THE

## ARCHITECTURAL

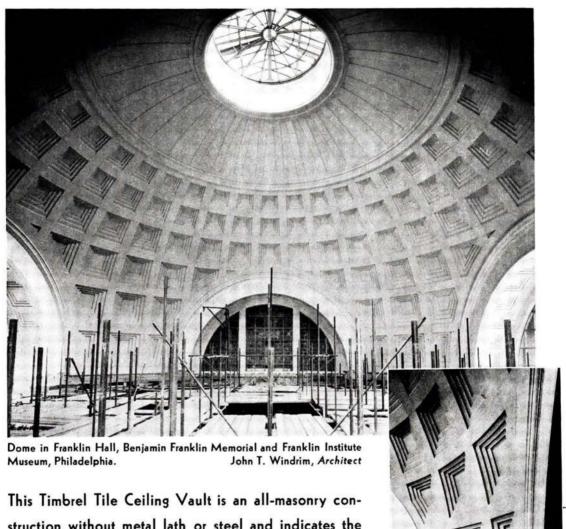
# RORUM

INCLUDING "BUILDING MONEY"

DECEMBER, 1934

LESCAZE CITY HOUSE.. INDUSTRIAL ART.. KNICKERBOCKER VILLAGE.. H. A. B. S. DETAILS

## ACOUSTIC MASONRY



This Timbrel Tile Ceiling Vault is an all-masonry construction without metal lath or steel and indicates the use of Guastavino Timbrel Tile Ceilings with cast AKOUSTOLITH coffers in units as large as 6' 8", indicating possibilities of design and permanency. This construction also offers possibilities of color and texture in addition to its sound absorption qualities.

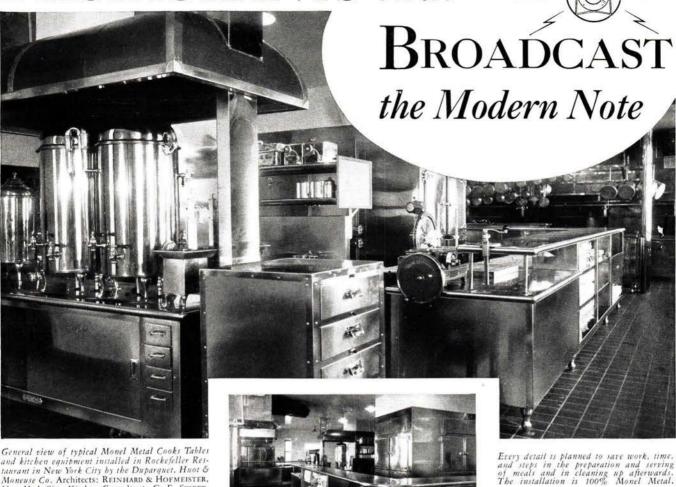
## R. GUASTAVINO COMPANY

500 FIFTH AVENUE, NEW YORK, N. Y.

40 COURT STREET, BOSTON, MASS.

R. GUASTAVINO CO. OF CANADA, Ltd., Architects Building, Montreal, P. Q.

## Restaurants that



General view of typical Monel Metal Cooks Tables Seneral view of typical Monel Metal Cooks Tables and kitchen equipment installed in Rockefeller Restaurant in New York City by the Duparquet. Huot & Moneuse Co. Architects: Reinhard & Hofmeister, New York City. Kitchen Consultant: G. E. Sweet. General Contractors: Hegeman Harris Co.

### Rockefeller Center's main kitchen features all the latest improvements in Monel Metal

JUST as Rockefeller Center over-shadows every other building devel-opment in New York . . . so, too, the Rockefeller Center Roof Restaurants overshadow every other eating place in the development.

The kitchen illustrated above serves as main kitchen for "The Rainbow Room" and "The Patio" (two dining and dancing establishments); The Rockefeller Center Luncheon Club, which utilizes the entire 65th floor from 11 to 3 daily; and private dining rooms (located on the 64th floor) which serve the following corporations: Westinghouse, Standard Oil of New Jersey, Shell Union, Rockefeller Foundation, Radio Corporation of America

and American Cyanamid Company. Judged by its efficiency, this kitchen rates absolute top. The Architects (REINHARD & HOFMEISTER) and their

Consultant (G. E. SWEET) have planned every detail of layout and arrangement so as to save effort, facilitate the preparation and serving of food, and speed every movement of cooks and waiters.

Every part is Monel Metal. Surfaces that must stand wear, the constant abrasion of stacks of dishes and heavy pots and pans. Edges and corners that must take shocks and bangs and bumps. Shelves and tables that must never rust,

Monel Metal is a registered trade-mark applied to an alky containing approximately two-thirds Nickel and one-third copper.

MONEL METAL Solely by International Nickel.

These kitchens serve public dining rooms on the 65th floor, and private dining rooms of six large corporations located on the 64th floor. Naturally every detail of equipment has to be absolutely top quality and most modern. All equipment installed by Dupar-quet, Huot & Moneuse Co., New York, N.Y.

that must withstand contact with foods of all sorts, that must be easy to clean.

Monel Metal, alone, of all the materials tested showed a combination of all these qualities in the highest degree. It is strong, as strong as mild steel. Tough. Solid; no

coating to wear off or peel away. And by every test of popularity, it is today's most modern material.

Have you on hand the latest Monel Metal catalogs and literature? It's worth sending for, worth reading. Write for it.

THE INTERNATIONAL NICKEL COMPANY, INC.

67 WALL STREET

NEW YORK, N. Y.

## Monel Metal

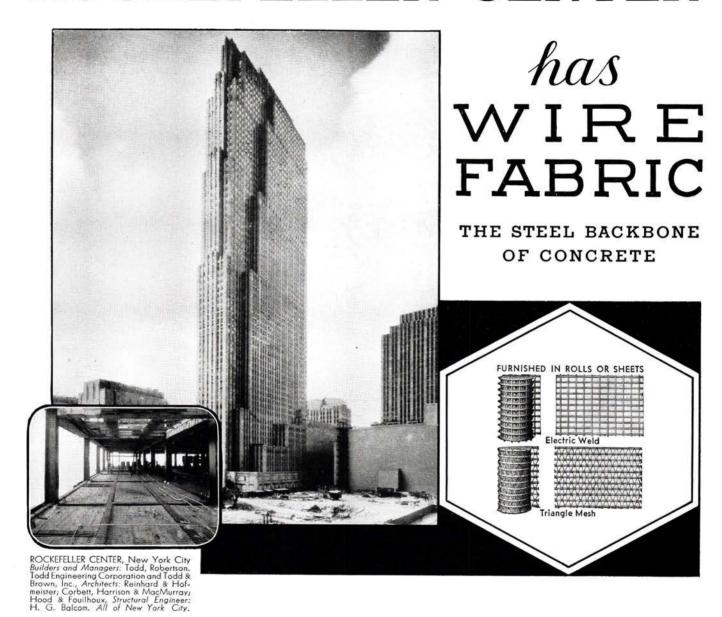
THE ARCHITECTURAL

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VOLUME LXI

## ROCKEFELLER CENTER



On a site covering three blocks in the heart of New York City—several structures are moving skyward. These buildings bear the name of Rockefeller Center and when completed will set a new standard of beauty and usefulness. It is significant that the architects chose cinder concrete floor slabs reinforced with American Steel & Wire Company Wire Fabric to make them fire

proof and load proof. This is but one of many current examples that definitely indicate the trend in concrete floor slab construction. American Steel & Wire Company Wire Fabric is made of cold drawn high yield point steel. Its use gives greatest efficiency with low installation cost since it is easy to handle. Additional information furnished upon request.

1831 MORE THAN 100 YEARS PROGRES



## AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago 94 Grove Street, Worcester SUBSIDIARY OF UNITED STATES STEEL CORPORATION

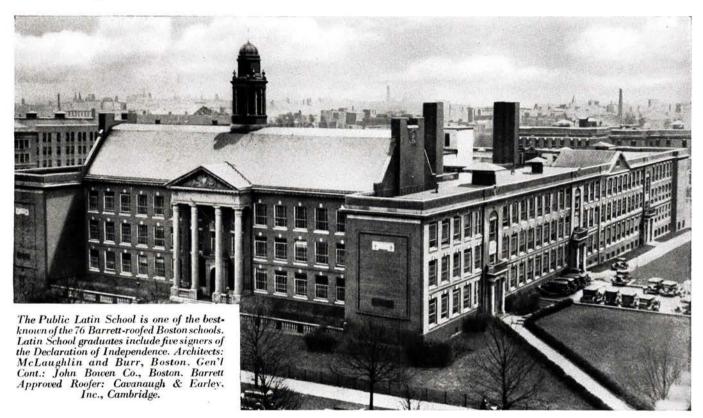
AND ALL PRINCIPAL CITIES

Empire State Building, New York First National Bank Building, Baltimore

Pacific Coast Distributors: Columbia Steel Company, Russ Bldg., San Francisco

Export Distributors: United States Steel Products Company, New York

# 76 BOSTON SCHOOLS are protected with BARRETT ROOFS



Boston is justly proud of its famed school buildings, and Barrett is proud of its record of 76 Barrett Roofs which have been applied on them. Year after year, in scores of communities, Barrett Roofs are selected to protect new buildings . . . and old ones as well. No other roof, it seems, so completely satisfies the exacting requirements of school roof construction.

Barrett Specification Roofs provide the maximum of fire-safety—they carry Fire Underwriters' Class A Rating. They provide, also, the maximum of expense-free, trouble-free service at the lowest cost per year. They are bonded against repair and maintenance expense for periods up to 20 years, and built to outlast the term of their bonds by many years.

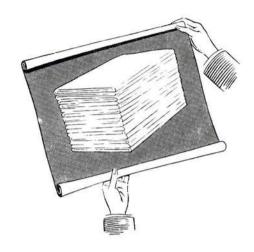
These are factors which appeal particularly to school boards anxious to give taxpayers the most value for their money. Consult with us or your local Barrett Approved Roofer on any roofing or waterproofing problem.

THE BARRETT COMPANY • 40 RECTOR STREET • NEW YORK, N. Y. 2800 So. Sacramento Ave., Chicago, Ill. Birmingham, Alabama

■ Eighty years of progress in roofing materials and roofing construction ... 80 years of time-tested performance and economy . . . make Barrett Roofs a sound investment in proved value. Roofing, reroofing and repairs, the Barrett way, eliminate roof problems from any building or remodeling program.

## RECOVER RIGHT WITH

Barrett
ROOFS

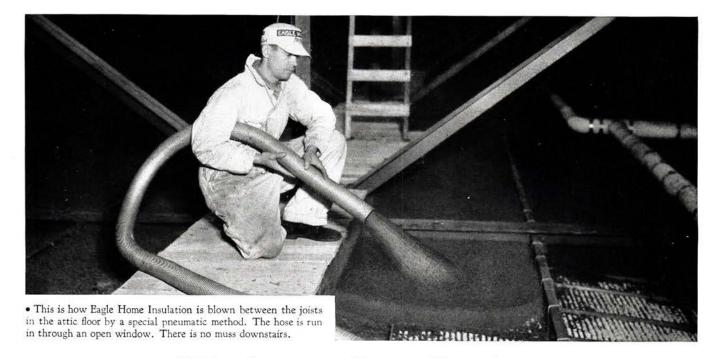


## WHITE LINENS WERE THERE IN

THE BLUE PRINTS... A New York hotel has its laundry department three floors below street level. A Pittsburgh club building houses its laundry six stories above the sidewalk. A Chicago hotel's multi-story laundry is thirty blocks away. A 25-bed clinic in the middlewest enjoys every big-hospital laundry advantage. Four widely different institutions, yet all of their clean-linen problems were solved in the blue prints by their far-seeing architects.

● Institutional laundry problems, today, are more complex than ever. Operating procedure is different. Machines and their driving mechanism have been simplified. Equipment requires less floor space. Large laundries fit small dimensions. That is why "American" engineers are so often privileged to collaborate with architects in the design or re-design of laundry departments. When your specifications reach into the laundry field, a letter will bring a trained engineer to your offices at once. His confidential services will not obligate you in any way. THE AMERICAN LAUNDRY MACHINERY COMPANY • CINCINNATI, OHIO





## "To be really effective, INSULATION MUST BE THICK"

"What is the best insulation?" A great deal of technical research has been done to find the answer

The answer itself is simple and definite. All authorities come to the same conclusion. The best insulation is thick insulation. Not half-an-inch thick. Not one-inch thick. But full wall thickness.

Eagle Home insulation provides this "wall-thick" insulation at moderate



· No building alterations are necessary when Eagle Home Insulation is installed. To gain access to hollow spaces between wall studdings, operator removes a few pieces of siding, or a few bricks, or makes small openings in stucco.

**Eagle Home Insulation gives your clients** wall-thick insulation at moderate cost



· Eagle Home Insulation is also available in "bat" form for new construction. These bats, or pillows, are 15" by 18" and 35%" thick. Easy to fit between wall studdings and attic joists.

cost. Eagle Home Insulation is a soft, fluffy "wool" that is made from rock. It is blown between the joists in the attic floor and into the hollow spaces between wall studdings by a special pneumatic process. It packs evenly and will not settle. Trained operators do the work. In most homes the complete job takes from one to two days. No building alterations are necessary. And there is no mussing up inside.

U. S. Burea tests give Ea lation the exceptionally low conductivity rating of 0.27 (at 103° F. mean temperature). In ordinary wall thickness (35/8")

Eagle Home Insulation has the insulating efficiency of a solid concrete barrier eight feet thick!

For complete data, see catalog in Sweet's. For free sample, send coupon.

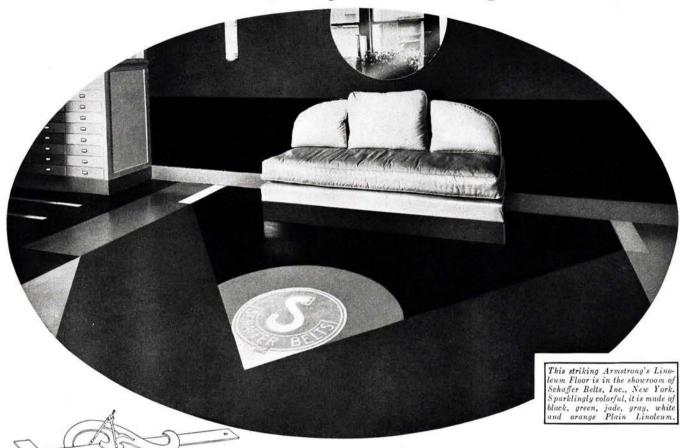


· Giving Eagle Home Insulation the fire test. Even when subjected to the flame of a blow torch, it does not char or burn. By filling hollow walls which ordinarily act as flues once a fire starts, Eagle Home Insulation provides real protection against the fire hazard.

au of Standards gle Home Insu-	<ul> <li>The Eagle-Picher Lead Company, Dept. AF12, Cincinnati, Ohio.</li> <li>Picase send me free samples of Eagle Home Insulation.</li> </ul>
	Name
ATION	Address
	CityState

## EAGLE HOME INSUL

## Have you been overlooking this versatile medium for floor designs?



#### VERSATILE

You can have a free hand with Armstrong's Linoleum . . . can make the floor a definite element in the design of the interior.

#### DURABLE

Armstrong's Linoleum resists wear, even where thousands of feet tramp over it daily.

#### PRACTICAL

It's a sensible floor in every way. Being resilient instead of hard, it is comfortable and quiet underfoot. And the exceptionally smooth, impervious surface makes Armstrong's Linoleum easier to clean.

#### **ECONOMICAL**

You won't have to eliminate some other feature your client wants in order to install Armstrong's Linoleum Floors. They cost no more than other fine floors—often not as much!

## SATISFACTORY INSTALLATION

Trained layers are employed by Armstrong Floor contractors everywhere, assuring you of careful rendering of your design and proper installation. YOU can have a free hand in designing floors of Armstrong's Linoleum. Any floor you can lay out on your drafting board can be faithfully reproduced in this versatile medium.

But that's only half the story. Armstrong's Linoleum has many other definite advantages seldom found in a single flooring material. It's economical—costs less than other types of fine floors. It's easy and inexpensive to keep in perfect condition—and your clients will like that! It wears and wears, and doesn't show it. Even where

traffic is heaviest, it takes only a washing with mild soap and waxing with Armstrong's Linogloss to maintain its sparkling beauty.

If you want the 1935 Armstrong Pattern Book showing the complete line of designs and colors, drop us a note on your letterhead. A list of local Armstrong Floor contractors will also be sent for your files. Armstrong Cork Company, Floor Division, 1203 State Street, Lancaster, Pennsylvania.

See Sweet's Catalogue File for colorplates, specifications, and other details.



## Armstrong's

## LINOLEUM FLOORS

LINOTILE ~ CORK TILE ~ ACCOTILE ~ RUBBER TILE ~ LINOWALL

## LETTERS

### The Forgotten Naught

Forum:

. . . In reading over your very interesting story of Rockefeller Center, I find what appears to be a mistake in your figures. . . . Where you say "Thus a table of total charges against the property would read something like this:

Rent		į		×			,			. \$	3,100,000
Operating											
Taxes											
Interest											
											6 495 000

In the preceding paragraph you say "Besides there is interest of 5 per cent a year on the \$65,000,000 mortgage held by the Metropolitan Life Insurance Company." This interest, to my way of calculating, amounts to \$3,250,000, whereas you have listed it at \$325,000, a difference of no less than \$2,925,000 per year.

C. S. Brown, Jr., Vice-President Brown, Wheelock, Harris & Co., Inc. New York

Forum:

... Interest on the Metropolitan's \$65,000,000 mortgage at 5 per cent per annum is given as \$325,000. Is it possible that the Rockefellers used the same kind of calculations in showing that the project was self-supporting?

ROBERT C. HAZARD, Vice-President John K. Culver, Inc. Baltimore, Md.

To every magazine there comes a time when it is guilty of an error of such proportions as that referred to in the above letters. In careful checking for subtle errors to maintain customary Forum accuracy this perfectly obvious omission of a zero was overlooked. The corrected figure indicates an estimated current annual loss of between \$4,950,000 and \$5,450,000. To Messrs. Brown, Hazard, and the numerous others who caught the error, thanks and to all FORUM readers apologies. — Ep.

#### Rented Goelet

... "Patiently waiting for an overflow, the Goelet Building, completed 1930, 90 per cent vacant."

I am quite at a loss to understand why you should publish such a grossly inaccurate statement. The Goelet Building is nearly 80 per cent occupied, and has been for some months, and I feel you ought to give this statement the same publicity that you have given the other statement.

H. O. WEAVER

Estate of Ogden Goelet New York To the Goelet Estate our sincere regrets. A hitherto reliable source of information will no longer be used. To the Building Money staff two rebukes. Three is out!—Ed.

#### Acoustics

Forum:

In a recent issue, in describing a Georgian type house, is the following statement:

"For the interiors, an acoustic wallboard, homasote, was used instead of plaster as a base for papering and paint-

For any wallboard to be termed "an acoustic wallboard" it would mean that it was capable of absorbing sound. In order for any material to absorb sound, it must be directly exposed to the sound. It is not possible to cover it with either paper or painting, unless same is perforated so that the sound can get through the paper or paint surface and thus be absorbed within the material.

Therefore it is self-evident that it would be a physical impossibility for a material to be known as "an acoustic wallboard" which could be used as a base for papering and painting.

I want to take this opportunity to compliment you on the various improvements that you have made in your magazine. The Building Money section is especially interesting. All of which is an indication that in times of depression we all make greater efforts to find a way to render a better service, so that the whole building industry should now be in a position to render a continually increasing better service to all with whom they come in contact.

F. E. Berry, Jr.

Boston, Mass.

### FHA

Forum:

I have been very much interested in the campaign of stimulating advertising that Time and The Architectural Forum have been running periodically in Time. Such helpful efforts will assuredly be beneficial to the objective of the Federal Housing Administration and to business generally.

The constructive attitude which The Architectural Forum has displayed toward the Better Housing Program from the very beginning is appreciated. I sincerely hope that you will continue to lend it your effective support and believe you will find a responsive interest among your read-

> James A. Moffett Administrator

Washington, D. C.

#### Function, Precision, Passion

Forum:

I was - late at night - reading your article in the October issue of The Forum and do not wish to wait until the morning to dictate a letter. . . .

"Contrary to popular belief the suppressed classes of our world today are as avid for beauty as ever but they have for so long done without, that they have become incapable of articulate demand." This indeed is the fundamental difficulty: to regain the immediate enjoyment of design in practical and spiritual use instead of the highbrow enjoyment of the archæologically trained or the subscriber of the architectural fashion magazine. Fortunately there are, as I found, quite a few men and women who have an unspoiled freshness to enjoy without special intricate guidance and not by inert and worthless maladjusted imitation.

. . . I believe I have cared so much about the real truth in this matter that I spent my life in patient preparation for the moment when I found one little thing real to pass on to others, as you say.

RICHARD J. NEUTRA

Los Angeles, Calif.

Forum:

. . . I have read this article with great interest. The ideas expressed by Mr. Cox seem to me to be pertinent and expressed in a persuasive manner. Naturally, I do not agree with all of his ideas, and I am especially out of sympathy with his interpretation of architectural history, but these things do not prevent me from a keen appreciation of his thesis as a whole.

Joseph Hudnut, Dean

Columbia University New York

Forum:

. . . May I say that I think Mr. Cox lets rhetoric run away with him? It may sound well to say that Michelangelo, Rembrandt and Beethoven had mad souls but the fact is that they were three of the most magnificent craftsmen the world has known and saner men it would be hard to find if we regard their art. Nor did they with one magnificent gesture" throw overboard, etc., etc., "and stated the epochal theorem that the whole purpose of art was to express the anguish and despair of the artist." They threw nothing overboard. They built on solid experience when it came their turn and time to create. Nor did such men state theorems, epochal or otherwise. They were too busy for such foolishness. Mr. Cox reads into the psychology of other epochs the self-consciousness of the present era.

I could go on, but I have said enough to indicate my general impression of the whole article. In nearly every paragraph I find some statement that all my experience, all my reading, rejects. "Mutual self-admiration!" How can self-admiration be mutual? The artist, the real artist, will continue to dispense with "a statistic of psychology" whatever that may mean. One of the troubles with artistic matters of the present day is that there is too much blurb about it, too much talk and not enough of the sweat of the conscientious artist. Too many try to get away with talk instead of performance. And the critic must be careful.

H. VAN BUREN MAGONIGLE

New York

The word mad was not used to connote in-sanity, but to mean "aroused or controlled by intense emotion, especially when leading to abnormal or excessive manifestation" (Webster's New International Dictionary). These letters constitute, in a small way, a "statistic of psychology."—ED.

## LETTERS

(Continued from page 7)

### **Understanding Tradition**

Forum

It is not easy for me to offer an opinion on Mr. Leonard Cox's article Function, Precision, Passion, because I do not know whether to trust to the extremely sympathetic impression that I derived from it as a whole, or whether to question its conclusions in view of a brief but very important passage in which the writer seems to me fundamentally in error.

The condemnation both of excessive individualism and of the self-sufficience of the academies is criticism very much to the point; and the description of the low estate to which most modern art has sunk is perfectly just. The ideals expressed on the last page of the article are, I think, so close to what must be striven for amidst the near chaos of the present time that I should feel safe in trusting the judgment that formulated them, were it not that ideals must be checked up through specific examples. And when I come back to the sentence that treats Michelangelo, Rembrandt and Beethoven as possessed of "mad souls" I cannot but think that Mr. Cox is breaking with the surest of our tradition, even while accusing those artists of snapping its thread, as he does in his next paragraph.

The four centuries since Michelangelo's rise to fame have been almost unanimous in acclaiming him; only less complete, but still increasing in strength, has been the sanction of Rembrandt's genius - both by simple and by learned men, during the three centuries since his maturity. Such lengths of time and such esteem surely constitute tradition. If the hundred years since Beethoven's death are not sufficient to place him in the same position, then I can only fall back on the opinion of the best judges I know who, on hearing a Toscanini or a Schnabel interpret the works of Beethoven, are led without a break along the line carrying us to Mozart, to Bach, and to the men before him.

That is the other, and better, way of determining tradition, which, if understood in its entirety, gives us our judgment of all art. When I say "in its entirety" I mean that tradition has one phase - probably its most important one - which is too often overlooked: that of renewal, by virtue of elements not used before. The art which has been most of all placed in a position of authority, the Greek, gives the clearest example of adding to the range of its predecessor, the Egyptian, whose tradition is incomparably longer and more consistent than any other. Even within Greek art, I believe that the separation between the great archaic works at Delphi and those of Scopas — to go no further — is as great as that between a Michelangelo and the Laocoön which he studied. A Rembrandt portrait and one from the Fayoum corroborate each other by their sense of humanity and character, while a composition like the Syndics seems to me to be precisely as inevitable in the salience of the figures from the background and in their relation to one another as is the pediment of the Parthenon.

About Beethoven, the best words I know are those of Delacroix who, after noting the way in which the earlier masters are followed during the composer's first period, traces his development into the complete grandeur of his prime. If the painter acknowledges himself puzzled by the evolution of Beethoven's latest work, he has faith that, with more time, men will find that all the difficulties disappear, remarking "One must always bet on genius." With more of that spirit I think that we shall find the logic of the modern period as demonstrable as Mr. Cox finds the evolution from the basilica to the cathedral. What is needed is less a matter of abstract ideals (on which, I repeat, I am probably in agreement with the writer) than a constant and intelligent study of what is going on. If one has that, one need not fear to mistake imitation for creation, or self-glorification for the continuance of life through the unchanging principles that the artist arrives at — individually or collectively - according to his epoch.

WALTER PACH

New York

Great these three men undoubtedly were. Nevertheless they first introduced the purely personal in the work of art and, so far, broke with tradition. — Ep.

#### **NHA Bulletins**

Forum:

We wish to compliment your firm on the splendid Bulletin on the plans of the new NHA loans for the building industry which was sent to us by the Upson Co.

Kindly enter our subscription for a year to your magazine and send us six more copies of this article and bill same with the magazine. (Please mail at once as we intend to start our campaign to secure some of this business by running a quarter page ad next week in the local newspapers based on these facts.)

A ONE BUILDING MATERIAL Co., INC. Evansville, Ind.

A new bulletin on Titles II and III of NHA is now available at 5 cents each. — Ed.

#### **Great Nichols**

Forum:

I am especially pleased to note that you have given the Nichols development the kind of write-up it deserves [October, page 302]. Clyde Nichols is one of the greatest.

Hugh Potter, President National Assn. of Real Estate Boards

#### Ass in Lion's Skin

Forum:

I am very much impressed by the way The Forum is produced today, but not so much by the way you treat the architecture of today.

On page 336 of your May issue you refer to an "International Style." I doubt very much whether your term is correct at all. If so, then you have to admit the existence of some national style in architecture. There exist styles as Renaissance, Baroque, Gothic, etc., and we know Italian, French or German Renaissance just as with other styles. They all form part of Italian, French or German architecture. Only a layman can speak of "French Style," because strictly speaking, this term doesn't indicate anything. I consider it as an insult to call the international architecture of today just a style. It isn't a new make-up or a mode as 90 per cent of people think (as they do think of architecture in general).

I wish you could illustrate that the architecture of today as the result of the progress in the building industry isn't merely a skin-deep style (or even plastered on).

It is notable how many clients, through their architects, imitate buildings which are centuries old, although supplying those with G. E. kitchens, plumbing fixtures of the latest models.

I wonder that nobody yet has degenerated enough in his romanticism as to prefer to cross oceans in old sailing ships and supply them with a system of sirocco fans in order to keep sails in proper shape through all weathers, just the way he has seen them on pictures and in his dreams.

Mr. F. L. Wright has spared few words for these make-ups, they are:

"An ass in lion's skin."

Andrew Scherbinin

Buenos Aires, Argentina

The phrase International Style is used by nearly all critics of the architecture of today to describe a certain type of design. Until a better term is devised it will have to suffice. — Ed.

#### **Two Cheers**

Forum:

This was the best and most comprehensive article I have ever read of its kind. (Phenomenon of Exploitation, The Architectural Forum, October, 1934, pages 292–298 inclusive.) It should be published separately and placed in the hands of every real estate factor.

FRANK LORD

Cross & Brown New York

Forum:

Your magazine is great, especially the London section. The way it is bound is a great help as it will lay flat while it is being used. We have some of the modern stuff and your book has been a big help. . . .

R. MARION PRICE

Sarasota, Fla.

## THE NEW CATALOG OF

EXTRUDED

BRONZE

SHAPES

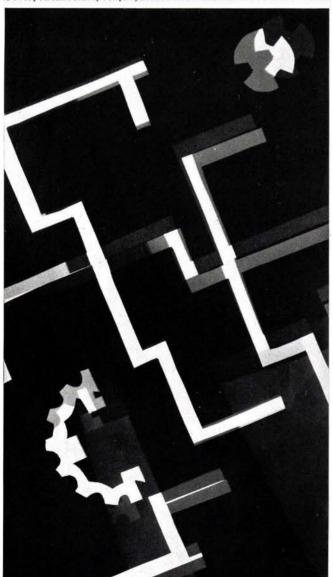
by

## CHASE

· · · · IS JUST OFF THE PRESS |

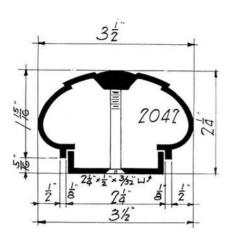


**ACKNOWLEDGMENTS**... for more than ten months Chase has been collecting photographs and drawings that would be helpful in explaining the varied uses of extruded shapes. In this work we are deeply indebted to many architects, specification writers and draftsmen whose suggestions, information and help were freely given to us. With their assistance we have been able to produce a book that we believe will be of great help to every Architectin specifying Bronze and Nickel Silver in extruded forms.

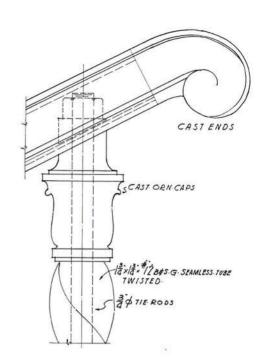


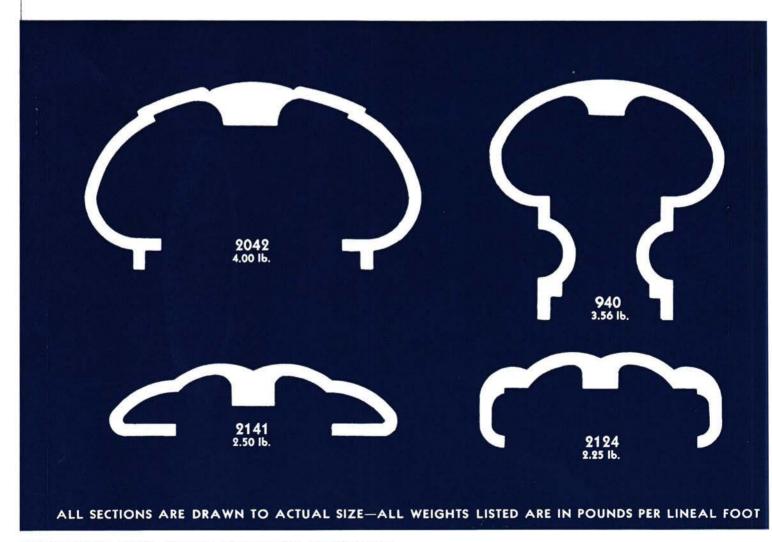
## HANDRAILS





NOTE: when hand rail sections are to be bent or curved be sure to specify material as fully annealed.

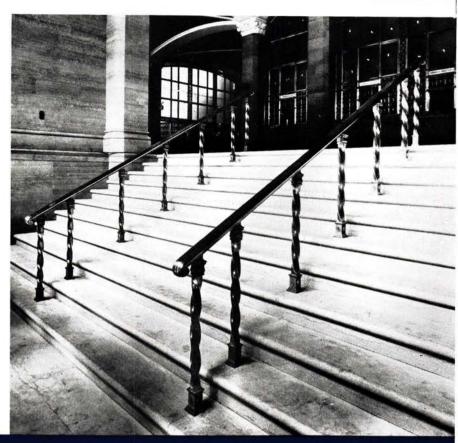




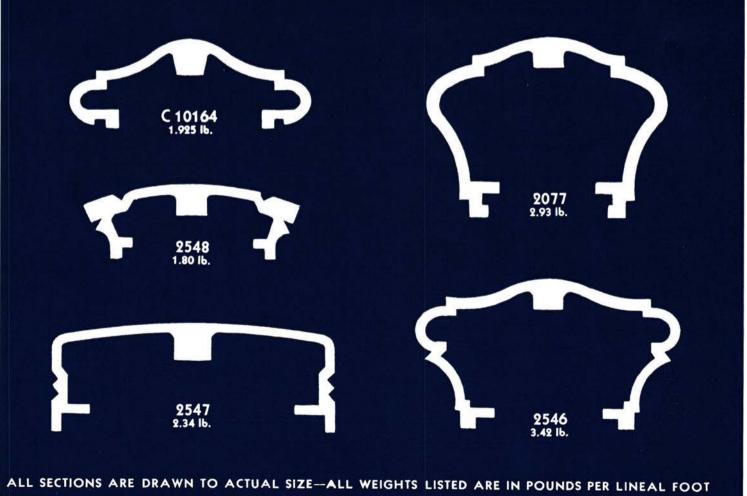
### WHAT THE NEW CHASE CATALOG CONTAINS

Full size sections of over 600 Architectural Extruded Shapes are illustrated, also photographs and detail drawings of actual installations. A typical spread from this catalog is reproduced on these two pages. The new spiral binding has been used so the book opens flat and stays open.





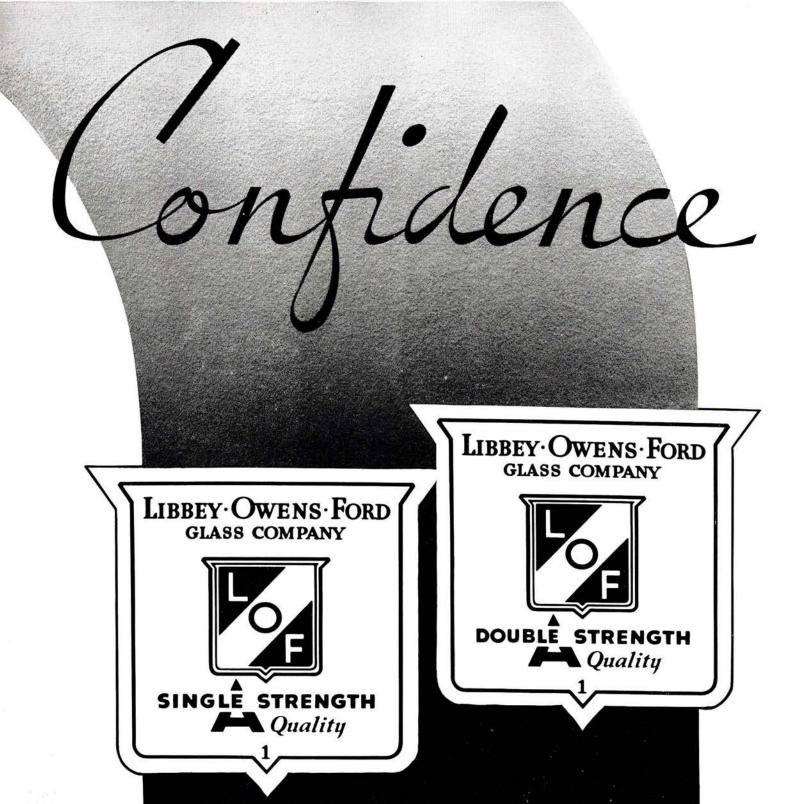
This photograph shows the hand rail on an entrance. This rail illustrates the use of Chase Standard Shape No. 2042 shown below. The detail drawing is on page 1.



HOW TO GET A COPY

Distribution of this book is necessarily limited to those architects requesting it. If you would like a copy write to the

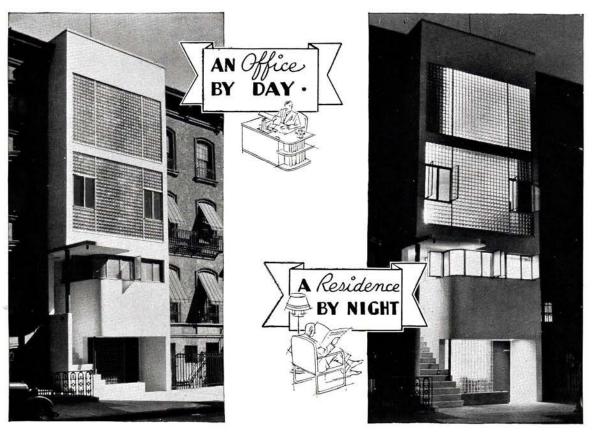
CHASE BRASS & COPPER CO., WATERBURY, CONNECTICUT



● As glass becomes more and more a major material of construction, quality becomes increasingly important. That is why a closed specification for L·O·F products assures complete satisfaction to both architect and client. For your protection, it is advisable to instruct contractors and builders to leave the labels on each light until final inspection has been made. Libbey Owens Ford Glass Company . . . Toledo, Ohio.

## LIBBEY · OWENS · FORD QUALITY GLASS

# A DOUBLE-SERVICE Building



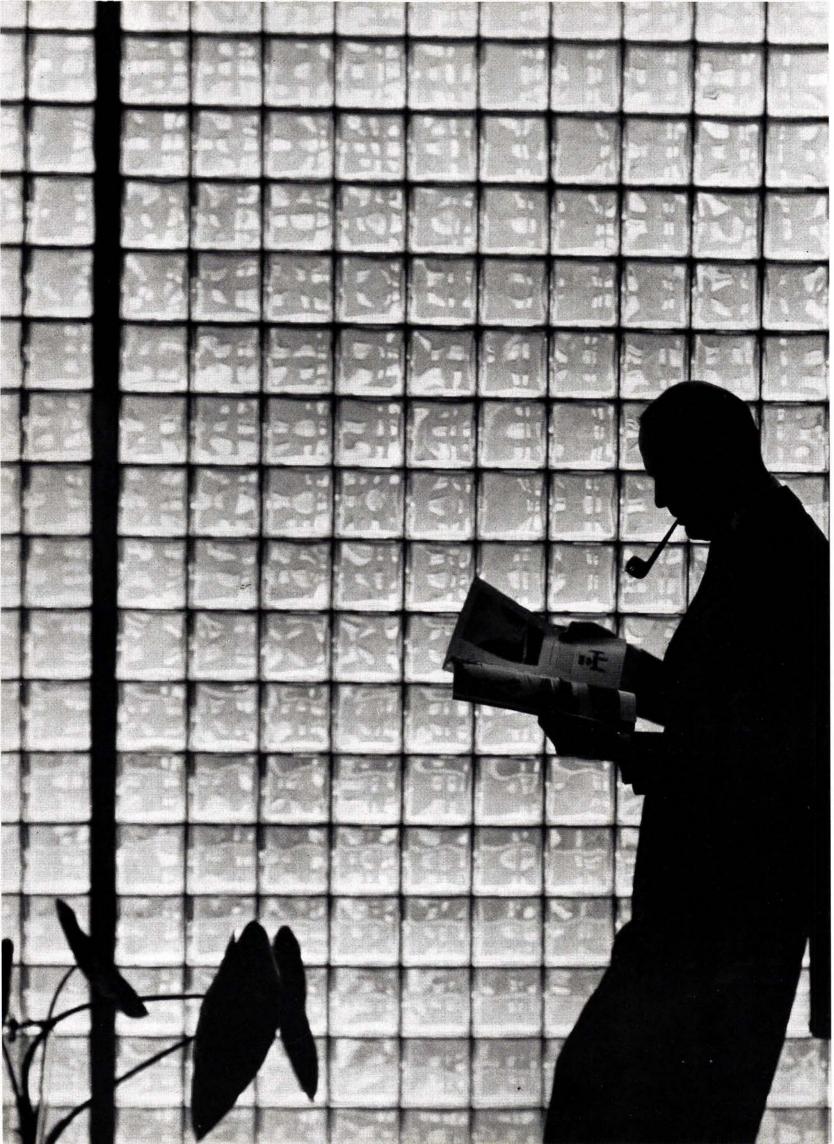
# with JOHNSON "TRIPLE SERVICE" REGULATION

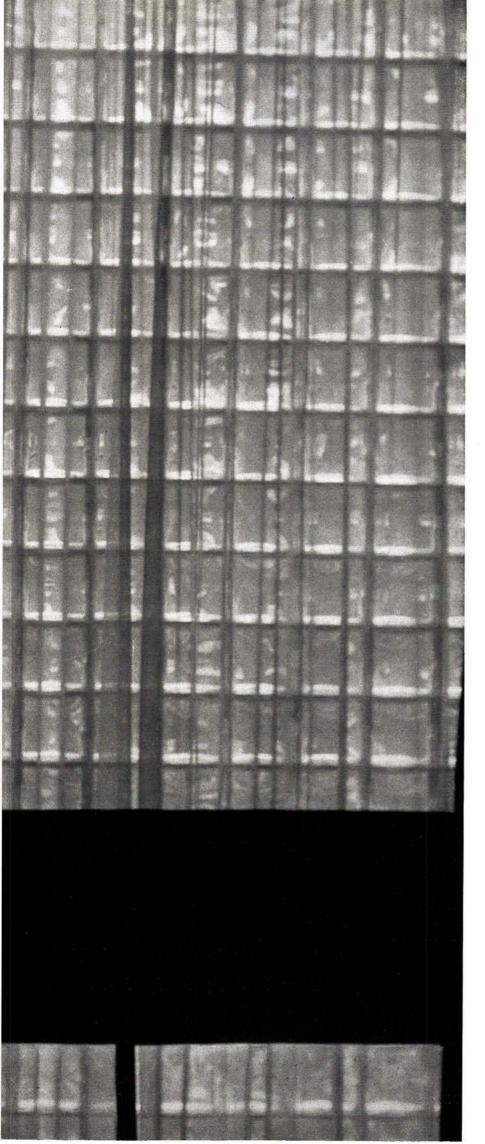
This studio-residence is thoroughly representative of modern trends in building design. JOHNSON systems of automatic temperature and humidity control are equally in tune with modern heating, ventilating, and air conditioning practise... Several rooms in this interesting building are equipped with unit air conditioning machines. JOHNSON thermostats and humidostats in these rooms perform three distinct functions of automatic control—heating, humidification and cooling. A central switch, operated once each season, shifts the entire regulation system to the proper hookup for either condition—heating or cooling. Valves on steam, water, and refrigerating lines operate automatically, effectively, silently, at the command of the control instruments. In rooms not air conditioned, room thermostats operate valves on steam supply

to radiators. A cumulative arrangement, connected to several of the room thermostats, controls the oil burner.

Special problems are not new to JOHNSON engineers and installation men. Whatever the means adopted to accomplish heating, cooling, humidification, and dehumidification, there are JOHNSON control devices, tried and tested, to secure the particular effect desired. A back-ground of fifty years, half a century of continual experimentation and development, is assurance to architects, engineers, and contractors who refer automatic control problems to JOHNSON. Their client, the building owner, benefits by the experience of a nation-wide organization devoted to just this one line of business. JOHNSON SERVICE COMPANY, Milwaukee, Wisconsin, and direct branches in principal cities.

Pictured above: Combination office and residence, by and for Mr. W. E. Lescaze of the architectural firm of Howe and Lescaze, New York City.





# GLASS

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The photograph shows a view in the house of William Lescaze, Howe & Lescaze, Architects

**New York** 

## What is modern elevator practice in office buildings?

SIGNAL Control Elevators, first installed in the Standard Oil Building in New York City and since furnished by the Otis Elevator Company for over 350 other high-class office buildings, are now so generally recognized as the accepted standard for modern office buildings that, in recent years, few such buildings have been equipped with any other type of control. Improvements and simplification in design and construction have not only materially reduced the cost of Signal Control but have added so greatly to its flexibility that its field of application has been rapidly extended to embrace the six-story office building as well as the towering skyscraper.

The tremendous advantages of Signal Control from the standpoint of both quantity and quality of elevator service have been so thoroughly established that to install anything but Signal Control in even a moderatesize office building is to risk elevator obsolescence before the building is completed.

For all but intermittent service elevators in low-rise office buildings, gearless machines with Unit Multi-Voltage and two-way self-leveling are taken for granted by most owners, architects and tenants of modern office buildings. Maximum smoothness, convenience and passenger-handling ability require in addition Otis Signal Control which, with recent refinements, now offers the following outstanding characteristics:

- 1. The pressing of a hall button by a prospective passenger automatically stops the first available car traveling in the desired direction.
- 2. An audible gong and a hall signal lantern advise the waiting passenger which car will stop and sufficiently in advance of the arrival of the car to permit the passenger to move without unusual haste to the proper opening. The interval by which the light precedes the arrival of the car is adjustable within ample limits to permit each installation to be arranged with that light interval best suited to the requirements of the building. This is a notable advance in the Elevator Art and is accomplished without sacrificing the all-important requirement that only the light corresponding to the car that is to stop shall be illuminated.

- 3. The car and hatchway doors open automatically as the car stops level with the floor.
- 4. The car stops automatically at the floor corresponding to the button pressed by the attendant in the car.
- 5. Excellent service is assured independently of the skill or memory of the operator. False stops are eliminated and the possibility of failing to stop for a waiting passenger is avoided.
- 6. The control is so arranged that when desired the cars will stop and reverse automatically at the point of highest call. During the morning peak period this new and important improvement adds considerably to the passenger-handling capacity of the elevators, as the time required to travel unnecessarily above the highest point for which there is a car or hall call is completely eliminated—round-trip time is reduced and more trips from the ground floor can be made during the period of intensive service.

This same arrangement, which also includes a buzzer in the car, makes every car available for night service without the additional complication of a night service annunciator.

7. To assure the maximum service of which an elevator installation is capable, it is necessary that they be dispatched with the proper interval and in proper sequence—all of which is accomplished with a minimum of attention on the part of the starter by the Otis Scheduling Device.

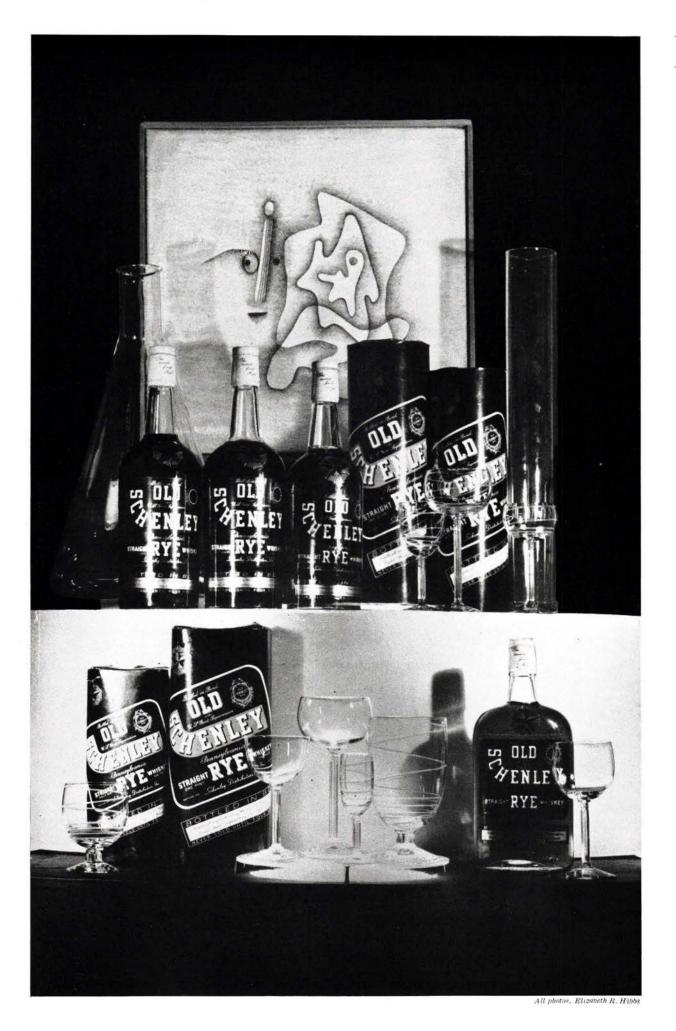
The number, capacity and speed of elevators required to provide adequate elevator service in a modern office building can best be determined by taking advantage of the wealth of information assembled by Otis Engineers and based upon extensive tests in existing buildings. All Otis offices are equipped to give complete and detailed information on the subject of proper elevator equipment for all types of buildings, and this service is available to architects and engineers without obligation.

## OTIS ELEVATOR COMPANY

Offices in all principal cities



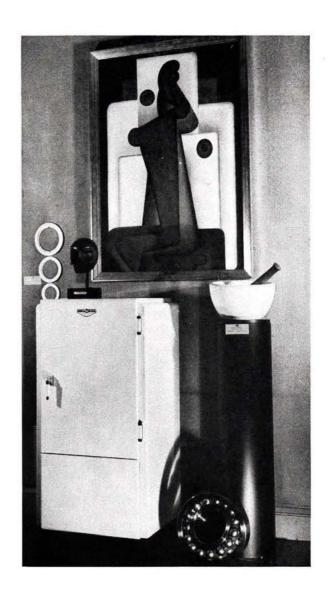
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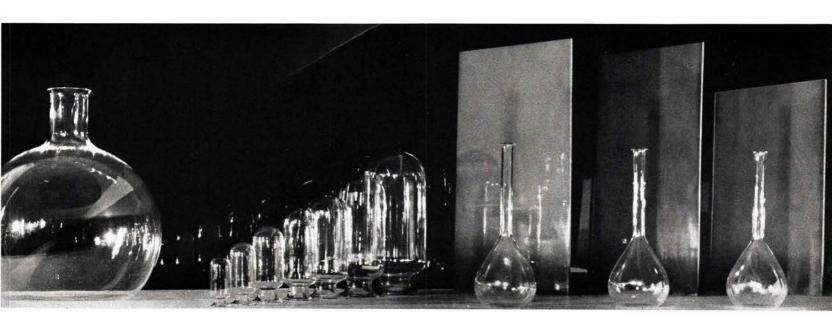


## JM OF EVENTS

### DYNAMIC ART

 $\mathbf{I}_{ ext{N}}$  an exhibition of "Dynamic Design," Philadelphia's Art Alliance has made an exciting attempt to show how much contemporary industrial design owes to modern painting and sculpture. Various groups of articles have been assembled which have qualities in common. At the left is a photograph of cartons and bottles for Old Schenley Rye, designed by George Sakier and exhibited by Schenley Distributors, shown with glasses by Sakier; and chemical glass by Arthur H. Thomas Co. The background is "Der Horende" by Paul Klee, lent by Mrs. Leopold Stokowski. Below is more chemical glass from Arthur H. Thomas Co. together with Vitrolite from Vitrolite Products Co. At the right is a more complex grouping. The refrigerator is designed by Henry Dreyfuss and exhibited by Judson, Burns Co. The mask that stands on it, by Pablo Gargallo, and the painting by Flouquet were lent by The LaFrance Institute. The rings and the mortar and pestle are again from Arthur H. Thomas Co., while the ball bearings are exhibited by The Atlas Ball Co. The exhibition though scheduled to close at the end of November may be continued as a result of the public's interest.





