulators—Minneapolis-Honeywell Regulator Co.

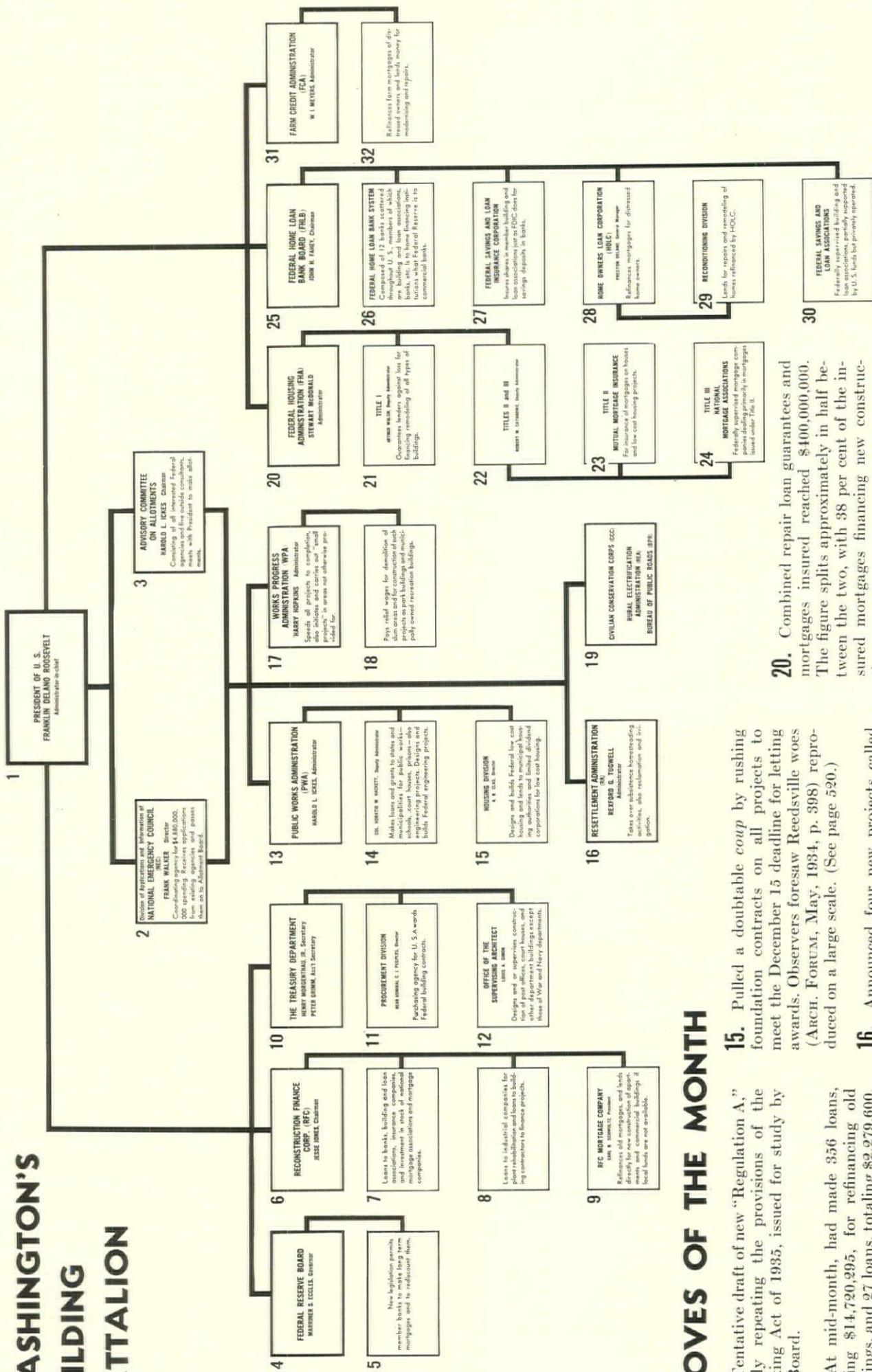
CHIMNEY
Fireplaces
Facings—black face brick.
Hearths—black tile.
Mantels—knotty pine.
Damper—Covert Co.

HARDWARE
Interior—Stanley, Corbin.
Exterior—Sargent.

SCREENS
Copper mesh in steel frames—Truscon Steel Co.

WINDOW DRESSING
Shades.
Venetian blinds.
Blinds.

WASHINGTON'S BUILDING BATTALION



MOVES OF THE MONTH

5. Tentative draft of new "Regulation A," largely repeating the provisions of the Banking Act of 1935, issued for study by the Board.
9. At mid-month, had made 356 loans, totaling \$14,720,295, for refinancing old buildings, and 27 loans, totaling \$2,279,600, for new construction, but as yet had bought no FHA-insured mortgages, as a result of last month's offer (ARCH. FORUM, October, 1935, p. 441).
10. Assistant Secretary Grimm, back from a tour of consultation with real estate boards throughout the country, pushed
15. Pulled a doubtful coup by rushing foundation contracts on all projects to meet the December 15 deadline for letting awards. Observers foresaw Reedsville woes (ARCH. FORUM, May, 1934, p. 398) reproduced on a large scale. (See page 520.)
16. Announced four new projects called "Greenbelt" towns, patterned after England's model suburban communities, totaling \$31,000,000. (See page 3.)
17. Controller General McCarl approved \$1,500,000,000 in projects, squelching build-
20. Combined repair loan guarantees and mortgages insured reached \$400,000,000. The figure splits approximately in half between the two, with 38 per cent of the insured mortgages financing new construction.
23. Low-cost housing program facilitated by new regulations and a mortgage bond finance plan. (See page 520.)
24. Still none formed. Expert Ernst Kalm
26. Outstanding loans to members, up from a \$20,000,000 dip, reached the record height of \$91,122,064. (See page 3.)
28. \$450,000 of its \$300,000,000 for purchasing shares of System members or in-

BUILDING MONEY

A monthly section devoted to reporting the news and activities
of building finance, real estate, management and construction

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JOHN CUSHMAN FISTERE
Editor



Man of the Month MILES L. ("MIKE") COLEAN (see Page 520)

Thomas D. McAvoy

A NEW FHA LOW COST HOUSING PLAN

is in the making. Funds will come from publicly-sold, privately-underwritten bond issues. How Technical! Director Colean plans to pick and choose his projects.

ONE hundred and forty-two people at least know that the Federal Housing Administration is equipped to stimulate the building of houses and apartments for the poor and near-poor. That many people have submitted projects costing \$365,000,000 to the FHA for mortgage insurance. Undoubtedly others, but not many, know of FHA's interest in the subject. Which is not exactly the fault of the public, because until now FHA has been comparatively quiet about its low cost activities while first beating the drum for remodeling, and later for mortgage insurance on private homes.

Before the snow flies, however, or at least before it gets very deep, the FHA will have declared itself in earnest for this third phase of its program. It is not yet sure that what it has to offer will be the permanent answer to housing—but at least it will create a new financing medium for housing that on paper has a good chance of being just what the experts prescribe.

In preparation last month were two significant documents, one, a revised circular No. 3 covering low cost projects, and two, a trust indenture that was at the root of the new housing plans. Between the two lay the hope of new housing under the FHA.

Authority. As stated in the Act itself, the FHA is empowered to insure mortgages "covering property held by Federal or State instrumentalities, private limited dividend corporations, or municipal corporate instrumentalities of one or more States, formed for the purpose of providing housing for persons of low income, which are regulated, restricted by law or by the Administrator as to rents, charges, capital structure, rate of return, or methods of operation."

Within that scope, the FHA has been planning a basis for private financing. Six months ago, it issued tentative first regulations covering submission of projects and from it came the flood of submissions. More than half were rejected as having no merit, and the remainder are still either under consideration, or awaiting financing.

It was the lack of adequate financing that caused the FHA to re-examine the base on which it had built its program. It soon became evident that the primary cause for failure to find money for the projects lay in the unwillingness of financial institutions to lend large sums of money for single projects. Low cost housing projects, especially in larger cities, are usually whoppers. They

have to be, either to become the re-makers of neighborhoods, or to create new neighborhoods. Few institutions were sanguine enough about the prospects to supply mortgages of \$3,000,000 or \$4,000,000 especially since they have only recently started contributing at all to the financing of new construction.

The way out immediately appeared to be some provision for sharing the expenses of construction. Two ways of accomplishing this presented themselves. One was to allow lending institutions to make a mortgage jointly. Another involved the creation of a special kind of mortgage bond structure for the financing of low cost housing.

Leaving choice between the two methods to the future, FHA low cost housing proponents set out to condition both routes for traffic. Two brief clauses in the Banking Act of 1935, well attesting to FHA potency in inter-Administration lobbying, were the result.

In the first, the requirement that in making a real estate loan a national bank must acquire the entire mortgage was removed. In the second, provision was made whereby the Comptroller of the Currency might classify as investment securities, rather than as real estate loans, bonds issued against FHA-insured mortgages on low cost housing projects. Thus was authority given for the sharing of low cost housing financing in two ways, with the bond issue route undoubtedly the more important.

Bonds. Still in process late last month was the preparation of the trust indenture for FHA's housing bonds. It was presumed, although not definitely known, that under the plan a mortgage would be executed in the form of an indenture of trust providing for the sale of bonds to other than approved lending institutions, and the appointment of a trustee to act in behalf of the bondholders.

Probably such bonds would be limited as to return—anywhere from 3½ to 4½ per cent, and would be underwritten in large blocks by investment houses, and sold as freely as "Homers" and "Farmers," Wall Street's pet names for HOLC and FPMC bonds. For their designation as securities (they were duly so designated month before last by the Comptroller of the Currency) gave low cost housing projects an enviable position alongside such securities, and even Government bonds themselves. Like HOLC bonds they will be backed by

a partial U. S. guarantee, and with proper induction in the market should be rapidly taken up for trading.

Before the National Conference on Housing last month, Miles Colean, FHA's technical director, outlined as much of the plan as had become definite. Going back to pick up loose threads in the tale, he explained:

"As the Housing Act was originally passed, institutional loans offered the only possibility for financing our projects. Only a handful of institutions exist which are capable of making loans of the size required by a typical project. This, coupled with the natural caution I have referred to, has prevented as rapid an extension of the plan as the building world is even now ready to undertake.

"Through a series of legislative enactments, it has now been made possible to finance projects through issues of insured mortgage bonds. The details of this method of financing are now about complete. It involves a type of trust indenture wholly new to the mortgage world and a type of trusteeship quite different in its responsibilities from the ordinary corporate trusteeship. Here again the caution which attends the introduction of new financial devices this time magnified by the unpleasant aroma which comes to mind at the memory of a real estate bond issue, has meant that our preparatory work has had to be exceedingly thoroughgoing, both in the legal and educational aspects.

"We have proceeded to the point where the work of preparing a definite issue of these bonds is well under way and should be ready for announcement in a few weeks' time. A high quality of security will be made available through such issues and we are confident that the funds which this source will provide will assure the fruition of many desirable projects during the coming year."

Colean. Whenever an organization is put together in a hurry there are always wrong guesses in the personnel. Although the FHA's sins in this respect were numerous, the initial organizers made one right guess in the naming of Miles L. (Mike) Colean as head of the Technical Division. Along with Albert L. Deane and Ward M. Canada, now back at their private business, Colean followed the organization from the basement of the Walker-Johnson Building, into the new Post Office, then to the Southern Railway Building and finally into its present residence—the old Department of

Justice Building which has been air conditioned and rechristened in honor of the Administration which occupies it from cement to roof.

Geographic shifts have been no more frequent than shifts in opinion as to what the FHA was all about. For weeks it seemed like nothing but an advertising agency, then a mortgage bank, later a large insurance company. But whatever its attitude, there was no one who knew better than Colean the fundamental purpose of the FHA—to provide better and cheaper homes, financed soundly.

Literally an unknown when he went from Chicago two and a half years ago, he has since become as potent a voice in U. S. housing as any in Washington. While he is a reformer at heart he has the distinctly non-reformer characteristic of knowing exactly what he is talking about.

Slight of build with hair much thinner than it was when he first went to Washington, Colean is, except for his pipe sucking, decidedly non-architectural in appearance and speech; he might be a lawyer or a writer. What he was getting into when he left his Chicago practice to join the temporary staff of the FHA, he hadn't the faintest idea. All he knew was that his private practice wasn't worth staying in Chicago for. He helped draft the Act, sat in on innumerable policy framing discussions, helped write the booklets which defined the FHA to the public.

One thing marks Colean's activities from those of his Washington colleagues—he is a born cooperator. He would not boast of his contributions to the FHA, even if he thought it desirable. Assisted by a staff that is second to none in the Administration, he has been directly in charge of its lowest housing program.

The amount of policy framing that he has had to do has brought out one quality which he had been only vaguely aware of before going to Washington and that is that he is one of the ablest architectural writers in the U. S. today. His Technical Bulletin No. 2 on modern design is probably the clearest delineation of modern architecture yet written in English.*

Low Cost. The quarrel that most champions of private enterprise have with Federal housing is that it competes too directly with their business. To avoid that difficulty with those who do not choose to take advantage of the FHA plan, "low cost" has been loosely but pointedly defined so that competition will be eliminated. In communities where adequate housing is available, no FHA projects will be permitted. Tenantry will be open only to those whose incomes are insufficient to permit, without sacrifice of other essentials of living or security, their occupancy of housing of adequate standards of sanitation, safety

*The bulletin referred to was quoted at length in THE ARCHITECTURAL FORUM, October, 1935, p. 230.

and amenity." The FHA definitely will not insure mortgages on projects which "are obliged to compete for tenancy by the offering of extraordinary facilities and services."

Other criteria contained in the new regulations set up by the FHA last month, in anticipation of the early completion of its bond plan:

1. COMMUNITY:

- (a) Adequacy and diversity of sources of employment for the population group for which the housing accommodations are intended.
- (b) Existence of a shortage of dwellings meeting approved physical standards and within a rental range suitable for the group intended to occupy the accommodations provided by the project.
- (c) The financial condition and administration of the community, with particular reference to the possibility of excessive tax burdens or increased tax rates; the probability of further special assessments and the general tendency in the community with respect to the placing of further levies, and the relation of such added burdens to the sums likely to be available to meet them.

2. THE NEIGHBORHOOD:

- (a) Zoning or other regulation of the type of residential use represented by the project; character of the neighborhood with respect to homogeneity and the probability that it will not become less desirable for residential purposes on account of encroachment of inharmonious land uses such as commercial or industrial occupancy.
- (b) The size of the project; whether it is sufficient to constitute a neighborhood within itself; the planning of such a neighborhood in relation to rational community plans tending to assure permanence of residential use and to prevent intrusion of non-conforming uses.
- (c) Possible tendency of the neighborhood to lose population over a considerable period, and the measure in which the project might reverse such tendency.
- (d) Conformity of the project with city, county or regional planning where the project lies within the area affected by such planning, especially where it is of such size as to constitute a direct influence upon the neighborhood trend; conformity with subdivision regulations where the project forms the whole or a part of a new subdivision.
- (e) Accessibility of the project by highway or by means of public transportation at reasonable cost, and with reasonable expenditure of time, to and from places of employment, shopping centers, etc.; adequacy and accessibility of schools, parks, playgrounds, and shopping centers, whether already existing or definitely assured as part of the proposed development or otherwise.

3. THE SITE:

- (a) Suitability of the site of the project for residential development; its freedom from serious hazards of flood, subsidence, smoke, fog, noxious odors, nuisance industries and the like.
- (b) Suitability of the site plan of the project for continued residential purposes.

(The net lot coverage, exclusive of streets, should not be in excess of forty per cent (40%) of the total net area of the property and the product of the percentage of coverage multiplied by the number of stories on which any habitable rooms are provided shall not exceed 240. Example: 6 stories times 35% coverage equals 210. In special circumstances the Administrator may permit a higher coverage or require a lower coverage than that prescribed above. The open land within the project shall be so distributed as to avoid narrow courts and to assure adequate air and light and a satisfactory outlook for all rooms. The layout of the project shall be adjusted to the topography for reasons of economy in development as well as for esthetic considerations, and every possible advantage shall be taken of natural features for the location of streets, parkways and parks, where they occur.)

- (c) Adequacy and appropriateness of landscape work; grading of the site, and planting of lawns, shrubs, trees, and vines in such a manner as to enhance the appearance of the buildings, afford shade and improve the outlook from all dwellings; the layout of the grounds, with a view to special recreational purposes where physically and economically possible.
- (d) Intensity of land use, with respect to cost of utilities, transit, fire and police protection, school and playground facilities, and eventual taxation cost, and with respect to the hazards of heavy density of population in the possibility of competitive overbuilding.

(No project will be accepted for mortgage insurance which is deemed to create a density of population such as to enhance the risk. In determining the allowable density in a given case, consideration will be given to the restrictions imposed by local building and zoning ordinances, but there will be no presumption that the highest density thus permitted will be approved. Where intensive land use creates an excessive added construction cost in multistory buildings and consequently requires an added rental without material advantages either to the occupants or the investors, the project will be disapproved. Ordinarily, approval will not

be granted to any project comprising single family detached houses at a density in excess of 8 families to the gross acre. For grouped or row houses the ordinary limit will be 15 families to the gross acre. For multiple family dwellings, a limit of 120 families, or less, per gross acre will generally be preferred.)

4. THE BUILDINGS:

- (a) Height of the building with respect to access by stairway or elevator. (Buildings not over three stories in height will be favored, and no walk-up may exceed four stories. Elevators will be required for buildings of greater height, but in any such case the necessity and desirability of the taller structures shall be demonstrated. Generally the limit of height for elevator buildings will be six stories.)
- (b) Conformity of the land use, buildings and all accessory features with the requirements of all applicable laws, ordinances and regulations relating to the utilization of land and the safety and sanitation of buildings.
- (c) Suitability of the type of construction to the general plan of housing proposed and the plan for repayment of the loan. (Generally, preference will be given to buildings promising slow depreciation and moderate repair bills.)
- (d) Economical layout of the project (high ratio of usable building area to gross building area); cross ventilation of dwellings; privacy under maximum possible use of dwelling units; avoidance of narrow courts and shafts.
- (e) Suitability of the project for family quarters. (Each family unit shall contain not less than three habitable rooms and one bathroom. However, in projects comprising not less than one hundred family units, a maximum of six per cent of the units may comprise only two habitable rooms. One of the habitable rooms shall have a floor area of not less than one hundred sixty (160) square feet; one a floor area of not less than one hundred (100) square feet; and one a floor area of not less than seventy (70) square feet; except that a kitchen may have a floor area of not less than fifty (50) square feet. Buildings of the corridor-type plan will ordinarily not be approved for mortgage insurance.)

5. FINANCE AND OPERATION:

- (a) Relation of rental levels of the project to the existing patterns of rentals in the community.
- (b) Estimated operating costs with respect to local prices and conditions; adequacy of allowances for equipment replacement and major items of repair.
- (c) Assumptions as to occupancy ratio in relation to a conservative long-term expectancy.
- (d) Possibility of accumulating a surplus in excess of dividend requirements after service of the mortgage debt, operating expenses and all taxes.
- (e) Value of the land in relation to its earnings power for housing purposes under an improvement so designed as to be satisfactory on the basis of the foregoing criteria.
- (f) Sufficiency and character of the equity in the project, with the view to assuring incentive for efficient management.

(In all cases an adequate amount of cash working capital will be required.)

(g) Provisions made in connection with the project for a continuing and responsible management organization.

Scanning the FHA's plan and its requirements, many an observer was likely to sense a conflict with the program of the PWA Housing Division, which has hopes of being continued in something more than a management capacity past the December 15 deadline set for all PWA projects. It was not, however, a conflict between agencies, but between the two schools of housing thought: Federal vs. private building.

Those who last month credited the recent fusillade of self-inflating publicity from PWA's Housing Division to the FHA's moves were mistaken. Last month's announcements, releasing names of projects long kept hidden by the speculator-beset PWA, told a commendable tale (see next page). But they also told a tale of Ickes' stubbornness, and of breakneck effort to crowd as many jobs as possible into the Division's remaining lease on life.

Minute examination of the program's status revealed the fact that as many foundation contracts as possible were being rushed through in order to qualify projects for continuation past the deadline.

PUBLIC WORKS ADMINISTRATION HOUSING—NOVEMBER, 1935

| LOCATION | NAME | TYPE | SIZE | COST | CHIEF ARCH'TS. | CONTRACTORS | STATUS |
|-------------------------|----------------------|-----------------------------------------------------------------------|--------------------------------|-------------|-----------------------------------|------------------------------|--------------------------------------------------|
| FEDERAL PROJECTS | | | | | | | |
| Atlanta, Georgia | Techwood | Three-story dormitory, two-story row houses, three-story apartments | 604 living units; 24.8 acres | \$2,875,000 | Burge & Stevens | J. A. Jones Construction Co. | Construction complete 62 |
| Atlanta, Georgia | University | Two and three-story flats and row houses | 675 living units; 19 acres | 2,500,000 | Edwards & Sayward | N. P. Severin Company | Construction complete 9 |
| Atlantic City, N. J. | Site A | Two-story flats and row houses | 337 living units; 8 acres | 1,700,000 | J. Vaughn Mathis | | Site acquired. Demolition bid accepted Sept. (D) |
| Birmingham, Ala. | Smithfield Court | One and two-story row houses, three-story walk-up apartments | 712 living units; 28 acres | 2,500,000 | D. O. Whilldin | | Site under option (D) |
| Boston, Mass. | Old Harbor Village | One and two-story row houses; three-story walk-up apartments | 1,191 living units; 30 acres | 6,000,000 | J. D. Leland | | Site being purchased (D) |
| Buffalo, New York | Lang Field | One and two-story row houses and flats | 893 living units; 65 acres | 4,500,000 | Chester Oakley | | Site under option (F) |
| Cambridge, Mass. | Main Street | Two-story row houses and flats and three-story apartments | 579 living units; 7 acres | 2,500,000 | | | Site under option (D) (F) |
| Camden, N. J. | Westfield | Two-story row houses and flats and three-story apartments | 595 living units; 25 acres | 3,000,000 | J. N. Hettel | | Site under option (F) |
| Charleston, S. C. | Meeting Street | One and two-story row houses | 291 living units; 22 acres | 1,150,000 | Samuel Lapham | | Site under option (F) |
| Chicago, Ill. | Jane Addams Houses | Three-story apartments; two-story row houses | 304 living units; 6 acres | 1,150,000 | John A. Holabird | | Site acquired (D) (F) |
| Chicago, Ill. | Diversey | Three-story apartments, two-story row houses and flats | 1,042 living units; 38 acres | 6,000,000 | Robert DeGolyer | | Site acquired (D) (F) |
| Chicago, Ill. | Trumbull Park | Two-story row houses and flats, three-story apartments | 550 living units; 22 acres | 3,250,000 | | | Site under option (F) |
| Cincinnati, Ohio | Basin Housing | Three and four-story apartments | 1,278 living units; 24 acres | 6,500,000 | Frederick W. Garber | | Site being purchased (D) (F) |
| Cleveland, Ohio | Cedar Central | Three-story apartments | 654 living units; 18 acres | 3,279,000 | Walter R. McCornack | George A. Fuller Co. | Construction 5% complete |
| Cleveland, Ohio | Outhwaite | Two and three-story apartments, flats and row houses | 635 living units; 21 acres | 3,650,000 | Maier, Walsh & Barrett | | Construction bids opened 8-28-35 |
| Cleveland, Ohio | West Side | Two-story row houses and three-story apartments | 597 living units; 22 acres | 3,800,000 | J. L. Weinberg | | Bids opened 9-4-35 |
| Columbia, S. C. | University Terrace | One and two-story row houses and flats | 162 living units; 4 acres | 500,000 | James B. Urquhart | | Site under option (D) (F) |
| Dallas, Texas | Lucas Drive | One and two-story row houses | 215 living units; 17 acres | 900,000 | Walter C. Sharp | | Site under option (F) |
| Detroit, Mich. | Chandler Park | Three-story apartments; two-story row houses and flats | 893 living units; 31 acres | 4,500,000 | | | Site under option (F) |
| Detroit, Mich. | East Side | Three-story apartments; two-story row houses and flats | 1,032 living units; 64 acres | 5,500,000 | George D. Mason | | Site being assembled (D) (F) |
| Indianapolis, Ind. | Community Housing | Two-story row houses, two and three-story apartments | 1,044 living units; 22.1 acres | 3,025,000 | Wm. L. Russ and Merritt Harrison | N. P. Severin Company | Construction 1% complete |
| Jacksonville, Fla. | Durkeeville | One and two-story row houses | 253 living units; 20 acres | 1,000,000 | M. C. Greeley | | Site under option (F) |
| Lexington, Ky. | Blue Grass Park | One and two-story row houses and flats | 350 living units; 67 acres | 1,500,000 | Hugh Meriwether | | Site acquired (F) |
| Louisville, Ky. | | | | 1,618,000 | | | Appeal to U. S. Supreme Court pending |
| Louisville, Ky. | Algonquin Parkway | One and two-story row houses | 278 living units; 14 acres | 1,200,000 | E. T. Hutchings | | Site acquired (F) |
| Louisville, Ky. | Seventh Street | One and two-story row houses | 125 living units; 5 acres | 700,000 | E. T. Hutchings | | Site acquired (F) |
| Memphis, Tenn. | | One and two-story row houses and two-story apartments | 635 living units; 39 acres | 3,200,000 | J. F. Smith | | Site under option (D) (F) |
| Memphis, Tenn. | | One and two-story row houses and three-story apartments | 694 living units; 25 acres | 3,000,000 | J. F. Smith | | Site under option (D) (F) |
| Miami, Fla. | Sixty-second St. | Single story row houses | 255 living units; 60 acres | 1,000,000 | Paist & Stewart | | Site under option (F) |
| Milwaukee, Wis. | Parklawn | Three-story apartments and two-story row houses | 458 living units; 42 acres | 2,800,000 | Gerritt J. DeGelleke | | Contract awarded |
| Minneapolis, Minn. | Summer Field | Two and three-story apartments and row houses | 694 living units; 26 acres | 3,500,000 | William H. Tusler | | Site being purchased (D) (F) |
| Montgomery, Ala. | Bell Street | One and two-story row houses | 100 living units; 13.8 acres | 416,000 | Walter A. Ausfeld Harry B. Jones | T. L. James & Company | Contract awarded 9-24-35 |
| Montgomery, Ala. | Thurman St. | One and two-story row houses | 158 living units; 7 acres | 459,000 | Moreland G. Smith, Carl B. Cooper | T. L. James & Company | Construction 9% complete |
| Nashville, Tenn. | | One and two-story row houses | 377 living units; 18 acres | 1,700,000 | Richard R. Clark | | Site acquired (D) (F) |
| Nashville, Tenn. | | One and two-story row houses and standard two-story flats | 361 living units; 22 acres | 1,500,000 | Richard R. Clark | | Site acquired (D) (F) |
| New York, N. Y. | Williamsburg | Four-story walk-up apartments | 2,029 living units; 21 acres | 12,783,000 | R. H. Shreve | | Site being purchased (D) (F) |
| New York, N. Y. | Harlem-McCombs Pl. | Four-story walk-up apartments | 725 living units; 8 acres | 4,700,000 | A. M. Brown | | Site under N. Y. C. condemnation (F) |
| Oklahoma City, Okla. | | One and two-story row houses | 539 living units; 18 acres | 2,000,000 | J. O. Parr | | Site acquired (F) |
| Omaha, Neb. | North Side | One and two-story flats | 483 living units; 15 acres | 2,000,000 | W. L. Steel | | Site under option (D) (F) |
| Philadelphia, Pa. | Hill Creek Park | One and two-story row houses; two-story flats; three-story apartments | 340 living units; 24 acres | 1,800,000 | W. H. Thomas | | Site under option (F) |
| Stamford, Conn. | Fairfield Ave. | One and two-story row houses; three-story apartments | 165 living units; 5 acres | 800,000 | Wm. J. Provoost | | Site under option (F) |
| Virgin Islands | Casario Mirapalmeras | | | 250,000 | | | (F) |
| Washington, D. C. | Langston Terrace | Two-story flats and row houses; three-story apartments | 322 living units; 13 acres | 1,600,000 | Robinson, Porter & Williams | | Site acquired (F) |
| Washington, D. C. | Anacostia Terrace | | | 60,000 | | | Site acquired |
| Wayne, Pa. | Highland Ave. | Two-story row houses and flats | 62 living units; 2 acres | 300,000 | H. B. Register | | Site under option (F) |

D—Demolition contract awarded. **F**—Foundation contract awarded.

