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MANDEL HOUSE
Eleven pages presenting a Modern country house designed by Edward Stone and Donald Deskey and notable for its rational use of available new materials and a design carefully planned to enrich its owner's life.

AMERICAN HOUSING
Ernst Kahn examines the U. S. housing situation, finds a resemblance to Europe's problem 15 years ago, points out social and economic dangers in State housing and Government-supplied mortgage money, offers a solution for today's difficulty.

TWO SCULPTURED DOORWAYS
Full color plate reproductions of the bronze doors sculptured for La Maison Francaise and the British Empire Building in typically American Rockefeller Center.

FIRST PRESBYTERIAN CHURCH
How, at a cost of $422,800, the office of John Russell Pope gave New Rochelle an edifice in the Colonial tradition, yet ably planned to fulfill the functions of a 20th Century church with its social hall, nursery, dining room, classrooms, offices and activity centers.

ST. JOSEPH'S CHURCH IN HINDENBURG
Architect Bohm applies modern constructional methods to express a liturgical plan not essentially different from many 11th Century churches.

LONGCHAMPS RESTAURANT
How judicious use of expensive street-level space made a basement restaurant profitable where one had failed before.

COLUMBIA BROADCASTING STATION
Architect Lescaze remodeling an empty theater to give Columbia a Radio Playhouse.

FORD BUILDING
Exposition architecture at the San Diego Fair sets a new high in dramatic showmanship.

TWO SMALL HOUSES
The transformation of a dilapidated farmhouse into a country residence and a Modern house costing $2,794.

BUILDING MONEY
Why a leading U. S. city is in the midst of a building boom, and what it proves (136) ... Mortgage lenders in four Eastern cities develop a unique cooperative system (152) ... What the U. S. Government is doing to protect its mortgagees (140) ... A British plan provides property-maintenance during the life of the mortgage (143) ... What the Financial Survey of Urban Housing has discovered that others overlooked (145) ... Why and where mortgages were held last month to be more desirable than U. S. bonds (144) ... Manhattan's Bank for Savings successfully breaks a modernization principle (Adv. page 27.)

DEPARTMENTS in front advertising section
THE MONTH IN BUILDING
A quick summary of significant facts and figures on building's volume, the trend in rents, flow of mortgage money, wages, news from Washington.

LETTERS
Pro and Con on Frank Watson's "Housing Problems" ... The Architect's Role as Appraiser ... Richard J. Neutra, Architect, on Neophytes.

FORUM OF EVENTS
Modern furniture gains in prominence at The American Furniture Mart ... The Jordan Marsh Competition.

PRODUCTS AND PRACTICE
Complete details on the structural system of Andre Fouilhoux's prize-winning entry in the New York A. I. A. Chapter's Low Cost House Competition ... A new latex for light concrete floors ... An economical fireproof and soundproof wall ... Developments in air conditioning.
Only the finest materials could qualify for Rockefeller Center "Gardens of the Nations"

The transformation of the "sky-side" of an 11-story building in Rockefeller Center, New York, into a magnificent garden spot, presented important architectural and engineering as well as landscaping problems.

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Hard to believe this pleasant woodland spot and waterfall are on top of a New York skyscraper.
Volume. The anticipated decline of residential building during June happened to materialize, with volume for the first two weeks equal to the first two weeks in May, and up 100 per cent over the same period last year. Dodge's figure for the 57 Eastern States during the period was 225,770,000, Non-residential construction was up slightly from last year, but not enough to cheer anybody.

Because of the slackening in public works, the total construction volume for the year's total for the same period—512,086,800, as against 879,574,000. If the President's works program tends buildingward, as the Construction League of the U. S. was demanding last month, the end of the year is likely to bring 1935's total considerably out in front.

Most of the residential building (approximately 60 per cent) is speculative, and unfortunately there is no accurate gauge of sales. From scattered reports, however, sales seem to be following close behind construction, which is in many ways the healthiest sign in the industry.

Labor. Organized building labor was set with dual woe last month. The intransigent contest over the Building Trades Department seemed no closer to a satisfactory conclusion than the old McDonough faction, representing a large group of small unions, refused to attend an election called by President William Green. Whether a legal decision will finally determine which of the Green or McDonough unions is really the Building Trades Department, or whether it will be fought out in local feuds, remained a question.

The second woe was an even greater one. Using General Johnson's New York works program for a test ruling, Harry opkins ruled that prevailing wages would not be paid on public works projects. Unanimously he had weighed the political consequences of such a decision with his White House chief. And having weighed them, he must have known what he was asking. Because he finally decided to take the risk, not a few interpreters were ready with the explanation that the President was seeking not only the payment of less than union wages on public works projects, but that he was taking that means of driving down wages on private as well as public projects. Such a move, in the opinion of almost every member of the building industry, except the union leaders, would be more to stimulate building than any other thing. The President could not possibly go on record as favoring lower wage scales, but he could in the name of spreading employment limit wages on public works. That the lowering of wage scales on one type of project would lead to lower wages on other types seemed a conclusion almost safe from dispute.

Bonds up. When construction contracts fell off in 1929, and again in 1930, from their all-time high in 1928, it was the fall in real estate bond and stock financing that caused it, and not a drop in institutional or individual lending. This is a fact which, in view of the current dispute of mortgage bond financing, has been little placarded by the building industry, either in or out of Washington, in its effort to regain its fundamental place in the scheme of things. It suggests the industry's biggest present job: drastic revision of financing methods which in the past have brought an unmistakable measure of overbuilding, servitude to building operation labor, untold woe to investors, and undue business to many a sharp lawyer. Present pitifully low totals for commercial building contracts are thoroughly secondary results, although they point out the need of concentration on the problem, by the entire industry.

It is apparently not going to be so much a matter of "driving all the racketeers and chiselers out of the housing and real estate business," as Dr. Walter Pitkin demands in "Let's Get What We Want," as a problem to be solved by the very ones whose mistakes have won his censure. If for no other reason than that they know the problem and its implications better than anyone else.

Meanwhile, the pulse of the commercial building industry was still to be measured by tracing the trends in the value of the real estate bonds of the past era. That pulse has been extremely faint, but can be reported to be slightly less so, and measure-taking—which had ceased—has been resumed again by the dealers in these securities. Three recent studies have been made, all of which are dulled by the multiplicity of outstanding issues (Sculley...
shown gains.

These stirrings, bespeaking a reviving market for real estate securities, were backed up by other factors, succinctly outlined in a recent report of the Real Estate Securities Committee of the Investment Bankers' Association. Excerpt: "The excess of investible funds and the difficulty of obtaining satisfactory returns should soon force insurance companies and savings banks to purchase good real estate issues, and serve to reduce interest costs thereon."

DEPUTIES. With far less excitement than the events warranted, the Federal Housing Administration changed Deputy Administrators last month. To succeed J. Howard Ardrey, the Dallas-New York banker who had charge of Titles II and III, the President moved up Robert M. Catharine from his post as assistant deputy, and to succeed Albert L. Deane, who returned to General Motors, Arthur Walsh was called in from New Jersey to take charge of Title I.

Years of experience in real estate and mortgage banking, plus a willingness to listen to people outside as well as inside New York are part of Catharine's qualifications. Although he lacks Ardrey's gift for hard talking, he is regarded by his associates as a hard worker, well deserving of the promotion.

As vice president of Edison Industries, Arthur Walsh has the promotional perspicacity required in his new job. His handling of Jersey's FHA has been one of the bright spots of the program.

Again Washington began whispering that as soon as Congress adjourns, the President will name a new FHA administrator to replace Acting Administrator Stewart McDonald. Unfortunately the job has taken on a decided plum-like character, which probably means that the new man will be a politician first, and a mortgage man second.

HOUSING BLOW. Despite Ickes' belligerent reception of the Cincinnati housing decision, denying the Government's right to condemn land for housing, the officers of Director A. R. Clas of PWA's Housing Division were noticeably gloom-struck by the news. Not so much, observers thought, because the decision would hamper progress, but because it was the first time that anyone had ever succeeded in upsetting the dictatorial attitude which the Housing Division has assumed toward local desires.

It is unlikely that the Government will take an appeal to the Supreme Court, for though social welfare may be on its side, the law obviously is not. The decision, specifically upholding the opinion of Judge Charles I. Dawson of Louisville in condemnation proceedings brought in that city, was a two-to-one ruling, the dissenter being Judge Florence Allen, newly appointed to the bench by the President.

What effect the ruling would have on the future activities of the Housing Division was a question that Secretary Ickes immediately answered. "We are not going to stop this work merely because of restriction of the condemnation power."

Three courses are open to him: (1) either obtaining vacant land, (2) building where the U. S. can buy all the land directly from cooperative owners, and (3) turning over the problem of property assembly to the cities.

Although the last plan seemed the most sensible in view of decisions upholding the right of local housing authorities to condemn land for the same purpose, it was very unlikely that Secretary Ickes would adopt it. From the first, he had refused to delegate any more power to local groups than he has been forced to and to permit them to buy land, which offers such well recognized opportunity for profiteering, is something that would disturb the honest Secretary's sleep.

It seemed probable that future Government housing would be accomplished without slum clearance, and sites chosen in undeveloped areas, where the problem of land acquisition is comparatively simple.
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AUGUST • 1935
There is a very good reason for the warning that coal tar pitch and felt should always be used for flat deck roofs. The long life of coal tar pitch and felt roofs on flat decks... 30, 40, 50 years... is in great contrast with the many failures which have occurred in other types of roofs on flat decks after a comparatively few years. In the current movement toward flat decks in residences, architects can perform a great service to their clients by advising them of the advantages of the best type of roof materials for that particular condition.

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KOPPERS COAL TAR PITCH
KOPPERS TAR-SATURATED FABRIC

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Please send me your literature which describes the superiority of Koppers Pitch and Tarred Felt built-up roofs.

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*National contest for architects General Electric and Architectural Record 1937 for best背着 for modern living.
The most important in the industry; more aggressiveness from this angle will go a long way in solving the other problems of costs and financing methods.

FRANK WATSON'S BOOK

The potential market is being lost by too few manufacturers recognize what a change to people have become so dependent on success. The rest of the building material burner manufacturers and refrigerator manufacturers, of course, is centered in lack of sales to improve conditions. The whole problem which manufacturers can do by adopting a scheme for increasing our items pecuniary by issuing a greater volume of credit in respect to consumption. For it is out this differential distribution that the using problem arises...

It seems to me that Mr. Watson overlooks entirely the use of habits is an act of consumption...

that he proposes, I take it, is fundamentally a scheme for increasing our items pecuniary by issuing a greater volume of credit in respect to consumption. This argument, and the remainder of the book, strike me as being very much along the line of what took place after I had passed through the looking glass! FREDERICK L. ACKERMAN

New York City

FORUM

This is the best brief text book on the building situation that I have seen.

While the author discusses briefly present sales methods he fails to show that manufacturers can do by adopting more efficient, more aggressive sales methods to improve conditions. The whole problem, of course, is centered in lack of sales volume, and while this in some measure is due to the difficulties mentioned above it is a question whether these difficulties are of the same kind or of the same causes. At any rate it is generally agreed that if manufacturers would take the initiative and apply, say, automobile sales methods to the building industry, many of the problems concerning the industry would be eliminated.

Oil burner manufacturers and refrigerator manufacturers have already done this with some success. The rest of the building material purchasing power of the old recognized routine office and its archaeological library.

The founder of this office, therefore, has decided to broaden its scope without abandoning too much of the quality, by training a younger generation to share in his work, responsibilities and income in proportion to the capacity and experience which each of the new members of the organization can invest according to his judgment.

In the relation between the architect and his apprentices, assistants, collaborators, the following is understood:

1. An aspirant for a permanent position (temporary students pay a monthly tuition fee and pursue their studies on such media as the current office work may supply) must, after not less than four months of apprenticeship, declare his intention and then according to his rating by the architect will receive notice for how much longer he may have to continue apprenticeship before receiving the status of an assistant.

2. When accepted as assistant, he will receive wages according to the architect's judgment not exceeding 15 per cent of the net income from such portions of the professional work on a certain job as he has been sharing by his effort.

3. He shall continue to work in the status of an assistant until according to the judgment of the architect his ability promises his acceptance as a collaborator.

4. When accepted as collaborator he is expected, and promises, to handle at least one job at a time with complete responsibility, doing such work in office and field, in conversation with contractors and clients, as may be delegated to him by the architect, with the conscientiousness and precision of an experienced and loyal associate of the architect. Results are gauged, not working hours counted.

5. When the collaborator proves these qualities and his sustained interest in the job delegated to him his name will, in all publications of such work, appear as that of the official collaborator on this job and he will receive 30 per cent of the net income from it, or from those portions in which he has shared by his work.

6. The collaborator is expected to perfect his ability to handle two or more jobs at a time in a reliable and responsible manner and direct and guide a number of assistants, whom the architect will install as his aides, subordinated to and supervised by him. His income will naturally increase with the number of jobs he proves capable of handling and the number of assistants he can supervise without decreasing the precision and quality of the work.

7. Any job acquired by an assistant or collaborator by true merit of his personal contact and individual effort shall yield 20 per cent of its net income, in addition to the regular compensation, to the member acquiring it and shall otherwise be handled like all other jobs.

8. On special occasions the architect may invite the combined work of several collaborators and arrange accordingly for compensation of participants.

9. Any member accepting the confidence, the credit and the advantages given to assistants and official collaborators acknowledges the permanency of this relation. And enters into the spirit of a perpetual organization for that sustained responsibility and professional service, which has in the past been ordinarily associated with a single (Continued on page 9)
person who acts as employer of more or less temporary and irresponsible help.  

10. In the course of natural events the activity of the architect will decrease and the participation and influence of the collaborators will increase. Assistants will advance to collaborators, aspirants to assistants. It is desired and in the interest of the work that all these natural changes should be friendly understood and handled equitably and amicably. Both younger and older men shall have a friendly attitude toward each other and by proper self-criticism maintain that atmosphere in which every detail of production, however small, appears as what it is: a subject of creative effort, integrally and correctly related to the whole. It is understood that while current method tendencies press toward speedy and exhaustive work, the career of a professional and capable architect is a life filling issue and must be pursued with patience. A serenely developing organization of powerful determination, such as the one described, will under present and future circumstances obviously give more satisfaction to each participant than erratic individualistic effort. And certainly promote the sound growth of a high quality of work.  

Richard J. Neutra  
Los Angeles  

Appraising Architects  
Forum:  
Looking back over more than twenty years of practice as a professional architect, I can now see some of the opportunities for added service which surround the architect engaged in a varied practice in a moderately sized city. During this period, I appeared from time to time, with more or less success, as an expert on valuation before some court or commission. It was because of these somewhat isolated experiences that the serious study of the art of "valuing" or "appraisal of property" began to take a share of my time. I see now that appraisal might well have been added to my habitual service list.

An architect who is possessed of a keen desire for the factual side of his profession and delights in the engineering phases of his work is pretty well suited to the exacting work of appraising. It has been my observation that architects, like most professional men, drift into certain specialized phases of the profession, but most generally a thorough going understanding of the requirements of housing constitutes the basis of the most of the work of this profession. If the architect decides to offer appraising as part of his continual service to a client he starts at least with the essential background for the work.

In my own case after the appearances before courts and commissions I found myself equipped with the theory and practice of estimating costs of reproduction by the cube method, and the development of units of cost from ever changing material and labor "unit costs." In addition to this knowledge, it became necessary to form myself concerning the theories of obsolescence, depreciation, and changes in values brought about by shifts of the population; to apply those theories; and to appreciate and recognize trends induced by changing social conditions and customs.

Most professional men have a high regard for the results being obtained through the efforts of mutually helpful professional organizations. Data and information obtained from such group efforts consist of a splendid mixture of the theoretical and very practical results obtained through actual practice. An organization of this type, specializing in housing appraisal work, has been just founded under the auspices of the United States Building and Loan League in Chicago. It is called the "Society of Residential Appraisers." Efforts toward its development have arisen especially in this quarter because it is now widely recognized that appraisals are the values on which long term investments rest secure or insecure for the future.

The services of the Society are already in demand. The initial undertaking, publication of a monthly magazine of scientific and professional quality, having materialized in three issues of the "Residential Appraisers' Review.

Needless to say, membership is open to all persons who seek the common end of greater efficiency and a larger remunerative success in the appraisal of property. It is apparent to me that the qualifications of the individual appraiser will be constantly raised in the years that lie ahead and as a result we can be assured that real ability and equipment for this sort of service will be more in demand than at any other period in the financing of housing projects.

Fermor S. Cannon  
Indianapolis  
Mr. Kastner  
Forum:  
Your label "structural engineer" attached to my name in the article on page 26 of your July issue is incorrect. The structural engineer is Mr. W. Krauss, a licensed engineer. The mechanical engineer is Mr. W. Luff.

Alfred Kastner  

Federal Reserve Competition  
Forum:  
In regard to the results of the competition for the Federal Reserve Board Building, published in the last issue of The Forum, permit me to say that the reporting in the form of adequate illustrations of the various projects submitted seems to me an unusually satisfactory method; and I wish to congratulate you on the very excellent results.

Very often plans are reproduced without elevations or elevations without plan which, to the professional man, is extremely unsatisfactory. I think your account of the competition would have been even more satisfactory had you given space to reproduce the sections as well as plans and elevations. However, the acceptance given is far superior to most reports of this nature.

Arthur Brown, Jr.  
San Francisco  

"Even the layman"  
Forum:  
I congratulate you and all who contribute, in your efforts to produce a first rate, up-to-date general information paper for the entire building industry—a what's more, in such a way, that even the layman better understands the amount of time and effort spent by the various organizations within the whole building industry, their research and experimentation to produce the best in return for the building dollar investment that is possible; resulting in a better understanding of the intricate old and new and confusion of knowledge in the use of these details an architect must have properly serve his client.

Francis K. Draz  
Cleveland  

... damn lucky, these Americans...  
Forum:  
We architects in China are in the same boat, everything, that is real estate wokers, builders, plumbers, lighting and machinery engineers. It is not like in the United States, we have no large electric power behind us, all we have here is rock. Just think, all the other material is brought here from China, in coolies in small baskets to the building sites. Every nail, every pound of lime, every brick, this all including lumber which comes from Oregon, we have to get it from elsewhere. How nice do the architects have it in the States. Everything is taken care of, no disposal, trade trained man, minute details, materials, etc., etc. In such conditions it is nice to be an architect.

Yes, your Forum, it is a wonder book. It gives one many a good hint and makes one think, but in the same time we over here some times can get angry, how come that and how nice do our friends have it when Science works hand in hand with them.

There is, however, one thing missing in your Forum and that is a part where architects should exchange their daily worries and experiences, illustrations from various lands in regard to labor, machine regulations, etc., etc. Could that be taken up? The fact is that The Forum is now the real relationship between architects. We have all our bad times and also our funs; why not exchange them?

J. L. Lipport  
Kuling, China  

The Letters columns of The Forum are open to all readers for exchanges of "funs and bad times."—En.
This is How Engineers value the rust-resistance of TONCAN IRON PIPE

WHERE electric cables cross a stream, one of the engineering assignments that calls for more than usual vision is the design of the conduit—conduit that will not only be watertight when installed, but that will remain so for years.

Engineers in charge of this creek crossing at Buffalo, N. Y., selected standard weight black Toncan Iron Pipe to carry the cables—because similar installations using the same material have given excellent service—because this alloy of refined open hearth iron, copper and molybdenum shows the highest rust-resistance of any ferrous material in its price class. It will be safe, an insurance of continued electrical service—and economical because it will last longer.

To understand the real value in this modern alloy pipe, read the story of its development, manufacture and application in "Pipe for Permanence." A copy will be sent upon request.
It is not a matter to be taken lightly, the confining of children in artificial surroundings during the most active time of their lives.

HERMAN NELSON System of Air Conditioning for Schools

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MARSHALL FIELD'S ROLLING CATALOGUE

Harshall Field is the biggest wholesale house in the Midwest. As such it has more than passing interest in the current Main Street campaign for it is the main Streets of the U.S. which sell Marshall Field goods and account for its prosperity. Last month Marshall Field contributed a brand new idea to Main Street modernizing by putting Main Street on wheels.

Out of Chicago, bound for Peoria chuffled sleek, air conditioned eleven car train, The Merchandise Express. The cars had been stripped of seats, outfitted with shelves, counters, indirect lighting. There as a sleeping car for the train crew, a reception room with service bar, an office car with desks, typewriters and teletype to the home office in Chicago. The main purpose of the train was to show the latest Marshall Field products to small town stores which cannot often afford to send representatives to Chicago to pick up the latest trends in merchandize. Cleverly the Marshall Field executives kept their destinations and times of arrival a secret lest competitors stage rival shows. But once in town traffic around railway stations was stopped as buyers and the curious public flocked to see the new train. It was only be merchants, however, that Marshall Field wished to interest; "The Merchandise Express" sells nothing at retail. But for sale at wholesale prices was such merchandise as Czechoslovakian glass, china, lamps, stoves, cooking utensils, handkerchiefs, linens, toys, sweaters, bathing suits, etc. Twenty-four salesmen and one sales girl are kept busy selling at the train's various stops. A story of the train's first trip: In St. Louis a buyer from Stix, Bauer & Fuller placed a large order for gloves. The order was teletyped to Chicago and next morning the gloves were put on sale. By that afternoon, most of the gloves were sold and the buyer returned to the Express, placed a second order.

HOMES

Last month two private residences made news for two vastly different reasons. One was an architectural freak leased by well-known Manhattan socialite; the other was an alley that once connected Bedford Street with a garden. There are fireplaces in every room but kitchen and bathroom, with two fireplaces in the third floor skylit studio. Much of the furniture is miniature.

JOHN MEAD HOWELLS HOME

a handsome Georgian house built prior to 1772 and purchased and restored by John Mead Howells, architect son of Novelist William Dean Howells.

What made Mrs. Killiaen Van Rensselaer's new Manhattan house extraordinary was its narrowness, 9 ft. 6 in., and the fact that its entrance is through a rear door. A three-story brick building, it nestles in old-fashioned Bedford Street where, legend has it, it was built to fill up an alley that once connected Bedford Street with a garden. There are fireplaces in every room but kitchen and bathroom, with two fireplaces in the third floor skylit studio. Much of the furniture is miniature.