## FORUM OF EVENTS

#### HOUSING STUDIES

Through the generosity of the Lavanburg Foundation, the Slum Clearance Committee for the city of New York has been enabled to publish the charts prepared by them for the Municipal Housing Authority. With these are published the charts prepared by the Land Utilization and Zoning Division of the New York Building Congress. The resulting large single volume containing 137 pages of factual charts is a comprehensive and exhaustive presentation of the actual conditions that must be understood before any theory may be erected for the solution of the housing problem. Such matters as the profit and loss of real estate operation in various parts of the city have, properly, received the same careful study as the factors of population densities and assessed values of land. Had such studies been made in the past many of our present difficulties might have been avoided entirely and most of the others considerably modified.

### URBAN MURALS

To many citizens of Manhattan, Brooklyn remains the city unvisited except when the sticky days of summer suggest a trip to the Hotel Bossert's Marine Roof. That roof offers a view of lower Manhattan that satisfies even the most critical enthusiast, and the Bossert, quick to capitalize on it, has invested what undoubtedly turned out to be very profitable money in advertising view, food and music in taxicabs and other local

media. The Bossert now has yet another inducement to offer its patrons—a brand new mural, one of the things that nowadays no self-respecting hotel seems willing to neglect.

Gretl Urban, daughter of the late Stage Designer Joseph, painted it with assistants (see cut). Hanging in the ballroom, Miss Urban's 1,680 square feet of murals, gaily and inconsequentially portray the lighter aspects of medieval romance. Gretl Urban is a pleasant, unaffected person who for several years helped her father do sets for the Metropolitan Opera. Last May, Manhattan's Marie Sterner Galleries gave an exhibition of her portraits. She has been married and divorced. She likes to turn the radio on when she works, says she studies comparative religion because she feels "it helps her to understand people." In Paris, where she studied for several years, she exhibited at the Salon d'Automne, the Tuileries, the Gallerie Zak. Besides being the daughter of Joseph Urban, she is a niece of the late Heinrich Lefler, early Viennese modernist painter.

### ARCHITECTS vs. U. S. TREASURY

With Ely Jacques Kahn and the late Raymond Hood, Ralph Thomas Walker, president of the New York chapter of A.I.A., used to be known as one of the "Three Musketeers of the new order of architecture." Last month Musketeer Walker fired

a blast against the U. S. Treasury. Writing to every Congressional candidate in New York State, he said: "Throughout the country there is a growing concern over the increasing invasion of private business by the Federal Government. . . . Along with others, the architectural profession is becoming more and more apprehensive of the way in which bureaucracy is encroaching on the field of its work. A climax has been reached in the recent order of the Treasury Department that private architects are no



Underwood & Underwood

RALPH THOMAS WALKER He Fired a Blast at U. S. Treasury

longer to be commissioned for the work on the Public Buildings program of the Department, but that this work is to be done by the Supervising Architect's Office of the Procurement Division.

"When the Public Works program was inaugurated architects believed, and were encouraged to believe, that their services would be brought into play. . . . At the beginning of the year the Treasury Department promised that private architects would be commissioned to handle all projects costing over \$60,000.

"The order of June 29, 1934, refutes all this, and the Supervising Architect's Office has been steadily increasing its forces to handle the enormously increased volume of work. Draftsmen, engineers, and technicians have been brought to Washington and enlarged quarters provided in which to house these workers. Architects in private practice have been asked to come to Washington and accept temporary positions on a salary basis, to design the buildings and supervise the augmented forces of the Supervising Architect's Office.

"The Treasury Department, in justifying this procedure, states: 'By so doing the Government avails itself of the skill and experience of the designer and his knowledge of local conditions, and at the same time greatly expedites the completion of the

(Continued on page 32)



DAUGHTER URBAN & ASSISTANTS
Working on Bossert Mural



• THESE pictures of the Yorktown and the Midtown theatres, both on Broadway, New York, show the way in which Formica with metal trim is being used to modernize wall spaces of this type. The effect is most attractive and modern—it

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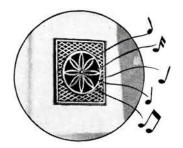
## THE FORMICA INSULATION COMPANY

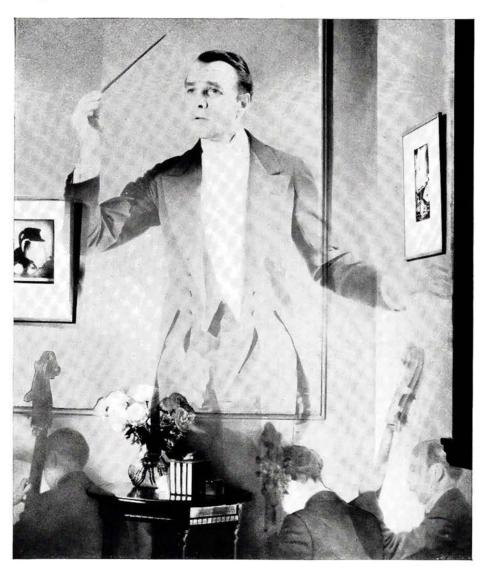
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## THE ARCHITECTURAL

## FORU M

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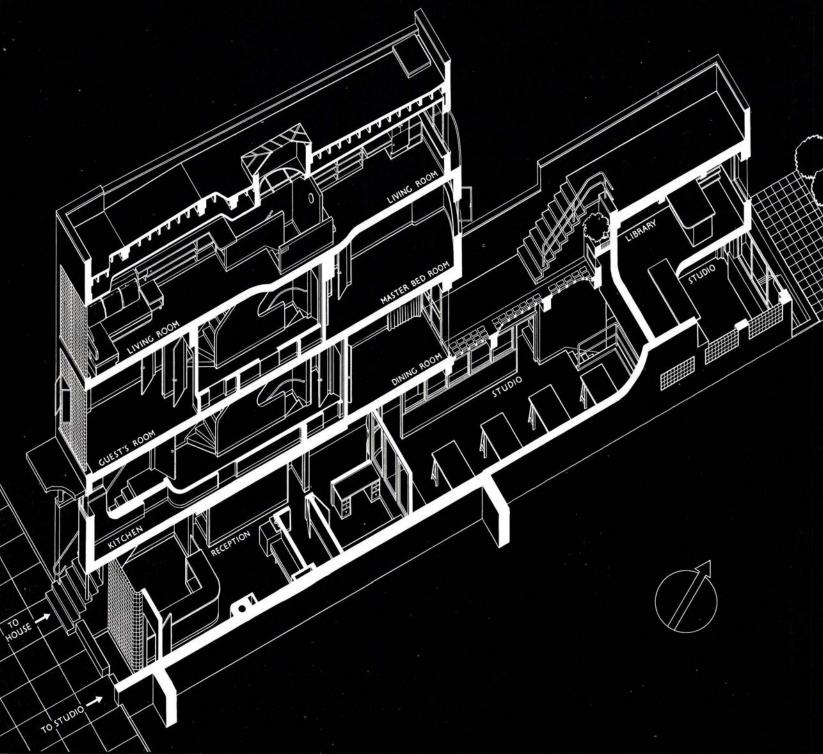
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DRAWN BY E. A. BENNETT FOR THE ARCHITECTURAL FORUM

HOUSE OF WILLIAM LESCAZE, NEW YORK

HOWE AND LESCAZE, ARCHITECTS

ALBERT A. LUTZ CO., INC., BUILDERS

Nearly all U. S. experiments with the modern forms of housing have been with detached units in suburban or country surroundings. It is interesting therefore to see what can be done with the conventional New York City brownstone front to make it conform with contemporary ideals of living. When, in addition, the house is the residence of the architect himself and also contains his workshop, it offers a case study of the greatest importance. It requires no prophet to see the great possibilities for the reclamation of much deteriorated housing if the slogan about walking to work can be amended to read, "walk downstairs to work." The section above shows the arrangement by which life and work are integrated.

ALL PHOTOGRAPHS BY RALPH STEINER

## CITY HOUSE OF WILLIAM LESCAZE, NEW YORK

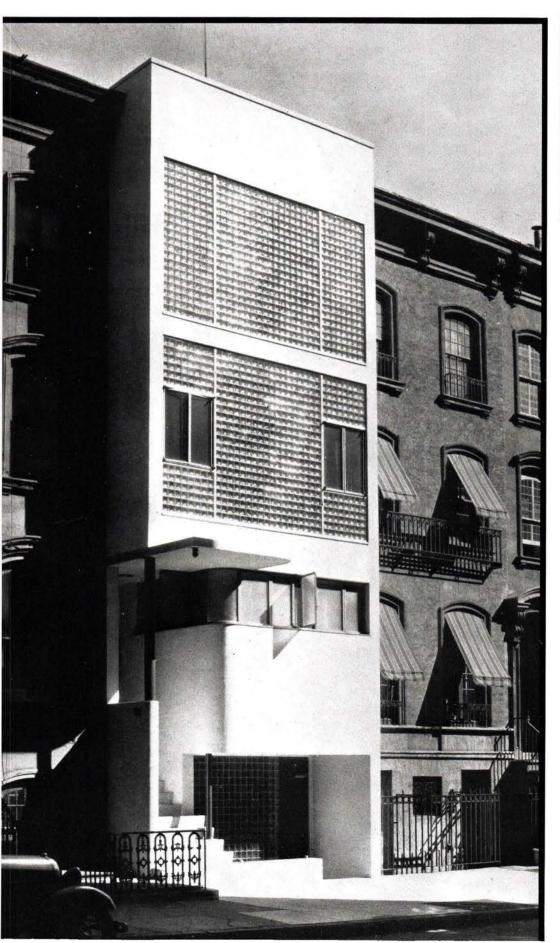


## HOUSE OF WILLIAM LESCAZE, NEW YORK

In the houses on either side, privacy is secured by the drawing of curtains that shut off life within from life without. In Mr. Lescaze's house, perfect privacy is assured by modern methods of using glass. Instead of shutting off life from the rest of the world this glowing facade is at night as frankly expressive of the life within as it is by day.



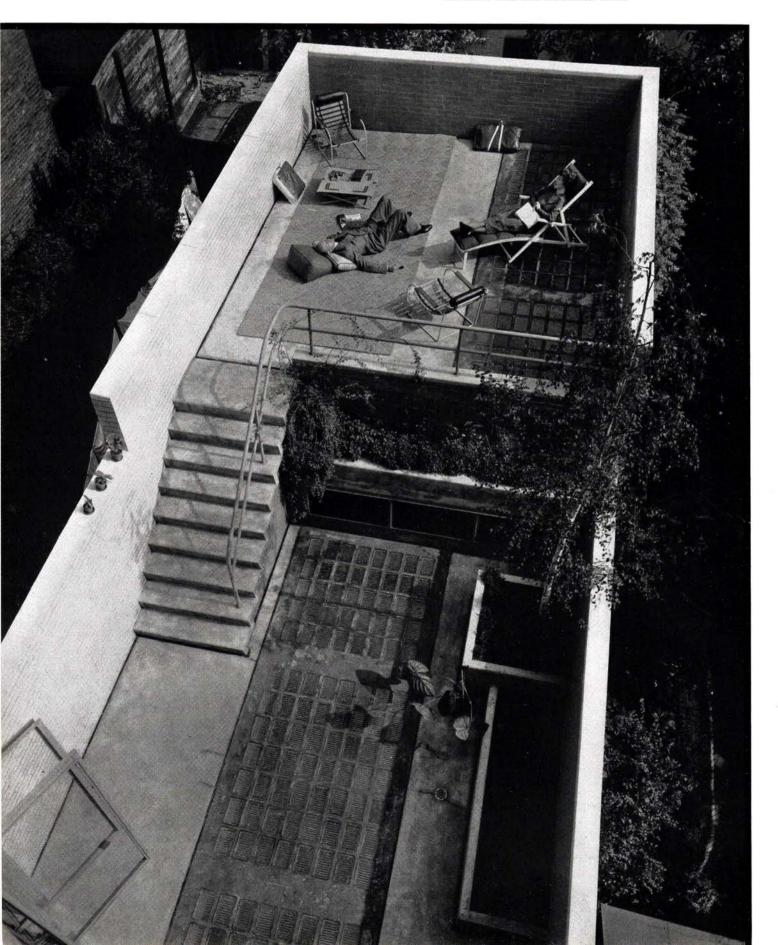
Legal, engineering, and human requirements nicely balanced and fulfilled. The glass wall of the air conditioned living room on the top floor admits sunlight and obscures an unattractive prospect. The guest room because it is used only occasionally has no air conditioning, hence windows.



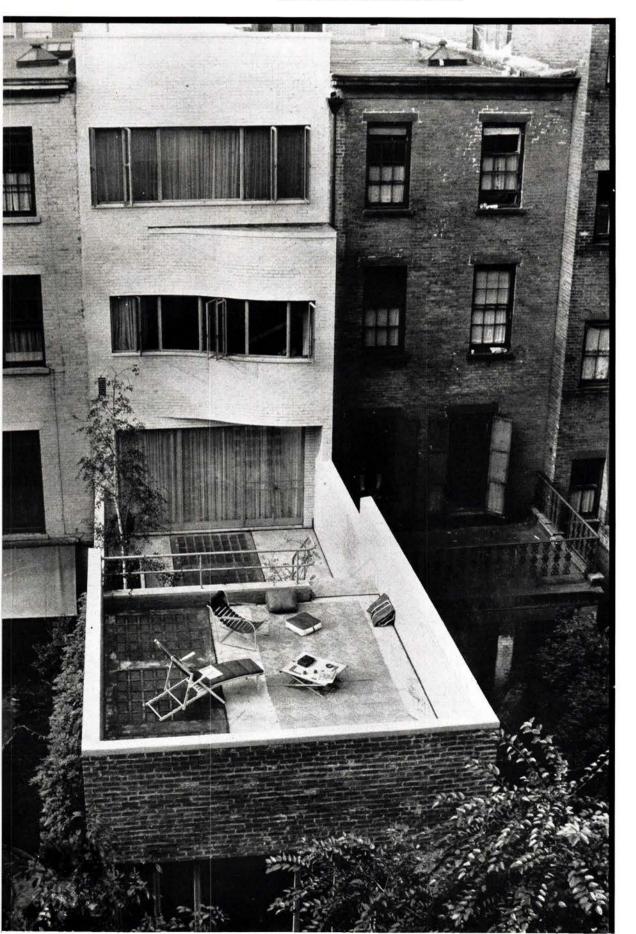


BEFORE

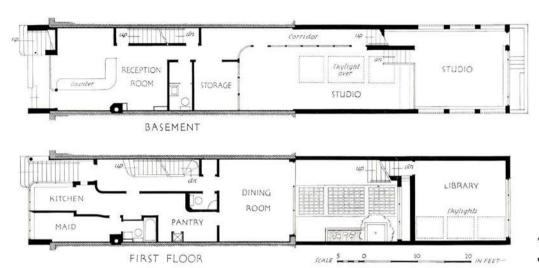
Sun decks do not have to be confined to country or suburban houses. They may well be a part of urban life. The glass tiles give light to the rooms below superior to that gained from windows opening on insufficient courts or yards. Every accessory to complete living has been remembered, including the flower beds and the slender birch.



New York's peculiar orientation provides some sunlight on all four sides of a house. The owner's bedroom has been curved out to take full advantage of this fact and to afford a better view over Turtle Bay's celebrated gardens. The dining room has its own little garden view below. The living room on the top floor here has the outlook that it neither needs nor has in front.



## HOUSE OF WILLIAM LESCAZE, NEW YORK

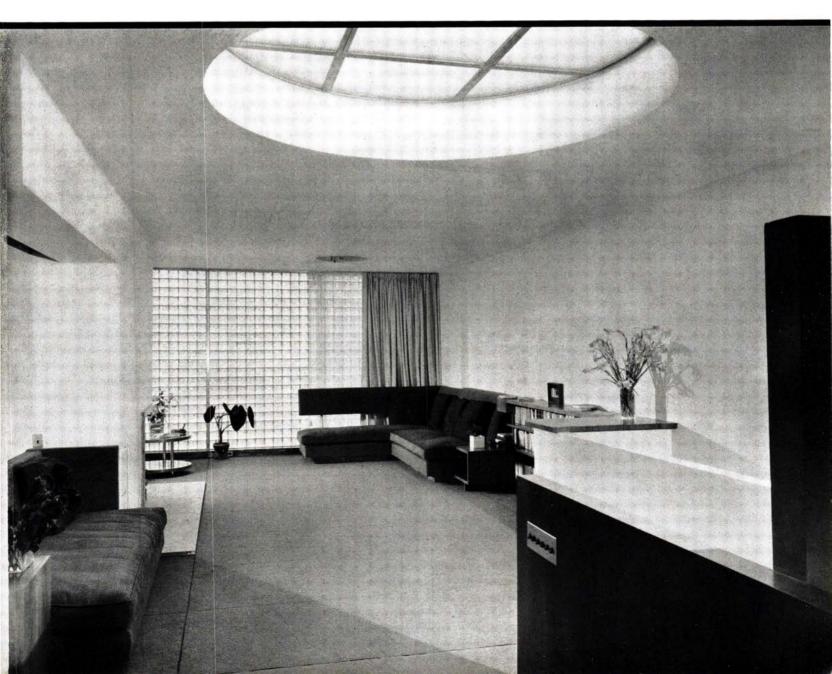


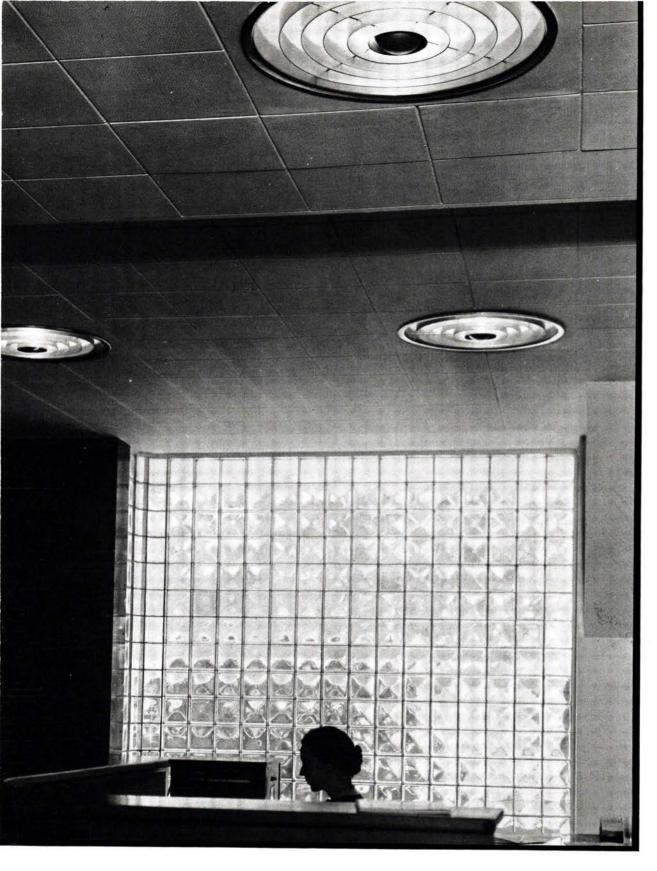
The plans above show the little that could not be included in the section. Below is the dining room.



At right is the fireplace and below the general view of the more social part of the living room. An interesting detail is the use of built-in refractory bricks in the fireplace instead of andirons. The difference between this and the working end of the living room is clearly marked in the arrangement and design of the furniture. The forms in the right foreground are the dwarf partitions around the stairs. All the lighting in this room is indirect. Part comes from the skylight in the center of the ceiling and part from a concealed unit behind the beam over the sofa at the left. In the ceiling in the background can be seen one of the two openings for supplying conditioned air.







HOUSE OF WILLIAM LESCAZE, NEW YORK

The reception room in the basement. This room more than any other in the house demonstrates the value of glass walls in modern life. It would be impossible to light this room properly by ordinary means and not expose the young lady to the gaze of every casual passerby. As the ceiling is quite low it is covered with sound absorbing tiles and plaster. The ingenious lighting fixtures provide fine illumination with relatively low current consumption. The entire ensemble strikes the note of realistic approach to life's problems by the architect.

## WILLIAM LESCAZE



Blackstone Studio

 ${
m M}_{
m ANY}$  a seasoned speaker might envy the gift of phrase of William E. Lescaze. He is graphic, to the point, and he has certain ideas which he violently cherishes. Not that the ideas are exclusively his but Lescaze has a way of expressing them that makes good newspaper copy. Witness an interview in the New York Herald-Tribune (1931): "There is too much of what I refer to as 'monkey's tail' architecture. A building can be likened to a human body since the primary function of each is to house life. In the development of the latter there came a time when the tail became unnecessary . . . and so the tail vanished. . . . The same people who sneer at modern architecture today are probably descendants of the people who laughed at tail-less men in the prehistoric days." Or the 1934 New York Times story which gave a new journalistic twist to a completely normal proposition by suggesting that a home-builder be virtually psychoanalyzed before the architect draws a line or plots a square foot of his house.

These are the kind of statements publications like. Examples could be multiplied. The point is that Lescaze has a knack for expressing himself graphically, that therefore his name for the past few years has been familiar in newspapers as an ardent advocate of modernism. The public may not be able to name Lescaze buildings but alert newspaper readers recognize his name and the principles for which he stands. This is one of the early earmarks of a leader.

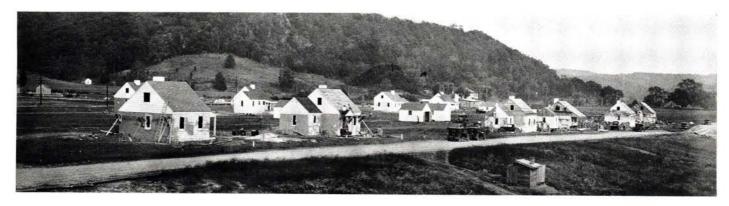
His brother architects know that William Lescaze was born in Geneva, Switzerland (1896), that he studied under Karl Moser at the Zurich Technische Hochschule where ornamentation is as taboo as plus fours at an opening night. By 1929 he had not yet won a big name in architecture. He had built an excellent but not conspicuous bus terminal in New York City, he had decorated the sophisticated Philadelphia apartment of Mr. and Mrs. Leopold Stokowski. But two things happened in 1929 which advanced Lescaze into importance. He formed his famed partnership with George Howe, and Leopold Stokowski gave a new nursery school to the Oak Lane Country Day School, near Philadelphia, and suggested that the trustees speak to Lescaze about it.

George Howe is a Harvard graduate who spent ten years in conservative partnership with Philadelphia's Walter Mellor and Arthur I. Meigs. But Howe was no conservative. During his student days he was influenced by the new Jugendstil in Germany, and he kept in touch with European developments after he went to Philadelphia. When he joined forces with Lescaze, it was no illogical progression for either architect. Their first joint job was Stokowski's school. Their others are known to all architects.

When Lescaze was a youngster in Geneva he had two passionate interests, both of which he has now practically given up. He adored playing the violin and he loved to paint. With a talented brother who died of appendicitis at 21, he formed part of an amateur stringed quartet which met and played regularly. After his brother's death Lescaze gave up the fiddle. Now he plays only rarely and at such times quickly stops because he gets irritated at his maladroitness due to lack of practice. The story of his painting is less somber. It is Lescaze's notion that he painted principally as an emotional release when he was either not doing the work he wanted or did not have enough such work to keep him busy. These days, for him, are happily past and he only occasionally picks up a brush. But at one time he used to take long trips in the Swiss mountains, paint furiously and with satisfaction sufficient to make him remove his mother's old darkened heirloom pictures from their heavy gold frames in the Lescaze home in Geneva and substitute his own. This always annoyed Mme. Lescaze. But the situation now has an amusing reversal. Enormously proud of her talented son, Mme. Lescaze now keeps his pictures in full view and Lescaze, no longer thinking them worthy, wishes to heaven she would hide them.

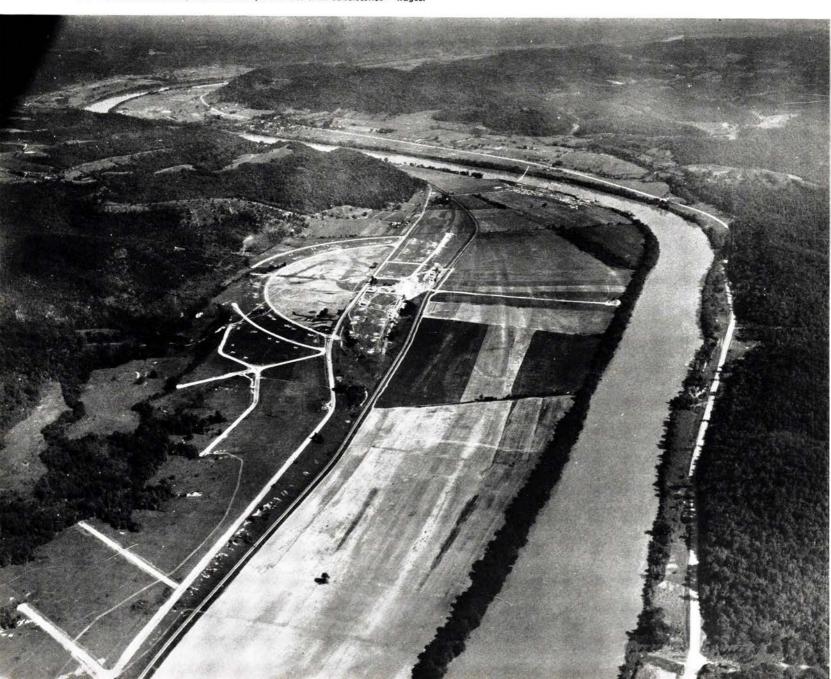
Without any of the faddism of French Riviera colonists, William Lescaze worships the sun. Architects have guessed the fact from his passionate pleas for bigger and bigger windows in the houses he designs. He likes riding, loves to play tennis (he plays even in New York City), is a good shot, but his favorite rural relaxation is to lie quietly in the sun. He abhors, however, the idea of living in the country.

He is indifferent to foods, particular about wines, likes Pelleas et Mélisande, Tristan, and Don Giovanni, reads Proust and Paul Valery. A good play will send him home determined to design stage sets which he begins but never finishes. He detests parlor games or cards, likes to give occasional parties but does not like the bother of arranging for them. That job, however, is gracefully assumed by Mrs. Lescaze, the former Mary C. Hughes of New York, who, although she writes, insists she has no creative ability, is at present engaged in learning to read her husband's architectural plans.



## HOMESTEADING 1934

Decentralization in the making, but still minus an industry. River and rail transportation available. Workers, with self-built homes nearly completed and the first crops harvested, await the complement to their subsistence — wages.





The U. S. provides its industrial derelicts with cows, chickens, and a house on a patch of earth — dabbling in Communism, 100 per centers call it: it may become America's new way of life.

The New Deal dumped overboard the Hoover policy toward unemployment. Not only did it admit the problem, but it went further and traced the trouble back to the days when the economic machinery had been operating without any audible squeaks. Regarded thus, it became at once apparent that in taking positive steps about setting things right it would be necessary to do something more than to restore 1929 conditions.

Even if Industry's wheels clattered along at the 1929 pace, there would still be some 3,000,000 people workless. Since complete stability of employment at a point high enough to absorb all those able to work appeared to require long range planning, it was decided to experiment with new industrial methods that would make the system more resilient to periodic lulls in production. Through this door entered subsistence homesteads.

Like most New Deal remedies subsistence homesteading has for its basic ingredient an economic principle. In this case, it is industrial decentralization: the location of factories adjacent to open land areas where the workers may supplement their wages by potatoes, onions, carrots of their own raising.

There was nothing particularly new or original about the idea except in application. It had been tried before in a sort of perverse way by industries looking for an isolated spot where they could sweat labor in privacy. And for the last ten years fully a dozen bills have been bobbing about Congress, all of them advocating some form of rural colonization coupled with industrial decentralization.

In Europe the idea is even older. In 1840, before Hitler and before the Kaisers, the King of the independent German State of Wurtemburg pondered the question of whether it would be better to have the workers go to the factories or the factories go to the workers. With kingly wisdom, he decided on the latter. His reasoning was that centralization was fine as long as production held up, but that when work slackened or stopped, there would be sad days in Wurtemburg. Thus a shotgun wedding between

agriculture and industry took place long before Bismarck started dreaming about a German Empire.

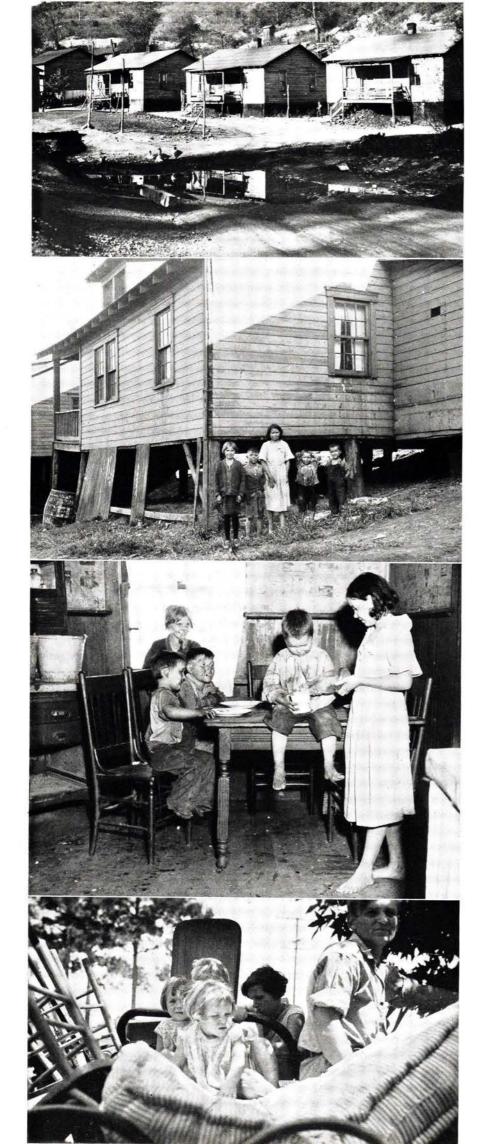
Subsistence homesteading continued to grow in Europe and took a particular spurt after the World War. The reason is easy to find. The more mature countries had discovered an annoying relationship between top heavy industrial populations and king-killing and the less violent forms of underdog protest.

In the U. S. no such consequences are anticipated, but the problems of over-concentrated industry and unemployment are no less severe. Thus provision was made in the National Recovery-Public Works Act for a revolving fund of \$25,000,000 for subsistence homesteading.

Not so generous as it was in the latter part of the last century when 160-acre homesteads were parceled out to pioneer spirits for slightly more than a song, Congress decreed that all homesteads should eventually be paid for — self-liquidating is the term it used.

Officially, Washington gave Mr. Roosevelt credit for sponsoring the venture. Unofficially, Mrs. Roosevelt was given the bulk of the applause. She had long been interested in such matters, and her interest turned into zealous activity as soon as she became the No. 1 Lady.

A Subsistence Homesteads Division was created in the Interior Department under its forthright Secretary Harold L. Ickes. For the first ten months the Division was run by Dr. M. L. Wilson. But last June Charles E. Pynchon, who had been an Ickes man in PWA, stepped into the post when Dr. Wilson moved over to Agriculture. There were no positive indications that Dr. Wilson had rowed with Secretary Ickes over administrative policies. But with the ascendancy of Mr. Pynchon came abrupt changes. Instead of running each project through a local subsidiary corporation, the Homestead Division recaptured the stock of all local corporations and all responsibility was shifted to Washington. (See The Architectural Forum, August, 1934, page 142, for discussion of the Dayton, Ohio, Federal-local squabble.)



Shacks like these provoked the tears, then the action of Mrs. Roosevelt and other social-minded New Dealers. These are industry's driftwood, left behind when the coal veins yielded no more.

Economic orphans whose world is a dingy house set down in a dingy town. Their future, unaided by their Government, would be a school-less childhood, a workless manhood, a cheerless old age.

A mother's command to bathe would be futile, since there is no place but the muddy river. After a scanty supper in the kitchenliving-dining room, all are privileged to flop into the same bed for all the sleep a lone bed can offer five tired children.

Off, not to the county poorhouse, but to sunshine, fresh vegetables, wages, and a new house which some day they will own. On such a journey this and 641 other families started last year. If subsistence homesteading accomplishes its aims, thousands of other families will leave scenes like these for greener pastures.

Homesteads are not all of a kind. Thirty of the 40 now being built are of the basic industrial type — the 2- to 5-acre farm variety within a few miles of an existing industrial city. As typical as any is Project No. 23 on the banks of the Wichita River close to Wichita Falls. No. 23's inhabitants will be oil workers whose wages have been cut by Oil Administrator Ickes' curbed production program.

Besides his \$1,600 house, each homesteader will be sold 4 acres of rich, irrigated land, a coopful of chickens, 2 pigs, 1 horse, 1 cow, tools, pressure cookers, canners and sealers. For everything the homesteader pays \$2,500, no down payment, approximately \$12 per month for 20 years.

Of its rural rehabilitation projects, the Division is proudest of Project No. 3, down in Pender County, North Carolina. Here it is proposed to point a new way of life for the hapless tenant farmers of the South whose lot is frequently as bad as that of Negro share-croppers. Pender County homesteaders will not only feed themselves with what they raise, but will market their crops collectively. No. 3, with its 4,825 acres and its 300 homesteads is bigger than most units, will have community buildings and all the other accessories of a model community. Built under the force account system, houses are already completed, and the first crops have been harvested at a profit.

Unique among all the projects is the cooperative industrial homestead now approaching the moving-in stage at Hightstown, N. J. When completed, it will be as close an approximation of a small soviet as anything in the U. S. Its occupants will be skilled needleworkers, culled from New York's lower East Side, all Jewish, and all with mild or intense leanings toward Communism, Socialism, etc. On the Ickes' list, it is No. 8. Its 200 needleworking families will occupy 1-acre homes, will run collectively a small clothing factory, dairy, truck farm, and general store. Besides the \$500,000 the U. S. is putting into the homesteads the homesteaders themselves are contributing \$100,000.

The kind of project likely to become more important in future plans of the Homestead Division is the "stranded group" type, which as its name implies is designed to house workers previously engaged in industries which no longer have need of them. So far the Division has concentrated on coal miners. Six projects, the most advanced of which is in Westmoreland County, Pa., are under construction. One hundred families are being transported to Westmoreland from Pennsylvania mining towns where the mines have been exhausted. Eventually, the Division hopes to bring private industries to the homestead communities to give the ex-miners some form of employment other than agricultural pursuits.

Finally, there is the "experimental" homestead, of which there is only one, and of which there are likely to be no more. Located at Reedsville, West Va., it is Mrs. Roosevelt's personal hobby. She watched the workers dig foundations, spent two or three days and nights with the homesteaders, and tried in vain to persuade the usually agreeable Congress to build a post office equipment plant there. Actually, Reedsville is a stranded group type of community. It bears the name experimental simply because it was the first of all homesteads — and because it made so many mistakes that some explanation had to be made. (See The Architectural Forum, May, 1934, page 398.)

General Manager Pynchon is now thinking about adding two new types. One would take care of the industrially handicapped — slightly maimed workers who cannot hold their own under the present competitive system. The other is aimed at the industrially superannuated — those between the ages of forty and fifty who can find no work despite the fact that they have many years of work left in them.

Besides the 40 projects already announced, General Manager Pynchon has seventeen others taken care of in his budget. Like Colonel Horatio B. Hackett of the PWA Housing Division, he lets no word creep out about their location because of the desirability of buying up the land in secrecy. So far he has been able to do his buying at an average price of about \$50 an acre. The top figure was \$455.43 each for 140 acres in the suburbs of Los Angeles, where the potential returns to homesteaders will more than offset the \$3,000 that each will have to pay for his house, lot and orchards. Lowest price paid was \$3.04 an acre in Richton, Miss. In addition to the fact that nearly all Mississippi land is cheap, the Division assembled its future homestead area from cut over land.

In size, individual homesteads vary from the acre or two of the worker's garden type to from 20 to 30 acres in rural projects. The average is about five acres. Houses range from three to six rooms and costs from \$1,200 to a maximum of \$3,000.

The purchase price includes in most cases essential farming and gardening equipment, seed and fertilizer, a small flock of chickens, a pig or two, and possibly a cow, a horse or a mule.

Naturally, projects do not start themselves, nor are they started by the Division's specialists by arbitrarily sticking approval pins into maps of the nation. All were local inspirations. No sooner had the broad outline of the homestead policy been released than politicians, realtors, architects and industrialists put forward suggestions for projects in their own bailiwicks. Altogether, requests have been made which if granted would require an expenditure of \$5,000,000,000. Out of them all, 601 (costing \$500,000,000) have been considered more or less seriously.

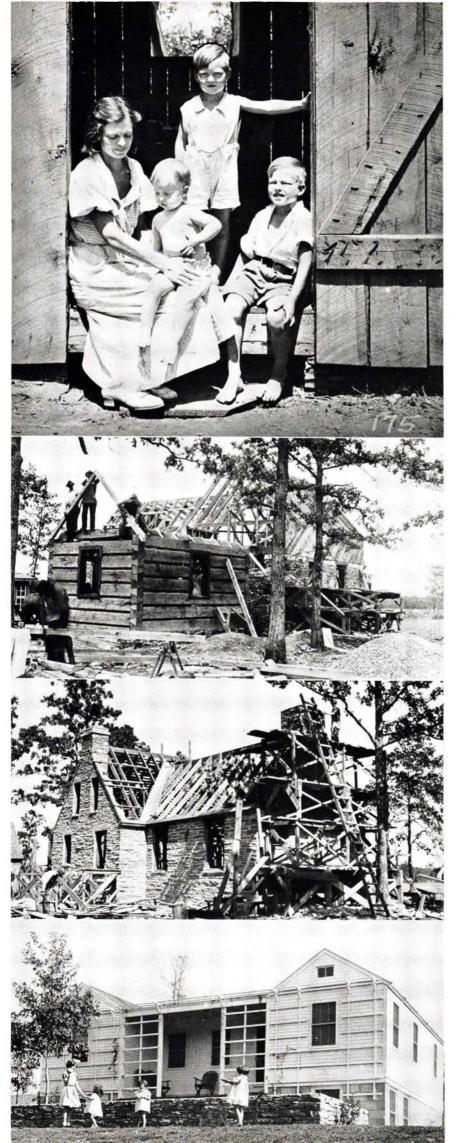
Final approval rested primarily on the likelihood of the project's paying out, coupled with its proximity to what Labor Secretary Perkins calls an "unemployment pool."

Although, as in all things in the Interior Department, the "yes" or "no" was eventually spoken by Secretary Ickes, decisions rested largely with the Planning Division, presided over by Sociologist Clarence E. Pickett. Because projects are submitted in varying stages of development, procedure after approval also varies. The invariable first step, however, is the naming of a project manager to whom falls the full responsibility for coordinating site acquisition, regional and architectural planning, construction, selection of homesteaders.

Whenever possible, a local architect is chosen to design the entire project, and supervise construction. When no local man is available, the work is done in Washington, and supervision is maintained by an architect near enough to make periodic visits to the area, or by a man sent from Washington. No fat fees are paid to homestead architects.

When the first homesteads were laid out, acreage was pieced off to give each settler his individual acres. But now it has been found more economical to allot less land per person, and to reserve the bulk for cooperative farming—with equipment owned collectively, and profits split proportionately. 100 per cent Americans may call it Communism, but the Homestead Division is more interested in the economical operation of its units than it is in political philosophies.

Homestead architects have shied away from drastic



Until their house is completed, a temporary shack harbors the homestead family. In all but one respect, the shack is little better than the one they left behind. The one exception — hope.

Sometimes with skilled labor hired at prevailing local rates, and sometimes with only the labor of the homesteaders working on force account, houses rise on the new land. At Crossville, Tenn., where still live some of the few craftsmen able to produce handhewn timber, the old tradition has been followed.

Local materials, more economical and more familiarly used by the workmen, are employed in construction. Stone quarries, saw mills, cinder block plants will in many cases become permanent fixtures of the homestead areas, and will provide wage-labor if outside industries do not choose to establish local plants.

The completed house, designed by an architect, and constructed under his supervision, forms a happy background for play, for living. Kept to a minimum in cost, suitable for enlargement in the future, homestead houses average in price well under similar houses in urban areas.

reform in construction and design. The theory has been to go as far as possible toward providing for the comfort and convenience of the settlers and toward increasing the standards of living while keeping the costs at a minimum. But cost comes first. If the accepted amenities cannot creep in under the \$3,000 limit, they are left out. The Division is even hopeful that out of this approach may grow a new solution of low cost home building.

Specifically, the standards of the Division require: (1) simplicity in design and the elimination of unnecessary ornamentation; (2) suitability to local climatic conditions and traditions; (3) planning to encourage the usability of all rooms and space; (4) provision of living rooms with light and ventilation on at least two sides, and with adequate space for family use; (5) arrangement for easy access between kitchen and living room in order that at least one meal a day may be served in the living room (due to cost few separate dining rooms can be provided); (6) provision of kitchens with cross ventilation and essential built-in equipment; (7) bedrooms with cross-ventilation wherever possible, and adequate bedroom space for each member of the family — at least one bedroom in each house should be large enough for twin beds.

Because sleeping five and six in one room, three and four in one bed was commonplace in the past lives of homestead families, enough bedrooms and beds is a prime rule in homestead planning. In general the abolition of cellars is advocated as an economy. But many a homesteader, brought up with old country traditions, regards his cellar as an essential for wine making. If cost rules out plumbing fixtures at the outset, connections are roughed in for later installation of fixtures.

Though prefabrication has not been extensively used, the Federal architects are open-minded. Steel houses, it is felt, still cost too much. Tests are now being made with precast concrete blocks. Half a dozen other systems have been picked apart, but none in their opinion hits the mark. In fact one prefabricated lumber system fell so wide of the mark that an architect had to be hired to re-design the houses after they had been assembled on the job.

Most of the work is let to general contractors on competitive bids. Practically all of the industrial type projects are built in this way. But in the comparatively small number of stranded group and rural projects the relief element looms larger. Costs must be cut to the bone since the settlers have no funds to start with, and none immediately in sight. The policy, therefore, is to use homestead labor as much as possible on force account, the workers living in temporary structures until their own houses are completed. In return for his work, the homesteader receives cash for two days a week and the balance of time is credited against the cost of his house and plot of ground.

Where homestead labor is used and lumber plentiful, central planing and saw mills are set up, thereby cutting costs and giving more work relief. Moreover it helps to solve the furniture problem.

When Secretary Ickes first got his \$25,000,000, social workers sounded the warning that there would be grief aplenty unless the applicants were hand-picked. With 13,934 applicants for 2,176 homesteads, there was ample opportunity to do so, and judging by the attention the sifting process received the warning has apparently been heeded.

The hand-pickers employed the familiar social service tactics of prying loose the information without letting the applicant family see the crowbar. During a roundabout discussion of the weather, the crops, and the best way of curing a cold, the investigator managed to elicit the following information:

Nationality of parents, family as an harmonious unit, personality-temperament, marital situation—dominant member, parents' ambition for the children, stability and resourcefulness, moral habits and general conduct, tenure period at different addresses, present living conditions.

The investigator then turned to health, intelligence, personal appearance, financial status, attitude toward subsistence homesteading, and industrial qualifications and skill. Under the heading of attitudes, he sought to ascertain such fine points as whether the applicant is "intelligently enthusiastic" or "naïvely enthusiastic." Throughout the informal interview he was ever on the alert for any remarks members of the family might drop that would indicate their character and habits. In case the first investigator overlooked anything, a second one was sent around and the two reports compared.

Later on, the references given by the applicant are checked and his credit rating is investigated. The application blanks are then sorted into three groups according to their degree of excellence.

Particular attention is given to farm experience. While not absolutely essential, a farm background is held to be highly desirable. Attention is also given to the relative needs of the applicants. There are two rules from which there are no departures. The homesteader must be an American citizen. He must be married or have dependents. Single persons simply cannot be homesteaders, at least not with the Government's aid. The Division wants homesteaders aged between 23 and 50 and only under exceptional circumstances are older or younger applicants accepted.

An analysis of a typical project of the predominant industrial type disclosed that the average family had two and one-half children; the income of the average family was \$1,000 a year (cash income); 40 different professions and trades were represented among the settlers.

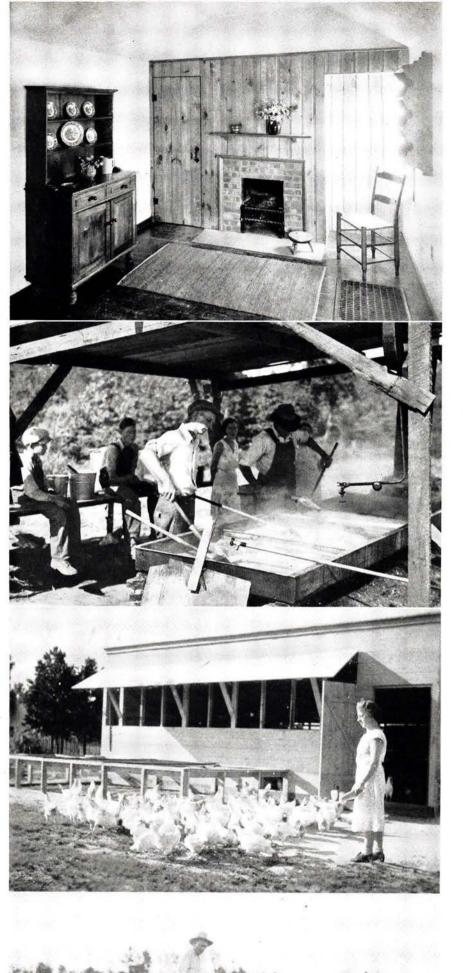
The Government believes that a family of five can make ends meet on \$1,000 cash income yearly. The following is an average of several families now living on an industrial homestead. Food raised by the the family is estimated to amount to between \$400 and \$450 per year.

Clothing	\$150.00	15%
House	240.00	24%
Cash food in addition to homesteads sub-		10000
sistence	155.00	151/2%
House operation	80.00	8%
Agricultural operation	75.00	71/2%
Medical care, etc	70.00	7%
Education, recreation, community welfare,		
etc	90.00	9% 5%
Furnishings and equipment	50.00	5%
Transportation, automobile and miscel-		
laneous personal	90.00	9%
Total	\$1,000.00	100%

Because one of the avowed purposes of the Federal venture into subsistence homesteading is:

"To act as experimenter and demonstrator, so that States, municipalities, and private enterprise may be encouraged to undertake subsistence homestead programs of their own, and in their undertakings be able to follow a path thoroughly tested and proven . . ." the giant question mark is: Will the projects really be self-liquidating?

Officials feel confident about the industrial type projects



Without as within, the typical homestead house reflects a happy contrast with what had gone before. At Reedsville, West Virginia, all the furniture was made in a cooperative craftsmen's shop. When all the homesteads have been furnished, production will continue for outside consumption.

In Tennessee it is molasses, in Texas it may be fruit canning. Whatever the cooperative opportunity homesteaders will pursue it. Here at Crossville, the homesteaders this year tinned 600 gallons of molasses, and sold it all. Initial equipment was included in the all-over cost of the homestead.

A coopful of chickens in many cases is part of the Government's initial stake. All to be paid back out of egg-earnings, the hens contribute a proper share to balancing the homestead budget. In some instances, one family has all the homestead chickens, another all the homestead cows; but in most, a few chickens, a pig, a cow are part of each family's dowry.



Peas, beets, beans, and barley grow — or whatever the climate calls for. Cooperative farming is frequently the base of homestead living. Horses, ploughs are U. S. supplied.

which constitute the large majority and are most likely to attract private enterprise. They involve little decentralization, however, since they are located adjacent to existing industries. The workers will travel a little farther to their factories and they will have better homes. Otherwise things will go on much the same.

The eight stranded groups, rural and experimental projects are a different story. The hope has been that industrial plants could be enticed into these locations. The hope still remains but so far nothing has come of it. Moreover when the Government took the bit in its own mouth and proposed to construct a Post Office equipment plant at Reedsville, Congress squelched the idea at the request of manufacturers who felt that their business was threatened. Using the small amount of funds left to the Homestead Division for anything else than legitimate homestead work would not be permitted. Thus loans could not be made for building a plant or factory.

But the promise of a way out has been developed by a natural process. On the site of each of these projects the Government has built planing mills, saw mills and other small plants for fabricating materials. The Government does not have to tear plants down and it is not accountable if the settlers elect to continue their operations. The homesteaders are aware of this situation. They are beginning to think in terms of commercial operations and beginning to turn out house furnishings. It has been said in this connection that living room furniture that would cost anywhere from \$200 on up can be produced at the homesteads for as little as \$30.

While the work of the Subsistence Homestead Division has a certain effect on the relief situation, it is not primarily intended to combat immediate unemployment. In most cases the homesteaders must have a cash income so that the project offers no haven to the destitute who are entirely dependent on public aid. What are in effect subsistence homesteads are being undertaken by Relief Administrator Hopkins but these are on a slightly lower plane than Pynchon's projects.