LIMITED DIVIDEND PROJECTS

| | | | | | | | |
|-------------------|-------------------------|--------------------------------------------|---------------------------------|-----------|-----------------------|-------------------------|--------------------------------------------------------|
| Altavista, Va. | Altavista Housing Corp. | Small, single-family frame houses | 50 living units | \$24,000 | John & Brannon | C. L. Lewis | Completely occupied |
| Bronx, New York | Hillside Housing Corp. | Apartments, highest six stories | 1,416 living units | 5,060,000 | Clarence S. Stein | Starrett Bros. & Eken | 1,130 units occupied Sept. 26 |
| Euclid, Ohio | Euclid Housing Corp. | Individual and double houses | | 500,000 | George B. Mayer | Various local firms | 34 houses completed and occupied, 9 under construction |
| Philadelphia, Pa. | Carl Mackley Houses | Apartments, three-story | 284 living units | 1,039,000 | W. Pope Barney | Turner Construction Co. | 247 apartments occupied Sept. 17 |
| Queens, New York | Boulevard Gardens | Apartments, ten buildings six stories high | 960 living units; (3,615 rooms) | 3,450,000 | T. H. Engelhart | B. H. Construction Co. | All apartments rented Sept. 8th |
| Raleigh, N. C. | Boylan Housing Corp. | Apartments | 54 living units; (180 rooms) | 198,000 | Linthicum & Linthicum | T. A. Loving Company | All apartments rented |
| St. Louis, Mo. | Neighborhood Gardens | Apartments | 252 living units; (641 rooms) | 640,000 | Hoener, Baum & Proese | H. B. Deal & Company | 48 apartments completed and rented Sept. 30 |

DARLING OF WILMINGTON, DEL.,

creates a formula for remodeling properties that costs
him little cash and earns considerable.

No handful of bankers get together, either in a formal session or chance meeting, without wading into the subject of the disposal of run down, foreclosed property. The discussion invariably boils down to the wisdom of pursuing one of two possible courses: should the bank do its own remodeling and then sell, or should it lend money to someone who will remodel as part of the purchase agreement?

Not even among comparable institutions in the same city is the practice uniform. Whereas the Emigrant Industrial Savings Bank of New York (second largest) much prefers to sell to an investor to do his own work (ARCH. FORUM, May 1934, p. 400), the Bowery Savings Bank (largest) has developed its own reconditioning technique which permits it to do its own remodeling (ARCH. FORUM, May, 1935, p. 500).

In Wilmington, Delaware, however, no division of policy exists. For in that city the almost inevitable answer to the banker's problem is J. Frank Darling, hard working president of Darling Properties Co. He has only one business: buying outmoded properties, either from banks or private owners, borrowing enough money over and above the mortgage to cover labor and materials, putting in his own organization's time and overhead as his equity, remodeling, and then operating the completed buildings.

Although nearly every big city has a few speculative builders who operate in the same fashion, the distinctive characteristic

about Frank Darling's business is that five years ago he started with no capital. Today his company owns fourteen buildings, every one of which is paying a profit. Two years ago, feeling that his already successful business was seriously handicapped by lack of capital, he sold \$50,000 worth of preferred stock, on which he has paid an 8 per cent dividend ever since.

Darling. In 1926, ten years after he had started in the linoleum business as a salesman with a sample case and a week's traveling expenses as his only assets, Frank Darling interested enough Wilmington money in his ability, to finance a \$2,000,000 floor covering company. No sooner had he built a plant, assembled an organization, built an apartment house for his employes than Depression swept him out of his own company, flat broke.

With some experience as a dabbler in residential building in Richmond, Va., Darling fancied he might try his hand seriously at building. But with foreclosures tumbling in on the banks of Wilmington, they were in no mood to lend more money for more new buildings, but they were in a very welcome mood to unload some of their foreclosed property, if Darling was interested.

In the case of the Wilmington Savings Fund Society, the willingness amounted to offering Darling an old house for the price of the mortgage plus the amount it might cost him to remodel it into a small apartment house. All Darling needed was what

he had—a good reputation in the city, just enough capital to hire himself. Money for the remodeling came from the bank. Before the work was completed all the apartments were rented.

No sooner had the first job been finished than he started another on the same terms. Before long, he was handling all the foreclosed outworn properties the bank could not sell, and his activities spread to other banks.

Formula. By 1933, the pattern of handling the properties had been established. Employing his own architects and doing his own general contracting, Darling was earning \$9,300 yearly on his eight buildings. As he outlined his plan in a prospectus that was designed to enlist the required \$50,000 capital, "each property provides the funds for its own remodeling."

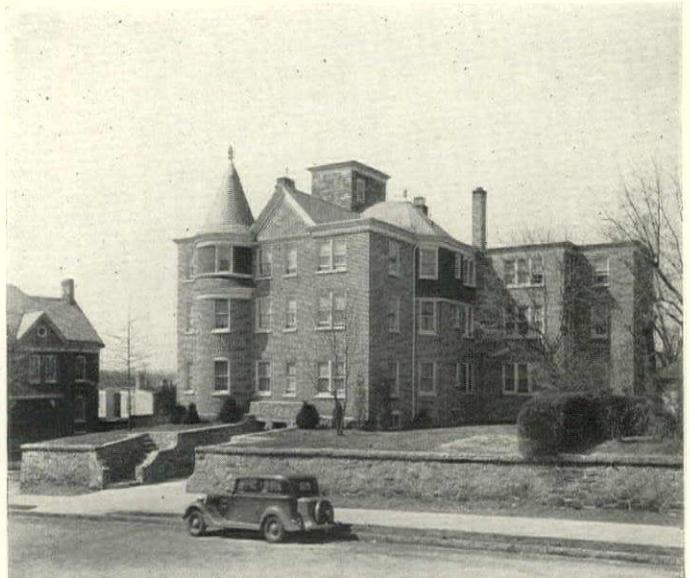
Said the prospectus: "The procedure to acquire a property is to give the seller a purchase money mortgage for the agreed selling price. In the case of purchase from a bank, this usually represents the amount of mortgage existing on the property. The plan further provides that funds be advanced against the property when modernization is completed, which sum of money, due to the economy of the company's operation, amounts to the cost of labor and materials on the job.

"In the case of purchase from an individual property owner, a contract is entered into which provides that after the property is fully modernized and completed, Darling Properties Co. shall have the right to place a first mortgage on the property for a sum agreed on beforehand (the cost of the alterations), and the seller takes a second mortgage for his equity.

"At first glance it might seem that the seller was jeopardizing his security in taking a second mortgage, but upon reflection it is evident that the seller is far better off with a conservative second mortgage



Eight Apartments Vacant



Twelve Apartments Rented

Sanborn Photos

on a property which is paying its way than he is with a complete title to a property, which property is a tax and interest burden to him."

Cases. With this as the formula, Darling has cleaned up almost entire neighborhoods with model overhauls. Out of his experience, two jobs stand out as better than average.

On the preceding page are pre- and post-Darling pictures of 501 North Rodney Street, where for a cost of about \$35,000, eight unoccupied apartments were converted into 12 tenanted apartments of 4½ rooms each. The old house was stripped of its porches, the roof raised to create a new third floor, and a wing added to provide kitchen and bath space for an apartment on each floor. Taking advantage of the steep slope, an entrance was excavated through what had formerly been the front yard and cellar, and a lobby created in what had been the basement, with space

left over for a resident janitor. A brick facing changed the somber tone of the exterior, a second-hand elevator was installed, and the interiors completely refinished.

When the building was completed, the Wilmington Savings Fund Society found that instead of worrying about a \$12,500 mortgage on the property, it had a good \$45,000 one paying 6 per cent regularly.

The balance available to Darling Properties for profit, sinking fund and vacancies, from a gross rental of \$7,344 was \$3,439.

Case history No. 2 is shown below, with before and after pictures of the properties listed on Darling's books as 210 East 16th Street, and 212 East 16th Street. At the bottom left is No. 210, known in Wilmington as the "Hundred House," because nearly 100 colored people were crowded into its handful of apartments. Darling tore it down to its foundations, and built a new five story elevator house with eighteen apartments, each with a living room, bed-

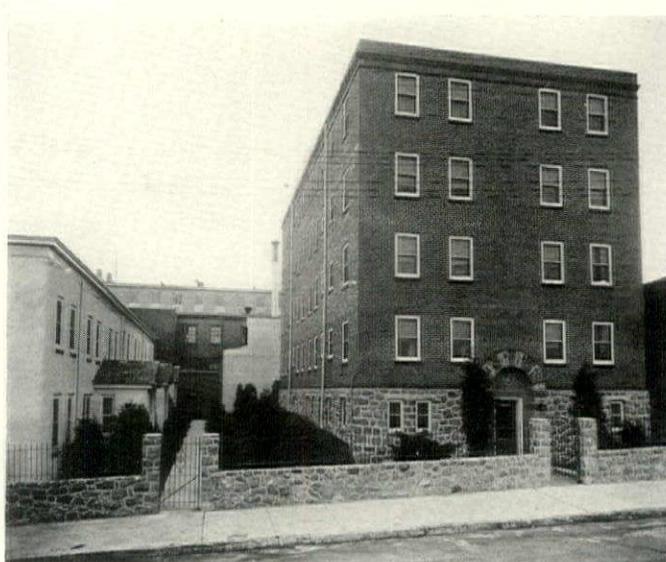
room, combination foyer and dining also a kitchen with mechanical refrigerator, insulated gas ranges with heat control; bath with shower, hardwood floors, etc.

Now occupied by white families, it earns 6 per cent on the \$44,500 mortgage, whereas it had earned nothing on an \$8,000 mortgage. Out of the annual income of \$8,928, Darling earns before amortization, an annual return of \$4,878.

The picture at bottom right shows the property today, with the row of houses behind that with the row of houses at 212 East 16th Street. The worst kind of Negro slum (top left) before it was remodeled, it was not earning a cent interest on the \$6,000 mortgage. Acquired by Darling to protect the other property, he converted the row into an attractive garden community (top right) and earned for himself an annual net before amortization of \$3,402. The new mortgage on the property is for \$22,500, and earns 6 per cent.



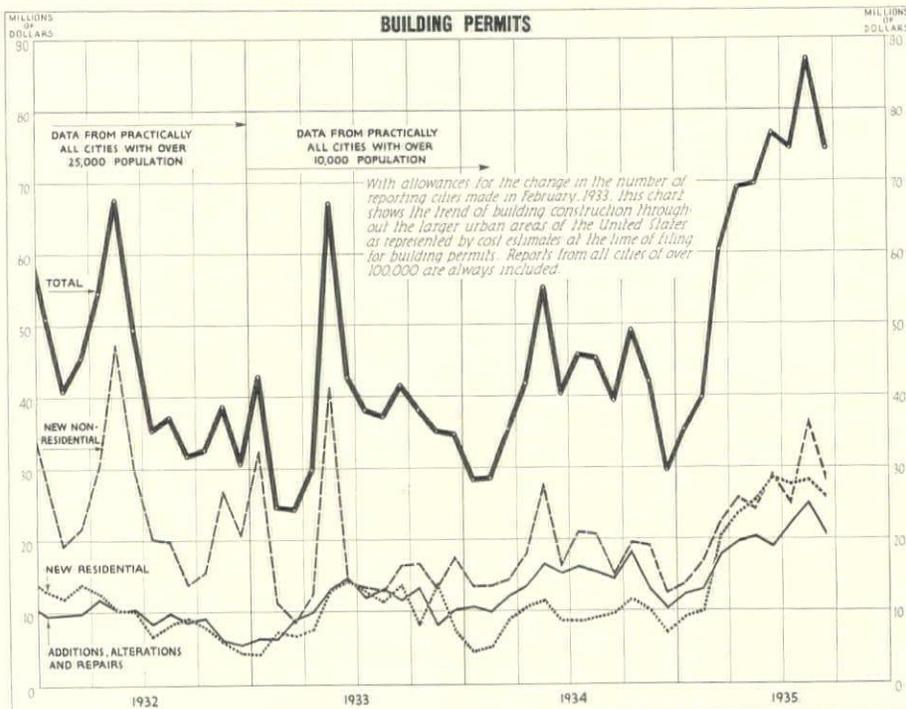
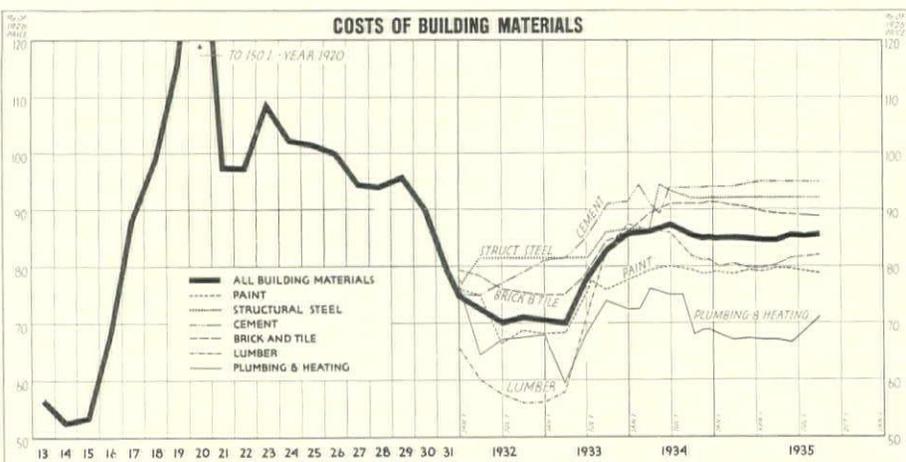
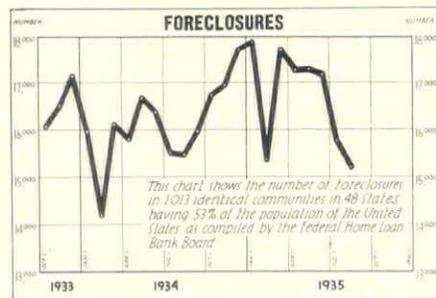
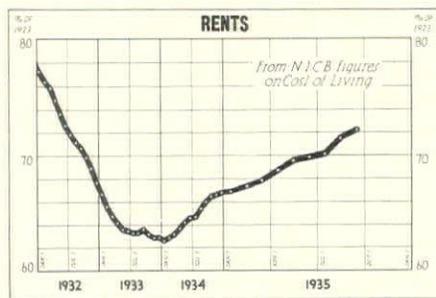
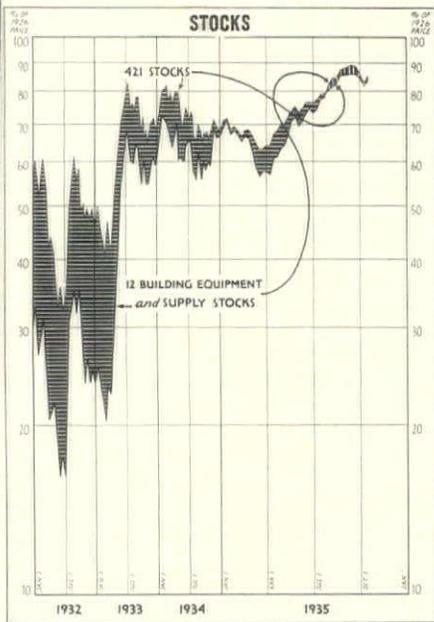
Sanborn Photos



"The Hundred House" and Catfish Row Converted into a Respectable Community

BUILDING BETTERMENT CONTINUES

In September, with foreclosures off, costs level, and rents still on the climb. Stocks reflect the trend.



THE NEW SEDGWICK ELECTRIC ROTO-WAITER

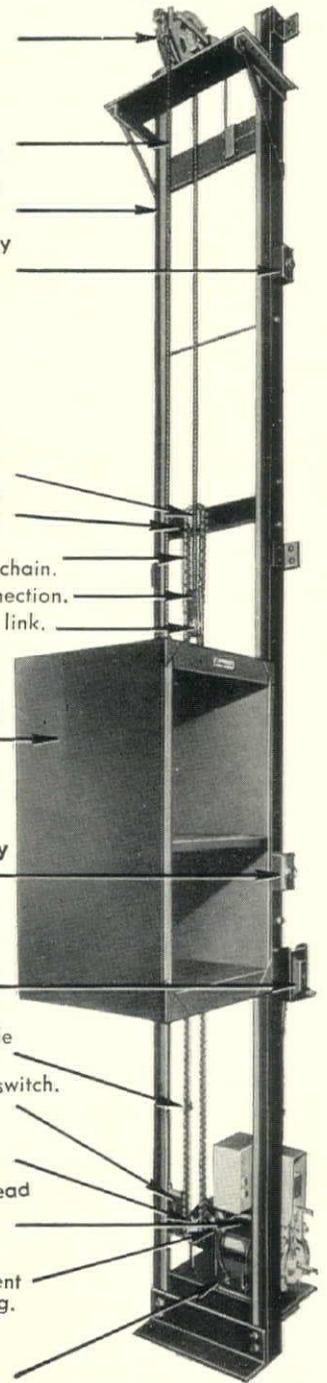
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THE MODERN WORD FOR FULL AUTOMATIC ELECTRIC DUMB WAITER EQUIPMENT

1. Overload and slack cable device.
2. Flexible traction cable.
3. Steel guide framework.
4. Momentary pressure push button.
5. Steel idler sprocket.
6. Adjustable steel sprocket bar.
7. Steel roller chain.
8. Cable connection.
9. Connecting link.

10. Reinforced steel car.
4. Momentary pressure push button.

11. Safety cut-out switch.
12. Adjustable landing cam.
13. Landing switch.
14. Drive sprocket gear.
15. Geared head non-reversible motor.
16. Independent support bearing.
17. Motor bed plate.



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SEDGWICK MACHINE WORKS

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A MODEL BLOCK OF HOUSES

and an optional purchase plan are used to bestir interest in Washington's Hamlet.

Ask any regional planner who knows Washington, D. C., to name the city's best development, and he will answer: "The Hamlet." Ask any real estate man, and he'll answer anything but the Hamlet. For this curious group of nine houses, just about a mile beyond Chevy Chase Circle off Connecticut Avenue, is at once the best and worst of community units. It is best, in theory at least, from a land use standpoint, and worst because in a city which is begging for new houses only one of the nine has been sold.

The Hamlet is the latest project of the Chevy Chase Land Co., oldest and most conservative real estate firm in the nation's capital. The company was started in 1890 by copper-rich Senator Francis G. Newlands of Nevada, who bought up 1,800 acres in the northwest corner of the District, running over into Montgomery County, Maryland. To reach the property he built a street railway out Connecticut Avenue, and spanned the deep Rock Creek Park with the high bridge that is now a capital land mark.

Despite heavy building throughout the years, Chevy Chase Land Company still has plenty of untouched acreage, the taxes

on which have worn a deep hole in the company's earnings. Early in 1933, Edward L. Hillyer, Chevy Chase president, and vice president of the conservative Union Trust Co., watched vacancies dwindle in the city, concluded it was about time to put some more land to work.

Competition for the home buyer's dollar is probably keener in Washington than in any other city. Washingtonians appear to be willing to pay the price, but what they buy must be good. Steel-framed, air conditioned houses are not uncommon, nor is the general level of design so low that good design alone is enough to attract attention. Thus President Hillyer knew that what he offered would have to be exceptional.

The added reason was the necessity of injecting into the first houses built some element that would not only sell the individual houses and lots, but that would sell the area as a place to live. Since nearly all the usual tricks—golf courses, swimming pools, community centers—had been performed by others in Washington, Hillyer decided that the one way to portray The Hamlet's community character was to build not a few model houses, but an entire model block.

Though there were good architectural plenty in Washington, the Newland family, which still controls the Chevy Chase Co., sent on from Nevada Architect Dan Kirkhuff, whose houses for permanent and temporary residents dot the outskirts of Reno. Also from the West came an able land planner, Sharon Farr of Berkeley, California.

Together with Mr. Hillyer, they worked out a plan unlike anything Washington had ever seen before. Closest approach to The Hamlet is Clarence Stein's and Henry Wright's Radburn—but in the opinion of many who have compared the two, The Hamlet plan is done even more skillfully.

Around a landscaped Commons fourteen plots are grouped (see plan), with small enclosed laundry yards and a private terrace for each house, yet with the major part of what would have been private property given over to the central area. The plan for the area is formal, with one group of houses balancing the other on the opposite side. Attached garages are effectively hidden in all cases with widened out spaces in the back area providing adequate parking space for the cars of guests or delivery trucks.

The normal plot size for the houses would have been about 100 x 150. In The Hamlet they have been reduced to 70 x 120. Although the houses are closer together than is normally the case, privacy is obtained by studied plan staggering. Along the street, the set backs are uniformly uneven, which, together with the planting, forms as attractive a community vista as Washington can boast.

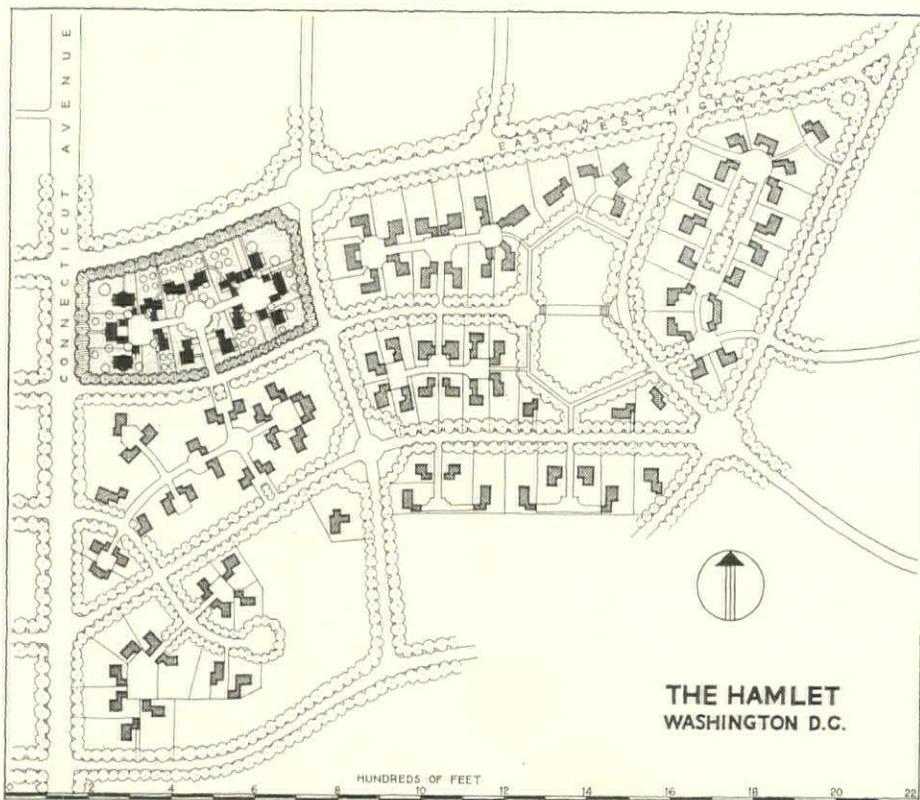
The interior development for the block cost about \$7,000, adding \$500 to the cost of each house. All the utilities are buried underground.