Because Main Street cannot come to it, Marshall Field designed these cars to take Marshall Field to Main Street

(Continued on page 12)
Museum of Art helped Mr. Howells to reproduce the original woodwork so exactly that photographs reveal no discrepancies between the original and the restorations. Only exterior changes made by Mr. Howells were the removal of some dark shutters from the windows, a new coat of white paint and the addition of a white painted brick wall.

FIRST TO FOUILHOUX

Believing that the successful design of a house to cost between $3,000 and $5,000 is one of the major problems now facing the architectural profession, the New York Chapter, A.I.A., invited its members to submit designs in competition. Last month these were put on exhibition at the Architectural League of New York. The competing submissions were distinguished not so much by a prevalence of "modern" examples of architecture as opposed to "traditional" but by the honesty and skill with which the architects concentrated on problems of plan and circulation. First place went to J. André Fouilhoux, partner of the late Raymond Hood. Second place was won by Theodore Haneman and third by Frederick G. Frost. Mr. Fouilhoux’s construction specifications are illustrated and described in Products and Practice, page 22.

AMERICAN FURNITURE MART

For the past several years designers and magazines have insisted upon hailing modern furniture as being, with prosperity and the building boom, just around the corner. But the canny wholesalers of furniture have continued to pay scant attention to modern, considering it a poor third in sales appeal to the customary amorphous type of furniture—"commercial" or "Borax" to the trade—and to Early American. This year, the largest, noisiest and perhaps most significant of wholesale showings of furniture revealed that the wholesalers were changing their minds.

The American Furniture Mart opened in Chicago in July, two weeks later than usual, and attracted an all-time record number of buyers. For two weeks, some 7,000 of them punched and fiddled with enough pieces to fill 1,700,000 sq.ft. of space. What surprised the buyers most was the fact that the long heralded decline of Early American had finally arrived. Where last year’s Mart gave 50 per cent of its space to Early American, this year’s screwed it down to a niggardly 8.4 per cent. "Borax" furniture, as usual, headed the list with 37.2 per cent of space. Modern advanced from 26 per cent last year to 29.7 this year. English (17.4 per cent) came next and French with 7.3 per cent trailed Early American.

The significance of this change in emphasis and space allotment is understated when you realize that the orders placed at the American Furniture Mart will later account for 70 per cent of the nation’s new furniture.

Rivals for honors were “Amodec” and the Kroehler Manufacturing Co. of Chicago, world’s largest makers of office and upholstered furniture. Both companies entered the modern field. “Amodec” is the trade name for furniture manufactured by 11 concerns and designed by Donald Deskey and Leo Jiranek (ARCHITECTURAL FORUM, Jan. 1935, p. 50).

KROEHLER DINING SET

The theory behind “Amodec” is simply to correlate the various pieces in a room so that each will blend with the other and be related in the purchaser’s mind by its trade name. To date, “Amodec” has worked out 26 designs in case goods, 45 (Continued on page 28).
FOR ARCHITECTS

1. Provides superior quality plumbing fixtures, valves, and fittings, together with complete co-operation in design and installation.

2. Thoroughgoing co-operation with architect and client in complete financing with repayment over a term of years.

With the extension of the Government’s modernization program to cover costs of major improvement projects in business buildings, apartments, hotels and industrial structures, Crane Co. places at the architect’s disposal every assistance in securing profitable commissions and in executing them.

Whatever the requirement, mechanical or architectural, Crane Co. is in a position to furnish plumbing fixtures, heating material, valves and fittings of wide variety and purpose. Because of the years of service built into every Crane product, you can assure your client that he will have equipment not only of low first cost but which will eventually save that cost in low maintenance charges.

The nearest Crane display room is equipped with the latest pieces designed for every type of building and every type of service. You are invited to use this display in discussions with your client and to ask us for any service we can possibly render.

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AUGUST • 1935
The greatest cause of plaster complaints — variation in setting time — has now been almost completely eliminated as a construction hazard. This improvement is basic, adds a new factor of safety to plastering work. It is of genuine significance to everyone interested in better construction.

If you will look at a manual or guide on plastering, you will find that more than half of the major plaster troubles that can develop are intimately tied up with setting time — the length of time it takes for plaster to set after it is mixed.

The reason is that the setting time of the plaster varies as field conditions vary. If field conditions did not vary; if plaster were always used with the same amount of sand, the same kind of sand, and mixed with clean water in a clean mixing box; if it were always applied over the same kind of lath in the same thickness and used up in the same length of time, setting time would not be a problem.

But, as everyone knows, these conditions do vary.
VARIATIONS IN SETTING TIME OF PLASTERS UNDER JOB CONDITIONS

THE RED TOP GUARANTEE

1. To be of improved plasticity, to remain plastic and workable for a longer time after mixing, and to set uniformly and quickly over entire walls and ceilings.
2. To set in regular time even with dirty water that ordinarily would affect the set of plaster.
3. To set in regular time despite sand impurities that would accelerate or retard the set of ordinary plaster.
4. To set in regular time whether machine-mixed or hand-mixed.
5. To set in regular time over the following bases: metal, wood, gypsum or insulating lath, clay or gypsum tile.
6. To set in regular time, and to set in the same time when sanded for use either as brown coat or scratch coat.
7. To set irrespective of climatic conditions, and not to dry out before setting.
8. To set with more uniform surface hardness than ordinary plasters, thus providing for better application of white coat.
9. To set from the base out to the surface, instead of from the surface in to the base, and to take its set evenly.
10. And we further guarantee Red Top Wall Plaster to retain its plasticity and working properties for at least one year.

CAUSE OF PLASTER COMPLAINTS

Even the amounts of sand as specified for scratch coat over different bases vary. And as these conditions vary, setting time varies.

How has this situation been met in the past? By making the setting time an average to meet average conditions.

How is it met now? By making a plaster, Guaranteed Red Top Plaster, that is relatively immune to these varying conditions. Instead of a plaster too fast for some conditions and too slow for others, here is a plaster that overcomes these conditions.

Graph Illustrates New Results

How effective it may be judged from the accompanying graph. A great many samples of Guaranteed Red Top Plaster were tested for different job conditions, different conditions of acceleration, with the result that they all fell within the hour-and-a-half range of setting time shown by the left half of this graph. A number of other plasters were tested under the same conditions with a variation of more than six hours as shown on the right side of this graph. (Some actually fell outside of this range.)

This graph tells a story of typical job conditions. It shows how important this development in plaster quality is to the architect and to everyone else interested in better construction.

(Samples available for testing. If you care to make an actual test of the setting time of Guaranteed Red Top Plaster, either to check its setting time or to compare it with any other material, under similar conditions, return this coupon and a sample will be sent you.)
Waverly Taylor, Inc., sponsors of the well-known Foxhall development, are starting three more projects—Rollingwood, Rock Creek Terrace and a third as yet unnamed. All will consist of detached brick and stone houses ranging from $13,000 to $30,000, including five G-E New American Homes. Each home in Rollingwood ($15,000 to $20,000) and Rock Creek Terrace ($20,000 to $30,000), and at least thirty-eight homes in the third development ($13,000 to $15,000) will have winter air conditioning, with space for condensing units for summer cooling, which may be added by the purchaser.

Mr. Taylor says: “People are demanding more and more automatic provisions for comfortable living, with a minimum of upkeep and expense. Air conditioning is inevitable, and all builders will have to come to it. In our promotion we will stress its health advantages and cleanliness. The system we use is General Electric throughout, with the G-E Oil Furnace because of its lower operating cost.”

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Brigsteel exhibit at the National Association of Master Plumbers Convention showing the "Kitchen of Tomorrow" as conceived by the Briggs department of design, in conjunction with leading architects acting in an advisory capacity. The Brigsteel Beautyware sink cabinet combination, shown in gleaming white, is available in a wide range of colors and color combinations. Both sink and cabinet are finished with high-luster acid-resisting porcelain enamel at no extra cost. Cabinets also available with lacquered finish. The beauty and convenience of this fixture will appeal to every housewife. Floor plan blue prints of the "Kitchen of Tomorrow" are available to architects on request.

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AUGUST • 1935
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THE ARCHITECTURAL FORUM
MIGHT BE OF PALLIATING INTEREST, ALTHOUGH IT IS SAFE TO PREDICT THAT
LENTALS OF ARCHITECTURE, SO PROVOCATIVE ARE HIS COMMENTS

THAT WOULD BE, OF COURSE, IN NO WAY INTERFERING WITH THE CLEARNESS OF THE AIR SO TYPICAL OF THE REGION, AND THE
"LIES, FORMING WHAT THE AUTHOR LEAVES

THEME OF THE BOOK IS THE TEMPIO MALATESTIANO IN RIMINI AND THE SCULPTURE OF AGOSTINO DI DUCCIO WHICH ADMORS THE IN-
SIGISMONDO MALATESTA WAS AN ARISTOCRAT BY BIRTH AND BY O F F E S S I O N A SOLDIER OF FORTUNE. TO CELEBRATE HIS LOVE FOR HIS

STONES OF RIMINI, BY ADRIAN STOKES. G. P. PUT-

TIONS OF RIMINI, BY ADRIAN STOKES. G. P. PUT-

THE GREAT LOVE FOR STONE CHARACTERISTIC OF EARLY RENAISSANCE

BOOKS

SHOIN, TOKYO.

ANTONIN RAYMOND: HIS WORK IN JAPAN, 1920-

When Frank Lloyd Wright departed from Japan after the completion of the Imperial Hotel in 1929, calling amid the tear-

ARCHITECT'S RESIDENCE, TOKYO

might be well to remark that while primarily a book of criticism,

cessions to Occidental plumbing, still maintain definitely

architects' residence, Tokyo

ARCHITECT'S RESIDENCE, TOKYO

might be well to remark that while primarily a book of criticism,

architects' residence, Tokyo

ARCHITECT'S RESIDENCE, TOKYO
Mr. Fouilhoux designs a $4,000 house, and finds that the blessings of prefabrication are not yet with us.

It is a long way from super-skyscrapers to sample houses, but at least one architect has demonstrated conclusively that there is no inconsistency in outstanding achievement in both fields. Mr. Fouilhoux turned to the study of low cost houses because in his opinion this is the one field in which the least has been accomplished by architects, and in which there is the greatest need for something to be done. His recent prize-winning drawings show some of the fruits of this study.

In his competition drawings for the Low Cost House Competition of the New York Chapter of the A.I.A. (see Forum of Events, p. 15) Mr. Fouilhoux devoted the major part of his effort to keeping down cost, as was indeed necessary in a house to be built for as close to $3,000 as was possible. Prefabricated units seemed a logical answer to the need for economy, but it was found that none of the units available at the present time could offer any saving over customary methods of construction. Nevertheless the house was planned around a modulus unit so that prefabricated units could be used if they should become available. The problem of economy was studied from all angles; the findings as expressed in the prize-winning drawing are as follows:

PLAN. It is square in shape to reduce the wall area as much as possible. The stairs are built in a separate outside unit to save the cost of framing. Partitions are reduced to a minimum; the open plan which is a result produces a much more spacious interior than is common in houses of this type. Living and dining room are together. The arrangement of two terraces at either end of the large room is admirable. For the small cost of a few low walls two outdoor living spaces are created which can be used for a large part of the year. The smaller terrace is well situated for its use as an outdoor dining space. Upstairs the single bathroom is divided in two and an extra washbasin is added, giving what is virtually an extra bathroom.

HEATING. It was discovered that the cost of a conventional heating layout would amount to more than a reasonable proportion of the total cost of the house. A small furnace was finally decided upon and set in the center of the plan. Ducts are virtually eliminated by the scheme adopted, grilles off the space above the heater being adequate for heating the second floor. This obviously represents a heating plant in a most compact and inexpensive form; should air conditioning be desired, no radical departure from the present arrangement would be necessary.

CONSTRUCTION. Wood construction is still the cheapest method of building a house: many systems using steel or concrete are on the market, but until they can more nearly approach the price of wood there is little likelihood of their wide adoption in houses of this class. Two schemes of construction were submitted on the drawing. The first is wood frame minus sheathing; the stucco finish being applied to paper-backed lath applied directly to the studs. Insulating wool is packed between studs and ½-inch plywood is used for the interior. This type of construction, while definitely not fireproof, might nevertheless be classed as slow-burning, due to the absence of the spaces between the studs, and the fire-resisting qualities of the insulating material. The stucco, of course, is added protection for the outside. The alternate scheme employs a patented steel floor construction with concrete-filled steel pans. It was proposed to omit the sheet steel ceiling and leave the concrete exposed, but it was retained to give the pans the necessary rigidity.

Only one estimate was received on the plans, a figure of $4,100. Mr. Fouilhoux makes no claims as to the accuracy of the estimate, which would vary considerably depending on locality, number of houses built at one time, and other factors.

Economies in construction can frequently be arrived at by careful analysis of the elements of a house by contractor and architect, obviously on a competition drawing this collaboration was hardly possible. Mass building operations also result in savings, but here too no accurate estimate can be made until an actual situation is studied. One thing, however, is made clear by the very thoughtful study of Mr. Fouilhoux: complete prefabrication may some day be the solution of our low cost housing problem, but that day has not quite arrived.

Products and Practice Continued on page 45.
In a field of blue Armstrong’s Linoleum, the compass in this gay recreation room floor in a Memphis home repeats the nautical spirit of the other furnishings.

Recreation rooms—"demand a floor like this!"

NEVER was there a gayer, more adaptable floor for recreation rooms than Armstrong’s Linoleum. With custom-cut insets and a full palette of rich, pure colors in Plain, Jaspe, or Marbelle Linoleum to draw from, you can repeat in the floor the colors and decorative motifs that establish the spirit of the room. Almost any design your pencil can draw can be translated, by Armstrong-trained layers, into a colorful and distinctive linoleum floor.

Your clients will like these floors. They’re quiet . . . comfortable . . . easy to clean. Waxed, they are excellent for dancing. And game boards can be built in with the assurance that scuffing feet will never wear off the colors.

The next time you are called in to create a recreation room that must be "different," remember Armstrong’s Linoleum and Armstrong’s Architects’ Service Bureau, which offers you experienced technical assistance in modern floor construction. For full information, write now to Armstrong Cork Products Company, Floor Division, 1505 State Street, Lancaster, Pennsylvania.

Armstrong’s Linoleum Floors
Your clients are asking... "GIVE ME SOMETHING UNUSUAL IN MY HOME!"

Design or remodel to include a smart recreation room that features this sensational new

BRUNSWICK HOME BILLIARD TABLE

Whether you are designing a new house or remodeling an old one, this new billiard table of modernistic design will solve your problem of providing something new and different for your client. Its engaging colors harmonize with the most sophisticated interior decoration and color combinations. With it the puzzled hostess finds a new and stimulating source of entertainment. Troubled parents relax when sons and daughters entertain their friends at home. And it is now offered at a price much lower than the old type billiard table. Thus, it also meets the budget requirements of modest incomes.

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Time-worn principles were completely discarded. New laws of streamline design were applied. The results, achieved under the direction of a world famous architect, are remarkable in four ways:

First: Streamline Design. Harmonizes with modern home decoration. Chromium legs have screw adjustments to level table.


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It is of standard and durable construction throughout. Full size, every inch Brunswick, genuine Monarch quality cushions, sturdy as a pyramid, sleek as a sloop, modern as tomorrow's automobile. Yet it sells for under $200.00... or time payments if preferred. It has all the fine quality that Brunswick has put into tables for 90 years. So include it in your plans with positive assurance of satisfaction.

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The development of American architecture has often been retarded by unbalanced scholarship, prejudice, an arrogant desire for respectability. But here and there in this land encouraging signs appear of a broader conception of Architecture and a finer understanding of basic physical and psychological requirements for living.

It is refreshing to find this significant house at Mount Kisco, N.Y. Like a giant airplane the house seems to partake of the openness of the landscape and the sky. Harmony is successfully accomplished with nature's setting by means of contrast rather than a blending with the soil. (As, for instance, in George Howe's "Square Shadows," ARCH. FORUM, Mar. 1935, p. 193.)

Conceived by three young men — one of whom was the client, the Richard Mandel house is a vital expression of the aspirations of a young up-and-coming group. The designer, Edward D. Stone, has boldly and unhesitatingly translated a theory and scheme of living into the physical form of a house in which to live. There is no blind following of the European so-called International Style, no smugness, no dependence for elegance upon the dead glamour of the past.

Until very recently, building materials have seen little advancement so far as their application to domestic architecture has been concerned. The ingeniousness of the industrialist, the resourcefulness of the contractor, have been largely misdirected toward the interpretation of an architecture styled in the remembrance of times past. Here, we find materials and building methods applied to a rational end. Yet no untried materials or revolutionary building methods have been employed.

The Joneses will take it or leave it; most likely, when they understand it better, they
SITE—A sloping site required partial excavation only for the ground floor, and at the same time gave light and air to service portions, and other utility rooms on the ground floor. The 90-acre site overlooks the Croton Reservoir, and the house is oriented to take full advantage of the Westchester landscape.

will want one like it. The interiors themselves are a natural translation of the pattern of the rooms themselves. Donald Deskey has relied on quiet lines, pleasing colors and sympathetic materials to achieve interiors that do not obtrude upon present day living. The view from the windows takes its place naturally in the decorative scheme. Most of the furniture is of stock design by Donald Deskey. One feels that this is a house designed for a person who knows what he wants to do with his time, who selects his pastimes and friends as he does his surroundings with a view to adding to the fullness of living life today.

PLANS AND TECHNICAL DESCRIPTION
ON PAGES 86 - 87 - 88
RICHARD MANDEL HOUSE

CEILING—White
WALLS—White
FLOOR—Black terrazzo
CHAIRS—Green leather
DRAPERIES—Woven white cellophane
METAL table legs and table column—Chromium finish

CEILING—White
WALLS—Beige. A cork panel at one end. Library is English Brown oak
CHAIR FABRICS—Strong yellows, tan and yellow plaids, etc.
FLOOR—Cork with beige rug
JRAL PAINTING BY WITOLD GORDON

WALLING—White. WALLS—Beige. BAR FRONT—White formica. CHAIR UPHOLSTERY—Lemon yellow leather. SEAT UPHOLSTERY—Emerald green leather. MURAL PAINTING—Terra cotta, white, black, varying greens and yellows. FLOOR—White, terra cotta, green mastic tile.
RICHARD MANDEL HOUSE

CEILING—White
WALLS — White except wall with which is blue
FLOOR—White terrazzo, border two sides in rust tile, blue to opposite wall
MANTEL — White marble
FURNITURE
Bird's-eye maple chairs, one and one chartreux

Wyatt Davis Photos
CEILING AND WALLS—White
FLOOR—Black mastic tile
SEATS—Dark blue

WALLS—Varying colors to emphasize the various planes of the space
CEILINGS—White
FLOOR—Cork
STAIRS—Carpet, dark brown
STAIR RAIL—Aluminum
LIGHTING BOX under plants
CONSTRUCTION OUTLINE

COST: Approximately $60,000 (without furnishings)

PLAN: After its relationship to the site the organization of the house, the plan recognized four separate functions (1) the master quarters, (2) the children's quarters which together comprise the top floor and are themselves sufficiently separated to insure privacy, (3) on the first floor the living quarters are adjacent to but quite separated from the guest quarters, and (4) on the ground floor the ample service quarters. Each unit is complete unto itself and each serves perfectly and as frequently happens, the owner entertains guests and the occasional features are a swimming pool, squash court, and living terraces, the latter off many of the bedrooms, affording full enjoyment of the countryside from the house itself upon which the house stands.

CONSTRUCTION: Fireproof throughout.

EXTERIOR WALLS: 12 in. cinder block, waterproofed with a stucco exterior. Interiors have metal furring with wire screen on metal lath.

FLOORS: There is no excavation under the basement. A 4 in. reinforced concrete slab is laid directly on fill, with flooring of mastic tile, used because other finish flooring were believed not so well suited for the structural flooring laid directly over the fill. The first

1-2 Setting glass blocks. 3 Open steel joists for complete freedom in locating pipes, conduits and ease in installing insulation. 4 Block wall construction. Steel window lintels and columns afford maximum window areas. 5-6 before and during exterior plastering with

7 Glazing.
1. Sleeping porch
2. Master bedroom
3. Dressing room
4. Bathroom
5. Master bedroom
6. Sun deck
7. Stair hall
8. Children's play room
9. Child's bedroom
10. Child's bedroom
11. Play deck
12. Nurse's room
13. Terrace
14. Living room
15. Library
16. Dining room
17. Pantry
18. Kitchen
19. Guest room
20. Guest room
21. Servants' dining room
22. Servants' bedrooms
22A. Chauffeur's room
23. Balcony
24. Squash court
25. Unexcavated
26. Bar room
27. Office
28. Entrance hall
29. Powder room
30. Boiler room
31. Storage
32. Laundry
33. Garage
34. Locker room
35. Plant room
36. Conditioning room
37. Wine storage

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4 in. reinforced concrete slab, mixed thick to lay on metal lath over open steel joists. Finish flooring includes cork in the living room, library and halls, terrazzo in the dining room, rubber tile in the pantry and kitchen, and carpeting in the guest quarters. Wood legs were set in the wet concrete to hold the carpeting. The second floor, same construction. Ceilings are metal lath and plaster, finish flooring is white linoleum in the master bedroom, a color found none too practicable. Cork floor in the playroom, all others are carpeted. Bathroom floors are either of ceramic tile or rubber tile.

ROOFS: Roof construction same as for floors, except that there are two 3 in. slabs of concrete with membrane waterproofing between, and 4 in. rock wool insulation for all exposed roofs. On roof decks, 12 in. slate squares are set in mastic, and a prepared roofing is used for all others.

PARTITIONS: Interior partitions are gypsum block and plaster, with wood bases, the latter being found less serviceable than anticipated because of a tendency to come away from the wall. With the exception of the wood bases and wood sills, there is no interior trim in the house at all. Doors are all flush panel wood with flush steel trim. (See detail.)