Actually, there is no conflict between the two types or between the two agencies pushing them. The long and the short of it is that the Relief Administration can make grants and the Subsistence Homestead Division cannot. The relief money is made available to the States as grants. After the grants are made the funds may be used by the State relief administrations entirely unhampered by the numerous restrictions and regulations that surround Federal money.

As a matter of fact, Mr. Hopkins believes his projects will pay out. So far they all come under the head of rural colonization. The first such project completed by the FERA is at Woodlake, Tex. The community now has 90 resident families many of which were taken off the relief rolls in Houston, 100 miles distant. A total of 42,000 cans of tomatoes has been put up and most of them sold commercially. A second project is now nearing completion at Red House, West Va., in the vicinity of Charleston. Already 33 houses have been built. The cost of these houses is being kept well under \$2,000. In a third project in Mississippi County, Ark., some of the smaller houses have been built for \$900, including plumbing, a barn and a well. Altogether, Mr. Hopkins has 50 projects in mind and twelve already planned. It goes without saying that relief labor is used exclusively.

All indications are that there will be an expansion of subsistence homesteading in the Public Works program to be submitted to Congress. As matters now stand, the probability is that there will be more emphasis on the relief and special types of projects. Only in these is there any real decentralization.

One type of project, for instance, which both the Relief Administration and the Subsistence Homestead Division have in mind involved bringing the New York City and Chicago Negroes back to the South. The theory is that in many Northern cities, the Negroes constitute industrially exploited groups—the lowest paid and the first to be dismissed. In taking them away, fields of employment will be left to higher priced labor when the factories and plants are going full blast again. Plans are being considered that involve the building of plants with Government money. One thing is certain—the next Congress will be more inclined to approve the supplemental plant idea.

So far as encouraging private enterprise, the United States has not yet proved its point. Dozens of industrialists, realtors and building men have studied the operation of the Homestead Division at first hand. But they are awaiting further results before committing themselves.

#### THE AVERAGE SUBSISTENCE HOMESTEAD PROJECT

. . . costs \$377,386.83. Excepting in one instance otherwise annotated, the following cost figures are averages of itemized expenditures on the eight "industrial" projects under construction June 30. The status of these projects has been taken into account, where necessary, in estimating complete costs. The so-called "rural" projects are left out of consideration here, because of their low land costs. Average number of homesteads in the eight projects dealt with is 153; the average number of acres, 817.86; the complete cost per homestead, \$2,466.58.

Land cost and acquisition expense	\$47,097.05
Clearing and improving 1	42,000.00
Temporary structures	1,602.89
Office equipment.	1,106.32
Automobiles, machinery and equipment	5,320.43
Cost of materials and labor on houses 2.	194,403.33
Stone quarry and sawmill operations !	8,000.00
General overhead expenses during construction 3	42,856.81
Homesteaders' supplies 1	10,000.00
Farming and gardening 1	15,000.00
Community buildings	10,000.00
Total project cost.	\$377,386.83

<sup>&</sup>lt;sup>1</sup> Estimated.

<sup>&</sup>lt;sup>2</sup> Based on figures from the Houston, Tex., McComb, Miss., and Jasper-Putnam Co., Ga., projects.

<sup>&</sup>lt;sup>3</sup> Figured at double what it stood June 30. Few projects are half done, but much of this item was taken to be initial cost.



Steuben Glass Trident Punch Bowl by Corning Glass Company. Designed by Sidney B. Waugh.

Eugene Hutchinson

# CONTEMPORARY QUINQUENNIAL

The Metropolitan Museum's show demonstrates the tremendous stride U. S. designers have made in a few years and foreshadows a still more brilliant future.

In 1925 when Secretary of Commerce Herbert Hoover was asked by the French Government to send an exhibit of modern design to the exposition to be held in Paris, he replied that there was no modern design in the United States. As a result of that immortal and, at the time, correct statement, New York City's Metropolitan Museum of Art determined to prove that there were designers in this country who could face all comers if given a chance. In order to prove the point, it held its now celebrated 1929 exhibition of design in the industrial arts.

At this show designs were presented for rooms conceived by such men as the late Raymond Hood, the late Joseph Urban, Ely Jacques Kahn, Ralph Thomas Walker, Eliel Saarinen, John Wellborn Root, Jr.

The exhibition was received with the éclat that it richly merited and a movement was begun that was destined to be extremely fruitful. It also opened on the eve of the Crash. November 5, this year, five years later, opens another showing of the work of these same designers, now reenforced by a host of others whom they have inspired. Comparisons between this show and that of 1929 are extremely revealing.

In 1929 the goose hung high. There was money to burn. We had, according to our great thinkers, reversed for all time the previous history of economics and had discovered that there could be no end to prosperity. All the schemes therefore were based on that glittering assumption. Everyone was going to have even more money next year than last. Rooms that would not have disgraced the home of the most ostentatious of millionaires were offered as the proper thing

for the humblest citizen. The keynote was gorgeousness. In 1934 the story is different. We have been through five

years of depression and the whole system is now geared to a rigid economy. Misguided observers might suppose that the design of the architect and his allied industrial designer would suffer thereby. The contrary is the case. The dictates of economy required that the designer get down to some sort of reality and offer things that are within the reach of the most limited budget.

As a result, the visitor to the Metropolitan Museum today will see things that he can not only pay for but can take to his heart and learn to love. Gone is the self-consciously clever design of five years ago, supported by an economic scheme only a little more false than its accompanying social concept.

Perhaps the most poignant contrast is afforded by the two rooms designed five years apart by Chicago's famous John W. Root, Jr. These are illustrated on page 411. The first design was denominated, for some inscrutable reason, the bedroom of a lady. Regardless of any misgivings as to the gentility of any lady who would find herself in such a surrounding, the design was unmistakably predicated on a nouveau riche concept of society. Today, Mr. Root has designed a brilliant room for Montgomery Ward & Co. which their suave salesmen assure us will be listed in the next edition of their celebrated catalogue at \$500 inclusive of everything except the hangings and pictures. As the pictures are neither appropriate nor good in themselves this seems a bargain, even though one hankers a bit for the hangings.

Where, on a social and economic basis, these two rooms emphasize the changes that have taken place, two rooms by Eliel Saarinen emphasize the changes in conceptions of appropriate design. In 1929 the great Finnish architect's scheme was still in the Jugendstil, or North German Art Nouveau. Today it is perhaps the freshest and smartest of all. More than any other design in the show it calls attention to the fact that the new office of industrial designer can claim no superiority over the well-trained architect. This is emphasized by the tea urn produced by The International Silver Company from Saarinen's design.

The general plan of the show called for three separate galleries each under the general supervision of an architect. In each of these are ensembles directed by either an architect or an industrial designer. In each ensemble are many objects produced, either from stock or especially for this exhibition, by various concerns. The total number of these manufacturers rises to the amazing figure of 237.

The first gallery is under the ægis of suave Ely Jacques Kahn. Here one finds on the left a "Woman's Dressing Room," by Irvin L. Scott, inheritor of some portion of Joseph Urban's mantle. One of the most consistent of all the exhibits, it is a little forbidding in its white chastity. One cannot help feeling that no woman would really care to be mistress of quite so impersonal a room as this. The combination table lamp and clock is particularly fine. Across the gallery is what is called a general group. This is a skillfully arranged collection of heterogeneous objects by ten or fifteen people. Nothing better illustrates the strength and the weakness of our modern designers. Margaret Kay has, for example, a very charming table in chromium plated metal and sharkskin, and one of the most awful centerpieces that can be imagined.

Opposite Scott's aseptic boudoir is a display case of objects in metal, clay and glass, arranged by Walter von Nessen. Everything here is good; nothing is remarkable

except the arrangement.

Next is a group of textiles arranged by Kahn which suffers from the fact that no one has yet found the right way to show textiles. Beyond is a dining room by Donald Deskey. This is amusing if not so good as some other things of Deskey's designed when his budget was even more limited. The center ornament of the table is particularly titillating in spite of the firm conviction that it was originally done as a picture by someone else.

From this gallery one proceeds through combination grilles and lighting fixtures by Walter Kantack to the center gallery. For the general staff work here Arthur Loomis Harmon is credited. The first exhibit is a bedroom by Ralph Thomas Walker. Designed to be reproducible for \$250 this is a vast improvement over the study for a mythical, and somewhat doubtful, man done five years ago. Particularly interesting is Johns-Manville's Flexboard on the walls. The cool mottled gray of these surfaces and the obvious ease of cleaning are very attractive.

Next to this comes the room by Root already mentioned. The best evidence of the complete success of this is the fact that there is nothing that one would either damn or praise above the rest. Beyond this again is Saarinen's room for a lady. This time the lady is indisputably a lady and the room a suitable background of white and black. Here again it is difficult to pick out a single item from a very consistent whole.

Directly across the central gallery is a dining room by Eugene Schoen. Again consistent, there are nevertheless one or two things that are either conspicuously good or bad. The china just misses being excellent. So does the lighting fixture over the table. The wall material, a black textile resembling very thin leather, suffers from an indifferent installation. Best is the rounded bay window with Venetian blinds.

Next to this comes a living room by William Lescaze. The general pleasant effect of this is somewhat mitigated by the third appearance of the same mantelpiece since the Philadelphia exhibition of 1931. It should be noted, however, that Mr. Lescaze evidently considers this the ultimate fireplace since he has included it in his own house (see page 397 of this issue). In spite of this perhaps trifling defect, this is the best of the rooms without strict budgetary limitation.

Finally, in this group there is a living porch by Archibald M. Brown. Here again the window treatment, as in Mr. Schoen's room, is the outstanding element. Even the artificial hedge has been given a by-line (Chelsea Realistic Products Co.) as has a nice water color sketch by one Edrem.

Leaving the central gallery through doorways by V. F. von Lossberg (Edward F. Caldwell & Co. Inc.) the visitor arrives in the Gallery of the genial Paul Philippe Cret. At the left is a dining room by Walter Dorwin Teague. Admirably held together and restrained, it is marred by very uninspired table glass, and by a certain febrile air as of one over anxious to please. What the tableware lacks is more than made up for by the superb technical production of the glass rods in the grille in the background.

Opposite is a music room corner by Gilbert Rohde. The most conspicuous object is of course the piano from Steinway, with metal legs by Leo J. Uris. The piano case is fine. So are the legs. The combination is terrible — as it will continue to be until someone redesigns the piano in terms of twentieth century living and modern music.

Separated from this by a decorative group by Gustav Jensen is a designer's office and studio by no less a team than Lee Simonson and Raymond Loewy. The sidelighted cork board against a blue and yellow color scheme is a fine background for designer's sketches.

Opposite is a general group, mounted by Cret. Here is a very fine set of silverware designed by Victor Proetz. Also metalware in aluminum and copper by Russel Wright that is not up to his usual standard. In the same category is his floor lamp which is reminiscent of some accessory of a moving picture operating room. Here also is a cabinet, designed by Jules Bouy. It is perfectly awful.

The structural and electrical work, and the general setting of the exhibition were done by the Metropolitan Museum's own workshops under the direction of Richard F. Bach. It is safe to say that every designer's work has been given its best possible presentation under his painstaking supervision. His enthusiasm for his task is evident throughout the entire set of three galleries.

It is unfortunate that space forbids detailed remarks on the work of each one of the 237 exhibitors. The photographs will show most of these and the list of names accompanying will do some measure of justice to their cooperation. If some objects have been signalized here as not quite so successful as others, it is only fair to say that their failure is conspicuous chiefly because they have aspired to so much. The progress of five years has been enormous. If the progress in the next five is in proportion, the exhibition of 1939 will be something from which to date history.



LIVING ROOM JOHN WELLBORN ROOT, ARCHITECT

All photos, Courtesy Metropolitan Museum of A

General setting and individual objects designed by John Wellborn Root for Montgomery Ward & Company and produced by the following firms and individuals:

FURNITURE, Kroehler Manufacturing Co. COVERINGS, Ranlo Manufacturing Company and Witcombe, McGeachin & Company. RADIO, Wells-Gardner Company. DRAPERIES, Witcombe, McGeachin & Company. RUGS, Bigelow-Sanford Company. LAMPS, Metallic Arts Corporation. LAMP BASES, VASES AND ASH TRAYS, The Haeger Potteries, Inc. LAMP SHADES, The Red Wing Pottery. MIRRORS AND PICTURE FRAMES, Kawneer Company. GLASS, Pittsburgh Plate Glass Company. WATER COLORS, Edgar Miller. HARDWARE, Reading Hardware Corporation. METAL SASH, Kawneer Company and Pittsburgh Plate Glass Company. BLINDS, Columbia Mills. SPECIAL CONSTRUCTION AND DOOR, Albert A. Lutz Company. WALLS, Sheetrock by U. S. Gypsum Company. SANITAS, Standard Textile Products Company. SUNFLEX PAINT, Craftex Company, applied by George Miller. FLEXWOOD, U. S. Plywood Co. LIGHTING, Frink Corporation. BOOKS, Various publishers.



LIVING ROOM JOHN WELLBORN ROOT, ARCHITECT

JOHN WELLBORN ROOT — 1929

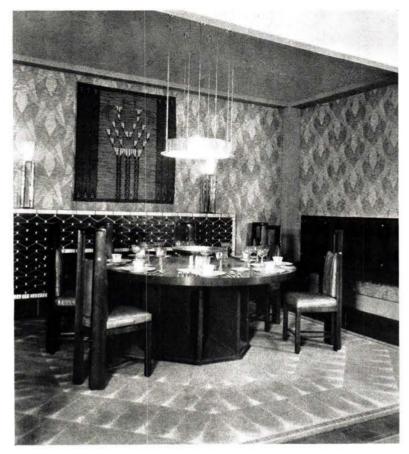




ROOM FOR A LADY ELIEL SAARINEN, ARCHITECT

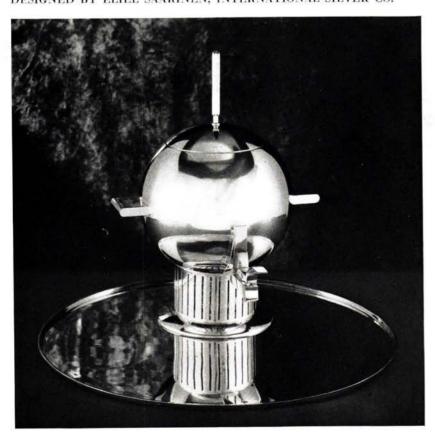
General setting and individual objects designed by Eliel Saarinen unless otherwise noted, and produced by the following firms and individuals:

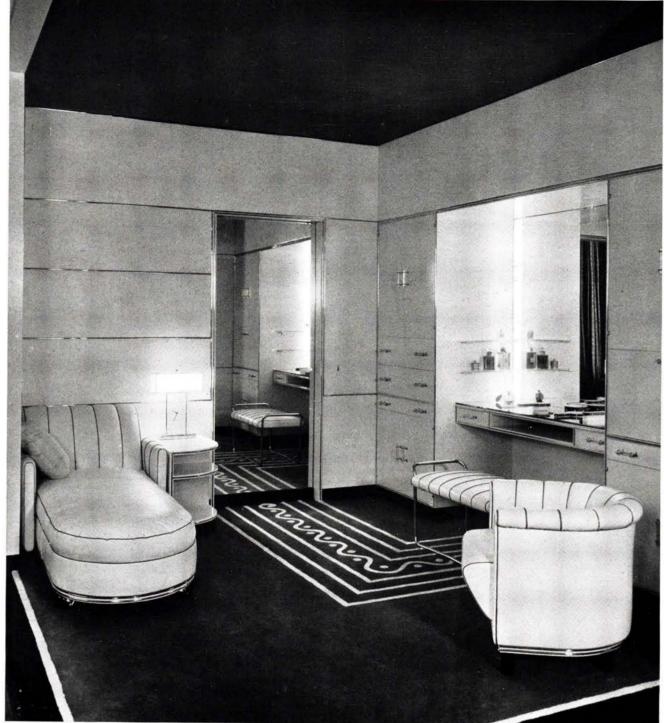
FURNITURE, Robert W. Irwin Company, REFLECTING DEVICE, Renaissance Metal Works. WALL HANGING, Cranbrook Looms. ALL OTHER TEXTILES, Cranbrook Looms. GOWNS, Designed and executed by Pipsan Saarinen Swanson. TEA URN AND OTHER SILVER, International Silver Company. WALLS, Sheetrock Sanitas, and Sunflex Paint as in other rooms. LIGHTING, Frink Corporation. SPECIAL CONSTRUCTION, Albert A. Lutz Company.



ELIEL SAARINEN — 1929

COFFEE URN DESIGNED BY ELIEL SAARINEN, INTERNATIONAL SILVER CO.

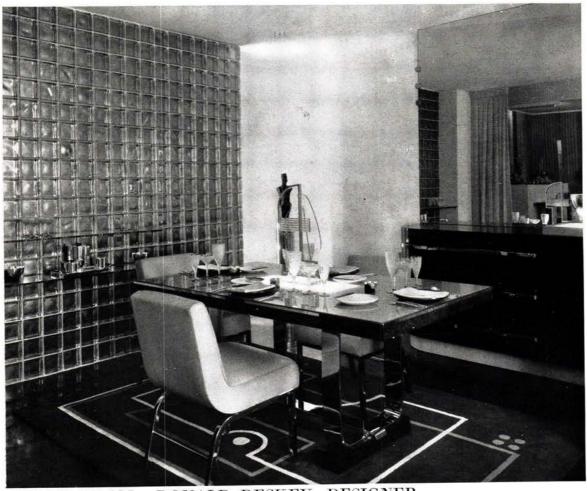




WOMAN'S DRESSING ROOM IRVIN L. SCOTT, ARCHITECT

General setting and individual objects designed by Irvin L. Scott and executed by the following:

FURNITURE, Thonet Brothers. CABINETS AND WOODWORK, A. Bronson, Inc. CARPET, Bigelow-Sanford Carpet Co. HARDWARE, Regal Art Glass Company. METAL MOLDINGS, Charles H. Biele & Son, LIGHTING FIXTURES, A. Ward Hendrickson, Inc. LEATHER FURNITURE, COVERING AND WALL TREATMENT. Blanchard Bros. & Lane. MIRRORS AND GLASS, Semon Bache & Company. DRESSING TABLE ACCESSORIES, Tommi Parzinger for Rena Rosenthal, Inc. CEILING PAINTING, Sunflex paint as for other rooms.



DINING ROOM DONALD DESKEY, DESIGNER

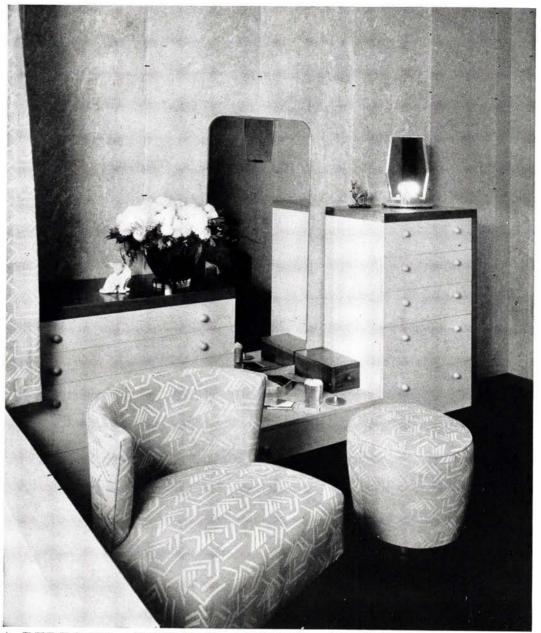
Designed and arranged by Donald Deskey. Individual objects manufactured from Mr. Deskey's designs, unless otherwise noted, by the following:

METAL FURNITURE, Metallon Corporation. WOOD FURNITURE, Schmieg-Hungate & Kotzian, Inc. COVERINGS, Blanchard Bros. & Lane. CURTAINS, Chicopee Sales Corporation. Installed by M. J. Antman & Company. CARPET, Bigelow-Sanford Carpet Company. RUBBER FLOORING, Voorhees Rubber Manufacturing Company. Installed by William Gold, Inc. SILVERWARE, International Silver Company. CHINA, Shapes by Victor Schreckengost, decoration by Donald Deskey. Manufactured by Limoges China Company. GLASS-WARE, Libbey Glass Manufacturing Company. STRUCTURAL GLASS, Structural Glass Company. PLATE GLASS AND MIRRORS, Pittsburgh Plate Glass Company. CONSTRUCTION AND DISPLAY CASE, Albert A. Lutz Company. PEDESTAL, Metallon Corporation. WALLS, Wallboard, covering and paint, as for other rooms. LIGHTING, Beaux-Arts Lighting Company.

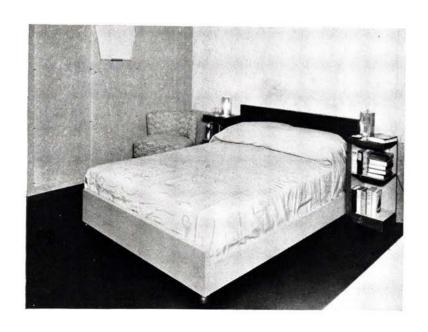
#### DISPLAY CASE WALTER VON NESSEN, DESIGNER

BRASS AND COPPER, Chase Brass and Copper Company. CAST IRON, Bradley & Hubbard Company. CHINA, Efcolite Corporation. GLASSWARE, A. H. Heisey Glass Company. PLATE GLASS, Semon Bache & Company. CASE AND IL-LUMINATION, Nessen Studio, Inc. METAL MOLDINGS, Chase Brass & Copper Company. PAINTING, Sunflex Paint as for others.





A BEDROOM RALPH T. WALKER, ARCHITECT



The general setting and, unless otherwise noted, the individual objects are designed by Ralph T. Walker, and executed as follows:

FURNITURE, Designed in collaboration with Marianna von Allesch. Executed by Modernage Furniture, Inc. DRAPERY AND FURNITURE COVERINGS, Oliver & Kaufman. DRAPERY HARDWARE, H. L. Judd Company, Inc. CURTAINS, Installed by Crown Curtain Company. WALL PAPER, Imperial Paper and Color Corporation. Installed by Barker Painting Company. LINO-LEUM FLOOR, Congoleum-Nairn Company. RUGS and DOILIES. The Brown Company. LAMPS, Cassidy Company. BEDSPREAD, BLANKETS and LINEN, Cannon Mills. BOX SPRING MATTRESS AND PILLOWS, Englander Spring Bed Company. MIRROR and DRESSING TABLE ACCESSORIES, Treitel-Gratz Company. POTTERY, Designed and executed by Dorothy Spalding. WALLS, Johns-Manville Corporation. Erected by Asbestos Construction Company. METAL DOORS, Haskelite Manufacturing Corporation. Painted by Barker Painting Company. PAINTING, Sunflex paint as for others. LIGHTING, Frink Corporation.



RALPH T. WALKER - 1929

All objects as well as general arrangement by Gilbert Rohde unless otherwise noted. All objects manufactured by the following:

PIANO CASE AND BENCH, Steinway & Sons. METAL LEGS, Leo J. Uris. TABLE AND CHAIR, Warren MacArthur. WALL PAPER, Imperial Paper and Color Corporation. TEXTILE, Designed in collaboration with Grete Franke, manufactured by Willich-Franke Studios. RUGS, for Nelson S. Fink, V'Soske Shops. LAMP, Mutual Sunset Lamp Manufacturing Company. BOWL AND VASE, Gladding-McBean Company. METAL MOLDINGS, The Metallon Corporation, with metals from American Brass Company and International Nickel Company.

### MUSIC ROOM CORNER GILBERT ROHDE, DESIGNER





DINING ROOM EUGENE SCHOEN, ARCHITECT

EUGENE SCHOEN — 1929



General setting and individual objects designed by Eugene Schoen, except as otherwise noted, and produced by the following firms and individuals:

FURNITURE AND COVERINGS, Schmieg-Hungate & Kotzian, Inc. DINING TABLE, Designed in cooperation with Doris Royce. DRAPERY FABRIC, Celanese Corporation of America, installed by Lancaster Shop. Curtain tracks, Kirsch Company. CARPET, The Klearflax Linen Looms, Inc. Installed by Persian Rug Manufactory. LIGHTING FIXTURE, Designed in cooperation with Maurice Heaton, Lightolier Company. FLATWARE AND HOLLOW WARE, Stainless Metals, Inc., cooperating with Electro Metallurgical Company. CHINA TABLEWARE, Designed with S. H. Slobodkin, James River Pottery. GLASSWARE, United States Glass Company. DECORATIVE POTTERY, Designed by Waylande Gregory, Waylande Gregory Studio. TABLE LINEN, Robert MeBratney & Company. LITHO-GRAPHIC PAINTING, Hugo Gellert. WALL MATERIAL, Athol Manufacturing Company. Installed by Lancaster Shop. SASH, C. E. Halback & Company. Metal by Aluminum Company of America. Glass by Semon Bache & Company. Special construction of walls to receive sash by Albert A. Lutz Company. BLINDS, J. G. Wilson Corporation. PAINTING OF CEILING, Sunflex Paint by Craftex Company. Applied by George Miller. GENERAL LIGHTING, Century Lighting Equipment, Inc.

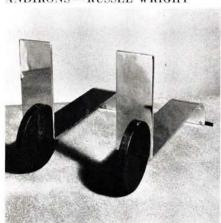


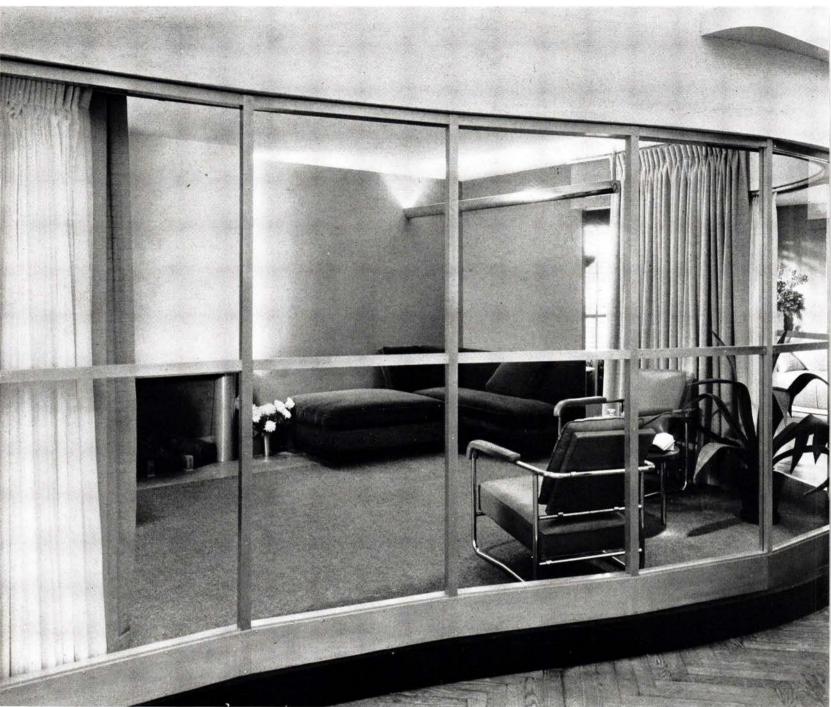
DINING ROOM WALTER DORWIN TEAGUE, DESIGNER

General setting and individual objects designed by Walter Dorwin Teague and produced by the following firms:

TABLE, Pittsburgh Plate Glass Company, CHAIRS, S. Karpen & Bros. RUG, L. C. Chase & Company, LIGHTING FIXTURES, Curtis Lighting Company, GLASSWARE, CENTERPIECE, CANDLESTICKS, AND FLATWARE, Corning Glass Works. CHINAWARE, James River Pottery, TABLE LINEN, Mosse, Inc. GLASS RODS IN GRILLE, Corning Glass Works. CABINETWORK AND DISPLAY CASES, CONSTRUCTION AND PAINTING, Jacob Froehlich Cabinet Works. Plywood and Micarta. United States Plywood Company, PAINTING OF CEILING, Sunflex paint as for the rest.

ANDIRONS — RUSSEL WRIGHT





LIVING ROOM WILLIAM LESCAZE, ARCHITECT

General setting and individual objects designed by William Lescaze, produced by the following firms:

FURNITURE, METAL, Garland Furniture Company. LEATHER CHAIR COVERINGS, Blanchard Bros. & Lane. FURNITURE, WOOD, Charak Furniture Company. CHAIR COVERINGS, Marshall Field & Company. RADIO CABINET, Philoo Radio and Television Corporation. DRAPERY FABRICS, L. C. Chase & Company, installed by Charles H. Kenney Studios, Inc. CURTAIN FABRICS, Celanese Corporation of America, installed by Charles H. Kenney Studios, Inc. CURTAIN TRACKS, Kirsch Company. CARPET, The Klearflax Linen Looms, Inc., installed by Persian Rug Manufactory. MANTEL AND FIREPLACE, Jacobson & Company. DESK LIGHT, Renaissance Metal Works. DESK PAD AND BASKET, Star Case Company. BOOKS, by various publishers selected by The American Institute of Graphic Arts. SASH, C. E. Halback & Company. Metal by Aluminum Company of America. Plate glass by Libbey-Owens-Ford Company. WALLS, Sheetrock, Sanitas, Sunflex paint as throughout, SPECIAL CONSTRUCTION TO FRAME WINDOW AND BACK WALL, Albert A. Lutz Company. LIGHTING, Century Lighting Equipment, Inc. PLANTS, Hawthorne Flower Shop.

### HIGHER HOUSING FOR LOWER RENTS

Housing Study Guild presents a new formula for universal application which challenges certain existing housing dogmas

Though most of the proposals to solve the housing problem with tall fireproof buildings come to us from European sources the idea is not new in this country. Long before PWA critics refused to approve the Rutgerstown project for New York as likely to create "vertical sanitary slums," the principle of reducing land cost per room by increasing the population density through higher buildings had been advanced.

Probably the first appearance of the idea was in the tentative report to The New York State Board of Housing by their consulting architects\* in 1925. Housing Chairman Darwin R. James' Board that later approved Rutgerstown was sympathetic to it. Building money men were not. Chief critic was Metropolitan Life Insurance Company's Walter Stabler who declared that his company would not lend money for such a scheme. Realistic Mr. James and his Board shelved the idea and did the best they could to get housing built.

Since then there have been other attempts to convince the skeptical that this was probably the only practicable solution in districts with high land values. The chief difficulties have been that many critics felt that operation of automatic elevators was beyond the capabilities of those who should occupy these houses. Another objection: the cost of fireproof construction over non-fireproof neutralized other demonstrable savings. Curiously enough many of those who felt that such buildings were socially undesirable saw no harm in making women climb three, four, and even five flights of stairs, or requiring them to depend on fire escapes for egress from burning buildings in any weather.

Now New York's Housing Study Guild, organized to find facts in such subjects (The Architectural Forum, August, 1933, page 21, and September, 1933, page 44), has taken an important step forward. Taking a typical modern plan it has carefully analyzed the differences in cost per room caused by building a house 2, 4, 6, 8, 10, and 12 stories in height. All of the buildings are considered as of fireproof construction. The two-story and four-story units are walk-ups. The six-story unit has a single elevator, the other units have two elevators.

Each item that goes into the cost of construction has been carefully studied and the cost tabulated. If the increase in height from six to eight stories requires that the main water supply from the street to the house shall be increased in diameter by 1 in., the difference in price is accounted for. These cost figures are not the Guild's ideas of what such figures should be, but the results of much work by manufacturers and contractors. They are, of course, based on present prices, but as the whole system is relative it is difficult to envision a sharp rise or fall in the cost of a

single item which would throw the derived results out of line.

The results of this analysis startled even some of the members of the Housing Study Guild who thought that they knew that a two-story flat was the cheapest possible form of housing. Instead it developed that the higher types, varying slightly one from the other, were on the whole cheaper in the New York Area to which this set of figures applies. This relation to a lesser degree was also found to exist in the matter of maintenance. Here the figures were very close, but a difference did exist.

These studies put in the hands of everyone who has an interest in housing facts which until now were only guessed at. Even if the plan under study for a specific area is not the same as that used as the basis for these studies it will be a simple matter to interpolate the different quantities and, using the same unit prices, arrive at similar relations to those given. This will enable the architect, the building money man, and the public housing official to make a first-rate analysis of their particular situation. It should be noted here that any departure from these relations can be made only with a radically different plan as basis.

It will then be possible for all to decide just what type of building must be built on the site in question in order to neutralize the land costs. Some cases will be adequately taken care of with two-story buildings. Other cases will occur when this will not be possible. In these cases it will be possible to decide what must be done with a complete knowledge of the actual factors involved.

Elsewhere in this issue will be found reviews of sources of further information on this question of higher buildings (see Book Reviews). These sources of information, developed in England and in Europe, have until now been the only authoritative ones. Thanks to the Housing Study Guild, we now have even more accurate and complete information of our own which takes account of our peculiar methods of building and design.

THE FOLLOWING IS THE HOUSING STUDY GUILD'S SUMMATION OF THE METHODS PURSUED IN THE ANALYSIS.

The Housing Study Guild in working up and presenting this analytic study of the variation of cost with height of buildings (number of stories) is presenting a rational method for use anywhere in the country. Like others of its studies, such as the Rapid Method for Evaluating Differences in Monthly Rental among Different Plans, the purpose is to enable us to determine characteristic cost differences as among different schemes with a satisfactory

<sup>\*</sup> Arthur C. Holden and Associates.

degree of accuracy. Such facts should be part of our ready equipment as architects, and should not be matters of opinion and of more or less uninformed disputes.

Despite the fact that we know as a result of this study that an eight-story building costs eighteen cents more in rent per room per month for the same apartment than a four-story walk-up, we may still choose the eight-story building for other reasons, but at least we know that the difference exists and how much it is. Unless there are local or social reasons to the contrary, we should naturally build to the number of stories which give the cheapest rental for the same accommodation.

In examining this Study and applying it, the following basic facts should be borne in mind:

- All items of cost, later reduced to rent, have been considered, except land prices. The cost items came under three heads:
- a. "Vertical" costs. These are the costs usually considered as construction costs to complete a building. See Charts 5 and 6.
- b. "Horizontal" costs. These are the costs of utilities both public and private gas, water, sewer, electric mains, steam mains, if any sidewalks, landscaping, etc. See Chart 7.
  - c. Maintenance-Operation Costs. See Chart 8.
- 1. All cost items are figured per room, on plans that are strictly comparable. For example, plans for every height have the same number of rooms per apartment, thus eliminating any accidental differences in plumbing costs due to more or less bathrooms or kitchens; as nearly as possible rooms in all plans contain the same number of square feet. Exactly comparable structural systems were used, except that the two-story flat was made fireproof-wall-bearing to test the economy of that special system.

Initial cost items under (a) and (b) are reduced to rent, by multiplying initial cost by a percentage which is the sum of interest rate, amortization rate and municipal tax rate. See Master Charts No. 1, 1-A, 1-B and 1-C. These charts are so constructed that easy interpolation of money rates is possible. See Charts No. 1-A, 1-B and 1-C.

- 2. Attention is directed to the operating-maintenance item, so important and so often neglected as against first cost items. This is particularly important when the *total* living costs to the tenant are considered. It is evident that different systems of supplying heat, gas and electricity result in great variations in living economy to the tenant. These items are shown on the Master Charts No. 1, 1-A, 1-B and 1-C and Charts 8 and 10 which bring into striking relief the importance to the tenant's living budget of the method of production and distribution of heat, gas and electric current.
- 3. It should be borne in mind that major emphasis was placed on the proper comparability of plans for various heights (see Chart 4), site coverage for various heights (see Chart 3) and standards of maintenance and operation, rather than on the absolute merit of any plan adopted, or the absolute accuracy of any cost. At the start of the study the tendency was to take a lot of time to try to find out the best in each branch—floor plan, site plan, etc., but it was soon realized that we should never get to the study itself. It was decided that the important issue was to make all factors strictly comparable. Accuracy of relative differences has been maintained—though it may well be that in maintenance-operation, for example, one might differ with the absolute figures.

- 4. The figures were made up on the basis of a definite specification which is found in full in our report\* an outline of which appears on Chart 7 and the notes column of Charts 5, 6 and 7; specific estimates were obtained from contractors and operating men, checked by the Guild against its own breakdown, and unit costs obtained from builders and manufacturers. In our report appear the unit prices, prices of basic materials, and wage-scales, so that the figures can always be readily revised for changes in these items.
- 5. For the New York area, to which these figures definitely apply, it appears that the six-story building results in the lowest rent (lower even than for the two-story flat, which omits janitor service). This is a surprising result to those who have assumed that the tall building is always costly, and shows the value of such a study.

This result is in great measure due to conditions local to New York. For instance, New York contractors are used to building tall buildings, hence methods of economy have been highly developed for them, rather than for the lower building. In some sections of the country this would not be so. Again in maintenance items, the water rate in New York is, for example, considerably higher per room for lower buildings because of the frontage rate method of charge.

6. What has been brought out under No. 5 indicates that it would be wrong to apply the factual results of this study elsewhere without careful study. But the importance and great significance of the study are in the method evolved and employed. Every section of the country should work out its own facts on such a method. Once the facts have been established for any locality, the results can be considered final. For unless wage rates, prices or financial rates change violently, the comparative results will not be appreciably changed. Each locality will naturally make its study for the kind of buildings most appropriate there—single and two-family houses, detached or semi-detached will be included; these were not included in our study because it seems unlikely that they will be considered in the New York area.

Again, it must be repeated: for us the factual results obtained are of the utmost importance, because they end a long-standing controversy on the relative economy of different heights. For other sections the importance of what we have done is to establish a method by which each section can similarly end loose controversies by establishing facts with finality, facts which once determined will guide the designer in choosing types until some revolutionary changes take place either in building technique or materials, in maintenance costs or in financial rates.

The Guild wants to give special credit to Mr. Emil W. Klee for his devoted and intensive work on the study—the form of the charts are particularly due to him; to Mr. Paul Grotz, and to Mr. S. R. Rio for their no less excellent work; to Mr. George Chadeayne, of the office of Percival R. Moses, for the layouts and calculations of the heating and generating systems; to Mr. L. A. Panza for his laborious calculations; to Mr. William Cobb for his work on maintenance; and to Mr. C. Sulzer and others for the drafting.

Thanks are also due to many contractors, builders, managers and utility company representatives.

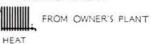
<sup>\*</sup>Available December 15 at the Housing Study Guild, 101 Park Ave., New York City.

When heat is furnished by owners' central plant and electric current and gas are purchased from utility companies by tenant at retail rates — the electric current and gas charges are paid by the tenant in addition to the rent.

actors for financing and services are for New York area.

Analytic study of cost differentials for the 2-Story flat and 2-, 3-, 4-, 6-, 8-, 10-, 12-Story apartments

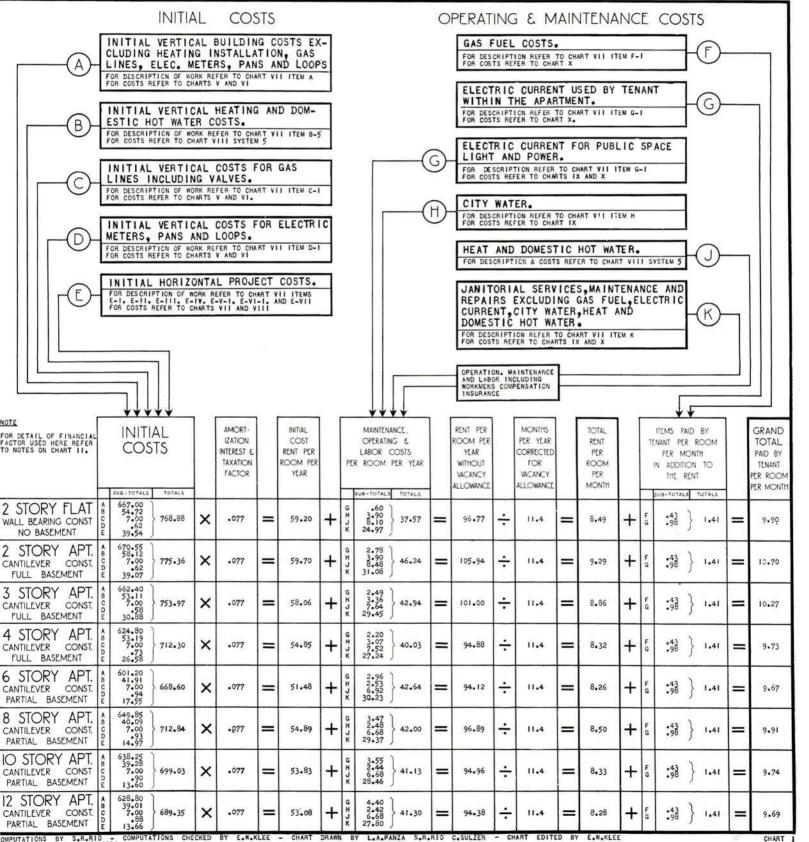




TENANT - CHARGES

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OMPUTATIONS BY S.R.RIO -TUDY COMPLETED OCT. 15, 1934

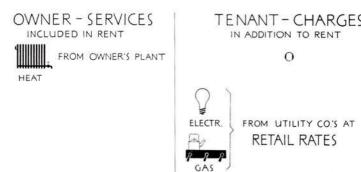
DECEMBER · 1934 · THE · ARCHITECTURAL · FORUM

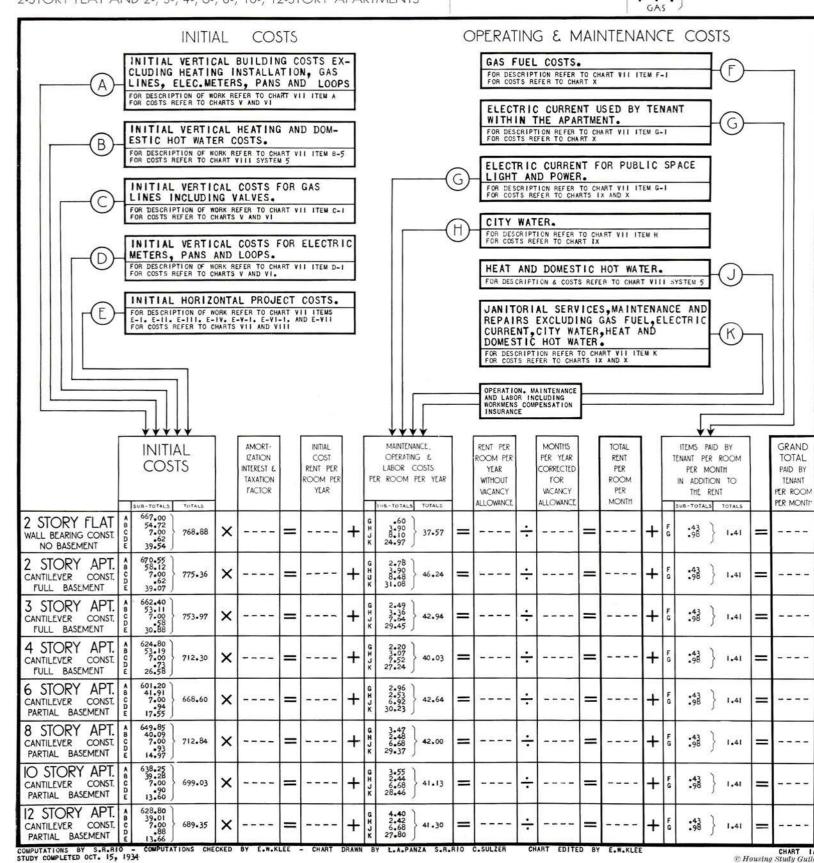
#### RENT PER ROOM PER MONTH - LAND EXCLUDED

When heat is furnished by owners' central plant and electric current and gas are purchased from utility companies by tenant at retail rates — the electric current and gas charges are paid by the tenant in addition to the rent.

Blanks are left for the interpolation of purely local variables

ANALYTIC STUDY OF COST DIFFERENTIALS FOR THE 2-STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS





#### RENT PER ROOM PER MONTH — LAND EXCLUDED

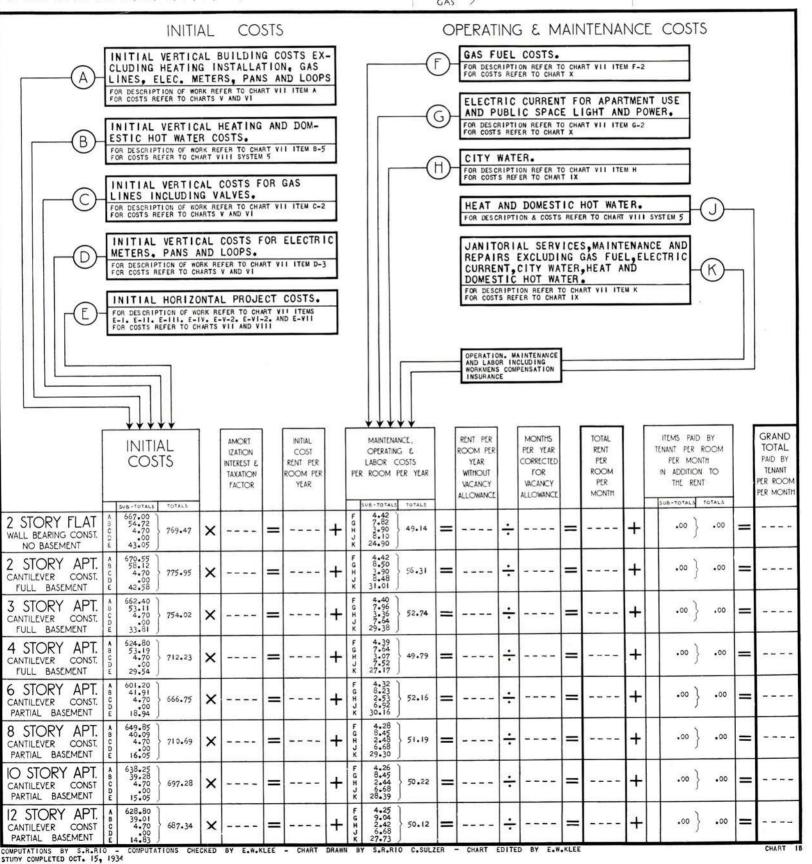
When heat is furnished by owners' central plant and electric current and gas are purchased from utility companies by owner at wholesale rates — the electric current and gas charges are reflected in the tenant's rent.

Blanks are left for the interpolation of purely local variables.

© Housing Study Guile

analytic study of cost differentials for the 2-STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS





#### RENT PER ROOM PER MONTH - LAND EXCLUDED

When heat and electric current are furnished by owners' central plant and gas is purchased from utility company by owner at wholesale rates — the gas cost is reflected in the tenant's rent and the electric current paid by tenant in addition to rent.

Blanks are left for the interpolation of purely local variables.