Figures on other costs are not available in detailed form. Nor will Mr. Hillyer say anything more than that there is no profit to the company in the first houses offered for sale at from \$18,000 to \$20,000.

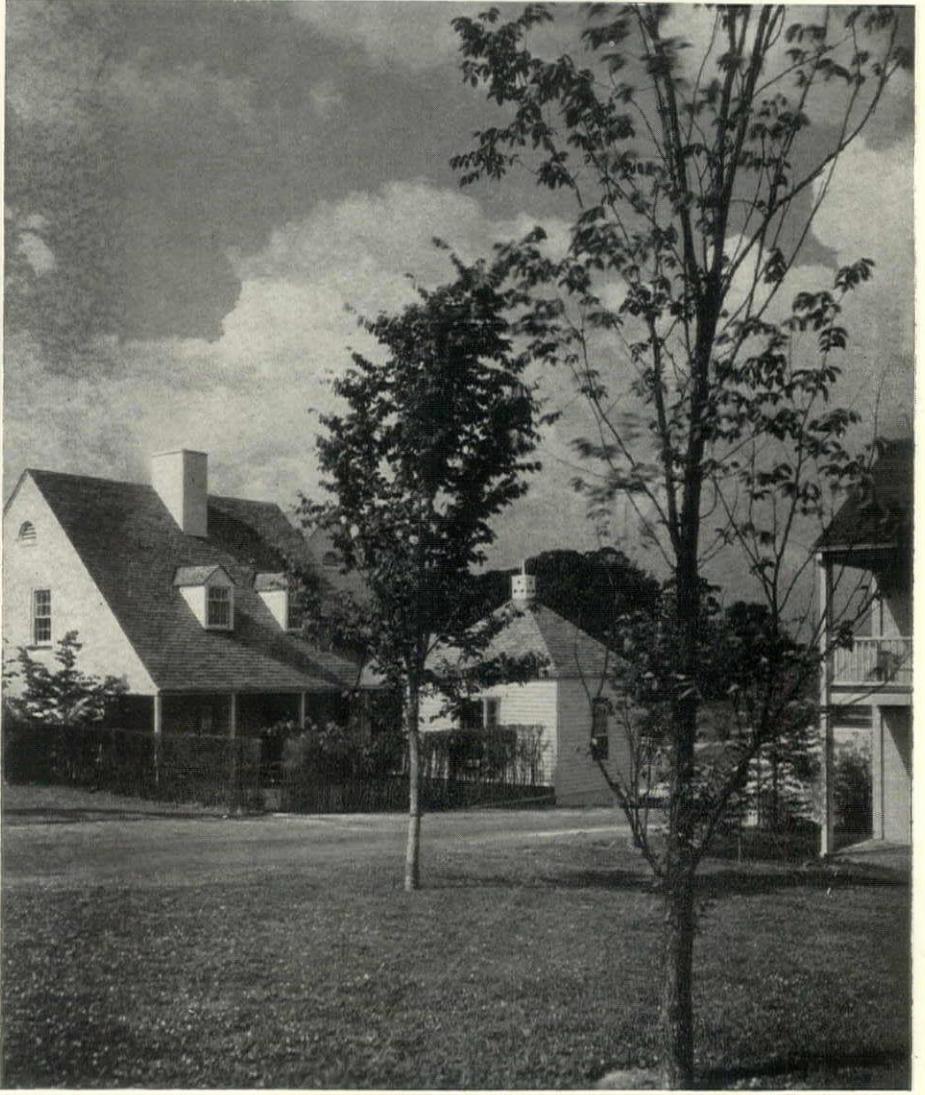
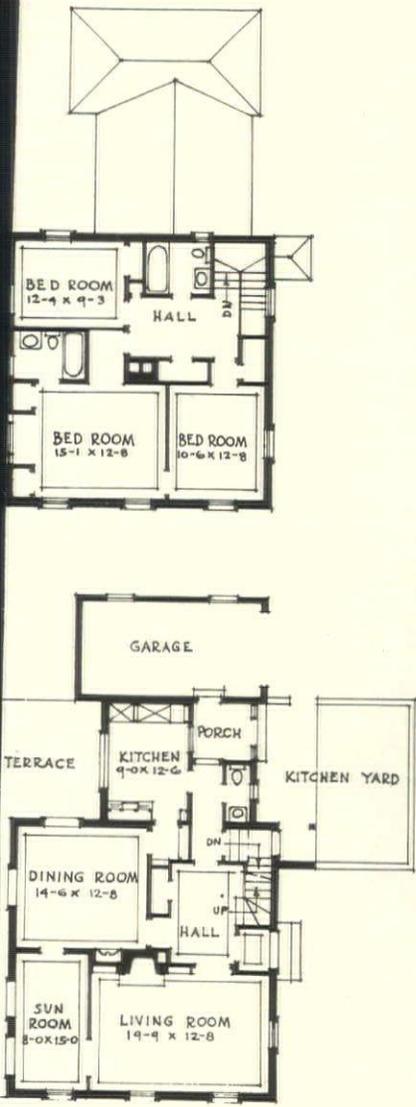
Of the nine houses built to date, eight are in one group, and the ninth starts a second unit of six to complete the block of fourteen. Each has three bedrooms, two baths, living room, dining room, and kitchen, with electrically equipped appliances and winter air conditioning systems. Some have a maid's room and bath.

All nine houses are occupied, but only one has been sold. The rest are rented. The plan is to install desirable tenants in the houses on an option agreement, the length of the option (from two to twelve months) depending upon the individual circumstances. If at the expiration of the term the tenant decides not to buy, he is asked to leave. Should he decide to stay, the rent already paid is applied to the purchase price.

Fighting first against the remoteness of the site from downtown Washington, the Chevy Chase Land Company was further confronted with an unexpected apathy



The Hamlet's Plan—Unit No. 1 in Black



Horydczak Photos

Two Hamlet Houses

... which do not prove as well as other views of the community might that the houses are a Regency adaptation of the old New Orleans style. The house above is one of the two duplicate houses that form a gateway to Unit No. 1. The roof-line has been accentuated to produce the entrance effect. The plans above, being for the duplicate house, are shown in reverse. At the right is a house more nearly typical of the other houses in the community.

oward the unusual planning. Hundreds of visitors have driven up to the impressive entrance (through two gate-post like Norman houses) but the buying inquiries are few. The flaw seems to be that people who can afford to pay \$20,000 for a house resent living in block plan units, regardless of the excellence of the plan. It smacks of regimentation.

President Hillyer, whose record is one of slow rather than spectacular success, is the least worried over the ultimate success of his venture. He is just as calmly certain today as he was when he first approved the scheme that The Hamlet will eventually be regarded as the outstanding community in Washington.

AIR CONDITIONING COSTS

for office buildings, charted for the first time, indicate when a system will pay its way.

RULES of thumb in air conditioning are as inconclusive as they are difficult to frame. The number of variables in buildings of apparently the same type is so great that cost guesses are invariably made with crossed fingers, much to the annoyance of architects and building owners who on nearly every building nowadays debate whether or not it should be air conditioned.

Last month, however, there was released from the Carrier Engineering Corporation a rather simple formula for determining the economic advisability of installing an air conditioning system in any given office building. It sought to answer for larger office buildings under any conditions of occupancy and rentals the question of whether or not air conditioning would be profitable.

The fact that such a formula should be made available to the building public was in itself a surprise, but that it should come from Carrier was doubly interesting. For years, as the only known name in the business, Carrier made a practice of limiting the distribution of its engineering data. The obvious reason was that it wanted to retain as much as possible of the economic value of what Adam Smith called "the impetus of an early start."

Now, however, with competitors cropping up all around them, Carrier has changed its attitude, and no better illustration of the change is the Econograph. There are two parts to the Econograph—first, the table which gives rough indications of capital and operating costs for buildings of different types. (See Table I.) Based on existing building installations, the table is the first one of its kind ever assembled. It illustrates for one thing, the variability in costs that makes rules of thumb comparatively meaningless. That there should be a difference in capital cost of 3.2 cents per sq.ft. of rentable area in two buildings of similar size but of different shape (see square-shaped and H-shaped buildings in column 1) is one of the facts disclosed in the table that building professionals might have difficulty in comprehending. Or that the operating costs vary as much as 4 cents per sq.ft. of rentable area might be equally puzzling. Yet these are the facts of air conditioning.

The second part of the formula is the Econograph itself, Table II.

The use of the Econograph is based on present known factors, estimated costs based on known factors, and anticipated results based on experience.

While the example shown in Table II indicates the form taken by the curve to show when the benefits of an air condition-

ing system will be sufficient to pay for its annual cost of capital charges and operation, the Econograph is equally usable in determining how much profit above the owning and operating costs would accrue under any anticipated rental rates and occupancy conditions.*

With the chart such economics may be studied and very closely determined, even before the rather complicated steps of

designing a system and giving an instance cost estimate have been taken for a particular building. This is of direct obvious benefit to both the buyer and seller of air conditioning equipment.

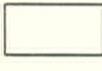
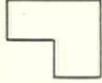
Inasmuch as such designing requires very considerable amount of time to all of the conditions extant in a particular building, the possibility of knowing beforehand whether or not the economics of a system would justify its installation obviously offers a considerable saving of time should the system prove to be an uneconomical venture.

* A demonstration of the latter method approach is included in a brochure which Carrier Corp. has made available for distribution by THE FORUM.

AIR CONDITIONING FOR OFFICE BUILDINGS

OWNING AND OPERATING COSTS - GROSS

IN CENTS PER YEAR PER SQ.FT. OF RENTABLE AREA

| | | Based On | | | | | | | |
|-------------------------------------------------------------------------------------|-----------|--------------|-------------------------------------|------------------------------------|----------------------------------|-------|----------------|-------|----------------------------|
| | | Depreciation | 15 years | Interest | 6 per cent | Power | \$0.01 per KWH | Water | \$1.00 per 1000 cubic feet |
| Zone | | 1 | 2 | 3 | 4 | | | | |
| Hours of Refrigeration | | 1000 | 1200 | 1500 | 1700 | | | | |
| Typical Cities | | Los Angeles | New York Philadelphia Chicago | Cincinnati Memphis St. Louis | Dallas New Orleans Houston | | | | |
| Building Shape | | | | | | | | | |
|  | Power | 2.3 | 2.5 | 3.6 | 6.2 | | | | |
| | Water | .8 | .9 | 1.3 | 2.2 | | | | |
| | Misc. | 5.6 | 5.6 | 5.6 | 5.6 | | | | |
| | Operating | 8.7 | 9.0 | 10.5 | 14.0 | | | | |
| | Capital | 11.2 | 12.5 | 12.5 | 12.5 | | | | |
| Total | | 19.9 | 21.5 | 23.0 | 26.5 | | | | |
|  | Power | 2.4 | 2.7 | 3.7 | 6.6 | | | | |
| | Water | .9 | 1.0 | 1.5 | 2.5 | | | | |
| | Misc. | 5.7 | 5.7 | 5.7 | 5.7 | | | | |
| | Operating | 9.0 | 9.4 | 10.9 | 14.8 | | | | |
| | Capital | 11.7 | 13.0 | 13.0 | 13.0 | | | | |
| Total | | 20.7 | 22.4 | 23.9 | 27.8 | | | | |
|  | Power | 2.6 | 2.9 | 4.2 | 7.2 | | | | |
| | Water | .9 | 1.0 | 1.5 | 2.5 | | | | |
| | Misc. | 6.2 | 6.2 | 6.2 | 6.2 | | | | |
| | Operating | 9.7 | 10.1 | 11.9 | 15.9 | | | | |
| | Capital | 12.6 | 14.0 | 14.0 | 14.0 | | | | |
| Total | | 22.3 | 24.1 | 25.9 | 29.9 | | | | |
|  | Power | 2.8 | 3.1 | 4.5 | 7.7 | | | | |
| | Water | 1.0 | 1.1 | 1.6 | 2.7 | | | | |
| | Misc. | 6.2 | 6.2 | 6.2 | 6.2 | | | | |
| | Operating | 10.0 | 10.4 | 12.3 | 16.6 | | | | |
| | Capital | 14.0 | 15.5 | 15.5 | 15.5 | | | | |
| Total | | 24.0 | 25.9 | 27.8 | 32.1 | | | | |
|  | Power | 2.9 | 3.3 | 4.7 | 8.0 | | | | |
| | Water | 1.1 | 1.2 | 1.7 | 3.0 | | | | |
| | Misc. | 6.3 | 6.3 | 6.3 | 6.3 | | | | |
| | Operating | 10.3 | 10.8 | 12.7 | 17.3 | | | | |
| | Capital | 14.4 | 16.0 | 16.0 | 16.0 | | | | |
| Total | | 24.7 | 26.8 | 28.7 | 33.3 | | | | |

NOTES:

1. For other power or water rates, correct in direct proportion.

2. Add for roof effect:

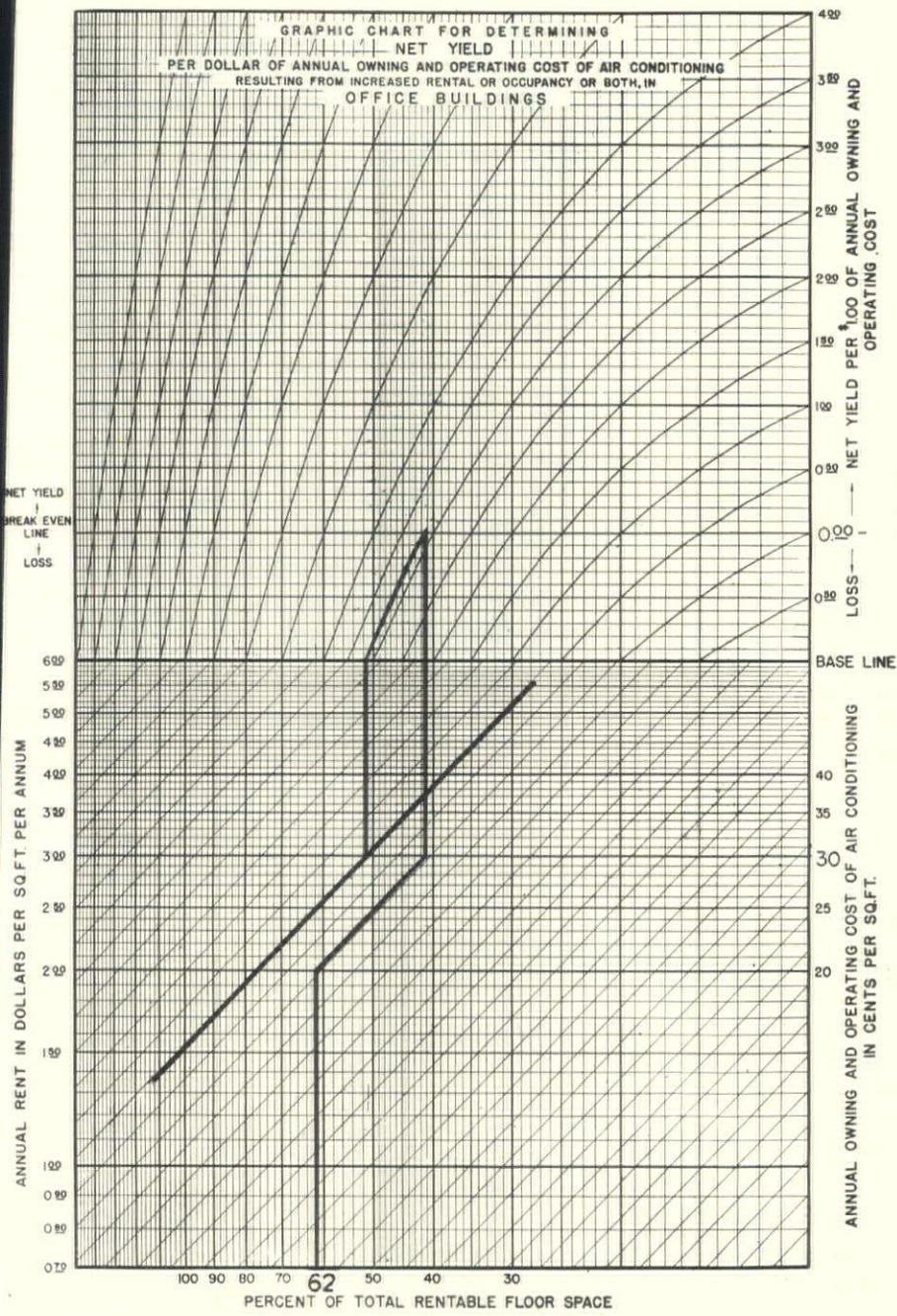
| | |
|------------------|-----|
| 5 Stories | 20% |
| 6 Stories | 16% |
| 8 Stories | 12% |
| 10 Stories | 10% |
| Above 10 Stories | 0% |

3. Divide terraced building into sections according to terraces or set-backs and consider each section separately.

4. Foregoing figures apply to buildings averaging more than 10,000 square feet of rentable space per floor. Should be increased about 10 per cent for buildings averaging from 7,000 to 10,000 square feet per floor.

Copyright, 1935, Carrier Engineering Co.

Table I



Copyright, 1935, Carrier Engineering Co.

Table II

Example:

Present conditions—62 per cent occupancy—rental rate \$2 per sq. ft. per year. Selected anticipated annual owning and operating cost for air conditioning system, 30 cents. Wanted to know—necessary new rental rate and occupancy to return the annual owning and operating charges, without extra profit.

Process:

Select point 62 (per cent occupancy, bottom scale).
Erect vertical to \$2 line (scale to left of chart).
Follow diagonal to 30 cent line (scale on lower right of chart).
Erect vertical to break-even line (0.00) (scale upper right of chart).
From this intersection run down curve to base line.
Drop vertical to 30 cent line (scale lower right of chart).
Draw diagonal through this intersection of indefinite length.
Any point along this line, representing

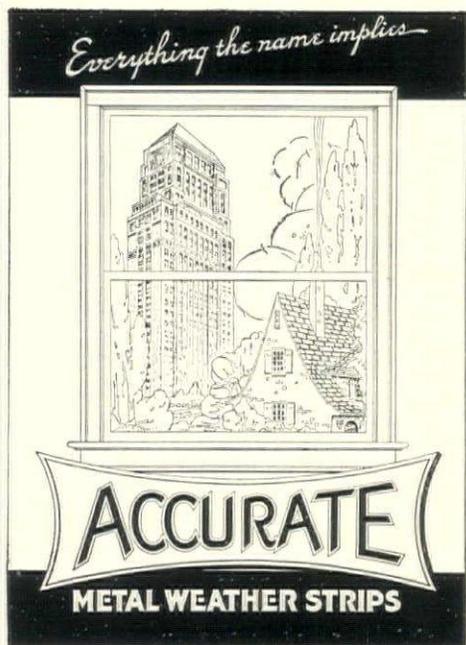
combinations of occupancy and rental rate, will provide sufficient money to pay annual owning and operating charges.

Conclusion:

These combinations have this effect:

| OCCUPANCY | RENTAL RATE |
|-----------|-------------|
| 30% | \$5.20 |
| 40 | 3.70 |
| 50 | 3.06 |
| 60 | 2.55 |
| 70 | 2.18 |
| 77½ | 2.00 |
| 90 | 1.70 |

Thus, if the owner retained his \$2 rental, he would have to boost his occupancy to 77½ per cent to make the system pay for itself. If the increased value of the space warranted a 50-cent increase in the square foot rental, the owner would just about have to hold his existing tenants.



All Installations Guaranteed for Life of Building

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Cold winds, dust, moisture are effectually barred when windows and doors are Accurate Metal stripped.

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Either write or phone for list of typical installations and let us help you select the type of strip best suited to your specific needs.

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CONCRETE-FRAMED AND CORNER-WINDOWED

One Thousand Grand Concourse sets a rental record for Bronx apartment houses, and gives Builder David Rose's competitors a target to shoot at.

AMONG those in the building industry to whom brilliancy of design is not the be-all and end-all of architecture, the apartment house which bears the fortunate label of 1,000 Grand Concourse in New York's Bronx is the most talked about building in the city. Reasons for the hub-bub are many. In the first place, anything Speculator David Rose builds excites his horde of Bronx competitors. But more important than that, it is the first high class apartment house to be built of reinforced concrete in the East.

If other reasons are needed, there is the fact that it has as many corner windows as Architects Sugarman & Berger could squeeze into the plan, and every bedroom has a bathroom. Finally, ten days before it was finished, every one of its 101 apartments was rented at an average price of \$25 a room, which is about \$4 above the competitive scale in the district.

Had it not been for the thoroughly accidental reason of the existence on its site of solid rock, One Thousand, like the sixteen other apartment houses built on the Concourse for occupancy this fall, would have been a non-fireproof structure. But, according to the code, that would have meant either digging an expensive basement into the rock, or giving over the valuable first level above ground to a non-inhabitable basement. Consequently, fireproofness and unlimited story-height was the indicated solution.

As between structural steel and cinder arches, and reinforced concrete, the debate lasted for months. What finally won Builder Rose over to Engineer Victor Mayper's preference for reinforced concrete was the possibility of lower maintenance costs. In the words of Rose: "No plaster, no plaster cracks." Actual cost of the concrete frame was about \$95,000.

Money for the building came from Equitable Life Assurance Society which after a thorough neighborhood study granted a loan of \$350,000.

Figured conservatively, the building stands a good chance of earning somewhere around \$25,000 a year. The operating schedule on which the Equitable based its loan was:

| | |
|-----------------------------------------|----------|
| Gross income, 381 rooms @ approx. \$21: | \$92,910 |
| Expenses: | |
| Operating expenses | \$25,000 |
| Interest (5%) and amortization (2%) | 24,500 |
| Taxes | 15,000 |
| Vacancies (10%) | 9,200 |
| Depreciation | 5,600 |
| Total | 79,800 |

Left for profit and further amortization \$12,910

And since Rose has a full building at \$25 a room, the actual income is well over the \$25,000 mark.



The Brick and Glass Face of 1,000 Grand Concourse



FROM SOLID ROCK UPWARD.

Starting with excavating the sloping rock site to street level, the building of 1,000 Grand Concourse offered no unusual problems, with trades following each other in orderly fashion. Laying of the finish flooring followed four months after the pouring of the floor slabs. Corner window frames were hung from the beams before the tile and brick were laid. The passage of time represented in the photographs shown here was six months.

TECHNICAL NOTES*

The construction system employed in the Grand Concourse is a reinforced concrete frame, with exterior walls of 4 in. brick masonry backed up by 8 in. terra cotta tile. Certain features of the construction appear to be of note, and may interest the profession and the building industry. No claim of finality is claimed but rather careful picking out and adaptation of principles previously used by others.

The items outlined below are not necessarily listed in the order of their importance.

1. **FINISH.** It was planned to produce a finished surface, in all cases where concrete was exposed, which would compare favorably with the usual plastered surface. A mental reservation was made, however, that under the worst conditions it might be necessary to plaster all exposed concrete surfaces, and building costs were budgeted accordingly.

A. Exterior surfaces. No concrete was exposed on the exterior, it being thought that exposed concrete was undesirable in a building on account of architectural maintenance, and competitive renting conditions.

B. Interior surfaces. All exposed interior surfaces were poured on plywood panel forms. The panels, 4 x 8 ft. in size, were carefully worked out to be symmetrically disposed in each room, the thought being that if the joints could not be satisfactorily hidden, their symmetrical arrangement might not hurt the appearance of the ceilings. It was originally planned to use panels 12 ft. wide with the length varying to suit the width of the various rooms, thereby eliminating all longitudinal joints. This plan was abandoned in favor of the 4 x 8 ft. panels which were a stock size and could be obtained without the long delay necessary to obtain longer lengths.

The finished result proved to be so satisfactory that no marks showed. This was accomplished first by careful fitting and workmanship on the forms; second, by using heavy and closely spaced shores; third, by the use of the usual oil on the forms; fourth, by careful rubbing and pointing when the forms were stripped; fifth, by additional rubbing about three weeks after the first rubbing; and last, by careful spatulation by the painters before applying priming and finishing coats. It is noteworthy that with the building fully occupied, no one has been brought aware of the ceilings to mention

Prepared by Victor Mayper, consulting engineer.

visible joints. It is also noteworthy that there is one room on each floor where the ceiling was plastered to cover patching done after the concrete hoist had been removed, which furnishes a comparison with the concrete finish, and it is the opinion of all those who have examined this room that the plastered ceiling compares unfavorably with the concrete ceiling.