GLASS AND GLAZING: Two different types of glass brick are used, one a vacuum brick in the circular dining room wall, and the other type in the hallways. In another hallway an obscure glass is used. All windows have plate glass. The window frames are metal, set flush with the exterior wall. (See detail.) Where large glass areas are employed, lally columns are used for support.

ILLUMINATION: All rooms are indirectly lighted. In the dining room, the principal light source is a flush glass panel in the center of the table; the same treatment is used in the library and bar, where panels in the top of the shelves and the bar tops respectively throw light against the ceiling. General lighting is from flush panels in the ceiling, and from indirect wall fixtures.

HEATING AND AIR CONDITIONING: Aside from the service wing, which is heated by a two-pipe vapor system, the house is air conditioned, except that no mechanical refrigeration is used. The system is in two
parts, one serving the children’s wing, the other the main part of the house. The use of open joists permits maximum freedom in running ducts and pipes in the floors. Conditioned air is distributed from grilles near the ceiling, and the air is returned through grilles near the floor. The well water used for summer cooling is used for the swimming pool, and for watering the grounds after it has passed through the conditioner. The fuel bill, expected by the owner to be higher because of the large glass areas, is reported to be no more expensive than for a traditional house of similar size previously occupied by him.

MISCEIiANEOUS: Stock furniture throughout. Floodlight burglar alarm system controlled from a switch in the master bedroom. Bar room with decorations by Witold Gordon. Mirror fastened to sill in bathroom to permit daytime shaving, with cupboard and medicine chest built under window. (See details.) Squash court with maple floor and walls.
ERNST KAHN

author of the following article on

ECONOMICS OF HOUSING IN
THE UNITED STATES

was for twelve years financial editor of the famed Frankforter Zeitung. Associated with Ernst May in the building of the finest of Frankfort's low cost housing, he was until the rise of the National Socialists, director-general of all Frankfort housing. Invited to this country, along with Sir Raymond Unwin and Miss A. J. Samuel by the National Association of Housing Officials to make a study of American housing conditions, he has remained here to lecture at the New School for Social Research, and to promulgate a housing project to be built in Palestine. THE ARCHITECTURAL FORUM is pleased to present on the following pages Part One of a two-part analysis of the U. S. housing problem by Dr. Kahn, in which his fresh approach to the subject, and his seasoned grasp of it, combine to produce some significant, if salty, answers.
ONE HUNDRED DOLLARS A HOUSE

...is all the Federal aid required to produce ample low cost housing under the interest subsidy plan proposed as a substitute for Government financing or building.

by ERNST KAHN

The World War brought building in Europe to a sudden halt. Men and material were needed for the war machine, and there was no need for new shelter. Vacancies increased to 10, 12, 20 per cent as millions of young husbands joined the colors and their wives were forced to close their homes and return to their parents' homes. Most of the unmarried men were likewise in the field, so the normal increase of families by marriage was interrupted. An example is provided by Germany where before the War the number of marriages fluctuated between 7 and 8 per thousand and dropped to 5 in the years from 1915 to 1918.

When peace came, not a single belligerent nation was ready for the tremendous housing shortage that sprang up almost overnight. The dissolution of millions of families by the death of their nourisher was more than offset by the sudden upward sweep of the marriage rate, which in Germany reached a peak of 15 per thousand in 1920. Further, the almost complete stoppage of normal maintenance and repair took a heavy toll on existing residential buildings.

A housing shortage, like the deprivation of any necessity, is a sizzling social and political bomb. The masses, faced with lack of food, unemployed, and suffering from the inevitable post-war disillusionment, were in no mood for substandard housing. All manner of emergency measures were tried. Maximum rents, compelling owners and tenants to take in subtenants, and providing temporary shelter in old railway cars were the most common sedatives. Owners were not permitted to fix their own rents, could not evict undesirable or non-paying tenants, and were compelled to house families at the pleasure of the political authorities. The tenants themselves turned bitter at the encroachment upon their family privacy. But the most desperate malcontents were the homeless couples who often had to wait years to find shelter.

The high cost of building and building money propels European governments into housing.

In normal times, such a shortage would immediately beset a building boom, but this was not the case in post-war Europe. Why did private enterprise fail to supply the houses so eagerly asked for? The foremost and decisive reasons were the abnormal cost of building and the abnormal height of interest rates. All building operators realized that building costs prevailing at that time (from 50 to 100 per cent above normal) could not last (being based on a temporary shortage of material) and that any investment in housing would result in heavy losses as soon as the normal price level was established.

The lack and cost of capital was a factor even more detrimental to any private housing activity. The main item in calculating rents the world over is the amount paid for interest. Usually not 60-70 per cent is directly required for payment of interest on the capital invested or borrowed. After the War the mortgage rate in European capital markets ran two or three times as high in normal times. The usual cost of mortgage money for inexpensive housing is from 3½ to 4 per cent. From 1920 to 1922 mortgage money, if available at all, cost as much as 12 per cent.

Consequently, practically all European governments, neutral or belligerent during the War, were pushed into taking an active part in housing to avoid even more futile and uprising than actually took place.

To make things worse for the Governments, the emergency housing situation combined with the general unrest made the public realize that the problem of sheltering the millions had never been properly met even before the War. It became apparent that Capitalism, no matter how great its merits in other directions, had utterly failed to solve the housing problem in practically any direction. Even the most ardent admirer of "laissez faire, laissez aller" had to confess that the result of a hundred years of individualism in town building, etc., was little short of complete failure architecturally, economically and socially. And, finally, became obvious that housing could not be solved without some planning and supervising by Authorities. In some countries statesmen, administrators and architects realized that this very emergency offered this country's first great opportunity for a thoroughgoing reform of human shelter and a total reorganization of urban living.

It is not quite easy to show in a fully satisfactory way what the different European governments actually spent assisting low cost housing and which system they followed as the policy very often changed and the subsidies granted by the different central governments frequently were augmented by additional help offered by States and municipalities sometimes hidden under various titles. A compilation published at the author's suggestion in the 1933 "Wirtschaftskurve" by Hans Kampf provides some characteristic figures for the period 1920 to 1930 being the period of the principal publicly assisted low cost housing activity in those eight European countries with which seem most interesting.

It is nearly impossible, as I have already stated, to give an exact impression of the methods followed by the different countries without being very exhaustive. However, Table 1 (p. 91) may offer some characteristic facts, showing...
in the U. S. A. • PART 1

The movement of the marriage rate, too, follows European figures. The pre-Depression figures for the United States may be put at 10.5 marriages per thousand inhabitants; the Depression let it drop temporarily to 7.5. It started up again last year with an average of 9.4 per thousand. Record marriage rates of 14 to 15 per thousand are as likely for the U. S. of 1936 and 1937 as they were actual in post-war Europe.

Assuming, then, as we have a right to, that a major increase in residential building is imminent, the question arises whether the old system of housing by private enterprise without any government help is feasible.

It seems to be a rule valid all over the civilized world that the rent should not require more than 15 to 20 per cent of the income. This share may be somewhat higher in this country than in others as the rent in America frequently embraces amenities usually not offered in most European countries, such as heating, bath, refrigeration and sometimes even light. Based on a limit of say 20 per cent of the income to be spent for shelter, the odds for satisfactory housing activities unassisted by public help appear rather hopeless. What builder is prepared and able to offer decent and cheap rents to the 60 per cent of the population whose income is below $1,000?

To begin with, wages and prices of material bring the cost of a single family house to twice the present cost of English ones and are some 100 per cent higher than in pre-War times. Unfortunately, this extraordinary high cost of building by no means exhausts the difficulties. Important as this undoubtedly is, even a very considerable reduction would not solve the problem. Even if for one reason or another an average dwelling unit could be erected at half the present prices and thus bring the cost down to an approximation of the present English price level, rents still would be twice as high as they are over there. The full explanation for this amazing fact will be shown later on. For the time being it may be sufficient to give just the most important reason — the difference in house financing on both sides of the Atlantic. The European house-owner has to pay half of the American money rates for his mortgages, sometimes the full explanation for this.

No account prices of long term credit and 2) the participation of the Government in financing low cost housing.

When money costs 4 per cent or more, there can be no housing for the poor without Federal aid.

As stated above, it was primarily the high rate of interest which forced European governments to go into housing. Different as the causes for the present obnoxious rates in this country are, the regrettable consequences to housing are just the same and rents based on mortgages bearing a return of more than 4 per cent will always make housing impossible for the low income groups impossible.

I claim that for a rich country like the U. S. the scarcity of cheap mortgages is unnatural. It seems to me just a problem of better organization to place sufficient money at reasonable rates at the disposal of a housing program, no matter how ambitious it may be. Sad to say, this organi-
ization is bound to take considerable time. Years may elapse before this aim will be achieved. And yet the country can scarcely afford to wait as long with its urgently needed re-housing job. Consequently the U. S. government will be forced to assist housing at least for some time to come.

Once you accept the necessity of at least temporary public participation in housing the question arises as to which form or rather degree of government activity seems to be most efficient.

The fundamental question a government has to decide is, whether housing has to be taken over as a public agency, such as schools and roads, or whether it is wiser to leave the management and the financial responsibility to private enterprise and to confine the country's share to some degree of financial and other assistance and supervision. There are varying degrees of governmental participation, but the major alternative has to be decided first. At first glance, it may look as if the decision is more or less dependent upon the political doctrines. Socialists naturally prefer the enterprise and to confine the country's share to some degree of the management and the financial responsibility to private enterprise. It is logical, in some respects, for a government to consider housing as a public obligation, just as some governments, even capitalistic ones, consider telephones, railroads, etc., as proper objects for State ownership. There is at least one European country which has adopted this policy: Austria, or rather Vienna.

Crushing public debt is not the only consequence of government-built dwellings.

One should, however, realize, what such an attempt means, if fully carried on. In Vienna the authorities have practically assumed the complete housing activity for the lower income classes which embrace the bulk of population. Should the U. S. adopt such a program, the old established housing interests would eventually disappear. The lifetime of any house is limited to a certain number of years; consequently the privately owned houses would slowly be replaced by houses erected by the authorities. This process would be considerably accelerated if the government's dwellings were offered at lower rents than those which had to fix their rents on a profit-making basis. As low rents seem to be the principal, if not the only motive for such an activity, the disappearance of privately owned low cost homes would inevitably be the final outcome. An elimination of private ownership causes far-reaching political, social and financial consequences.

Financially, the government would face a gigantic task never experienced before. Basing the need for the 30-year period from 1935 to 1955 at 500,000 units a year (a total of 10,000,000 homes), of say, $4,000 each, the government would have to invest some 40 billion dollars. Even if such task should and could be carried on as a paying proposition, it would involve a creation of public debt to an extent hitherto unknown. Whether the floating of such huge issues would be possible without serious disturbance to the security market is more than doubtful. The essential question from a financial point of view seems to be whether a sufficient return of the invested capital would be possible or even within the aims of those responsible.

In the case of Vienna the authorities renounced such ambition from the outset. They did not expect any return whatever on the invested capital. The rents simply cover the expenses caused by management, repair, etc. Apart from the heavy taxes which such a system necessarily would cause (not less than 2 to 3 billion a year in the case of the United States) it would inevitably involve tremendous losses for the individual owners of the old houses. The State scarcely would dare to deprive many millions of citizens of their income and so drive them and their creditors into bankruptcy, heavy indemnifications would have to be paid, burdening the taxpayer's shoulders with additional charges of billions of dollars. No congress, no president could dare to do it. In the case of Socialist Vienna such an experiment was feasible only because inflation had practically wiped out all financial obligations of the house owners.

The political consequence of 100 per cent public house ownership should be carefully considered before entering such a task. Few advocates of public housing are conscious that a considerable percentage of the population, or rather the voters, are house-owners. There is little doubt that the rise of National-Socialism in Germany was partly attributable to property owners and other middle-class groups who felt that their very existence was endangered by the government being responsible for housing in that country.

There are other reasons which make publically owned managed housing appear somewhat problematic. There is, for instance, the question whether a government, be it federal or a local one, is a good administrator in this particular field. From my experience in Germany, I should hesitate to say that it is more than doubtful. If the administration lies with municipalities, the danger of graft or least favoritism cannot be denied, be it expressed whether contracts are issued or the tenants chosen. In case housing is centralized in a federal agency, as it seems to be the intention in the U. S., another danger arises in the striking bureaucratic machinery which is scarcely avoidable. In both cases the collecting of the rents is much more difficult.
an through any other landlord. This, anyhow, is definitely borne out by European experiences.

Those in favor of direct federal activity as planned by the present Administration may consider the present plan simply a demonstration to encourage others to enter the low cost housing field. In fact, the 120 or even 250 million dollars usually mentioned as the amount the Federal Government intends to invest, certainly does not carry the problem very far. At its best it is only a very modest contribution leaving the bulk of the solution to other agencies. I am afraid it will do considerable harm and not tend to induce others to follow the example for these reasons: the Government seems to be willing to base its rent-calculating on conditions not within reach of private competitors. So that as demonstrations they are meaningless. The Government makes the point that it does not propose to compete with private enterprise, but as a matter of fact by the simple device of using its credit, it is creating a demand for housing at rentals that can not be matched unless the same cheap money is available to individuals.

If, however, the government should abstain from housing, what else should be its role? Since low rents are primarily based on low mortgage rates, it becomes apparent that the government’s participation should be one which increases the availability of a plentiful supply of mortgage money at rates sufficiently low to procure the desired rentals. It is by no means necessary, however, for the government itself to supply the money. On the contrary, such a plan is to be definitely avoided for the same reason that government building should be avoided. In many cases, European countries preferred to offer a guarantee to the mortgagee, instead of lending the money direct. As far as Federal credit is concerned, such a guarantee is scarcely different from a bond issue. But there is, in practice, a desired difference. Furthermore, in European countries the guarantee is never given for the total mortgage, since the rate of 40 to 60 per cent is usually considered a good risk in good times and bad, and requires no guarantee outside the property itself.

Inasmuch as the National Housing Act does this very thing, the problem is not one of direct government lending, but of additional mortgage guarantees. The problem still is to get the interest rates down under the special guarantees of the NHA.

The plan to reduce the effective interest rate to 3 1/2 per cent by direct federal subsidy.

The plan which I propose is one that follows a primary principle of government aid, i.e., it should be the most inexpensive form of assistance possible. To illustrate the plan, let us suppose that in meeting the expected yearly demand of 500,000 dwelling units a year, 550,000 would be Intended for the poorest classes, and as such, objects of government aid. Using the Department of Labor average of $4,000 per unit, the total cost of low cost housing would be $8,140,000,000. Under the Federal Housing Administration, 20 per cent of this would be the equity of the property owners, and the remaining $8,120,000,000 would be mortgage money.

At the present time, average rate of interest is about 5 1/4 per cent, but at that figure the housing could never rent for a figure low enough to house the population for which it is intended. Rents based on 3 1/2 per cent money, however, would be within the reach of those to be housed. (See table.) Therefore the government should pay yearly a direct subsidy of 2 per cent to the builders of housing to bring down the effective interest rate to 3 1/2 per cent. Two per cent of $8,120,000,000 is not quite $242,000,000.

Table 3, which attempts to show what such a program would mean to American housing, requires some explanation. First, it is not a forecast, for such an undertaking inevitably fails. It is impossible to know beforehand the number of houses which will require aid, the future developments in the bond markets, or the dates at which anticipated mortgage rate reduction will materialize. Also the table does not take into consideration the constant decrease in principal by amortization. It aims to show only a general trend of the annual interest reduction system based on a theoretical example.

The government grants annual aid to a certain percentage of dwellings of a 5,000,000 unit housing program, spread over ten years. The average interest rates are supposed to decrease with the growing popularity of the newly established mortgage insurance system. This should make it possible to house an increasing percentage of families in the lower income groups without subsidies. It is estimated, rather arbitrarily, that the mortgage interest rate decreases gradually from 5 1/2 per cent in the first year to 3 1/2 per cent in the eighth year.
As a result of the assumed decrease in rates it is presumed that out of the 500,000 homes to be erected annually, a constantly decreasing number will require assistance. The calculation starts with 350,000 to be built in the first year and drops to 100,000 in the program for 1942 when the average interest rate approaches 3 1/2 per cent.

This cheaper money should enable the mortgagee to convert old mortgages with high interest rates into those bearing lower rates. Such a conversion is usually not possible before the first three years have passed, and this is the basis for the three-year period which precedes possible conversions.

The Table indicates that out of the 350,000 units erected in 1935 a certain percentage (150,000 units) can be carried without any aid after 1938. The reason for considering only 150,000 of the 350,000 units is this: If an interest rate of 4 1/2 per cent is assumed, it may provide rents cheap enough for a part but certainly not all of the tenants. Consequently, a considerable percentage of those 350,000 units originally subsidized needs further assistance. In the last column of the table, it is noted that the average net interest to be paid by the houseowner is decreasing, and finally reaches 3 per cent. It is important, however, not to be misled by "average interest rate," for it is neither necessary nor useful to give the same aid to all the various types of low cost housing since the acceptable rate of interest varies widely.

If the estimated figures prove to be fairly close to the actual facts for this program, the amount of government aid will be very small, if compared with England's yearly burden for housing in 1940 ($100,000,000). Furthermore, it may be more than counterbalanced by savings in governmental expenditures for relief. The yearly assistance, averaging $17,290,000, will be well spent, and not a sacrifice if 5,000,000 decent dwellings can be built by 1945.

$1 per room per month is the rental reduction obtained by a 1 per cent cut in interest.

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

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

<table>
<thead>
<tr>
<th>Rent per room and month</th>
<th>If the capital invested costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.67</td>
<td>8%</td>
</tr>
<tr>
<td>10.83</td>
<td>7</td>
</tr>
<tr>
<td>10.00</td>
<td>6</td>
</tr>
<tr>
<td>9.16</td>
<td>5</td>
</tr>
<tr>
<td>8.33</td>
<td>4</td>
</tr>
<tr>
<td>7.50</td>
<td>3</td>
</tr>
</tbody>
</table>

The influence of the rate of interest on the rents obviously is of the greatest importance. A change of just 1 per cent enables a reduction of nearly $1! It goes without saying that it is up to this very factor whether housing the poorer classes will be possible or not.

It is true, it may take some years until the proper technique is developed and before the American public realizes the fundamental difference between the ill-famed mortgage debentures of pre-Depression times and a conservative, easily salable guaranteed new mortgage bond. In some parts of Continental Europe, this type enjoys a higher reputation than government securities. One may reasonably hope that before long capital for housing can be procured without government interference, cheap enough to offer decent shelter for the bulk of the population. This not only would make a continuation of government money unnecessary but should enable a conversion of expensive money, borrowed in the initial years of housing activity, into cheaper money. This would enable government to bring a stop to at least part of its annual help.

The financial advantage of such a system as compared with any other is obvious. If adopted by the authorities it should save billions. At a cost of a few hundred million dollars, the most gigantic housing program ever seen could be carried out.

There will, of course, always be a certain portion of the population, which could not even afford a rent based on an interest rate as low as 3 or 3 1/2 per cent. This, however, from a financial point of view a minor problem as it refers to a very small percentage of the population such as social elements, families with many children, etc. Besides this, housing of these elements is relief rather than a housing problem.

PART TWO OF DR. KAHN'S ANALYSIS, TO APPEAR IN THE FORUM FOR SEPTEMBER, WILL DISCUSS IN DETAIL COMPARATIVE FINANCING METHODS, COSTS OF BUILDING, COSTS OF MANAGEMENT.
The smoke of verbal controversy has finally cleared away from the gray towers of Rockefeller Center. Offices have filled, shops are rented, tea is served on the top of the British Empire Building. Prometheus is no longer the victim of unkindly gibes. In this year of grace, 1933, Rockefeller Center is an accomplished fact. It is time to begin a considered appraisal of its architecture, and the arts which have found refuge there.

Minute specks against a colossal backdrop, stand the British Empire Building and La Maison Française, twin sphinxes flanking the approach to a modern Karnak. Never was there a more rigidly formal, a more entirely symmetrical composition; never was there more pressure to reproduce in one building the identical features of another. Yet the two most important features of these buildings, the sculptured doorways, are utterly different in conception and execution. For Janniot the space was a unit, to be filled with his attitudes of ladies, his squirming symbols. For Jennewein the solution lay in the doors below, their vertical divisions dominating the composition . . .

Which of the two is better, whether either is good or bad, is for the moment of minor importance. Their chief significance lies in the fact that they represent a rarely found freedom of treatment permitted in a completely balanced arrangement.
Ten tons of gilded bronze went to symbolize friendship and mutual understanding between the cities of Paris and New York. Long noted as a leading sculptor of France, M. Janniot is here represented for the first time in America. At the top of the panel sit Paris and New York, hands amicably joined, while at their feet three figures, Poetry, Grace, and Elegance disport themselves among the trees and birds of two hemispheres. The over-all pattern recalls the extraordinary “tapestry of stone” which covers the entire walls of the Colonial Museum in Paris, the work which first focused world-wide attention on this artist. Subordinate in the composition are the three doors, main entrances to La Maison Francaise, center of French activities in New York.
Controlling factors in the design of the doorway in the British Empire Building are the entrances. Three doors create three vertical panels: three figures in each panel sum up the nine symbols of British industrial and agricultural activity. The nine gilded spots on a ground of blue represent Merchant Marine, Fishing, Wheat, Sugar, Cotton, Wool, Tobacco, Coal and Salt. All is clear, sharp definite; only the verticals of the door divisions enliven the static figures. Like Janniot, Sculptor Jennewein selected bronze for his medium, treating it less as a vehicle for plastic effects, and relying more on color and value than on the forms themselves. Both are consistent solutions of the problem of integrating the doors with the spaces above them.
Janniot, Alfred Auguste, fresco painter as well as sculptor, was born in Paris in 1890. He began exhibiting at the Salon in 1908, won the Prix de Rome in 1920. Perhaps his finest work is the great Monument to the Dead in Nice; best known is his tremendous relief covering the entire wall surface of the Colonial Museum in Paris. Examples of his sculpture are in the Voisin, Boileau, Bailby and other collections.