ANALYTIC STUDY OF COST DIFFERENTIALS FOR THE 2-STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS

OWNER - SERVICES



TENANT - CHARGES

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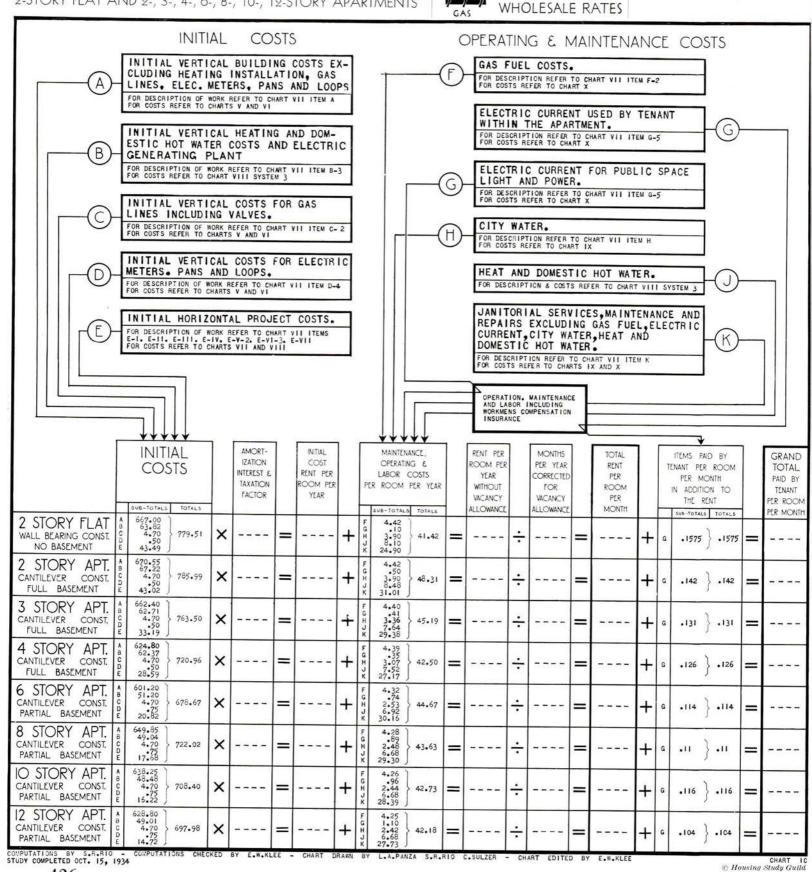


FROM OWNER'S PLANT



FROM UTILITY CO. AT WHOLESALE RATES

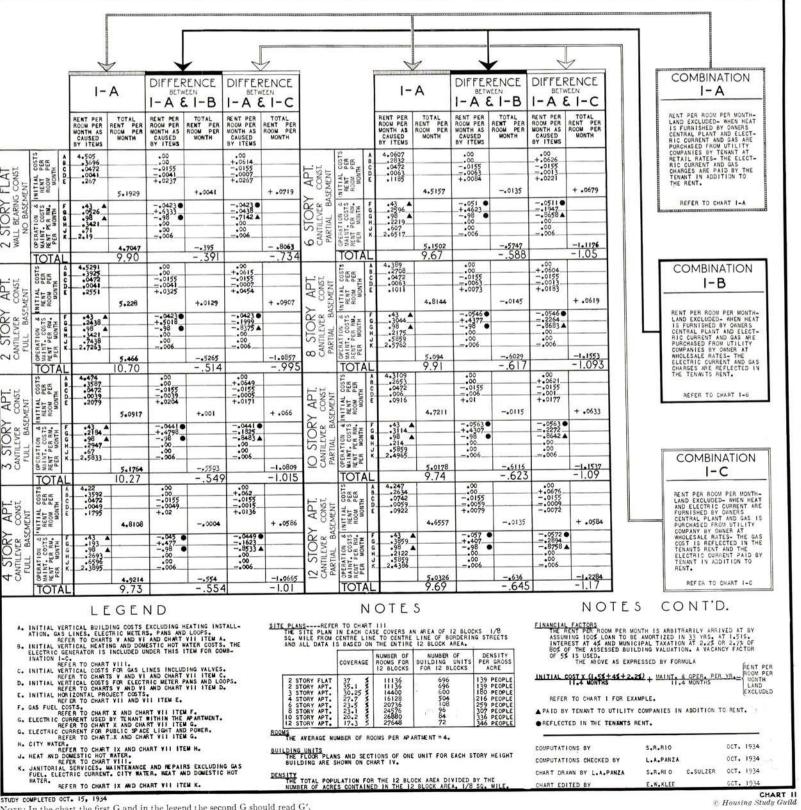
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#### UMMARIZED COMPARISONS OF RENT PER OOM PER MONTH — LAND EXCLUDED

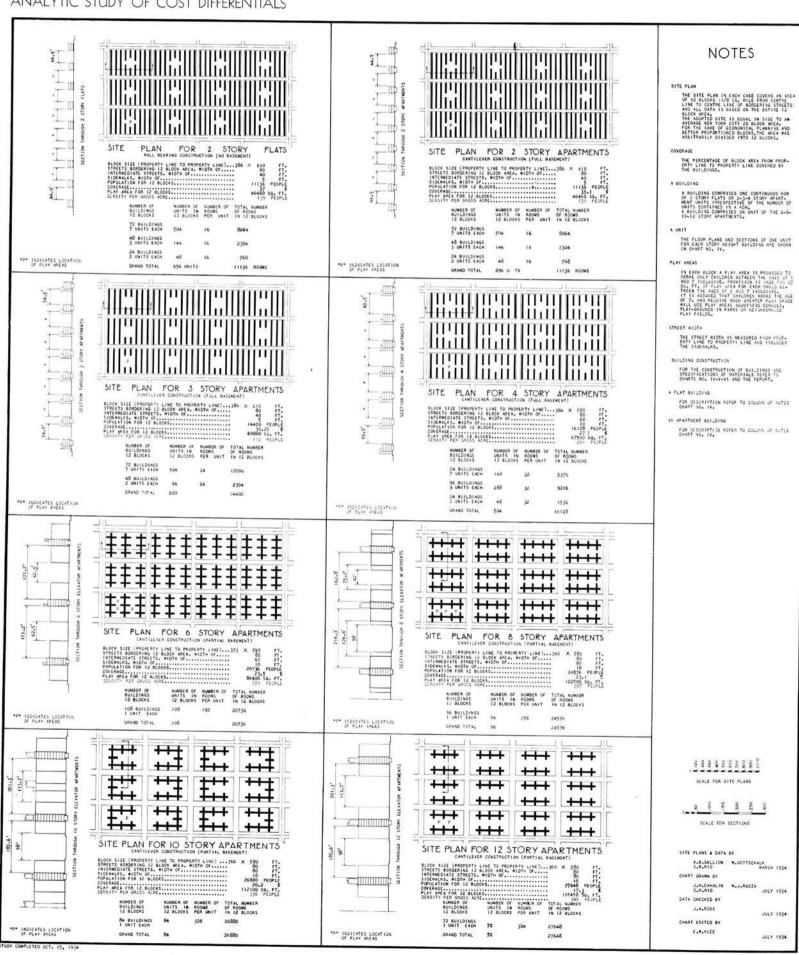
or three methods of combining the use of central plant eat — electricity generated by owner or purchased from tility companies at retail or wholesale rates — gas purhased from utility companies at retail or wholesale rates.

NALYTIC STUDY OF COST DIFFERENTIALS FOR THE -STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS



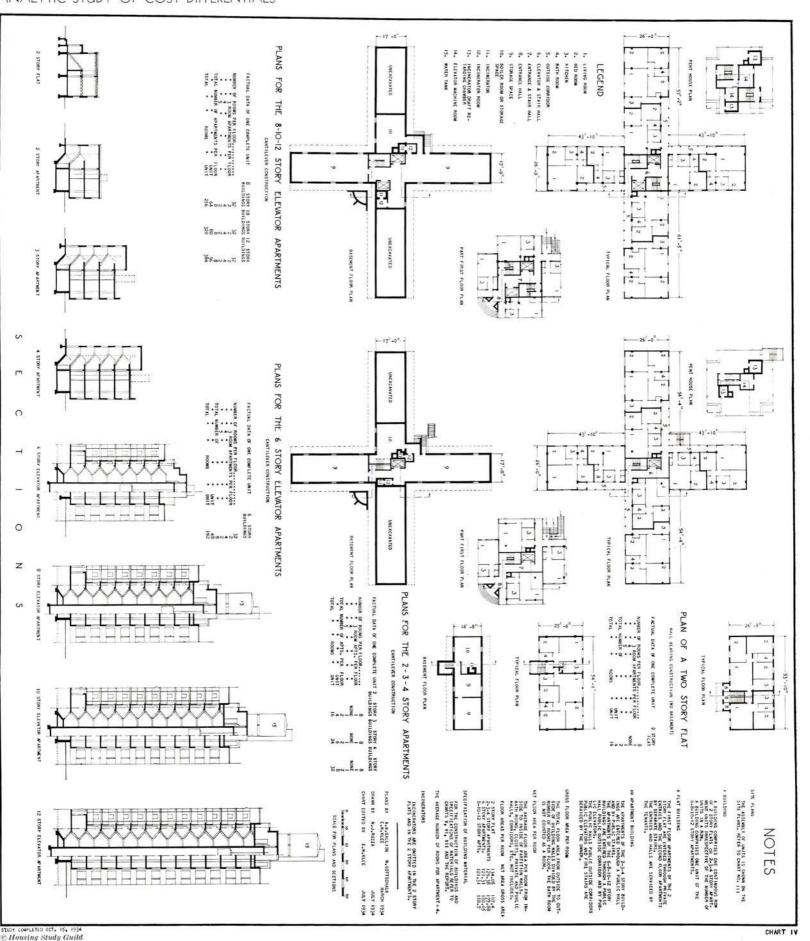
#### SITE PLANS FOR THE 2-STORY FLATS AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS

ANALYTIC STUDY OF COST DIFFERENTIALS



#### FLOOR PLANS AND SECTIONS OF ONE UNIT FOR EACH OF THE 2-STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS

analytic study of cost differentials



#### BREAKDOWN OF INITIAL VERTICAL COSTS FOR THE 2-STORY FLAT AND 2-, 3-, 4-STORY APARTMENTS

ANALYTIC STUDY OF COST DIFFERENTIALS

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BASEMENT	STEM SHOUL EXCAVATION & DISPOSAL HAND TREVARION & DISPOSAL HAND TREVARION & DISPOSAL HAND TREVARION & DISPOSAL HAND TREVARION OF THE TOP THESE & BOMT, WALLS INC. FORMS & RETNEORE, STRUCTURAL STELL FOOTHERS & BOMT, WALLS INC. FORMS & RETNEORE, STRUCTURAL STELL FOOTHERS OF FILL CHIRDS FOODERETS COMMET FINES INTEGRAL WATERPROOFING PER CUBIC YAND OF CONCRETE	70.0 CY 30 CY 1000 SF 46.5 CV	12.50	91.00 9.60 13.00 581.25 21.30 TOTAL 716.15		252.5 CY 42 CY 55 CY 1000 SF 48 CY 1.5 T 825 SF 48 CY	65.00	164.10 54.60 17.60 13.00 576.80 97.50 156.75 24.95 TOTAL 1205.30	75 • 35	252-5 CV 44 CV 55 CV 1000 SF 49-15 CV 1.85 T 825 SF 49-15 CV	64 1,30 .32 .013 14.10 65.00 .19 .52	161.60 57.20 17.60 13.00 693.00 120.25 156.75 25.55	51.85	252.5 CV 48 CV 55 CV 1000 SF 50.5 CV	14.10	161.60 61.45 17.60 13.00 712.00 123.50 156.75 25.75	_	NOMBAL SOIL CONDITIONS ASSUMED-NO ROCK NO WAID TO 10' COTTENS BODG, LINE 4 4' RELOW FIN. CHAN REARING VALUE OF SOIL-3 ONS FER SO, FT. "INCLUDING STEEL COLUMN CHANNEL RELOW 4' CINDER FILL 4' CINDER CHOCKETE 1' FIRSTM I TOM HYDRATED LIME TO 75 CU. YDS, OF CONCRETE
ò	BASEMANT STAIRS-CONCRETE FORMS & REINFORCING 6" HICKOW TILE MALES 2" DOLLD FAISTER PARTITIONS 2" DOLLD FAISTER PARTITIONS 3" TELES SAN 4" DALLING 1" FERROOFD DONE & BUCST SIZELL HARDWARE 1" FERROOFD DONE & BUCST SIZELL HARDWARE 1" FERROOFD DONE & BUCST SIZEL HARDWARE SIZELECTRICALNO WALES & CRISS PARTITION DOORS & WINDOWS SIZELECTRICALNO WALES & CRISS PARTITION DOORS & WINDOWS SIZELECTRICALNO WALES & CRISS PARTITION DOORS & WINDOWS SIZELECTRICALNO WALES & CRISS PARTITION SIZELECTRICALNO WALES AND SIZELECTRI			716		1 GY 160 SF 145 SF 175 SF 30 SF 3 SA	14.10 .36 .202 .104 .51 18.70 4.68 44.00	1205.30 14.10 57.50 29.30 18.20 18.35 56.10 26.00 20.75 44.00 TOTAL 296.30		1 CY 161 SF 145 SF 175 SF 36 SF 3 EA	14.10 -36 -202 -104 -51 18.70 4.68 44.00	1245.00 14.10 58.00 29.30 18.20 18.35 56.10 26.00 27.75 44.00 TOTAL 296.80	12.35	1 CY F50 SF 145 SF 175 SF 36 SF 3 EA	14.10 .36 .202 .104 .51 18.70 4.68 44.00	TOTAL 1271.65 14.10 54.00 29.30 18.20 18.35 56.10 26.00 32.75 44.00 10 TAL 292.80		FROM ENTRANCE HALL FLOOR LEVEL TO BASEMENT PREFAB SECT. OF MET. LETH-3 COLTS PLAS. E.A. 510 A 1812 FRE MIST REGARDLESS OF STORN VEGAT STANDARD 1" SECTIONS-DOUBLE THICK QUAL, B GLAS FURNITURE SECTE COVA, DOUBLE FRICK QUAL, B GLAS PURINTURE SECTIONS-DOUBLE THICK QUAL, B GLAS MIST ORDER OF THE COLD PROPERTY OF THE COLD PROPER
RUCTURE & ENCLOSURE	STRUCTURES, STEEL H. DOLLWAYE. (STRUMEN STRUME) SETTING OF ALCOHOM BLIST OCCUMEN BASE PLATES GROUTING OF COLUMN BASE PLATES ULT TLOOD SHALL-COMERTE FLOWERS & RESPONDENCE OF HOLLOW TILL MALES. OF HOLLOW TILL MALES. OF HOLLOW TILL MALES. THE STRUCTURE OF THE STRUCTURE OF STRUCTURES STRUCTURES OF THE STRUCTURES OF STRUCTURES THE STRUCTURES OF THE STRUCTUR	22.25 M 200, M 1300 SF 1240 SF 1240 SF 500 SF 7 T 1500 SF	55.10 39.50 19.51 514 35.50.00 50.00 52.51	1226.00 790.00 2 47.00 946.00 35.00 35.00 183.00		3.05 T 2.5 EA 2646 SF 1314 SF 1314 SF 1095 SF 1095 SF 1095 SF 1095 SF 1095 SF 1095 SF 1095 SF 1095 SF	65.00 52 52 52 49 49 36 475 314 68 104	198.10 8.85 4.40 1296.55 643.85 187.20 519.90 37.85 454.25 129.00		4,55 T 17:55 EA 3969 SF 1114 SF 1790 SF 1790 SF 1790 SF 1793 SF 1794 SF 1892 SF 1892 SF	65.00 .52 .52 .48 .48 .36 .475 .114 .68	295.80 295.86 8.85 4.40 1905.10 6.00.70 284.20 729.50 681.35 129.00		6.75 T 77.8 8.5 CA 5292 54 1314 55 460 55 2372 54 1336 54 1240 55	65.00 52 52 48 48 36 475 114 68	438.50 4.85 4.40 2540.15 630.70 353.00 1100.20 65.45 908.50 129.00		INCLUDING STEEL CHANNEL COLUMN HEADS UNIT PRICE GIVEN IS PER BOLT  4 STONE COMEN, GERDERLESS SLAB-REINF, BOTH MA  WALLEGITE IN METAL STUDGED WITATED LATH 2 SI COOD METALANED LATH 2 STUDGE STANDARD IS SECTIONS-DOUBLET FINEY GOVERNMENT OF THE STANDARD IN SECTIONS-DOUBLE THICK GOVERNMENT OF THE STANDARD IN SECTIONS-DOUBLET THE FINEY METALS BETWEEN BUTS-EVERY FOR SLAB DELS TRUSS JOISTAMETAL BROWN FIRE LATE FOR SLAB STANDARD IN SECTIONS-DOUBLET THICK GOALD. B CLAST STANDARD STANDARD SECTIONS-DOUBLET THICK GOALD. B CLAST STANDARD STANDA
STRL	TOTAL A TOTAL ST.	-110			251.55			TOTAL 3479.95	217.50			TOTAL 4719.30	196.65			TOTAL 6178.75	193-10	
SULKHEAD	STATE LANDING-CONCRETE FORMS & REINTORCING TATE ARCHITECTURE TO A PROPERTY OF THE GLARED BOTH STRESS TATE ARCHITECTURE THE AR	15.8 3F 1 EA 1 EA 2.25 M 1 15 SF 1 80 SF 2 30 SF 2 30 SF 2 30 SF 2 30 SF	27, 00 21, 60 4, 50 55, 10 4, 50 55, 10 4, 50 55, 10 4, 50 55, 10 4, 50 4, 50 55, 10 4, 50 4, 50 55, 10 4, 50 55, 10 4, 50 55, 10 4, 50 55, 10 55, 10 56, 10 57, 10	18.05 55.35 14.85 9.85 2.10 30.05 21.95 11.95 12.95 12.95 49.40 12.95 12.95 23.95 49.40 12.95 12.95 23.95 24.95 26		62 SF 114 SF 330 SF 186 SF 114 SF 14	65	9479-95 10.40 156.00 214.50 11.40 24.20 12.55 8.35 8.35 8.35 15.30 21.60 2		120 SF 114 SF, 725 SF, 925 SF, 124 SF, 125 SF, 125 SF, 114 SF, 114 SF, 114 SF, 114 SF, 114 SF, 115 SF, 116 SF, 116 SF, 117 SF, 118 SF,	.48 .88 .92 .94 .68 .68 .7.59 .13 .073 .26 .27.50 .21.60	47(9-30) 57.40 57.40 57.40 57.40 57.70 57.70 57.70 57.70 57.70 57.75 7.85 11.40 42.25 12.35 8.35 11.40 42.25 22.35 8.36 11.40 42.25 22.35 42.25 23.40 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 42.25 43.20 44.25 45.15 46.60		150 SF 114 SF 575 SF 500 SF 50	17.15 7.85 19 13 11 073 073	6178.75 72.470 94.470 94.470 94.670 9		6" STONE CONCH. GIMDERLESS SLAB REINT, BOTH NAV FIRNITURE STEEL COV.DOORS-16 GA.COMO.STEEL BUCK APPLIED TO STEEL THEADS & STEEL & CONCRLANDING TAR & GRAVEL ROOF: BARRETT SPEC. 10 PR. QUAR. THE GAUGE MITS MEXISTER AT SELUCTER & FASCING STANDARD 1" SECTIONS-DOUBLE THICK QUAL, B GLASS FLOWNITURE STEEL COV.DOORS-16 GA.COMO.STEEL BUCK 2 COATS GLOSS OIL PAINT LINCLUDING REWOTE DOOR OPENING DEVICE OPEN TRUSS JOISTS-6" FERRO BOARD 20 GAUGE METAL
ROOF	SCHEEDED CHACER CONCRETE MODE FILL  SCHEEDED CHACER CONCRETE MODE FILL  RODE MODILATION- 1º THERMAN  COMPER GRAVEL STOP  PARAMETI-D- HOLDON TIES VERIFIED THE  FILT FLASHING INCLUDING FLASHING BLOCKS	1240 SF -1310 SF -1310 SF -1310 SF	073 073 2073	76.40 75.60 95.60 7.30 29.10		1230 SF 1230 SF 1230 SF 1230 SF	.11 .073 .073 2.30 .26	10TAL 798-30 135-30 59-75 79-75 29-10	50.00	1230 SF 1230 SF 1230 SF 1230 SF 110 LF	.11 .073 .073 7.30 .75 .54 .68	TOTAL 1386.05 135.30 89.75 7.30 288.20 59.40 76.85	57.75	1230 SF 1230 SF 1230 SF 1 400 SF 113 LF	.11 .073 .073 .7.30 .75 .54 .68	300.00 61.00 78.85	52.95	TAR & GRAVEL ROOF, BARRETT SPEC. 10 YR. GUAR, 1
FINISH & EQUIPMENT	STEEL COLUMN FIREFROOFING-2" MOLION TILE & PLASTER 2" SOLID PLASTER RASTITIONS 4" SOLID ROOM, SOLID RASTIC 4" SOLID ROOM, SOLID RASTIC 4" SOLID RASTIC 4" SOLID ROOM, SOLID RASTITIONS 4" SOLID ROOM, SOLID ROOM, SOLID RASTIC 4" SOLID ROOM, SOLID ROOM, SOLID RASTIC 4" SOLID ROOM, SOLID ROOM, SOLID RASTIC 4" SOLID ROOM, SOLI	1320 SF 2800 SF 4 4 20 20 LF 700 LF 4 4 4 4 4 4 4 4 4 4 1270 SF	18.75 4.70 8.90	267.95 190.30 75.00 18.80 178.00 52.00 57.60 53.90 57.60 180.00 26.00 180.00 26.00 16.90 100.00 120.00 308.60		450 5f 2000, 5f 1000 5f 4 4 4 4 14 12 14 12 15 15 15 15 15 15 15 15 15 15 15 15 15	11 201 201 201 201 201 201 201 201 201 2	351.20 139.50 406.00 68.00 75.00 18.89 124.66 22.40 475.10 32.90 90.00 387.40 200.00 26.00 100.00 320.00		675 SF 3000 SF 1500 SF 6 6 21 21 3426 SF 1200 UF 1050 UF 6 AP 8 6 6	31 2038 18.75 4.70 8.90 1.60 6.77 99 99 12.50 45.00 12.50 45.00 80.00	TOTAL 746.55 209.50 609.00 102.00 112.50 28.20 136.90 33.60 712.65 80.40 49.40 135.00 581.10 300.00 300.00 300.00 19.00 400.00		940 SF 4000 SF 1900 SF 8 8 8 28 29 4568 SF 1600 LF 1400 LF 200 SF 8 49	31 30 305 18.75 4.70 8.90 208 6.90 208 6.90 96.80 12.50 45.00 6.50 1.00 25.00 80.00	759-95 291-50 312-00 129-20 150-00 37-60 249-20 107-20 05-70 180-00 774-80 400-00 52-00 200-00 640-00		PREFASSECT OF MET LATH-3 COATS PLAS EA SIDE 3 COATS OF PLASTER  J'UNIT TOME STEEL COVIDORS-16 GA-COMB, STEEL BU  1 3/8" VENEER DOORSE OAK SADDLES  INCLUDES THE BING INDER TOLET  2 COATS PT., MALES DOORS COLET-LINS 2 CTS. SHE  ENMEL FINISH BY MANUFACTURER  ENMEL FINISH BY MANUFACTURER
PLUMB.	PLUMBING PER FIXTURE-COST OF RAIN LEADER PRO-RATED PLUMBING COSTS FOR GAS LINES LISTED BELOW	16	102.70	1643.20	183.30	16	102.70	1643.20		24	97.75	2346.00	171.60	32	95.25	3048.00	171.75	
ELECTR. PL	ELECTRICAL OUTLETS INCLUDING LIGHTING FIXTURES COSTS OF METER PANS & LOOPS LISTED BELOW	46	4.50	207.00	1000000	44	4,68	206.00		66	4,68	309.00	97•75	88	4,68	TOTAL 3048.00 412.00		
INCINERATORSEL	CONCETT FOOTINGS INCLUDING FORMS & REINFORCING COMMON RAILCEMONS FALLE & COMBUSTION CHAMBER COMMON RAILCEMONS ROUTHWAT FOR COMBUSTION CHAMBER ROUTHWAT FOR COMBUSTION CHAMBER ROUTH DOORS PLATER IN G. OF THEMETY IN ROOM SPACE FLET LAARIHUS INCLUDING FLASHING SLOCKS			TOTAL 207.00	12.95			TOTAL 206,00	12.90	400 SF	14.10 101.10 50.55 104.00 7.80 .068	TOTAL 309.00 14.10 203.30 227.50 104.00 46.80 27.20 8.85	30.50	3.5 W 5.5 W 8 500 SF 13 LF	14.10 101.10 50.55 104.00 7.80 .068	TOTAL 412.00 14.10 353.85 252.75 104.00 72.40 34.00 8.85 TOTAL 839.95	26.25	GRATES, DOORS, ETC. 2 PER APACTMENT FLOOR.
TABH	INITIAL VERTICAL HEATING AND DOMESTIC HOT WATER COSTS FOR DESCRIPT, OF VERTICAL ELEMENTS REFER TO CHART VIII			875,52	54.72			929.92	58.12			1274.64	53-11			1702.08	53-19	FOR OTHER SYSTEMS OF HEATING REFER TO CHART V
GAS	INITIAL VERTICAL COSTS OF GAS LIMES-INDIVIDUAL METERS FOR DESCRIPTION REFER TO CHART NO. 11 11% - 11 11% - 1 ELECTRIC METER PANS AND LOOPS-INDIVIDUAL METERS FOR DESCRIPTION REFER TO CHART NO. VII 17EV D-1	<b></b>	-	8.00	7.00			112.00	7.00			13.92	7.00			224.00	7.00	
	Total Comment of the	<del></del>	-		0.220				•62				.58				•73	
1 M 1	TAL WHEN HEAT IS FUNNISHED BY OWNERS CHITHAL PLANT AND ELECTRIC CURRENT AND GOS AND MASSED FROM UTILITY COMPANIES BY TENANT AT RETAIL RATES IT LA VERTICAL COST ITEMS GIVEN BELOW AND	ARE INTERC	HANGE AB	LE VARI	729.34 ATIONS	DEPENDING	ON WH	AT SYST	736.29 EM OF	HEATING IS	USED	& HOW E	723.09 LECTRIC	CURRENT	& GAS /	WE PUR	685.72 CHASED	
m.	THIT IS THEY LOCK THE TOTAL THE	COSTS FOR SYS	ABOYE ABOYE	112.00 75.20 9.92 .00 8.00 8.00	7.00 4.70 .62 .00 .50	COSTS FOR SYS	ABOVE	112.00 75.20 9.92 .00 8.00 8.00	7:00 4:70 62 .00 .50	COSTS FOR SYS	ABOYE	168,00 112,86 13,92 .00 12,00	7.00 4.70 .58 .00 .50	COSTS FOR SYS	ABOVE	224.00 140.40 23.36 .00 16.00	7.00 4.70 -73 -00 -50 -50	FOR OTHER SYSTEMS OF HEATING REFER TO CHART REFER TO CHART NO. VII ITEM C-1 REFER TO CHART NO. VII ITEM C-2 REFER TO CHART NO. VII ITEM D-3 REFER TO CHART NO. VII ITEM D-3 REFER TO CHART NO. VII ITEM D-3 REFER TO CHART NO. VII ITEM D-4
																	27°20'	GUANTITIES COMPUTED BY P.GROTZ S.R.RID N.J.RUZZA GUANTITIES CHECKED BY L.PANZA AUG. COSTS COMPILED BY P.GROTZ CHART BRANN BY J.R.RID C.SULEER SEPT. CHART (DITED BY F.CROTZ L. AUG. L. CHART AUG. AUG. C. SULEER SEPT. CHART (DITED BY F. CROTZ L. CHECK L. C. CLEE AUG. L. CLEE AUG.

#### BREAKDOWN OF INITIAL VERTICAL COSTS FOR THE

6-, 8-, 10-, 12-STORY ELEVATOR APARTMENTS

ANALYTIC STUDY OF COST DIFFERENTIALS

411	ALYTIC STUDY OF COS	ווע ו	TE	KEIN	HAL	5													
GEN WAT EST SEE		6 STC	VER	CON	RTME NSTRUC	TION	STOR	S CO	NSTRUC	TION	ANTILEVER	R CO	NSTRUC	TION C	STOR	CO MT. TWO	NSTRUC	TION	notes pertaining
	* IX * CPERATION AND WAINTENANCE COSTS. * SLECTRICITY AND GAS RATES.	FOR CHE		UNIT PE	TOTAL R UNIT p	PRICE ER HOOM	QUANTITY FOR ONE UNIT	UNIT P	TOTAL ER UNIT PE	PRICE R ROOM	QUANTITY FOR ONE UNIT	UNIT	TOTAL PER UNIT 320 ROOMS PE	PRICE ER ROOM	QUANTITY FOR ONE UNIT	UNIT PE	TOTAL R UNIT PE	PRICE R ROOM	TO ITEMS
0.00	STEAM SHOVEL EXCAVATION & DISPOSAL	742 59	CY	.63 .95 1.26	467.45 56.05 214.20			.63	521.00 56.05		827 CY 57 CY 435.5 CY 387 CY	.63 .95	521.00			.63 .95 1.26	521.00 56.05		NORMAL SOIL CONDITIONS ASSUMED-NO ROCK NO WATER
BASEMENT	BACKFILL	170 210 4800 225 7.2 2300	SF	.32	67.20 62.40 3172.50 468.00 414.00		827 CY 59 CY 383 CY 359 CY 5000 SF 297 CY 8.5 T 2660 S 277 CY	.32 .013 14-10	114.90 465.00 467.70 595.00 478.80		4900 SF	.32 .013	54.15 548.75 123.90 63.70 5019.60		827 CY 59 CY 588 CY 458 CY 4950 SF 396 CY	.013	740.90 146.60 64.35 583.60 791.00 478.80		TO 10 OUTSIDE BLDG, LINE & 6" BELOW FIN. GRADE BEARING VALUE OF SOIL-3 TONS PER SQ. FT. INCLUDING STELL CHAMBLE COLLAWN REAL IS FINISH 1 TOM HYBRATED LINE TO 75 CU. YOS. OF CONCRETE
ASE	ROUGH GRADING CONCRITE FOOTINGS & BENT, WALLS INC. FORMS & REINFORC, STRUCTURAL STEEL H COLUMNS ISTREMAN SYSTEM: FLOOR - CINDER FILL. CINDER CONCRETE. CEMENT FINISH INTEGRAL WATERPROPING PER CUBIC YARD OF CONCRETE	2300 221	SF CY	65.00 .18 .51	468.00 414.00 112.70		5000 SF 297 CY 8.5 T 2660 SF 277 CY	70.00 18	595.00 478.80 141.25		9.9 T 2660 SF 330 CY	70.00 .18 .51	693.00 478.80 168.30	-	396 CY 11.3 T 2660 SF 369 CY	70.00	791.00 478.80 188.20	-	6 CINDER FILL. 4" CINDER CONCRETE. I" FINISH I TOM HYDRATED LIME TO 75 CU. YDS. OF CONCRETE
60					TOTAL 5034.50	26.20		45555	- CONTROL   1-	25•95	5539 11 10	UNDAYS.	TOTAL 7671.20	23.95	1254V 95		1570.50	22.30	
	INT, & EXT. BENT. STAIRS - CONCRETE FORMS & REINFORC. 5" HOLLOW TILE WALLS STEEL COLLUMN FIREPROOFING-2" HOLLOW TILE & PLASTER HODO PARTITIONS & WARDWARE FOR PERAMBULATOR BINS	12.5	CY SF	14.10	176.25		13.3 CY 694 SF 148 SF	14.10	187.55		13-3 CY 694 SF 148 SF	14.10	187.55 242.90 45.90 126.90 39.80 93.50 31.50 19.95 85.80		13.3 CY 694 SF 148 SF	14.10	187.55 242.90 45.90 151.30 39.80 93.50 11.50 19.95 85.80		FROM GRADE OR FIRST FLOOR TO BASEMENT FLOOR
Ż.	STEEL COLUMN FIREPROOFING-2" HOLLOW TILE & PLASTER WOOD PARTITIONS & MARDWARE FOR PERAMBULATOR BINS STEEL SASH & GLAZING	750 72 4	SF	.104 .51 18.70	78.00 36.70 74.80	-	148 SF 985 SF 78 SF	.35 .31 .104 .51 18.70	45.90 102.45 39.80		13.3 CY 694 SF 148 SF 1220 SF 78 SF	-35 -31 -104	126.90	-	1455 SF 78 SF	18.70	39.80	_	ONE BIN FOR EVERY 3 APARTMENTS STANDARD IT SECTIONS-DOUBLE THICK QUAL. B GLASS FORNITURE STELL COV_DOORS-16 CB.COMB.STELL BUCKS 1 1/2* BLACK PIPE-STANDARD RAILING 1 1/2* 2 COATS GLOSS OIL PAINT ON DOORS & MINDOWS JUST PRICE GIVEN 15 PER OUTLET
ASEMENT FINISH	MODO PARTITIONS & MANDRAME ON PERMANDATION OFFI FIREPROOF DOORS SUCCES NOT, HARDMAN FOR SMT. STAIRS PIPE PARLING & STANDARDS 3 MIGHAT EXT. STAIRS PIPE HAND RAILS & BRACETS AT EXT. & SMT. SMT.STAIRS MAITEMASHING WALLS & CELS. PAINTING DOORS & WINDOWS ELECTRICAL OUTLETS INCL. LIGHTING FIXTURES.	14	LF	2.10	29.40		15 LF	2.10	39.80 93.50 31.50 19.95 85.80		15 LF 19 LF	18.70 2.10 1.05	31.50 19.95 85.80		15 LF	1.05	31.50 19.35 84.80		1 1/2* BLACK PIPE-STANDARD RAILING 1 1/2* 2 COATS GLOSS OIL PAINT ON DOORS & MINDOMS
BAS	WHITEMASHING WALLS & CEILS, PAINTING DOORS & WINDOWS ELECTRICAL OUTLETS INCL. LIGHTING FIXTURES SLOP SINK	-21-		4.70	95.80 98.70 44.00	-	22	44.00	103.40		22	4.70 44.00	103.40		22 t	44.00	103.40		UNIT PRICE GIVEN IS PER OUTLET
					10TAL 846.60	4.40			TOTAL 996.75	3.90			TOTAL 1021,20	3.20			TOT AL 1045-60	2.70	
w <sub>m</sub>	STRUCTURAL STEEL H COLUMNS (STREMAN SYSTEM) SETTING OF ANCHOR BOLTS FOR COLUMN BASE PLATES	61.8	1	65.00	4017.00 33.30 10.65		92.6 T	70.00 -52 -52	6482.00 39.50 19.75 227.50		129 T	70.00	9030.00 39.50	_	170.7 T	70.00 I	1949.00 39.50 19.75 420.00 7442.00 2286.85		INCLUDING STEEL CHARMEL COLUMN HEADS UNIT PRICE GIVEN IS PER BOLT
CTURE (	SETTING OF ANCHOR BOLTS FOR COLUMN BASE PLATES GROUTING OF COLUMN BASE PLATES WINDBRACHMO OF FUN MALLS FLAT FLR. SLAB-CONCRETE FORMS & REINFORGING	32 2 30156	SF SF	52 52 65.00 47	130.00	- 1	40208 SF 5026 SF 8465 SF	70.00	2286.85		50260 SF 5026 SF 10805 SF	70.00 •52 70.00 •455 •455 •475	186 00 22868 10 2286 85 3781 75 12639 70 464 20 8123 20 506 50		6 T 60312 SF 5026 SF 12470 SF 32669 SF	70.00 -455 -455	420.00 7442.00 2286.85		6 STONE CONCR. GIRDERLESS SLAB-REINF. BOTH WAYS BETWEEN BUILDING UNITS & APARTMENTS
50	#INDERACTING OF THE MALLS FLAT FLM, SLAE-CONCRET FORMS & MEINFORCING FLAT HOOF SLAE - 6" HOLLOW THLE MALLS CONTAIN MALLS-STUCCO DUTSIDE & PLASTER INSIDE PLASTER MS & INSULATION OF EMPOSED ENGL OF SLABS	5026 6210 15740 2090 7344 4650	SF SF SF LF SF	• 35	7476.50		218H5 SE	.475	10395.40			.35 .475	3781.75 12639.70 464.20	_	60312 3F 5026 SF 12470 SF 32669 3F 4891 LF 14688 SF 4870 SF	.455 2 .455	4364.50 5518.00 557.55 9988.00		BETWEEN BUILDING UNITS & APARTMENTS NATIONETE IN METAL STUD-GOD MUTATED LATH 2 SIDE ECOD METALLATED LATH & STUCCO STANDARD IT SECTIONS-DUBBLE THICK QUAL. 8 GLASS I 1/2* CORK BOARD ASPHALT DIPPED-NAILED TO SLAB
STRUC	INSULATION OF FIRST FLOOR SLAB	7344 4650	SF SF	.114 .66 .104	483.60		3400 LF 9792 SE 4870 SF	.114 .68 .104	506.50		4072 LF 12240 SF 4870 SF	.114	Landack Land		4891 LF 14688 SF 4870 SF	.104	506.50	action and a second	1 1/2" CORK BOARD ASPHALT DIPPED-NAILED TO SLAB
ST					TOTAL 36166.60	88.40			TOTAL 48261.05	88.50			0034411	88.60	10.0	7	TOTAL 3091.65	190.35	ANGLE COLUMNS & I BEAMS
AD	STRUCTURAL STEEL INCL. WATER TANK BASE CONCRETE FLOOR SLABS-PURE. MALLS CORRIDORS STAIR LAND. CONCRETE ROOF SLABS-PURE. HALLS CORRIDORS & PENTHOUSE OF HOLLOW TILE MALLS GLAZED BOTH SIDES ONS SIDE	4183 808	SF SF	65.00 .47 .47	325.00 1966.00 380.00 346.80 2484.00		6376.4 SF 1070 SF	70.00 .455 .455	2902.00 487.00	-1	13-5 T 7961-4 SF 1070 SF 2520 SF 10545 SF 1280 SF	70.00 .455 .455	945.00 3622.00 487.00		9546 SF 1070 SF 3025 SF				ANGLE COLUMNS & I BEAMS 6 STONE CONCR. GIRDERLESS SLAB REINF. BOTH WAYS
KHEAD	6" HOLLOW TILE WALLS GLAZED BOTH SIDES 00 ONE SIDE 0 NOT GLAZED	4183 808 690 5400 175	SF SF	.51 .46 .35			1070 SF 2015 SF 8675 SF 1090 SF	.455 .455 .51 .46 .35	805.00 2902.00 487.00 1027.70 3990.70 381.50 1914.00		13.5 T 7961.4 SF 1070 SJ 2520 SF 10545 SF 1280 SF 20.5	.455 .51 .46 .35	487.00 1285.20 4850.70 448.00 2460.00		1070 SF 3025 SF 12425 SF 1470 SF 24.5	.455 .455 .51 .46 .35	487.00 1542.75 5715.70 514.50 3075.50		COMPLETE WITH NEWELS RAILS BALUSTERS & FASCIAS
3	ONE STOR STEEL STAIRS & INTERRECIATE LANGINGS EXTERIOR STEEL STAIRS, OF 6 STERY APARTMENT ONLY SHIPS LADDER & RAILINGS IN RENTROUSE EXTERIOR CORRIDOR RAILINGS FORTS & CHANNEL RAILS	6.5	$\perp$	31.20	663.00 1450.80 31.20 1809.60		10.5	36.45 101.60	36.45 3412.80		- 1	36.45	36.45		12	36.45	36.45		COMPLETE WITH NEWELS RAILS BALUSTERS & FASCIAS INCLUDING GATES AT OUTSIDE CORRIDORS LEADING FROM PERTHOUSE TO ELEVATOR MACHINE FLOOR STEEL TUBING POSTS SET INTO FLR SLAB TOP & BOTTOM
S - BI	EXTERIOR CORRIDOR RAILINGS-POSTS & CHANNEL RAILS	575 575 102 2850	LF	301.60	92.00		840 LF 840 LF	301.60	134.40 260.40 352.80		1050 LF 1050 LF	2,10	36.45 3016.00 168.00 325.50 441.00		1260 LF 1250 LF	.16 .31 2.10	201.60 387.50 529.20 2098.00		FLASHED UNDER ASPHALT FLOORING
	- COPPER FLASHING FOR RAILING POSTS - 1- ASPHALT MASTIC FLOOR COVERING - 6- ASPHALT WALL BASE	740	SF LF SF	2.10 .34 .52 .125	969.00		4100 SF 1050 LF 2940 SF	34 .52 .125	1194.00		5135SF 1310 LF 3675SF	-34 -52 -125	681.00		1570 LF 4410 SF	125	816.40 551.00		CONCRETE SLAB PITCHED FOR DRAINAGE AT MASE OF OUTSIDE WALLS FOR INFILL OF RAILING 3 -6" HIGH
R HALL	- ASPRIAT MAIL BASE - ASPRIAT MAIL BASE - CARROL COMMANDER OF RAILS - WA'N ENTRANCE STEPS & FOUNDATION-COLD FORMS & REINF CEVERT FINISH-BLI FLOORS TREATS & STAIR LANDINGS - SCREEDED CONDETE ROOF FILE.	2015 1590	CY SF	14.10	82.00 82.00 206.70 98.10		4.5 CY 2900 SF 1070 SF	14.10	367.50 63.45 377.00		4.5 CY 3650 SF 1070 SF 370 SF	14-10	474.50		4.5 CY 4300 SF 1070 SF 370 SF 1070 SF	14.10	816.40 551.00 63.45 559.00 117.80		APPLIED TO STEEL TREADS & STEEL & CONCR.LANDINGS
A TA	ROOF INSULATION 1" THERMAN	810 160 808	SF	.073 .073	98.10 11.70 59.00 54.40			:073	78.10		3675 SF 3650 SF 1070 SF 370 SF 1070 SF 100 UF 83.5 UF	.073	78.10		370 SF 1070 SF 100 LF 83.5 LF 65 LF	.073 .073	27.00 78.10 68.00		TAR & GRAVEL ROOF. BARRETT SPEC. 10 YR. GUAR TEE.
TAI	FEET FLASHING INCL. FLASHING BLOCKS.  COPPER GRAVEL STOP FOR PENTHOUSE ROOF  COPPER GUTTER & LEADER-WAIN ENT. ROOF & PENTHOUSE ROOF	16 0 808 80 70 45 34	LF LF	.63 .63	18.20 37.35 16.30		370 SF 1070 SF 1000 CF 83.5 LF 65 LF 48 SF	26 83 83 27.00	21.70 53.95 32.65 27.00 21.60 651.60 157.50 469.70 68.20 93.60		1070 SF 100 UF 83.5 UF 65 UF 48 SF	26 83 83 83 86 86 87 82	21.70 53.95 32.65 27.00 21.60		1070 SF 100 LF 83.5 LF 65 LF 48 SF	.83 .68	27.00 78.10 68.00 21.70 53.95 32.65 27.00 21.60		IS GAUGE METAL-FOR PERTHUDES ROOF STANARD 1 SCTICKS-DURES HAVE EXTRACE ROOF STANARD 1 SCTICKS-DURES HAVE QUAL B GLASS FUNNITURE STEEL COV. DON'T IS GA. COME. STEEL BUCKS. INCLUDES DOOR CALCE. DON'T STOP A HOME INCLUDES DOOR CHECK. DOOR STOP A HOME LEADING FROM PUBLIC HALL TO STAINS INCLUDES DOOR CHECK. DOOR STOP A HOME INCLUDES DOOR CHECK. DOOR STOP A HOME INCLUDES DOOR CHECK. SOOR STOP A HOME INCLUDES DOOR CHECK.
L & S	DIEE SASM & GLARING FOR PENTHOUSE AT ING. FIREPROF CHITARICE DOOR, BUCK & GLARING. FIREPROF DOORS, BUCK & GLARING. HASDARE HASDARE HASDARE	1	3,	27.00	27.00		18	27.00 21.60 36.20 8.75	21.60			27.00 21.60 36.20	27.00 21.60 796.40		26	27.00 21.60 36.20 8.75 21.35	21.60 941.20 227.50 640.50		INCLUDES DOOR CHECK, DOOR STOP & HOOK LEADING FROM PUBLIC HALL TO EXTERIOR CORRIDORS
	FIREPROOF DOORS, TRANSOM, BUCKS & GLAZING, HARDWARE FIREPROOF DOORS, BUCKS & HARDWARE	14		8.75	507.00 122.50 213.50 31.00		16 22 22	21 - 35	157.50 469.70 68.20		22 22 26 26	21.35 3.10	796.40 192.50 545.10 80.60 117.00 13.00 561.00 733.45 864.25 587.50		26 30 30	21.35 3.10	640.50 93.00 140.40		LEADING FROM PUBLIC MALE TO STAIRS INCLUDES DOOR CHECK, DOOR STOP & HOCK TO SLOP SINK CLOSET
HA	FIREPROOF VENTILATED DOORS & BUCKS	- 3	-	21.35 3.10 23.40 2.60 61.20 5.73	70.20		4 6	3.10 23.40 2.60 56.10	93.60 10.40 448.80 601.65		- 5	23.40 2.60 56.10	117.00 13.00 561.00		6 12 151	3.10 23.40 2.60 56.10 5.73	15.60		2 COATS GLOSS OIL PAINT KEY SWITCHES ARRANGED ON MAIN FLOOR INCLUDING REMOTE DOOR OPENING DEVICE
136	PAINTING OF ALL HONDOR'S, DOORS, CELLINGS & MINDONS LECTRICAL OUTLETS INCL. LIGHTING FIXTURES BELLIONS INCLUDING PUSHBUTTONS & WAILBOXES	73		5.73	367.20 419.30 542.25		105	5.73 117.50	601.65 703.20 470.00		10 128 5 210 SI	117.50	733.45 864.25 587.50		6	117.50	15.60 673.20 865.25 1025.20 705.00		TO PROVIDE SPACE FOR HOT & COLD MATER DISTRILINES
JBLI	FIREPHOOF VENTILATED DOORS & BUCS.  AUSTRIAG OF ALL HARMORY, DOORS, CHILINGS & MINDOWS.  CULTURIELD OUTLETS INCL. IDENTILAT FITTOMES  BELLARS INCLUDING PUBLICITIONS & WILEDIES  SLIP SINK. EVER FOTHER LODGE OF 8-10-12 STY BLD  HUNG CEILING UNDER PUBL. HALL BOOF OF 8-10-12 STY BLD	3	-	50	352.50 TOTAL	25 10	210 56	:20	TOTAL	82.50	216SI	.20	TOTAL	81.00	210SF_	.20	42.00 TOTAL 30737.90	80.05	THE PROPERTY OF THE PARTY OF TH
200		5006	55	-31	14511.15	75.60	5026 56 5026 56	-11	21147.15	02.70	5026 st	F +11.	25902.90		5026 SF	-11		1	
	SCHEEDED CINDER CONCRETE HOOF FILE HOOF INSULATION- I* THERMAX HOOFING- 3 PLY	5026 5026 5026 466	5.F	.073 .073	553.00 367.00 367.00 317.00		5026 54 5026 54 490 LI	.073	367.00 367.00 313.20 29.20 1085.60		5026 SI 5026 SI 5026 SI 485 L	073 F 073 F 68	553.00 367.00 367.00 323.00		5026 SF 5026 SF 5026 SF 495 LF	073 073 68 7.30 .74 .53	553.00 367.00 367.00 336.60 29.20		TAR & GRAVEL ROOF. BARRETT SPEC. TO YR GUAR TEE.
OOF	FELT FLASHING INCLUDING FLASHING BLOCKS.  COPER LEADER BOXES PARAPETED HOLDS THE GLAZED INSIDE STUCCOED OUTSIDE PARAPETED COPING-GLAZED WITHIFIED TILE	1396	3.5	7.30 7.30 53	29.20 1033.05 247.00		146? SI	7.30	29.20 1085.60 259.70		1436 S	7.30	29.20 1062.65 257.05		1480 SF 495 LF	.74 .53	262.35		
RO	PARAPET CONTINUES ALLE TITATIONS	1			TOTAL 2913.25	15.25			TOTAL 2994.70	11.70			TOTAL 2958.90	9.25			TOTAL 3010.35	7.85	
	STEEL COLUMN FIREPROOFING-2" HOLLOW TILE & PLASTER	5376 25068 15579	SF SF	.31 .203 .068	1666.00		7170 5 33424 5	:31	2223.00 6785.00 1408.00		8960 S 41780 S 26320 S	:31	2778.00 8481.00		10750 SF 50136 SF 30672 SF	.31 .203 .068 18.75 4.70 8.90	3332.00 10178.00 2086.00 1800.00		PREFAB SECT. OF MET. LATH-3 COATS PLAS EA SIDE 3 COATS OF PLASTER APARTMENT ENTRANCE DOOR-FURNITURE STEEL COVERED
55	2" SOLID PLASTER PARTITIONS PLASTERING OF INTERIOR HOLLOW TILE WALLS FIREPROOF DOORS, BUCAS & SADDLES MARCHARE	48	SF	4.70	900.00 225.60		64.	.31 .303 .068 .18.75 4.70 8.90	1200.00 301.80 2848.00		80	18.75 4.79 8.90	1790.00 1500.00 376.00 3560.00		96 36 480	18.75 4.70 8.90	1800.00 451.20 4272.00 768.00 1068.00		BETWEEN ROOMS-1 3/8" VENEER DOORS & DAX SADDLES
M	*000 DOORS, BUCKS & SADDLES	240 240 60 60		8.90 1.60 8.90	2136.00 384.00 534.00		320 320 80	8,90	512.00 712.00 106.40		400 400 100 100 42180 S	8.90	890.00 133.00				768.00 1068.00 159.60		TO BUILT-IN CLOSETS-I 3/8" VENEER DAS. & OAK SAD.
CUIPMEN	ADD DORS, BUCKS & SADDLES  HARDWOOD FLOORS-7/8+ THICK LAID IN WASTIC  MODD ASSE ROLAD	25310 8810	3F.	208 967	534.00 79.80 5265.00 590.00 412.00		33745 S 11750 L 11690 L	1.33 208 .067 .047	7019.00 787.00 549.00		14610	F 208 F 067 F 047	985.00 890.00 133.00 8773.00 985.00 687.00	70.00	120 120 50615 SF 17630 LF 17530 LF 2460 SF	.208 .067 .047	159.60 10530.00 1180.00 824.00		
ΕC	MOOD PICTUPE MOULDING THE FLOOR & MALE FOR BATHROOMS PRINTING-MALES, CELLINOS, DORS & WINDOWS HUNG CELLING MOOF SLAD OF 8-10-12 STV. BLOOS. WARDOOS S-METAL	12 30 48	S.F	96.80	1107.00 4646.40		1640 S 64 4	96.80	1476.00 6195.20 883.40 2200.00		2050 5	P 96.80			96 AP	96.80	2214.00 9292.80 883.40	-	INCLUDES TILE RING UNDER TOILET 2 COATS PT. WALLS DOORS CEILS-FURS 2 CTS. SHELLA TO PROVIDE SPACE FOR HOT & COLD MATER DISTR.LINE ENAMEL FINISH BY MANUFACTURER
w		132		12.50	1650.00		176	F .20 12.50 3.00	2680.00		220 100 80	3.00	883.40 2750.00 300.00 3600.00		120 96	3.00	883.40 3300.00 360.00 4320.00		ENAMEL FINISH BY MANUFACTURER
INISH	KITCHEN CABINETS-MOOD MEDICINE CABINETS-METAL MINDOW SHADES	48 294 48 48		45.00 6.50 1.00	2160.00 312.00 294.00 1200.00		64 392 64 64	6.50 1.00 25.00 80.00	416.00 392.00 1600.00 5120.00		80 490 80 80	6.50 1.00 25.00 80.00	520.00 490.00 2000.00 6400.00		588 96 96	6.50 1.00 25.00 80.00	624.00 588.00 2400.00 7680.00	_	4 BURNERS. OVEN & BROILER 4.7 CUBIC FEET CONTENT
FIR	GAS RANGES ELECTRIC REFRIGERATORS	48		25.00 80.00	3840.00		4-	80.00	720000		80	80.00		152.25	96	80.00_	TOTAL	151.65	
m	The same court of make transp bon-paren	192		81,40	28689.80	149.45	256	102,20	39134.80	152.90	320	102,20	32704.00		384	102,20	58231.00 39244.80	12.102	FOR THE 8-10-12 STORY BLDGMATER TANK. PUMP & FIRE LINE COSTS ARE PRO-RATED
PLUMB.	PLUMBING PER FIXTURE-COST OF MAIN LEADER PRO-RATED PLUMBING COSTS FOR GAS LINES LISTED BELOW	955		1000	1,000		550		TOTAL	102,20			TOTAL 32704.00	102.20			TOTAL 39244.80	102.20	MON COLORO DE CO
	FLECTRICAL OUTLETS INCLUDING LIGHTING FIXTURES	576		5.95	15628.80 3427.20		768	5.80	TOTAL 26163.20 4454.40		960	5.70			1152	5.65	6508.80		EXCLUDING ELEVATOR POWER LINES, WETER PANS & LOOPS
LECTR	ELECTRICAL OUTLETS INCLUDING LIGHTING FIXTURES COSTS OF METER PANS & LOOPS LISTED BELOW	510		000000	TOTAL	12 95			TOTAL 4454.40	17.40			TOT AL 5472.00	17.10	5		TOTAL 6508.80	16.95	5
SRS EL	ELEVATOR WITH COLLECTIVE AUTOMATIC CONTROL	- 1	EL	4992.00	4992.00		,	L 5512-00	La distribution		2	EL 6448.00	-		.2 EL	6864.00			FOR 6 STORY BLDG. ONLY FOR 8-10-12 STORY BLDG. ONLY ENAMEL FINISH BY MANUFACTURER
ATO	ELEVATOR WITH COLLECTIVE AUTOMATIC CONTROL ELEVATORS WITH DUPLEX AUTOMATIC CONTROL ELEVATOR HOLLOW METAL DOORS INCL. SADDLE & HARDWARE ELEVATOR ELECTRIC WITHING	7	EL	88.40 140.40	618.80		18 2	88.40 IL 159.10	11024.00 1591.20 318.20			EL 6448.00 88.40 EL 177.85			94 24	6864.00 88.40 196.55	13728.00 2298.00 393.10	1000	
ELEVATO	Section 1 and the Control of the Con				TOTAL 5751.20	29.95			TOT AL 12933.40	50.50		ev 14.11	15196-70		_	14-10	16419.10	42.75	
	CONCRETE FOOTINGS INCLUDING FORM & REINFORCING FIRE BRICK LINING FOR FLUE & COMBUSTION CHAMBER COMBON BRICKWORK	6. 4. 19.	7 CY	22 • 32	94.50 481.15 1068.25	-	34.8	104.60 104.60 155.35 182.00 11.70 11.70 18.70 18.70	190,35 575,30 1926,20 364,00 187,20 87,05 37,40 162,00	-	41.8	CY 14.10 H 104.60 H 55.35 228.80	2313.60		13.5 Ct 5.6 M 47.5 M		190,35 585,75 2629,00 457,60 280,80 130,55 37,40 162,00		FOR COMBUSTION CHAMBER & 35 FT. OF FLUE GRATES, DOORS, ETC. 2 PER APARTMENT FLOOR
SS	EQUIPMENT FOR COMBUSTION CHAMBER	- 2	55	137.90	275.60 140.40 52.40		1280	SF 162.00	187.20 87.05		2	SF 18.70	8 108.80	3	1920 SF	18.70	280.80 130.55 37.40		2 PER APARTMENT FLOOR LEADING TO INCINERATOR ROOM
RATORS	HOPPER DOORS PLASTERING OF CHIMMEY IN ROOM SPACES FIRIPROCO DOORS & BUCKS INCL. MADDWARE FORTH THE GRAPE CHIMMER-6- POLLOW TILL GLAZED OUTSIDE ACCONCRETE SLASS	372 64 20	SF SF	18.70 -46 -32	52.40 37.46 171.10 20.50	-	352 64 20	SF .32 SF .40	20.50		352 64 20	5F .46 5F .40	37.40 162.00 20.50 8.00		352 SF 64 SH 20 SF 20 SF 62 LI 30 LI	.46 .32 .40	20.50 8.00		FOR ROOF & DANFT RETARDING BAFFLE FOR ACCESS FROM ROOF TO CHAMBER TAR & GRAVEL ROOF, BARRETT SPEC. 10 VR. GUAR TE
INCINE	- CONCRETE SLASS - 2 X 3 CAST IRON ACCESS DOORS - ROOF ING- 3 PLT - FILT FLASHING INCL. FLAS. BLOC - COPPER GRAVEL STOP			8.85 .973	20.50 8.00 17.70 6.95 40.10 8.89			8.85	20.50 8.00 17.70 6.95 42.15 7.80 24.90		2	5F 32 5F 40 8.85 5F 07 LF 68 US 26 LF 83	3 17.70 6.95 42.15 7.80		95 si 62 ti 30 ti	8.85 .073	20.50 8.00 17.70 6.95 42.15 7.80 24.90		TAR & GRAVEL ROOF, BARRETT SPEC. 10 YR. GUAR TE
N	- FELT FLASHING INCL. FLAS. BLOG - COPPER GRAVEL STOP - COPPER GUTTERS & LEADERS	×s 55	LF LF	137-80 11-70 068 18-70 46 32 40 8-85 073 68 26	8.85		30 30	uf LF LF 26 LF 83	4.29950	3	30 30 30	LF :83		2	30 0	:26		0004000	İ
L					TOTAL 2436,20	77 - 27		1	3657.50			-	4217.50		_	-	14979.84	12.00	CAN OTHER EVETTING OF MENTING BEECR TO CHART VIII
HEA					7946.72	41.7	-	-	10263.04	40.07	_		2240.00	37.2	-		2688.00	39.0	TOURSTREE COMPUTED BY 1 4 DANSA
GA	Ton beginn how to	is	-		1344.00	7.00			1792.0	8	-	+	288.0	7.00	<del>                                     </del>	-	337.92	7.0	N.J.RUZZA AUG. 1934
ELEC					180.4	•94	4		238.9	•93	1			•90	+	-	******	••	C.SULZER SEPT. 1934
1	OTAL MEN HEAT IS FURNISHED BY OWNERS CENTRAL PLANT AND ELECTRIC CURRENT AND EAS ARE REMANDED FROM UTILITY COMPANIES BY TENANT AT RETAIL RATI					651.05	5			697.87				685.4				675.6	E.W.KLEE SEPT. 1934
			NTER	CHANGE A	BLE VAR	HATION	S DEPENDI	NG ON W	HAT SYS	TEM OF	COSTS FOR	IS USE	D A HOW	ELECTR	COSTS FOR	T & GAS	S GIVEN A	IRCHASE BOVE	
1	I. INITIAL VERTICAL MEATING AND DOWESTIC HOT WATER COST I. INITIAL VERTICAL COSTS OF GAS LINES II. INDIVIDUAL METERING	COSTS		N ABOVE	1344.00	7.00		EN ABOYE	1792.00	7.00	COSTS Q1			0 7.00	COSTS GIVE		2688.00		REFER TO CHART NO. VII ITEM C-1
١.	1. MOSTER WATER NO. AND LOOPS 1. INDIVIDUAL METERING-LECTRICITY PURCHASED 2. MASTER METERING-LECTRICITY PURCHASED 3. SUB-METER NOG-LECTRICITY PURCHASED 4. NOSITUDUAL METERING-LECTRICITY GERRATED BY OWN	cos TS	GIVE	N ABOVE	180.4	8 .94	COSTS GIV	EN ABOVE	238.00	93	COSTS GI	YEN ABOVE	288.0 -0 240.0	90.	COSTS GIVE	N ABOYE	337.92 .00 288.00		REFER TO CHART NO. VII ITEM D-1 REFER TO CHART NO. VII ITEM D-3 REFER TO CHART NO. VII ITEM D-2 REFER TO CHART NO. VII ITEM D-4
١	3. SUB-METERING-ELECTRICITY PURCHASED. 4. INDIVIDUAL METERING-ELECTRICITY GENERATED BY OWN: V. ELECTRIC METERS	IA .			144.0	•75			193.0	3.25			1040.0	0 3.25			288.00		
1	Y. ELECTRIC METERS  1. SUG-METERIS-ELECTRICITY PURCHASED  2. INDIVIDUAL METERING-ELECTRICITY GENERATED BY OWN  COMPLETED DOT. 15, 1934	INCLU	DED I	N COSTS OF	N CHART NO	VIII	INCLUDED	IN COSTS O			INCLUDED	IN COSTS	ON CHART NO.	. VIII	INCLUDED 1	N COSTS ON	CHART NO.	vin	REFER TO CHART NO. VII ITEM D-4
STURM																			3/////