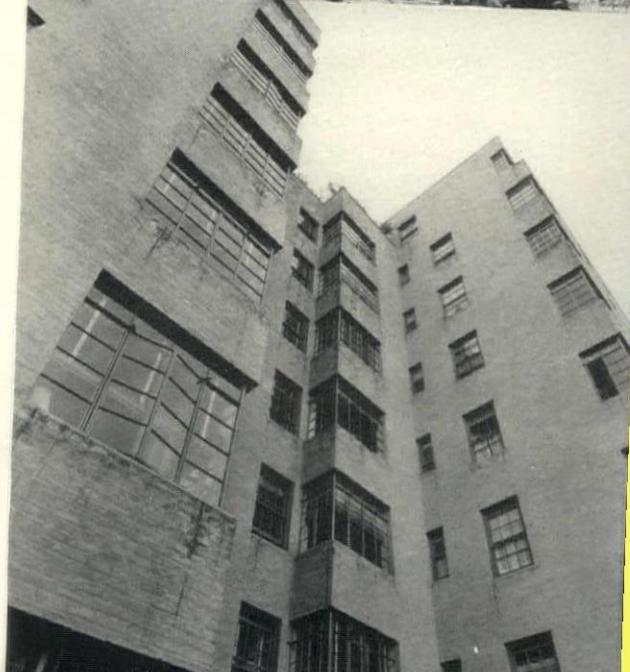
2. **CEILINGS.** The practical advantages of unplastered ceilings are too obvious to mention—no plaster cracks, no danger of falling plaster, and low maintenance.

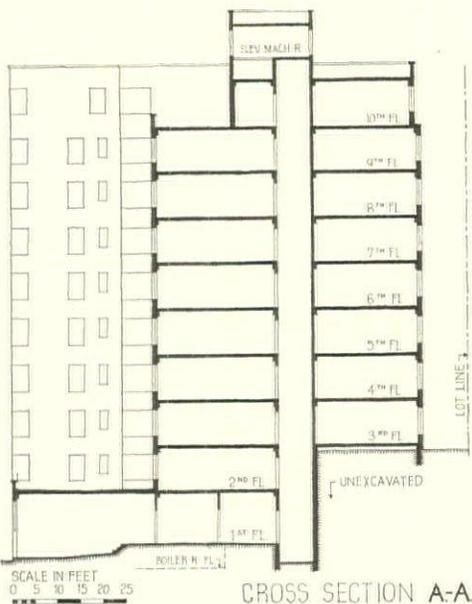
3. **COLUMNS.** All columns are 12 in. wide and vary in length from 12 to about 36 in. maximum to suit load conditions. All columns are arranged, as much as possible, to run lengthwise of the rooms. This permitted a shortening of the beams, the sizes of which were controlled by the intensity of shear. The arrangement of the columns generally effected a saving of about 3 in. in the span of the beams which permitted beams not exceeding 12 in. in depth below ceilings and not exceeding 12 in. in width. The projections of the columns into the rooms (sometimes as much as two inches) were not objectionable as their projection into the rooms at right angles to the partitions generally averaged only four inches.

The columns were designed to be of uniform section from the first to the top floors. This was done to eliminate patching out of beam end forms where the columns changed in size as the load reduced. It was found that the economy of the reinforced steel and the form work made up for the slightly increased volume of concrete. However, in certain cases the contractor asked for permission to change column sizes at about the half-way point of the building. This permission was granted, but there is no unanimity of opinion yet as to whether any money was saved thereby.

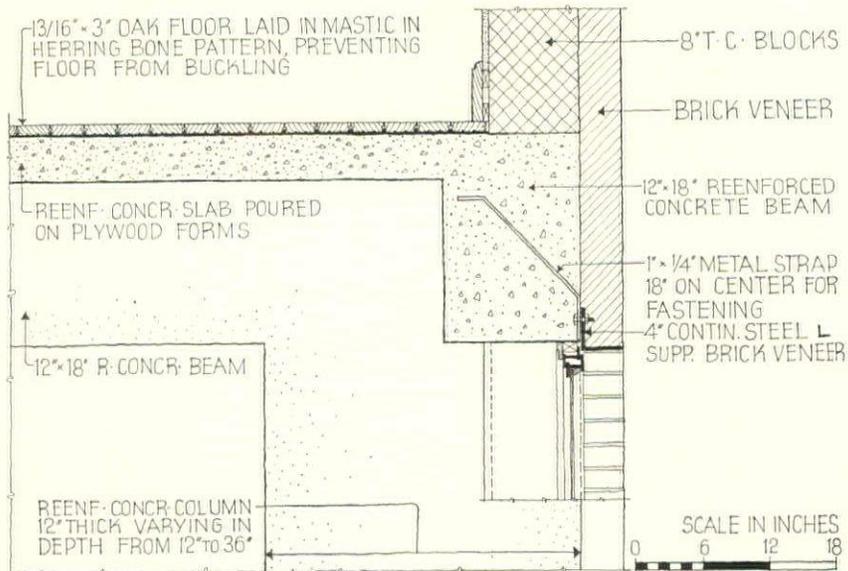
4. **BEAMS.** No beams protrude below the ceilings of all the important rooms, except around the walls, and the maximum drop at the partitions is about twelve inches, with a maximum projection into the room of about five (thus producing the effect of a flat furred and plastered ceiling without the added cost and without the added story height necessary to maintain the 9 ft. ceiling height set for this building. A minimum number of beams was used in laying out the work. Wherever possible the framing of beams to beams was eliminated.

5. **REINFORCING RODS.** In the floor slabs, the rods are laid in the direction of the

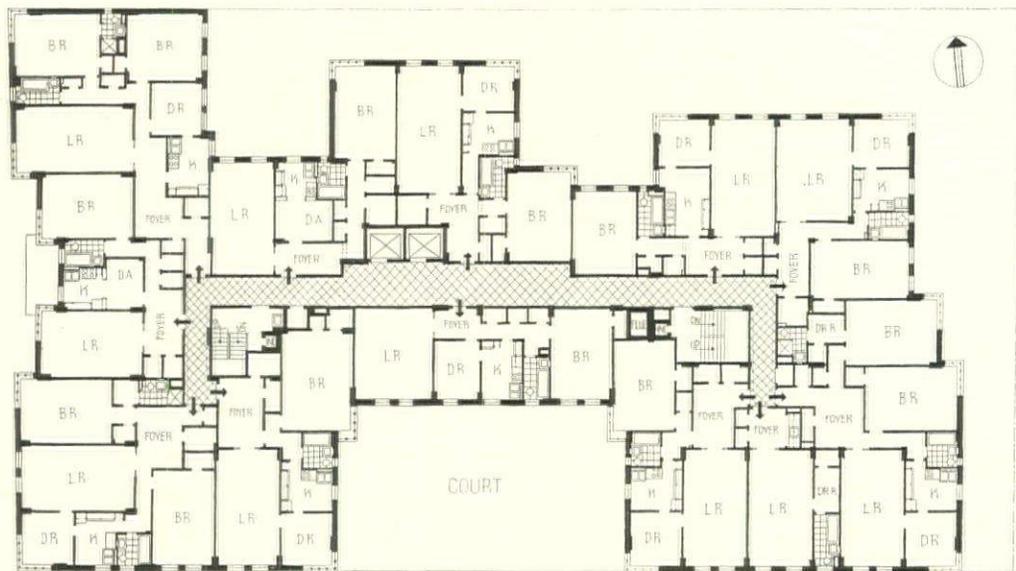




CROSS SECTION A-A

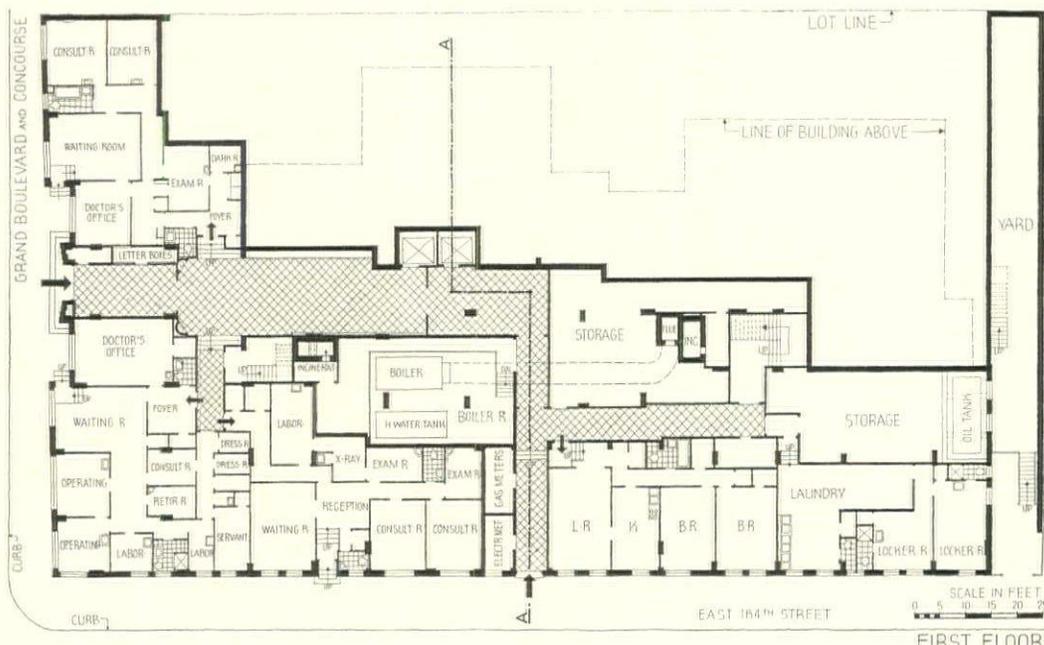
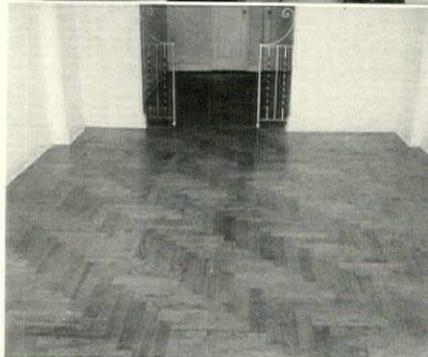


TYPICAL OUTSIDE WALL AND FLOOR SECTION



PLAN OF 3RD TO 9TH FLOORS

Plans, section, detail and typical interiors, whose common denominator is ingenuity, which is reflected, not only in the plan and construction, but in the buying ability of Builder Rose.



FIRST FLOOR

span, $\frac{3}{4}$ in. in diameter, and spaced on centers. The column and girder rods are $\frac{1}{2}$ in. in diameter, except where unusually loads demanded $\frac{3}{4}$ in. rods.

ARCHITECTURAL CONSIDERATIONS.

Set-backs. These were avoided as far as possible, as it was considered that type of construction did not lend itself economically to set-backs. However, where set-backs were made, they were in all cases along lines coinciding with column lines.

Corner windows. Framing for corner windows was arranged very simply and without heavy projections into the rooms, reinforced concrete lending itself very readily to all types of special conditions.

Bathroom floors. These were poured on the same level as all floors. Plumbing pipes were run exposed on ceilings and then furred, lathed and plastered, lights having been provided to receive light fixtures.

Preparation for tile and terrazzo floors. Where tile and terrazzo floors were specified the surface of the concrete was finished with a rake the day following pouring.

Preparation for wood floors. No special preparation was required beyond a smooth wood float level finish, which was allowed to dry for 4 months. The hardwood flooring is set in mastic directly on the floated concrete surface.

Partitions. Terra cotta or gypsum. These presented no unusual problems.

Wire lath and plaster. Two-inch wire lath and plaster partitions were used between rooms in apartments and double lath partitions between apartments. It was necessary to employ a gang of drillers to drill holes in floors and ceilings to receive expansion nailing for top and bottom plates and furring channels. It is planned, on the next job of this type, to provide a nailing strip built into the bottoms of the beams to eliminate the drilling on the ceilings.

Trim. Where base or picture molding is desired on concrete surfaces adequate nailstrips were provided in the concrete, arranged in such a way as not materially to affect the strength of the structural members.

Plumbing pipes. Suitable openings in floors were provided when the floors were poured, these openings having been planned carefully in advance.

Heating Risers. These were set in the forms, so that all risers were complete when the roof was poured.

Wall intersections. Offsets of at least one inch were provided wherever plaster surfaces intersected concrete surfaces.

CONSTRUCTION FEATURES. No unusual problems presented themselves.

Speed. No claim is made for speed in building that of steel frame buildings, although it is the opinion of all those connected with this project that the work progressed faster than a similar steel frame building. After the first tier was poured, a floor was poured every three days.

Waterproofing over windows. Shelf angles were built into the forms to eliminate all possibility of leaks over window sills. (See detail.)

Setting of windows. These were hung

from shelf angles before the bricklayers started. (See detail.)

D. Inspection. A rigid inspection was constantly maintained at the mixer, and on the floors being poured, a most important matter.

E. Simplification. An important feature of this type of construction is the very marked simplification of the general building process as a whole. To illustrate, when a floor is poured the following comparable items in the usual steel building are completed:

1. Structural frame.
2. Floor arches.
3. Electrical pipework.
4. Heating risers.
5. Plastering of ceilings and beams.

8. FINANCIAL FEATURES. This naturally interests builders most, but unfortunately

unless two similar units are built simultaneously, one in concrete and the other steel, both in the same locality, no accurate determination of the economy of one over the other can definitely be established—particularly when the total costs involved are very close. It is the writer's opinion, however, that there are certain tangible and intangible economies in reinforced concrete construction that more than offset the added cost of the concrete work, electrical work and painting, the three items affected most unfavorably. There are others who have other competent but differing opinions and they must be recognized. On one point, however, all those connected with this building agree—and that is that this type of construction gives a better finished product, more easily maintained than the usual type of construction for a building of similar class.

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The Webster Moderator System saved the Bryant Building \$1,204.23 and the Railway Exchange Building \$2,196.21, during 1934-35, the first season after the installations were completed. In four months, at the R. A. Long Building, steam consumption was reduced the equivalent of \$875.26. Between November and June of the 1934-35 heating season, Harzfeld's, Inc., saved \$341.45.

Savings are based on the difference between the dollar value of past and present monthly steam consumption after correction for degree day differences. There was no "starving" of the systems to get results.

In addition to making the installation at Harzfeld's, Inc., where installed direct radiation totals 7,883 square feet, the U. S. Engineering Co. acted as modernization heating contractors in the Railway Exchange and Long Buildings. There are 24,921 and 21,753 square feet of installed direct radiation, respectively, in the latter installations.

The John J. Sherin Plumbing & Heating Company made the installation in the new Bryant Building, where there is a total of 26,441 square feet of installed direct radiation.

No comparison of fuel costs is possible in the Jackson County Court House, since it is a new building. However, heating service has been adequate during the severest weather and the control equipment has operated to the complete satisfaction of the management. Installed direct radiation totals 28,320 square feet. This Webster System was installed by the Inter-State Heating & Plumbing Company, of Kansas City.

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NO INFLATION WORRIES

for lessors and mortgagees under a California hedging scheme.

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Whenever called upon to explain his scheme for hedging leases and mortgages against changing dollar values, Realtor Ivan A. Thorson of Los Angeles likes to cite this fact. Equally as citable in his theory's favor is the fact that since he began espousing it, early last year, a goodly number of leases in Los Angeles have been written according to its principles. Realtor Thorson, an appraisal consultant, first applied the idea in adjusting a lease for Los Angeles' big Broadway Department Store, has since been at work on a simple clause which might be applied in any situation.

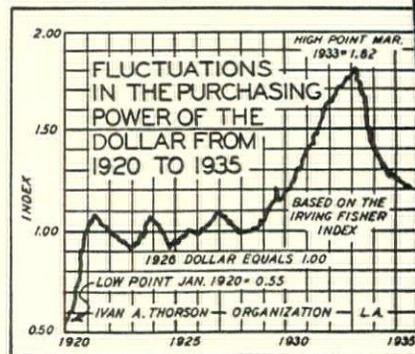
By last month Mr. Thorson had perfected and was ready to release his lease adjustment clause. Insertable in any lease, it provides a simple mechanism for annual adjustment of the rent, according to the Irving Fisher index of purchasing power. The Fisher index is used instead of the Government's because of its ready availability (it is published daily in the *Wall Street Journal*) and because Mr. Thorson believes it the more sensitive of the two. The clause:

"IT IS EXPRESSLY PROVIDED that the sum or sums herein agreed to be paid as rent are payable on the value of current United States Money as determined by the index of the purchasing power of the dollar as published by Irving Fisher.

"AND IT IS EXPRESSLY PROVIDED that the rent herein agreed to be paid shall on the first day of March

of each year during the continuance of this lease, be adjusted for the ensuing year by multiplying the sum herein provided as monthly rental by said current value (which is hereby established at and stipulated to be .55) and dividing the result thereby obtained by the latest index representing the purchasing power of the dollar published by said Irving Fisher at the time of said adjustment."

To demonstrate how the scheme works, Realtor Thorson included in his presentation of the clause* a table showing, in case the dollar were to drop again by 1941 to its 1920 low of 55 cents, \$1,000 in rents under the proposed stipulations would be upped to \$2,127 (see schedule below). Admitting that such a



The Dollar on the Move, 1920-'35

synchronization as his clause provided might not be desirable in every case, Mr. Thorson nevertheless was strong in advising word for word use of it for the present "as the dollar is falling quite rapidly in value."

Not Realtor Thorson's model clause but the theory of it is equally as applicable to mortgages as it is to leases. Observers found him able in explaining the connection, but somewhat over-pessimistic last month in discussing possible practical use of it by mortgagees. Said he: "Long-term mort-

*Inflation and Real Estate: Hedging Lease and Mortgages Against Changing Dollar Values, by Ivan A. Thorson. Realty Research Bureau, Los Angeles. 8pp., with charts, \$1.00.

| Year | Purchasing Power of the Dollar in Terms of | | \$1,000 Rent Will Buy | Sum which buys same as 1935 dollar | Sum Lessee Should Pay |
|--------------|--------------------------------------------|---------------------------|-----------------------|------------------------------------|-----------------------|
| | 1926 Dollar Val. | 1935 Dollar Val. | | | |
| October 1935 | \$1.17 | 117 × \$1 = \$1.00 117 | \$1,000 | 117 × \$1 = \$1.00 117 | \$1,000 |
| 1937 | \$1.10 | 110 × \$1 = \$0.94 117 | \$ 940 | 117 × \$1 = \$1.06 110 | \$1,063 |
| 1941 | \$.55 | 55 × \$1 = \$0.47 117 | \$ 470 | 117 × \$1 = \$2.13 55 | \$2,127 |

The Thorson Clause in Action, Assuming the Dollar Continues to Decline

ages could well be adjusted on the same basis as that suggested for long-term leases, because loans, like rentals, involve transactions between two parties only, the object in each case being to secure an income which would at all times have the same purchasing power. In fact, the only way in which the payment of interest as well as amortization of the principal and the final liquidation of the indebtedness can be made equitably is on this basis. But it is doubtful whether financial institutions dealing with the public will be able to utilize the principle, because of the very limited understanding which the average person has of monetary matters." To what extent general application of the Thorson scheme might anesthetize U. S. leasing and lending by eliminating the desire for long-time profit so often present in such transactions was a topic for lively speculation. However, in view of the general trend these days toward subordinating profits to security, as exemplified by increasing use of the percentage lease, Realtor Thorson's equally workable plan for synchronizing lease and mortgage payments with the value of the dollar appeared to have a chance to gain some popular acceptance.

DISTRICT REJUVENATION

is the goal of a NAREB proposal, calling for State adoption.

MUCH has been said but little done during the past three years about neighborhood salvation through collective action by the property owners concerned. Proponents of the idea have generally opposed the present direct, Government-financed slum clearance program as drop-in-the-bucket activity, and they like to point at the many cases in which such activity has resulted in the building of low-rent houses on cheap suburban land. Suburban low-cost housing is just more suburban development to them, to be decried because it leaves behind it "rings" of blighted areas, extending in all directions from urban centers.

Meanwhile, in these blighted areas every type of utility service is maintained, at a tremendous cost to taxpayers. The property is run-down, but the cost of servicing these areas with fire, health and police protection—to cite just three examples—is higher than in other areas, whose property owners must foot the bill. Due consideration, too, is the plight of the institutional mortgagee, who likewise suffers from fallen property values.

The answer, says the neighborhood improvement faction, is not in advancing funds for the wiping out of necessarily small districts, which in many cases has resulted in displacement of the former

tenants, but in a much more broad attack upon the problem.

With simply the thesis that it is more economical in a single instance for a neighborhood to engage in self-rejuvenation, Arthur C. Holden, a New York architect with a bent for economics, attempted to put the theory into practical application last year by inciting the owners in a Manhattan slum block to league together privately for its rehabilitation (ARCH. FORUM, Jan., 1935, p. 104). Enmeshed in legal difficulties, the Holden project never reached maturity.

A new attack from the neighborhood improvement camp is aimed directly at the force which halted Rehabilitator Holden. For several years the National Association of Real Estate Boards' genial, studious and hard-working manager, Herbert U. Nelson, has been consulting with legal experts, government officials, city planners and members of his organization skilled in neighborhood maintenance matters, on the subject of neighborhood rejuvenation. His conclusion was that semi-governmental, and not private, corporations are what is needed to accomplish the task.

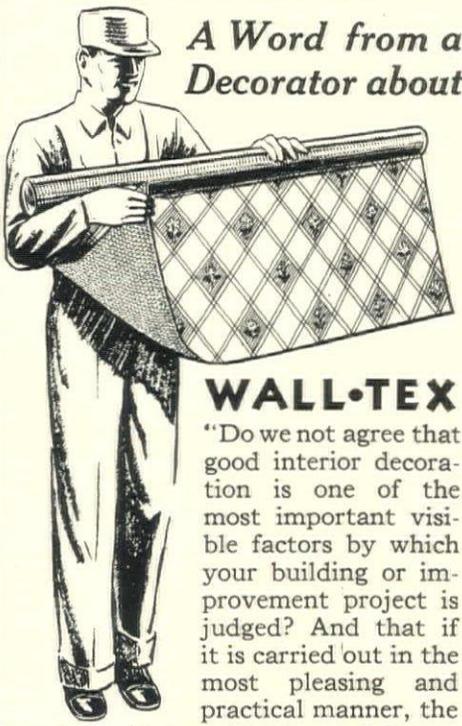
Last month to all NAREB member boards went an "idea draft" of the legal instrument by which Secretary Nelson hopes to see such neighborhood organizations formed. Checked and re-checked by legal minds, the proposed act would be applicable in any state of the U. S. Briefly, it provides:

1. That three-fourths of the property owners in a properly defined neighborhood may, with the approval of the court, organize a Neighborhood Protective and Improvement District. Such a district becomes a public corporation, not materially different from the familiar drainage districts and school districts already in existence throughout the country. The districts elect trustees whose powers are defined.
2. Once established, the district may proceed to develop a plan for the neighborhood. Such a plan would show streets, parks, and all other public places, and would define restrictions on the uses of the property and the neighborhood maintenance services to be conducted. In general, the neighborhood plan would provide for those factors and amenities which make for a stable and protected home life.
3. The district would then submit its plan to the municipal assembly of the city which might take advice from the city planning commission. When approved by the municipal assembly, the plan would become a law and all of the zoning ordinances and other laws in conflict therewith would be amended accordingly.
4. The trustees of the district would be authorized to take the necessary steps toward carrying out the plan. They could condemn land and improvements, the cost to be borne by the district, and could levy a limited tax in the district for the purposes embraced within the plan.

Offering a means of simultaneous attack upon the housing problem, the mortgage problem and the taxation problem, the plan had every reason to appeal to many a potential backer outside the membership of the NAREB. To the building industry its wide adoption would mean a stimulated volume of expenditures for remodeling and, later, for new construction, outside of wide benefits which should accrue from bettered realty conditions.

Mr. ARCHITECT and Mr. PROPERTY MANAGER:

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GOVERNMENT BUILDING VS. PRIVATE

For Government Building: William F. R. Ballard

AN article by Mr. Ernst Kahn which appeared in the August and September numbers of THE ARCHITECTURAL FORUM conveyed the impression that decent housing could be made available to the masses of America by means of an annual Federal subsidy which would act to reduce the return on privately invested capital to 3½ per cent, which subsidy would foot up to a small fraction of the subsidies now contemplated by the PWA. The impression thus conveyed is false.

To quote the article, there is the question: "Based on a limit of say 20 per cent for shelter . . . what builder is prepared and able to offer decent and cheap rents to the 60 per cent of the population whose income is below \$1,000?"

There is the answer: "The plan . . . is one that follows a primary principle of government aid, i.e., it should be the most inexpensive form of assistance possible. . . ."

"At the present time, average rate of interest is about 5½ per cent, but at that figure the housing could never rent for a figure low enough to house the population for which it is intended. Rents based on 3½ per cent money, however, would be within the reach of those to be housed.

"It may be useful to show the decisive influence of money rates on housing. Let us base our example on a four-room flat erected at a total cost of \$4,000, thus bringing the average price for each room to \$1,000. Let us further assume that in this particular case the other current expenses to be charged on the tenant (including profit, taxes, depreciation, maintenance, losses on vacancies and arrears, etc.) should require \$240 for the flat or \$60 for the room, we arrive at these results:

"Influence of the rate of interest on the rent in a typical case:

| Rent per room and month | If the capital invested costs |
|-------------------------|-------------------------------|
| \$11.67 | 8% |
| 10.83 | 7 |
| 10.00 | 6 |
| 9.16 | 5 |
| 8.33 | 4 |
| 7.50 | 3 |

(Quotation ends)

Or in other words:

$$\$7.91 = \left(\left[(\$4,000 \times .035) + \$240 \right] \div 12 \text{ months} \right) \div 4 \text{ rooms} \dots \text{and}$$

so it is implied that the matter is settled.