Jennewein, Carl Paul, was born in Stuttgart, Germany, 1890. Came to the United States in 1907, studied in the Art Students' League, New York City, won the American Academy Fellowship in Rome in 1912. Principal works: Sculpture for Philadelphia Museum of Art, Arlington Memorial Bridge, Washington, D. C.; many war memorials; bronzes in Metropolitan Museum of Art, Corcoran Art Galleries, other museums.
In 1784, on the site of this church, one Louis Pintard built himself a wooden farmhouse. A century and a half later, when plans for the present church were begun, both architect and congregation felt they could do no better than to continue the Colonial tradition, and the little house was moved to its present location where it serves as the rectory. The site of the church is unusually fine, and the building was laid out to take advantage of the magnificent old trees and the sunken garden. Particularly worthy of study is the plan, in which the problems of re-using certain areas for varying purposes have been adroitly worked out. The social hall on the ground floor can be expanded or contracted to become a dining room, theater, or gymnasium as need arises. Upstairs the assembly halls are also frequently called upon to do double duty. In planning the Sunday school great care was taken to embody the latest ideas of leading educators, and for the classrooms a unit, based on public school practice, has been adopted. This arrangement has been found to be most satisfactory, and costs but little more since each child must have 15 sq. ft. of space no matter how it is apportioned.

The church exterior is faced with a pleasant warm-colored local stone, and the quoins are from the remains of a church that had burned down some years before. These and other economies made it possible to build the church for $422,800, a cost of approximately 60 cents a cubic foot.

Between this church and the church of St. Joseph in Hindenburg which follows immediately in this issue, the contrast is startling to say the least. At first glance one might classify the American structure as Colonial, the German as Modern, and let it go at that; further examination of the plans discloses a rather paradoxical situation. The thoroughly contemporary appearance of St. Joseph's is due primarily to its straightforward acceptance of modern structural methods; its plan, an expression of liturgical requirements that have remained unchanged for a millennium, is not essentially different from those of many 11th Century churches. For the plan of the First Presbyterian Church, on the other hand, there is no recognizable precedent earlier than the 20th Century. Its many functions, social hall, gymnasium, nursery, theater, game room, kindergarten, dining room, classrooms, assembly halls, and offices, are recent developments representing a conception of a church vastly different from that of the early American churches which were almost exclusively houses of worship.
Colonial motives are combined with skill and taste in the interior of the church, and an effect of quiet dignity has been obtained by sparing use of ornament and the repetition of simple forms. More than any other part of the building, this severe white room satisfies the present day desire for clean forms, openness, and light. The use of stained glass windows, a most uncommon feature in this style, gives warmth and color to the interior.
Little more than a decade has sufficed for Germany to demonstrate that the church of today is still a problem for the architect, not the archaeologist. Church after church has been built, each employing forms consistent with modern construction, all possessing to a marked degree the sincerity and deeply religious atmosphere heretofore associated exclusively with ecclesiastical buildings of the past. Latest in this notable series is the church of St. Joseph, a massive brick shell enclosing a single space where all is subordinated to the one imme­morial purpose of the church: worship.
The present isolation of the church will be of short duration, as four- and five-story dwellings have been planned for its immediate surroundings. Structural members are set inside the thin walls, for only on the interior will their effect be appreciated. The long windows on the south side are in effective contrast to the circular openings in the opposite wall. This arrangement makes for clearly directional lighting, at the same time conveying a strong feeling of the traditional orientation of the Catholic church.
With extraordinary skill the architect has employed every means at his disposal to emphasize the mass of the church. By placing piers on the central axis instead of the usual openings, by keeping the entire facade at the same height, and by moving the side doors off the centers of the towers, he created a design which the eye must take in as a whole because there is no focal point where it can rest. Most notable is the fine unity of scale between the slender cross, entrance, and rose window. Religious fervor responds to the solemnity of this simplicity, and the emotional appeal of the ritual achieves new heights in the absence of elaborate architectural motives and ornamentation.
These two interiors demonstrate that church architecture need not be traditional, nor is there any necessity that architecture be "international" to be modern. In the Lady Chapel the dramatic possibilities of the tower interior have been superbly realized.
The church is characterized by the simple, honest use of good materials; brick, wood, and metal are fittingly employed in appropriate forms. These three stone seats illustrate this attitude. For a parallel to the sensitive feeling for material achieved by the carving of the plain marble blocks, one must look back to the days of the early Renaissance.
For two years a restaurant in the basement of the Chanin Building at Lexington Avenue and 42nd Street, New York City, with entrance only from the building arcade and from the subway level, languished with no customers and no profit. And yet within a four-block radius more than 12,000 executives maintain their offices. When Longchamps leased the space for its seventh Manhattan restaurant it sought an architect who could solve the problem of bringing customers in and conquering their aversion to dining in a basement. Mr. Abramson’s successful solution included the acquisition of two street level stores and their conversion into a main entrance and cocktail bar. Thus the more valuable street level space serves chiefly as an appetizer with which to lure patrons down an unusually large stairway to the larger (and lower rental) basement room. To attract transient trade the entrance is accentuated with black Carrara glass and a bronze marquise with illuminated sofit.
The stairway is directly opposite the revolving doors of 220-224 West 42nd Street entrance and is so mirrored as not only to appear larger than it is but also to afford entering patrons a reflected view of a large part of the basement dining room. This treatment adds to the illusion of removing the dividing floor lines. The central part of the dining room, where Longchamps exhibits its much-admired fresh vegetables, is built into a platform to make it a focal point of attraction. Mirrors are again used to mask the varying heights of the basement’s structural columns.
and after from nearly the same
The atmosphere of the cocktail lounge was purposely kept light to contrast with the prospect of more substantial dining downstairs. The shape of the bar was determined by the form of the stairwell opening; the bar and well follow the same pattern. The Louis XIV Lords and Ladies in red, yellow and gold are by famed Winold Reiss.
Soon after the Columbia Broadcasting System embarked upon its unparalleled career of expansion, the need for a studio in which to seat large audiences became pressing. The obvious thing to do was to spend a lot of money and build one. But CBS is rarely extravagant and never obvious. Combing the theater district, where there was a practically unlimited choice of empty houses, they leased one, re-christened it the CBS Radio Playhouse. Remodeling was necessary and Architect Lescaze was called in to effect the necessary changes with a minimum of expense. His solution is shown on this and the following page. Two units were erected on either side of the proscenium, one for control, the other for clients. Work was simplified by the fact that there were boxes only at the balcony level; the space below was clear. The units were built of plywood and compo board, with double windows set in metal frames, slanted to improve visibility. Extensions of the units cover the lower part of the proscenium arch, and connect them with the front of the balcony, both most ingenious arrangements which give the impression that considerably more remodeling has been done than was actually the case. Screens designed to correct acoustical defects, set around and above the stage, complete the changes made. The clean, modern effect seems admirably suited to radio, the new "art" which sometimes tries so hard to take on an elfin Hollywood spirit, which architecturally, at least, is something rarely to be emulated.
When the first Century of Progress Exposition burst upon Chicago its 36,626,546 visitors divided their automotive attention between General Motors and Chrysler. Mr. Ford was not caught napping when the second edition followed a year later. So successful was this venture in three-dimensional publicity that exhibitions now form a major activity in the Ford scheme of advertising. The present building not only reflects the lessons learned at Chicago, but establishes an admirable pattern for industrial exhibits which are gaining great popularity throughout the U.S.
The exterior of the Ford Building expresses its function: thin curving planes, agreeably white against the California sky, indicate the long unbroken wall spaces of the interior. On the rotunda the sharp edges of the flutes are blunted by blue vertical reflectors which cover them, an unconventional treatment which emphasizes the lightness and temporary character of the construction. A long terrace across the back of the building provides resting visitors with a fine view of the city and San Diego Bay. Within the rotunda are set dioramas which show the Ford in use in the lands bordering the Pacific, and illuminated diagrams describing with admirable brevity the various products used in the cars, and their locations. The plan of the exhibitions beyond the rotunda is in the form of a ring; here the purpose is to create a continuous and dramatic presentation of Ford products and processes. Main cause for discontent with the Chicago exhibit was that the great hall could be entered from either end, a situation which rendered impossible anything but a random display. This disadvantage was overcome in the San Diego building; the visitor is directed to the first of the exhibition halls, follows through a logical sequence of exhibits, and ends where he began, in the rotunda.
This illustration shows the procedure followed in all the exhibits. Display cases or machines are set on the floor or wooden platforms. Above them is a large caption with photographs or diagrams. The advantages of this remarkably simple and rational technique are manifold: an exhibit is always effective even when crowds hide the floor displays; if a process cannot for one reason or another be adequately demonstrated by the machine (for example, welding), supplementary photographs can be used to illustrate the more complicated and bulky operations. The captions make for instant comprehension, and consequent interest.
When an operation is too large to display in the exhibition hall, as in body welding, it can be shown pictorially on the wall. When is too small in scale to be seen by a crowd of people, as in the illustration on the right, the same technique holds good. Large models of the bolt show instantly what the machines are doing.
Two features of the Ford building combine to make it an outstanding piece of exhibition design. First, already described, is the use of the walls. The enormously increased effectiveness of the exhibits due to this method may be seen at a glance from the illustrations on this and the preceding pages. Particularly worthy of study is the use of captions: one word whenever possible, identifies the exhibit below; a dozen more tell the story. Second of the noteworthy features is the plan. The superiority of the curved or interrupted axis for exhibition use is well known, but rarely taken advantage of. Here the curved walls give a sense of flow to the succession of displays which is very agreeable, but at the same time the spectator's attention tends to be concentrated on the exhibits at hand because they cannot see very far ahead. The impossibility of forming an accurate estimate of how much lies ahead also tends to lessen fatigue. Anyone who has visited the Louvre and similar museums in Europe is familiar with the feeling of exhaustion brought on by the sight of seemingly endless halls. Between the first and second exhibition halls the visitor can go out on the terrace or into the patio to rest.

The color scheme is the same as was used in Chicago: white, two tones of blue, and vermilion for accents. Machinery is dark blue, the floor is in two-tone blue composition tile, and walls are white. Large letters in the captions are faced with satin-finished chrome, others are red.

When the Ford Company began using exhibitions for advertising, Mr. Ford made only two stipulations: "Show them how it is done," and "Have plenty of places to sit down." Much of the success of this inter-war exhibition may be attributed to the thoroughness with which it fulfilled these two all-important requirements.
Construction of the tower is steel throughout with the exception of the drum, which is of wood. In the exhibition halls steel columns and trusses are used, with wood studs. The exterior finish is stucco, laid on metal lath; inside the building the finish is plaster on rocklath. In the exhibition rooms walls and ceilings have two coats of acoustic plaster. Floors are of moulite on concrete in the rotunda and exhibition rooms; paving in the patio is flagstone, and on the terrace it is concrete slab with a cement finish. White metal where used in the building is satin-finish chrome.
The Patio of the Pacific was designed primarily as a pleasant outdoor court in which visitors might rest; here, however, as in the mainder of the exhibit, the quietly insistent advertising predominates. Around the edges of the court cars are placed, each in a little niche of planting, against a strip of dark blue which forms the base of the wall. According to Mr. Teague, reflections on cars are of more importance visually than the actual body contours, and they were carefully considered in the design. In the Ford Building advance was taken of the southern California climate to set them out of doors where the reflections of sky, trees, and white walls show the dyes to best advantage. Other examples of the ever-present advertising aim of the exhibit are to be found in the design of the pools, and the various decorative features of the facades. The plan of the building is notable for the ease of circulation, and for the large unobstructed floor areas. The curved axes of the two exhibition halls are stopped by the information desk in the rotunda, and by two large displays of a giant motor assembly and a Ford chassis in the rear of the building. Services are unobtrusively placed in the back, with washrooms and lounges easily accessible to visitors, and the offices on a floor above. On the curved wall which encloses the service unit is placed a large decorative map showing the location of Ford plants in various parts of the world.
An old stone house, part of a farm group which has been unobtrusively transformed into a suburban estate. A service wing, with kitchen, maid's room, and bath was added, and modern equipment was installed in the house. New terrace walls were built in back of the house, and the gardens as they now are add considerably to the available outdoor living space. The other old buildings on the property, a spring house, the present garage, and a barn, have been repaired where necessary and incorporated into the group. Cost of alterations was about $25,000.
Characterized by its owner as possessing "individuality, beauty in design, and extreme livability," this concrete house is more notable for the fact that it was built for $2,750—a figure which includes everything but the cost of lot and furniture. The extraordinarily low price was made possible by designing for a maximum amount of standard materials, and strict limitation of the number of materials and trades. The house was built almost entirely by local mason mechanics. Walls and partitions were constructed of standard cinder concrete blocks, units, and upper floors and roof are of concrete slabs and precast concrete joists. Exposed on the under side. Plastering was done only in the bathroom, kitchen, and the fireplace. Economical in operation as well as construction, the heating costs for the current year, including gas used for cooking, were only $65.80.
BUILDING MONEY

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

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JOHN CUSHMAN FISTERE
Editor

Man of the Month PETER GRIMM (see page 140)
AIR CONDITIONING FOR HOMES

is a forecast based on Washington's current booming. A review of the housing that makes the Capital the center of building gossip.

If federal efforts to revive the building industry have done nothing more, they have brought to Washington and its satellite counties the tidiest building boom the city has known since it was burned by the British, visiting architects, builders, realtors, and mortgage men, blistering in the summer sun of Washington, last month looked with envy at the trickloads of him-British. Visiting architects, huihiers, real-of outlying districts. What i* each one prayer-rolled his mind. Roger J. Whiteford (who is also the FHA's general counsel), into the controversy with facts that seemed to prove that real estate men were just about making a living.

Instead of a rent law, the Washington Post's Publisher Eugene Meyer, sometime Federal Reserve Board chairman, asked that the law of supply and demand be permitted to work without Congressional interference. Said he: "Legislators, both national and State, could do more for the tenant by bringing about fair taxes than could possibly result from rent commissions with their inevitable growing costs for salaries, clerks, rent for quarters, etc., to say nothing of the check on a normal operation of the law of supply and demand."

Spurred on by the desire to produce enough housing in a quick enough time to prevent the establishment of a commission, Washington builders stepped up their pace of production into boom proportions. The result of their building has already dropped the occupancy figure from 99.5 to 97.5 per cent.

Ranking only 17th in population, Washing­ton has raced ahead of every city in the U. S., save New York, in construction volume. Permits for 1,397 housing units in the District of Columbia alone have totaled 86,371,090 for the first six months of 1935. In Arlington County, Va., home building is up 1,000 per cent over 1934, and is up 590 per cent in Montgomery County, Md.

The six-month total for 1935, according to Department of Labor building permit figures, for the District itself is:

<table>
<thead>
<tr>
<th>Type of Building</th>
<th>Value of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>$8,300-$15,000</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>$10,000-$25,000</td>
</tr>
</tbody>
</table>

The real interest for the nation lies in the kinds of houses that are making the volume. Are they prefabricated, are they fireproof, do they have air conditioning, do they have cellars? How much do they cost? Answering the last question first, the building is heavily concentrated in the $5,000 to $7,000 price range. A breakdown of 1935 building as compared with 1934 reveals:

<table>
<thead>
<tr>
<th>Price Range</th>
<th>Units 1934</th>
<th>Units 1935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $2,000</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>$2,000-$2,999</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>$3,000-$3,999</td>
<td>51</td>
<td>95</td>
</tr>
<tr>
<td>$4,000-$4,999</td>
<td>112</td>
<td>259</td>
</tr>
<tr>
<td>$5,000-$5,999</td>
<td>190</td>
<td>478</td>
</tr>
<tr>
<td>$6,000-$6,999</td>
<td>191</td>
<td>613</td>
</tr>
<tr>
<td>$7,000-$7,999</td>
<td>81</td>
<td>208</td>
</tr>
<tr>
<td>$8,000-$8,999</td>
<td>79</td>
<td>180</td>
</tr>
<tr>
<td>$9,000-$9,999</td>
<td>50</td>
<td>111</td>
</tr>
<tr>
<td>$10,000-$10,999</td>
<td>25</td>
<td>77</td>
</tr>
<tr>
<td>$11,000-$11,999</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>$12,000-$12,999</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>$13,000-$13,999</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>$14,000-$14,999</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>$15,000-$15,999</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$16,000-$16,999</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Over $20,000</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Taylor. To many a Washington competitor and to many a real estate man in the country over, Waverly Taylor, youth­-veteran among Capitol builders is the bellwether of the business. Trained as an architect, he quit that side of the building business to design and build for himself. His Foxhall row houses are a study of Pittsburgh's Chatham Village, one of the most important respects. Well on Washington's social ladder, he knows what smart people have, and knows how to give the non-smart a close approxi­mation of the real article.

Just completing the last of the 200-home houses which constitute Foxhall, Taylor has three new developments under way calling for another 150 houses eventually and 73 houses immediately. Five of these are supposedly adapted from the "Northern American" houses offered by the General Electric Company from its competitor, Eschewing fireproof construction, and making few concessions to modern living, the planning of these houses, all are to be of standard brick or stone construction.

One group of fifteen termed Rollingwood,
to be in the $15,000-$20,000 class, all in a simplified Norman style. The second project, Rock Creek Terrace, clings to colonial for its 29 houses, ranging in price from $20,000 to $30,000. The third development, still unnamed, will eventually number 100 houses, but only 38 will be built this season. This development will also be Colonial.

Despite the insistence of many developers that architects are wrong in believing that living rooms on small lots are best placed at the rear facing the gardens, developer Taylor will side with architects, face his kitchens and garages on the front of the lot, with living rooms opening on terraces and porches at the rear. (See plans.) The houses range in size from three bedrooms and two baths to five bedrooms and three baths. All have a living room, dining room, and a room to be used as brary or study on the ground floor. All are fully excavated with a recreation room in the basement.

More interesting than anything else about Taylor's 72 houses is the policy he has adopted toward air conditioning. A complete air conditioning system, minus only the compressor, is being installed in each house. Purchase of the compressor is optional with the buyer at an additional cost of between $800 and $800 depending upon the capacity. Should the buyer postpone purchase of the condenser, summer cooling is effected through use of tap water. A central system with duct distribution is used for all the houses, all rooms being conditioned except the kitchen and baths, where inability to conceal the ducts made radiator heat more desirable. Although the plant capacities vary with the size of the houses, the following figures are typical: 90,000 B.t.u. heating, 24,000 B.t.u. cooling, supplying 1,000 cfm. heating and 1,000 cfm. cooling, using about 300 cfm. outside air. During the winter, the plant completes six air changes per hour, and during the summer, eight or nine.

Because of the keen competition in the air conditioning cost figures were not available, but it is estimated that the entire air conditioning plant costs about 10 per cent of the house cost, whereas ordinary heating would have been about 7 per cent.

Koplin. One who went the whole hog on air conditioning was Frank Koplin and his Washington Builders, Inc., which is building 48 houses on a 50-acre tract near 14th St. and Rittenhouse, N. W., to sell for $11,500 including lot, air conditioning, electric range and refrigerator. The houses are of the semi-detached type, designed by Harry Sternfeld, professor of architecture at the University of Pennsylvania. All houses are to be of brick, with three bedrooms and two baths, living room, dining room, entry and kitchen, and a fully excavated cellar with laundry and recreation room.

However welcome Koplin's houses may be to government clerks and other home buyers, they are thorns in the side of the otherwise happy Washington home builders. Like the marketwise operators from New York who descended on Florida when that State was running a high building fever, Koplin is regarded as a menace by local men, not only for himself but as a warning that possibly others will follow from Philadelphia and New York. Nevertheless, he is there, and his houses are air conditioned.

The capacity of the units are:

<table>
<thead>
<tr>
<th>Description</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air circulation</td>
<td>1,000 cfm., heating</td>
</tr>
<tr>
<td></td>
<td>800 cfm., when cooling</td>
</tr>
<tr>
<td>Heating capacity</td>
<td>90,000 B.t.u./hr.</td>
</tr>
<tr>
<td>Cooling capacity</td>
<td>24,000 B.t.u./hr.</td>
</tr>
<tr>
<td>Humidifying capacity</td>
<td>3 lb. 5/8 hr.</td>
</tr>
</tbody>
</table>

Dimensions, approximate:

- 43" x 43" x 18" high.

The duct system is laid out with dampers so that the first floor may be cooled during the day and the second floor at night.

Following good practice in group planning, there are no driveways between the houses; instead, a private rear street serving all the units. Innovations in the planning and design include: zinc gutters, maple paneling with aluminum trim for all first floor rooms, individual overmantel sculpture by Carlo Ciampaglia, oversized casement windows making the most of the cross ventilation provided for each room, dropped living room, and decorative gateways between the houses.

Colonial Village. Though it has no air conditioning to mark it, one of Washington's most stimulating developments is the FHA-insured moderate-cost project in Clarendon, Va., Colonial Village, first of the units under the FHA's Housing Division to get under way.

Costing $81,326,600, of which $875,000 is represented by a 4 1/2 per cent 15-year mortgage from the New York Life Insurance Company, Colonial Village has taken the place of the Meadville project (Arch. Forum, Mar., 1935, p. 262) and the Joseph P. Day project (Arch. Forum, May, 1935, p. 506) as a demonstration project.

Unwilling to risk building a house as far to the Left as were most of the New American houses, Taylor modernized his equipment, and stopped there.
of limited dividend housing under the FHA.

Colonial Village is being built by Gustave Ring, 31-year old promoter whose Westchester Apartment alongside the Cathedral was his major contribution to Washington building before he saw the possibilities of the FHA-insured mortgage for apartment house units. For two years Ring had shopped Colonial Village around Washington lenders with no success. When the National Housing Act was passed, he tried to squeeze it in under the regulations of Title II for not more than 4-family houses, but again could get no local financing. With some changing of plans, and a slight reduction in the rents, made at the suggestion of Messrs. Miles Colean and Eugene Klaber of the FHA, Ring finally submitted it as a low cost housing scheme under Title II—and this time, with the New York Life Insurance Company taking on all attractive corners, he had his project approved.

Colonial Village is on a hillside, overlooking the Potomac River, within seven minutes of down-town Washington, in a section long neglected by Washington operators. The possibilities of the site for apartments was recognized by Ring, who had the zoning changed in order to permit the erection of apartments. The entire tract of land comprises fifty acres, of which about fifteen are included in the first operation. Plans are ready for the development of the balance.