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#### HOUSING STUDY GUILD

**CHARTS 9 & 10** 

# **OPERATION AND MAINTENANCE COSTS** PER ROOM PER YEAR FOR THE 2-STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS

ANALYTIC STUDY OF COST DIFFERENTIALS

CHART 9

			2 5	2 STORY		2 STORY		ORY ARTMENT	3 1	3 STORY MARTINENT		4 STORY		6 STORY		8 STORY APARTMENT		O STORY APARTMENT		ORY ARTHENT			
			WALK-UI WALL BI CONSTRI NO BASI	EARING UCTION.	CANTILI CONSTRI FULL BA	CTION.	WALK-U CANTILI CONSTRI FULL B	EYER	CANTIL	CONSTRUCTION.		TOR VER CTION. BASMT.	2 ELEVATORS CANTILEYER CONSTRUCTION. PARTIAL BASMT.		2 ELEVATORS CANTILEVER CONSTRUCTION. PARTIAL BASMT.		2 ELEVATORS CANTILEYER CONSTRUCTION. PARTIAL BASMT.		NOTES				
SERVICE	WAGES SUPPLIES	\$70 PER MONTH, 10 MR. DAY \$-20 PER DAY PER MAN	.00		5.25		4:37		3.28		5.82		4.92		4.60		4:37		COMMUNITY FEATURES  COMMUNITY FEATURES SUCH AS PLAY GROUNDS, CLUBROOMS, ETC. HAVE NO				
	TOTAL	54 4 /d		.00	0.0000	5.70	10000	4.75	-6.05	3.56		6.32		5.34		4.99		4.75	COMMUNITY FEATURES SUCH AS PLAY GROUNDS, CLUBROOMS, ETC. HAVE NO BEEN INCLUDED IN THE PROJECT. THE PLAY SPACES FURNISHED FOR PRE- SCHOOL CHILDREN DO NOT REQUIRE PAID SUPERVISION, IT IS ASSUMED.				
REDECORATION OF TENANT SPACE	CONTRACT-LABOR AND MATERIAL	PARTITIONS ETC. EVERY 3 YRS. FLOORS 4 CEILINGS 6 YRS. WAGES AT \$1.28 PER HR.	*	6.16	3.85	5.79	-	5.79	Ψ.	5.79		5.92	9	5.92	75	5.92		5.92	THAT THE COST PER ROOM FOR COMMUNITY FEATURES ARE CONSTANT AND THEREFORE CANCEL OUT.				
	CARPENTRY-L & M. MASONRY & PLASTER	ONE MAN PER 3000 RMS. AT \$100 PER MONTH	.90		.90		.90		•90	7.1.7	.90	2472	.90	20,10	.90	7.72	.90	7474	JANITORIAL SERVICE				
BUILDING REPAIR	PAINTING-PUBLIC SP.	COST FOR AVERAGE YR. DURING 15 YR. LIFE EXT. SASH ETC 5 YRS. INT. STAIRS IO YRS. TO ILCT SEAT A WASHTUB COVER EVERY 3 YRS.	.87 .37 .29		.87		.58 .94		.10_ .44		.38 .72		-10 -31 -62		.10 .27 .67		.26 .67		NO JANITOR SERVICE FOR THE FLATS. 2 STORY APARTMENTS - I JANITOR TO 10 UNITS. 3 4 4 STORY APIS 1				
AND WINGS	PLUMBING ELECTRIC INCINERATORS		:29		.29		.29		.29		.29		29		.29 .48		.29 .47		3 4 4 STORY APTS 1				
REPLACEMENT A	ELEVATORS_ REFRIGERATORS	ESTIMATE OF THE MILITERINES COMPANY	.00		.00		.63		.47		1.50_		2.44	1	2.10		1.82		STORY APARTMENTS- 1/3				
m, enceen, a	RANGES AND AWNINGS	LABOR & MATERIAL 4.50 PER APT. PER YR.	.63		.63		.63		-63		.63		.63		.63		.63		JANITORS LIVING QUARTERS NOT PROVIDED BY THE OWNER.				
	GENERAL EQUIPMENT	KEYS, DOORMATS, ASHCANS, ETC. I HANDYMAN PER 500 RMS. AT \$90 PER MONTH	.30	-	.22_		.41		:22_		:37		:37	4	:37		.63 .20 .37 .22 2.16						
	TOTAL	The second secon	2.16	6.37	2.16	7.00	2.16	2 42	2.16		2,16		2.16	200	2.16		2.16	1200	REFRIGERATOR REPAIRS				
REPAIRS AND	ELECTRIC LINES	FOR DESCR. REFER TO CHART VII ITEM E-VI-1	NONE	0+3/		7.00	_	7.47		7.14		8.12		8.90		8.48	_	8.17	ONE SERVICE MAN AT \$220 PER MONTH CAN TAXE CARE OF 2000 TO 3000 BOXES, INSPECTING EACH ONCE IN 3 MONTHS. PARTS AVERAGE \$1.20 PER				
REPLACEMENT FOR HORIZONTAL DIST	MATER LINES	FOR DESCR. REFER TO CHART VII ITEM E-IV	-13		-12-		08		-07_		NONE	-	NONE-		NOME		NONE		BOX PER YEAR. DATA FROM MORGE CO.				
SYSTEMS	HEATING LINES SEMER LINES TOTAL	FOR DESCR. REFER TO CHART VIII SYSTEM S FOR DESCR REFER TO CHART VII ITEM E-III	1NCLU		.08 EAT AND D	0.0000	HOT WATE	R ITEN	15TED HE	1000	.04		.03	980	.02		*02		OFFICE EXPENSE				
GROUNDS	WAGES	I WEAR & FIRST TIME & BURNESS CORPORATE		-41		.40	-	*58	10000	•51		.07		•06		.04		+04	DOES NOT INCLUDE ELECTRICITY FOR OFFICE, DEPRECIATION ON FURNITURE AND EQUIPMENT, ADVERTISING (NOT THOUGHT NECESSARY)				
UPKEEP	SUPPLIES	1 HEAD. 6 FULL TIME. 3 SUMMER GARDENERS REPLACEMENT, SEED, FERTILIZER, TOOLS, ETC.	1.04		1.04		.80		.72		.51		.47		.43		.42		DOES NOT INCLUDE ELECTRICITY FOR OFFICE, DEPACTATION ON FURNITURE AND EQUIPMENT, ADVERTISING MOST THOUGHT NECESSARY ) MATCHMEN, COMMUNITY OR SOCIAL DIRECTORS. SALARIES AND NUMBER OF PRESONALL WARLES WITH SIZE OF PROJECT				
	TOTAL	IN AD PLACE RECEIVED		1.19		1.19		.92	5	.83		.60		.54		.50		.48	ALTONOO AK				
MISC. EXPENSE	CONTINGENCIES	EXPENSE DUE TO ABUSE, LEAKS, ETC.	_	1.50		1.50		1.50		1.50		1.50		1.50		1,50	L.,	1.50	SITE PLANS				
INSURANCE		NOT INCLUDING LABOR FOR HEATING PLANT OR OFFICE FORCE. RATE \$2.20 PER \$100.		.05		.16		.14		•10		.16		.14		.13		.12	REFER TO CHART NO. 111				
CAPITAL RESERVE FOR	ELECT. REFRIG.	REPLACED EVERY 10 YRS. 4 RM. APTS. \$80 REPLACED EVERY 10 YRS. 4 RM. APTS. \$25 REPLACED ONCE DURING 35 YR. LIFE OF BLDG. 4 RM. APTS. \$155	2.00		2.90		2.00		2.00		2.00		2.00		2.00		2.00		BUILDING UNIT PLANS				
REPLACEMENT	PLUMBING FIXTURES	REPLACED ONCE DURING 35 YR. LIFE OF BLDG. 4 RM. APYS. \$155	1.10		1.10		1.10		1.10	-	1.10	-	1.10	-	1.10	-	1.10		REFER TO CHART NO. 19				
	TOTAL			3.73		3.73	171.4715.1	3-73		3.73		3.73	Seese	3.73	101300	3.73		3.73	WATERIALS				
EXPENSE	SALARIES GENL.EXP. SOVERHEAD	MANAGERS, CLERKS, RENT COLLECTORS, ETC. SUPPLIES, TELEPHONE ETC. INCL. COMP. INS.	4.06 -98 -36		4.06		3.52		3.14		2.69		2.27		2,20		2.14		REFER TO CHARTS NO. Y AND YI AND THE REPORT.				
200000000	LEGAL & ACCOUNTING	FEES & EXPENSE	.36		•36		•30		-:75		.23		:57		:57		.18		CONTRACTOR AND CONTRACTOR AND ACCUSANCE AND				
ELECTRIC	N.Y.S Q.LT.S P.CO.	FOR PUBLIC SPACE LIGHT & POWER ONLY	-	5.40		5.40		4.66		4.16		3.60		3+03		2.96	755	2.88	COLLECTIVE AUTOMATIC CONTROL. CARS STOP AT EACH FLOOR.				
CURRENT	4	REPER TO CHART VII ITEM G-I		.60		2.78		2,49		2,20		2.96		3-47		3.55		4.40					
CITY WATER		FOR PUBLIC SPACE & TENANT USE. NOT METERED.		3.90		3.90		3.36		3.07		2.53		2.48		2.44		2.42	SEE CHART NO. III FOR THE SITE PLANS.  IV * SUILDING UNIT PLANS.  Y A VI FOR THE VERTICAL PROJECT COSTS.				
HEAT & DOMESTIC HOT MATER	FUEL. REPAIRS &	HEATING SYSTEM NO. 5 SEE CHART 8. INCL.		8.10		5.48		7.63		7.52		6.92		6.68		6.68		6.68	* * VILL FOR THE HEATING COSTS				
GAS LINES VERTICAL ELEMENT	MAINTENANCE & REPAIRS ONLY.	INDIVIDUALLY METERED GAS.		.21		.21		-21		-21		.21		.21		,21	_	.21	THE AVERAGE NUMBER OF ROOMS PER APARTMENT 4.				
TOTAL OF	ERATION AND NAINTENANC MTRAÉ PLANT AND ELECTR BY TENANT AT RETAIL R ENANT IN ADDITION TO T	E COSTS WHEN HEAT IS FURNISHED BY OMNERS IC CURRENT AND GAS ARE PURCHASED FROM ATES. THE ELECTRIC CURRENT AND GAS CHARGES HE RENT.		37.57		46.24		42.94		40.03		42.64		42.00		41.13		41.30	TOTALS DO NOT INCLUDE ELECTRIC CURRENT AND GAS USED BY TIMENT				
MAINIENANCE	COSI LIEMS GIVEN	DELUM AND INTERCHANGEABLE VARIA	ATIONS	DEPEN	DING O	TAHW V	SYSTE	M OF H	EATING	IS US	SED & H	IOW EL	ECTRIC	CURRE	NT & G	AS ARE	PURC	HASED	MITHIN THE APARTMENT. FOR COSTS REFER TO CHART NO. X.				
IL ELECTRIC LIN	TING SYSTEM. REFER TO ES. HORIZONTAL ELEMENT L METERING. REFER TO C	3	cost	FOR	SYSTEM	NO. 5	GIVEN	ABOYE.	FOR	OTHER	SYSTEMS	REFER			VIII.	T			l				
2. SUB-METER	ING. REFER TO CHART VI TERING. REFER TO CHART	1 ITEM E-VI-1	COSTS	OO L	OVE -	.00		.00		.00		.00		.00		- 00		220					
4. METERING	ELECTRICITY GENERATED	IN OMNERS CENTRAL PLANT.	COSTS	ARE INCL	UDED UND	ER REPAI	RS AND M	-00	CE ON CH		v(1).	.00	-	00		_:00		.00					
2. SUB-METER	METERING. REFER TO C	HART VII ITEM D-I	-	.00				.00_		00_	20.00	.00		.00	š	00		.00					
3. MASTER ME 4. METERING	TERING. REFER TO CHART OF ELECTRICITY GENERAT	VII ITEM D-3	THEFTIE	.00	107.10	.00		.00_		-00		.08		.08		.08 .00		.08	COSTS COMPILED BY M.B.COBB AUG. 1:34				
IV. GAS LINES. Y	ELECTRICITY GENERATED EAS EAS IL METERING, REFER TO C. ING. REFER TO CHART VI TERING. REFER TO CHART VI TERING. REFER TO CHART OF ELECTRICITY GENERAT ERTICAL TEMENTS LLY WETERED GAS		INCLUD	-21	ART NO.	VIII	(1	234		3323		20000		08001		-		0.00	CHART DRAWN BY L.A.PANZA S.R.RID C.SULZER SEPT. 1934				
2. WASTER WE	TERED GAS			.14		114		.21		.71		-21	1 1	.21		.21	111	.21	CHART EDITED BY M.B.COBB E.W.MLEE AUG. 1634				

# VARIOUS ELECTRICITY AND GAS RATES PER ROOM PER YEAR FOR THE 2-STORY FLAT AND 2-, 3-, 4-, 6-, 8-, 10-, 12-STORY APARTMENTS

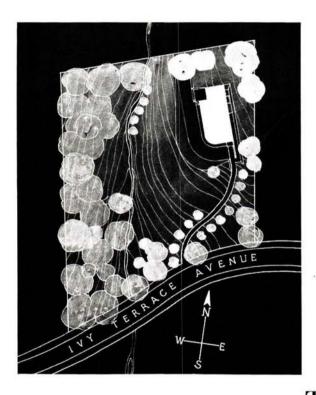
ANALYTIC STUDY OF COST DIFFERENTIALS

CHART 10

			WALL B	ORY FLAT EARING CONST BASEMENT	CANTILI	ORY APT EVER CONST BASEMENT	3 ST		4 ST CANTIL FULL		6 STI CANTILI PARTIA	ORY APT,	8 STO		IO ST	ORY APT	CANTE	TORY APT.	NOTES
E	LECTRIC	CURRENT	PER KMH	PER ROOM PER YEAR	RATE PER KMR	PER ROOM PER YEAR	RATE PER KWH	PER ROOM PER YEAR	PER KWH	CURRENT COST PER ROOM PER YEAR	RATE PER EWN	CURRENT COST PER ROOM PER YEAR	RATE PER KWH	CURRENT COST PER ROOM PER YEAR	RATE PER KWH	CURRENT COST PER ROOM PER YEAR	RATE	CURRENT COST PER ROOM PER YEAR	MIGLESALE RATES N.Y. 4 O. CL. 17 A D.
.11.	INDIVIDUAL METERING	PUBLIC SPACE LIGHT & POMER SEE KMM COMPUTATIONS	•0549	.60	•049	2.78	.0482	2.49	.0488	2.20	.0273	2.96	.0262	3:47	.0254	3-55	.0254	4.40	MHOLESALE RATES N.Y. & Q. EL. LT. & P. MODLESALE RATES OF N.Y. & QUEENS ELECTR LT. & POMER CO ARE BASED ON THE CONSUMMITHIN OME BLOCK UNDER THEIR SERVICE CL IFICATION NO. S. THE CHARGE IS A FUNCTION OF MAXIMUM DEWEND AS WELL AS OF ENERGY
.00	BUILDINGS NOT A INTER-COMMUNICATING LESS THAN 100 FT. APART	TENANTS LIGHTS & HEFRIGERATORS BOO KWH PER APT. PER YR.	.0582	11.72	.0582	11.72	.0582	11.72	.0582	11.72	.0582	11.72	.0582	11.72	.0582	11.72	.0582	11.72	UNDER MASTER METERING ELECTRICITY CHARG ARE INCLUDED IN THE REMY. HENCE THE TEN CONSUME MORE CURRENT THAN WHERE THEY AR BILLED FOR IT DIRECT!
& PONER	MASTER METERING	PUBLIC SPACE LIGHT & POMER SEE KMH COMPUTATIONS	.024	•38	-0232	1.31	•022	1.14	.0215	•97	.0197	2.13	.0191	2.53	.0188	2.62	.0187	3.24	RATHER THAN THE MORMAL 400 KMH. THIS. P 400 KMH FOR REFRIGERATORS GIVES THE 124
	BUILDINGS NOT A INTER-COMMUNICATING LESS THAN 100 FT, APART	TENANTS LIGHTS 4 REFRIGERATORS 1240 KMH PER APT. PER YR.	.024	7.44	.0232	7.19	.022	6.82	.0215	6.67	.0197	6.10	.0191	5.92	.0188	5.83	.0187	5.80	MICLESALE RATES N.Y. EDISON CO. MICLESALE RATES OF THE N.Y. EDISON CO. MICH SERVICE CLASSIFICATION N MITH RIDER F. THIS STIPULATES THAT THE BUILDINGS MUST BE UNDER ONE OWNERSHIP A LESS THAN 100 FT. APART. MEMORE THE RATE
	INDIVIDUAL METERING	PUBLIC SPACE LIGHT & POWER SEE XMH COMPUTATIONS	.046	.60	•0319	1.81	.0309	1.60	.0311	1.40	.0246	2.68	.0305	4.04	.0272	3.76	.0285	4.75	THELVE BLOCKS EXCEPT FOR THE B-10-12 ST DEVELOPMENTS IN MHICH THE BUILDINGS ARE MORE THAN 100 FT. APART ACROSS THE TRANS VERSE STREETS AND MUST THEOSTORY BE EVE
	BUILDINGS NOT A INTER-COMMUNICATING LESS THAN 100 FT. APART	TENANTS LIGHTS A REFRIGERATORS 800 KMM PER APT. PER YR.	.0582	11,72	.05.82	11.72	.0582	11.72	.0582	11.72	.0582	11.72	.0582	11,72	.0582	11.72	•0582	11.72	UMED ON A BASIS OF THREE BLOCKS. THIS E PLAINS THE HIGHER HATES FOR THE B-10-12 STORY BLOCKS, UNDER THIS CLASSIFICATION CHANGE IS BASED ON EMERGY CONSUMPTION A INDIVIOUAL METERING
	SUB-VETERING	PUBLIC SPACE LIGHT & POWER SEE NAM COMPUTATIONS	.0259	.25	.0238	1.35	.0231	1.19	.0228	1.03	.0215	2.37	.0246	3-33	.0246	3.35	.0241	4.15	WHERE INDIVIDUAL WETERING IS USED WITH EITHER COMPANY THE OWNER BUYS CURRENT F PUBLIC SPACE LIGHT AND POWER AT THE WHO SALE RATES OF SPRINGER ADDRESS AT THE WHO
	BUILDINGS NOT A INTER-COMMUNICATING LESS THAN IDO FT. APART	TENANTS LIGHTS & REFRIGERATORS BOO KWH PER APT. PER YR.	.027C	5.37	.0263	5.25	.0256	5.11	.0253	5.06	.0240	4.86	.0271	5+52	.0271	5.50	.0266	5.32	PRIVATELY DANCE ELECTRIC GENERATING PLA FOR MOTES REFOR TO CHART NO. VIII. BEFRIGGRATORS. MATCS GIVEN HERE ARE BASED ON ONE ELECT REFRIGERATOR IN EACH APARTMENT. NO ELEC RANGES USED.
LINT	NETER ING	PUBLIC SPACE LIGHT & POWER SEE NWH COMPUTATION	.008	.10	•00704	•50	.00722	-41	.00727	•35	.0065	•74	.00634	.89	.0062	•96	.0061	1,10	METER PEADING & BILLING SUB-METERING METER BEADING AND BILLING CALCULATED AT PER KAH PER YEAR AND IS INCLUDED IN THE TENANT COMPANY OF THE PERSON OF T
	OF MEATING	TENANTS LIGHTS & REFRIGERATIONS BOO KEN PER APT. PER YR.	.0105	1.89	.00954	1.71	.00972	1.58	.00977	1,52	.0090	1+37	.00884	1+34	.0087	1.39	•0086	1.25	CO. USING THEIR SERVICE CLASSIFICATION OF ROOM THE N.Y. CO. USING THEIR SERVICE CLASSIFICATION INTO THE R. WHICH STIPULATES THAT BUILDING UNDER CONCOMPRISHED AND THATES COMPONENTS.
BL		FR K.W.H. CONSUMPTIO															_		INTER-COMMUNICATION AS NOT INCOMPONENT
MALES ETC. GROWNS ELEVATORS PLUPS TOTAL		4.	9636 21416	620500 9636 630136			9636 45670	706400 19270 725670		1720000 38500 485000		2085600 28900 806400 337000 3257900		2237000 21700 1134000 368000		2270700 24100 1080000 420000		PART OF THIS STUDY SINCE GREAT DISTANCE SETREEN BUILDINGS CAUSED THE CARRYING CON TUNNELS PLUS THE COST OF CITY FRANCH FOR TUNNELS UNDER STREETS TO BE IN EXCE. OF CURRENT COST SAYING ACCRUED DUE TO INTER-COMMUNICATION.	
G	AS FUI	EL	RATE PER CU. FT.	GAS COST PER ROOM PER YEAR	RATE PER CU. FT.	GAS COST PER ROOM PER YEAR	RATE PER CU. FT.	GAS COST PER ROOM PER YEAR	RATE PER CU. FT.	GAS COST PER ROOM PER YEAR	RATE PER CU. FT.	GAS COST PER POOM PER YEAR	RATE PER CU.	GAS COST PER ROOM PER YEAR	RATE PER CU.	GAS COST PER ROOM PER YEAR	RATE PEA CU.	SAS COST PER BOOM PER YEAR	And the Control of th
į [	INDIVIDUAL METERING	TENANTS RANGES 18000 CU. FT. PER APT. PER YR.	.00028	5.17	.00028	5.17	.00028	5.17	.00028	5.17	.00028	5.17	.0bn28	5.17			n;	20.70	CUSTS COMPILED BY M.B.COBB AUG. 1934 CHART DRAWN BY L.A.PANZA
GAS	MASTER METERING	TENANTS RANGES 18000 CU. FT. PER APT. PER YA.	.00025	4,42	.00025	4,42	.00024	4.40	.00024	4.39	.00024	4.32	.00024	4.28	.00028	5.17	.00028	5.17	CHART EDITED BY

CHARTS IX & X
© Housing Study Guild

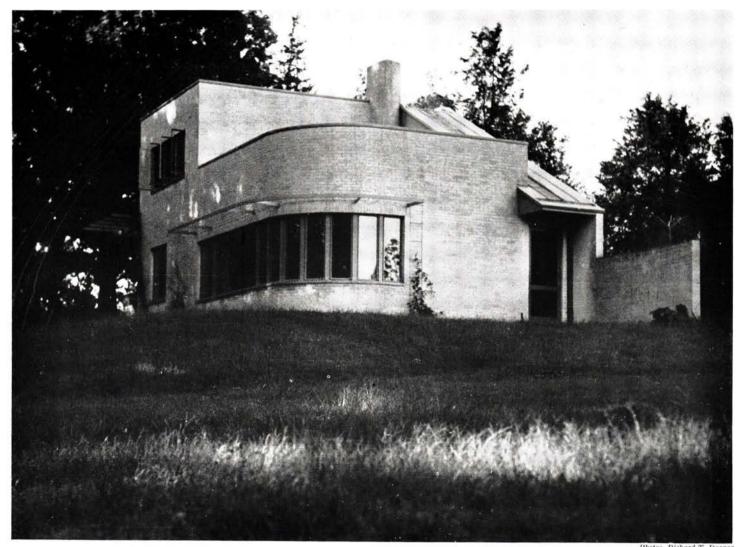
## HOUSES NEW AND REMODELED

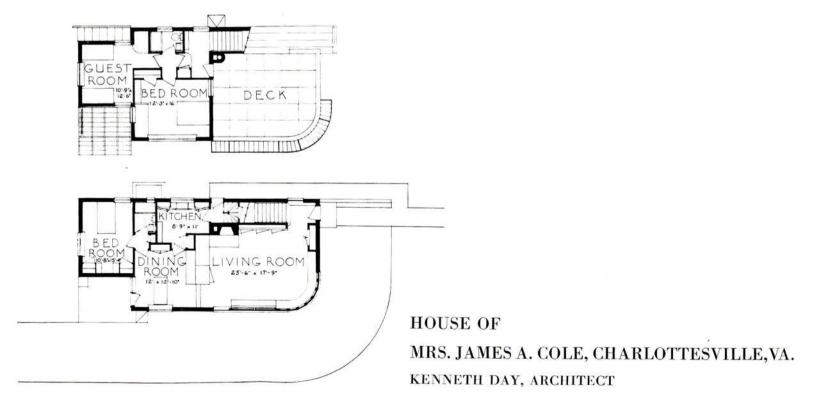


HOUSE OF MRS. JAMES A. COLE CHARLOTTESVILLE, VA.

KENNETH DAY ARCHITECT The shade of Jefferson broods over Charlottesville. Misunderstood, embalmed by little minds in static thought, the revolutionist must turn forever in an angry grave. The grandeur of his University looks down at sycophants who ape his cornices at puny scale, forget his sense of space, and strive forever to repeat the form without the soul. To follow in his footsteps means to move, to build with philosophic meaning and dynamic force. Were he alive today, his far-seeing mind could not admit that a community can hold through changing ages to a changeless style, nor that true harmony can come by anything but true expression of enlightened needs. How could he deny that in small buildings the first importance attaches to commodity, or welcome the congested cottages with center halls that are erected in his name? In all humility, my first consideration in this house was Jefferson."

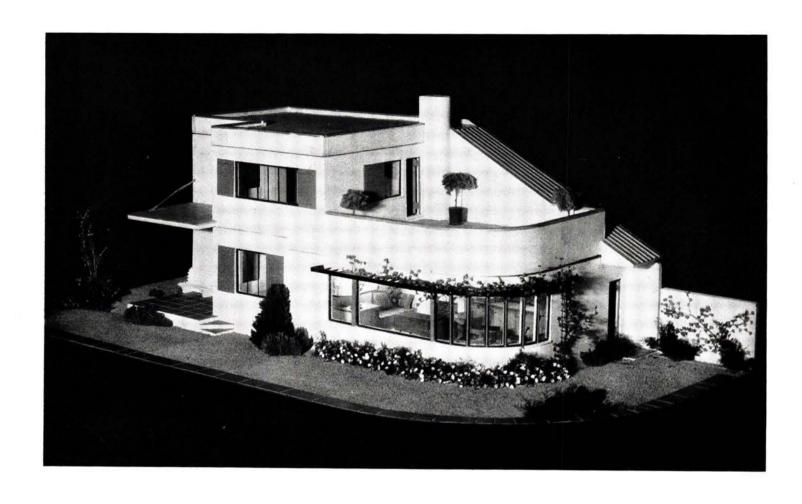
KENNETH DAY







The commodious effect of spaces related to the out of doors determined the general scheme of this inexpensive house designed for two sisters. The first thing one sees on entering is the two-story height of the stair hall. The second view is through the combined living and dining room to the trees beyond. Still a third, through the long window to the south, is a sweep of lawn falling to a stream. Privacy dictated the downstairs bedroom. Practical considerations led to its being considered as a future study. When that day comes the deck on the second floor level will make way for the second bedroom. The kitchen is entirely electric. Heat is furnished by an oil burning furnace which also acts as waterheater. The whole house is serviced with one soil stack, one chimney, and one downspout. All interior lighting is indirect except for necessary movable lamps. The arrangement of doors to the cellar stairs permits the heating plant to be operated by either the owner or a maid-by-the-day





HOUSE OF MRS. JAMES A. COLE KENNETH DAY, ARCHITECT

The necessary economy was furthered by the use of brick veneer for the exterior walls. This system has the advantage of providing very good natural insulation. Diagonally sheathed balloon frame was covered with aluminum foil building paper. Casein-whitewashed brick were attached with metal hangers and supported over all openings by steel lintels. A one-inch air space improves insulation. The aluminum was reenforced by four inches of rock wool under the flat roof for even better results. The sundeck is of precast cement tiles laid on bonded roofing. The top roof is of slag while that of the staircase is metal. LEFT, A MODEL SHOWING INTERIOR ARRANGEMENT



REMODELED HOUSE FOR R. W. GRINSTEAD, PASADENA, CALIF.
WILLIAM J. STONE, ARCHITECT

From nondescript to Cape Cod cottage was a transformation that cost only \$3,000. The exterior changes comprised removing the canopy over the entrance door, removing a bay window and the casement sash. A small cornice, three dormers, and double hung sash were installed instead. The front entrance was given pilasters and a new door. The entire interior was considerably remodeled. This is more clearly shown by the plans on the next page. What the plans do not show is the complete new plumbing system, new tile work in the baths, new hardwood floors throughout, linoleum floor in the kitchen and breakfast room, and the considerable changes in location of electric outlets. Most of the rooms were papered, while the den was finished in knotty pine. Altogether a remarkable architectural feat at so small a price.



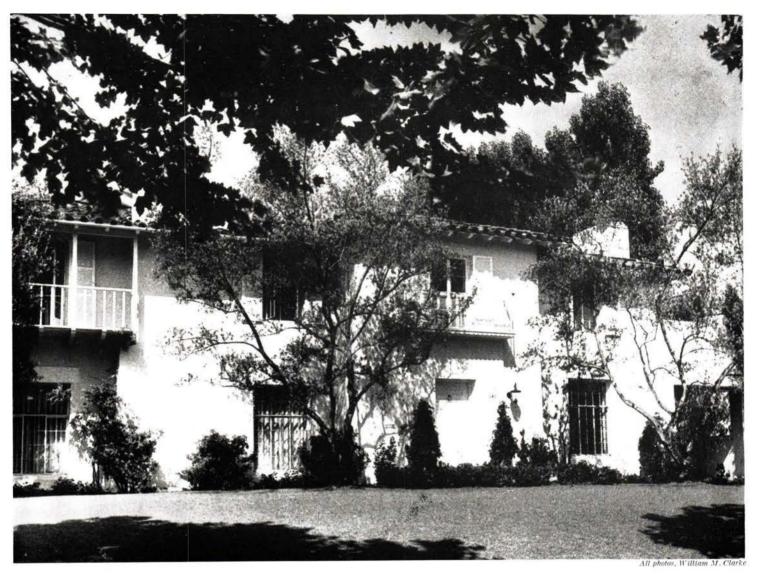




R. W. GRINSTEAD, PASADENA WILLIAM J. STONE, ARCHITECT FLOOR PLANS

BEFORE

AFTER

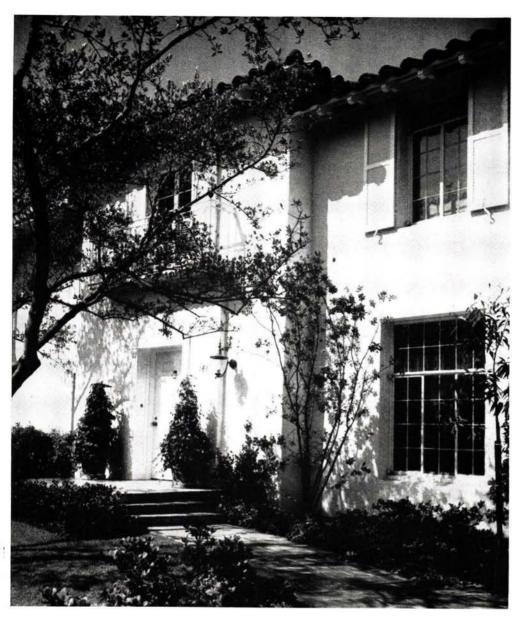


REMODELED HOUSE FOR J. H. RUSSELL, LOS ANGELES, CALIF.

GORDON B. KAUFMANN, ARCHITECT

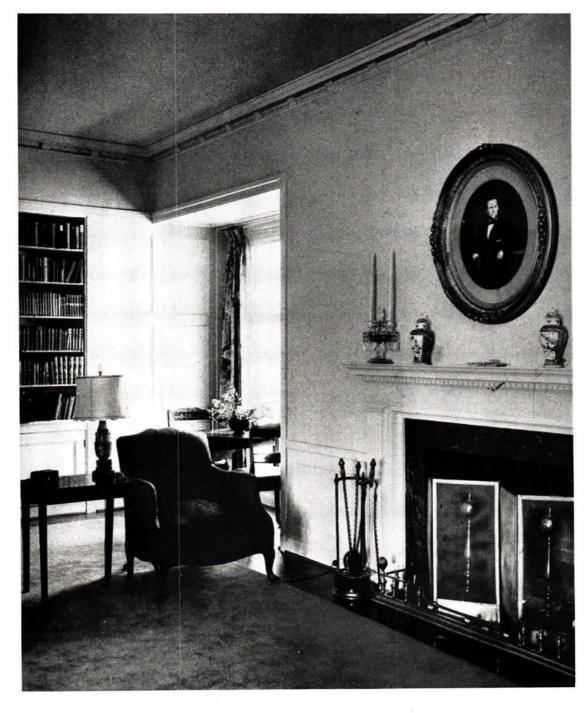


BEFORE ALTERATION



ENTRANCE DETAIL





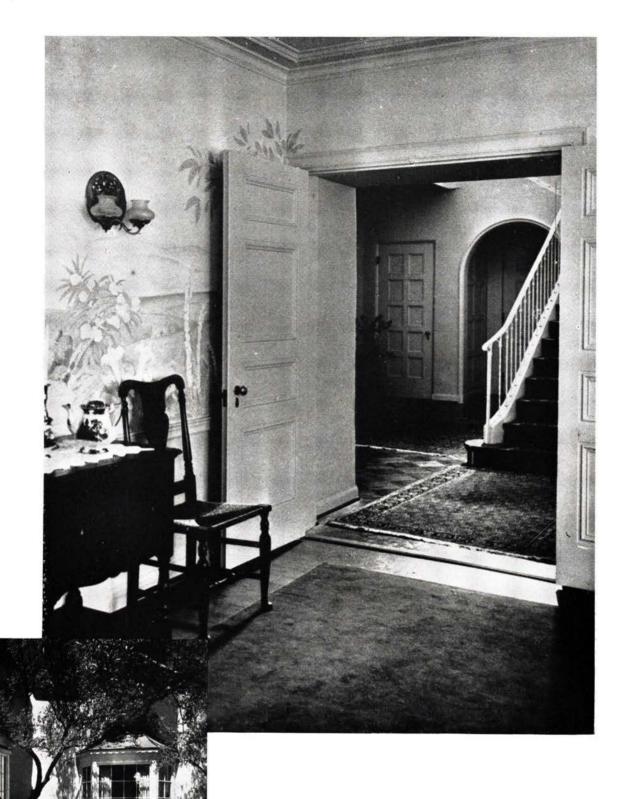
LIVING ROOM INTERIOR AFTER REMODELING

REMODELED HOUSE FOR

J. H. RUSSELL, LOS ANGELES

GORDON B. KAUFMANN, ARCHITECT

An example of the difference between a house designed by a builder and one designed by an architect. No essential changes in plan have been made, simply a moving of windows and doors to achieve some sort of order out of the original chaos. Here and there some particularly offensive ornamental detail has been removed, such as the three horrible little arches over the living room window. The addition of the balcony over the front door and an overhanging eave all around completed the exterior change. The house was once of the sort that might be described as "an elegant Spanish type residence." It is now a sophisticated suburban house of the best sort, reminiscent of the indigenous Monterey architecture. The architect has not stopped at the house but has carried through into the grounds and gardens as well. The differences in the planting immediately around the house are even more marked than those in the house itself.



# REMODELED HOUSE OF J. H. RUSSELL GORDON B. KAUFMANN, ARCHITECT

Gymnasium brown textured plaster has been removed all through the house. In the dining room a decorative painting by Martinez gives the atmosphere of the California desert. Simple cornices replace heavy beamed ceilings, and the old gentleman over the living room mantel looks out through French doors to the dining terrace instead of to Japanese lily ponds and grottoes.



All photos, Ed. M. Rosenfeld

## HISTORIC AMERICAN BUILDINGS

Old Swedes, Holy Trinity, Church

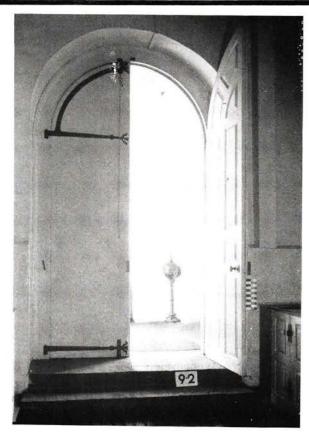
Wilmington, Delaware

Most of the communities along the Atlantic Seaboard which came into being during the seventeenth century were founded by men and women who emigrated from their native land as a result of religious belief. It was only natural, therefore that their first formal building should be a symbol of religion rather than a symbol of the State. One of the oldest of these still standing and still used for worship is Old Swedes (Holy Trinity) Church in Wilmington, Delaware.

The cornerstone of this early palladium of religious freedom was laid May 28, 1698, by a group of Swedish Lutherans at the north end of the east gable. For sixty years before the church's dedication on Trinity Sunday,

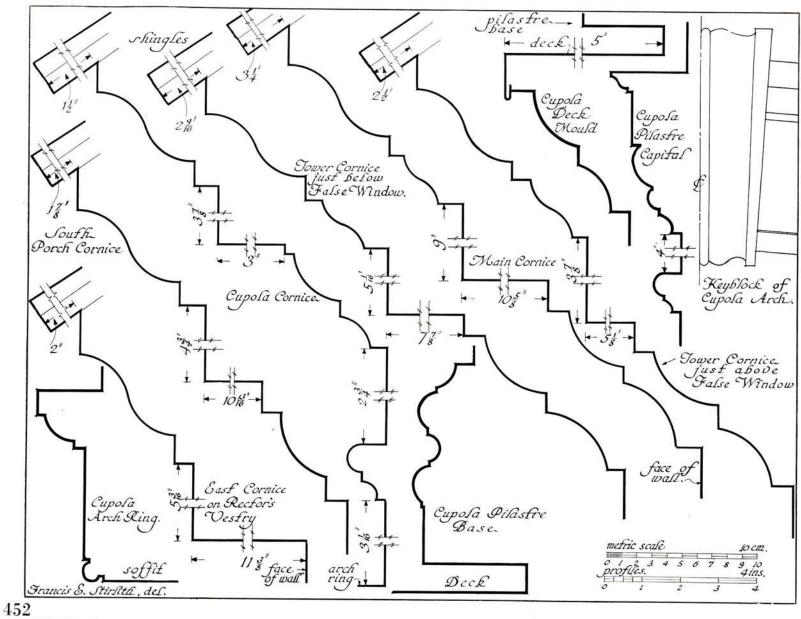
June 4, 1699, the ground on which it stood had been used as a burying ground. From that day services were continuous for 131 years. In 1830, the congregation moved, leaving the church to fall into decay. In 1842, badly needed repairs were made, largely with funds left by the will of one Henrietta Allmond. In 1898 it was again carefully restored under the direction of a New York architect, William H. Mersereau, and the Brooklyn firm of Ferguson & Brown.

Today the church presents a somewhat different appearance from that seen by the congregation on that first Sunday two hundred and thirty-five years ago. The changes are enumerated and illustrated on the following pages.



Old Swedes, Holy Trinity, Church

Wilmington, Delaware



# BUILDING MONEY

A monthly section devoted to reporting the news and activities

of building finance, real estate, management and construction

## U. S. AGENCIES CONCERNED WITH BUILDING

So many and so varied are the activities of U.S. agencies in building that the following brief summary is printed for the convenient reference of Building Money readers.

### FEDERAL HOUSING ADMINISTRATION

Created under the National Housing Act, and headed by James A. Moffett. Its divisions are:

- 1. Repair and Remodeling Division, which will exist only until January 1, 1936. It will promote a nationwide campaign for improvements on all types of buildings, will guarantee against loss lending institutions making loans during the campaign. Deputy Administrator, Albert L. Deane.
- 2. Mutual Mortgage Insurance Division. A permanent agency which will insure mortgages on new and existing homes and low cost housing projects. Also in charge of National Mortgage Associations, private agencies, not financed by the U. S., but under the control of the Housing Administration. Designed to take place of title companies, to re-establish the guaranteed mortgage business. Deputy Administrator, J. Howard Ardrey.

#### Public Works Administration

PWA, now more than a year old, is still the money source for Federal and Non-Federal public works. Under Secretary of Interior Ickes, its Administrator, it allots money to all government departments for their buildings, it makes loans and grants to states and municipalities for public works. Agencies which are controlled by, or which receive their funds from the PWA are:

- 1. Procurement Division of the Treasury Department, which has taken over the functions of the Assistant Secretary of the Treasury in charge of Public Works. The Procurement Division, headed by Admiral C. J. Peoples, appoints private architects for all Federal jobs costing over \$60,000, and governs the office of the Supervising Architect, which does minor architectural work itself, and deals with private architects on Federal jobs.
- 2. Housing Division of the Public Works Administration. Once under Robert D.

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Labor Bedevils New York's Harassed Building Owners	30
John Cushman Fistere	
Editor	

Kohn and now under Col. Horatio B. Hackett, the Housing Division builds its own housing and lends money to municipal housing authorities for slum clearance and low cost housing projects after it has examined them from top to bottom and approved them.

### SUBSISTENCE HOMESTEADS

Launched with a \$25,000,000 allotment from PWA, the Subsistence Homesteads Division of the Department of Interior is pretty much on its own. It finances and builds model rural communities usually near industrial centers so that homesteaders may supplement their seasonal wages with the crops raised on homesteads.

### FEDERAL HOME LOAN BANK BOARD

An administrative body, which is to home financing institutions what the Federal Reserve Board is to commercial banks. Chairmanned by John H. Fahey, it governs the following:

1. The Federal Home Loan Bank System. composed of member institutions throughout the country (like the Federal Reserve System). Its members are primarily building and loan associations but among them are some savings banks, a few life insurance

companies. Its principal function is to discount home mortgages held by members.

- 2. Home Owners' Loan Corp. Familiarly known as the HOLC, the corporation refinances home mortgages IN DISTRESS, and also lends money through its newly created Reconditioning Division directly to owners of refinanced homes for repair and remodeling. With the NHA, Congress widens HOLC activities by authorizing an increase in the amount of bonds it is permitted to issue, from \$2,000,000,000 to \$3,000,000,000.
- 3. Federal Sarings and Loan Associations. In communities where adequate home financing is not constantly available, the Federal Home Loan Bank Board permits, even encourages, establishment of Federal savings and loan associations, which are in effect government-supervised by privately operated building and loan associations.
- 4. Federal Savings and Loan Insurance Corp. Newly created by the National Housing Act, the corporation insures up to \$5,000 of the investments of shareholders in building and loan associations.