But, \$7.91 a room a month does not come close to the 20 per cent rent allowance of the \$1,000 income bracket mentioned above, because $\$7.91 \times 4 \text{ rooms} = \$31.66 \times 12 \text{ months} = \$380 \times 5 \text{ (20\% of income)} = \$1,900$. (Or on basis of 3½ rooms, \$7.91 rent requires income of \$1,662.50.)

Nor is it possible under private initiative to produce the \$7.91 rent. Four thousand dollars is a figure derived from building permit estimates throughout the country. This estimated sum does not include the cost of land or fees and overhead.

New urban low cost housing communities must of necessity, because of building laws and the long periods of amortization contemplated, be of a permanent character. Such habitations in the northeastern States cannot be produced for less than \$1,100 per room for all costs outside of land cost. This latter will be as high as \$500 per room even in an existing slum of wooden structures and comparatively low population density as in Williamsburg in Brooklyn. Average land cost for urban housing could be taken to average \$200 a room. Maintenance including management, heat, redecoration and repairs will not be below \$45 per room.

With the above factors established what is the rent and what is the Government subsidy as between the proposal under discussion and the prevailing PWA financing? The average size family quarters will be taken as 3½ rooms since present practice is to provide about an equal number of 3 and 4 room flats.

Case "A"—Rent per room according to FORUM article.

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Interest @ 3½% on 80% total cost . . . | \$36.40 |
| Interest @ 3½% on equity | 9.10 |
| Amortization of 80% total cost (private investors will hardly go along on longer than 40 year true amortization) @ .73% | 7.59 |
| Taxes on land cost only (N. Y. State has such provision for limited dividend projects—the same might be possible elsewhere) @ 2.5% | 5.00 |
| Maintenance | 45.00 |
| | <hr/> |
| | \$103.09 |

Less net yearly income for store rentals

8.00

\$ 95.09

Rent per room per month making no allowance for vacancies

\$ 7.92*

*60 year instead of 40 year true amortization would result in monthly room rent of \$7.49.

Case "B"—Rent per room—present P.W.A. plan.

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------|
| Interest @ 3% on 55% total cost . . . | \$21.45 |
| Amortization over 60 yrs. of 55% costs outside land— .611% | 3.70 |
| Taxes @ 2.5% (Federal projects will pay no tax at all—but if privately or municipally managed tax on site cost might be paid) | 5.00 |
| Maintenance | 45.00 |
| | <hr/> |
| | \$75.15 |

Less net yearly income for store rentals

8.00

\$67.15

Rent per room per month making no allowance for vacancies

\$5.60

In the case of "A" the yearly rent for 3½ room apartment will be \$332.82—monthly \$27.73. Assuming that 25 per cent of total income can go for rent since heating costs are included in maintenance, the family income must be \$1,331.28 (60 year amortization—\$1,258.32). In case "B" yearly rent will be \$235.03, monthly rent \$19.59 and necessary income \$940.12. It is evident that present PWA plan produces rents considerably lower than Mr. Kahn's scheme.

How about the magnitude of debt the Government is accumulating in order to subsidize low rental housing during its amortization period under schemes "A" and "B"? Not counting amortization of funds Government borrows in order to provide the subsidy in either case, Government in case "A" is subsidizing each room 2 per cent of its total cost each year or \$26 plus interest accumulations thereon: in case "B" Government grants an initial subsidy on each room of \$585 and each year accumulates the interest charges thereon. At the end of the forty year amortization period, "A" subsidy totals \$1,040 per room plus 40

$\left(\frac{\$1,040}{2} \right) \times (x \text{ being the interest rate Government pays on its money})$: at the end of 60 years "B" subsidy will be \$585 per room plus 60 $(\$585 x)$. Only in the case that the interest which the Government pays on its subsidy money exceeds 3.18 per cent will the total subsidy in "B" exceed that in "A." If the Government pays 3 per cent interest on its borrowings for purposes of subsidy, the total subsidies at the end of the amortization periods are: "A"—\$1,664*—"B"—\$1,638.

It has, it appears, been proposed that the Government subsidize to the same extent

*With sixty year true amortization for case "A" this figure becomes \$1,976.

BUILDING FOR LOW COST HOUSING

owners of housing instead of the occupants of housing with the result that the occupants would pay a 41 per cent higher rent. The impression created in Mr. Kahn's article that housing is possible by means of his scheme for those whose incomes do not exceed \$1,000 and that such housing would involve a Government debt much less than would be incurred under present proposed methods of PWA financing is a false impression.

For Private Building: Ernst Kahn

I am sorry to say that Mr. William F. R. Ballard did not read my article thoroughly; otherwise he could not have implied that I expect a rent of \$7.50-\$7.92 a month to be sufficiently low for housing the masses.

What I actually pointed out is this. An efficient American housing practice is impossible unless *all* items in rent calculating are substantially revised. Up to now America expects a gross return on the capital invested of—say 16.3 per cent—whereas Europe is satisfied with 7.9 per cent.

Undoubtedly this is to be attributed primarily to the high rate of interest for mortgages in this country. To show the importance of this point, I gave as a mere example the influence of the money rates per room per month, showing that a \$1,000 room now burdened with 8 per cent interest and requiring \$60 a year operating charges could be rented at \$7.50 if the rate of interest could be reduced to 3 per cent even if all the other factors remain unchanged.

However, the very sense of my second article is exclusively devoted to the problem of how these other items could be considerably reduced. The article concludes that quite apart from the rate of interest, scientific management should bring a further reduction of \$39 a room a year, equal to \$3.25 a month. If based on 3 per cent interest, a \$1,000 room thus could be rented at \$69 a year, or \$5.75 a month, and at \$6.92 if based on 3½ per cent interest.

This calculation does not take into consideration the rather radical tax exemption Mr. Ballard and others seem to propose; whereas I based my calculation on a 2 per cent tax, the New York Housing Authority obviously contemplates a tax regulation which would in effect bring down the tax for new low cost housing to 0.5 per cent. This, consequently, would result in the

additional possibility of reducing the rents to \$4.50 or \$5.67 a room a month.

Whether such a radical tax exemption is practical and wise is another question. Yet the fact that this tax exemption is not taken into consideration should be a sufficient margin for many higher expenses as presumed in my calculation.

Mr. Ballard continues in his own calculations on a 3½- and 4-room unit. I feel strongly that both 3½- and 4-room units will be too big for the bulk of those to be housed with public help at least in the larger cities. A thorough investigation of the size of modern families will show that a surprising high percentage of those to be housed will be satisfied with 2½ rooms.

Mr. Ballard cites my remarks that 60 per cent of the American families have an income below \$2,000. (Not \$1,000 as stated through a misprint.) The real facts are presented in the Brookings Institute's survey on "America's Capacity to Consume," which gives income figures for both farm and non-farm families.

| Income Classes (In dollars) | Families of two or more persons (Percentage of all families) | | |
|--------------------------------|-----------------------------------------------------------------|----------|---------|
| | Total | Non-Farm | Farm |
| Under 0* | 0.437% | 0.231% | 1.207% |
| 0 to 500* | 7.214% | 2.768% | 23.828% |
| 500 to 1,000 | 13.820% | 9.620% | 29.517% |
| 1,000 to 1,500 | 20.943% | 21.911% | 17.328% |
| 1,500 to 2,000 | 17.111% | 18.889% | 10.466% |

*Estimates for this class are highly tentative.

Our problem is largely an urban one, and the table shows that only 12½ per cent of the non-farm population had an income below \$1,000 in 1929.

Mr. Ballard, furthermore, bases his consideration on New York conditions, pointing out that the cost per room in this city runs as high as \$1,500. We accept this presumption, though I privately feel that one should find a way to bring these costs down even in New York. European experience shows that in low cost housing one is not entitled to put in equipment which only higher brackets may be able to pay for. I may be wrong, and \$1,500 actually may be the minimum cost per room in New York City. Should this be the case the actual rents in New York would be 50 per cent above my average estimate, equal to \$675 to \$850. On the other hand, one should not forget that the income of the New York population is far above the country's average. The Brookings Institute estimates the average income per head in New York at 73 per cent above the average income of the country.

Aside from this, it may be quite possible that the subsidy which I proposed (2 to 2½ per cent) should in some cases be higher and in others lower. There may be cases where a subsidy of .5 to 1.5 per cent will be quite sufficient to house a certain income group, and there may be other cases where an initial subsidy of 3.5 per cent would be necessary. The latter may be advisable in some large cities, or at least in some sections of larger cities; and it certainly would be advisable in housing the very lowest income brackets. With respect to the latter group, I am personally of the opinion that immediate rehousing of those people should be postponed.

Mr. Ballard finally tries to compare his plan of subsidy, which is a capital subsidy, with my proposal which is just a temporary annual subsidy. Again, I am extremely sorry that Mr. Ballard missed the point of my whole proposal. My plan is based on the assumption that such a subsidy will be necessary only for a comparatively limited number of years, as I expect a quick lowering of interest rates in this country as soon as the mortgage structure is at last modernized.

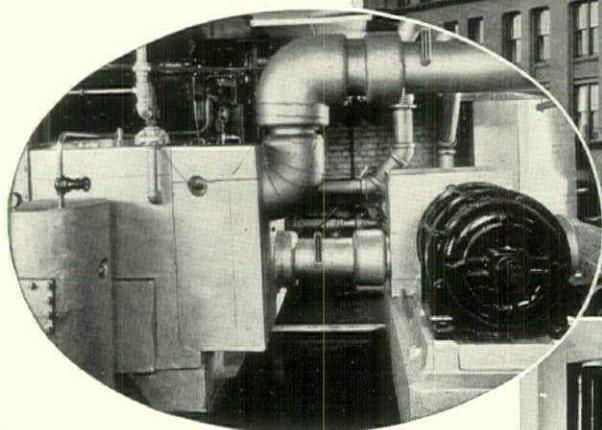
He expects from the Government a capital subsidy as much as \$585 a room whereas the Government's subsidy if based on my suggestions would be confined to a small fraction of this amount. Apart from this, I wonder if Mr. Ballard even took the pains to figure out what his proposal actually means to the taxpayer. He would certainly agree that it would be unfair and harmful just to rehouse at public expense a few privileged tenants. If his system should work and not do more harm than good it would be necessary to rehouse by public money all families in the lower brackets. If one considers that by 1945 the number of families in the United States will be as high as 45 millions, a conservative estimate of the number of families to be housed within the next twenty years by public subsidy would be somewhere between 5 and 10 millions.

Based on this estimate an outlay of \$585 capital subsidy per room (\$2,047.50 per family) would require the gigantic sum of \$12,237,500,000 to \$24,475,000,000 out of the public funds. I wonder if any Treasurer of the United States ever will be prepared to spend as much money for low cost housing no matter how enthusiastic he feels on this point.

CORK INSURES EFFICIENT AIR CONDITIONING FOR REMODELED 45-YEAR-OLD BUILDING

RIGHT—Insurance Building, Omaha, Nebraska, which has been remodeled and air conditioned under the direction of architect Leo Daly. Armstrong's Cork Insulation plays its part in insuring economical temperature control.

BELOW—This 270-ton Carrier rotary compressor, which cools the modernized Insurance Building, is insulated with 4" Armstrong's Corkboard. Machinery is cushioned on Armstrong's Vibracork.



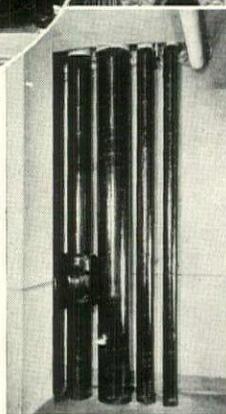
... Armstrong's Corkboard and Cork Covering guard equipment and insulate roof of this rejuvenated 8-story office building.

A MODERNIZATION and air conditioning job which is an outstanding example of sound economics is the Insurance Building in Omaha. Leo Daly, architect, planned and supervised the profitable remodeling program.

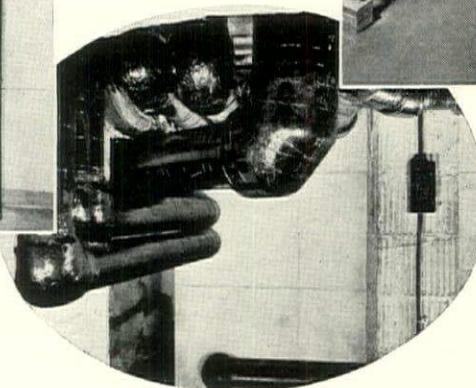
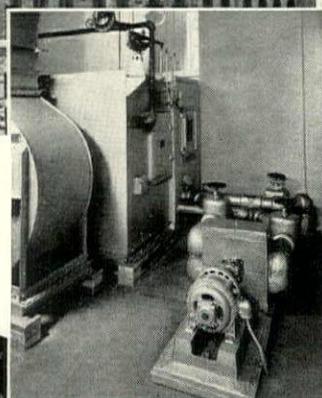
The entire interior of this 45-year-old structure—100,000 sq. ft.—has been thoroughly modernized, an additional floor added, and the exterior appearance improved. A central system provides conditioned air for the entire building. And the expense of this complete remodeling was less than the cost of creating similar space in a new building.

This economy is typified, too, in the choice of the insulation to insure permanent efficiency for year-

ABOVE—Cold water risers on the first floor of building, which are guarded with Armstrong's Cork Covering.



RIGHT—One of the nine air conditioning units in Omaha's Insurance Building. Vibracork under each unit reduces vibration transmission.



LEFT—One end of large water-cooling tank in basement, insulated with 4" Armstrong's Corkboard, applied in waterproof cement, and finished with portland cement plaster.

round conditioning. A 4" thickness of Armstrong's Corkboard was installed on the new steel roof deck. Refrigerating equipment is also protected with Armstrong's Corkboard. And throughout the building, cold lines are guarded with dependable Armstrong's Cork Covering.

Thanks to the natural cell struc-

ture of cork, Armstrong's Cork Insulation—Board and Covering—insures a lastingly effective barrier to the passage of heat and moisture. For complete descriptions of these and other Armstrong Products, write Armstrong Cork Products Company, 900 Concord St., Lancaster, Pa.



Armstrong's CORK INSULATION



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WIRING MATERIALS

*"The low operating cost and permanent silence of
ELECTROLUX are a valuable part of
any rental story"*



One of the buildings which Mr. N. H. Brandt, of 12 E. 41st St., New York City, has equipped with Electrolux. This building is located at 775 Riverside Drive.

says N. H. BRANDT, NEW YORK BUILDER, of 12 E. 41st Street, who advertises "equipped with Electrolux" prominently on the walls of his apartment buildings.

MR. BRANDT speaks from experience—his own and that of scores of other builders and operators. For not only does he build and operate apartment houses, but he is also one of the outstanding mason contractors of New York City. This has given him an unusual opportunity to keep in intimate touch with what others are doing.

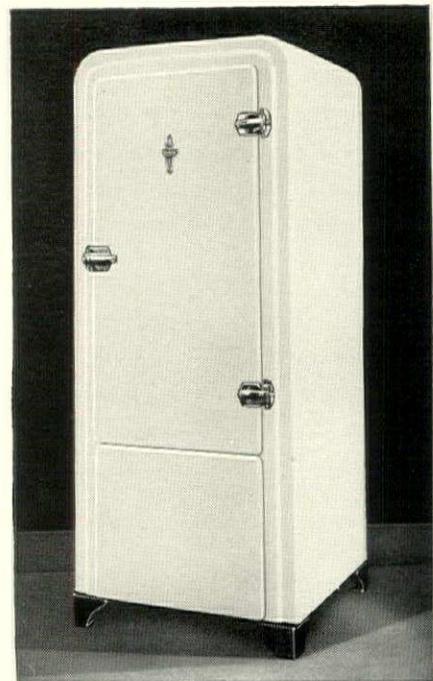
Says Mr. Brandt: "Years of building experience and the advantage of talking 'refrigeration' with numerous builders have proved conclusively to me the valuable advantages of Electrolux for any apartment building. From the standpoint of upkeep, this modern gas refrigerator not only insures a very minimum of trouble because there are no moving parts to wear, but also because you can always depend on prompt, efficient gas company service should you ever need it.

"From the standpoint of the tenant, gas refrigeration is also to be preferred. The low operating cost and permanent

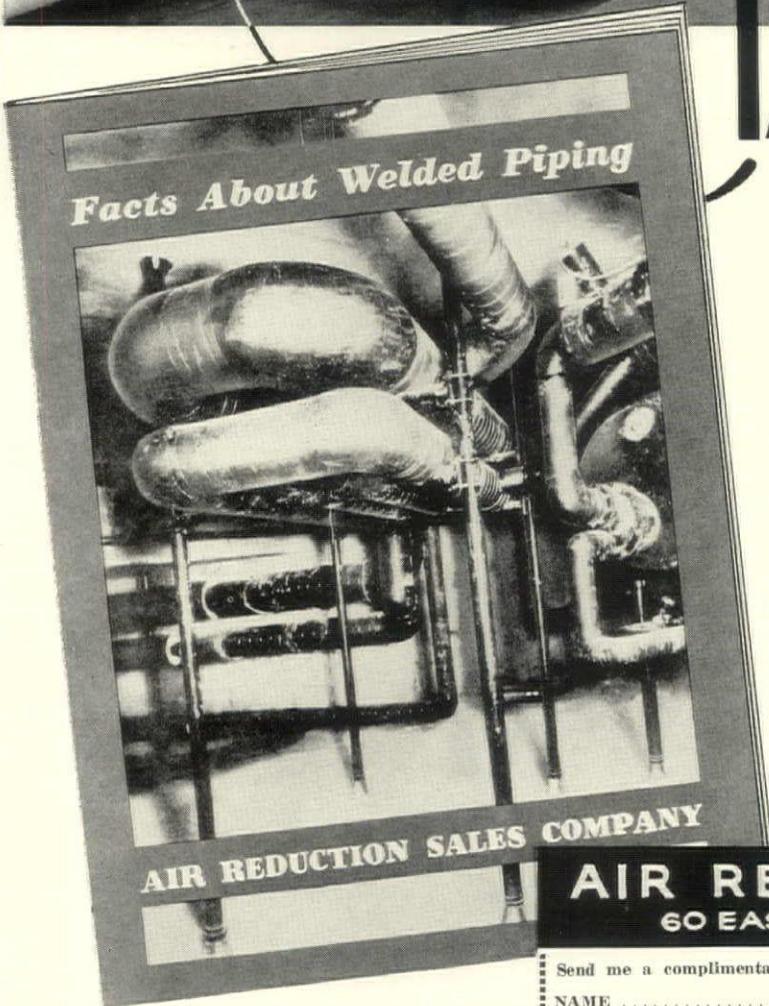
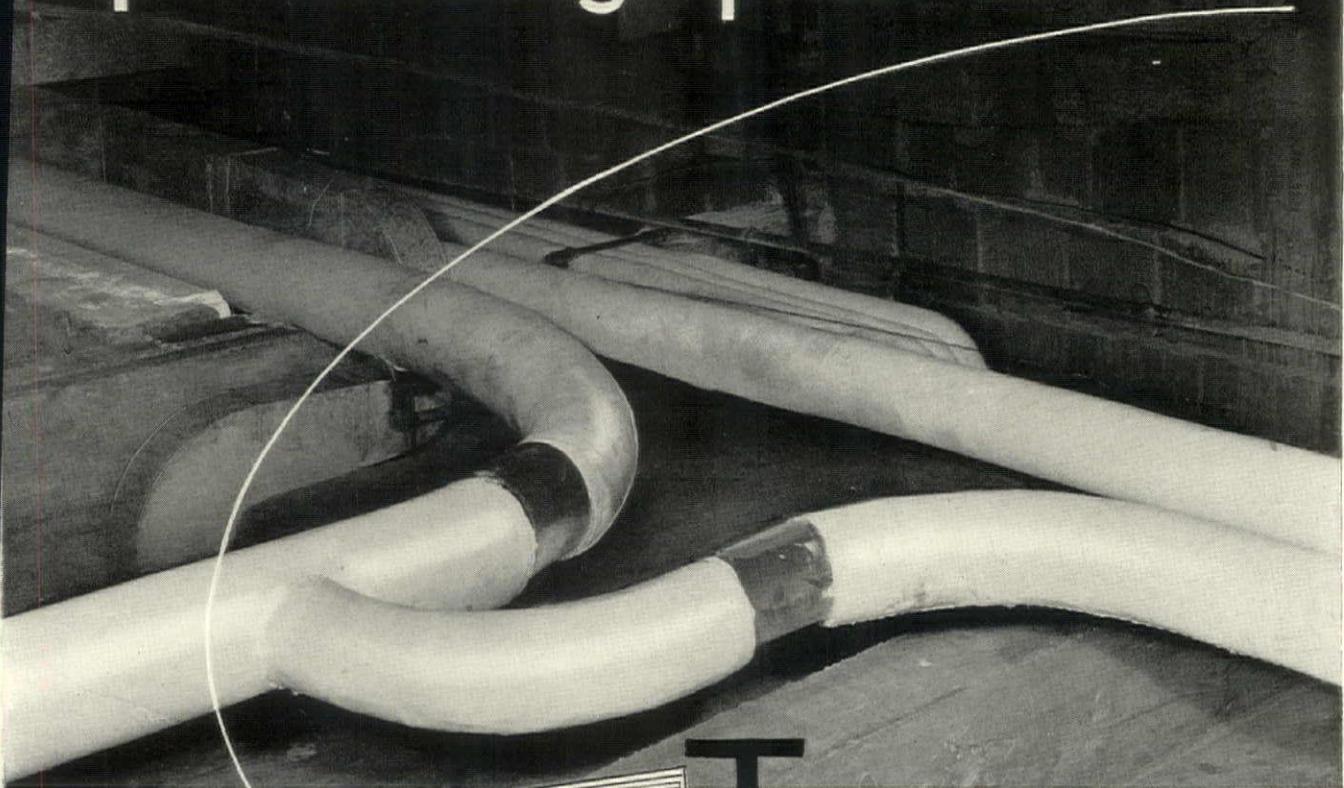
silence of Electrolux are a valuable part of any rental story. During the past five years, I have installed more than 800 gas refrigerators in our properties, and I can honestly say that the performance of Electrolux is *everything* that is represented for it."

If you are contemplating the purchase of automatic refrigerators for your buildings—either as original equipment, or to replace other types of refrigerators—it will pay you to investigate Electrolux carefully. Get all the facts. Compare it value for value with any other refrigerator. See your local gas company today! Servel, Inc., Electrolux Refrigerator Sales Division, Evansville, Indiana.

NEW *Air-Cooled*
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Pipe Welding Specifications



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Architects and engineers will find it helpful to have these specifications handy when preparing their own welded piping specifications for specific jobs.

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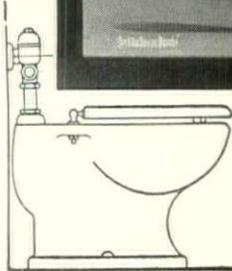
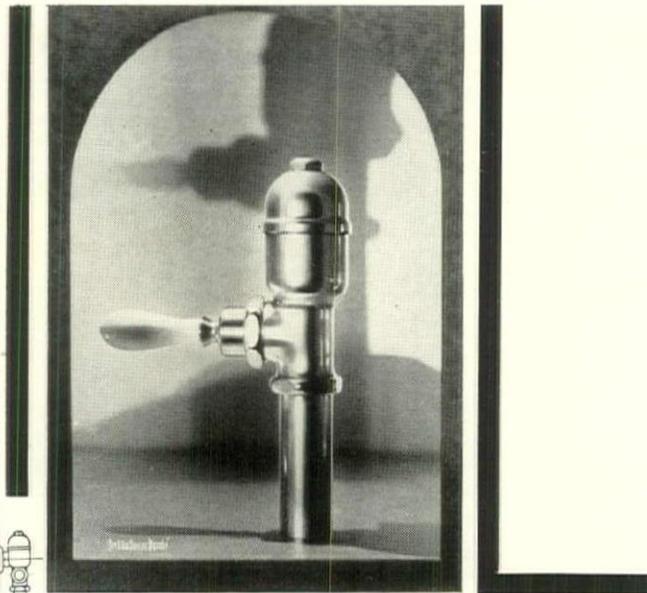
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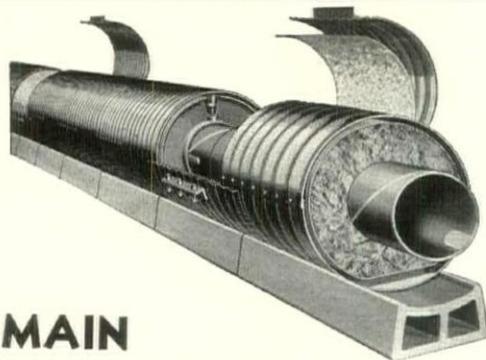
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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF MARCH 3, 1933, OF THE ARCHITECTURAL FORUM, published monthly at Jersey City, N. J. for October 1, 1935.

State of New York }
County of New York } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Sheldon R. Luce, who having been duly sworn according to law, deposes and says that he is the Business Manager of THE ARCHITECTURAL FORUM and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Time Incorporated, 135 East 42nd Street, N. Y. Editor, Howard Myers, 135 East 42nd Street, N. Y. Managing Editor, Ruth Goodhue, 135 East 42nd Street, N. Y. Business Manager, Sheldon R. Luce, 135 East 42nd Street, N. Y.