Sizes of the apartments are three, four, and five rooms, at $37.50, $50.00, and $62.50 per month, prices being based on a charge of $14.50 per room per month. This is something of an innovation in Washington, and will be a substantial reduction in the cost per room, as the average cost per room at present, in apartments, is about 50 per cent greater. It was possible to secure such economy in planning this development because Ring purchased the land as acreage, and does his own construction work.

There will be fully equipped laundries, play rooms, an assembly room, and recreational rooms for the use of tenants. There will also be garages, which can be leased independent of the apartments. It is also hoped to have a community shopping center, community center building, including swimming pool, private playgrounds, and other recreational features.

The apartments will have gas stoves, refrigerators, full kitchen equipment, fully equipped tiled bathrooms, built-in radiators, oak parquetry floors and painted walls. They will be centrally heated with automatic oil burners, for heat and hot water.

Miller. No recounting of Washington activity during the last 25 years would be complete without including the Miller Brothers (W. C. and A. N.), veterans of 23 years' standing. In two old developments (Wesley Heights and Spring Valley) and one new one (Westerleigh) they are building 40 houses, ranging in price from $15,000 to $40,000. Alone among all Washington builders, the Millers offer steel framing, but not for the entire house as they used to, but for the first floor only.

This, in the opinion of Bill Miller, one-timie president of the National Association of Real Estate Boards, gives the house the rigidity it needs, solves the term problem, and since the houses would not be fireproof anyhow, saves in the co
Types of units

. . . and the ground plan which won FHA insurance for the Ring project.

Colonial Village

... and below its promoter, Gustave Ring. Nearest to completion of FHA-insured limited dividend developments, it rents for approximately $15 per room.

Design English or Colonial Equipment Strongly emphasized offering at least one novelty, preferably air conditioning.

Construction Standard but good Financing First mortgages only ranging from 60 to 75 per cent at 6 per cent.

In striking contrast with the developments described are three semi-experimental attempts in construction.


Although much publicity and steady crowds have marked the building of these houses, most of the visitors leave their pocketbooks home while inspecting. Next year, perhaps, they will offer competition. But in Washington, as elsewhere, public interest has not yet reached the point where it is translatable into sales.

August 1935 - Building Money

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PETER GRIMM SIGNS UP

as the U. S. Treasury's mortgage watchdog and general real estate adviser to the Administration.

A good real estate executive is as prime an essential to a bank as a burglar-proof vault. But since February, 1935, the biggest bank in the U. S., with more than $8,000,000,000 in its portfolio, has been without a real estate officer of any kind.

Last month that lack was supplied with the naming of New York's Peter Grimm to the job of Assistant to the Secretary of the Treasury.

No better time, and possibly no better man, could have been chosen by the President to fill the gap made in the Treasury ranks when Marriner Stoddard Eccles was upped to the chairmanship of the Federal Reserve Board. Between the eighteen different Federal agencies directly or indirectly participating in the real estate and building business, there is something less than harmony. For some time an informal central loan committee, composed of Morgenthau from the Treasury, Fahey of the Federal Home Loan Bank Board, Eccles, MacDonald of the FHA, Myers of the FCA, Jones of the RFC, has been meeting in Morgenthau's office to coordinate the activities of all. Beyond routine approvals of bond issues, the committee has been ineffectual as a committee. Such a thing as the Financial Survey of Urban Housing (see p. 145) which could have been invaluable to all Federal mortgage lending agencies had it been completed and interpreted in time, was allowed by the committee, which was nominally in charge of it, to peter out. Had someone like Grimm been on the scene when the FHA was framing its mortgage insurance program, there would not have been the ill-advised snubbing of private lenders, or the encouragement of commercial bank lending at the expense of members of the Federal Home Loan Bank System.

These are problems of coordination, and while they will constitute part of the job to which Peter Grimm has been assigned, his major task will be expert counseling in the manner of pleading Federal credit, and correlating the activities of the mortgage lending agencies with budgetary estimates of the Treasury.

Economizer. Whatever additional service stripes Peter Grimm may have sewn on his sleeve in Washington, he already has earned one as the most persistent barker for municipal economy that ever molested a Tammany-controlled New York City.

As chairman of the Citizens Budget Commission, the legal name of the voluntary tax watchdog organization in New York, he was a constant caller at Board of Estimate meetings, ready with facts and figures, to point his finger at avoidable wastes.

Grimm moved into his air-cooled office across the way from his air-cooled suite in the Williard Hotel, and prepared to go to work.

Apart from general consultation on mortgage matters, he launched immediately into a study of the mortgages held by:

- **Home Owners Loan Corporation** $8,700,000,000
- **Federal Farm Mortgage Corporation** $725,000,000
- **Federal Land Banks** $8,100,000,000

What to do about them when the delinquencies start mounting, as they already begun to do, will be Grimm's first job. He also became a new point of contact for seekers of insurance for FHA hot cost housing mortgages, and one of the first considerations was likely to be the mortgage for the apartment house in Brooklyn of his good friend, Joseph Kennedy.

As far as real estate and building are concerned, his significance was much greater than any particular job he may be doing. For the first time, there is a man allied to all the Federal agencies interested in building finance who understands real estate. Those who have come away from Washington with heads sore from bumping into stone walls may find him a guide to their desires.

There was some talk that the real reason for the Grimm appointment was a move towards consolidation of all eighteen of the real estate and building agencies. But Congressmen Kennedy of New York, and everyone else knew from the start that HOLC's real job lay not in saving homes but in getting the saved home owners to meet their interest and amortization payments.

(Continued on page 142, column 3)
MOVES OF THE MONTH

2. Restricted to projects costing less than $25,000, but like five & ten cent stores, which sell cups for 10 cents and saucers for 10 cents, will be able to handle all but mammoth jobs.

3. Continued to recede in importance.

6. Bill rewritten by Senator Glass restricting real estate loans and almost excluding any discount privileges (See "Month in Building," p. 3.)

10. Loans passed: none.

14. Restricted to projects costing more than $25,000; apathy of municipalities towards 45 per cent grants and 55 per cent loans continues.

16. Federal Court in Cincinnati denied U. S. right to condemn land for housing. (See "Month in Building.")

17. Held 3-day conference to define policies, but announced no projects.

22. Remodeling loans averaging between $8,000,000 and $8,000,000 per week.

24. Applications for insurance averaging between $87,000,000 and $80,000,000 per week. Total insured: $85,000,000.

29. Announced delinquencies of about one-sixth interest and amortization due. Started foreclosure against 368 owners. (See page opposite.)

32. Peter Gramm appointed Treasury Assistant Secretary to advise on all Federal mortgage financing. (See page opposite.)
BUILDING'S UPWARD TREK

continues with the May rise in permits, costs remain steady as rents rise; stocks up.

To inquisitive reporters who were wondering just how well home owners were living up to their part of the bargain, Chairman Fahey last month gave out the figures which showed that approximately one-sixth of the interest and principal and interest payments was more than 90 days past due, and thus definitely delinquent. The May 31 figures, the last available, indicated the following:

Of the $100,000,000 interest due the HOLC on that date, $72,000,000 had been paid. Of the remaining $28,000,000, $14,000,000 is more than 90 days overdue. Of the $58,000,000 principal payments due, $36,000,000 has been paid, and the total more than 90 days in arrears is $11,000,000, making a total of $25,000,000 out of $138,000,000 delinquent.

Of one thing the HOLC was thankful. Up to last month, good-fellow Congressmen, anxious to help out a constituent back home at the expense of their government, had done very little special pleading for delinquents. How long such a cooperative attitude will continue remains to be seen, and Chairman Fahey for one has his fingers crossed.

However, with a record of 568 foreclosure closures up to June 30 to prove that he meant what he was saying, the Chairman stated:

"The repayment of loans to the Home Owners Loan Corporation cannot be neglected by persons who have no claim to indulgence of the American people as a whole. The success of this enormous servicing operation is dependent upon the inherent honesty of American people. The Corporation's executives recognize that in some cases the borrower is unemployed and otherwise unable to make his payments full for the time being. Such instances will be given reasonable consideration. But the Corporation has already begun foreclosure proceedings against several hundred borrowers who wilfully defaulted in their payments. It must continue that policy for the public interest."

Despite such brave talk, there still loomed in the future the day when some noble Congressman, bleeding for the poor home owners, will introduce a bill asking for an HOLC moratorium, which granted will soon lead to a fight to have all HOLC mortgages written off as investments in recovery.

Of one of his other charges, the Federal Home Loan Bank System, Chairman Fahey was less worried. For the second successive month, advances to members of the System had increased, reaching a total of $76,657,648, a gain of $4,500,000 over its low of April 10. The Chairman traced the increase in borrowings, which were still only a drop in the bucket, to the reduction in interest rates from 5 to 3 per cent, a reduction which may soon be reflected in a decrease in interest rates offered by members of the System.
BRITAIN’S MAINTENANCE MORTGAGE

For periodic home repairs is explained to a U. S. delegation, may soon be adopted by U. S. building and loans.

The average home owner is as unprepared to pay the bill for repainting his house as he is to pay for his wife’s emergency operation for gall-stones. Unlike reasoned building owners and managers, who annually earmark 1 or 2 per cent of the property value for maintenance and repairs, home owners find it difficult enough to budget their incomes to meet fuel bills, taxes, mortgage interest and amortization, without trying to include repairs.

Until 1933 British home owners were as pair-lax as Americans. But in that year Sir Josiah Stamp, whom Americans as well as Britons rate high as a practical economist, sponsored what he termed a “maintenance mortgage” among Britain’s building societies. Last month Sir Josiah, along with other good building society men, was in Salzburg, Austria, attending an international convention. Because Sir Josiah as there and because they wanted to hear about Stamp’s maintenance mortgage from him himself, a dozen U. S. mortgage men also journeyed to the famed little Austrian town. Among them were Israel Friedlander, Houston, Texas, president of the American Building and Loan Association; Morton Boedish, dynamic executive vice president of the association and building and loan lobbyist, Herman Cellarius, Cincinnati’s veteran building and loan expert, and Editor Henry S. Rosenthal of American Building and Loan Association News.

In recognizing Sir Josiah Charles Stamp as England’s No. 1 economic trouble boiler Americans are likely to forget, if they ever knew it, that besides being a rector of the Bank of England, president of the biggest railroad in England (the 200,000,000 London, Manchester & otland), Sir Josiah is board chairman and co-founder of the biggest building society in Great Britain—the Abbey Road Building Society. Reputedly the busiest man in British business, he attends Abbey board meetings regularly, still knows a good loan when he sees one. Powerful and persuasive in appearance, Sir Josiah speaks pithily in a thin, reedy “soft pedal” rocking voice, tires his audience by giving them too much to think about in too short a time.

The maintenance mortgage is simplicity itself, adaptable to any lending institution which makes amortized loans—savings bank, insurance company, or mortgage company. An example of the plan at work: a new house is built valued at $5,000, with a first mortgage of $3,000, repayable in monthly installments over a 15-year period. Assuming, for instance, that it is an FHA mortgage, the monthly payments would be approximately $54.51. To the regular mortgage is then added an additional $1,308.24 (two years more payments) and the mortgage is listed at $86,308.24. But only $5,000 is payable when the mortgage is issued, the remainder is held in reserve to take care of repairs.

Thus when a painting job is required, instead of going through the motions of having his mortgage increased, the owner simply submits the bill to the mortgagor for payment. As soon as the bill is paid by the lending institution, the outstanding balance of the mortgage is increased, and interest on the repair loan dates from that time.

As other repair necessities arise over the life of the loan, the same procedure is followed. There is no increase in the monthly payment, only the addition of the number of monthly payments required to pay the maintenance bills, plus the normal interest rate. No re-appraisals are necessary, and there is no need for involved bookkeeping.

If for instance a loan were granted on the terms stated above, two paragraphs under the section of “Conditions of the Deed” could be inserted as follows:

“1. Five thousand dollars ($5,000) of this amount shall be known as the original loan on the property and shall be repaid in monthly installments, including interest, taxes and insurance, of $54.51.

“2. One thousand, three hundred and eight dollars and 24 cents ($1,308.24) of this amount shall be known as the Maintenance Loan and shall be set aside for the maintenance of the property during the life of this mortgage, and may be used for such purposes as painting, general repairing, and such modernization as may be desirable to preserve the value of the property. Interest at 5% per cent per annum shall be payable from the date of payment of such bills for such work as is specified herein, and the money so used to pay such bills shall then be added to the balance of the $5,000 and shall be payable according to the terms set down in Clause 1.”

Drawing on his experience with maintenance mortgages in Great Britain, J. L. Gibson, London building society executive, reported that within a few months after the plan’s adoption about $7,200,000 of his association’s funds were put out for repairs.

Said he:

“The strongest argument in favor of the Maintenance Mortgage idea is the fact that it does not necessarily affect the autonomy of the association offering this type of mortgage. Whatever their present period for repayment may be, an agreed percentage extension of this period would merely become a universally applicable rider. Thus the mortgagor could have the confidence of feeling that any necessary maintenance charge could be met merely at the cost of an extension of his period of repayment without increasing the actual periodical amounts of his payments. In this connection, it might be well to point out to the mortgagor that he is incurring no additional obligation whatsoever since, should at any time, the necessary maintenance expense come within his own current financial ability, he is at perfect liberty to take care of them without availing himself of his maintenance mortgage privileges, and in this case, the original mortgage period, and the original periodical payments would remain unchanged.

“On the other hand, associations would be in a very much stronger position to insist upon adequate maintenance of the property upon which they have loaned money in order to protect their interest in them.”

That maintenance mortgages would be warmly welcomed by other than mortgagee seemed apparent to anyone who studied its implications. To architects, it would mean continuing business on houses of their design; to contractors, material dealers and manufacturers, it would mean steadier sale of products and services. And to the general field of real estate, it would most certainly mean the general maintenance of property values, an ounce of prevention against future slums and blighted areas.

Sir Josiah Stamp

whose maintenance mortgage plan drew American building and loan men to Salzburg.

AUGUST • 1935 • BUILDING MONEY
MORTGAGES OUTSHINE U. S. BONDS

in an Illinois jurist's opinion, based on present yields (5 to 6 per cent, as opposed to 2) and future prospects.

It is the opinion, in fact the frequently expressed opinion, of many a real estate man that a good mortgage is the best investment in the world, better even than a U. S. Government bond. But when a Probate Judge refuses to permit a trust institution to invest in Government obligations, and suggests instead that it buy good mortgages, it becomes more than a strong slice of evidence that real estate is again winning its way back in public estimation.

The Probate Judge was Benjamin S. De Boice of Sangamon County, Illinois, the trust company, the First State Trust and Savings Bank of Springfield, conservator for seven estates.

Publicity-wise Judge De Boice, well knowing that his opinion was news, held back his decision for two weeks, waiting for the Chicago front pages to run out of sensational news. An honest, able judge whose record is starred with convictions of crooked politicians, Judge De Boice was what Abraham Lincoln once was—a Springfield lawyer. Like nearly everyone else in Springfield he is a collector of Lincolniana.

In his thousand-word opinion, Judge De Boice held that "during this period of business uncertainty and lowering prices the investing public has turned to Government obligations as a cyclone cellar in which to place investments. This rush for investment in Government obligations has produced an ever-lowering rate of return until the present net return on such obligations is around 2 per cent."

The court recommended instead that the bank hold the funds until such time as investments could be made in real estate mortgages, calling upon Section 18 of Chapter 9 of the Lunatics, Idiots, Drunkards and Spendthrifts Act to prove it right to do so.

Besides outlining the types of securities, including 50 per cent first mortgages, in which the funds in question could be invested, this expansive Illinois statutes demanded the use of "some official discretion in the matter of approval of investments," according to Judge De Boice.

Launching into a spirited analysis of the relative merits of mortgages and government obligations, Judge De Boice declared:

"We are upon the eve of a period of inflation. The trend of prices upon most tangible goods is upward and real estate prices have shown a definite gain. Today bank reserves are the largest in history and every bank and insurance company in the country is full to overflowing with cash, awaiting the opportunity for investment."

"In view of the fact that the national debt is today almost $29,900,000,000, the highest point in our history, we may safely say that there is a greater saturation of investments in Government bonds among our people than ever before. Just as soon as the rank and file of our people become convinced that we are on the eve of a period of inflation there will be a wild rush to convert the low interest bearing investment in Government obligations into higher interest bearing industrial and tangible property, and we will witness a repetition of the experience of the early '20s, when Government bonds sank below 85 under similar conditions."

"In view of these facts, this Court does not consider that an investment of Government obligations at this time is a judicious investment for a conservator to make of its ward's funds. A repetition of the conditions of the early '20s may produce an even greater loss, and Government bonds will probably go even lower than they did at that time. Certainly it is not judicious to risk the loss of 15 per cent of the principal in the hope of earning a mere 2 per cent return thereon.

"At the present time the prevailing interest rate upon real estate mortgages is between 5 per cent and 6 per cent [see chart], and, although as yet real estate is not moving upon the market fast enough to satisfy the demand for this kind of investment, yet we feel safe in predicting that the day is not far distant when such investment will be plentiful."

"The Court therefore finds that the prayer of the petition for authority to invest said funds in Government securities should be, and the same is hereby denied, and the petitioner is instructed to hold said funds on deposit and make diligent effort to find investments in the class of real estate mortgages described in said Section 18, hereinabove quoted."

The chart, prepared by the Mortgage Conference of New York, understates Judge De Boice's case, reflecting as it does conditions in the highly competitive New York market.
HOUSING’S DEPENDENCE UPON INCOMES

As emphasized in the Financial Survey of Urban Housing, 61-city statistical tour-de-force, providing hitherto unrecorded data on home finance.

For every ounce of the house-painter’s art could be called upon, and every U. S. house kept scrupulously hatched, cross-hatched and dotted to represent its owner’s equity in it, a casual glance up and down a city’s streets would afford a dreadfully accurate measure of its economic welfare, and Prosperity and Depression would come and go with a flourish. As impossible as it would be for drab-faced building inspectors busy listing rural housing woes, was conducted by the Department of Agriculture currently with the RPI. In it, matters of finance were not slighted as they had been in the RPI. Someone’s hand had edited the schedules with a view toward getting at the economic aspects of farm housing. That someone was Statistician David Lawrence Wickens, longtime professor of banking at the University of Michigan, who emerged as the logical choice as director of the Financial Survey of Urban Housing, once it had been decided upon.

The deciding was done by the Federal Mortgage Committee, an evanescent outgrowth of the President’s Central Statistical Board, where labored Winfield Riefler, whom building men remember as the chief brain behind the National Housing Act. To most lenders at the present time a strong Federal Mortgage Committee, to unify and direct the activities of all the various Washington agencies concerned with building, would be an answer to a long-incanted prayer. But Washington rivalry or little-mindedness led the group of members of various units, such as the Farm Credit Administration, the Home Owners Loan Corporation, et al., which used to meet occasionally in the name of a Federal Mortgage Committee, to assume no such conception of its purpose. One of the few things that it ever did was to consider and approve the Financial Survey of Urban Housing.

Most encouraging among those consulted while the survey was still under consideration was surely, genial Herbert U. Nelson, whose years as manager of the National Association of Real Estate Boards have made him without peer as an observer of trends in reality, and as spokesman for that broad branch of the building industry including those who live with the housing problem from day to day. Said he, in the face of objections from other practical men: “Let’s try it, anyway.” Uphold was that the survey got its allotment from the Civil Works Administration, its director from the Department of Agriculture, and a home in the Department of Commerce, under Assistant Director Nathanael H. Engle, a former Brookings man with a reputation as a practical thinker.

Census experts sniffed at the survey at first, said rolling pins would fly when housewives were asked if their rent were paid, or if their mortgage payments were in arrears; yet last month Statistician Wickens could proudly say that only 1 per cent of the families solicited had refused replies. No adequate answer save customary New Deal confusion, and a desire

Harris & Ewing Photos

Director Wickens

Overseer Engle

None other than Mrs. Roosevelt, between trips to the West Virginia coal mines, had anticipated the answer. One of her many pet projects, the Farm Housing Survey, devised to keep women enumerators busy listing urban housing woes, was conducted by the Department of Agriculture. Her hand had edited the schedules with a view toward getting at the economic aspects of farm housing. That someone was Statistician David Lawrence Wickens, longtime professor of banking at the University of Michigan, who emerged as the logical choice as director of the Financial Survey of Urban Housing, once it had been decided upon.

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Director Wickens

Overseer Engle
to be accurate even at the expense of speed. How could explain the delay in getting the fact-gathering early in 1934, before the public's interest had become as strong as it is today? The survey faltered, first as replacement of CWA funds hurt its prestige, then in the balance, and several times as administrative allotments dwindled to nothing.

A siege of intestinal flu kept Director Wickens in a Washington hospital for most of the month.

To make matters worse, news releases and other materials about the survey went to the press sporadically, and it received hopelessly little publicity. That the releases were ill-timed and ill- pointed could be laid to a number of things outside the fact that the Commerce department's publicity staff, though one of the few not to have any clear Stimson influence, was as unhelpful as the survey itself.

Probably most responsible were the difficulties under which the survey was accomplished. Seemingly it was clear that the Department of Commerce had not been careful to stress in some cases, what would seem to be perfectly good national totals and averages had not be made. Like the RPI, the Financial Survey was considered by many of its sponsors to be less than a demonstration program, to show how the communities "desiring to take an active part in the direction of their own future, how they might go about doing so. Too much praise cannot be spoken for this objective, but a national approach was missing in collecting the figures which is not to be overlooked.

The Approach. Financial Survey of Urban Housing's data cover 15 per cent of the families in one or more cities in every State, totaling 61 cities. These were the same cities covered in the RPI, when the routine for the collection of similar statistics had already been perfected. Those questionnaires were used, one for tenant-occupants, one for owner-occupants, and one for owner-landlords. Nearly half of the replies were obtained by personal interviews with families in designated territories; the other half, including those to all of the owner- landlord questionnaires, were received by mail. Check was made at every stage to insure a quality of reporting representing the essential facts in the case. For some reason, nearly half a million schedules were returned, one-third of a million being actually tabulated and analyzed.