#### REAL PROPERTY INVENTORY

The Bureau of Foreign & Domestic Commerce of the Department of Commerce has recently completed the most important survey of real estate and building ever made. Sixty-four cities were probed and their building statistics recorded. The facts, invaluable to manufacturers and lenders, and useful to all the building industry, are published for the first time on pages 320–332. November issue.

## RECONSTRUCTION FINANCE CORP.

Oldest of the emergency agencies, the RFC is still the most powerful. As a general source of credit to the country, its funds have been available to building and loan associations, banks, insurance companies, as part of Federal effort to ease mortgage tightness. Now under the "small industries" act passed at the last session of Congress, it will lend money directly to industrial and commercial concerns to improve their property as well as for other needed expenditures. Loans are available in certain cases for contractors needing working capital.

## BLUEPRINTS FOR FHA MORTGAGE LENDERS

A Presidential decree sets Title II's interest rate at 5 per cent; new rules for developers and slum clearers.

Just two days later than he predicted, and just two months earlier than Washington wise men had figured, Federal Housing Administrator James Andrew Moffett made public the first batch of rules and regulations for putting Titles II and III of the National Housing Act into action. If Administrator Moffett had simply said, "These are the rules," chances are the nation's newspapers would have relegated the story to the back pages. Well knowing that his rules would make drab reading, Administrator Moffett employed a neat device to catch the eyes of editors.

The device was a letter from President Roosevelt:

The White House Washington, November 1, 1934 Dear Mr. Moffett:

I have before me your letter of November 1 raising the question of interest rates to be permitted on mortgages to be insured under Title II of the National Housing Act.

One of the major purposes of the National Housing Act was to encourage a greater uniformity in mortgage interest rates throughout the country and especially to eliminate as far as possible exorbitant and usurious rates charged in many places. The mortgage system embodied in Titles II and III of the National Housing Act ought to make for a greater uniformity, especially in insured mortgages.

I realize that your task and program do not involve the lending of government funds. You are seeking, rather, to encourage the investment of private capital in the home mortgage field.

I am aware that a uniform rate may in the beginning cause less response to your program on the part of lenders and investors in some sections of the country than in others.

Nevertheless, the National Housing Act should not foster the continuation of high interest rates on insured mortgages in any part of the country.

We all know that even in those sections where first mortgage money has been available at reasonable costs, home ownership has had to struggle under the handicap of exorbitant second mortgage interest rates.

Almost everybody knows of practices far too widespread where lenders have demanded and received 8 per cent, 10 per cent and 12 per cent on first mortgages and much higher rates on second mortgages.

These methods and practices in the field of home financing have been the opposite of commendation.

Your special task in putting Title II into operation is to call the attention of lenders and borrowers in the home mortgage field, first, to the Government's policy of keeping home mortgage interest rates as low as possible and, secondly, to the excellence and security of this type of investment.

I am firm in the conviction that every practical attempt at lowering the cost of homes to the great mass of our people is worthy of our best efforts. It is time to make these lower interest rates apply to every part of the country.

I think, therefore, that you should announce the program for the whole country on the basis of a basic maximum of 5 per cent interest.

Very sincerely yours, Franklin D. Roosevelt

Even though many shrewd commentators thought they recognized this as stage play, it made good reading and persuaded thousands of laymen who would otherwise have ignored the story to read at least a part of the rules and regulations.

There were few surprises. Couched in legalistic procedure by astute Frank Watson, FHA's young and handsome Assistant General Counsel, the rules were an elaboration of what the Act provided.

Though the principles of Mutual Mort-

gage Insurance have been proed and conned for the last three months in sophisticated financial circles, the great mass of builders and lenders are as yet untutored not only in the meaning of mortgage insurance but in its likely effect on their business. Briefly, Mutual Mortgage Insurance is a method of reforming current home lending practices. Its intent is not primarily to stimulate new construction immediately, but with the security and liquidity it gives to the lending institution, it will probably make more home building money available. It is not a new building program; it is a mortgage program. It is just as pertinent to old as to new buildings.

One departure it makes from many other New Deal remedies is that it involves no huge expenditure of United States money. The total which the Federal Housing Administration can contribute to its operation is \$10,000,000.

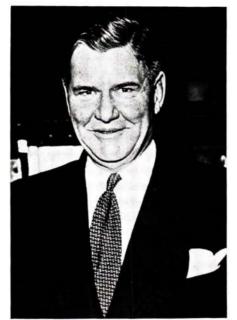
FHA lends money to nobody. It is, instead, a large mutual insurance corporation; but instead of insuring a man against loss of his life, it insures a lending institution against loss on its mortgages. For this insurance, the mortgagee pays an annual insurance premium which he in turn collects in monthly installments along with interest and amortization from the mortgagor. In return for the added charge of insurance,



Moffett's Right Hand, Stewart McDonald



Field Boss J. D. Dusenberry



Wide World

Harris & Ewing

Special Assistant G. H. Buckley

Appraisal Chief Frederick Pabcock

the mortgagor receives other benefits, primarily lower interest rates and reduced charges of other kinds.

Mortgagees. Immediate problem of Deputv Administrator Ardrey is to line up a host of eligible mortgage lenders. No such rush for the bandwagon as accompanied Title I (Repair and Remodeling) is anticipated, because Title II does not offer such attractive interest rates. But what is more important, mutual mortgage insurance is a novel economic principle, and novel economic principles are invariably approached by bankers clad in their full armor of skepticism.

It was no surprise to anyone that the Guaranty Trust Company of New York was the first to qualify. Deputy Ardrey's last job was being its executive vice president. Nor did it surprise the nation's capital that Riggs National Bank was second, for Riggs's president Robert V. Fleming has been from the first an NHA enthusiast.

Of private lenders there were none, for although in the past they did about 20 per cent of all the mortgage lending, they are automatically ineligible for insurance. Reason the line was drawn at private lenders was their inability "to service" after they had made them. In the days of straight mortgages, there was little or no servicing; but with all insured mortgages calling for monthly payments, FHA felt that no private lender had the facilities to follow up his clients. Later on, it is thought possible, the cream of private lenders may be permitted to participate.

In order to qualify a bank must be "a corporate investor having succession, engaged principally in the business of lending its own funds, and indicating a willingness to deal in a reasonable volume of mortgages." The institution must have a paid-in

capital of at least \$100,000, and be located in a town of more than 6,000 population.

Until it learns more about the business it is in, FHA is expected to grant insurance privileges only to the finest of institutions, and to loosen its restrictions later on.

Mortgages. FHA's rules did not elaborate much on the Act itself in defining the kind of mortgages it will accept for insurance. The rules repeated that monthly payments of interest, amortization, and insurance must be made, that taxes and fire insurance must be included in the payment. They repeated also that 1-4 family houses only are eligible, that no mortgage could be for more than \$16,000, that 80 per cent of the value of house and lot was the maximum permitted, and that amortization might be stretched over a period as long as 20 years.

At the time the insurance is issued there can be no second mortgage on the property. On an existing house, for instance, if there were a first of 50 and a second of 25, the two would be combined into a 75 per cent amortized first mortgage. Though FHA is powerless to prevent an owner from putting an additional mortgage on his property after insurance has been granted, it will warn all owners against such a practice, will plead with lenders not to be party to it.

Mortgagor. The Housing Administration looks with disfavor upon the principle of establishing the security of a loan solely through the present and future value of the property. Amortization - the theory on which mutual mortgage insurance is based - depends for its success on the ability of the borrower to meet his payments. Therefore, FHA is going to satisfy itself thoroughly on the borrower's credit standing. Its examination is going to be as thorough as the usual character examination on an unsecured commercial loan.

Eligible Properties. Though it is frequently referred to as the new construction part of the Housing Act, Title II applies just as much to houses now standing as it does to houses yet unbuilt. FHA's experts believe, in fact, that insurance of refinanced old mortgages will be the first part of their operations to reach any volume. They think that the likely procedure will be that bankers will go through their mortgage loan portfolio, pick out a handful of loans they don't feel too sanguine about, and forward them to Washington for insurance. After they have become familiar with the meaning and operation of insurance, they will look with more favor on insurance of all their home mortgages.

The only properties eligible for insurance are 1-4 family houses, which include row houses as well as the other standard types. It may even be possible to insure the mortgage on a property which is partly commercial, provided the general character of the building is residential. Besides houses, special insurance has been created for low cost housing projects when sponsored by local housing authorities, Federal or State bodies, or limited dividend corporations approved by the Administrator.

Charges. Not until the Roosevelt letter popped up on Administrator Moffett's desk did FHA officials know for certain what charges they were going to permit. Three different schemes were proposed; making a blanket ruling of 5 per cent for the country, and then adjusting the rates as the squawks came in; dividing the nation into 5 per cent and 51/2 per cent States according to prevailing rates; and the third one was to set a rate of 5 per cent for the ten big Eastern cities where money is plentiful, 51/2 per cent for the New England and Middle Atlantic States, and 6 per cent for the rest of the

country. It was the last plan which the President vetoed. The full schedule of charges as definitely approved is shown in the table below.

Mortgagors' payments of the charges plus amortization, taxes and fire insurance will be lumped together in monthly payments to the lending institution. When taxes and fire insurance come due, the mortgagee pays them with the mortgagor's money, and it credits itself with the mortgage insurance premium since it is required to pay the yearly premium in advance to FHA.

Assuming a home constructed after June 27, 1934, the following would be a typical set-up of a mortgagor's payments.

Appraised value of Loan		
Percentage of value	loaned	80%
Interest rate		50%
Interest rate Service charge	1/2 of 10	, per annum
Mortgage insurance	premium	$\dots \frac{1}{2}$ of $1\%$
	Payments 1	Payments
	per month	per month
	fifteen year	twenty year
	amortized	amortized
Item	loan	loan
Monthly payment, interest and prin-		
cipal	\$39.55	\$33.00
Service charge	1.30	1.40
Mortgage insurance		
premium	2.10	2.10
Sub-total	\$42.95	\$36.50
*Taxes	10.43	10.43
** Fire Insurance	2.00	2.00
†Total	\$55.38	\$48.93

\* Taxes assumed at 2 per cent of actual appraised value.

\*\* Fire insurance figures at ½ of 1 per cent annually on an assumed value of \$4,800 for the house (as distinguished from the lot).

† In order to make this total comparable with rent, an item for upkeep, say 1½ per cent annually of the value of the house, or six dollars a month, should be added.

In case there are no great losses from the fund to which a particular mortgage is assigned, the borrower may receive a refund during the last year of the loan. amounting possibly to as much as 50 to 70 per cent of the total mortgage insurance premiums paid in.

To state the whole mortgage insurance proposition in another way: Under the fifteen-year plan, the borrower would pay out \$42.95 a month for 180 months, amounting to a total of \$7,731. Of this, \$5,000 represents repayment of principal, \$2,122 interest, \$234 service charge, and \$375 mortgage insurance premium, with a possibility of 50 to 70 per cent refund of the last item at the beginning of the fourteenth year.

Under the twenty-year plan, the borrower would pay out \$36.50 a month for 240 months, amounting to a total of \$8,760. Of this, \$5,060 represents repayment of principal, \$2,924 interest, \$336 service charge, and \$500 mortgage insurance premium, with a possibility of 50 to 70 per cent refund, of the last named amount, toward the end of the eighteenth or the beginning of the nineteenth year.

Besides the amount of principal outstanding, FHA's bonds will cover taxes and fire insurance paid by the mortgagee. At the same time it will issue a certificate of claim to the mortgagee covering reasonable costs of foreclosure, including attorney's fees, etc. When the property is disposed of, FHA will first pay itself for redemption of the bonds, then satisfy the certificate of claim, and finally give the balance, if any, to the mortgagor.

Organization. To handle the details of insuring thousands of mortgages, FHA is going to have a staff that will probably eventually match HOLC's in number even in the latter's balmiest days. There are to be eleven regions, each with a director and a supervisor for each of the 48 States. It expects to open 60 offices, each to be staffed with a chief insurance underwriter, appraisers, credit investigators, and architectural consultants in as great profusion as business demands.

Foreclosure. No insignificant part of Title II is the foreclosure procedure which

was incorporated definitely in the law itself. The Housing Administration pays out no cash to the mortgagor in event of foreclosure. Instead it issues 3 per cent debenture bonds maturing 3 years after the date when the mortgage itself would have matured if payments had been kept up. Bonds issued before January 1, 1937, will be guaranteed as to principal and interest by the U.S.; after that they will simply be obligations of the insurance funds deposited with FHA. Actuarial studies made by competent insurance executives before the law was passed indicate that the 1/2 of 1 per cent insurance will be ample to cover even the worst of anticipated losses.

FHA takes title to the property when the mortgage is foreclosed. It will act as selling, leasing and managing agent, just as the foreclosed property division of the HOLC now operates. Instead of dumping properties on the market as happened when private companies foreclosed, FHA will hold its properties until such time as a good market appears. This, in itself, should do much to stabilize home realty values.

When an application for insurance is received, the appraiser and credit man delve into the property and the owner. The project is then checked against basic economic and social data which FHA will have gathered, data similar to that unearthed in the Real Property Inventory and the Financial Survey of Urban Housing. (See The Architectural Forum, November, 1934, page 321.) Even admitting the entry of some politics, FHA will come as close to scientific appraising as any plan ever attempted in the U. S.

Operative Builders. Though speculation is no crime the term has connotations as nearly criminal as can be found within the law. For that reason FHA does not recognize speculative builders. It has, instead, devised a new name which means the same thing. FHA's name is operative builder. He is a man who builds houses for sale.

Realizing that approximately 80 per cent of all the houses constructed in the U. S. are built for sale, NHA permits "commitments" to insure on unbuilt houses. The effect of this is simply that the real estate developer can go to his bank for a construction loan as he did in the past and get from the mortgagee a commitment to insure the mortgages after the houses are built — provided the future buyer is a man of accepted credit.

While it would seem that this would let loose the same flood of speculative building that ordinarily marks normal construction periods, FHA was wise enough to surround its commitments with anti-boom regulations. Before it agrees to insure a mortgage it will want to satisfy itself on three points: (1) The standing of the operative builder as a credit risk and as a competent home builder, (2) The demand for the kind of house he wants to build and, (3) Whether the proposed house conforms in cost and quality to the needs of the intended occupants and to FHA construction standards.

Mortgage Indebtedness Arising From	Interest Rate Exclusive of Premium Charge	Service Charge	Mortgage Insurance Premium
Financing (without change in lender) of Bona Fide Sale or Resale of Property Existing on June 27, 1934	Not to exceed $5\%$ per annum	None	½ of 1% per annum
Loan to Borrower for Financing Acquisition by him of Property Constructed After June 27, 1934	Not to exceed 5% per annum	1/2 of 1 € per annum	½ of 1% per annum
Refunding of Present Indebtedness (without change of borrower or lender) on Property Existing on June 27, 1934	Not to exceed 5½% per annum	None	1% per annum
Refunding of Present Indebtedness (with change of lender) on Property Existing on June 27, 1934	Not to exceed $5\frac{1}{2}\%$ per annum	1/2 of 1% per annum	1% per annum

By Rooseveltian Decree: The Charges

To learn these things the Administration will require the operative builder to show that he is putting in actual cash or other equity over and above the mortgage. He will have to submit plans and specifications for the house and, if the land is undeveloped, he will have to submit original plans for the entire area together with the factors influencing the permanent value of his development.

What such regulations are likely to mean to present practices in land development is this: subdivisions submitted will be subject to the same kind of scrutiny which now attends the approval of low cost housing projects by a State Housing Board or by the Housing Division of PWA. To guide uninstructed developers FHA's Technical Division has prepared a booklet with all the do's and don'ts. While, no doubt, cries of protest will fill the air, the good operative builder will have no cause for complaint, for FHA's intention is not to hinder but to encourage the intelligent subdivision of land.

Low Cost Housing. What may yet become the prime source of financing for slum clearance projects, are the limited dividend corporations which FHA will encourage. In the Housing Act, Section 207, special insurance privileges are extended to low cost housing projects, if they are sponsored by "Federal or State instrumentalities, private limited dividend corporations or municipal instrumentalities which are regulated or restricted by law or by the Administrator as to rents, charges, capital, rate of return or method of operation.

Important to private investors is the fact that limited dividend corporations approved by the Administrator are eligible for mortgage insurance benefits. Restrictions on limited dividend corporations will be like those now imposed by State housing laws: no regular dividends over 6 per cent, no stock issues in excess of original equity, no stock retirement before the mortgage is paid and no sale of property to other than an approved limited dividend corporation.

But Deputy Administrator J. Howard Ardrey will probably hold out one added incentive for the formation of such corporations - a ruling whereby he may from time to time permit the distribution of extra dividends. Probably it will be that if the surplus ever mounts to a point where it exceeds the gross rent for the preceding year, half will go to the tenants as a rebate, and half will be a melon for stockholders. Such distribution, however, would not be permitted if the equity has been wholly or partially amortized.

One other concession FHA will make to limited dividend corporations — it will insure mortgages which run higher than 80 per cent of the project's value provided the risk seems unusually good. But in no case could the sponsors' equity be less than the value of the land, and in all cases the sponsors would have to have a working capital of at least 3 per cent.

Unlike the State housing laws which

usually say the \$12.50 per room per month (or some lower figure) constitutes low cost housing, FHA will not commit itself definitely on what is or what isn't low cost. Instead it will judge each project by itself. It will, after considering such things as the relation of proposed rents to the general community level, the average earnings of the probable tenants, decide whether the project is low cost or not.

National Mortgage Associations. Without Title III, which paves the way for the formation of privately owned but Federally controlled National Mortgage Associations, Title II would be partially ineffective, for National Mortgage Associations are the agency to which FHA will look for the permanent liquidity of the mortgage market. Their purpose is to buy mortgages initiated by local lending institutions and to issue

bonds against them. They are, in effect, like the old guaranteed mortgage companies, the only difference being that they will actually have some basis for the guarantee. An NMA must have an initial capital of not less than \$5,000,000. It may issue bonds only on FHA insured mortgages and only in a total amount not exceeding ten times the aggregate par value of its outstanding capital stock.

National Mortgage Associations, it is believed, will be established only in large cities where capital is available in large quantities. They will, however, buy and sell all over the country, thus giving the communities where inadequate funds are available a larger volume of mortgage money. Their bonds, it is thought, will be listed on security exchanges, providing investors with a readily salable instrument.

ADVERTISEMENT

## MODERATOR SYSTEM HEATS NEW ARCADE ON MODEST BUDGET

Steam Consumption 27 P. C. Below Estimate Despite Severity of Winter

LONG SERVICE TRADITION

Webster System Coordinated With Air Conditioning **Gives Added Comfort** 

TENANTS WELL SATISFIED

Rochester, N Y,—"History has re-peated itself in Rochester where a new modern Reynolds Arcade Build-ing has taken the place of its cen-tury-old predecessor and carries on a long tradition of service"

a long tradition of service."
Paul N. Schubmehl, Building Manager, gives high-lights of the heating in this modern structure.
When the old Arcade was built in 1828, it was hailed as the largest and most expensive building west of Albany Over 100 years later, the new ten-story Arcade Building, designed by Gordon & Kaelber, Rochester, Architects, is equally representative of the advanced practice of the day, being equipped with a Webster Moderator System of Steam Heating, perfectly coordinated with the Carrier "Weathermaster" System for air conditioning. Even the ceilings are acoustically treated to assure quiet in all offices.
When the new Arcade was in the

in all offices.

When the new Arcade was in the plan stage, the building committee obtained estimates of the amount of steam necessary to heat the building in conjunction with the air conditioning system. These estimates, based upon previous five-year degree-day average, together with use of the conventional vacuum system indicated an annual steam consumption of about 8,700,000 lbs.

After study of the requirements

After study of the requirements by engineers of both Warren Web-ster and Company and the Carrier Engineering Corporation, a recom-mendation was made for installation of a Webster Moderator System to

Performance records for first heat-

would have been much larger.
From the standpoint of comfort,
Mr. Schubmehl reports that the
heating and air conditioning systems
synchronized so well that there has
been no difficulty in maintaining
evenly balanced heating and most
agreeable atmospheric conditions.
He also reports that the flexibility
of heating is such that tenants'
demands are fully met and in addition, "the Webster Moderator Sys-

## KNICKERBOCKER VILLAGE

Lower Manhattan's best at \$12.50 per room per month. A bad block becomes an exhibition block through Fred F. French and the RFC. But sociologists are not pleased.

Knickerbocker village is two simple (their only decoration is a terra cotta coping at the top) rectangular buildings, just east of the Bowery and New York City's Chinatown and on a block whose original name of Long was many decades ago corrupted into "lung" because of the block's own tubercular corruption. Knickerbocker Village was conceived in pre-Depression 1929 as a high class apartment group and ended by renting its most expensive penthouse apartments for only \$87.50; it was prematurely hailed as an answer to Manhattan's crying need for slum clearance and adequate low-priced housing and turned out to be nothing of the sort; it started out as a canny private real estate venture and ended by borrowing \$8,075,000 from Reconstruction Finance Corporation and having the Federal Government and the New York State Housing Board for nursemaids. It has been damned by theorists who consider it a sociological failure because it has not cleared but only transferred slums and been praised by responsible citizens like Alfred Emanuel Smith for exactly the same reason. Knickerbocker Village is a paradox that merits attention.

Its story begins with a series of fantastic real estate operations by the fantastic Mr. Fred Fillmore French. In 1917 Mr. French had a small office in the Bronx. To him one day came an architect, John S. Van Wart, and in order to make room for him Mr. French had to rent an extra room from the Central Union Gas Co. offices. Architect

Van Wart was the man who later was going to design Knickerbocker Village.

In lush 1929 few men in Manhattan were more conscious of their Midas touch than Mr. French. Skimpy offices in the Bronx were no longer in order. Under the Fred F. French ægis an incredible Tudor mushroom had sprouted at the eastern end of 42nd Street — Tudor City, a white collar apartment house development which discovered the slogan "Walk to Work" and was intended to provide homes for the thousands of clerks, junior officials and so forth who every morning crowded into the near-by maze of advertising offices, magazine offices, brokerage and real estate offices, oil company offices, architects' offices, industrial design offices, and practically every other kind of office you can think of.

Mr. French began to plan another such development in downtown Manhattan. He would buy 45 acres of land between Manhattan and Brooklyn Bridges, clear them of their vermin and tuberculosis infested tenements and build another Tudor City. The buying had to be secret — let the word get around that Fred French was concentrating his buying in a particular area and prices would leap as many dollars as stocks were soon to lose points. Mr. French gathered about him a group of trusted associates (one of whom swindled him out of \$115,000) and swore them to a secrecy that would do credit to a Maffia organization.

Strangely named dummy corporations (Dikram Ehramjian, Inc., Allied Metal

Markets, Southern Markets, Inc.) began buying. Mr. French became so ill he was crawling on the floor of his apartment, peering at plans spread on the carpet. All this time, although some may have guessed, no one knew for certain that Fred French was buying the land. In 1931, Mr. French asked for tax reductions on the land he had acquired and the cat was out of the bag. The trouble was that by this time, not even Mr. French knew what to do with the cat.

The Reconstruction Finance Corporation finally gave him a partial answer. The RFC was prepared to lend money to building projects under certain conditions. One of these was that the building company had to be a limited dividend corporation, another demanded that the project have something to do with the clearance of slums. Fred French saw his chance and took it it probably cost him a \$1,500,000 loss but it kept him from losing more; it did not take care of all the tenement land he had acquired but it did put his and other organizations to work and it did abolish the "lung block" which as early as 1834 had already acquired its malodorous reputation.

October 1, 1934 found one unit of Knickerbocker Village almost completed, the other promised for tenancy a month later. The unfinished unit was 60 per cent rented, the completed building figured its occupancy at 97 per cent. It was a rush job and it nearly got finished on time. The opening was gala. Jesse Jones made a speech for RFC. Al Smith spoke for New York

### Smith



Jones



French



Keystone Photos



Bright against a drab background are the twin units of Knickerbocker Village. The building on the waterfront is a Hearst printing plant.

City and jokingly offered to trade his 28 per cent occupied Empire State Building. Fred French was ready with an address. The tenants were shortly to discover how hurried the job had been and from a protective association to demand better elevator service, to complain that some of the toilet seats were not in place, that there was plaster in the bathtubs, that the floors were unfinished, the laundry dryer not installed, the incinerator so hot it heated the building to an uncomfortable temperature. The association thought it only fair that a

month's rent be returned to each tenant. Reason for the delays was chiefly a series of jurisdictional labor disputes with which no organization, no matter how smoothly geared, could have hoped to cope successfully.

The Housing Board got alarmed, meetings were held, and the fracas began to simmer down. But although service was unquestionably not at its peak, even the crankiest tenant had to admit that Knickerbocker Village was an amazing experiment for New York City and even the gloomiest

conceded that it gave promise of eventually functioning properly.

They had no easy time becoming tenants, these pioneer 700-odd families who struggled the first few weeks with unfinished apartments or took sulky refuge in a hotel until peace and order descended upon the settlement. They had first to file an exhaustive application describing their present apartments and utilities, their rents, ages, occupations, salaries, other income, other wage earners. It seemed as if only one's politics and ancestry were not inquired into.

## James

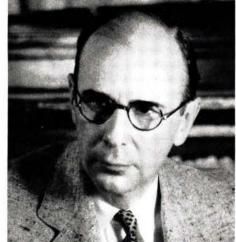


Van Wart

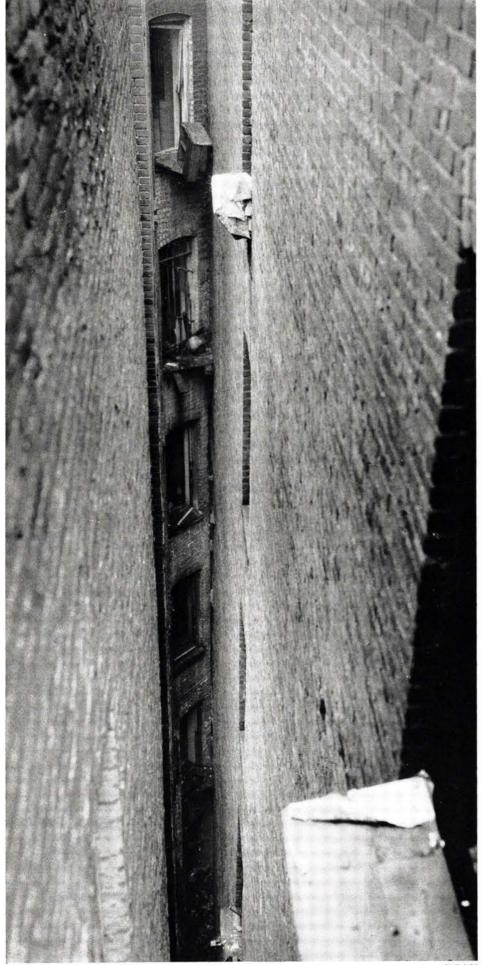


Bachrach

Gove



Abbott



Rothchild

With the application went one month's rent which, if the application was turned down would be returned; if accepted, would be deposited in a savings bank where it would draw interest and be applicable to the last month's rent. Payment of the first month's rent was also expected in advance and shortly after the application had been approved.

Mr. French and the Messrs. Darwin James and George Gove of the Housing Board were, as can be seen, taking no chances on welshers and were trying to pick out the whitest and most deserving collars in the class. Top income of tenants was to be \$4,000. Exceptions were allowed in the case, for instance, of two unmarried girls whose incomes as stenographers were \$2,200 each and who wished to room together. Their joint incomes, according to the letter of the law, would bar them from Knickerbocker Village but, if they seemed desirable tenants, they were allowed the larger quarters they could afford by joining forces. This is, of course, far removed from providing dwelling for the inhabitants of slums. As everyone expected, all but a scattered few of the tenants have telephones.

And this is what the tenants got or are about to get. Two big, twelve-story structures, built around two courts, with an additional playground court between - the whole covering approximately the area of four city blocks. Coverage of land amounts to 45.9 per cent, an unheard of ratio in a district where formerly a three and one-half foot air shaft was considered amply adequate for the admittance of air and light. There are refrigerators, gas stoves, Elevators are self-operating. Rentals range from \$22.50 for a 21/2-room apartment on a lower floor to \$87.50 for a  $5\frac{1}{2}$ -room penthouse. Average charge per room cannot exceed \$12.50 per month. That the lower income bracket of white collars was most attracted was evidenced by the enormous demand for the 2½-room flats.

Mr. French spent \$10,000 advertising his project and publicizing another "walk-to-work" slogan. But only about 50 per cent of the tenants work downtown and the majority do not walk the several blocks it takes to get there. Eventually Knickerbocker Village (completed: 1,593 apartments, 6,031.5 rooms) will be a city of 6,000 within a city, differing therein from any other apartment group in Manhattan. Practically self-contained, it looks forward to renting space to a grocery store, fruit and vegetable market, meat market, beauty shop, barber shop, news stand, liquor store, drug store, soda fountain, restaurant and cafe-

## What Knickerbocker Village Replaced

This is a three and one-half foot air shaft through which painfully filtered all the daylight and air the inhabitants of the apartments shown received. teria. There are plans for an assembly room where, presumably, the tenants may hold protest meetings if they still feel like protesting. The courtyards will be properly landscaped, will offer facilities for open air concerts and meetings, playgrounds for children.

But although the developers thought they recognized in Knickerbocker Village an ideal settlement for young families with babies, it turned out that the Village's baby population was surprisingly low Estimated number of babies in the two units is only 300. The Village's "average family" has not yet been statistically placed. But it is easy to guess safely. It is a family of two or three (a couple and a mother, brother, sister, child) with income, as we know, of approximately \$4,000. They have a telephone, no servant. They are clerks, advertising or magazine writers, city employes, brokerage house and bank assistants. Husband and wife, in the majority of cases, have jobs (Knickerbocker Village is nearly empty during the daytime). Their age is around thirty. For the most part Knickerbocker Village's tenants have cultural pretensions, have been to college, certainly to high school. Their nights are not strident with parties.

Knickerbocker Village's twin units gleam white against the tawdry background that is the lower East Side slums. A few blocks away, bums still stagger from the effects of New York's peculiar bootleg liquor called "smoke." Odors are pungent and unpleasant in the summer streets and the Old Law tenements crazily court the disaster of fire. Was Knickerbocker Village a step forward in the clearance of this area? Physically, the answer is obviously affirmative. Knickerbocker Village now stands where once festered the worst block of all New York's slums. But, sociologically, the Village only indicates an answer to the hoary question of Manhattan slum clearance. Knickerbocker Village, in this light, cleared no slums; it simply moved them. Which is another way of saying that it created new slums. All of which also bears inspection.

When Mr. French announced his plans the Lavanburg Foundation was quick to realize that in tracing the exodus of the families living on the Village's land it would achieve an excellent and important case history of a slum clearance project. With the help of Hamilton House, a neighborhood settlement, it got to work. The area studied included portions of Catherine, Market, Cherry and Monroe Streets and all of Hamilton Street (now closed and included in the project). In other words the Village's exact area was examined before and after its metamorphosis. Altogether the area contained 1,085 apartments (as against Knickerbocker Village's 1,593) of which 652 were vacant, 433 occupied. For such convincing reasons as refusal of admission, forty-seven of the occupied apartments remained unstudied. Members of the families occupying the remaining 386 apartments totaled 1,745 (as against a population of approximately 6,000 in the Village). It will, of course, instantly be seen that Knickerbocker Village has increased concentration which, considering the nature of the Village, is by no means a disparaging remark but should be noted as a matter of record. For the Village was designed to take care of that concentration; the concentration did not just happen and the Village's care, it must be remembered, is fireproofed and clean and of pleasant nature.

Space will not permit an elaborate report on the Lavanburg Foundation's and Hamilton House's figures. But their first conclusion merits attention and thought: "The great majority of tenants expressed a desire to remain in the immediate neighborhood and, when forced to vacate, only 14 per cent left the district, 86 per cent settling in the district." There is a pathetic corollary included later in the report:

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Families bocker	W	is	h	in	g	d														iic	ke	-
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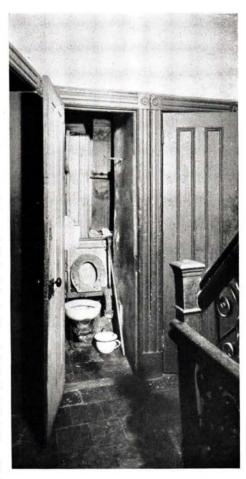
One of the results, therefore, of Knicker-bocker Village has been not only to increase concentration on its specified area by offering facilities to an approximate 6,000 families where before there were only 386 plus a number of boarders of whom no census was taken, but further to increase this concentration by moving 86 per cent of the pre-Knickerbocker Village families into directly adjoining slums. It should be noted that these slums were approximately 25 per cent vacant so that there was ample bad housing to receive the moving families.

Knickerbocker Village, therefore, increased slums. A few of the landlords of adjoining properties, spurred on by the Village's example in cleanliness and by their increased returns from new tenants, did make scattered improvements in their houses, but the area surrounding the Village is still slum. What lesson does this case history indicate? In the first place it must be noted that this discussion takes place in a field where Mr. French and the Housing Board are present in a capacity which does not represent them to the fullest of their powers. It was and is all to Mr. French's credit that Knickerbocker Village obliterated the lung block. But remember that Mr. French originally intended a private venture. Although he could derive moral comfort from having cleared a block of its slums, he had no reason to feel morally responsible for the future whereabouts of the slum dwellers.

The same holds true of the Housing Board and the RFC. They helped Mr. French because Mr. French's project did mean razing an infected area. But neither Mr. French nor the RFC nor the Housing Board have solved anything about Manhattan slum clearance where the term, as

it properly should, means providing decent dwelling for families who were paying rentals of from \$4 a month for two rooms. Two general conclusions, however, seem to be in order: 1) slum families like to remain where they have been living, welcome a decent home in that area provided they can afford it; 2) a slum area may be razed, rebuilt, and quickly filled with a different population. Neither of these conclusions has the quality of a bombshell but they have rarely been so aptly demonstrated. It is by no means the function of this report on Knickerbocker Village to go further than to indicate them. But the obvious corollary that a good way to attack slum clearance may perhaps be to build two developments simultaneously - one to bring in a new, richer population, the other to lure away from its haunts the entrenched population - may be mentioned. The battle goes no further. It rests with the economists, the architects, the taxers of land.

No real estate man or sociologist, however, can look at Knickerbocker Village without wondering: can it and should it be done again? The answer seems to be that certainly it can. The Village turned down enough applications to fill more than a third unit and could undoubtedly have rented



The communal toilet, portable and stationary. Notice that the seat is no longer on hinges. The door to the right leads to an apartment.



The area between the two Knickerbocker Village units backgrounded by lower East Side tenements. The chairs are being installed in preparation for the inaugural ceremonies but they also demonstrate the possibilities of communal outdoor activities.

most of its space at a higher rate than the \$12.50 maximum. But it is not clear that the experiment should be repeated. Filling the lower East Side with Knickerbocker Villages would mean a tremendous drainage from the uptown residential sections of Manhattan. Which, on its face, does not seem to be a sound economical idea. What will become of the lower East Side, which shows no indication of ever becoming industrialized, remains any man's guess. Ironically, considering the set-up of the city and its land values, the fact that the section is slum-ridden seems a manifestation of its logical destiny.

A way out might be found by building spaced Knickerbocker Villages and having the city authorities condemn the intervening and unimproved lands for park purposes, reducing total coverage to 20 per cent and pegging the density of population to that presently existing. Unfortunately, with city politics being what they almost always are, the scheme seems a far distance from realization.

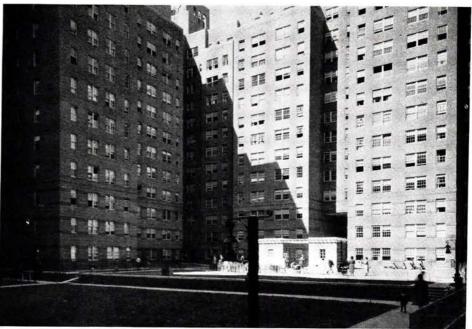
In the old days (the quality of their goodness is equivocal) when Mr. French was buying land and his salesmen were selling stock in his companies, the sky was the limit. But when the RFC and the Housing Board got on the job, the limit was 6 per cent. Which simply means that RFC would lend no money to a company unless it limited its dividends to 6 per cent. Mr. French, seeing the turn of affairs, was quite willing. It now remains to be seen whether Mr. French will ever enjoy any portion of

One of the inner courls of a unit showing the air and sunlight received by inside apartments. Knickerbocker Village's coverage of land amounts to only 45.9 per cent. his percentage. The most optimistic have thought that he might begin to get some money back in ten years. But others have been willing to bet he would never make a clear cent.

In the first place Mr. French took a whopping loss on his land. By the time he had acquired it and held it, its cost averaged \$22 a sq. ft. But Knickerbocker Village was built on an estimate of \$14.02 a sq. ft. which meant that its 219,736 sq. ft. is listed at \$3,081,627.40 (including legal fees, title search, title policy, acquisition costs, etc.). At \$22 a sq. ft. the figure would be \$5,834,192—a loss at the very outset of more than \$2,000,000.

The figures appearing on our chart are based on an estimated loan from RFC of \$8,075,000. Actually the loan will be smaller. But since actual costs of building have not yet been estimated, the maximum figure has been used as a basis of computation. The eight million dollar figure represents the maximum RFC is prepared to lend. Should money above that figure be needed, Mr. French would have to supply it without Federal aid. It is important to note that Mr. French must supply fifteen cents of every dollar spent on Knickerbocker Village. Critics have erroneously accused the Government of completely subsidizing the development, giving Mr. French a comfortable out from a bad proposition, and leaving him the chance of ultimate profit. Under the fifteen-cents-of-every-dollar arrangement Mr. French must supply \$1,425,000 as his corresponding contribution to RFC's maximum loan of \$8,075,000. Total maximum cost of the project therefore is \$9,500,000.

By the terms of the contract with RFC and the State Board of Housing Mr. French can draw no money from his equity in the project until RFC's mortgage (\$8,075,000) has been reduced to 55 per cent of the final cost of the project — allowing for a  $1\frac{1}{2}$  per cent annual depreciation. Thus, while the mortgage is being reduced, the building also depreciates and the 55 per cent figure, according to the French economists, cannot be reached for ten years. The economists throughout have been conservative; there is little reason to doubt their conclusions. They have kept their vacancy estimate at 5 per cent which is high for the first unit and, from present indications, will also be high for the second. They carry their operating cost per room at \$45 - which is also a high figure. In 1945, then, if all goes well, Mr. French may begin drawing interest on his \$1,425,000 equity represented (always at maximum) by \$317,000 common stock and the balance in 6 per cent income



Dothehild

## BUDGET OF COST, FINANCING AND OPERATING

(at maximum)

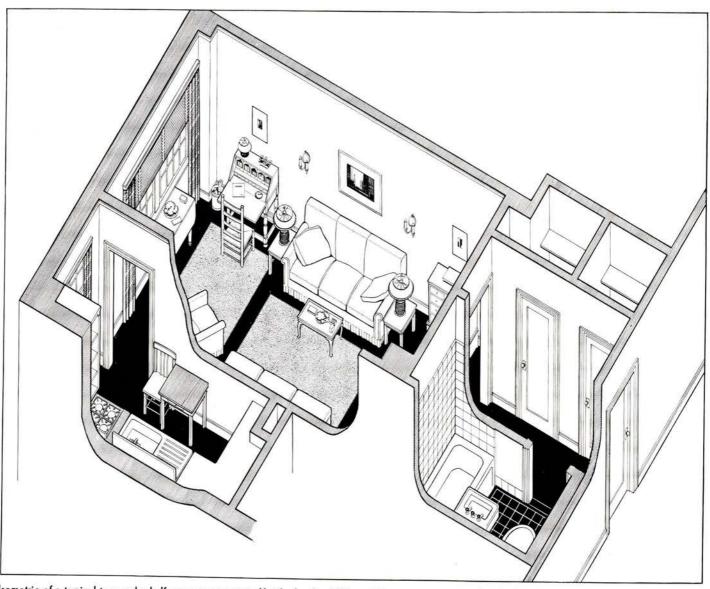
## KNICKERBOCKER VILLAGE, INC.

COST OF LAND:	
219,736 sq. ft.@ \$14.02 (approximate)	\$3,081,627.40
COST OF IMPROVEMENT:	
Demolition of existing structures and construction of new building	\$5,110,875.00
Safety margin*	520,757.60
General contractor's fee	450,000.00
Interest — $\$8,075,000$ @ $5\%$ for $4\frac{1}{2}$ months**	151,406.00
Taxes during construction	35,334.00
etc	150,000.00
COST OF PROJECT	\$9.500.000.00
	40,000,000
FINANCING:	
Mortgage — RFC: $5\%$ **	\$8,075,000.00
Income Debentures — FFF Co.***.	1,108,000.00 317,000.00
Common Stock***	
Total Financing	\$9,500,000.00
INCOME:	
6,031.5 Rooms @ \$150.00 per year per room	\$ 904,725.00
Stores	$45,\!550.00$
Basement — 16,766 sq. ft. @ \$.50.	8,383.00 38,770.00
Submetering Current	38,770.00
Total Income	\$ 997,428.00
EXPENSES:	
Interest on RFC Mortgage @ 5% averaged for ten years	\$ 333,344.00
Amortization of RFC Mortgage — Fixed by RFC Contract	285,239.00
Amortization of RFC Mortgage — From application of net income, averaged for ten years.	57,556.00
Operating 6,031.5 Rooms @ \$45.00 (Includes taxes and insurance)	271,418.00
Vacancies 5%	49,871.00
Total Expenses	\$ 997,428.00
Depreciated value of project at 11/2% per annum at the end of ten years after completion	\$8,553,472.00
RFC loan at the end of ten years after completion	4,647,106.00 $54.33%$
Ratio of RFC Loan to depreciated project at the end of ten years after completion	J4.33%
STANDED OF ANY OWNER THE STANDARD OF THE STAND	

<sup>\*</sup> No part of this amount is to be included in the cost of the project unless actually expended.

<sup>\*\*</sup> Reduced to 4% for five years provided RFC does not dispose of its bonds.

<sup>\*\*\*</sup> Owned by French Companies, these debentures and common stocks will pay no interest until the mortgage has been reduced to an amount not exceeding 55% of the project's cost, less depreciation at  $1\frac{1}{2}\%$  per year. Interest is cumulative.



Isometric of a typical two and a half room apartment in Knickerbocker Village. These apartments were by far the most in demand in the development.

debentures. Interest on these debentures is cumulative.

To Mr. French goes a builder's fee of \$450,000, a yearly management fee of \$20,-000. Of course, neither of these figures represents a net. Construction throughout has been by sealed bids and checks to subcontractors go direct after an O. K. from RFC and the Board of Housing. The project got under way before NRA made for uniform bids. Since NRA, contracts have been split and so apportioned as to spread work among as many companies as possible.

From its 6,031.5 rooms at \$12.50 a month Knickerbocker Village can expect an income of \$904,725 (allowing for no vacancies). Stores will bring \$45,500, basement room leased to the stores for storage purposes should yield \$8,383. Income from submetering current has been estimated at \$38,770 for a total income of \$997,428 (see chart). Whether this income will serve to meet operating expenses, pay off the mortgage and how far it will go toward writing off Mr. French's initial losses remains the big practical question about Knickerbocker Village.

One not unforeseen pitfall still lies in the Village's way. That is the Board of Taxes

and Assessments. The 1934 assessment of the Village's land was \$1,019,000. It was agreed that the buildings should be tax exempt. But 1935's assessment on the land is \$1,850,000 which, taking a general and inexact tax figure of .03, would mean an increase in taxation of upward of \$20,000. Knickerbocker Village is well aware that in three years the assessed value of the land of the Amalgamated project in the Bronx increased 400 per cent. This kind of increase might very easily break the financial set-up of the project wide open. Obviously the Board of Taxes and Assessments must have had in mind the fact that Knickerbocker Village improved the land upon which it stood, that, therefore, an increase in its assessed value was clearly in order. The trouble is that if such assessments increase and if efforts are continued to keep the project solvent, the maximum charge of \$12.50 per room per month might have to be raised. If sociologists have been displeased because they considered a \$12.50 maximum too high, their displeasure at the above contingency may well be imagined. The problem is further complicated by other landlords who also cater to the white collar class but at higher rental charges.

To them Knickerbocker Village is even more distasteful than it has been to a degree disappointing to sociologists. For naturally Knickerbocker Village has taken some of their tenants. Should the Village have to raise its rents, it would be greatly to their satisfaction.

Thus Knickerbocker Village, New York City's city within a city, which is not privately owned nor owned by the Government, which is not a slum clearance project and yet managed to rid the city of its worst block — Mr. French's child whom he intended to send to private school and who went instead to public school on Mr. Jesse Jones' money, with Darwin James and George Gove of the Housing Board as teachers, and Al Smith of the sidewalks to cheer him on his way. The opening was gala if a little hasty. Four special policemen were delegated to guard over the welfare of the tenants. And at \$12.50 per month the rooms were the best in the neighborhood which looked up to the new glistening structure with a mixture of envy, surprise and awe tinged with the forlorn hope that some day somebody might do the same thing all over again and manage to charge

## BY TIMELY TAILORING

## Prudential's 15% stake in an Oregon neighborhood is preserved.

For several years the Brice Mortgage Co., Portland, Ore., correspondent for the Prudential Insurance Co., has been spending Prudential money on houses acquired through foreclosure, to make them salable.

Breezing into many a badly planned old house, Brice employs often as many as twenty men per dwelling, repairing crumpled eaves and shattered window-panes, removing bunglesome built-in buffets and bookcases, rearranging partitions, etc., in order to meet the needs of present day small house purchasers whom Brice officials say are "just as selective" and in search of "just as much for their money as the pur-

chasers of large homes.'

Last March Brice chalked up fifteen sales, a figure which dropped to three in April, leveled out to an average of five for succeeding months up to October, during which month Brice sold a dozen houses. Reason for the drop; the longshoremen's strike which wore on through the summer and materially depressed West Coast business. Portland, seeing the need, sprang its renovize campaign in the thick of the trouble. To stimulate renovizing, the First National Bank hauled a dilapidated cottage into the business district and remodeled it (The Architectural Forum, August, 1934, page 148), but to many this demonstration proved as unconvincing as it was unnatural. However, in a job out in Portland's Mount Tabor district which Brice opened as a show place shortly thereafter, there was evidence aplenty of modernization's merits.

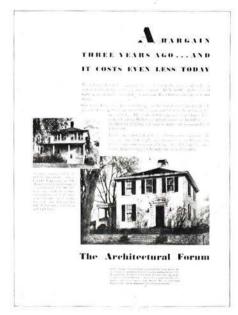
A residential area predominantly given over to \$5,000 to \$10,000 homes built since 1925, Portland's Mount Tabor is spotted here and there with houses of another day and vintage. One such, owned by Prudential, was square-built and resembled a house published in an Architectural Forum advertisement in Time (April 17, 1933). This advertisement gave Brice the idea of making the house salable and at the same time improving the district, in which about 15 per cent of the houses are mortgaged by Prudential, through modernization.

At a cost of \$3,200, Prudential's old house was relieved of its excess porches, given a covering of 10 in. double spruce siding, and otherwise revamped. On this job Brice officials sought the advice of Joseph W. Heiler, an architect working for the U.S. on the locks for the Bonneville Dam. So satisfied were they with his work that they have retained him on all subsequent jobs.

To students of building economics, as well as to prospective Portland modernizers, the Brice Mortgage Co.'s Architec-TURAL FORUM-inspired modernization job was well worth serious study last month. For besides certain primary results (such as the very self-sufficient one that with an expenditure of \$3,200 added to Prudential's original investment of \$2,400 the property has been sufficiently upped in value to command a sale price of \$6,450, or a rental of \$65 per month, where nothing had been obtainable before) other more important and profound considerations emerged.

Reported the Brice company: "A surprising number of other jobs were started in the same neighborhood soon after work on our

house was completed. In fact, next door a new house was built immediately upon the assured fact that we were going to complete the work on our property in the



See "Time," April 17, 1933

manner outlined. The owners had previously purchased the lot next door, but had held it for a number of years without building, due to the condition of our prop-

"We had hundreds of calls from individuals interested in remodeling their homes. Many of them, in fact, either wanted references as to who could do similar work for them or requested that we supervise their work. Having only a limited force in our conditioning department, we did not think it advisable."





Casting a blight on property for blocks around, this house, before modernizing, was more than a white elephant to Prudential, with mortgages on many a home nearby. Selfjustified, the job occasioned others in the neighborhood, including a new home next door.

## **EARNINGS**

Last month earnings reports for the first nine months of 1934 of the following representative building supply companies were available for comparison with reports for the same period last year:

(000's omitted; $D = deficit$	
1934 1933	
Air Reduction	Second
American Rolling Mill 1,453,919 312,258	D
Bohn Aluminum & Brass 1,263,456 1,159,229	6
Briggs Manufacturing 4,825,576 890.645	
Brunswick-Balke-Collender. 48,181 D 452,822	D
Dresser, S. R., Manufactur-	
ing (heaters) 82,048 45,547	8
Evans Products (flooring,	
etc.) 1,256,134 216,038	3
Follansbee Bros	D
Formica Insulation 31,949 7,272	D
General Electric	Į.
Johns-Manville 586,554 417,140	D
Libby-Owens-Ford 2,819,067 3,684,018	3
Long-Bell Lumber 1,080,712 D 2,166,086	D
Minneapolis Honeywell	
Regulator	}
Otis Elevator	D
Parker Rust-Proof 696,654 480,243	,
Revere Copper & Brass 989,817 180,645	
Yale & Towne	

## HOW MUCH FOR HOUSING

the President only knows; direct subsidy rears its head; the Housing Division's score.

Some time near Christmas the President will tell the building industry just how big a sugar plum, in the form of low cost housing, subsistence homesteads and public buildings, he is going to drop into its slowly filling stocking. Some say it will be \$2,000,-000,000 and some say it will be \$3,000,-000,000. But like the Santa Claus of the North, the White House gift-giver is keeping his plans to himself. Whatever the amount, it will certainly be larger than building's pittance out of the first \$3,300,-000,000 allotted for PWA a year ago last fall.