2. That the owner is: Rogers and Manson Corporation; Howard Myers, 135 East 42nd St., New York, N. Y.; Time Incorporated, 135 East 42nd St., New York, N. Y.; Henry P. Davison, 23 Wall St., New York, N. Y.; P. DuSossait Duke, Greens Farms, Ct.; Mimi B. Durant, 139 East 79th St., New York, N. Y.; General Publishing Corporation (Henry R. Luce), 15 Exchange Place, Jersey City, N. J.; William V. Griffin, 140 Cedar St., New York, N. Y.; Crowell Hadden III, Trustee, Estate of Briton Hadden, 40 Wall St., New York, N. Y.; Edith H. Harkness, 4 East 66th St., New York, N. Y.; William H. Harkness, 654 Madison Ave., New York, N. Y.; Louise H. Ingalls, 1657 Union Trust Bldg., Cleveland, Ohio; Robert L. Johnson, 135 East 42nd St., New York, N. Y.; Margarat Zerbe Larsen, 435 East 52nd St., New York, N. Y.; Roy E. Larsen, 135 East 42nd St., New York, N. Y.; Wilton Lloyd-Smith, 63 Wall St., New York, N. Y.; Henry R. Luce, 135 East 42nd St., New York, N. Y.; John S. Martin, 135 East 42nd St., New York, N. Y.; Samuel W. Meek, Jr., 420 Lexington Ave., New York, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) Sheldon R. Luce,
Business Manager

Sworn to and subscribed before me this 27th day of September, 1935.
[SEAL] HERBERT E. MAHONEY,
Notary Public

(My commission expires March 30, 1936)

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architects will do this year will be varied

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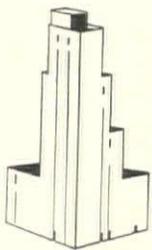
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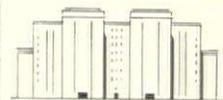
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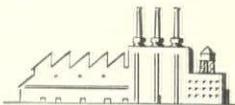
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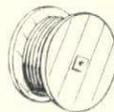
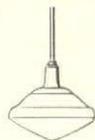
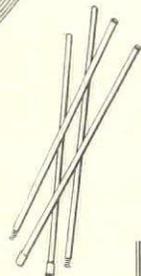
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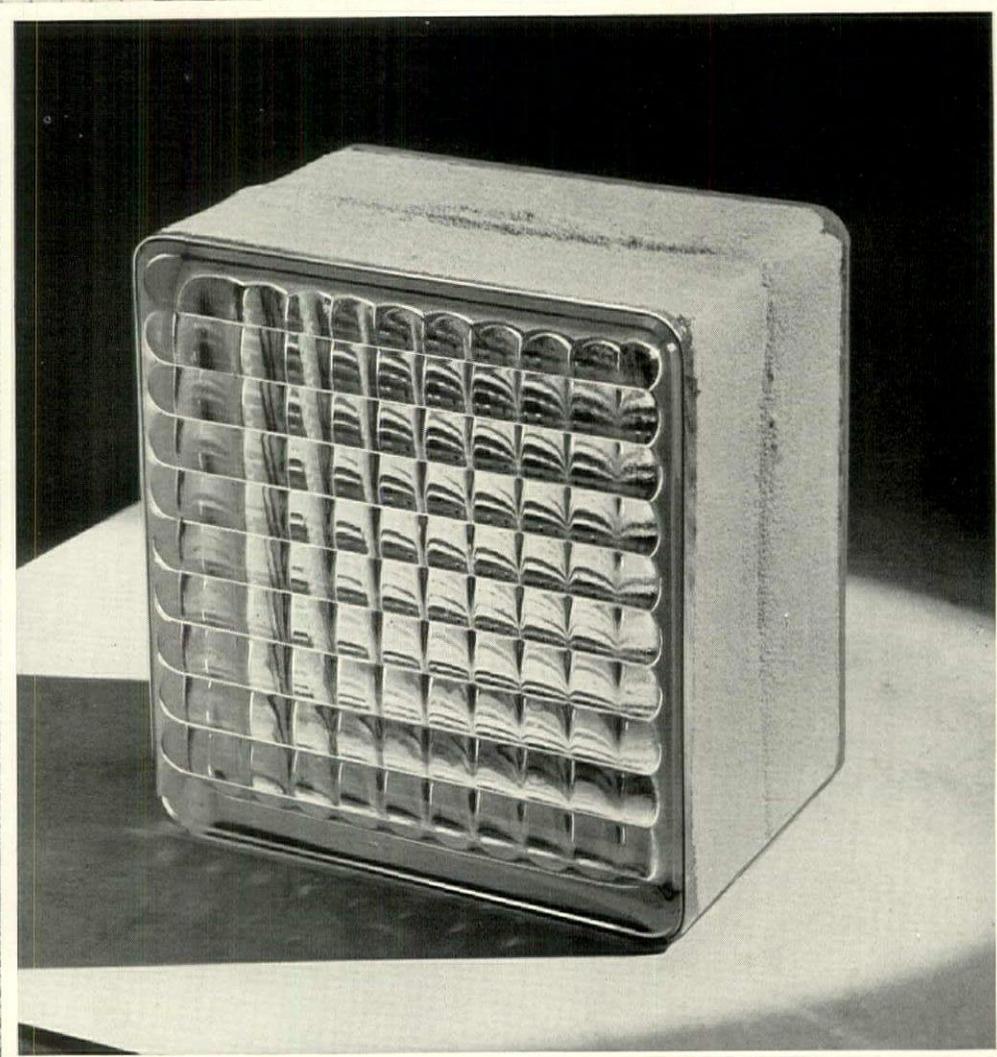
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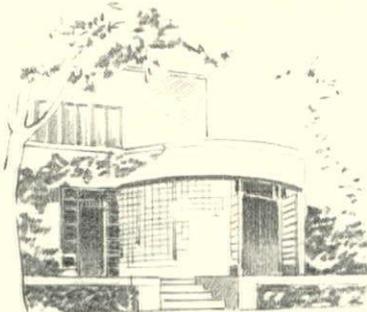
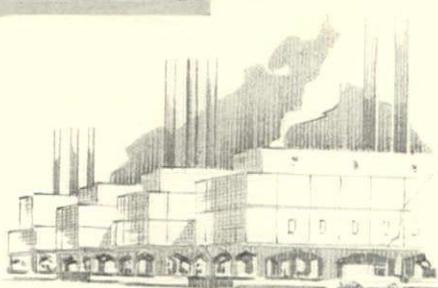


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**INSULUX
TRANSLUCENT
GLASS BLOCKS**

FORUM OF EVENTS

(Continued from page 11)

tions, floors and even bathtubs, at a single pouring (see cut). No such house was ever built, although the inventor did build a group of orthodox concrete houses for his workers in New Jersey. Last month Mr. Edison's cement activities were remembered when the Press reported an Edison Housing Study and asserted that the company was concentrating on concrete houses. Quickly Edison Housing Study Director W. D. Cloos, big and good-natured, issued his denial: "All systems of construction shall be weighed . . . Diversified as are the interests and manufacturing facilities of the Thomas A. Edison industries, we have no commercial bias in favor of a poured concrete house . . ."

STATE MURALS

PUBLIC Works of Art Project and its successors flooded the U. S. with a deluge of Government-commissioned murals. What surprised most citizens was that most of these were good art. Scheduled for November 26 in Manhattan's swank, women's Cosmopolitan Club is an exhibition aimed at comparing the best U. S. Government art with the best that Europe has lately produced. Secondary purpose: to give critics of state art an opportunity of comparing it with private projects. This month the Cosmopolitan Club is hanging murals from Denmark, Italy, France, Germany, Great Britain, Holland, Japan, Sweden, Russia, Switzerland. Murals that cannot be moved will be represented by sketches, large renderings. On exhibit with other U. S. murals will be the prize winners in the competitions for the Treasury Building, and the Post Office in Washington, D. C.

PERSONALS

RUDOLPH P. MILLER, one time building code commissioner Manhattan, was elected chairman of the American Standard Association Building Code Correlating Committee. Other executive members are J. André Fouilhoux, A.I.A., William Capes, American Municipal Association, W. F. Austin, Associated General Contractors, Edward W. Roemer, Building Officials' Conference, W. E. Mallalieu, National Board of Underwriters. The committee will attempt to correlate more than 1,600 building codes in the U. S.



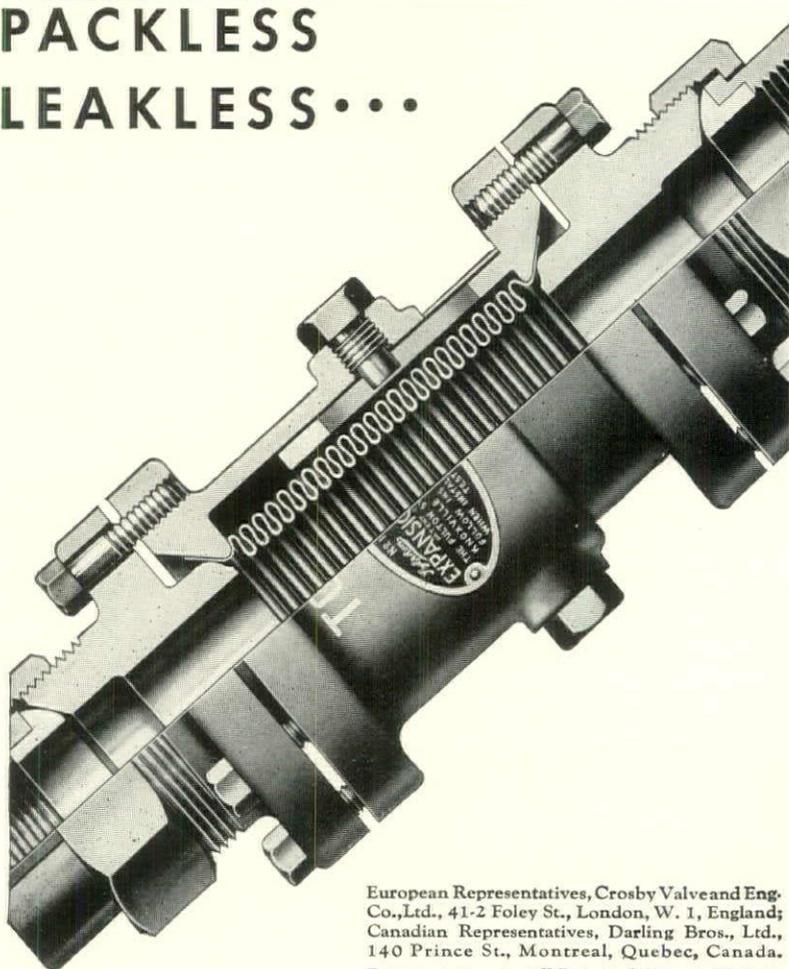
Harris & Ewing
FH Architect Smith

Frederick & Nelson, Seattle department store and a branch of Marshall Field, sponsored competition for the design of four small homes on actual existing lots. The winning homes will be sold by the store furnished or unfurnished, after January, 1936. Winner Class A (construction to cost \$4,500) was Victor Steubruck, graduate architect. Class B (\$6,000): Henry Olschewsky, Seattle architect. Class C (\$7,500): J. List Holmes, Seattle architect.

Class D (\$9,500): W. Hugo Osterman, Seattle architect. Howard Leland Smith, formerly of Cass Gilbert, now Smith & Ward, New York City, has been appointed chief architect of the Federal Housing Administration.

The Producers' Council will hold its twelfth semi-annual meeting in Detroit, December 4. Keynote: "Increased cooperation between Governmental agencies, financing institutions, architects, builders and building material men to promote quality in the resurgent building industry."

PACKLESS LEAKLESS . . .



European Representatives, Crosby Valve and Eng. Co., Ltd., 41-2 Foley St., London, W. 1, England; Canadian Representatives, Darling Bros., Ltd., 140 Prince St., Montreal, Quebec, Canada. Representatives in All Principal Cities in U. S. A.

Sylphon Packless Expansion Joints for heating risers are saving space, repairs, trouble and expense in hundreds of modern and modernized buildings everywhere.

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Joint reaches job ready to install. Installation is simple, speedy and permanent.

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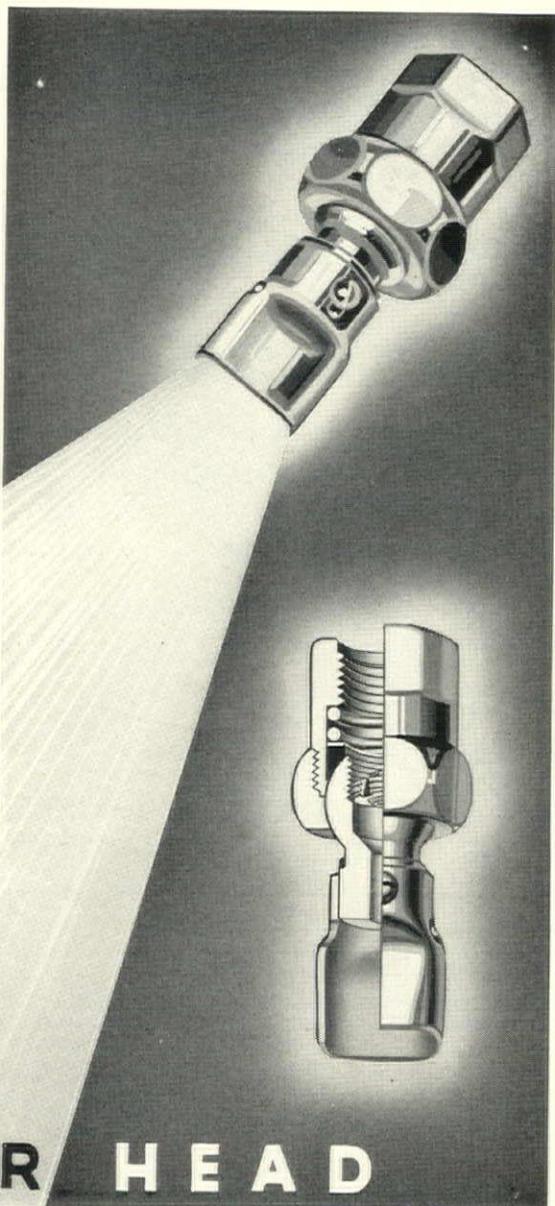
For the New Home and the home made new

Here is another point of improvement in bathroom equipment—the new Crane ECONOMY Shower Head. The world is asking for the new, the useful, the economical in home equipment. The ECONOMY Shower Head answers that requirement with a new kind of shower, a spray using less water, and a spray at less cost.

THE CRANE

Economy

SHOWER HEAD



MORE
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LESS
WATER

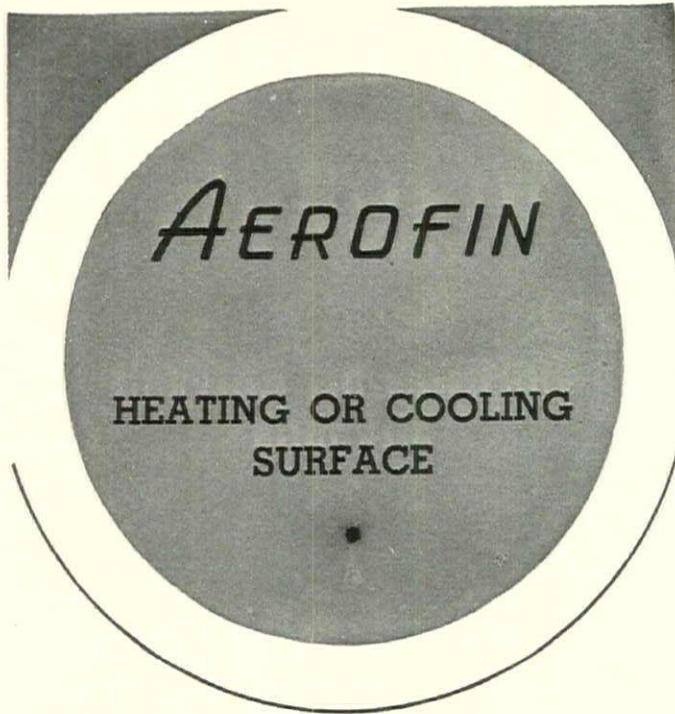
LOW-COST

The new ECONOMY Shower Head saves water because it directs water *only* at the bather—none is wasted as in a circular spray which is effective only at its center. Actually, only one-third the amount of water used by a 4-inch spray head is required by the ECONOMY. Large diameter outlet resists clogging. Removable brass spreader breaks up the stream by a swirling

action which precipitates good *wet* drops in place of mist-like spray. Spray guide conforms spread of shower to an elliptical shape which fits a tub, concentrates on the bather. Ball joint easily adjusted, will not corrode, has spring-loaded packing. Openings in spray guide aerate the spray, give soothing effect to body. Furnished for $\frac{3}{8}$ " or $\frac{1}{2}$ " pipe, with ball joint only. Of solid brass, heavily chromium plated. Cost is surprisingly low. Write for Circular No. 162.

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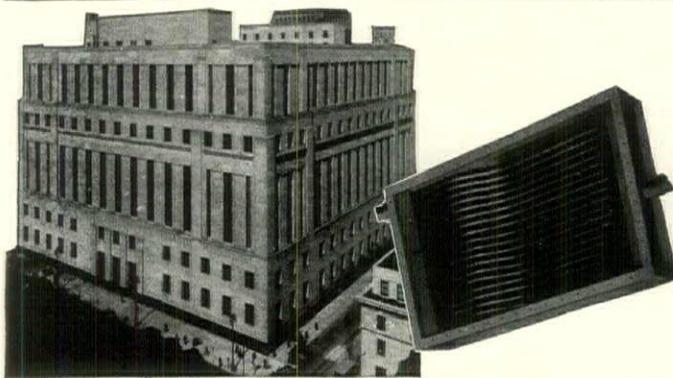


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Write for specification sheet showing sizes and actual wear tests.

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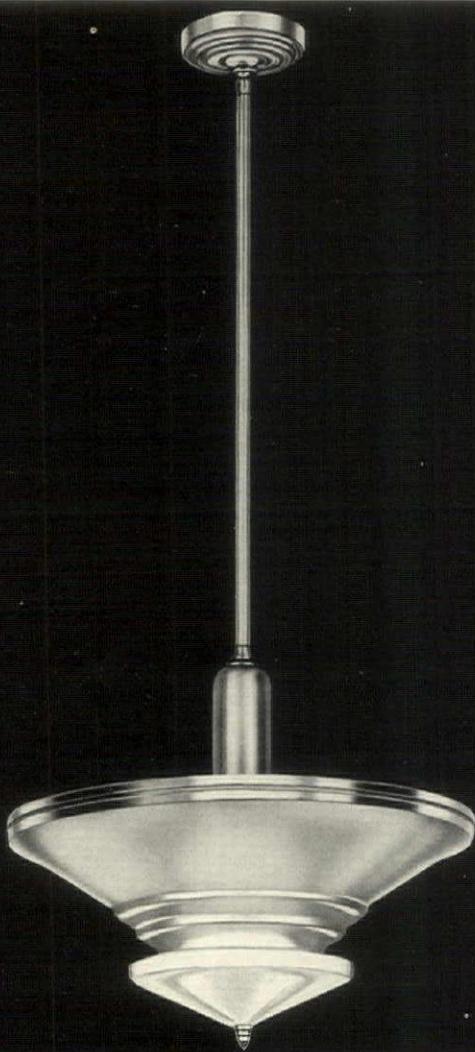
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Portable return tubular fire box power boilers for 100 to 150 lbs. pressure. Send for Form 9090-AAF.

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Complete with semi-rigid hanger. Basin exterior is Alzaked satin aluminum finish with highly polished band. Reflecting surface is matte finish for wide coverage of light on the ceiling . . . Alzaked for greater permanence and simplified cleaning.

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The Silvern luminaire is ideal for office, store, restaurant and similar commercial lighting applications . . . provides semi-indirect illumination, which is highly efficient and extremely economical.

Silvern assures eye conservation and eye comfort. A Trans-Lux reflecting disc on the inside of the diffusing globe, with concentric prisms on the outside, provides greater reflectivity and lower surface brightness.

Lighted or unlighted, the design and finish of the new Silvern unit blends harmoniously with any type of decorations or furnishings. When lighted, there is just sufficient light cast on the outside to tone the entire unit into the reflected light above.

Learn the details of this new modern luminaire by Westinghouse, largest maker of complete lighting equipment. Request a copy of the new Silvern Catalog, and the complete Lighting Handbook that covers every detail in the design of modern lighting. The Catalog and Handbook are yours for the asking.

WESTINGHOUSE ELECTRIC &
MANUFACTURING COMPANY

Lighting Division

Edgewater Park

Cleveland, Ohio

WHEN YOU THINK OF *Lighting* THINK OF

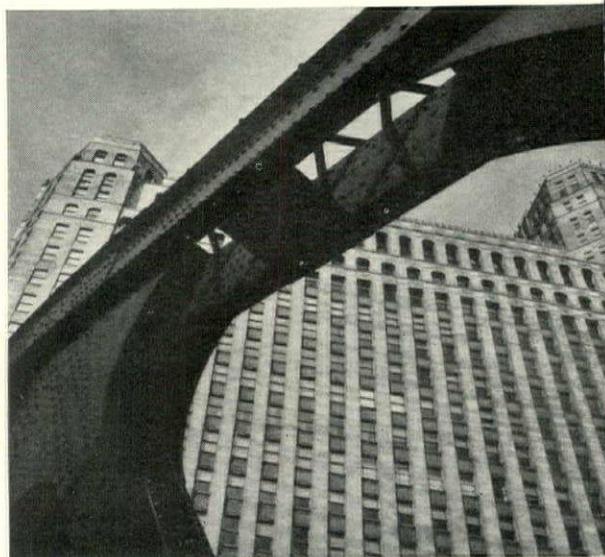


Westinghouse

BOOKS

U. S. CAMERA 1935. Edited by T. J. Maloney, published by William Morrow & Company, New York. With a preface by M. F. Agha and comments by Steichen, Genthe, Lohse, and other noted photographers. 192 pp., 8 $\frac{3}{4}$ x 11 $\frac{3}{4}$, \$2.75.

The appearance of U. S. Camera 1935 is a notable event marking as it does the publication of the first American photographic annual. The extraordinary growth of interest in photography which has manifested itself in various ways



"STEEL AND STONE"

By Fred G. Ker

during the past few years is accurately reflected in this book whose standard of excellence is uniformly high, despite the fact that the acceptance of only one example of any photographer's work made it impossible to fill the book with the pictures of a few outstanding men. Like the contemporary European annuals, U. S. Camera covers the entire field of photography, its subject matter ranging from candid camera shots to pictures of cosmic ray showers. Color plates are included, excellent examples of the progress that has been made in this new branch of photography. The book is well designed and the reproductions are superlatively good. Not the least attractive feature is the price which is less than half the usual cost for books of this size and quality.

ART STUDENTS' ANATOMY, by Edmond J. Farriss. Published by H. B. Lippincott Company, Philadelphia. 147 pp., with 143 illustrations, of which 7 are in color. 7 x 10. \$4.00.

A new, compact anatomy for artists which treats its subject with diagrams, sketches, action photographs, and x-ray pictures. The author has also included reproductions of the magnificent engravings of Siegfried Albinus, an anatomical illustrator of the early 18th century. The material is well coordinated, with the use of pictures to eliminate text wherever possible. A useful glossary of anatomical terms, with their pronunciation as well as meaning, is given at the end of the book.

As a service to interested readers, THE ARCHITECTURAL FORUM will undertake to order copies of foreign books of others not conveniently obtainable locally, which have been reviewed in this department. Checks and money orders to be made payable to THE ARCHITECTURAL FORUM.



Builders Exchange Building, St. Paul.
Toltz, King & Day, Architects, St. Paul.
Lovering & Longbotham, Contractors, St. Paul.
Hauenstein & Burmeister, Inc., Calking Contractors, St. Paul.

Pecora Calking Compound Replaces Washed Out Mortar

All exterior windows in this building, erected in 1924, were calked with Pecora. About five years ago the mortar joints in terra cotta trim had become so washed out that worst conditions were pointed up with Pecora, also some of the stone trim. In 1934, the new owners authorized a complete pointing up job on all terra cotta trim. In many instances mortar had become entirely washed out. The architects recommended Pecora because of satisfactory performance where previously used on this building as well as other buildings in their experience. Thus once more is emphasized the fact that Pecora Calking Compound will not dry out, crack or chip when properly applied.

For further details see Sweet's Catalogue or write direct to us.



Pecora Paint Company Inc.

Fourth and Venango Sts.
PHILADELPHIA
Est. 1862 by Smith Bowen

Also Makers of
SASH PUTTIES
MORTAR STAINS

SUCTION MASTIC
for Structural Glass



This New Type, High-Pressure Cartridge Calking Gun (patent applied for) is a great Time and Material Saver. Pecora Calking Compound is packed in Non-Refillable cartridges of approximately One Quart capacity.

BRIGSTEEL *Beautyware*



*A Revolutionary
new medium for
Architects*

● Brigsteel Beautyware enables you to achieve, in the modest residence, or building, the luxurious effect and quality appearance formerly possible only when you had almost unlimited funds at your disposal.

● Its attractive colors and hitherto unattainable color combinations are in themselves an invigorating challenge to architectural ingenuity.

● Its reduced weight and greater strength are particularly appreciated when you figure floor and wall loads.