"In entering upon the project," says Don Wickens in an explanation of the schedules, "emphasis was laid on making..."

| CITY AND GEOGRAPHIC AREA | \( $1 \) \( $250 \) \( $500 \) \( $1000 \) \( $2500 \) \( $5000 \) \( $10,000 \) \( $25,000 \) \( $50,000 \) \( Over \) |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Percent of Families       | 0.7     | 0.8     | 0.9     | 1.0     | 1.1     | 1.2     | 1.3     | 1.4     | 1.5     | 1.6     |
| Percent Reporting 1933 | 0.4     | 0.5     | 0.6     | 0.7     | 0.8     | 0.9     | 1.0     | 1.1     | 1.2     | 1.3     |

Owners' Incomes at Low Ebb in 61 Cities
CORROSIVE WATERS cannot touch the PIPE METAL

When Duroline Pipe is installed in hot- and cold-water supply lines, one thing is certain—even if the water is of a corrosive nature, its destructive influence is of no importance. The special Duroline cement lining does not permit water to touch the pipe metal—no corrosion is possible. Therefore, you can have all the desirable features of steel pipe, such as uniform high strength, ductility, etc., with freedom from corrosion and tuberculation, at a cost only a little higher than that of galvanized pipe.

Architects, engineers and contractors will win appreciation for themselves and make a better investment for the owner by specifying and using this modern pipe in any type of structure, whether it be office or public building, hospital, school or residence. NATIONAL engineers will be glad to give further information. A bulletin on Duroline will be furnished on request.

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United States Steel Corporation Subsidiary

NATIONAL DUROLINE PIPE
Income Reduction, 1929-33

the inquiry yield specific answers to all the principal phases of the problem. The physical description of the property was taken as a starting point, but the main emphasis was placed upon data covering values, rents, incomes, indebtedness and financing terms, so that the results might provide the basis for diagnosing and dealing with housing questions, locally and nationally. Many Government and private agencies were consulted to insure the incorporation of ideas deemed essential in a comprehensive attack upon the problem.

All three schedules opened with questions as to the location and type of the building, its construction, and the race of its occupant. In the shortest of the three, tenants were asked the number of rooms and persons in the unit occupied; their annual rent bill for the years 1929, 1932 and 1933, and what utilities were included in their rent; whether their rent was fully paid, and, if not, the extent of their delinquency; what their family income consisted of; the occupation of the head of the family, and the proportion of full time he was employed in 1933. Owners-occupants were asked similar questions relating to their income, in addition to fifteen questions on the financing of their dwellings by amount of loan, year it was made, interest rate, term, ratio of debt to value, priority of obligation and some of credit. The same block of fifteen questions was contained in the questionnaires to landlords, who also filled in their gross rents for the years 1929, 1932 and 1933.

Results. Among the more immediately apparent conclusions to be drawn last month from the survey were the following:

1) The state of the housing industry is indisputably linked to family incomes, and family incomes fell one-third to 1933. Nothing has ever placed more emphasis upon the fact than the Financial Survey, which renders a great service in accurately defining the precipitous fall of occupation and some of credit. The same survey was attributed directly to wages and salaries and afforded an opportunity for correlation of the figures on rent delinquencies and mortgage arrearages with those on employment and wages. Wages and salaries constituted 92 per cent of the average family income of all tenants reporting. The head of the average tenant family was employed 65 per cent of full working time in 1933, the proportion varying from 59 per cent in the cities of the East South Central States to 72 per cent of full time in the West South Central States.

2) Family incomes (and thus, too, the housing industry) are preponderantly dependent upon employment and wages. Here the matter is somewhat more narrowly defined. Not content merely to lay the fall of incomes at the Financial Survey lays bare the proportion of family return attributable directly to wages and salaries and affords an opportunity for correlation of the figures on rent delinquencies and mortgage arrearages with those on employment and wages. Wages and salaries constituted 92 per cent of the average family income of all tenants reporting. The head of the average tenant family was employed 65 per cent of full working time in 1933, the proportion varying from 59 per cent in the cities of the East South Central States to 72 per cent of full time in the West South Central States.

3) The housing market, from the landlord's viewpoint, is finally dependent upon family incomes. Succinctly, the survey suggests to owners and financiers of income property some practicable limits to the amount chargeable for rents set by incomes. The classification of families on the basis of the ratio of rent to income shows that delinquency in payments increased markedly as the rent-income ratio rose above 20 per cent. Of families with rent-income ratios between 15 and 20 per cent, about 15 per cent were delinquent whereas those with ratios of 35 to 40 per cent were delinquent in 34 per cent of the cases.

The above comparisons of rent-income ratios with delinquency provide a city basis. When averages for geographic areas were arrived at, the lowest rent-income ratio was 26.4 per cent for southern-eastern cities, and the figure ranged upward to 27.8 per cent for northeastern cities (see table, below).

The data on actual rentals, reduced to a per room per month basis, proved interesting, if not particularly useful as averages nationally. These showed that the rent charged in 61 cities in 1933 was $252 per

<table>
<thead>
<tr>
<th>AREA AND NUMBER OF CITIES</th>
<th>AVERAGE FAMILY INCOME—HOME OWNERS AND TENANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YEARLY AVERAGE INCOME</td>
</tr>
<tr>
<td></td>
<td>1929</td>
</tr>
<tr>
<td>Average, 32 cities</td>
<td>8193</td>
</tr>
<tr>
<td>New England, 4 cities</td>
<td>2746</td>
</tr>
<tr>
<td>Middle Atlantic, 4 cities</td>
<td>2183</td>
</tr>
<tr>
<td>East North Central, 6 cities</td>
<td>2551</td>
</tr>
<tr>
<td>West North Central, 10 cities</td>
<td>2152</td>
</tr>
<tr>
<td>South Atlantic, 6 cities</td>
<td>2487</td>
</tr>
<tr>
<td>East South Central, 6 cities</td>
<td>2212</td>
</tr>
<tr>
<td>West South Central, 6 cities</td>
<td>2444</td>
</tr>
<tr>
<td>Mountain, 6 cities</td>
<td>2142</td>
</tr>
<tr>
<td>Pacific, 4 cities</td>
<td>1157</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOME DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PER DwelliNG Unit</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Average, 32 cities</td>
</tr>
<tr>
<td>New England, 4 cities</td>
</tr>
<tr>
<td>Middle Atlantic, 4 cities</td>
</tr>
<tr>
<td>East North Central, 6 cities</td>
</tr>
<tr>
<td>West North Central, 10 cities</td>
</tr>
<tr>
<td>South Atlantic, 6 cities</td>
</tr>
<tr>
<td>West South Central, 6 cities</td>
</tr>
<tr>
<td>Mountain, 6 cities</td>
</tr>
<tr>
<td>Pacific, 4 cities</td>
</tr>
</tbody>
</table>

Rents, Incomes and Rent Delinquencies

148
AHO's Woodbury

He was enabled to bugle.

members of the National Association of Housing Officials disclosed some pertinent findings.

In search of a maximum low-cost housing rental, Houser Woodbury listed the percentage distribution of tenants by monthly rentals in five Northern and Western cities (Syracuse, Peoria, Minneapolis, St. Paul, and Seattle) and in three Southern cities (Birmingham, Atlanta and Oklahoma City), all over 100,000 population, as follows:

<table>
<thead>
<tr>
<th>AREA AND №</th>
<th>NUMBER OF CITIES</th>
<th>AVERAGE ANNUAL FIRST MORTGAGE PAYMENT REQUIRED</th>
<th>AVERAGE TOTAL INCOME, 1933</th>
<th>RATIO OF MORTGAGE PAYMENT TO INCOME</th>
<th>PER CENT WITH MORTGAGES IN ARREARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>New England, 6 cities</td>
<td>8383</td>
<td>81,780</td>
<td>16.5%</td>
<td>22.0</td>
<td></td>
</tr>
<tr>
<td>Mid-Atlantic, 5 cities</td>
<td>837</td>
<td>1,371</td>
<td>13.5</td>
<td>27.4</td>
<td></td>
</tr>
<tr>
<td>East North Central, 7 cities</td>
<td>24</td>
<td>1,326</td>
<td>26.4</td>
<td>30.8</td>
<td></td>
</tr>
<tr>
<td>West North Central, 9 cities</td>
<td>249</td>
<td>1,436</td>
<td>17.5</td>
<td>32.8</td>
<td></td>
</tr>
<tr>
<td>South Atlantic, 10 cities</td>
<td>239</td>
<td>1,397</td>
<td>20.6</td>
<td>35.1</td>
<td></td>
</tr>
<tr>
<td>East South Central, 4 cities</td>
<td>270</td>
<td>1,300</td>
<td>50.9</td>
<td>38.5</td>
<td></td>
</tr>
<tr>
<td>West South Central, 7 cities</td>
<td>347</td>
<td>1,629</td>
<td>21.6</td>
<td>45.6</td>
<td></td>
</tr>
<tr>
<td>Mountain, 8 cities</td>
<td>260</td>
<td>1,397</td>
<td>18.9</td>
<td>34.1</td>
<td></td>
</tr>
<tr>
<td>Pacific, 4 cities</td>
<td>296</td>
<td>1,354</td>
<td>21.2</td>
<td>31.7</td>
<td></td>
</tr>
</tbody>
</table>

Putting this together with the fact disclosed in many a local survey that substandard housing runs from 30 to 60 per cent of all housing, with most in the lower rental ranges, Mr. Woodbury quite logically deduced that a large proportion of the urban families now poorly housed are unable to pay more than $80 a month. With the survey behind him, he was enabled to bugle: “The new Works-Relief program must provide for rentals of 80¢, or preferably under, for family sized units!” Thus has been made already of some of the survey’s surface data on rents. The inquiry went deeper into the rent situation, however, to define it more closely; and, given time, housing proponents and others may arrive at still more interesting conclusions from the facts presented. Yet to be analyzed was a store of data on the difference between rent representing the cost of room space and the cost of such facilities and services as furnishings, electricity, mechanical refrigeration, heat, light and garage. It is recognizedly essential that rents be thus broken down in establishing criteria and making comparisons of housing costs.

4) The housing market, from the producer’s viewpoint, is also dependent upon incomes, to a degree not to be overpowered by the factor of supply and demand. A simple tabulation of family incomes in the year 1933, by income groups, for each of the cities covered (see table, p. 146), roughly serves to indicate the range and limitation of average purchasing power, and thus partly to define the market for both the producer and the income property entrepreneur. However, with such a tabulation, the survey’s sponsors ended the definition.

<table>
<thead>
<tr>
<th>MONTHLY RENTAL</th>
<th>FIVE NORTHERN AND WESTERN CITIES</th>
<th>THREE SOUTHERN CITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 800</td>
<td>4,4</td>
<td>32,1</td>
</tr>
<tr>
<td>801-899</td>
<td>33,6</td>
<td>34,9</td>
</tr>
<tr>
<td>900-999</td>
<td>34,6</td>
<td>47,5</td>
</tr>
<tr>
<td>1,000 and over</td>
<td>29,4</td>
<td>14,5</td>
</tr>
</tbody>
</table>

Owner-Ocupiers’ Mortgage Payments, Income and Arrearages
An attempt is made to establish relationships between owners' mortgage payments, incomes and mortgage arrearages in the table on p. 119, similar to those found true in the table opposite on rent incomes and rent delinquencies. The impracticability of comparing the advantages of home ownership over renting by the figures presented here must be admitted; neither are the tables placed opposite each other merely to show their relationship in the same scale of housing finance. However, it is established that whenever the ratio of mortgage payments to incomes exceeds the norm, as it apparently does in the case of the East North Central cities, the effect is sharply reflected in the mortgage arrearages.

The difficulties in arriving at any general conclusion from the financing data gathered in the survey were, in the words of Doctor Wickers, "increased by the variability of conditions and procedure which have accompanied a comparatively unstandardized market, and which have resulted in important differences in cost, credit, source, and procedure between cities. Facts unearthed, however, gave building money men, not without their interest in the foregoing conclusions, material along a dozen directions which they never before had known. As much material was obtained on foreclosures and reduction of debts, there seemed room and further opportunity for isolation of the factors in the financing methods by checking them against this data. But inasmuch as this has not as yet been done in any great detail, it must be foregone, for the present, in favor of a description of the conditions.

**Financing Data.** A majority of the owner-occupied dwellings were found to have mortgage indebtedness. These debts ranged between $8,000 and $3,000 in most cities, the highest average being $4,900 for Waterbury, and the lowest the $8,520 in Pueblo. Properties in cities of the East North Central and West North Central States were generally more heavily indebted than were properties in the cities of New England and the South. Both the purchase price and the 1933 value of the properties were highest for cities in the northeastern United States, and lowest for the South Atlantic and Mountain cities. The least relative change between average cost of properties and average value as of January 1, 1934, occurred in the northeastern States. A larger proportion of owner-occupied properties were acquired without the assumption of debt during the years 1920-1929 than in the four years 1930-1933, but in most cities from 60 to 70 per cent of the properties acquired in either period used credit in making the transactions.*

*Lacking in the table for home owners is the factor of taxes, for which a separate inquiry would have to be undertaken.

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The Debt Picture in 61 Cities
Debt Reduction, 1930-34

Most cities reported that the greater part of the consideration was represented by credit extended when the property was acquired. In general, assumption of larger percentages of debt was most frequent in the New England cities and other industrial areas or those which had experienced recent real estate activity, and least frequent in the Mountain cities and most southern cities. For most cities in all areas owner-occupied properties used larger percentages of credit than rented properties.

Interest rates most frequently found were somewhat above 6 per cent per annum for owner-occupied one-family dwellings, the extremes for individual city averages being 5.43 in Syracuse and 7.95 in Butte. An average rate of 7 per cent or more predominated in cities of the Mountain and West South Central States, and was occasionally found elsewhere. Contract rates between 5 and 6 per cent were more common in cities of the New England and Middle Atlantic States. Term of loan varied widely for different cities. Loans of the shortest terms were commonest in areas where commercial banks and individuals do a large proportion of the lending, while the term of loan was found to average longer where building and loan associations are the more important sources of credit, as commonly in cities of the Middle West and cities of the smaller sizes in some other areas.

Amortization was found to be the rule, rather than the exception, annual payments required in most cities averaging between 8200 and 8350 per year. A substantial proportion of the loans on owned homes were in arrears in 1934, the most common delinquent proportion being between 30 and 40 per cent. The lowest rate of delinquency for cities included in the survey was 14 per cent for Syraciuse proper ty and the highest, 63 per cent for Oklahoma City.

Debt-value ratios, based on present values, averaged well above 50 per cent, ranging mostly between 30 and 85 per cent, with a fairly equal distribution of properties within that range.

Types of financing reported included mostly first mortgages. In no area did second mortgage financing exceed 12 per cent of the reported credit on owner-occupied properties, and for most cities it ranged from 2 to 5 per cent of the total.
LENDING IN THE DARK

is outlawed by Brooklyn's savings banks, whose Mortgage Information Bureau has become a model for the U.S.

In Lawrence, Mass., in Philadelphia, and in the New York boroughs of Manhattan and Brooklyn there are emerging four different organizations, each designed to make better lenders, owners and managers of local savings banks. A fifth such group is scheduled for Fall initiation in Boston, giving substantial to the belief that for the first time in the history of mortgage practice the long and much needed cooperation between lenders is coming into definite being.

In Lawrence, it's the Greater Lawrence Mortgage Information Bureau; Philadelphia's group is called Property Service, Inc.; in New York it's simply the Mortgage Conference; and in Brooklyn the parent of them all, the Group Five Mortgage Information Bureau, is half way through its second successful year.

All are based on the principle of sharing private information for the benefit of all. To the central bureau, whatever its name, the members forward daily, weekly, and monthly reports of loans, sales, foreclosures, reports of property modernization, and details of other operations of common interest. Compiled and filed at the bureau, they are available to all members for guidance in similar problems. Such is the basic system, and in different groups, supplementary activities of different kinds are carried on.

The Mortgage Conference of New York, for instance, is now tabulating lenders' experience on 100,000 mortgages, hoping to answer such questions as:

- What the collective experience has been with each type of property as compared with each other type—for example, how mortgages on one-family houses have stood up as compared with mortgages on apartments.

How much importance can be attached to the relation between the loan and the appraised value, and on what types a difference between, say, 40 per cent and 60 per cent loans is, or is not, an important safeguard.

To what extent and under what circumstances the once customary large portion of land value in total appraised value has been a factor of safety, or just the reverse, in recent experience.

Do almost all mortgages on homes with values higher than, say, $10,000, $15,000, $20,000 or $25,000 ultimately become troublesome investments?

At what general level of real estate values can first mortgage loans be made up to the legal limit of 60 per cent, and in what circumstances should the limit of safety, generally speaking, be, say 40 per cent.

Also in preparation under Director John F. McKean are reports of members' rehabilitation projects, records of all new construction in New York, and an assembly of all available data on population and housing.

But it is the Brooklyn group whose experience is old enough to indicate the full scope of a mortgage information bureau's activities. The Brooklyn Bureau opened a one-room rent-free office in the tower of the Williamsburg Savings Bank in April, 1954, with a staff of one and a budget of $6,000. Of the 20 Brooklyn banks, 12 joined, immediately subscribing hopefully the ante of $10 per $1,000,000 of mortgages, and what was even more important to the Bureau's success, pledging 100 per cent cooperation in the granting of information.

As chairman of the bureau the members elected the man who gave them the idea—Bernard Francis Hogan, then vice president and now president of the Great New York Savings Bank. Besides boosting its roster to eighteen of the Brooklyn banks, membership has been granted four banks in the neighboring boroughs of Queens, one bank in Manhattan across the river, two upstate New York banks, and the RFC-financed Institutional Securities Corporation, discounting agency for all New York State savings banks.

So strongly do the members insist on 100 per cent cooperation from their colleagues that they refused the dues paid by one institution which failed to give requested information on its loans and property owned. The original ante of $10 per million of mortgage and real estate investment has been increased to $20, and the budget doubled to supply the ever increasing scope of the Bureau's work.

Without attempting to usurp the functions of individual appraisers, or the real estate officers of member banks, the bureau aims to supplement their work with basic information, not opinion, that would otherwise not be available. Its work is divided into four major parts: (1) Periodically published information originating with the bureau; (2) answering specific queries of members on real estate, mortgages, mortgage practice, or new loans; (3) representation of the membership in matters of public interest pertaining to their mortgages and real estate; (4) maintenance of a tenant file for the use not only of members, but of all owners and brokers in Brooklyn and Queens.
BUILDING • MONEY

A. Reports and Studies Sent to Members

A. Monthly reports, issued the 20th of each month, cover total sales, foreclosures, new loans made by members from the 15th of the month preceding to the 15th of the current month, showing number and dollar value, and are broken down according to building types and geographic districts. Reports are accompanied by notes as to the types of buildings suffering most from foreclosures, types of property and sections showing greatest sales volume and section popularity.

B. Vacancy surveys, published twice a year, cover all properties owned by member banks in Brooklyn, and are supplemented by volunteered data from New York banks, covering now about 20,000 housing units. They are subdivided according to sections so that members may compare their own vacancies with those of other banks. An example of the value of the surveys: A member discovered that his 36 per cent vacancy in one area of Brooklyn was far out of line with the vacancies of other members. An intensive canvassing campaign drove their occupancy up to 87 per cent in five months, to 94 per cent in a year. Also apparent from the surveys are the relative rentability of different types of housing accommodations.

C. Interest reports, issued monthly, show collections of mortgage interest for each month at the end of 15-day periods.

D. Special reports, issued from time to time. To date, seven reports have been issued, another is in preparation. They cover: effect of interest rate reductions on sales; interest collections, which purported to show that payments bettered 60 per cent a reduction in interest of 1 per cent; comparison of foreclosures and sales by banks and neighborhoods since 1939; percentage of sales to foreclosures in neighborhoods to establish the forwardness of the different districts; maps of Negro population trends, of heavy foreclosure areas, of neighborhood trends; and delayed reports of neighborhood conditions.

Inquiries from Members

Topping all services the Board gives its members is the handling of specific inquiries, and therein lies the key to the Bureau's success. Instead of spending the bulk of its time in making exhaustive surveys, which make interesting reading, but which have a minimum of direct appeal to the members' business, the Bureau concentrates its time in answering them in detail the hundreds of weekly requests for data.

A. Inquiries on real estate cover a wide range of problems, comparative rentals, sales, foreclosures: Typical inquiries: "Please send us a full description of all renovations within four blocks of Evergreen Street, including current incomes and cost of improvements." "The following properties are giving us trouble and we would like to know what information you have on the neighborhood . . . ."

B. Inquiries on new loans. Eight members send all their mortgage applications to the Bureau, and before members of the loan committees inspect the property they are given detailed reports which include: I. Amount and arrearage of mortgages on similar properties in the block. II. Foreclosures in block, including amount of mortgage, bank appraisal, and asking price. III. Rentals on similar properties.

IV. Recent sales in block.
V. Report of inspection of particular property by a member bank, if any, and reason for rejection or the amount of offer made.
VI. New construction in neighborhood.
VII. Analysis of general trend of neighborhood.

From less than a dozen a year ago, requests of this sort from members now number a hundred a week.

C. Queries on General Practice. The Bureau has collected forms for mortgage applications, inspection forms, etc., used by members, all of which are available to other members. Soon to be issued are standard forms for all members.

ADVERTISEMENT


3. Representation in Matters of Public Interest

A. Construction Standards. From the sad experience of managing foreclosed properties, banks have learned the high price of cheap construction. To avoid such expenses, the Bureau, under the leadership of Fred Gretsch, Lincoln Savings Bank Vice President, has developed standards of construction for apartment houses, and is working on others for one- and two-family houses. Introducing no major innovations, the standards are, however, unusually high, and are not to be waived without written permission of whatever member bank is making the loan. Regular bank inspection or the certificate of a recognized architect will be employed to see that the requirements are met.