All the President's aides agree that building is the locked door to recovery - but they are far from agreement on the best way to break through. Teamed are Donald R. Richberg, new "assistant President" and FHAdministrator James A. Moffett against PWAdministrator Harold L. Ickes and FERAdministrator Harry L. Hopkins. The last two have come out strongly for big U. S. expenditures, while Richberg and Moffett are trying to incline the President's mind toward such forms of private stimulation as the Federal Housing Administration now offers.

Ickes backed up his contention with a well-timed report on how much good his PWA money has done so far, how much it will do this Winter.

"By actual count there were 437,000 employed on PWA construction projects during May. When the peak was reached in mid-summer the count was close to 700,000. In August, there were 637,000 workers on construction site, and in September 549,000."

From these figures Ickes deduced that this Winter would see 2,000,000 drawing wages from PWA projects direct or in industries fed by construction.

A few months back Richberg won a policy victory over the departed General Hugh S. Johnson. With his star apparently in the ascendancy, he may, despite Ickes' figures, score again. Moffett shares with him the attitude that if the FHA fails, it will be time enough to start talking about using big wads of U. S. funds. What would then happen is a matter of conjecture. Not the least likely possibility is direct subsidies to individual home builders of from 10 to 20 per cent of the cost of the house. Such a program, similar in base to the British plan, is held by some economists to be as logical as direct subsidies to shipping or any other industry which the Government has in the past helped out by direct grants.

While the housing program for next year was worrying the Presidential advisers, Ickes released a summary of what his Housing Division has done so far.

Of the \$150,000,000 it had to spend, the Division has allotted about \$11,500,000 to limited dividend corporation projects (see page opposite) and \$138,500,000 to 39 Federal projects. Besides the twelve private jobs there are nine large Federal projects. involving an expenditure of \$73,000,000. On nineteen other projects, quick action is expected soon; and on the rest additional study is being made. The Division also has tucked away waiting for more money from Congress twenty other projects toward which it looks with kindness. The status of the specific projects is as follows:

## FEDERAL PROJECTS

New York. After as fitful a battle as accompanies any Ickes approval, the first of the New York housing projects was stamped O. K. It was the \$12,000,000 Williamsburg Brooklyn development, covering twelve city blocks and housing 2,500 families. The word to go ahead was issued when Ickes received assurance from the city that the necessary schools and playground areas would be constructed. The area is between Bushwick Avenue, Leonard, Maujer and Scholes Streets, now covered by cheap, dilapidated three- and fourfamily tenements. Tentative plans indicate two-, three- and possibly four-story walk-up apartments.

Other projects under consideration. Around 5,000 living units will be provided under the program according to preliminary estimates.

Chicago. Eventually the Windy City is to have \$25,000,000 worth of housing, but like New York it will not get it all at once. Last month, the U.S. filed condemnation proceedings for the acquisition of 35 acres in the Negro section north of 39th Street, as a site for the \$7,000,000 development which will house 1,400 Negro families.

Atlanta Techwood. Allotment, \$2,700,-000. Title acquired for site and demolition of existing buildings started. To provide 603 living units (white) and dormitory quarters for Georgia Institute of Technology. New housing to consist of three-story dormitory and two and three-story apartments.

Atlanta University. Allotment, \$2,100,000. Title acquired for site and demolition of existing buildings started. To provide 617 living units (Negro). New housing to consist of two- and three-story flats and row houses.

Cleveland. Allotment, \$3,000,000. Title acquired for Cedar-Central project and demolition bids taken. Contract for demolition will be awarded in the immediate future. Project provides 799 living units (white). Three-story apartments.

Indianapolis. Allotment, \$3,000,000.Condemnation proceedings started. Project provides 1,044 living units (Negro). One-, two- and three-story flats and apartments.

Cincinnati, Allotment, \$6,000,000, Option work started. Preliminary estimate, 1,950 living units (white and Negro).

Detroit. Allotment, \$6,000,000. Option work started. Size of project dependent upon extent of site acquired. (Negro)

Montgomery. Allotment, \$320,000. Condemnation proceedings filed on site. Project to provide 160 row houses. (Negro)

+ One problem in the future is still worrying Administrator Ickes, and his housing chief, Col. Horatio B. Hackett - management. From all parts of the U.S. they have called experts, asking for help on what their procedure should be once the buildings were tenanted. And no small problem it is for European experience has been that unless supervision is exercised it takes only a limited time for former slum occupants to reduce a model housing unit into a slum again.

#### LIMITED DIVIDEND PROJECTS

Hillside Housing Corporation - New York City. Allotment, \$5,060,000. Estimated total cost, \$5,717,871. To provide about 1,388 living units. Approximately 15 per cent complete. (Apartments)

Boulevard Gardens - New York City. Allotment, \$3,450,000. Estimated total cost, \$4,086,000. To provide approximately 957 living units. Approximately 20 per cent complete. (Apartments)

Juniata Park - Juniata Park Housing Corporation — Philadelphia. Allotment, \$1,039,000. Estimated total cost, \$1,153,607. To provide approximately 284 living units. Approximately 49 per cent complete. (Apartments)

Neighborhood Gardens — Neighborhood Gardens Corporation — St. Louis. Allotment, \$640,000. Estimated total cost, \$730,000. To provide around 252 living units. Approximately 4 per cent complete. (Apartments)

Alta Vista Housing Corporation — Alta Vista, Va. Allotment, \$84,000. Total cost, \$100,000. Project consists of 50 small, single-family houses. Houses complete. Street improvements to be put in.

Euclid Homes — Euclid Housing Corporation - Euclid, Ohio. Allotment \$1,-000,000. Project consists of individual and double houses to be erected by persons owning property with Corporation aid. Approximately 14 houses complete.

Boylan Housing — Boylan Realty Company — Raleigh, N. C. Allotment, \$198,-600. Estimated total cost, \$233,600. To provide about 54 living units. (Apartments) Ready to start.

Also in Brooklyn, Ickes last month approved the allotment of \$1,670,000 for the Brooklyn Polytechnic Institute for its 1,500-room project. To many the allotment came as a surprise for it had been thought that the Administrator was definitely fed up with limited dividend corporation projects. Turned down several times, the Institute revised its set-up until it finally was approved.

Houses like these at Euclid, Ohio, and Alta Vista, Va., received PWA approval because of special circumstances. The Euclid house (left) is one of fourteen built out of 250 planned, while Alta Vista's 50-house project is complete.





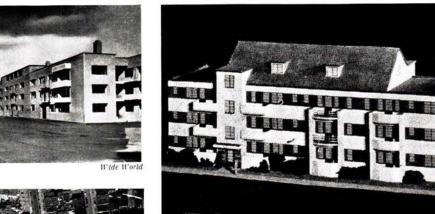
New York shares substantially in actual spending under way. Here the Boulevard Gardens project at Woodside, L. I. (left), and the Hillside project in the Bronx, in their present state, attest to housing's blossoming.





Most like Europe's housing are Philadelphia's hosiery workers' project (left) and Neighborhood Gardens in St. Louis.







Present and accounted for here are each of the eight limited dividend projects with PWA approval, excepting one at Raleigh, N. C., on which Washington has not yet given the order to proceed, and one in Brooklyn approved last month despite the PWA's statement that no more loans to limited dividend corporations would be made. Spending now directly out of its own pocketbook, the PWA is at work in a dozen cities acquiring sites like the one at the left for Brooklyn's Williamsburg project.

## THE ILLEGALITY OF OVERCROWDING

is to be established in Great Britain's newest housing scheme.

New flats for rotten cores.

ALL Britain was agog over housing last month, as it has been, off and on, ever since the year 1919. Parliament was about to consider some brand new legislation bound to rank alongside the five major post-War statutes without which, according to many an economist, England's recent rapid strides toward Recovery would have been impossible.

For twenty years well over half the houses built in Great Britain have been built with the aid of the Government. First of England's important efforts to provide "Homes Fit for Heroes" was the Addison Act of 1919, supplying funds to make up losses sustained by local authorities and loans for public utility societies. Action taken under this act was stopped by the Government which passed it, and it was superseded in 1923 by "the Chamberlain scheme." This provided subsidies for local authorities, but gave them an incentive to economize, since losses had to be made up out of local taxes. Passed by a Conservative Government, this act was enforced by a Labor Government and ultimately brought to an end by another Conservative Government.

With "the Wheatley Scheme," enacted in 1924 by the Laborites but actively operated by the Conservatives, the Government again undertook to assume losses on locally built projects. Fourth was the Greenwood Act of 1930, largely elaborating the aims and purposes of the Wheatley Act. Passed by a Labor Government, the Greenwood Act provides the statutory basis for the 300,000-house program initiated this Spring

by the present (Conservative) Government (see The Architectural Forum, May, 1934, page 395).

Last year legislation passed in 1925 empowering local authorities to guarantee loans of up to 90 per cent of property values by building societies was rejuvenated through the Hilton Young Act, providing a 50 per cent guarantee on losses sustained by local authorities in making such guarantees. Not unlike our National Housing Act, insofar as it encourages the extension of private capital, the Hilton Young Act, unattended by the ballyhoo of slumclearers, has been little heard of in the United States.

As Sir Edward Hilton Young, the Minister of Health, went speechmaking throughout the country month before last, it became clear that the forthcoming legislation would embody at least three new methods of attack not heretofore given a try.

First expedient is to be a Government-set limit on the number of persons per house. After a set date overcrowding in excess of this limit is to be made illegal. Said Health Minister Hilton Young in explaining his Government's plan for "a permanent raising of our standard of civilization":

"Supposing Mr. Smith, shall we say, and six other people are living in a house, the standard for which is fixed at five people. When alternative accommodation is provided, two of these people will have to leave the house, and from then onwards only five people will be allowed to live

there. This means that if Mr. Smith's aunt dies in some other town and his uncle wants to come to live with him he cannot do so, unless one other member of the family leaves to make room for him."

The standard fixed is expected to provide for the separation of the sexes at the age of ten, and for space for the increasing family and growing children at appropriate rents.

The attack on overcrowding will be facilitated by a national survey of the need for new homes to fulfill the standards set. And with overcrowding apparently at its worst at the cores of England's ancient industrial towns, what amounts to a third objective is the Government's plan to redevelop these inner areas with well-planned blocks of modern flats.

## A LETHARGY IN STOCKS

brings report of a new type lease on Wall Street.

Had the New York Stock Exchange carried through its great threat to move to New Jersey last year, Wall Street building owners would have been no worse off than they were last month. With transactions on the Exchange totaling 279,886,161 shares for the first ten months of 1934, as compared with 586,293,330 for the same period in 1933, business in the Wall Street section showed a 50 per cent drop.\* Although the most logical thing to blame was the Securities Act of 1934, most Exchange members found, said the arch-Republican New York Herald-Tribune, that "disinterest in security trading is caused by more fundamental issues than the Federal regulatory law.

Eighteen thousand, continued the Herald-Tribune, had lost their jobs since November last. With brokerage houses merging right and left, financial district building owners, in order to keep their buildings full were said to be resorting to a new form of lease, based on the volume of transactions on the Stock Exchange (as many a chain store lease is based on sales). Investigation found no one ready to admit he had made such a lease, but reports of two actual instances persisted.

Consensus among Wall Street lessors was that such a scheme was not workable, due to the extreme variations of business on the Exchange and the impossibility of meeting fixed charges under such a plan. Remembering that early last year a delegation of brokers had approached the management of the Equitable Building with a proposition of very much the same sort, and the thumping refusal they got, few shuddered at the report, more were quick to term it poppycock.

\* Reflecting in part conditions outside of New York, official figures of the Stock Exchange showed that 97 branch offices were no longer listed. The 1,106 branch offices as of November 1 this year compare with 1,658 offices at the end of 1929.

# HOUSE CONSTRUCTION IN ENGLAND, 1919 TO 1933 (Reprinted from "England's Achievement in Housing," by Harry Chapman, in "America Can't Have Housing," Copyright 1934, The Museum of Modern Art, New York.) Year Subsidized Houses Unsub-

Year $ended$		Subsidized	Unsub-			
September 30	Addison Scheme 1919 Acts	Chamberlain Scheme 1923 Act	Wheatley Scheme 1924 Act	Greenwood Scheme 1930 Act	sidized Houses	Total
1919		1111111	######################################			
1920	6,127	\$100 \$10 \$7			62.000	
1921	67,945	Anto-executive:			30,000	210,237
1922	106,165	* * * * * * *	10100000000			
1923	24,998	991		- 50	52,749	78,738
1924	5,525	30,934		0.020.0000	73,032	109,491
1925	1,492	78,409	12,385	****	66,735	159,026
1926	975	84,431	46,489		65,689	197,584
1927	527	115,073	97,316	23 525	60,313	
1928	30	47,969	53,792	5.5 5.50		273,229
1929	18	80,240	53,516	0 + 30 to 40	64,624	166,415
1930	14		51,310		71,083	204,867
1931		* * * * * * * * * * * * * * * * * * *		100	110,375	161,699
1032			61,615	420	132,909	194,944
1932	* * * * *	600 (40 40 gr. d.)	62,530	5,146	132,886	200,562
1933			44,131	6,302	167,880	218,313

# WITHOUT COMMENT

Ardrey, J. Howard, deputy administrator in the Federal Housing Administration in charge of new home building: "I'm not doing a stunt. We are establishing a system."

Ayres, Col. Leonard P., chairman, reporting for the American Bankers Association's economic policy commission: " . . . It is appropriate to discuss briefly two sets of conditions which appear to be chiefly responsible for the prevailing restricted activity of the banking business. The first of these is the existing stagnation in privately financed building construction. . . . The cause seems to be simply that the costs of new building are too high to encourage new construction. . . . The other outstandingly important cause of shrinkage in the volume of banking activity appears to be the decline in the volume of new corporate financing.'

McDonough, Michael J., president of the building trades department of the American Federation of Labor: "As a matter of cold fact, there is a real advantage in building now, for the costs are lower now than they are likely to be when building gets into full swing in the Spring."

Babson, Roger W., statistician: "Although these years have seen great changes in transportation and communication, there has been little change in housing — excepting as to toilet conveniences. . . Air conditioning, radio heating and a dozen other pending changes are going to revolutionize buildings. What has happened to transportation during the past decade will hit housing during the next decade. Both the profits and losses of the next business cycle will focus on housing."

Best, William E., ex-Home Loan Bank boardman: "In my opinion it [the HOLC] does not know where it is going, will not know when it gets there, and, if it ever gets back, will not know where it has been."

Collins, Kenneth, department store advertising copy livener, formerly of Macy's, now of Gimbel Brothers, New York City, urging retailers to be alert to opportunities in marketing air conditioning units: "We mustn't let this second opportunity slip through our fingers. Air conditioning producers are already flirting with the idea of setting up distributive systems similar to those which the automobile interests were compelled to establish when stores proved cool to the idea of handling cars."

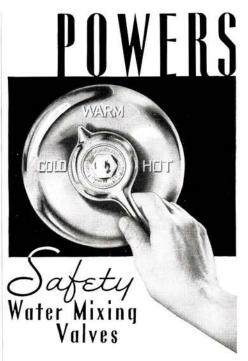
Purnell, Frank, president of the Youngstown Sheet and Tube Co., in an employes' bul-

letin: "Let us attempt to make a frank estimate of what is ahead of the steel industry this winter. . . . While we hope and expect that operations will be somewhat higher than the present rate, the outstanding fact is that we cannot expect a large increase in the consumption of steel until the country as a whole once more undertakes substantial construction and plant rehabilitation projects - pipe lines, roads and bridges, homes and office buildings, power houses, locomotives, large plant repair and improvement programs, and the like. These things will not be undertaken until it is possible to finance them on a long-term basis, through the sale of bonds or stock. Investors will not buy securities of this sort until they have some assurance of monetary stability. Without monetary stability, we cannot expect many new bond or stock issues; without such issues we cannot expect the undertaking of big new projects involving the use of steel."

Watson, Frank, assistant general counsel in the Federal Housing Administration: "If there is any desire again to enter that business of private lending of money, I think the National Housing Act offers something very substantial and is assured of overwhelming success. If that initiative is dead, and if the banking business of the country is to become merely a business of accumulating government bonds, I have little doubt but that the National Housing Act is doomed to failure."

Wood, Arthur B., president of the Sun Life Assurance Co. of Canada, reciting the latest statistics on life insurance companies investments at the American Life Convention: "Mortgages, which still represented 38.03 per cent of the total invested assets at August last, absorbed only 4.22 per cent of the new money invested in the first eight months of this year; while United States Government bonds, which in August, 1933, were but 3.86 per cent of the total, and had risen by August, 1934, to 7.46 per cent of the total, represent about 56 per cent of the current investments. The comparison is deserving of close study for its many implications.

Wood, Will C., vice-president of the Bank of America National Trust and Savings Association, Oakland, Calif.: "The percentage of loss on total real estate loans the country over is less than the percentage of loss on total commercial loans; less in fact than the percentage of loss on total bond investments. This is true in spite of the fact that a large percentage of real estate loans have been flat loans."



#### For Shower Baths

Powers mixers prevent scalding caused by failure of cold water supply or by pressure changes due to use of nearby showers, faucets or flush valves. They keep the temperature of the shower where the bather wants it without any "shots" of cold or scalding hot water.

#### Group and Gang Showers

Powers mixing valves are also used for the control of water temperatures of showers in groups of from 2 to 20 showers. They may be used to establish a maximum temperature in the hot water supply so as to protect the entire group from danger of scalding or to place the entire group of showers under the control of an attendant.

#### Zone and Progressive Showers

Where compulsory bathing is required before entering swimming pools, lane showers are divided into four zones, each controlled by a Powers valve. First zone is maintained at 105° F; second at 90° F; third at 75° F; and fourth at 60° F. Because of its efficiency and its hygienic and sanitary advantages, this type of shower is rapidly increasing in popularity.

## Hospital Hydrotherapy

In infant baths, continuous flowing baths, control tables, douche baths, arm and leg baths, colonic irrigation apparatus, photographic baths, and hot water line control, Powers mixing valves are indispensible because of their safety features.

See our advertisement in SWEETS or write for bulletins to The Powers Regulator Co., 2720 Greenview Ave., Chicago or 231 East 46th St., New York. Offices in 43 Cities— See your phone directory.



## AN APPRAISAL SOCIETY

## is born at the U. S. Building & Loan League Convention.

When the 1,200 delegates to the United State Building and Loan League Convention left New Orleans month before last, they boasted a new subsidiary — The Society of Residential Appraisers. Along with other sound thinkers in the building and lending field, the Leaguers had come to the conclusion that sound appraisals are at the base of sound home financing.

The Society will endeavor to establish authentic price indices for various types of property. All factors affecting the value of homes, including cost of construction with various materials, current market prices, sales activity, rentals and similar matters, will be regularly reported to the Society, compiled in distributable form, and transmitted to all members. The League hopes to have the cooperation of insurance companies and savings banks, and other major factors in home financing.

Besides its new appraisal society, the League when it quit New Orleans had a new president, Houston's Israel Friedlander who moved up from the vice-presidency.

The new national chief of the \$7,000,-000,000 building and loan business is chairman of the Advisory Committee to the Federal Home Loan Board at Washington; chairman of the board of the Federal Home Loan Bank of Little Rock, and has served for several years as chairman of the Advisory Committee on State Legislation for the Building and Loan League.

Convention Highlights. From President Roosevelt, who at about the same time was issuing similar salve to the wounded feelings of the American Bankers Association at Washington the League received this word of encouragement:

"It is my sincere hope that such institutions as your own members may presently be in a position to resume their normal functions in behalf of thrifty investors and home owners alike. To that extent the building and loan associations will relieve the Federal Government of a task which it was forced to assume during the emergency but which properly belongs in the hands of private enterprise and initiative now that the crisis is being met."

The will of the delegates to resume their normal functions in accordance with the President's hope was evident in a dozen or more different statements on the part of the leadership. Notable among them was that of the League's Executive Vice President Morton Bodfish: "It would be regrettable if after attaining the highest standard of housing for the working classes that the world has ever seen almost exclusively through the work of building and loan associations and funds raised by the teaching of thrift and savings, we should

turn to paternalism in financing home ownership."

Early in the convention sessions, Deputy FH Administrator J. Howard Ardrey, in charge of mutual mortgage insurance and national mortgage associations, emphasized that the only relationship which the Government has to the mortgage insurance plan is one of supervision. Mr. Ardrey pointed out that the Housing Administration was not interested in fostering cheap building of homes, but reported that it is setting up standards for home construction.

General Counsel Horace Russell, of the Federal Home Loan Bank Board, forecast a rich field of endeavor for the home financing industry, and national improvement in home quality. In twenty years instead of an aggregate value on homes of



Kaufmann & Fabry

New League President Friedlander

\$50,000,000,000 he foresaw urban homes valued at \$100,000,000,000.

"If in twenty years we are going to have \$100,000,000,000 worth of homes, the funded debt on them will be at least \$50,000,000,000 at the peak in the accomplishment of this task." He added that a great responsibility rests on the people who supply the mortgage funds to provide so great a fund of money on a reasonable basis and to see to it that it is made available for sound and economical home financing.

The extent to which building and loan associations during the past year were functioning in the lending field was brought out in the secretary-treasurer's report for the League. H. F. Cellarius, of Cincinnati reported that for the year ended January 1, 1934, home loans of \$435,000,000 had been made. This was about a fourth of the lending activity of building and loan associations in a normal year.

Chairman John H. Fahey granted an important position in the future home

financing structure to the Federal Home Loan Bank System, possibilities of which he declared to be limitless. At the same time his treatment of the Home Owners Loan Corporation heralded the gradual cessation of its activities and served notice on thousands of today's applicants that they will have to look to the private lending institutions for their refinancing as long as they are abundantly able to meet their obligations and are having no real difficulty with their present mortgages (see page 30).

"The Federal Home Loan Bank System has seen a remarkable growth," Mr. Fahey reported. "Today it has over 2,800 members, with combined resources of \$3,500,000,000. They are in a position with this great strength in combination to issue and market bonds of such a character as to rank next to those of the Government itself. No security has ever been offered to the American people by private institutions assuring greater safety or dependability and through their utilization it should be possible to obtain money from American investors at a very low rate."

Too early to demonstrate any significant results in its ability to bring new funds into the home mortgage field, the Federal Savings and Loan Insurance Corporation is just beginning to function, said Fred W. Catlett, youngish Home Loan Bank boardman in charge of the insurance program.

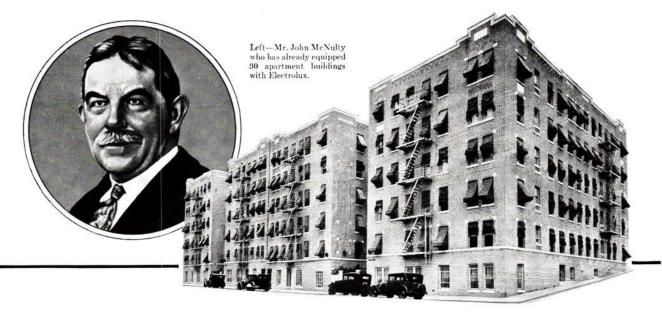
"It is designed to and will establish the confidence of the people in the security of their savings in building and loan associations," he pointed out. "It will without much question redirect the flow of those savings from the postal savings system and the insured commercial banks into the thrift institutions of the country."

A belief in the returning favor of real estate investments was another dominant note in the convention halls and the natural concomitant of this trend, the rising prices of existing homes, was anticipated by several speakers. Executive Vice President Bodfish in his address advised associations which have real estate on hand not to be too hasty about disposing of it at sacrifice prices with an assured rise in quotations in the offing.

H. O. Walther, Chicago District Manager of the Home Owners Loan Corporation, recalled the tendency of the investing public to change its mind about liquidating investments when they know that the investments can be liquidated. The trend of prices on homes during the next few years seems to be definitely upward and the change is already noticeable in some of our metropolitan areas, he said. Little building can come as long as building costs are higher than the prices of homes for sale. It is reasonable to assume that in most communities there is potential demand for homes since the apparent oversupply at this time is simply the result of families moving together because of economic conditions. As long as the supply of these houses has not increased materially, Mr. Walther pointed out, prices will go up.

# Electrolux has proved not only a

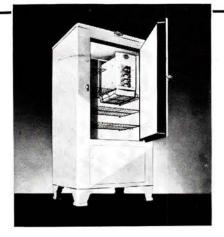
## VALUABLE RENTAL APPEAL . . . "



"... its complete dependability in hottest summer weather has definitely removed the old 'bugaboo' of service that is still associated with the idea of automatic refrigeration," says MR. JOHN McNULTY, Builder, of 282 East 206th Street, New York City

TWO things make Mr. McNulty's experience with Electrolux of especial importance to every builder and owner who is contemplating the purchase of refrigerators for his properties. First, it is based on the performance of Electrolux, not in one or two, but in 30 Electrolux-equipped buildings. And second, it is typical of the experience of realtors the country over.

"In my many years of construction and management experience," writes Mr. McNulty, "I've found that it pays to take time in fully investigating the equipment that goes into any apartment building. So, naturally, when I came to choose automatic refrigerators the same rule applied. I made a careful study of all the leading makes and found that the one that offered the most both for me and for my tenants was Electrolux. Today, I have thirty (30) buildings equipped with this modern refrigerator, both air- and water-cooled models.



"So satisfied have I been with my choice, so well has Electrolux lived up to every expectation, that I can—and have many times—recommended it with full confidence to my friends. Electrolux has proved not only a valuable rental appeal because of its low operating cost and permanent silence, but also its complete dependability

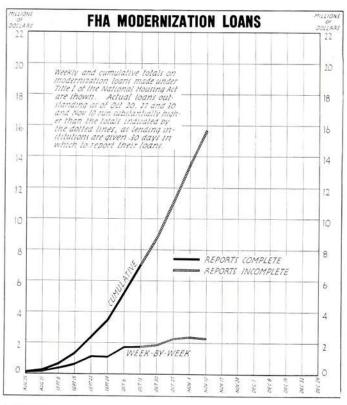
even in hottest summer weather has definitely removed the old 'bugaboo' of service that is still associated with the idea of automatic refrigeration. Now, as four years ago, I sincerely believe that the most practical and most successful refrigerator for any type of building is Electrolux."

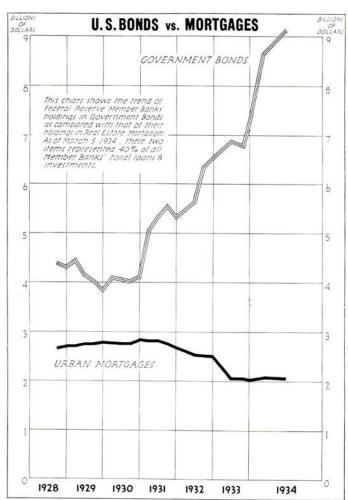
Your local gas company also recommends Electrolux to you. See this modern refrigerator at the showroom! Ask any questions you wish. Know that they will give you the real facts, for your gas company values your good will above everything else. They would never do anything to endanger it. Electrolux Refrigerator Sales, Inc., Evansville, Ind.

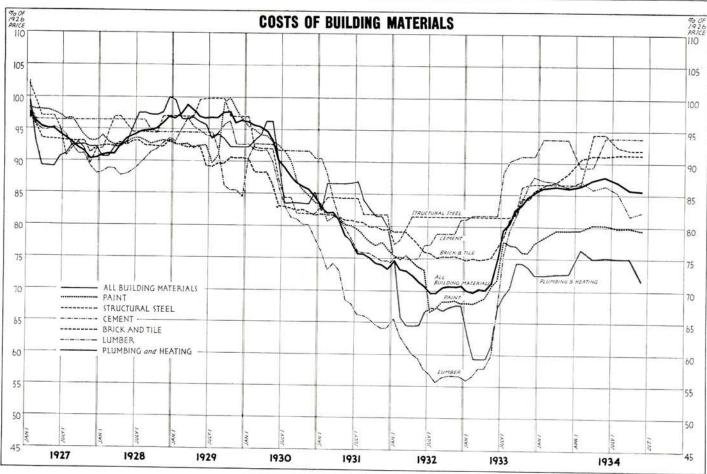
NEW Air-Cooled
ELECTROLUX
THE SERVEL Gas REFRIGERATOR

## THE FHA SNOWBALL

explained. Meanwhile the U. S. bond tapeworm wriggles upward, costs drop.







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## FAHEY SHUTS THE DOOR

## on HOLC applications, and it may not open again.

For months the SRO sign has been hanging outside local offices of the Home Owners Loan Corporation. Last month Chairman John H. Fahey announced there was no longer even standing room — that no more applications would be accepted until further notice, if ever.

HOLC's decision was prompted by the realization that the Corporation had in its files applications for more loans than it had money for. By the middle of last month, the Corporation had disbursed about \$2,000,000,000 to refinance mortgages on 650,000 homes and the remaining \$1,200,000,000 was expected to take care of 400,000 of the applications then pending.

Whether or not Chairman Fahey will ask Congress for another appropriation at its next session is still an unanswered question. At the moment, he is inclined not to do so. But since aiding home owners to obtain loans has been a source of much good will building for Democrats as well as Republicans, pressure from local politicians may be too much for the Chairman.

In making his announcement, Chairman Fahey indicated that he believed private institutions, by altering the terms of their mortgages, could well take care of many of the applications which the HOLC has received. He pointed also to a marked decrease in the number of applications filed at State and district offices. Said Chairman Fahey:

"At the same time there is steadily increasing evidence that a large proportion of the private lending agencies of the country are now getting in position to resume their normal lending functions and to handle the refinancing of mortgages. A great many of the applications being filed with us can and should be taken care of by the private lending institutions.

"In round figures, the HOLC has already paid out \$2,000,000,000 to take over the mortgages on about 650,000 small homes. More than 90 per cent of this money has gone to the commercial banks, savings banks, insurance companies, building and loan associations and mortgage companies and has had the effect of strengthening their resources in a very important way.

"By February or March the balance of the funds now at the disposal of the corporation will be disbursed. About 400,000 more loans will be made in this process with the result that in a few weeks a total of \$3,000,000,000 will have been distributed practically all of it to the lending institutions of the country."

Mr. Fahey said that the corporation had received a total of 1,766,000 applications, totaling \$5,560,000,000, but that a careful resurvey had satisfied it that a very

substantial portion was not eligible.

"In spite of every precaution taken," he added, "we continue to receive thousands of applications which we find after investigation are not eligible and cannot possibly be made the basis of a loan by the corporation. Most of these ineligible cases are cases where the mortgagor and mortgagee should work out their mutual problem."

But the decision to accept no more applications was by no means an end to HOLC. As a matter of fact, its work is just beginning — for there still remains the greater problem of getting its money back. So far its attitude toward delinquents has been extremely lenient — but the time is not far off, in the opinion of many, when it will have to harden its heart.

## AN ELEVATOR STRIKE

## threatens the nation's codeless building owners and managers.

FEW properties today are more than meeting present operating costs, taxes and interest, and literally thousands are failing to meet these costs. To increase operating costs necessarily means to augment the new lists of foreclosures by those who would otherwise be able to carry on."

Argument like this went far to obtain exemption from codification under the National Industrial Recovery Act for all U. S. building owners and managers last July. The above quotation, however, is from a statement made last month by the Real Estate Board of New York, in a very skittish frame of mind on the eve of a building service workers' strike in Manhattan's garment district.

The statement went on long-windedly to say that "the Real Estate Board committee has recommended, and the board of governors has approved the recommendation, that a thorough survey of the field be made to review the scale of wages compiled by the Board's employes committee for the guidance of its members, in order to determine what recommendations the Board will be prepared to make."

Not content to wait the ten days which Board President Lawrence B. Cummings said it would take to make the survey, 5,700 elevator operators, starters, porters, et al., all members of Local 32-B of the Building Service Employes International Union, seven-and-one-half-month-old A. F. of L. affiliate, left their posts one morning five days later, and great was the consternation they occasioned.

Five hundred lobbies were in an uproar as union "squadrons" went from place to place to call out workers still remaining on the job. Radio cars, summoned by harried building managers, screamed through throngs of sympathetic garment workers, averse to riding scab-manned elevators. On the stairsteps of the Garment Origi-

nators' Building Sam Schiff and Ben Silver sat and mopped their brows for cameramen. One door north a plate glass window smashed on top a crowd.

At his office in a West 42nd Street hotel, James J. Bambrick, president of Local 32-B, a chunky little man with tortoise shell glasses, told reporters the strike had been hanging fire for two months, detailed the union's demands, which included minimum wages of \$35 to \$75 for various types of employes, a 40-hour week and closed shop agreements.

By the end of the first day Union President Bambrick could proudly proclaim that "The effectiveness of the strike thus far has exceeded our wildest expectations, thanks not only to the solidarity of our own members but to the magnificent support of the other unions in the garment center, as well." Two hundred of the building owners affected had accepted closed shop contracts and agreed to wage stipulations representing some concessions by the union.

Word was next day, as the strike closed, that another 200 owners had followed suit. Apparently the only snag encountered by the strikers was the Title and Mortgage Rehabilitation Bureau of the State Insurance Department, which controls 10 per cent of the buildings in the area affected, and which stoutly maintained its inability to enter into any agreement offered by the union.

Said President Bambrick: "Nothing can stop the strike from spreading unless it is a change for the better for the workers. We are going to secure the same rights for building service employes in other sections of the city as we are getting in the garment center."

Elaborated Eastern Representative George Scalese: "If the other locals in the Eastern area profit by our victory here, there is no doubt but that working conditions will be improved throughout the country."

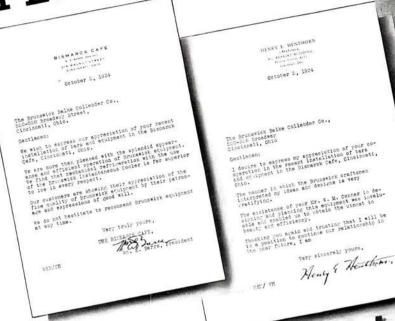
Finding themselves in what they called a "Washington revolving door," that took them in and out of NRA offices with nothing to show for their efforts but sympathy, New York's building contractors banded together last month for their own defense. In solemn conclave three organizations representing nearly all the important general and sub-contractors in the city issued a statement saying that it would resist every effort made to increase wages or to shorten hours.

Their move was prompted by the recent success of the electrical workers union in getting eight hours pay for a seven-hour day. To prevent the spreading of similar demands the contractors took action.

Said Christian G. Norman, contractor spokesman: "This virtual ultimatum is something we dislike because it is likely to stop any one who has any idea of putting up a building. At the same time a man would be blind not to see what's coming."

Labor's only comment was, "You know how the employers are — they get frightened and blow off steam." Three Floors of

PERFECT SATIS





keller, dining room and taproom in beautiful new Bismarck Café in Cincinnati.

There are three floors of perfect satisfaction in the Bismarck Café in Cincinnati. A delighted owner is doing a \$600-a-day business. An enthusiastic architect is pointing to a beautiful job well done. And in rathskeller, dining room and taproom, Brunswick craftsmanship and efficient service fixtures are doing their part to keep customers satisfied and to keep them coming back.

Mr. Henthorn's letter and Mr. Barrs' letter are typical of many in our files, testifying to the excellent results that architects have had in cooperating with Brunswick. Like many others, they have found that Brunswick is headquarters for everything in modern service equipment for restaurants, bars, taverns and taprooms.

Phone for a Brunswick man whenever he can be of service to you. You'll find him a gold mine of helpful information. It's his business to help you get the best results out of every job.

Write today for latest information on Brunswick Service Fixtures, Billiard Tables, Bowling Alleys, Lawn Bowls, Toilet Seats and Squash Courts.



The job is completely mechanically cooled, using three Brunswick Instantaneous Coolers. All tapping is done in the basement back bar, where they make use of a special No. 8 B section. The balance of the beer is stored in the large basement storage cooler, of which a portion is used for the storage of meats, foods, etc.

## THE BRUNSWICK BALKE COLLENDER CO.

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## FORUM OF EVENTS

(Continued from page 20)

drawings by affording the architects the facilities of the Supervising Architect's Office. . . . The desirability of expeditious results and in no sense discrimination against the architectural profession prompted the order.'

"Without in any way questioning the sincerity of this statement, it is plainly evident that the procedure adopted can have only a most demoralizing effect on the architectural profession. There is every evidence that private building, except in the case of small residence work, will be practically non-existent for some time to come — indeed it is because of this that the public buildings program is being pushed so frantically at this time.

"But instead of the program operating to enable existing architectural organizations to continue in business . . . the Federal Government, becomes an agency in the elimination of those offices which have, through their continuous experience and development, made American architecture the foremost in the world today.

"The architect, who through force of circumstances must accept the temporary employment thus offered, is faced with two alternatives: He must give up his office entirely if his lease can be terminated, thus increasing local unemployment, or he must carry it along at a total loss.

"In either case he must remove himself from the sphere of his normal activities and abandon contact with such prospective commissions as might develop. And at the termination of the temporary employment both the architects and the draftsmen are likely to find themselves in a worse predicament than ever."

To back up his arguments, Mr. Walker presented a list of 38 Federal building projects costing upwards of \$60,000 and not employing the services of private architects. What Mr. Walker heard in reply from New York's Congressional candidates he has not yet divulged.

### COMPETITION

The Association of the Alumni of the American Academy in Rome is holding its ninth annual collaborative competition for architects, landscape architects, painters and sculptors. Competition closes January 18, 1935. American Pencil Co. (Venus pencils) is offering prizes of \$300, \$150 and \$75 respectively to the first three winning teams. These prizes have hitherto been given in virtual anonymity. Competition is open to any group of art students, or to anyone employed in offices or studios. For further details letters should be addressed to Roscoe Guernsey, Association of the Alumni of the American Academy in Rome, 101 Park Ave., New York City.

#### DEATH

Penrose V. Stout, 47, A.I.A.; of a heart attack; in Boston. He was born in Montgomery, Ala., graduated from Alabama Polytechnic Institute in 1909, practiced in Pensacola and New York City. As a member of the 27th Aero Squadron of the First Pursuit Group he was shot through the shoulder and lung near Charney, France, was awarded the D.S.O. After the War he practiced in New York, Virginia, North and South Carolina. He acquired a national reputation as a designer of country residences, built many buildings in Bronxville, N. Y., where he lived.

#### AWARD

To the College of Fine Arts of New York University; the University medal of the Groupe Americain de la Société des Architectes Diplomes; for excellence in architecture. An annual award since 1920, the medal is given to the U.S. college or university having "the best record of accomplishment in the teaching of architecture" along the lines followed by the Beaux Arts. The medals, designed by Louis Bottée, supplied by the Beaux Arts, are semi-official. N. Y. U. won the award in 1931 also. Other winners: Pennsylvania, Carnegie Institute of Technology (twice), M. I. T., Columbia, Yale (three times), Catholic University, Illinois, Harvard (twice), Princeton.

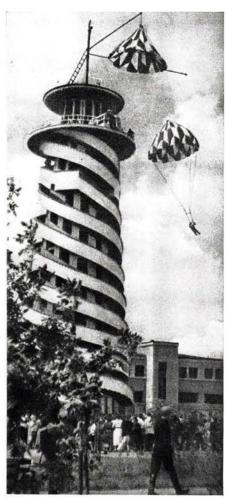
## DADDY'S WILL

That extraordinary late real estate operator, Edward West ("Daddy") Browning loved publicity so much that one of his greatest prides was one of its necessary and often irritating concomitants — a fabulous amount of mail. He stored it in a special "letter room" stacked to the ceiling with mail from all over the world, most of which, he cheerily admitted, contained requests for money. The U. S. became aware of him when he took to wife Frances ("Peaches") Heenan who nowadays appears in burlesque.

To observers of his career, it would undoubtedly seem that architects and engineers would be the class least likely to benefit by the terms of Mr. Browning's will. Yet one out of six "Browning prizes" which the will establishes is of concern to these professions. The prize will be given annually as a reward for the "production of the most serviceable invention or useful discovery; or architectural improvement in fireproofing and sanitation or otherwise; or the most important work of art in paintings, sculpture or literature." Although the specifications are so general as to make competition for the prize seem a vague procedure, there is no reason to believe that in future years some architect or engineer may not unexpectedly find himself the recipient of a pleasant sum of money. Other Browning prizes, provided for in the will, will go to "the spreading of the Gospel under Protestant auspices . . . the increased production or improvement of fish, birds, or animals . . . the prevention of cruelty to children or animals, or the promotion of peace and international harmony." The estate is estimated at approximately \$7,000,000.

#### SOVIET PARK

The Maxim Gorky Central Park of Culture and Rest in Moscow occupies 750 acres. In order not to get lost you have to hire a guide. It has open air theaters, playgrounds, forests, gardens, and practically



IVAN GOES PARACHUTING Russia turns a trick Chicago missed

everything else that you have ever heard of. On one day alone, 500,000 Muscovites visited it. Last summer, 8,000,000 people went to it seeking rest and culture.

Neither culture nor rest is the parachute tower in one of the amusement spots. Russia is one of the most parachute-conscious nations in the world and the tower one of the most popular places in the Park. Ivan climbs up the spiral ramp, takes hold of a gaily colored open parachute, and at a given signal soars to earth. The Century of Progress Fair missed a good trick when it overlooked this one.

(Continued on page 35)

# VERDE

Vermont Verde Antique is particularly suitable for high-contrast effects in association with light-colored marbles—as in floor squares (a motif which has come down through the centuries and is never out-moded). It is used extensively for corridor base, ashlar and decorative trim. It is unexcelled also in polished form for exterior building work. In strong relief against a color base of deep, blackish green is a network of veins of variegated order and delicate light-green and gray tints. Notable examples of Verde Antique interiors are: The Goelet Building in New York, the Union National Bank Building in Pittsburgh, and the Phoenix (Arizona) Title & Trust Building. We invite architects to write for "Color Plates of Vermont Marble," showing 23 varieties in full color. Vermont Marble Company, Proctor, Vt.



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STATION WCOA at the San Carlos Hotel, Pensacola. The entire studio is treated with Acoustical Temlok, painted to carry out the interior color scheme.





COMMISSIONERS' ROOM at the Allegheny County Court House, Pittsburgh, Pa. Note the herringbone treatment for the curved-arch ceiling achieved with Corkoustic.





On the Air at Station WAZL, Hazleton, Pa. Armstrong's Corkoustic provides the absolute quiet necessary, plus a pleasing interior decorative treatment,

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Write, without obligation, for data and samples direct to Armstrong Cork & Insulation Co., 900 Concord St., Lancaster, Pa.



## FORUM OF EVENTS

(Continued from page 32)

#### LENIN MEMORIAL

Although plans for a Lenin memorial in Leningrad have temporarily been shelved by the Russian Government, photographs of one of the models submitted in competition have been made public. Architect is Michael J. De Angelis, R.A., of Pittsburgh, who estimates the cost of his project at 6,000,000 rubles.

Mr. De Angelis explains his monument thus: "The three buildings are supported on



DE ANGELIS LENIN MEMORIAL Progress shoots rays the world over

a base of granite 40 ft. high with stairs leading to the plaza, and to a stadium to seat 10.000 people.

"The tower shall be entered from two sides leading into a hall and vestibules, main hall to be half circle in plan with the map of Russia in the background. All lighting will be concealed. There are two elevators and stairs leading to the different levels of the tower, also a beacon to illumine the finial. This would be directional (by color) for air, land and sea, the light revolving within colored glazed windows. The symbol is a depiction of Lenin progress shooting its rays to all parts of the world.

"Buildings on each side of the tower will be a museum and a library; in these buildings could be housed the works of Lenin and the history of the New Russia as well as relics of days gone by and the passing of Imperial Russia. The two buildings have entrances from the plaza facing the Tower. The base could be excavated and could be utilized...."

Building now in Moscow is the Palace of the Soviets which, when it is completed, will top the Empire State Building (1,248 feet) by more than 100 feet. Its architect, Boris Michaelovitch Iofan, recently in New York as head of a group of visiting Russian architects, is best known for his "First House of the Soviets" apartment group. He has planned a Romanesque structure of six concentric fluted cylinders which will form a giant pedestal for a 260-foot statue of Lenin with his face toward his tomb in the Red Square. The monument caused comment in the U. S. when Architect William Zorach complained that ideas he had submitted in competition had been adopted by the U.S.S.R. architect.

#### FISH INTO FAUCET

Herman foster, Deputy Commissioner of Water Supply in the Bronx, New York, is a worried man. Time and again the same complaint comes to him. A Bronx citizen has just turned on a water tap and a fish has landed in the bowl. In each case Deputy Commissioner Foster dispatches a bacteriologist to examine the faucet water. Invariably the bacteriologist reports that the water's potability and purity have not been impaired. But, equally invariable are the citizen's mistrust and dissatisfaction.

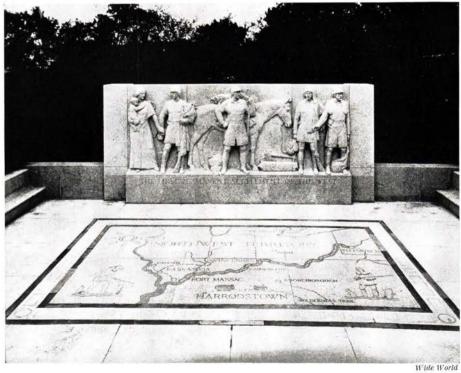
Mr. Foster explained the piscatorial appearances as follows. There are always fish in the Bronx reservoir. There are, roughly speaking, two kinds. One is a predatory kind, which eats the other kind which, in turn, eats the miniscule but evidently nourishing food that some fish can find in water. Now, as everyone knows, reservoir waters are occasionally treated with chemicals in order to preserve their purity. It so happens that these chemicals are death on

the predatory fish and seem to make no difference to the food fish (in this particular case, the food fish are known as "alewives"). The result has been that with the decline in population of the fish-eating fish, the alewives have prospered mightily. So much so, in fact, that the little ones are able to slip through the wire mesh through which the reservoir water must flow before it is piped. Hence the presence of alewives in the Bronx wash bowls and kitchen sinks. And hence the perturbation of Deputy Commissioner Foster.

Two courses of action are open to him. He cannot reduce the aperture-size of the wire mesh because that would interfere with the pressure of city water. But he might be able to find a chemical which would harm alewives as much as it does the predatory fish. Failing that, he will probably have to introduce more predatory fish in a rather arbitrary attempt to restore the balance of population.

#### HABS

The Historic American Buildings Survey whose work was originally undertaken as a temporary relief measure has now been organized as a permanent institution (The Architectural Forum, September, 1934, pages 203–216 inclusive). The total number of drawings completed to date is, 5,739, while the number of photographs, 3,474. Approximately 700 historic notes have been made to supplement the drawings and photographs of 888 separate projects.



THE WEST'S FIRST PERMANENT SETTLEMENT

is memorialized at Harrodsburg, Ky. Above a mosaic map on the floor a frieze symbolizes a frontier farewell at the left, youth and old age at the right. In the center panel is George Rogers Clark, pioneer soldier statesman. Sculptor Ulric Ellerhusen and Architect Francis Keally won the Federal commission in a nation-wide contest.

## BOOKS

America Can't Have Housing, edited by Carol Aronovici, The Museum of Modern Art, New York, 78 pp., 1 illus., 7½ x 10, 50 cents.

The front cover title of this symposium, published to accompany the opening of the Museum of Modern Art's exhibition of housing, is printed upon a background of question marks. This is strikingly appropriate in view of the contents. While stating definitely why America can't have housing the sixteen authors are yet sufficiently constructive to make these statements actually questions. When these questions are finally answered it may then be possible for America to have housing.



Old Masters

Room in housing of the future. Housing exhibition of the Museum of Modern Art

The simplest way to give an idea of the content is to quote, without comment, a significant paragraph or so from the article of each contributor. Sir Raymond Unwin, London's Regional Plan Director, says: "There have been communities founded on different units; our community is founded on the single-family unit; so long as that is so, the essential of all housing must be to provide homes, not mere shelters, for all our family units who are not in a position to command the supply of these for themselves.

"The good old word home is itself no mean definition of what the minimum standard must be, how it must be planned and equipped and how the units must be grouped in relation to each other."

PWA's former Housing Director, Robert D. Kohn: "Can we ever hope to get to the point which England has reached? There when a district is declared officially to be a slum all property can be taken at its land value appraised only for its use for low-cost housing purposes. All the 'improvements' are ignored, only salvage value, if any, being paid for the buildings. We must go a long way to revise our national viewpoint regarding ownership rights as against community rights in land."

Critic Lewis Mumford: "Meanwhile an important fact had escaped notice, namely, that the housing of the 'more fortunate' classes when appraised by standards of what was desirable and technically attainable, was almost as low as that of the underpaid and 'underprivileged' workers. This fact even escaped the attention of a revolutionary critic like Friedrich Engels when he wrote about the housing problem."

Catherine Bauer, Executive Secretary of Philadelphia's Labor Housing Conference:

"Let us face the facts clearly and recognize that bitter and organized opposition is not only unavoidable but perfectly natural. In the course of a real housing movement the whole flimsy structure of speculative real estate 'values' will necessarily be punctured. This will doubtless necessitate drastic changes in systems of municipal taxation. The right of property-owners to make profits out of substandard dwellings will exist no longer. Interest rates must be cut."

Author Edith Elmer Wood: "In any wisely planned national housing problem, Class 3 dwellings will be slated for ultimate demolition by Public Housing Authorities. If the cities under the Real Property Inventory [The Architectural Forum, November, 1934, pages 320–332] are a fair sample of American urban conditions, as seems probable, that would mean, adding Class 4 and some interspersed Class 2 houses which would have to come down for the sake of the layout, new urban building for something like 4,000,000 low-income families."

Harry Chapman, Organizing Secretary of International Federation of Housing and Town Planning: "(England's) individual insanitary houses can be dealt with without necessarily being in an improvement area. If the house is capable of being repaired at reasonable cost, the authority may serve notice on the owner, with right to appeal at the County Court. Where the owner fails to comply with the order, the authority may act at his expense and may purchase the land at site value."

Walter Curt Behrendt, on post-war housing in Germany: "With the building industry finally established on such a changed basis, the architect also, for the first time, found the way clear to turn his attention to the practical, technical and architectural problems of small dwelling construction. Until now the architect has been more or less the hired man of private interests and their basic principle had been to figure out by tricky methods how to cover the greatest proportion of the land with buildings. But now it has become the architect's business under the stimulus of actual necessity to develop a new elementary form for the small dwelling with the aid of all the means of modern technical science."