● Its modern design and the modern materials from which it is made (wet-process, acid-resisting vitreous porcelain on Armeo Ingot Iron) are in keeping with the other modern tools which recent years of industrial achievement have given your profession.

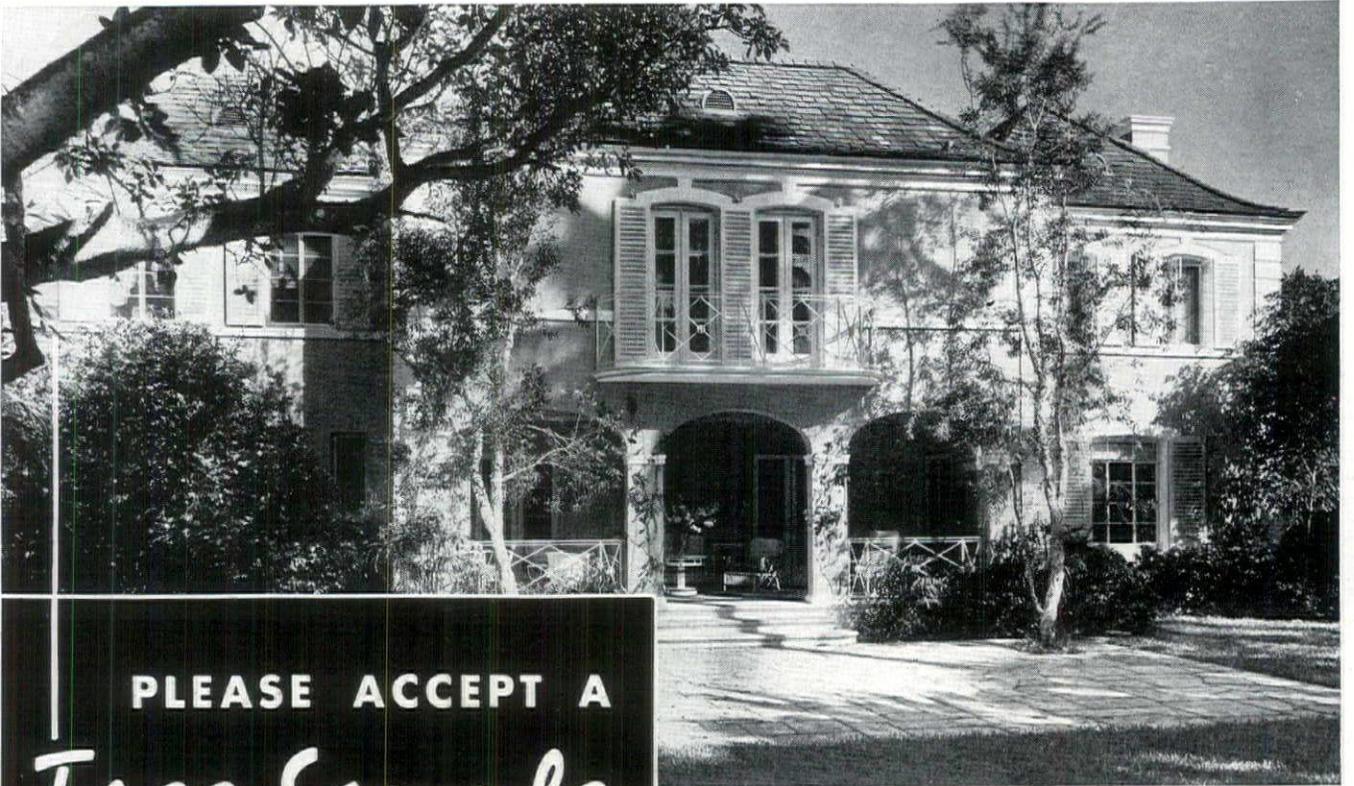
● This revolutionary new type plumbing ware has many outstanding advantages that cannot be duplicated in any other fixtures. Write Brigsteel, Detroit for details.

PLUMBING WARE DIVISION • BRIGGS



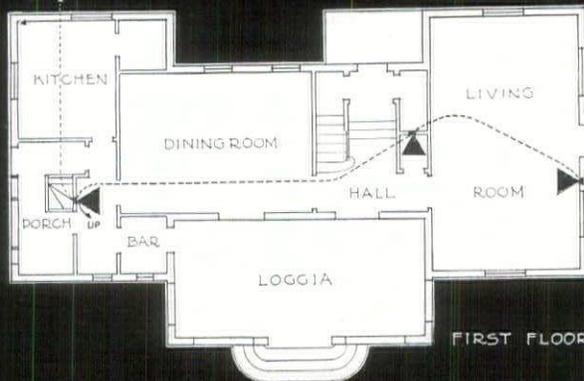
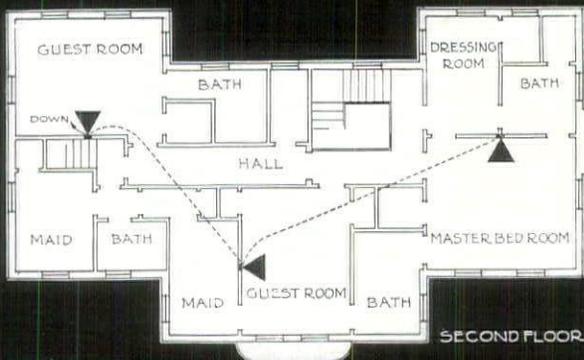
MANUFACTURING CO. • DETROIT

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Charming garden façade of the residence of Maurice Fatio, Via Vizcaya, Palm Beach, Florida. Built-in conduit, connecting six outlets, provides for telephone convenience. . . . Architects, TREANOR AND FATIO, Palm Beach.

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OF OUR SERVICE



UNDERGROUND TO PROTECTOR CABINET IN GARAGE

LEGEND ◀ TELEPHONE OUTLET ----- CONDUIT

SOCIAL and business life today depends so largely upon the telephone that no home is quite modern without adequate telephone facilities. Many architects provide for them as carefully as for electric lights or heating systems. And to assist in this pre-planning, telephone companies offer the service of trained technical staffs, without charge.

Co-operation between architect and telephone engineer is highly desirable for a number of reasons. Telephone conduit costs much less to install during construction than later. Extra outlets can be located in anticipation of future needs. Then, as families grow up, telephone service can be easily extended without the necessity of piercing finished walls and floors and without exposing the wiring.

Feel free to make full use of your telephone company's specialized knowledge. It will save money for the owners of the homes you design or remodel — will make those homes more comfortable, more efficient. Just call the Business Office and ask for "Architects' and Builders' Service."

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by
Sturtevant
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A UNIT ventilator of unsurpassed beauty and distinction . . . combining the finest in modern cabinet design with the good workmanship and sound engineering for which the name Sturtevant has stood for over 70 years. ☐ On request, we will gladly send you Catalog 377-1 containing full information about this new Sturtevant Product. ☐ B. F. Sturtevant Co., Hyde Park, Boston, Mass. • Branches in 30 principal cities.

A RESULT OF 70 YEARS OF AIR ENGINEERING EXPERIENCE



Formica Cocktail Lounge in a Big London Hotel.

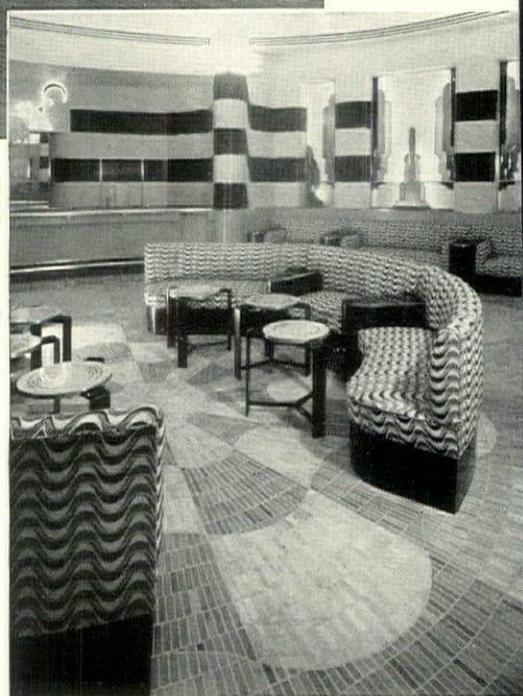
The British like Formica for wall covering and table tops well enough to import it for really fine jobs; the pictures show what they do with it, after they get it.

This is a new cocktail lounge in the Regent Palace Hotel, in Picadilly Circus, designed by Oliver P. Bernard, a well-known London Architect. The walls are Formica in alternate stripes of black, red, and gray. The table tops are *blisterproof* with inlays made at the Formica factory.

Nowhere is there a more handsome, more modern wall paneling available than you can get in Formica; nor more durable *blisterproof* table tops.

May we send you all the facts?

THE FORMICA INSULATION COMPANY
4620 SPRING GROVE AVE., CINCINNATI, OHIO



FORMICA

FOR FURNITURE
AND FIXTURES



To assure Good Results— Specify GOOD SHEETS

A reputation for excellence has been earned by AMERICAN Steel Sheets and Light Plates. These products are well made, and are up to highest quality standards — the kind that pleases the industrial buyer and user, also the architect, builder, sheet metal worker and property owner. Demand these sheets for heating, ventilating and air-conditioning systems, and all forms of sheet metal work. Supplied in Black and Galvanized Sheets, Special Sheets, Tin and

Terne Plates for all purposes. KEYSTONE Copper Steel offers maximum rust-resistance—and U S S STAINLESS Steel Sheets and Light Plates are adapted to a wide range of utility. For workability, durability, and satisfaction standardize on AMERICAN products. If in doubt about the best specification for a particular use, do not hesitate to ask advice — which will be gladly given. AMERICAN products are sold by leading metal merchants. Send for literature.

AMERICAN SHEET AND TIN PLATE COMPANY, Pittsburgh, Pa.

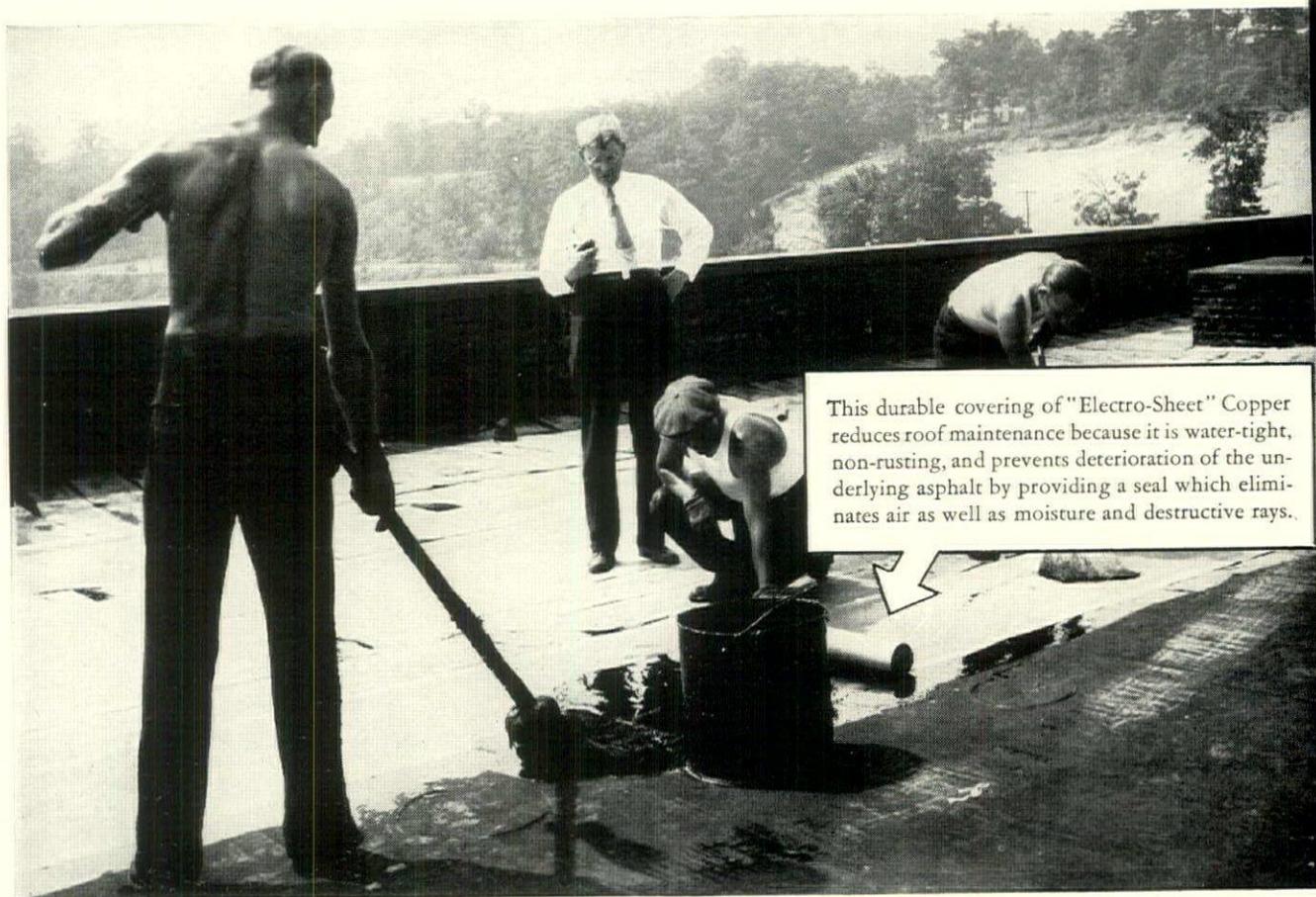
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ANACONDA "Electro-Sheet" Copper... water-proof... rust-proof... lasting

New Development for Built-up Roofs

COPPER... traditional for its durability... is now available *in a form and at a price* which recommends its use in built-up roofs. This new Anaconda development... copper in wide, thin sheets of unlimited length... makes possible the construction of a more durable type of built-up roof by combining the copper with alternate layers of asphalt.

"Electro-Sheet" is water-proof, rust-proof, lasting. Weighing two ounces per square foot, the impervious copper prevents deterioration of the "undercoats" of asphalt, which retains its original softness and pliability.

In various sections of the country, installations already made have demonstrated (1) the ease with which "Electro-Sheet" can be applied... (2) the tight bond between the copper and the asphalt... (3) the exceptionally smooth surface of the finished roof. There is every indication that these built-up copper roofs will last indefinitely with a minimum of maintenance!

Detailed information about Anaconda "Electro-Sheet" Copper for built-up roofing is given in our new booklet, Anaconda Publication D-2. Write today for your free copy.



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ANACONDA COPPER & BRASS



A. C. WEISBURG,
MANAGER
of the Oliver Hotel in South Bend, Ind., and
the Harrison Hotel in Chicago. He specifies
Monel Metal.

MONEL METAL

helps pep up appearance
of NEW Lunch-Room
in OLD hotel



Oliver Hotel, South Bend, Ind., where newly renovated lunch-room has been equipped by Duparquet Range Company, Chicago, with food-service equipment made of Monel Metal

THE well-known Oliver Hotel in South Bend, Indiana, may be considered by some an old hotel, but when it comes to the renovated lunch-room, it is as new as tomorrow.

One of the outstanding features of this recently redesigned eating-place is the back bar . . . made of glistening, gleaming Monel Metal.

A. C. Weisburg, Manager, has had plenty of experience in sensing public preference. He is former president of the famous Merchandise Mart Restaurant in Chicago, and now is manager of both the Harrison Hotel in Chicago and the Oliver in South Bend.

So when he specifies Monel Metal, he is considering all three phases of the problem confronting all who select food-service equipment:

- (1) Appearance that appeals to the public
- (2) Cleanliness
- (3) Low maintenance

You get all three of these pleasing results when you specify Monel Metal.

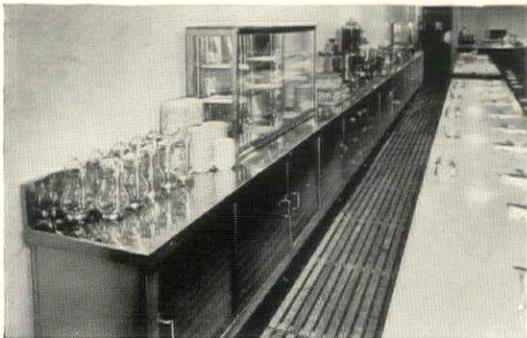
And what is even more important, food service equipment made of Monel Metal will *retain* its shining, old silvery appearance. This is proved by the fact that many installations have been in constant use for 20-25 years.

Send for a copy of "The Selection of Food Service Equipment" addressing

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.



Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.



Monel Metal back bar installed in the new Oliver Hotel, South Bend, Ind., by Duparquet Range Company, Chicago, Ill.



General view of the new lunch-room in the Oliver Hotel, South Bend, Ind., installed by Duparquet Range Company, Chicago, Ill., under the supervision of Mr. A. C. Weisburg.

Stainless Steel

FOR MODERNIZING STORE FRONTS



● The store front is the merchant's *silent salesman*, ever reflecting the character of his store and merchandise. Thus modernization of store fronts with *stainless steel* is good business as well as good taste. It brightens the customer's outlook as well as the store's.

Stainless steel is uniform in composition from its glistening front to its unfinished back. It does not pit, chip, or peel. It can be washed as easily as glass. No polishing and no protective coat-

ing are required to maintain its gleaming beauty. The rustlessness and tarnish-resistance of *stainless steel* trim keeps the store face permanently bright and attractive.

For twenty-nine years Electromet has pioneered in the field of ferro-alloys and alloy steels. The data thus developed on stainless steels and other alloy steels, together with the further help of Electromet Engineers in selecting suitable materials for your designs, are available on request.

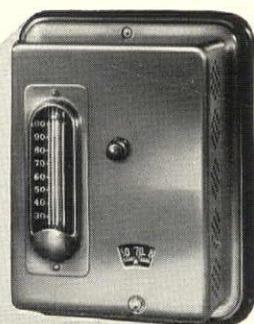
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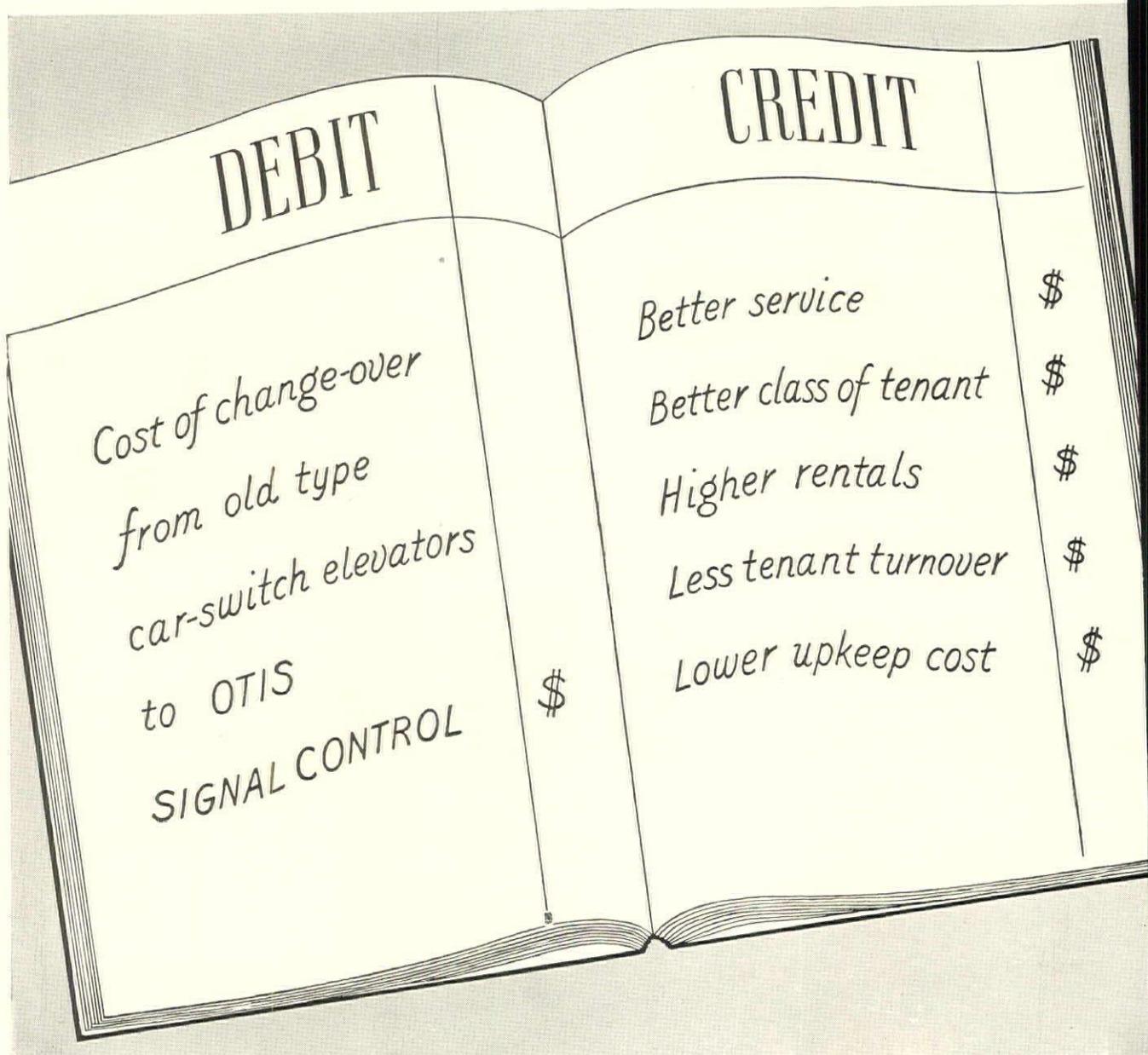
JOHNSON AUTOMATIC HEAT CONTROL

JOSLYN MEMORIAL, Omaha, Nebraska, JOHN McDONALD & ALAN McDONALD, architects;
Engineering Service Company, mechanical engineers, Omaha, Nebraska

For Protection and Economy!

ECONOMY, COMFORT, CONVENIENCE! Those are the results usually sought when automatic temperature control apparatus is considered. Incidentally, those are the results attained when the regulation equipment is JOHNSON. But beyond that, there are many instances where accurate dependable control of temperature and humidity is essential for *protection*. Museums, art galleries, and certain industrial processes are examples of such applications, where exhibits and products must be protected against insufficient or excessive temperatures and humidities. . . . In the beautiful Joslyn Memorial, a gallery of valuable art treasures, some 120 JOHNSON *dual* thermostats operate JOHNSON valves on 244 direct radiators. A comfortable temperature during occupancy periods and a safe, reduced temperature at other times! Humidifying and ventilating are JOHNSON controlled, as well.

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Submit this graphic picture to modernization prospects

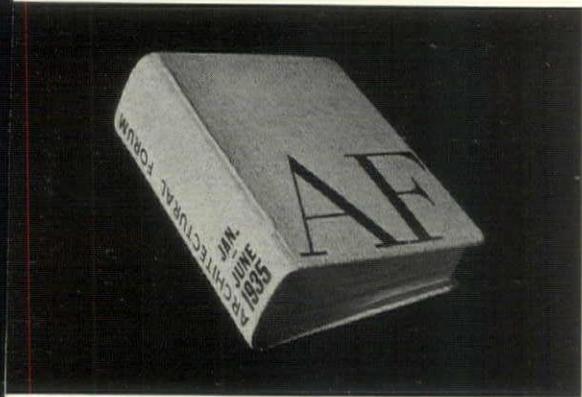
BUILDING managers who have made the above entry in their ledgers are finding that the credit side soon wipes out the debit.

There are some very definite reasons why the change-over from old type car-switch elevators to Otis Signal Control is a profitable investment. The change brings faster elevator speeds, less waiting time, a saving in stopping time at the various floors, greater comfort to passengers. These obvious elevator improvements put the building on more favorable footing to compete

with the newer structures, help attract more tenants, and keep present tenants satisfied with their quarters. The change-over to Signal Control also reduces elevator operating expenses and prolongs elevator life.

We shall be glad to co-operate with you in any way on an elevator modernization project of this character, or, for that matter, any type of elevator modernization problem.

OTIS ELEVATOR COMPANY



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are virtually irreplaceable.

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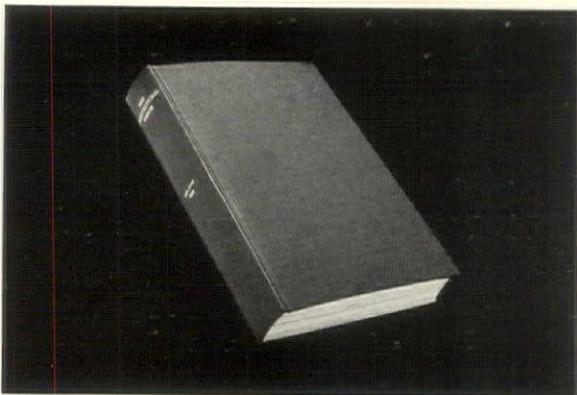
Illustrated above is a new binder, covered in natural tan Webtex Studio cloth and stamped with black letters, specially designed to hold the January-June, 1935 issues. The rods which slip through the spiral binding, and the inside back strip are of chrome plate. Complete single issues are easily removed and returned. Price: \$2.00, f.o.b. New York City.

Illustrated below is the binder for sewn issues. This is available in any standard color library buckram, with reinforced end papers, heads and library corners. The legend is of 22 carat gold leaf printing. To procure this binder, just send your copies of The Forum express prepaid. Price: \$3.50, f.o.b., New York City.