B. General counsel on such subjects as rent relief checks, elevator strikes, and building racketeering.

4. Tenant File

To put an end to rent chiseling, an extensive tenant file, contributed to and open to the inquiries of others than member banks, has been assembled. Data includes:

A. Name of every dispossessed served in Brooklyn and Queens obtained daily from court records.

B. Name of every tenant who vacates, leaving rent unpaid.

C. Names of all tenants in arrears more than 30 days, or who, for other reasons, are undesirable.

In addition to these services, the Bureau has on file:

1. An assortment of records, which includes full data on about 4,000 pieces of property, giving full information as to character, rentals, income, expenses, neighborhood trends, appraisals, mortgage and foreclosure, and asking price.

2. About 100,000 cards on the mortgages held by member banks, detailing amount

Ownership Facts

On cards like these the records are kept of properly owned by member banks, outlining a description of the property, results of reconditioning, if any, assessed and appraised values, offers made, and full rental data. Similar cards are filed on loan applications. They form the basis of the personal reports issued at the rate of 100 a week to members.

5. A record in photographs, plans and figures of all rehabilitation work done by member banks.

To handle the tremendous organization problem involved in assembling the data and recording it ready for immediate use, was a task which would have taken the best in any seasoned mortgage officer or real estate man. But the Brooklyn savings banks picked neither a seasoned operator nor, in fact, a man. Instead they chose a young woman, half a dozen years out of Bryn Mawr, whose mortgage experience up to the time she opened the office in the Williamsburg Tower was exactly zero.

Mrs. Millicent Pierce Kemp stepped from college into the City Bank Farmers Trust Company, first in the trading department, then into four years of statistical, security analysis, and trust investment research. When she stopped to marry in 1932, she had no thought of returning to business—but the opportunity offered in directing the work of the Group Five Bureau was too great.

Like many another woman in business, she stands out from her male colleagues because of her deft handling of detail, and her ability to organize facts in sensible array. To the dozens of bankers from other cities who have investigated the working of the Brooklyn bureau, she has emphasized the fact that in other cities such institutions as Mortgage Information Bureaus might not work. Such a bureau, she points out, succeeds or fails depending on the 100 per cent cooperation of all the members. That 100 per cent cooperation in Manhattan, for instance, would be obtained is a subject of current debate. From the standpoint of the Brooklyn banks, however, the results have been found well worth the time it takes to cooperate.
A THEORY IS EXPLODED

and a sizable return assured in 16-ft. flat’s modernization.

Refuting the theory that modernization or narrow buildings generally fails to make enough splash to count, a job done by the Bank for Savings in New York upon a crusty old 1880 walk-up with a frontage but 16 ft. was last month beginning to justify itself as a tenant-getter.

A return of over 25 per cent on the cost of renovation, and of from 7 to 8 per cent on the total investment seemed assured. Prior to the building’s modernization, the bank’s investment in it amounted to $30,000, plus several thousand dollars in foreclosure costs. Twelve thousand dollars were spent in remodeling it. As shown in the plans and photographs below, the flats, each 62 ft. in length, were completely modernized, and more spacious bedrooms and living rooms achieved in the process. The considerably enlarged living rooms were made possible by the alteration to the front, which gave the building the air of distinction reflected in its rentals.

Gross return on the building will be $6,240, figuring $8,000 for the store and $1,080 for each of the three flats. When taxes of $1,200 and operating expenses of approximately $1,500 per year are subtracted, a net return of $3,500 may fairly be expected. This is sufficient to amortize the cost of renovation in four years, with a 1 per cent return on the total investment left over, although it is doubtful whether the bank or a possible buyer would decide to amortize over so short a period.

The notably good design was done in the bank’s own architectural department.

"Advice of Counsel..."

Just as exactitude is a factor in the practice of law, so also do lawyers appreciate exactness in their surroundings—which is one of the reasons why Barber-Colman automatic electric controls were specified for this new law office building.

Our desire for accuracy, with the experience we have gained, justifies your calling us in as "control counsel" on any of your heating, ventilating, and air conditioning problems.

Barber-Colman
Temperature and Humidity Controls

Barber-Colman Company, Rockford, Ill.

Another view of the new law office building reception room shown above.
Fuel Cost Reduced 53% at the Cherry School

DURING the heating season before Detroit Stokers were installed, the Cherry School in Toledo, Ohio, had a fuel cost of $1.40 per 1000 cu. ft. of space heated. Using Detroit Stokers in the next heating season with the original boilers, the fuel cost per 1000 cu. ft. of space heated was only $0.649—a reduction of 53 per cent.

Of perhaps even greater importance was the saving of many thousands of dollars in capital investment at the new Feilbach School by the installation of these stokers at the Cherry School. The new school is on the same plot of ground as the old—it requires about 82 per cent as much steam as the Cherry School. The Detroit Stokers increased the capacity of the old boilers sufficiently to take care of the new load. Thus the Toledo Board of Education saved, simply by adding Detroit Stokers, the cost of boiler room, chimney and fuel room in the Feilbach School as well as the cost of extra boilers and equipment there. This is typical of Detroit Stoker performance in power and heating plants both large and small. There is a Detroit Stoker for every kind of service. Write for Bulletin 363.

DETROIT STOKER COMPANY
Sales Offices and Engineering Department
Fifth Floor, General Motors Building, Detroit, Michigan
Works at Monroe, Michigan—District Offices in Principal Cities
MODERNIZE AND ECONOMIZE WITH DETROIT SINCE 1886 STOKERS

AMODEC DINING SET
able beauty and is exclusively limited to solid oak, either natural finish or stained gray. The lines are low, the construction solid. In sharp contrast to the “Amodec” price list Kroehler’s:

Three seat couch ................................. $88.50
Desk ............................................... $39.50
Chairs ............................................. $22.60 to $40
Single Bed ........................................ $16.50 to $18.50
Chest ............................................... $30

It must be noted that the Kroehler furniture is cheaper not so much through its assembly line production as through the fact that it uses cheaper woods and less trimming than “Amodec.” The Furniture Mart last month heralded what should prove a merry sales fight between two top-notch and alert manufacturers.

JORDAN MARSH’S COMPETITION
ONE of the best known of Boston’s department stores, the rich Jordan Marsh Co., last month burst into full-page advertisements in Boston’s newspapers with the names of 19 New England architects who had won prizes or honorable mentions in the store’s architectural competition for the design of four small homes. The Boston Post’s proud editori-
PERMANENTLY SILENT

... that's one of the big reasons why Electrolux appeals so strongly to tenants and prospective tenants

EACH YEAR, more and more tenants are demanding the freedom from noisy refrigeration which only Electrolux offers. That's one of the important reasons why, in New York City alone, 4500 apartment buildings are already equipped with this modern gas refrigerator.

For Electrolux has no moving parts... no moving parts, then, to become noisy! A tiny gas turbine does all the work... circulates the simple refrigerant, which produces instant cold, silently and unfailingly. Add to the permanent silence of Electrolux its low operating cost, its sparkling beauty, its many convenience-features, and it's easy to understand why Electrolux makes such a big hit with tenants and prospective tenants... why apartments offering this silent refrigeration find rental season more successful.

And remember, too: because Electrolux has no moving parts to wear, you are freed from this cause of refrigeration complaint, interrupted service, and shortened life. Your local gas company displays Electrolux... backs and services every one it sells. See and examine it at your gas company's showroom today! Servel, Inc., Electrolux Refrigerator Sales Division, Evansville, Ind.

And this modern gas refrigerator brings you and your tenants these other big advantages, too:

FOR TENANTS
1. Low operating cost
2. Finest modern beauty
3. Every worthwhile convenience

FOR OWNERS
1. No moving parts to wear
2. Long life
3. Gas company service

NEW Air-Cooled ELECTROLUX
THE SERVEL GAS REFRIGERATOR

AUGUST • 1935
History fails to record the name of the intrepid genius who first conceived the idea of inflating a frankfurter to the Gargantuan proportions of a building. But only his identity remains obscure as this display bears not too silent witness. Here motoring America meets at a thousand cross roads to gorge—amid architectural garniture that cannot quite conceal the excellence of the food, the modesty of the prices. You will notice that California has the greatest number of representatives, but you should expect that, for anything haywire is always most haywire in California.

Plucking their inspiration from nursery rhymes, the "comics" or occasional exuberant moments, the designers of these "eaties" vie with one another in a fantastic free-for-all, to the delight of vast numbers of their fellow citizens, the great profit of their employers and the utter astonishment of visitors from foreign shores.
The Arco Convect for concealed radiation: Cast Iron units come in four widths, and in lengths varying by \( \frac{2}{6} \)". Front panels and enclosures in a size and style for every requirement. The new Convect Catalogue tells all. Write for it.
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In some places you can save on building costs and yet give protection by specifying a cheap pipe. In other services only pipe such as Reading GPWI* Pipe will do the job.

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Ric-wil Tile and Cast Iron Conduit Systems are certified for highest known efficiency in protection and insulation of underground steam power or heating lines. Ric-wil service is thorough, from preliminary studies through specifications, installation, and check-up of operation. Write for details.

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Agents in principal cities.

FORUM OF EVENTS

(Continued from page 34)

Class A ($5,000 to $7,500)—Robert L. Stevenson, Architect

Class B ($7,500 to $10,000)—Wendell R. Holt, Architect

JORDAN MARSH CO. COMPETITION PRIZE WINNERS

(Continued on page 35)
FIRST CHOICE OF ARCHITECTS, ENGINEERS AND CONTRACTORS

Aerofin Standardized Light Weight Fan System heat exchange surface is the first choice of architects, engineers and building owners for Heating or Cooling because of its proved superiority. Progressive heating and cooling contractors install it because it gives complete satisfaction.

Aerofin is years in advance of ordinary heating and cooling surface because of its exclusive features. It is available in aluminum, copper or other special metals. Whatever you have wished for in a fan system surface you will find in Aerofin.

The home office in Newark or any of our branch offices will gladly send complete descriptive literature or render prompt, personal and efficient technical cooperation. Simply write to the address below.

POST OFFICE BUILDING, DETROIT
Aerofin Was the Choice When It Came to Fan System Surface for the U. S. Post Office in Detroit.
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AEROFIN
HEATING OR COOLING SURFACE

RDAN MARSH CO. COMPETITION PRIZE WINNERS
(Continued on page 37)
Air conditioning efficiency and economy are assured with full inch TEMLOK

For efficiency and economy in home air conditioning it is vital that an adequate thickness of insulation be used. And throughout the country, architects are finding that Armstrong's TEMLOK Insulation in the full inch thickness gives complete satisfaction.

Full inch TEMLOK helps insure accurate temperature control at minimum cost! And it does more! Because it is fabricated from the resin-impregnated fibres of the southern yellow pine, TEMLOK resists the efficiency-destroying effects of moisture... provides dependable insulation for as long as the building stands!

In the modern, air conditioned Manor House, shown above, one-inch TEMLOK Insulating Lath was specified for all exterior walls and for the first and second floor ceilings. In addition, all interior partitions are insulated with half-inch TEMLOK Insulating Lath so that individual rooms or parts of the house can be cooled or heated independently without waste.

Complete description of Armstrong's TEMLOK Insulating Lath—as well as the other forms of TEMLOK Building Insulation: Board, Plank, Tile, etc.—will be found in the current issue of Sweet's.

For additional information and samples, write to Armstrong Cork Products Co., Building Materials Div., 900 Concord St., Lancaster, Pa.
JORDAN MARSH COMPETITION (Cont.)

Coincident with the announcement of the winners came Jordan Marsh's business-like invitation for bids from builders in the metropolitan Boston area and a promise to start construction on seven houses immediately. The houses will be built with FHA cooperation.

The well-picked Jury of Award consisted of R. P. Bellows, chairman of the Boston Municipal Art commission and chairman of the jury; Dean William Emerson of the M.I.T. School of Architecture; Fred A. Wilson, president of the Massachusetts Master Builders’ Association; Professor Charles F. Killam of Harvard; Rodney Long, president of the Massachusetts Real Estate Exchange; John T. Burns, former president of the Exchange; Mrs. James J. Storrow, president of Better Homes in America, Inc.; Mrs. Thomas H. Walker, president of the Massachusetts Federation of Women's Clubs; Miss Alice F. Blood, director of the School of Home Economics, Simmons College. After deliberating an entire Friday and most of a Saturday the jury finally picked as first prize winners: Robert L. Stevenson of Boston in Class A ($5,000 to $7,500), and Class D (not more than $20,000), Wendell R. Holt, South Hadley, in Class B ($7,500 to $10,000), Raymond J. Percival of Forestville, Conn. Class C ($10,000 to $13,000). Second prizes and honorable mentions in Class A went to C. F. Springall, W. Sanford Full and Ernest G. Frizzly, Robert L. Stevenson, Charles S. Goodade, Charles W. Newell; in Class B to Robert L. Stevenson, Chief of FHA cooperation; E. C. Currier, J. Henderson Barr, Allen L. Congdon, Frederic Leslie Ford; in Class C to Royal Barry Wills, Israel Nigrosh, Robert L. Stevenson, Lawrence B. Anderson and Constantin A. Pertzoff, John W. Foss; and in Class D to Royal Barry Wills, John P. Hef ternan and Arthur C. Sprague, C. R. Pipe, Robert L. Stevenson, J. William Beal, Sons.

By far the most spectacular winner was Mr. Stevenson who with two firsts, a second and three honorable mentions ran away with $1,475 in prizes, more than a quarter of the offered total. A graduate of the Rhode Island School of Design and the Beaux-Arts School in New York City, Mr. Stevenson had his early training with Stanford White. He has lived in Boston for fifteen years, specializing in residential work. In all he submitted twelve designs to the competition, was pleased to announce when informed of his success that the Jordan Marsh contest marked his twenty-fifth anniversary in architectural competitions.

LINCOLN VILLAGE

In Rockport, Indiana, the Fourth of July was a gala day. The Kiwanians staged an Indian raid under the leadership of Chief Funny Face. A parade started forming at 9:00 A.M. The McGuffey Club held its first annual business meeting. But by far the most important event was the dedication of the Lincoln Pioneer Village, designed and planned by George H. Honig, built by FERA labor, supervised by the Spencer County (Ind.) Historical Society, dedicated by Philip Lutz, Jr., Indiana Attorney General:

(Continued on page 38)

YOU CAN'T ALWAYS TAKE THEM YOURSELF...

Plans and specifications often have to move fast from the draftsman’s desk to client—and back again.

Of course the ideal situation would be to take them yourself. But if you can't, there's a personal courier, in the form of Railway Express service, waiting to serve you.

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The SLOAN Vacuum Breaker has a full 1-inch opening from the atmosphere into the supply connection to the fixture, which absolutely prevents a vacuum of any degree from causing back-syphonage. The SLOAN Vacuum Breaker is easily applied to old installations as well as new and is guaranteed to prevent back-syphonage with any make of flush valve when properly installed above the spill line of the fixture.

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A vacation in Chicago will afford you complete relaxation, diversion and amusement. Cool Lake Michigan cruises! World-famed Art Institute, Field Museum, Shedd Aquarium, Adler Planetarium—all within walking distance of The Stevens—the perfect vacation hotel! Here are air-cooled dining rooms—roof promenade—roof sun bathing—children's Fairytale—everything for pleasure and comfort. Special weekly rates. Write for details.

STEVENS WORLD'S LARGEST HOTEL

Single rooms with bath from $3 - Double rooms with bath from $4.50

FORUM OF EVENTS (Continued from page 37)

"The world will make a path to this memorial. . . ."

Like the New Salem State Park in Illinois, the Lincoln Pioneer Village commemorates the early years of the President's life. In this district he lived from the ages of seven to twenty-one. His mother, Nancy Hanks Lincoln, was buried here at the age of 35; here too is buried his sister, Sarah. It was in 1888 that Lincoln left Rockport for his first flatboat trip to New Orleans, seeing, for the first time on this trip, the abuses of slavery. In Rockport was John Pitcher's law office and Lincoln used to walk seventeen miles to borrow or return a law book from him. Nearby in Gentryville was the William Jones store where Lincoln worked for thirty cents a day.

The Lincoln Pioneer Village consists of replicas of most of the stores, offices, and homes connected with Lincoln's Indiana days. Grouped together in four of the City Park's thirty acres the Village is surrounded by a stockade and gate. Included are such historical reproductions as: Judge Pitcher's office, Spencer County's first court house, the Reuben Grigsby cooper shop where both Thomas and Abraham Lincoln worked (this was originally in Gentryville). Included also is a replica of an Indian Village which stood on Rockport's site before 1807. The entire Village is a simple, unaffected memorial to the Civil War President which will unquestionably become one of the many Meccas of the nation's legion of Lincoln enthusiasts.

ARCHITECTS ON PARADE

What Federal architects do in their spare time as well as what they do when they are at work was resplendently revealed last month at the fourth annual exhibition of the Association of Federal Architects in the National Museum, Washington, D. C. The public gazed at water colors, peered at wood carvings, pored over plans and specifications, scrutinized line drawings, admired renderings. The Quartermaster's Office transformed a picture of a tank into a thing of beauty. The Agriculture Department showed a tiger hunter at the kill with cowering woman at the side, a series of enlarged insects. The Veterans Administration exhibited every step in the building of the hospital at Roanoke, Va., from the assignment by law from Congress to the final photographs of the completed building. The roll call of blue prints in this exhibit weighed 29 pounds.

On display was the Association's gold medal which will be

(Continued on page 41)
One of the world’s largest hotels
... and it’s roofed with Genasco

The Stevens Hotel, Chicago, is one of the world’s largest. In planning such a structure, only the finest, most durable type of roof could be considered... a Genasco Standard Trinidad Built-up Roof was specified.

The years that it has given absolute protection are but a promise of years and years more of dependable service.

Not only is a Genasco Standard Trinidad Built-up Roof used on many hostelries in Chicago and elsewhere, but on commercial, industrial, institutional and public buildings throughout the nation.

Trinidad Lake Asphalt with which a Genasco roof is waterproofed is a native product and from nature’s processing it gets its ability to afford unusual protection against the destructive actinic or ultra violet rays of the sun. A Genasco Standard Trinidad Built-up Roof, because of its lasting satisfaction, upholds the reputation of the architect who specifies it.

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IT'S RIGHT!
That's why architects specify
CLEAN WARM AIR

The home-owner today wants the most modern heating system. That means warm air. The warm air heating system is right because it is now the cleanest type of heating you can specify. The warm air heating system is simple, compact and easy to install. The cost is low. Blowers can be utilized, thus providing year 'round comfort. And the right filter is the Dustop replacement-type filter—it is highly efficient, yet extremely low in cost and maintenance expense. Dustop air filters are also available, complete with frames, for commercial or industrial applications. Inquiries are welcomed. Owens-Illinois Glass Company, Industrial Materials Division, Newark, Ohio.
VEN to the “individual or firm practicing architecture in the United States that has made the most outstanding contribution for the ensuing year to Federal Architecture.” The Association went on record as hoping that this medal would be eagerly sought within the architectural profession as is the Nobel Prize in other professions.

The exhibition was in charge of a committee consisting of H. H. Stratton, Chairman, Veterans’ Administration; A. L. Lakesee, Treasury Department; F. W. Southworth, Navy Department; L. M. Leisenring, War Department; H. A. Magisson, Agricultural Department. Part of their program included the award of prizes for outstanding presentations by individuals and departments. The Jury of Award was composed of Arthur H. Heaton, president of the Washington Chapter A.I.A., Victor Mindeleff, past president and Francis Sullivan, vice-president.

Most signal individual award went to J. Wilmer Smith for his barracks at Balboa (rendered by Joseph A. Parks), the first prize for the departmental ensemble exhibit was won by the Office of the Supervising Architect of the Procurement Division of the Treasury Department. One of its outstanding exhibits was a water color presentation of the S. Mint at California. The exhibit also included a series of six delicate pencil drawings.

Architect Ralph Brodie of the Navy Department took first award in water colors with Architect James B. Corey, Department of Agriculture and Architect H. R. Woodward, War Department, second and third. Architect James Robertridge, Department of Agriculture, won first award in pastels with a picture “Dome of the Cathedral, Florence.” In the arts and Crafts class R. L. Wood, War Department, won first place and in pencil drawings, Howard C. Sullivan of the Navy Department took honors.

In all, the show represented the work of about 600 Federal Architects. Only general observations to be made were: the Architects had an unusually good time showing their work and evidently also enjoyed its creation; none of the Federal Architects have been conspicuously tempted by “modernism.”

COMPETITIONS

ARCHITECTS, draftsmen, designers and students living in the central middle western States, from Ohio to Nebraska and from Minnesota to Arkansas, are invited by the Chicago Architectural Club to participate in a terra cotta wall block competition. Prizes, given by the American Terra Cotta Company and the Northwestern Terra Cotta Corporation of Chicago, will total $250.0. The competition will be for the design of either a one- or two-story building with terra cotta machine-run wall blocks used in the facades. Finished drawings are due midnight, September 15. Information from the Chicago Architectural Club, 1801 Prairie Ave., Chicago.

Information published in the July Architectural Record concerning a competition for the Marietta, Ohio, Memorial Hall has been superseded by a decision of the City Council to withhold action until after a vote of the people, August 15. Prospective competitors are invited to apply for information from the Architectural Adviser, Howard Dwight Smith, A. I. A., of the Architectural School of Ohio University, Columbus, before August 10. The competition is now expected to start about August 20.

The University of Pennsylvania School of Fine Arts announces the award of the John Stewartson Memorial Scholarship to George C. Rudolph, graduate student in the Department of Architecture, and 1934-35 Theophilus Parsons Hisseur fellow. The appointee receives an allowance of $1,000 for the study of architecture in this country or abroad.

In planning the new dormitory for the venerable Benedictine Abbey of St. Meinrad, the architect was instructed to build for eternity. The fidelity with which this idea was carried out is nowhere better revealed than in the provision that has been made for the preparation and serving of food. In planning and executing this work the architect and Father Ignatius Esser, O.S.B., utilized the services of John Van Range.

KITCHEN ENGINEERING SERVICE

The cooking is done by steam and electricity. The idea of permanence was maintained not only in the heaviest duty type of standard items but also in the construction of specially built equipment and the use of Monel Metal wherever possible. The Kitchen is designed eventually to serve 2,400 meals daily.