Walter Gropius: "Only by means of the tall apartment house is the tenement freed from tedious and time-wasting housework. Centralized mechanical equipment, such as a central heating plant and hot water supply, a central laundry, elevators, refrigerators, air conditioning, communal clubrooms, facilities for sport and a kindergarten may be offered to the tenants without heavy costs."

Werner Hegemann, city planner: "Real improvement of housing is possible only in times of a general rise in employment and in wages. Employment and wage statistics are almost the equivalent of housing statistics. If the latter are lacking or unreliable, the former will tell the story. Nothing but the most miserable and incidentally most expensive kind of housing can be provided from the dole given the unemployed."

Architect Hans Bernoulli, on post-war cooperative housing in Switzerland: ". . . the best plan is public land ownership, cooperative construction of the buildings, individual ownership and possession."

Alberto Sartoris, Italian writer on functional architecture: "In the field of low-cost dwellings the large building of many stories represents the most satisfactory solution. Its use presupposes that the density of the population should not depend upon the height of the building, but upon the ratio between the cubical volume and the area of the lot."

Charles S. Ascher, Secretary of Chicago's Public Administration Clearing House: "Most of the thousand zoning ordinances in this country were framed in days when cities looked forward to doubled populations and before adequate scientific analysis of urban communities had become available. As a result, when we ask federal officials to impose standards of economic and social soundness for the projects to which they are to extend credit, even if the officials agree with us in principle, we are hard put to it to find for them in many cities any adequate data upon which standards might reasonably be based."

The Real Property Inventory has already been mentioned. In reporting on it its technical director, Robinson Newcomb, calls attention to the fact that "Aside from the shortage of housing revealed by the inventories, the most significant fact disclosed is the unbelievably low standard of American housing. In cities in which median rents were under \$15 over a

(Continued on page 40)

#### FORUM OF EVENTS

(Continued from page 35)

#### NEW GOVERNMENT BUILDINGS

With dignified public interest and publicity the President last month took time off to assist with Chief Justice Charles Evans Hughes at the dedication ceremonies of Washington's new \$11,000,000 Department of Justice building (architect: Zantzinger, Borie and Medary). Only slightly smaller than the



Underwood & Underwood

Architect's Drawing: Department of Interior Building

Capital's largest Department of Commerce Building which it resembles, the structure gives a permanent home to a Department that has never had one since the creation of the office of Attorney General in 1789. The building has usable floor space of approximately 550,000 sq. ft. The entries to the court (largest in the U. S.) are decorated with 11,000 sq. ft. of mosaic ceilings.

Also in the direct classic tradition of Governmental buildings is the new \$10,000,000 Department of Interior building (see cut), plans for which were approved last month by the Fine Arts Commission. Waddy B. Wood is architect. It will cover two city blocks between C and E Streets, and 18th and 19th. Eight stories high, completely air conditioned, it will have six wings, each 55 ft. long, will contain 2,200 rooms.

#### RESIGNING ARCHITECT

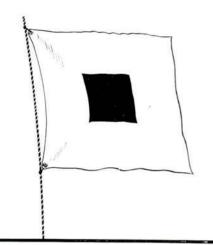
James A. Wetmore, onetime supervising architect of the Treasury Department, chairman of the Procurement Division, Public Works Branch, was 71 last month. On that date he announced his resignation. As supervising architect, his



Underwood & Underwood

On 1,000 cornerstones his name: James A. Welmore

name (together with those of various Postmaster Generals and Secretaries of State) has appeared on more than 1,000 cornerstones of public buildings. No man in the United States can best his record.



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#### BOOKS

(Continued from page 36)

third of the units had no waterclosets; nearly half have neither tubs nor showers, and a sixth were without running water."

Henry Wright: "In the rapidly growing cities of the past few decades the search for better homes resulted in a general exodus from the center to the periphery of the urban unit. The speculative builder took advantage of the first manifestations of this suburban migration, and gave it further impetus. Though this commercial activity profited its advocates, the public in general gained little benefit, unless we consider bankrupt cities an asset. This rapidly increasing ring of suburbs demanded new services and drained the population which had been paying for the already existing services in the central area. Regardless of the ultimate fate of the large city, one of the outstanding problems for the present generation must be to try to salvage its assets and prevent a recurrence of the damages resulting from speculative building."

Abraham Goldfield, Executive Director of the Lavanburg Foundation on "The Management Problem in Public Housing": "It is easy to realize that without rigid checks the publicly owned houses would soon be filled with families who could afford more expensive accommodations but who would make every effort to take advantage of any opportunity to reduce their rental budget. American municipal government being what it is, the pressure from political personages for the admission of unqualified 'friends' is likely to be all but irresistible."

Carol Aronovici, Director of the Housing Research Bureau of New York City sums up: "Many of our slums are merely the hand-me-downs of past generations and the areas which they occupy are often better suited for uses other than low-cost housing. These slum areas if cleared and replanned would solve many other problems such as value depreciation, transit congestion, etc."

THE DESIGN OF RESIDENTIAL AREAS, Volume VI, Harvard City Planning Studies, by Thomas Adams, Harvard University Press, Cambridge, Mass., xiv, 296 pp., XI plates, 65 illus., 6 appendices, index, 71/4 x 10, \$3.50.

Any volume of the Harvard City Planning Studies which also bears Thomas Adams' name is bound to be eagerly read by those interested in the always complicated subject of town planning. No such reader will be disappointed in this volume. Beginning with a survey of the present state of our cities, Mr. Adams discusses step by step the growth of urban centers with a realistic appreciation of ordinarily forgotten factors that testifies to the fact that his point of view has been derived from years of practical experience.

At only one point is it possible to say that one of Mr. Adams' conclusions does not necessarily follow previous reasoning. On page 39 Mr. Adams says, "It is a fallacy to think that an increase in the permitted density of a district brings about a lowering of rents. This rarely has produced such an effect. Rental scales are not unaffected by the law of supply and demand, and are generally more of a reflection of what the people in any locality are able to pay than of the initial cheapness or dearness of the land." This is immediately followed by the statement, italicized by the author, "Too often the problem of dealing with blighted areas by means of reconstruction schemes is approached from the point of view of how to obtain sufficient volume or density of new buildings to maintain land prices that are based on past overcrowded uses; whereas the approach should be how to obtain the reduction in land prices that is necessary to make a desirable density of building financially practicable." No one is likely to dispute the fact that this is one approach and perhaps the most desirable, but there are those who maintain that a more immediately prac-

(Books continued on page 41)

#### BOOKS

(Continued from page 40)

ticable way is to consider replanning such districts for a different economic class. Without attempting to argue the respective merits of these avenues of attack it does not seem that Mr. Adams has here sufficiently proved the inevitability of his conclusions.

If it seems captious to pick on this minor fault, the only defense can be that the fault looms larger than it otherwise might in the light of the impeccable reasoning throughout the rest of the book. This is so generally the case that it is difficult to single out any particular passage to cite. The book should be read in its entirety. If there is any part that is more worthy of comment than another it is the masterly Chapter VII on "Basic Principles and Requirements in Civic Design." This should be carefully considered by architects. The Harvard University Press contributes its customary beautiful typography and press work to make the reading of this work as pleasant as it is interesting.

# SLUM CLEARANCE AND REHOUSING, The Council for Research on Housing Construction, P. S. King & Son Ltd., London, 139 pp., 20 pp. plates, 20 illus., 83/4 x 111/4.

This is the first report of the Council for Research on Housing Construction for Great Britain. This council grew out of a number of private investigations, each conducted separately. It finally seemed wise to coordinate these activities to secure a greater efficiency and a broader front of attack. It has remained a body of individuals who act in their private capacities and not as representatives of other organizations. While this may rob the report of some fancied prestige of official backing, it also removes any suspicion of prejudice from its findings.

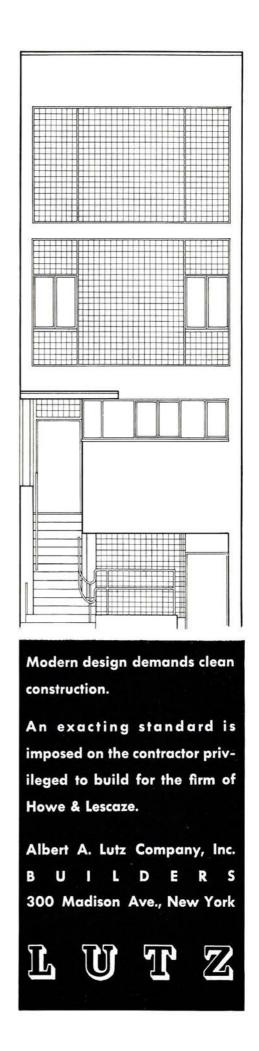
Before starting on their investigations the council wisely decided to limit the subject matter to be covered in their first report. It seemed best to consider first the question of rehousing of those now living in slum areas and particularly the question of multi-story buildings made necessary by high land costs. Accordingly the council made exhaustive investigation, from actual plans of three types of buildings, three, five, and ten stories high. The conclusions as to the relative cost per room of bare building differ slightly from those obtained from similar studies made in this country (see page 421) but the relative costs per room and land are much the same. Beautifully laid out and printed, this publication might well serve as a model of the right way to present an important report.

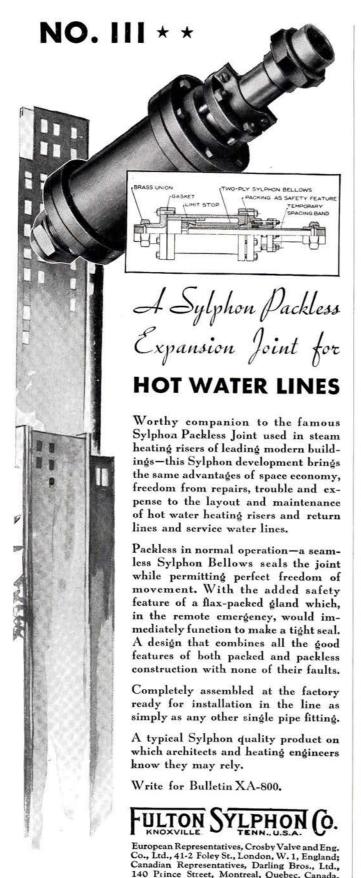
# CONSTRUCTION MATERIALS INDEX, Construction Materials Research Co., San Francisco, 191 pp., 83% x 11.

This first issue of a book projected as an annual feature will be found very useful to the architect who has to accumulate information on some phase of practice to which he has hitherto not given much attention. Thoroughly and simply classified and cross indexed, it is an exhaustive bibliography of books and articles on all sorts of architectural subjects. In spite of its title the book is by no means confined to construction materials, but covers architectural history as well as the various engineering fields.

# SOUTHERN PINE MANUAL OF STANDARD WOOD CONSTRUCTION, Southern Pine Association, New Orleans, La., 188, xii, pp., 12th Ed., 16vo., \$1.50.

This is a very useful little book for figuring everything that is normal to wood construction where yellow pine is used. Its complete usefulness to the architect, however, is a good deal mitigated by the fact that there are no tables for other woods except in one or two instances.





Representatives in All Principal Cities in U. S. A.

#### PRODUCTS & PRACTICE

(Continued from page 38)

#### 1201. ILLUMINATION HANDBOOK

The Westinghouse Lamp Co. in a new handbook announces the production of a new and simplified method for the design of floodlighting installations. Known as the "Lumens in the Beam" method, it should prove of great assistance to all architects and engineers who find it necessary to calculate illumination.

#### 1202. NEW CUTTING MACHINE

The Linde Air Products Co. announces a new addition to its large line of oxyacetylene cutting machines. This machine, known as The Oxweld Monitor or CM-8 Cutting Machine, is designed for automatic straight line cutting of unlimited length, straight bevel cutting, circle or ring cutting of diameters up to 100 in., and the cutting of curved or irregular shapes. Special care has been given to speed control, and sensitive indicators are provided to eliminate all guess work. By setting the indicator and shifting the gear lever any speed may be obtained from 2 to 48 in. per minute.

#### 1203. NEW INSULATION

United States Rubber Products Co. has recently produced a new insulation under the name of Laytex which has many points of superiority over existing flexible wire insulation. It is claimed for it that it is the most flexible, has the greatest tensile strength and resistance to compression, the highest dielectric strength of any flexible insulation now on the market. It is derived directly from latex from which are removed by patented processes all proteins, sugars and water solubles. Because of its physical properties, it permits insulating walls considerably thinner than other materials. In certain applications a reduction of 25 per cent in the outside diameter and 50 per cent in the weight of the conductor are effected.

#### 1204. RANGE TIMER

Among new appliances from the Specialty Appliance Sales Department of the General Electric Co. is a new timer and clock for ranges. Known as model T20, it is fully automatic with dials for setting "on" and "off" to control current to oven or appliances. A self-starting Telechron motored electric timer, its price is only slightly above that of a handwound clock.

#### 1205. FLAKICE

The York Ice Machinery Corp. announces that it has acquired exclusive rights for the manufacture and distribution of the mechanical equipment necessary for the production of FlakIce Frozen Water Ribbons. The ice is produced by a patented process of mechanical freezing on the outer surface of a slowly revolving steel cylinder and peeled off in ribbons. Designed to take the place of crushed ice or ice cubes, and said to have a refrigerating action quicker than that of ice in any other form, this "ribbon" ice should be useful in cafeterias and restaurants.

#### 1206. BLOWER FAN

Ilg Electric Ventilating Co. eighteen months ago began the development of a new line of small blowers suitable for low pressure small volume work. Officially named Ilg Type "B" Volume Blowers, these blowers come in five sizes, are now available. Free air capacities range from 180 CFM to 2,100 CFM and pressure ranges to  $1\frac{1}{2}$  in. static pressure. The motors can be supplied for a.c. or d.c., single or three phase, for any of the commercial voltages. Shipping weights range from 45 to 225 lbs. Quiet and smooth running, with a wide capacity range in small steps with low power consumption and high efficiency, the blowers are suitable for ventilating and drying jobs of various sorts.

#### PRODUCTS & PRACTICE

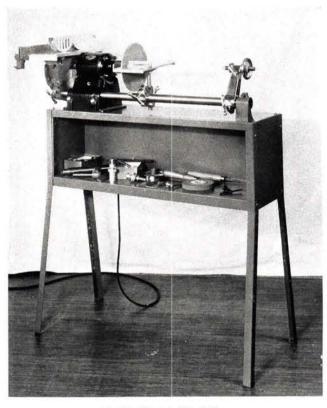
(Continued from page 42)

#### 1207. DRIP TRAP

Jas. P. Marsh Corp. is now producing a new drip trap designed for the removal of air and condensation from short steam mains, branches or risers. Known as Marsh No. 17, its operating characteristics make it especially desirable for installation on unit ventilators, small unit heaters or other equipment which may be subjected to freezing temperatures during periods when the heating system is not in operation. The trap may be readily suspended on the piping itself with no other means of support. All working parts are easily accessible through the removable trap bonnet, and are of bronze and Monel metal with the exception of the seamless copper float.

#### 1208. ELECTRIC WORKSHOP

Architects and engineers who like to do odd jobs of wood and metal work will be interested in the new G. E. Workshop recently announced by the General Electric Co. The cut shows the general appearance of this gadget and its equipment. Occupying a floor space 18 x 38 in., and capable of being set up



G. E. Electric Workshop

for operation in half an hour, this little workshop will cross-cut or rip-saw up to  $1\frac{3}{4}$  in. thick, at any angle; turn wood with a limit of 9 in. diameter; take lengths of 30 in. between centers; turn brass and aluminum; sand flat surfaces and contours. In addition, scroll work on wood up to 2 in. thick, and on metals including sheet iron, may be done. It will drill both wood and metal, make mortises and tenons, and cut rebates and grooves. The entire machine represents the best in materials and finish.

#### 1209. ACOUSTICAL INFORMATION

Bulletin No. II, just published by the Acoustical Materials Association, contains the latest tables of absorption coefficients and specifications of the leading acoustical tiles, boards and blankets, and plasters. This will enable the architectural specification writer to select acoustical materials for any particular job with all of the necessary information in hand.



# HOW CAN ELECTRIC CURRENT INTERRUPTIONS CONCERN AN ARCHITECT?

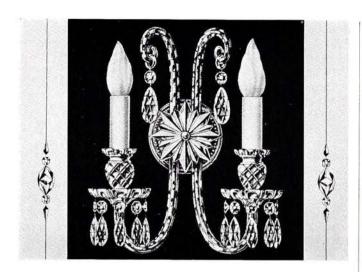
In any building that is open to the public, or where crowds gather—there is danger if the lights unexpectedly go out. Danger of fire, panic, even personal injury. Municipal and office buildings, auditoriums, schools, hospitals, theatres, factories, engine and boiler rooms, as well as many others, need emergency lighting protection.

Current interruptions occur in cities and rural sections alike. Records show that no locality is immune. Utility companies cannot be held responsible, for they do their part to the utmost. They cannot control the effects of accidents, storms and fires.

An Exide Keepalite Emergency Lighting Battery System is economically installed as an integral part of a building. It operates instantly and automatically upon any interruption in the normal current supply. In addition to furnishing abundant light, it can be made to safeguard the power supply for electrical apparatus. Write for Bulletin giving full details.



THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto



Lightolier's array of crystals includes magnificent new selections in chandeliers, sconces and girandoles, reproduced with skill and feeling from Museum originals. Fixtures of such splendor are rarely associated with prices as low as Lightolier makes possible.

## LIGHTOLIER

Now conveniently located at 11 EAST 36TH STREET, NEW YORK



#### PRODUCTS & PRACTICE

(Continued from page 43)

#### 1210. REGISTERS AND GRILLES

Forced air installations have rendered obsolete many of the older types of grilles and registers. The Independent Register & Mfg. Co. has just placed on the market a new adjustable directed air flow register in which the grille bars can be set at a predetermined angle before installation. If it is later found that the angle is not exactly right, the changing of the angle is a matter of only a few moments. Adapted for both horizontal and vertical deflections, the grilles fill a great many needs.

#### 1211. NEW BOILERS

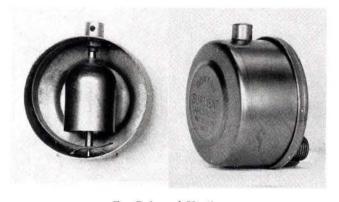
For the utmost efficiency and economy, automatic coal-firing devices and heating boilers must be scientifically designed to work together. American Radiator Co. therefore announces an Ideal Boiler No. 21 especially designed for use with the Electric Furnace-Man to provide automatic heating. An outstanding advantage of this combination is the possibility of using the smaller, lower-priced sizes — buckwheat or rice — of anthracite coal. Like most modern boilers, it has an attractive enameled jacket which in this case is designed to match that of the equally attractively finished Electric Furnace-Man. The entire combination can be controlled thermostatically.

#### 1212. FINANCE PLAN

More manufacturers of building materials are announcing special plans to back the Government's Federal Housing Administration. The latest of these is the well-known Ruberoid Co. with an elaborate finance plan for loans similar to those provided for by the National Housing Act. This will enable many a householder to re-roof where otherwise he could not.

#### 1213. EQUALIZING VALVES

Valves especially designed to equalize unbalanced conditions of room temperature are manufactured by the Gorton Heating Corp. and sold under the name of Surevent Equalizing Valves. These valves, placed on radiators in rooms which



For Balanced Heating

are furthest from the boiler, vent the air from these radiators at much greater speed than ordinary valves. This permits rapid heating of these rooms and insures that they will not be cold when the thermostat in some other room shuts off the fire.

#### 1214. WINTER CONSTRUCTION

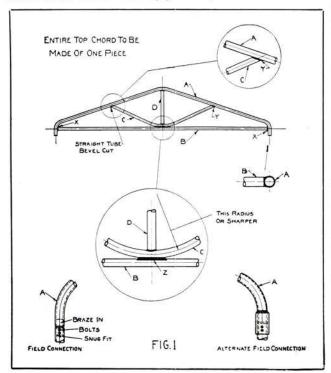
The International Cement Corp. has recently published a bulletin on winter construction with their "Incor" 24-hour cement, in addition to a mimeographed folder containing valuable tables of times of setting of cement under various weather conditions. Particularly valuable is the table of minimum heat protection requirements for winter construction at various outdoor temperatures.

#### PRODUCTS & PRACTICE

(Continued from page 44)

#### 1215. WELDING TECHNIQUE

The October, 1934, number of Oxy-Acetylene Tips, published by The Linde Air Products Co., contains a very useful article on the use of welded pipe for light industrial or other



structures. Drawings and details are given for various forms of light trusses, etc. Welded tubing or pipe permits the design of certain types of trusses of minimum weight and maximum strength. It is not necessary to use new pipe as in many cases second-hand pipe is equally efficient.

#### 1216. ANCHOR BOLTS

Harrison-Weise Co. is now making a new window washers' safety anchor. This has received approval by Safety Councils, Underwriters Laboratories, window washing organizations, and is favored by individual window washers themselves. This anchor is manufactured from U.S. Naval Bronze and each bolt has a tensile strength of 65,000 lbs. per square inch. This device differs from customary anchors in that it has not only twin heads but twin bolts to be built into the masonry.

#### 1217. AIR CONDITIONING EQUIPMENT

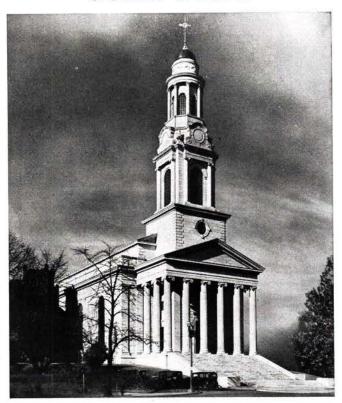
Lewis Air Conditioners, Inc. is producing a cabinet air conditioning unit for use as a humidifier in homes of ten to twelve rooms, and other spaces of equivalent area. Connected with hot water, steam or vapor heating plant, it performs the major functions of humidification, heating, air circulation and filtration. By the use of mechanical refrigeration or low temperature water this unit may be converted for cooling.

#### 1218. MOSAICS

The New Department of Justice Building in Washington has many mosaic ceilings manufactured by the Earley Studios by a new process. The mosaics were made of selected aggregates and sand entirely without the use of pigments. By special methods developed over years, the mosaics were made up into precast slabs which acted as forms for the pouring of the concrete floors above. This of course eliminates large items of expense for forming work. As there are no pigments used, the colors should be entirely permanent.

# PECORA

COMPOUND



#### National City Christian Church Sealed Weather-tight with Pecora

■HE National City Christian Church, Washington, D. C .- John Russell Pope, Architect and the George A. Fuller Company, Builders—adds another worthy name to the long roll of prominent buildings that are Pecora-protected. During the past few years, when the selection of materials has been subjected to greater deliberation than perhaps ever before, it is a matter of record that a majority of the important projects have been or are being calked with Pecora. Leading architects and builders know by experience 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 Streets** PHILADELPHIA, PA.

Established 1862 by Smith Bowen

ALSO MAKERS OF PECORA MORTAR STAINS

#### MANUFACTURERS' PUBLICATIONS

Among the manufacturers' publications recently received were the following:

#### 1219. Drapery Hardware

A bound series of six catalogues comprising General Catalogue No. 38 of the Kirsch Co., illustrating their complete line of drapery hardware.

#### 1220. Air Conditioning

Catalogue No. 221 of the John J. Nesbitt Co., Inc., and Buckeye Blower Co., containing illustrations and technical data on the Nesbitt Air Conditioner.

#### 1221. Wiring Devices

Catalogue "V" of the Hart & Hegeman Division of The Arrow-Hart & Hegeman Electric Co., containing illustrations and descriptions of their entire line of switches, sockets, receptacles, etc.

#### 1222. Door Hangers

A new catalogue, A.I.A. File No. 27-C-6, showing the complete line of overhead garage door hangers manufactured by the Richards-Wilcox Manufacturing Co.

#### 1223. Convection Heating

A series of three folders from Warren Webster & Co. containing, among other things, architectural details for the enclosing of convection heaters.

#### 1224. Water Closets

A new catalogue from the John Douglas Co. setting forth the advantages of their siphonproof water closet bowl.

#### 1225. LIGHTING FIXTURES

A folder describing the advantages of Permaflector Lustroliers as manufactured by the Pittsburgh Reflector Co.

#### 1226. METAL CAGING

Bulletin 25, A.I.A. File No. 4-f, Mitchell-Tappen Co., describing and illustrating an improved type of standardized metal caging for the reenforcement of concrete fireproofing and corrosion proofing of structural steel girders, beams and columns.

#### 1227. ALUMINUM SPANDRELS

Under the title of Contemporary Spandrel Design, an attractively printed booklet from the Aluminum Co. of America, showing examples of aluminum spandrel design by celebrated architects, and technical details showing various methods of anchoring.

#### 1228. PACKLESS VALVES

Catalogue No. SV 934, A.I.A. File No. 30-C-5, from Hoffman Specialty Co., Inc., illustrating and describing their complete line of packless valves for steam heating systems.

#### 1229. OIL HEATER

An attractively printed and unusually well-arranged catalogue of the new oil heat and air conditioning equipment now being manufactured by Gar Wood Industries, Inc. This catalogue contains important and useful technical data in addition to illustrations and descriptions.

#### 1230. Rugs and Carpets

From the Bigelow-Sanford Carpet Co., Inc., a beautifully edited and printed description of the technical processes and machinery used in producing their widely varied line of rugs and carpets.

#### 1231. ROOFING MATERIALS

A new catalogue from Koppers Products Co. listing and illustrating, with suggested specifications, Koppers roofing materials and coal tars.

#### 1232. PIPE CORROSION

A reprint from Water Works Engineering of an article entitled "Experiments in Pipe Corrosion" comes from Copper & Brass Research Association. The article, by Frank E. Hale, director of laboratories for New York's Department of Water Supply, contains an account of experiments, and the conclusions drawn from them, made with waters of different chemical characteristics.

#### 1233. FURNITURE

An attractive brochure from Brower Furniture Co. shows hotel, bar, cafeteria, and club furniture in both traditional and contemporary styles.

#### 1234. ABRASIVES

From the Norton Co., a small booklet illustrating and describing the manufacturing processes of various types of abrasives. Also a folder specifically devoted to their Bortz (Diamond) Wheels, and an attractive and ingenious pencil pointer for architects in which the abrasives are selected from their line.

#### 1235. BOILERS AND RADIATORS

From American Radiator Co. a new booklet describing at some length the characteristics and advantages of the various items in its line.

#### 1236. PAINTS

Pittsburgh Plate Glass Co. has just issued a little folder explaining its manufacturing facilities and listing, under use headings, the extensive line of paints, lacquers and varnishes.

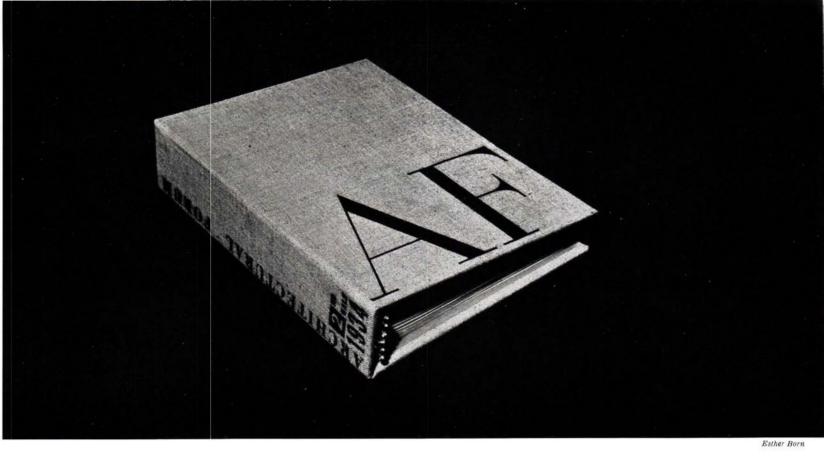
#### 1237. NEW BOILER UNIT

The Babcock & Wilcox Co. is producing a new boiler unit particularly applicable in industrial plants. This is described in a mimeographed announcement giving all characteristics.

#### 1238. Residence Elevators

A single sheet from Otis Elevator Co. shows illustrations and space requirements of a small automatic elevator for residences that requires no penthouse and can operate on any lighting circuit.

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### NOT FOR ARCHITECTURAL FORUM CUTTER-UPPERS!

We have few illusions left

about life—and about architects none at all. However, we cling to the notion that here and there is an architect who chooses to preserve this journal intact. For this choice group we have devised a new permanent binder—smart to the eye, pleasant to the hand, immune to the ravages of wind, weather and office boys and priced to the drought. The linen cover in natural finish is stamped in black. In all, a chaste ensemble equally acceptable to both wings of the profession, left or right. The incorrodible metal rods which hold the copies snugly in place are easily unhitched and any single copy may be removed at will. The lie-flat-and-stay-open-all-night spiral feature is fully retained.

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Beyond the uncertainty whether there'll be ice cream for dessert tonight, she hasn't a care in the world. But in a few swift years she, like millions of other eager, bright-eyed little people, must say good-bye to school and emerge into a crowded and difficult world.

There is no higher duty than that of educating the nation's future men and women to deal wisely and courageously with the responsibilities they must face—and of housing them in school buildings that are modern, attractive, fire-safe.

With security against fire attainable at such moderate cost by using Kalman Steel Joists, it is difficult to justify putting up a school—or any occupancy building—of inflammable construction.

A school built with Kalman Joists is secure against fire because these joists, with concrete slab and plaster, form a fire-resisting barrier between stories, making it certain that any fire that starts will remain localized, burning itself out before it can spread.

In addition to providing fire-safety, Kalman Steel Joists make any school more efficient and a better building investment. The floor structure never shrinks to form cracks where floor and walls meet. It does not transmit sound and vibration, and so prevents noises overhead from disturbing the classrooms below. It is immune to termites and other borers.

The fire-safety and other advantages of Kalman Steel Joists apply, of course, to apartment houses, hospitals, office buildings, residences, as well as to schools. Architects are specifying them for all types of occupancy structures.

### KALMAN STEEL JOISTS



KALMAN STEEL CORPORATION, Subsidiary of Bethlehem Steel Corporation, General Offices: Bethlehem, Pa.

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## WEATHERSTAT SYSTEM

Paid Its Entire Cost in Fuel Economy





HOTEL GIBBONS, DAYTON, OHIO. "In addition to giving us 100% satisfaction, I find we saved the entire cost of this system (Weatherstat) within a month and a half after it started to operate". W. A. Fitzpatrick, Manager.

PARK SQUARE BUILDING, BOSTON, MASS. "The advantages of your system (Weatherstat) have proven themselves and already shown that we can save three or more tons a day in our heating plant. This would amortize the cost of this equipment in less than a year". Samuel Eliot, Agent.

#### THE WEATHERSTAT-

The Weatherstat is the only practical device that reflects and responds to all four outside variables—temperature, solar radiation, wind direction and wind velocity. As they combine to affect its internal temperature, so the Weatherstat governs the operation of heating equipment indoors. It permits delivery of only enough heat to balance the losses from the building. No waste heat is generated and fuel costs are reduced with the Weatherstat.

Such testimonials as these clearly show the comfort and fuel economy possible with Weatherstat control... While it is true that such economies cannot be expected in every installation, no other outside control can offer as many advantages as the Weatherstat—an exclusive feature of the Minneapolis-Honeywell Modustat System—because the Weatherstat responds to all four outside weather factors. Copies of the above letters and full information may be had upon request . . . Minneapolis-Honeywell Regulator Company, 2740 Fourth Avenue South, Minneapolis, Minnesota.

## MINNEAPOLIS-HONEYWELL

Control Systems

# $\frac{THE}{\text{ARCHITECTURAL}}$

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Century of Progress Exposition, asso-	Life Insurance Co. Investments in Mort-	Coolidge, Shepley, Bulfinch & Abbott,	
ciated with H. Hammond, Archt., July	gages, July	Archts., Sept	6
Burrage, Mildred G., Designer, Washing-	July	town, Md., Henry P. Hopkins, Archt.,	
ton map, Oct 27	Aug	remodeling, Sept	19
Butler, Howard R., July (Adv.) 8 Byrd, Richard E., Little America hut,	Oct		8
			- 0
July	Nov	COMPETITIONS (Also see Awards). Archi-	0
July 8	Nov. 16 Dec. 28	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling,	9
July 8	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in	9
July	Nov.         16           Dec.         28           Real Estate Activity, July.         72           Aug.         147           Sept.         224	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.	9
July 8	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  13	9 32 43 35
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building	Nov.       16         Dec.       28         Real Estate Activity, July       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  19	9 32 43 35 97
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151	Nov.       16         Dec.       28         Real Estate Activity, July.       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147         Sept.       224         Oct.       299	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  2	9 32 43 35
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Northeastern University, Sept.	9 32 43 35 7 41 28 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colo-	Nov.       16         Dec.       28         Real Estate Activity, July.       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147         Sept.       224         Oct.       299	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Northeastern University, Sept.  Pencil Points-Flat Glass, Aug.  13  Quarry Tile, Aug.  13	9 32 43 35 97 41 28 6 18
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13	Nov.       16         Dec.       28         Real Estate Activity, July       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147         Sept.       224         Oct.       299         Nov.       16         Standard Statistics Stock Price Indices, Aug.       147         Sept.       225	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Northeastern University, Sept.  Pencil Points-Flat Glass, Aug.  13  Conley & Carlson, Archts., Lynch Store,	9 32 43 35 7 41 28 6 18
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill.,	Nov.       16         Dec.       28         Real Estate Activity, July       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147         Sept.       224         Oct.       299         Nov.       16         Standard Statistics Stock Price Indices, Aug.       147	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Northeastern University, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.	9 32 43 35 7 41 28 6 18
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30	Nov.       16         Dec.       28         Real Estate Activity, July       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147         Sept.       224         Oct.       299         Nov.       16         Standard Statistics Stock Price Indices, Aug.       147         Sept.       225         Oct.       298         Nov.       16         U. S. Bonds v. Real Estate Mortgages,	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct  Assn. of Alumni, American Academy in Rome, Dec	9 32 43 35 7 41 28 6 18
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M.	Nov.       16         Dec.       28         Real Estate Activity, July       72         Aug.       147         Sept.       224         Oct.       299         Nov.       16         Rents for Wage-Earners, Aug.       147         Sept.       224         Oct.       299         Nov.       16         Standard Statistics Stock Price Indices, Aug.       147         Sept.       225         Oct.       298         Nov.       16         U. S. Bonds v. Real Estate Mortgages, Aug.       146	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Northeastern University, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott,	9 32 43 35 97 41 28 6 18 33
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts, July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts.,	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds v. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild,	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of	9 32 43 35 97 41 28 61 83 33
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds v. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Good Housekeeping, Sept.  Northeastern University, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associ-	9 32 43 35 97 41 28 6 18 33
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer,	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds v. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85           Checkley, G., Archt., Thurso House,	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct  Assn. of Alumni, American Academy in Rome, Dec	9 32 13 35 97 11 28 6 18 33 5 7 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds V. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85           Checkley, G., Archt., Thurso House, Cambridge, England, Oct.         267           Chicago, Ill. Housing Comes of Age, Nov.         386	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  11.  Cox, Leonard, Archt., Function, Preci-	9 32 13 35 7 11 128 6 18 33 7 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220  Carpenter, Robert A., Field Building window display, Aug. 151  CARTOON, "Grocerymen, not architects," July 7  CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13  Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts, July 30  Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19  Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30  Century of Progress Paradox, Nov. 374  Continental Baking Co., Edward H.	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds v. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85           Checkley, G., Archt., Thurso House, Cambridge, England, Oct.         267           Chicago, Ill. Housing Comes of Age, Nov.         386           Thousand Mortgage Bankers, conven-	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  Cox, Leonard, Archt., Function, Precision, Passion, Oct.  22	9 32 13 35 7 11 128 6 18 33 7 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds v. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85           Checkley, G., Archt., Thurso House, Cambridge, England, Oct.         267           Chicago, Ill. Housing Comes of Age, Nov.         386           Thousand Mortgage Bankers, convention, Nov.         388           Dec.         466	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  11.  Cox, Leonard, Archt., Function, Precision, Passion, Oct.  22.  Cret, Paul Philippe, Archt., Art Institute of Chicago design, Sept.	9 32 13 35 7 11 28 61 83 35 7 65 7 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts, July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374 Continental Baking Co., Edward H. Bennett, Archt., July 31 Crystal House, George F. Keck, Archt., Leland Atwood, Associate Archt., July 24	Nov.	COMPETITIONS (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Northeastern University, Sept.  Pencil Points-Flat Glass, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  Cox, Leonard, Archt., Function, Precision, Passion, Oct.  Cret, Paul Philippe, Archt., Art Institute of Chicago design, Sept.  Cummins, Ray, Archt., Black Forest Vil-	9 32 13 35 7 11 28 61 83 35 7 65 7 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374 Continental Baking Co., Edward H. Bennett, Archt., July 31 Crystal House, George F. Keck, Archt., Leland Atwood, Associate Archt., July 24 Crane Tower, July 26	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds V. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85           Checkley, G., Archt., Thurso House, Cambridge, England, Oct.         267           Chicago, Ill. Housing Comes of Age, Nov.         386           Thousand Mortgage Bankers, convention, Nov.         388           Dec.         466           Chromaster, C. O., Archt., house of A. C.           White, Fort Worth, Tex., Sept.         186	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  11.  Cox, Leonard, Archt., Function, Precision, Passion, Oct.  Cret, Paul Philippe, Archt., Art Institute of Chicago design, Sept.  Cummins, Ray, Archt., Black Forest Village, Century of Progress, associated	9 32 13 35 7 11 28 61 83 35 7 65 7 6
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts, July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts, July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374 Continental Baking Co., Edward H., Bennett, Archt., July 31 Crystal House, George F. Keck, Archt., Leland Atwood, Associate Archt., July 24 Crane Tower, July 26 Dutch Village, Burnham Bros. and H. Hammond, Archts., July 14	Nov.         16           Dec.         28           Real Estate Activity, July         72           Aug.         147           Sept.         224           Oct.         299           Nov.         16           Rents for Wage-Earners, Aug.         147           Sept.         224           Oct.         299           Nov.         16           Standard Statistics Stock Price Indices, Aug.         147           Sept.         225           Oct.         298           Nov.         16           U. S. Bonds v. Real Estate Mortgages, Aug.         146           Dec.         28           CHECK LISTS. Repair, Replan, Rebuild, remodeling check list, Aug.         85           Checkley, G., Archt., Thurso House, Cambridge, England, Oct.         267           Chicago, Ill. Housing Comes of Age, Nov. Thousand Mortgage Bankers, convention, Nov.         388           Dec.         466           Chromaster, C. O., Archt., house of A. C. White, Fort Worth, Tex., Sept.         186           Chrysler, Walter P., Jr., air conditioning equipment, Aug.         5	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  100, Leonard, Archt., Function, Precision, Passion, Oct.  Cret, Paul Philippe, Archt., Art Institute of Chicago design, Sept.  Cummins, Ray, Archt., Black Forest Village, Century of Progress, associated with P. M. Fuller, Archt., July.  Curtis, Dock, Collaborating Artist, Koh-	9 332 335 7 41 18 6 6 6 18 33 7 6 6 13 13
Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts, July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374 Continental Baking Co., Edward H. Bennett, Archt., July 31 Crystal House, George F. Keck, Archt., Leland Atwood, Associate Archt., July 24 Crane Tower, July 26 Dutch Village, Burnham Bros. and H. Hammond, Archts., July 14 Evolution of a House, Bemis Industries,	Nov.	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  10  Cox, Leonard, Archt., Function, Precision, Passion, Oct.  Cret, Paul Philippe, Archt., Art Institute of Chicago design, Sept.  Cummins, Ray, Archt., Black Forest Village, Century of Progress, associated with P. M. Fuller, Archt., July  Curtis, Dock, Collaborating Artist, Kohler Building, Century of Progress, July	9 332 43 33 55 7 6 6 13 13 13
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Canaday, Ward M., federal housing activities, photo, Aug. 139 Sept. 220 Carpenter, Robert A., Field Building window display, Aug. 151 CARTOON, "Grocerymen, not architects," July 7 CENTURY OF PROGRESS. American Colonial Village, Chicago, Ill., Thomas E. Tallmadge, Archt., July 13 Armour & Co. Building, Chicago, Ill., Graham, Anderson, Probst & White, Archts., July 30 Black Forest Village, Chicago, Ill., P. M. Fuller and Ray Cummins, Archts., July 19 Brook Hill Dairy, Chicago, Ill., Richard Philipp, Archt., Robert & Schaefer, Engineers, July 30 Century of Progress Paradox, Nov. 374 Continental Baking Co., Edward H. Bennett, Archt., July 31 Crystal House, George F. Keck, Archt., Leland Atwood, Associate Archt., July 24 Crane Tower, July 26 Dutch Village, Burnham Bros. and H. Hammond, Archts., July 26 Ford Exposition Building, Albert Kahn, Inc., July 22 Ford Exposition Building, Albert Kahn, Inc., Archts., July 21 Italian Village, Hugh Garden, Archt., July 20 Irish Village, J. J. Murphy and William	Nov. 16 Dec. 28 Real Estate Activity, July. 72 Aug. 147 Sept. 224 Oct. 299 Nov. 16 Rents for Wage-Earners, Aug. 147 Sept. 224 Oct. 299 Nov. 16 Standard Statistics Stock Price Indices, Aug. 16 U. S. Bonds v. Real Estate Mortgages, Aug. 16 U. S. Bonds v. Real Estate Mortgages, Aug. 16 Check Lists. Repair, Replan, Rebuild, remodeling check list, Aug. 85 Checkley, G., Archt., Thurso House, Cambridge, England, Oct. 267 Chicago, Ill. Housing Comes of Age, Nov. 386 Thousand Mortgage Bankers, convention, Nov. 386 Dec. 466 Chromaster, C. O., Archt., house of A. C. White, Fort Worth, Tex., Sept. 186 Chrysler, Walter P., Jr., air conditioning equipment, Aug. 5 Churches. Bardstown Cathedral, Bardstown, Ky., early paintings, Nov. 28 First Baptist Church, Princeton, N. J. Sherley W. Morgan, Archt., remodeling, Sept. 181 First Church of Christ, Congregational, Longmeadow, Mass., Allen, Collens & Willis, Archts., remodeling, Sept. 183 First Universalist Church, Salem, Mass.,	Competitions (Also see Awards). Architectural Forum, kitchens, remodeling, Oct.  Assn. of Alumni, American Academy in Rome, Dec.  Better Homes in America, Nov.  Brunswick-Balke-Collender, Aug.  Chicago Art Institute, Sept.  Chicago Tribune, Oct.  Good Housekeeping, Sept.  Pencil Points-Flat Glass, Aug.  Quarry Tile, Aug.  Conley & Carlson, Archts., Lynch Store, Milwaukee, Wis., Sept.  Construction Industry. Planning and Adjustment Board, members, July (Adv.)  Coolidge, Shepley, Bulfinch & Abbott, Archts., Northeastern University, Sept.  Cornelius, Charles O., Archt., house of Gist Blair, Washington, D. C., associated with Waldron Faulkner, Archt., Aug.  Cox, Leonard, Archt., Function, Precision, Passion, Oct.  Cret, Paul Philippe, Archt., Art Institute of Chicago design, Sept.  Cummins, Ray, Archt., Black Forest Village, Century of Progress, associated with P. M. Fuller, Archt., July.  Curtis, Dock, Collaborating Artist, Kohler Building, Century of Progress, photo, Nov.  Dawes, Rufus, Century of Progress, photo, Nov.  Dean, Charles, Collaborating Artist, Kohler Building, Century of Progress, photo, Nov.  Dean, Charles, Collaborating Artist, Kohler Building, Century of Progress,	9 332 43 33 55 7 6 6 13 13 12 17 19 19 19 19 19 19 19 19 19 19 19 19 19

Deane, Albert L., appointment, photo,	London Housing Project, outlined, Oct. 41	Kohler Building, Century of Progress,
Aug	Royal Corinthian Yacht Club, Burn- ham-on-Crouch, England, Joseph Em-	Ginsbern, Horace, Archt., Hanscom
De Angelis, Michael J., Archt., Lenin	berton, Archt., Oct	Bake Shop, New York, N. Y., remodel-
Memorial, Dec	Thurso House, Cambridge, England, G.	ing, Sept
Delano, Preston, Home Owners Loan	Checkley, Archt., Oct	Gordon, Earl, Dayton's Subsistence
Corp., photo, July	Eubank & Caldwell, Inc., Archts., William Preston Hotel, Blacksburg, Va.,	Homesteads, photo, Aug
Photo, Oct	Sept	Graham, Anderson, Probst & White,
of Chicago, Sept	EXHIBITIONS. Dynamic Design, Philadel-	Archts., Armour & Co. Building, Cen-
Deskey, Donald, Designer, Dining Room,	phia Art Alliance, Dec	tury of Progress, July 3
Metropolitan Museum of Art Exhibi-	Metropolitan Museum of Art, Indus- trial Design (Contemporary Quin-	Garden of O. H. Kraft, Chicago, Ill., Sept
tion, Dec	quennial), Nov	Montgomery Ward Store, Albuquerque,
DETAILS. Balcony, July	Dec 408	N. M., Aug
Shryock, Archt., Sept	<b>EXPOSITIONS.</b> Century of Progress, July 1	Grant, Richard R., Archt., house of William F. Jenike, Batavia, O., Aug 9
Churches, Dec	· · F · ·	Greely, Rose, Archt. and Landscape
Cornice, July 62 Deck Details, July 63	· · F · ·	Archt., house of Rose Greely, Wash-
Doors, July	Fahey, John H., Dec	ington, D. C., Aug
Nov	Faulk, Murfee N., jailed, July(Adv.) 8	Grunsfeld, Ernest, Jr., Archt., Art Institute of Chicago design, Sept 20
Entrance, July	Aug	Gugler & Toombs, Archts., Georgia
Fireplace, Sept. 209 Fixture, July 46	Blair, Washington, D. C., associated	Warm Springs Foundation, Warm
Floors, Nov	with Charles O. Cornelius, Archt., Aug. 113	Springs, Ga., Nov
Floors, soundproof, July 62	Federal Home Loan Bank Board, Sept. 217	Chase Brass and Copper Co., New
Hall, Sept. 208 Kitchen, Nov. 370	FEDERAL HOUSING ADMINISTRATION.	York, N. Y., associated with Ruth K.
Liberty Hall, Frankfort, Ky., Thomas	See Pubilc Works Administration. FELLOWSHIPS. See Awards.	Gerth, Designer, Aug 12
Jefferson, Archt., Sept	FINANCE. Bondholders' Protective Com-	<b>+</b>
Lighting, Nov	mittee, investigation, Aug 141	• • Н • •
Lighting coves, July 4 Mantel, Sept. 214	Blueprints for FHA Mortgage Lenders,	Hackett, Horatio B., July 6
Molding, Sept	Dec	Nov 38
Parapet, July	No Weaker Financial Backing, by R.	Hagopian, Vahan, Archt., Mulligan's Kitchen, New York, N. Y., Aug 11
Piers, July 6	Graeme Smith, July	Hall & Proetz, Archts., house of Dr. &
Roof, July	Pinco's 15% Equity, Dec	Mrs. Saxton T. Pope, Burlingame,
Walls, Nov	Public Works Financing, July 80 Remodeling by Budget, Aug. 84	Calif., associated with William W. Wurster, Archt., July
Wardrobes, Nov	Thousand Mortgage Bankers, Nov 388	Hallock, Howard L., Archt., house at
Windows, July 62	FINLAND. Bandstand, Wiipuri, Uno Ull-	East Fishkill, N. Y., associated with
Sept	berg, Archt., Oct	William C. Stohdreier, Archt., Aug. 9
DISPLAY ROOMS. Chase Brass and Cop-	J. C. Siren, Archt., Oct Frontis.	Hammond, H., Archt., Dutch Village, Century of Progress, associated with
per Co., New York, N. Y., Lurelle	Töölö Church, Helsingfors, Hilding	Burnham Bros., July 1
Guild and Ruth K. Gerth, Designers,	Ekelund, Archt., Oct	Burnham Bros., July
Guild and Ruth K. Gerth, Designers, Aug	Ekelund, Archt., Oct.         230           Fish into Faucet, Dec.         35	Burnham Bros., July
Guild and Ruth K. Gerth, Designers,	Ekelund, Archt., Oct	Burnham Bros., July
Guild and Ruth K. Gerth, Designers, Aug	Ekelund, Archt., Oct	Burnham Bros., July
Guild and Ruth K. Gerth, Designers, Aug. 121  Dobell, R. H., Archt., house of Robert Howells, Corvallis, Ore., Sept. 187  Doriot, C. Frederic, Archt., house of Mrs. Henry Baum, Scotch Plains, N. Y.,	Ekelund, Archt., Oct. 230 Fish into Faucet, Dec. 35 Fisher, Howard, General Houses, Century of Progress, July 21 Fleming, Robert V., photo, July 66 FOUNTAINS. New Fountain for Stock-	Burnham Bros., July 1 HANGARS. See Airports. Hawkins, J. Harold, modernization demonstration, photo, Aug. 14 Hayslip, Sydney B., Supervising Archt., Portland Market, Portland, Ore., Oct. 27 HEATING. Reconditioning for Air Com-
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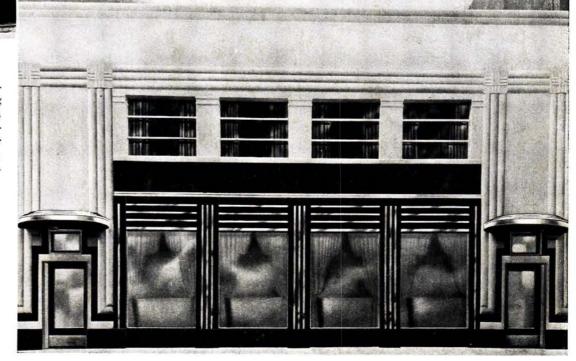
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