Binders are now available for the January-June and July-December, 1935 issues.

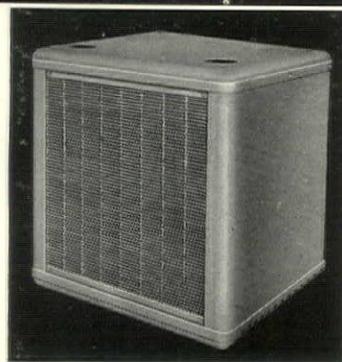
Send check or money order to

THE ARCHITECTURAL FORUM
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TRANE SYSTEM OF UNIT HEATING

TRANE
UNIT
HEATING
brings



"FLOOR LINE SPREAD"

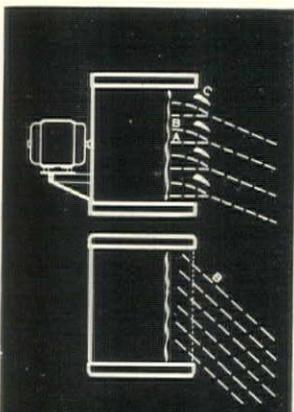
to

YOUR CLIENTS

"Floor Line Spread" is an exclusive feature of Trane Systems of Unit Heating. It provides an effective distribution of heated air in the working zone where it is needed to keep room occupants comfortable.

Trane Systems of Unit Heating are the real solution to your space heating problems whether in industrials, stores, schools, restaurants or large offices. Architects say they are the unit heaters of distinctive appearance; engineers say they are the unit heaters of distinctive performance; and owners like Trane Systems of Unit Heating because they are dependable and economical.

It will pay you to investigate the Trane System of Unit Heating. The recommendations of Trane representatives as regards the type of unit best suited for your application will be unbiased, because Trane builds a complete line of both propeller and blower fan type units—and there is a greater number of sizes from which to make your selection.



THE difference in heat distribution between a Trane "Floor Line Spread" Unit Heater and the ordinary Unit Heater lies in the elimination of one "force."

Above is the distribution from an ordinary unit heater. Line "A" represents that stream of air which is not affected by the louvre "C". Line "B" represents the stream air that is turned downward by the louvre.

In other words, the stream is controlled by two forces—one attempting to rise, the other being forced upward—A STREAM OF FIGHTING CURRENTS.

Below is a Trane "Floor Line Spread" Unit Heater. Note the absence of Line "A". All of the air is directed towards the floor. ONE FORCE AND THAT DIRECTING THE AIR TO THE FLOOR.

NO COMBAT—
NO FIGHTING CURRENTS.

And note the neat, compact appearance that the Trane Freeflo grille brings to the unit—the smartest looking as well as the most efficient unit on the market.

40 page
booklet of
facts free.



The TRANE Company, La Crosse, Wis.

Dept. A-10.

Your Name

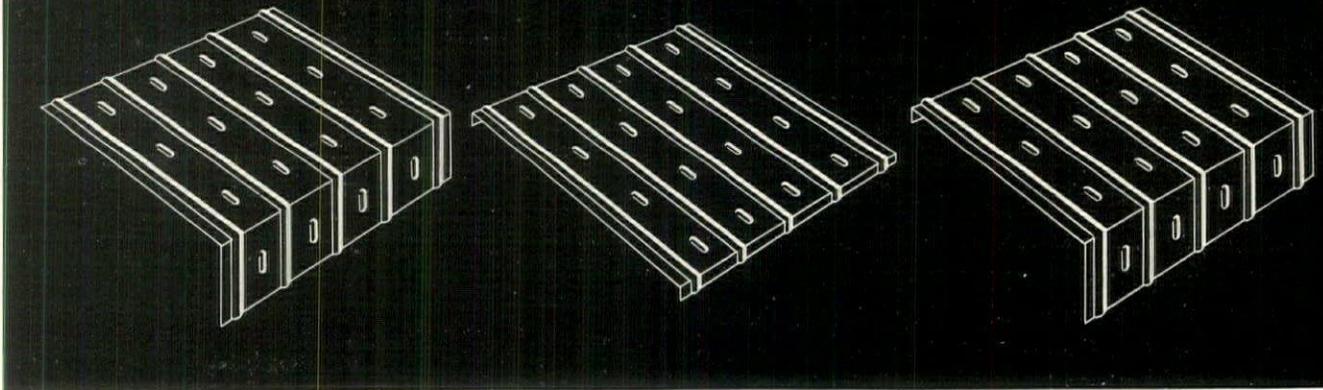
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State

Please send full details on Floor Line Spread and Blower Type Unit Heaters.

You can cut, bend and form

REVERE THRU-WALL FLASHING*



With most patented flashings, it is necessary to specify *several* types to meet ordinary flashing requirements. Here is a new reasonably-priced flashing that is adaptable to *any and all* architectural specifications! It is furnished in one type only . . . flat sheets . . . therefore it can be cut and bent by the sheet metal contractor to any style or size he wishes.

This flashing is made of Revere Copper (soft temper) or non-staining Revere Leadtex (lead-coated sheet copper), and is much stronger than plain sheet metal flashing. The design is simple but effective: parallel ribs are rolled at 3-inch intervals along the full width of the flashing, and embossings are rolled between each rib. Because the ribs are rolled rather than stamped, they are of equal thickness with the rest of the flashing and the metal retains its original softness. Because they extend the full width of the flashing, they provide a stiffened counterflashing face that hugs the wall tightly.

The parallel ribs permit a water-tight interlocking joint with

2-inch overlap to form continuous flashing without the use of solder. The ribs also allow water to drain off quickly. These ribs and embossings make an unusually tight bond between mortar and flashing, prevent all lateral movement of the wall and allow for expansion and contraction.

Revere Thru-Wall Flashing is considerably less expensive than the customary patented flashing. Due to its interlocking feature, which makes a water-tight joint without the use of solder, it can be installed for less than plain sheet metal flashing with soldered joints.

Another advantage of this flashing is its availability through the country-wide organization of Revere Distributors. The well-known Cheney Flashing is also available at Revere Distributors and is reduced in price. These two flashings answer your requirements for every type of construction. If you would like more complete details, address our Executive Offices.

*Patent No. 1,928,589

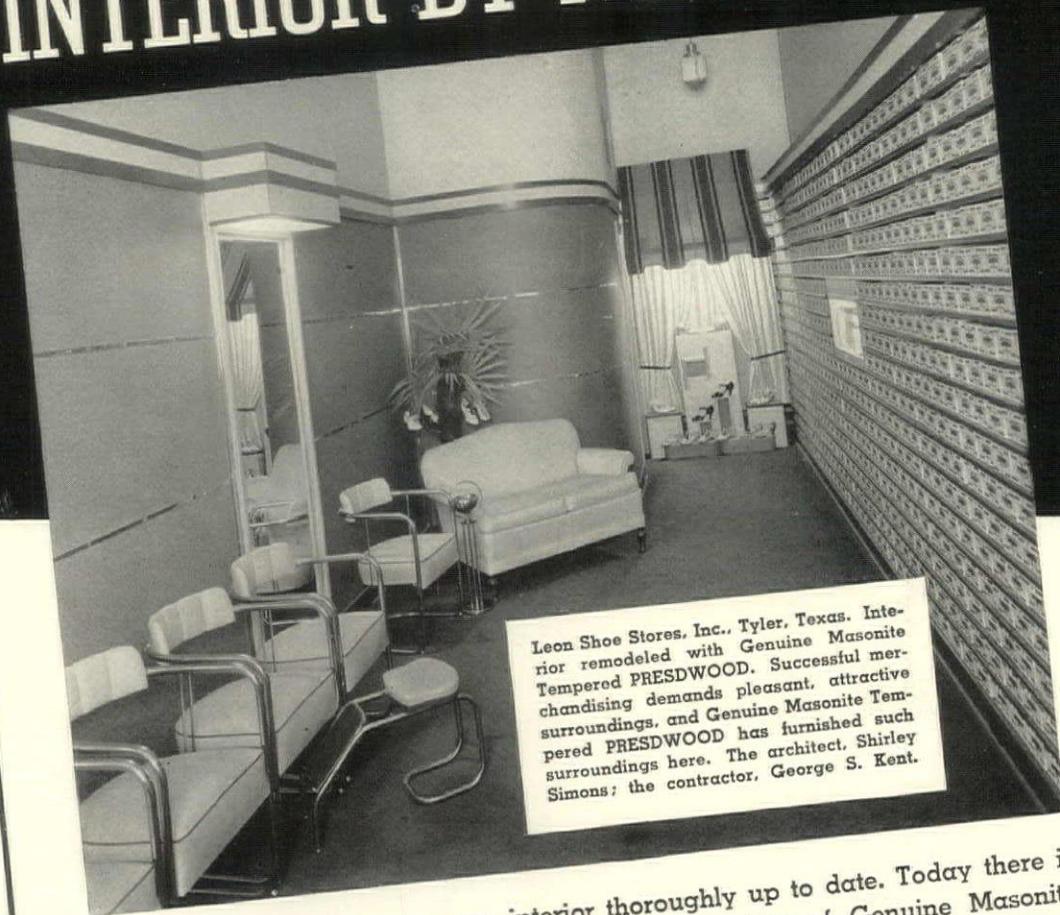
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INTERIOR BY MASONITE

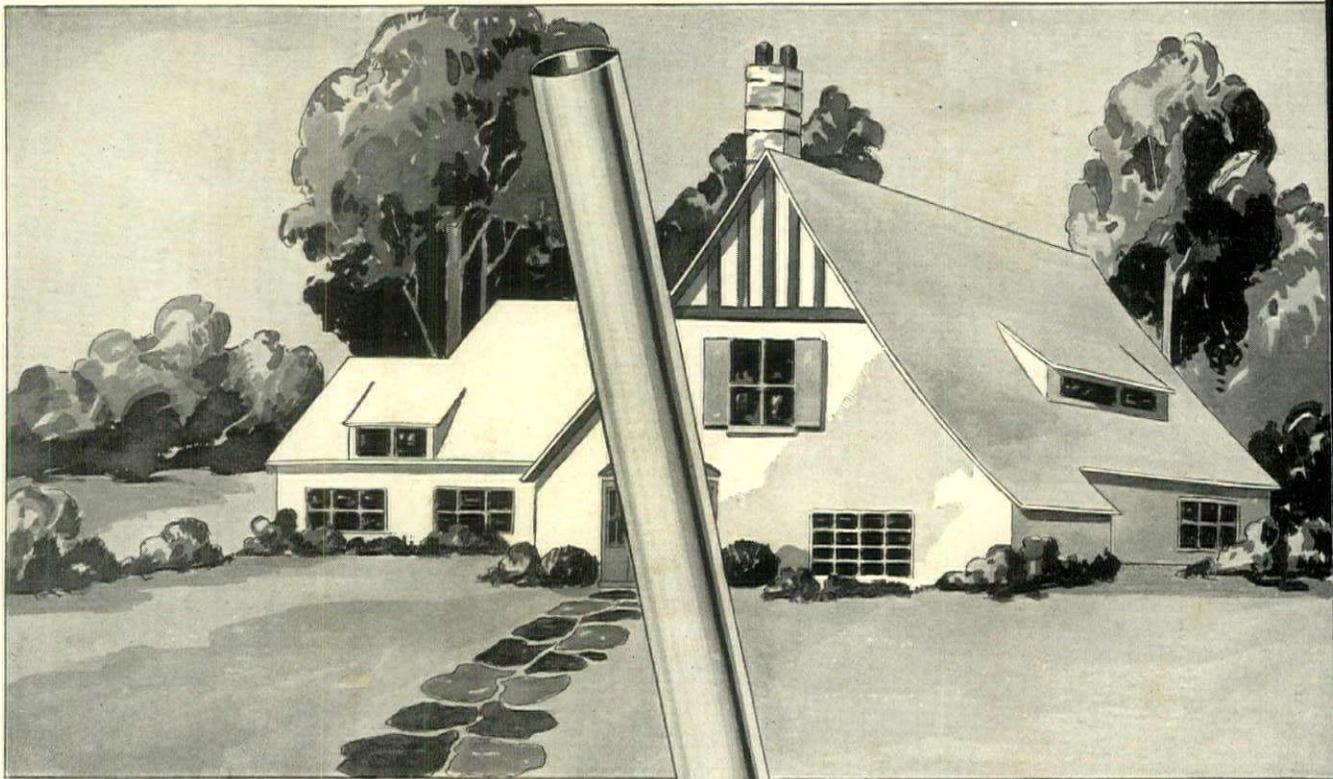


Leon Shoe Stores, Inc., Tyler, Texas. Interior remodeled with Genuine Masonite Tempered PRESWOOD. Successful merchandising demands pleasant, attractive surroundings, and Genuine Masonite Tempered PRESWOOD has furnished such surroundings here. The architect, Shirley Simons; the contractor, George S. Kent.

INTERIOR BY MASONITE means an interior thoroughly up to date. Today there is a demand for cheerful, modern environment. Paneling of Genuine Masonite Tempered PRESWOOD satisfies this demand. In shop, home, or office, walls of this beautiful material lend an atmosphere of smartness and well-being which will impress a customer, or charm a guest. • Outside, as well as in, Genuine Masonite Tempered PRESWOOD is as versatile and dependable as it is beautiful. Its marble smoothness is impervious to heat and cold, rain and sun. Antiquated buildings, homes, theaters, restaurants become modern, eye-appealing overnight through exterior and interior remodeling with Genuine Masonite Tempered PRESWOOD. Its enduring grace makes it the surface for those exacting people who demand beauty combined with economy and dependability. • There are countless other uses for these amazing boards, both inside and out. They come in 1/8", 3/16", and 1/4" thicknesses. Can be installed by regular carpenter with speed and efficiency. PRESWOOD's warm-brown finish produces an effect beautiful in itself, or it can be varnished, painted or enameled with any standard application. Light, durable, moisture-proof and grainless, it will not warp, chip, split or crack. • Find out how Masonite Tempered PRESWOOD can help you. Write for a free sample. Masonite Corporation, 111 W. Washington St., Chicago, Ill.



**GENUINE
MASONITE TEMPERED PRESWOOD**
QUARTRBOARD • TEMPRTILE • CUSHIONED FLOORING • STRUCTURAL INSULATION



a house is **AS YOUNG
AS IT'S ARTERIES!!**

THE arteries of any building are its plumbing or heating conducting system. Upon their perfect operation depends the maintenance of comfort and convenience in living conditions that any home owner or tenant has the right to expect. The handsome and ultra modern bathroom and kitchen fixtures so much in vogue today can only reach their maximum efficiency if the service they render is in keeping with their design. Their smooth, trouble-free operation must not be impaired by rust-stained, slow running water and clogged pipes.

A BUILDING MAY BE YOUNG IN APPEARANCE, BOTH INSIDE AND OUT—BUT WOEFULLY ANCIENT IN ACTUAL CONVENIENCE. IT IS, AFTER ALL, AS YOUNG AS ITS ARTERIES.

A radiator may be the last word in design but if installed with a piping system that in a few short years will rust, leak and clog will gradually fail in its function as an efficient heating unit.

An installation of STREAMLINE Copper Pipe and Fittings will maintain these modern fixtures in perfect working capacity year in and year out. It will put new life in old buildings and add the latest improvement to new structures. This threadless, rust-proof, clog-proof and leak-proof copper system for plumbing or heating is revolutionary and will actually outlast the building itself. It costs very little more than corrodible materials which sooner or later must be replaced.

Real estate operators are using STREAMLINE Copper Pipe and Fittings both in new homes and the reconditioning of old buildings of all kinds. They find it a distinct help in renting or selling. Building managers are finding it their solution to keeping satisfied tenants.

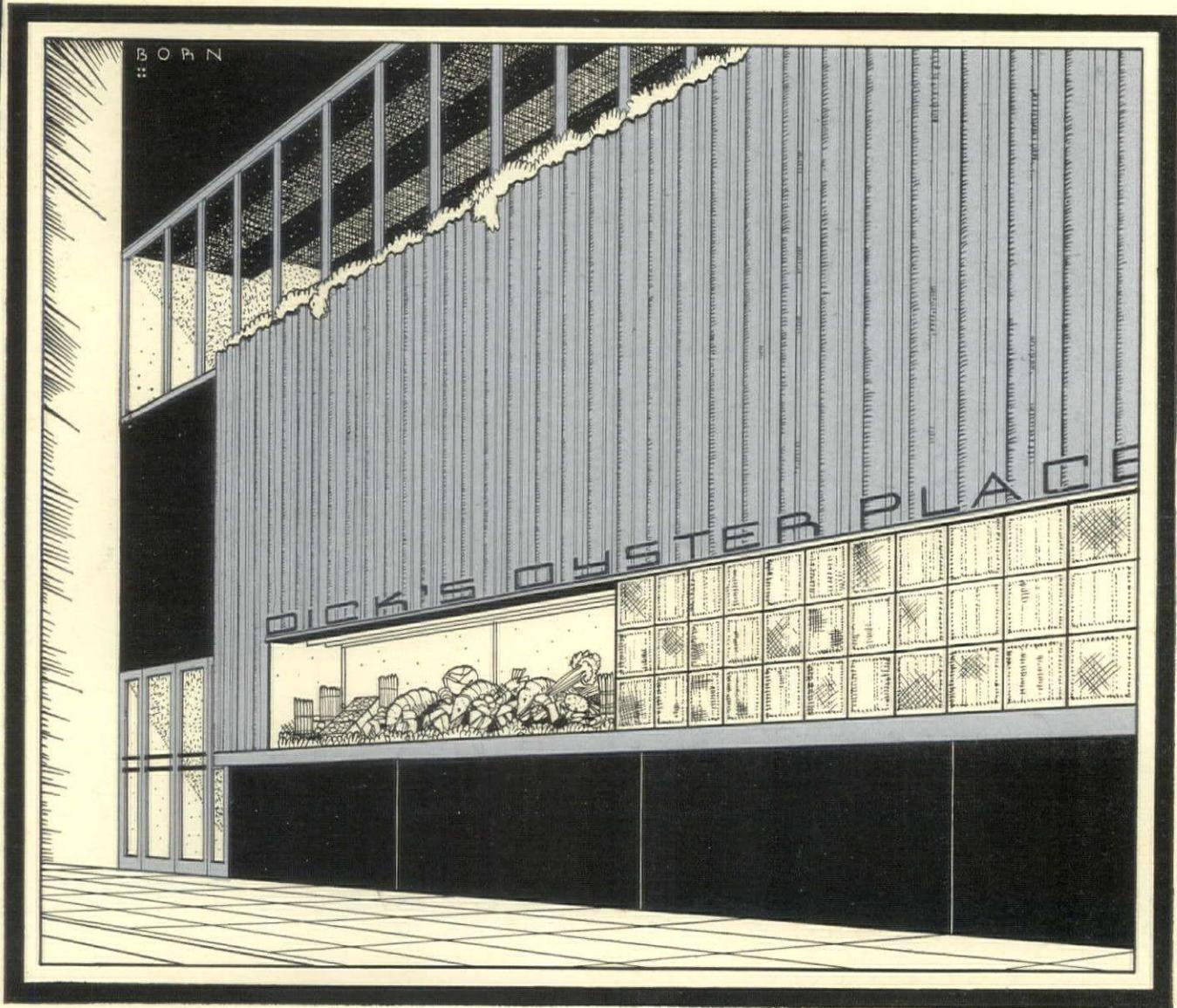
77% OF ALL SOLDER TYPE FITTINGS INSTALLED LAST YEAR IN BUILDINGS OF EVERY KIND THROUGHOUT THE UNITED STATES WERE STREAMLINE FITTINGS.

The STREAMLINE Fitting is the original solder type fitting and the only one that possesses the valuable proof ring feature constituting VISUAL evidence of a leak-proof, perfectly bonded joint, without an actual pressure test.

May we send you a list of recent prominent STREAMLINE installations?

VISUAL
PROOF

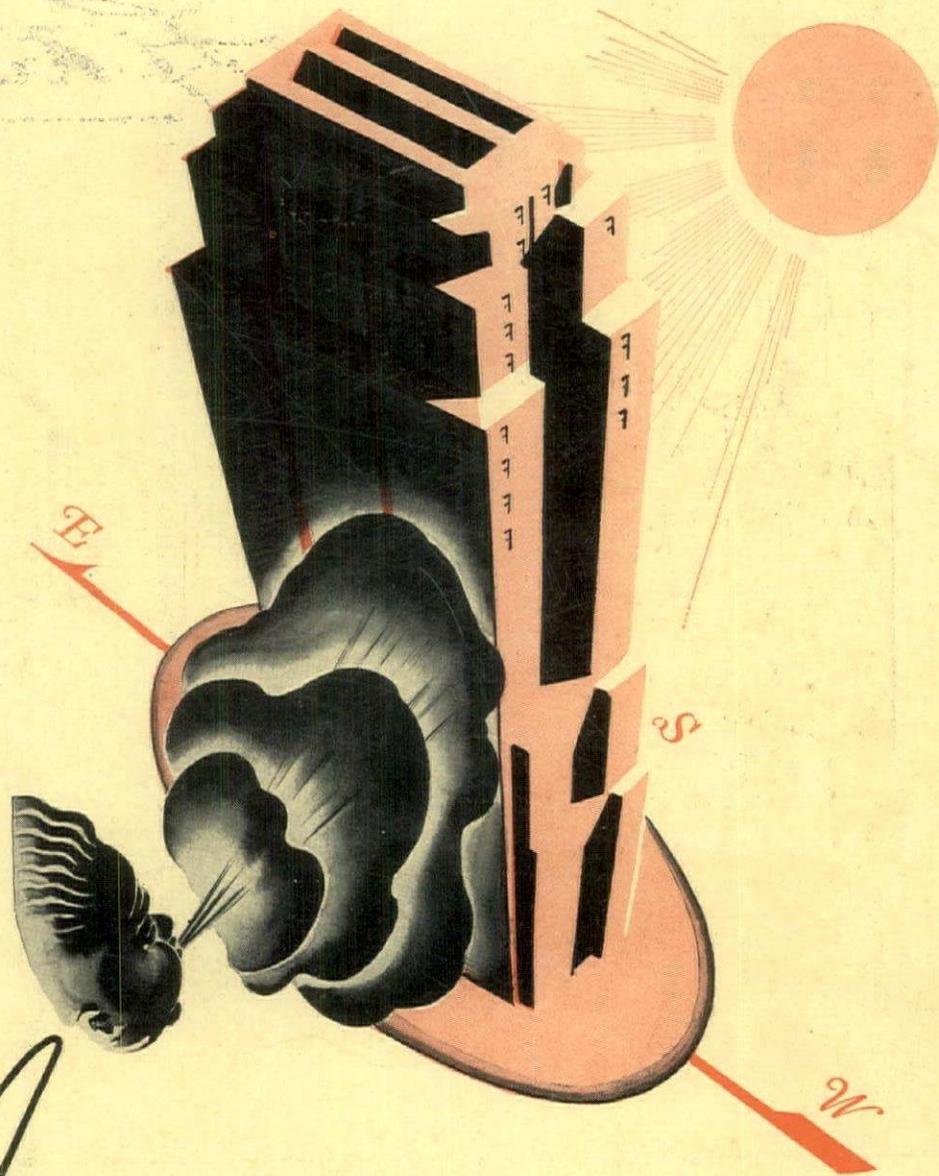
**STREAMLINE
PIPE AND FITTINGS**
PORT HURON, CO. MICHIGAN
DIVISION OF MUELLER BRASS CO.



BOTH UTILITARIAN AND DECORATIVE

The incomparable versatility of extruded Alcoa Aluminum is a fertile source of structural economy and of decorative splendor ★ Wide, extruded shapes, butted side by side, give this facade texture, brilliance, exceptional advertising value ★ Doors and windows employ extruded shapes in the usual structural manner ★ Several thousand standard shapes are available; special shapes may be produced at very reasonable cost ★ Aluminum Company of America, 1866 Gulf Building, Pittsburgh, Pa.

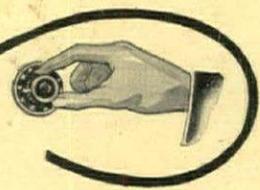
ALCOA  ALUMINUM



Announcing

HOFFMAN * TALLMADGE

Zoned
CONTROLLED HEAT



The Hoffman Specialty Company has acquired the selling rights to the Hoffman-Tallmadge System of Zoned Controlled Heat . . . a revolutionary type of system proved in many large heating installations to produce extraordinary fuel savings and add materially to tenant comfort.

By means of precisely orificed heating units, and accurate control of steam supply to definite heating zones, complete adjustment is provided for the variation in heating requirements due to exposure factors, type of occupancy and altitude of the building. This System does not depend on complex, costly equipment; hence installation and operation are simplicity itself. It is adaptable—at a cost quickly liquidated by fuel savings—either to the remodeling of existing systems or to new installations. Full information, and detailed data on systems now in operation, will be furnished upon request.

HOFFMAN SPECIALTY CO.
DEPT. AF-13, WATERBURY, CONN.

Some of the well-known buildings in which Hoffman-Tallmadge Zoned Controlled Heat is now installed: Bush Terminal, Brooklyn (one of the world's largest heating installations), Graybar Building, Lincoln Building and McGraw Hill Building in New York City, Christian Science Publishing Building, Boston.

Also Makers of Venting Valves, Traps, Supply Valves and Hoffman Economy Pumps—sold everywhere by leading wholesalers of Heating and Plumbing Equipment