Architects are invited to avail themselves of our engineering and planning service in connection with all problems related to the preparation and serving of food. This service is gratis to the profession. Please send floor plans before construction begins.
Among the most interesting projects in the book are those wooden summer camps and week-end cottages built in the mountains. Constructed of logs, boards, and bamboo, covered with thatched roofs, they are a refreshing combination of Japanese influences, and those of Wright and Le Corbusier. The best of these is the one the architect built for himself, with generous, open rooms, and a long ramp from the main room to the quarters on the second floor.

There is great variety in the material published, including not only residences, but factories, office buildings, gas stations, a hospital, and two embassies. With the regrettable exception of the Yokohama office building for the Standard Oil Company of New York, a drab affair resembling a mid-Western post office, the work is of unusual interest.

**MAGICAL CITY. Intimate Sketches of New York**


Mr. Bailey's book suffers from an inaccurate title. Here is no magical city. The excellent drawings which go to make it up are good reporting on diverse aspects and activities of a large city, and that is all. For the New York which is transformed by smoke, and clouds, and rain into something fantastic beyond recognition, the city which at dusk seems the creation of some dreamy demiurge with a taste for the theatrical, one looks to Pennell, perhaps, but not to "Magical City." Which is in no sense a disparagement of Mr. Bailey's drawings. Few people can go out with a sketchbook and pencil and ink, and come back with drawings as fresh and spirited as truthful in their presentation of a given scene, as these. Anyone who wishes to learn something about sketching from an acknowledged master of the craft will find plenty of study in this book. And with the interesting notes of Maurice the book is a guidebook of value to anyone who wants to extend his acquaintance with the most fascinating of cities.
STRENGTH This new flashing of Revere Copper (soft temper) or non-staining Revere Leadtex (lead-coated sheet copper) is much stronger than plain sheet metal flashing. The design is simple but effective: parallel ribs are rolled at 3-inch intervals along the full width of the flashing, and embossings are rolled between each rib. Because the ribs are rolled rather than stamped, they are of equal thickness with the rest of the flashing and the metal retains its original softness. Because they extend the full width of the flashing, they provide a stiffened counter-flashing face that hugs the wall tightly.

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

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

Another advantage of this flashing is its availability through the country-wide organization of Revere Distributors. The well-known Cheney Flashing is also available at Revere Distributors, and is reduced in price. These two flashings answer your requirements for every type of construction. If you would like specification details, address our Executive Offices.
WHETHER you are engaged in the remodeling of outmoded toilet rooms in old buildings, or in planning toilet rooms for new ones, you will find Carrara Structural Glass an ideal medium to specify for walls and partitions.

Carrara is a ground and polished structural glass, brilliant and reflective of surface, with a hard, fine-textured finish that results in unusually long life. No building's age can be fixed by the appearance of its toilet rooms if they are finished in Carrara! For the passing years have no effect upon Carrara walls and partitions. Carrara does not check, craze, stain or absorb odors. It is impervious to moisture, chemicals, oils, grease, grime and pencil marks. It is as easy to keep clean as any glass . . . just wipe it occasionally with a damp cloth.

Carrara is exceptionally easy to handle, too. It offers the architect a wide scope for original treatments and decorative effects. And its cost is surprisingly reasonable. We invite you to write for full information concerning this modern, beautiful material.

NHA Loans up to $50,000 may now be obtained for modernization projects.

PITTSBURGH PLATE GLASS COMPANY

CARRARA
The modern structural glass
PRODUCTS AND PRACTICE
(Continued from page 22)

1. AIR COOLER
The Trane Company announces the addition of the new all-cooler to the numerous air conditioning products of their line. The company plans to market the new product at $70. a cost which is based on the increased market which such a unit will find. It is designed for use in small stores, shops, and homes. In addition to its economy, the product has the advantage of being easy to install and can be put in without disrupting the activities within the building. Communities where the cold water supplied is at a temperature below 60°, this water may be used for the cooling medium, which, of course, reduces the original cost and operating cost to a minimum, as well as supplying one of the most efficient means for cooling known. The unit also operates on direct expansion refrigerants such as Freon, Ammonia or CO₂, but it is probable that the majority of installations will be of the cold water type.

2. ELECTRIC AIR CLEANER
The Westinghouse Electric & Manufacturing Co. has announced the development of an electrical unit to remove dust and other solid and liquid particles in air, which is claimed to be the most efficient air cleaner as yet constructed. The device is in the form of an electrostatic air cleaner which permits the particles to remove themselves from the air. Electrically the unit is a comparatively simple device. It is so arranged that it draws particle-filled air past two small wires, suspended horizontally. Connected to a power pack, which raises their voltage, these wires "charge" all air particles in their vicinity. Next the ionized particles are drawn through a series of plates which are also charged. The plates have opposite polarity, within the result that just as a needle jumps over to a magnet, so do these air particles move and cling to the plate. Thus the air is made to clean itself.

In addition, a film of oil covers each plate to make certain that the particles after being attracted, stick to the plates. The air, freed of particles, is then sent on into the room means of a fan. The unit requires only about 50 watts to operate, the same amount of current consumed by an ordinary electric lamp.

After the aluminum plates fill up, they may be cleaned simply running water over them.

3. NEW CUT-OFF
Steam and vapor boilers are sometimes ruined due to firing without sufficient water. This is especially likely in cases where automatic heating is used. Minneapolis-Honeywell Regulator Co. announces a new low water cut-off and duplex switch designed to prevent this danger. This control is arranged to open the circuit to the burner control when the boiler water level reaches a danger point, and closes the same circuit automatically when the water level rises. It is further provided with a mercury switch for connection with alarm or control systems.

4. NEW PAINT
The New Jersey Zinc Co. is now manufacturing a new industrial paint for protection against corrosion which is termed "Zinc Dust" paint. This is claimed to be superior to other forms of protective paint for use on iron or steel. It may be applied either with brush or spray. Among other advantages is the fact that since Zinc Dust is non-toxic and that it can be used with many of the synthetic resin vehicles, it is an excellent paint for underwater exposures on the inside of drinking water tanks or piping. It is also suggested as an anticorrosion primer for steel ship hulls.

(Continued on page 46)
A DISTINGUISHED HOME

World leaders and distinguished visitors...for over forty years...have stopped at The Waldorf-Astoria. For The Waldorf is more than an internationally famous hotel...it is a delightful home. Room rates are from $5 the day.

THE WALDORF-ASTORIA

PARK AVENUE • 49TH TO 50TH STREETS • NEW YORK

PRODUCTS AND PRACTICE

(Continued from page 41)

805. STEELTEX

For light concrete floors and roofs Johns-Manville offers Steeltex floor lath, a combined reinforcement and form which makes possible important structural advantages and economies in construction. A fabric of 12-gauge cold-drawn electrically welded galvanized steel wire in 3 or 4 in. mesh provides the reinforcement. The mesh is attached to a tough corded backing—which acts as the form—by means of crimp wires. These crimps space the reinforcement at proper distance from the backing so that concrete completely surrounds and embeds the wires, saving the labor of blocking up or pouring the slab in two operations.

Steeltex is furnished in rolls 4 x 125 ft. and applied unrolling over joists and cutting to length. It is then attached to an end or anchored joist, drawn taut by a special stretcher, and fastened by clips to intermediate joists.

Another form of Steeltex, in 2 x 5 in. mesh, with a special damp and waterproof backing, is produced to serve as a floor base for stucco. Use of the wire mesh reinforcement, it is pointed out, provides adequate tensile strength by thorough embedding in the stucco a fabric of steel while the backing seals the back of the slab against penetration of moisture and dampness. For this type construction Steeltex comes in rolls 110½ ft. x 49 in. or 49 x 52 in. sheets. It can also be applied over sheathing where it wished to stucco the exterior of a frame building.

806. TAKAPART WALL

The Takapart Products Co. announces a new fireproof wall which is claimed to eliminate all wet trades, can be painted has almost complete salvage value, and is insulated against sound transmission, at a cost no higher than an ordinary wall. It comes in precast dry sections in standard widths and heights eliminating all mixing on the premises. The precast units contain a core of cellular fireproof insulation material. Spaces between units are filled with precast gypsum members so designed that when the joints are pointed they become invisible, making the wall a continuous unbroken surface ready for painting and similar in appearance to ordinary plastered masonry wall. The base is made of a mixture of asbestos fibers and Portland cement formed under pressure and projects ½ in. beyond the face of the wall. Units are 3 in. thick, not including projection of the base on each side and weigh 9 lbs. per square foot of wall area.

Where glazed units are desired, frames are provided in place of the precast units for the glazed areas. Where doors occur, the jambs are erected as a sectional unit at the same time the wall is being erected. Units are so spaced as to allow the passage of electric conduit both vertically and horizontally throughout the wall.

807. NEW THREE-LIGHT BULB

Westinghouse announces a new bulb that gives 50, 100 and 150 watts of illumination. This makes it possible to obtain three levels of illumination with the table models of certain portable lamps. Table lamps which have hitherto been used only as decorative light sources may now also serve as reading lights. The low wattages provide decorative and conventional light while the 100 and 150 watts available at the touch of a switch provide satisfactory reading and study light. The bulb is frosted inside, and has a mogul screw base. The average life of a bulb is 1,000 hours.

(Continued on page 49)
Navy Uses
HOFFMAN TRAPS

On
U. S. NAVY AIRPLANE CARRIER SARATOGA

You'll find no physical misfits in Navy personnel—nor will you find weak sisters included in its mechanical equipment. So it's not surprising to discover Hoffman Traps installed aboard the gigantic Airplane Carrier Saratoga, doing a first class job of keeping steam cost at rock bottom and efficiency at top flight.

Exacting demands for heating efficiency are fully satisfied by the manifold superiorities of Hoffman Traps. Such features as hydraulically formed, "tested-in-the-making" bellows thermostats, cage-mounted and interchangeable without adjustment...wear-proof valve pins and renewable seats...double seated, "balanced" valves in the larger capacity units, are reasons why Hoffman Traps last longer while giving better service.

Any steam heating system can be completely equipped with Hoffman Specialties—thus centering full responsibility for satisfactory operation upon one manufacturer. Many architects are today making the flat specification, "Hoffman Traps throughout," knowing that client satisfaction can be taken for granted. If you haven't complete information on Hoffman Traps, Venting Valves, Supply Valves and Pumps, write to the Hoffman Specialty Co., Dept. AF-10, Waterbury, Conn.

HOFFMAN
VALVES • TRAPS • PUMPS

OLD EVERYWHERE BY LEADING WHOLESALERS OF HEATING AND PLUMBING EQUIPMENT

AGUST • 1935

47
The variety of patterns, colors and qualities available in Sloane-Blabon Linoleum gives you an opportunity to create a really distinctive floor, no matter how small the room. Illustrated are a few small-home rooms which owe their distinctiveness in large part to the use of Sloane-Blabon Linoleum. For pattern reproductions, samples, etc., write Sloane-Blabon Corporation, 577 Fifth Ave., N. Y.
SHRINKPROOF WOOD CONSTRUCTION

Frank R. Walker Co. announces a joist support and partition shoe which eliminate much of the settlement in wood frame buildings due to shrinkage. Instead of setting the partition studs on top of the wood floor joists, the shrinkproof partition shoe is placed over the top of the joist. These are fastened near the bottom of the joist so that any shrinkage of the floor from the top does not affect the level of the bottom of the partition studs above. A somewhat similar principle is employed in the use of the joint support which obviates the necessity for deep cuts in studs to receive the conventional wood shoe.

PICKPROOF LOCK

A lock so nearly completely burglarproof that it is underwritten by Lloyd's is now manufactured by the Dudley Lock Co. Known as the Dudley 4-in-1 Pickproof Lock, it has been tested by police executives in every way imaginable. The key of a unique design said to be copy-proof which has four edges creating four sets of pin tumblers instead of the conventional design. Each lock is sold with a registry tag and no duplicate key will be sold without presentation of this registry tag to an authorized dealer or to the Dudley Lock Co. itself. The method of installation is so simple that it requires only two minutes to replace old and obsolete cylinders with this new lock.

RADIATOR TRAPS

Sarco Co., Inc., is constantly improving its line of radiator traps which are particularly useful for application to existing steam systems. The company also manufactures adapters which can be used on old-fashioned two-pipe gravity systems to convert the outlet valve into an efficient radiator trap, utilizing the old valve body without disturbing the piping connections. Sarco engineers will also survey an ancient system and make recommendations for increasing its efficiency by the use of more modern valves.

LIGHT-WEIGHT CEMENT

The Porete Manufacturing Co. has brought out a new high-density Portland cement cellular concrete called Poretherm which has wide possibilities as a heat and sound insulating material. Poretherm is a high grade heat insulating material made from Portland cement with or without an addition of mineralized wood fiber. It is usually made in two weights, 19 lbs. and 32 lbs. per cubic foot. It can be made in precast shapes, in form of slabs and blocks and various sizes, but its principal use is where it is poured in the field. Some of the advantages of Poretherm, compared with her insulating materials, are, being a Portland cement product it is permanent and fireproof, unlike materials made of vegetable or wood fiber which does not deteriorate or spoil when continuously exposed to moisture, and it is odorless, vermin- and fungus-proof.

Poretherm is poured on the job in an ordinary tilting type concrete mixer. Portland cement and water to which the Porete Foaming Agent is added are mixed to a consistency of a creamy emulsified cement slurry, which is poured and placed easily. This slurry is cast and finished to the proper level at which it sets; no expansion takes place after the material is poured, because the air has been beaten mechanically into the slurry, and no chemical action takes place for producing a gas.

(Continued on page 50)
Iron Fireman bin feed models feed coal from bin to fire.

We will gladly send Don Graf Data Sheets and other descriptive Iron Fireman literature to architects and draftsmen who are interested in the application of automatic coal firing to residential heating plants and to commercial boilers up to 300 hp. Address 3212 W. 106 St., Cleveland, Ohio. Iron Fireman Manufacturing Co., Portland, Oregon; Cleveland, Ohio; Toronto, Canada.

IRON FIREMAN
The machine that made coal an automatic fuel

Portals of HOSPITALITY

Pittsburgh has played an important part in the settlement and growth of these United States. Here was the far frontier of the original thirteen colonies. Today this great hotel, symbol of modern hospitality, towers high above the historical Fort Duquesne, which for one hundred and eighty years has stood "at the forks of the Ohio," the last portal of hospitality for those heading downstream to "Ole Kaintuck." Experienced travelers recognize this fine hotel as the best address and the largest hotel in Pennsylvania. Four restaurants, the famous Urban Roof Garden and the air-cooled Continental Bar.

Rates from $3.50 Single, $5.00 Double

HOTEL WILLIAM PENN
PITTSBURGH

PRODUCTS AND PRACTICE
(Continued from page 49)

812. ELECTRIC TIME CLOCK SYSTEMS

The Holtzer-Cabot Electric Co. of Boston is announcing its extensive line of Electric Clock Systems required in modern establishments—schools, hospitals and public buildings. These systems include watchman's clock systems, elapsed-time recorders, fire alarm movements and fire and watch control desks. They are based on a simplified hourly correction of all clocks, which eliminates the necessity of wearing contacts in secondary clocks, thereby eliminating maintenance and guaranteeing long life and economy. An illustrated booklet has been prepared describing these clocks and may be had upon request.

813. ALUMINUM

The Aluminum Co. of America has issued a new booklet which describes in complete detail the physical characteristics and uses of their product. In recent years the rapid increasing field of uses for aluminum in all branches of machine design as well as in building construction has been due to the development of a great number of alloys, each of which is listed in this booklet. While the greater number of these have at present no direct application to the field of building, the increased importance of this material requires that the architect become more than superficially acquainted with its properties. The newly developed alloys, which have greater resistance to corrosion than pure aluminum are described in considerable detail, as well as the methods of protecting the metal from the action of the elements. Ease of fabrication of aluminum and the facility with which it may be worked are among the reasons for its increased use on interiors. The booklet contains a number of illustrations of buildings on which it has been employed.

814. NEW LUMINESCENT PAINT

Grobet File Corp. of America announces the production of a new luminescent paint called "Dialux," the principal element of which is a phosphorescent salt known as sulphur calcium. This is one of those compounds which has the property of becoming luminescent after a short exposure to either natural or artificial light. Dialux does not contain any radioactive matter and is neither inflammable nor toxic. It can be applied on metal, glass, cloth, paper, wood and hard rubber compositions. It is made in two varieties, (1) for brush application with a resin base; and (2) for air gun application with an enamel base. Both varieties dry quickly and have high mechanical resistance. Covering capacity is 20-30 sq. ft. per pound. Its use is indicated wherever luminescent indication in dark places is desired.

815. INNOVATION IN RUBBER FLOORING

Stedman Rubber Flooring Co. has recently introduced a new development to answer the need for a rubber tile floor, at a price in keeping with present-day hospital budgets. This is a reinforced rubber tile floor of 1/8 in. thickness. Previous to this, rubber floors have been available only in 1/4 in. and 3/8 in. thicknesses. The new material is made from the same formula as the heavier grades and is available in the same range of colors.

ERRATUM

Due to erroneous information received, credit was given to the Kalman Steel Corporation for the steel joists used in the Wyatt Clinic (June issue). Actually they were furnished by the Soule Steel Company.

THE ARCHITECTURAL FORUM

50
To be really effective, INSULATION MUST BE THICK

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

All authorities have 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 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. Bureau of Standards tests give Eagle Home Insulation the exceptionally low conductivity rating of 0.27 (at 103° F. mean temperature). In ordinary wall thickness (3 3/8") Eagle Home Insulation has the insulating efficiency of a solid concrete barrier eight feet thick.

For free sample, mail the coupon below.

FOR COMPLETE DATA, SEE SWEET'S CATALOG

EAGLE HOME INSULATION

* Boost the Better Housing Program in your community. It is creating new commissions for architects.

* This is how Eagle Home Insulation is blown between joists in the attic floor by a special pneumatic method. The hose is run in through an open window. No muss downstairs.

* 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 is also available in "bat" form for new construction. These bats are 15" by 18" and 3 3/8" thick.

* Giving Eagle Home Insulation the fire test. Even when subjected to the flame of a blowtorch, 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.

The Eagle-Fischer Lead Company, Dept. AF-8, Cincinnati, O.

Please send me free samples of Eagle Home Insulation.

Name

Address

City

State
NOT FOR JUST A YEAR

The man or woman for whom you design a home is undertaking what is likely to be the most important purchase of a lifetime. Your plans are the embodiment of a dream brought to realization by the savings of many years. It is therefore supremely important to the home-builder that his investment not only pay dividends in pleasant living, but remain sound throughout the years, secure against rapid depreciation and excessive upkeep cost.

Kalman Steel Joists make any home a better, safer place to live in, and a sounder investment. These joists in combination with concrete floor slab and plaster provide security against fire and give the owner the benefit of lower insurance rates. They form a substantial floor structure that never shrinks or warps, is immune to termites, absorbs sound and vibration.

For all the advantages they offer, the use of Kalman Steel Joists adds only a few cents a square foot to the building cost. They may be conveniently and economically applied to any type or size of dwelling.
AMONG the manufacturers' publications recently received, of interest to the architectural profession, were the following:

16. PAINTED SURFACES
Under the title of "New Color Harmony for Your Home," a booklet from E. I. du Pont de Nemours & Co., giving their recommendations of paints and finishes for different uses.

17. WALLBOARD
From the Johns-Manville Corp., a new folder describing the uses of Asbestos Flexboard.

18. HEATING EQUIPMENT
From the National Radiator Corp., a small folder listing sizes of boilers and radiators.

19. CEMENT AND CONCRETE
From the Portland Cement Assn., a reference booklet entitled "Cement & Concrete," giving interesting figures of the cement and concrete used in the United States during 1934.

20. PANEL FACES
From the American Walnut Manufacturers' Assn., A. I. A. File No. 19e, giving proper specification for and sizes of various types of veneers and plywoods available.

21. POWER PUMP
From the Worthington Pump and Machinery Corp., folders illustrating single vacuum pumps, steam booster compressors, four-cycle gas engines, drill steel shop equipment, centrifugal pumps, both single and two-stage types, and the new Rock Master for light drilling jobs.

22. FURNACE LININGS
From the McLeod & Henry Co., a new booklet describing in considerable length, with diagrams and tables of sizes and properties, their line of furnace linings, arches and refractories of all sorts.

23. FLOODLIGHTING
From the General Electric Co., a folder giving particulars and prices of G-E Handy Floodlights.

24. WALL FINISH
From the Standard Wall Covering Co., a small folder showing, in various finishes, available sizes of Mono-Tile.

25. SOFT AND HARDWOODS
From the Dierks Lumber & Coal Co., a broadside particularly addressed to architects, on the subject of quality lumber, both soft and hardwoods.

26. HEATERS
From the McCord Radiator Mfg. Co., A.I.A. File Number 20d. 11, giving details and engineering data on McCord Unit Heaters.

27. ELEVATOR EQUIPMENT
From the Otis Elevator Co., new folders in regard to car doors, car gates, hoistway door closer and electric interlock, and patterns of steel elevator cars.

28. WELDING
From the Air Reduction Sales Co., a new catalogue listing and furnishing technical data for their line of Airco-Wilson are welders.

(Continued on page 54)
MANUFACTURERS' PUBLICATIONS (Continued from page 53)

829. AIR CONDITIONING

830. PIPE FLANGES
The Taylor Forge & Pipe Works is now releasing a new 96-page catalogue of their pipe flanges and seamless steel fittings for welding which is in effect a text book on this particular subject.

831. CONCRETE INFORMATION
From the Portland Cement Assn., No. AC 6 and No. AC 7 of their Structural and Technical Bulletin on the use of reinforced concrete.

832. PLUMBING FIXTURES
From the Speakman Co. a new catalogue for architects, arranged for quick reference. Their well-known line of fixtures includes the Mixometer valve, self-cleaning showerheads, shower and bath fixture combinations and shower piping data which should be of considerable value in writing plumbing specifications.

833. BUILT-IN HEATER
A completely revised catalogue from the Commodore Heaters Corporation, A.I.A. File 39-C-4, describes the Convector heater units, with tables of the effective heating capacities of the various types.

834. CELESTIALITE
From the Gleason-Tiebout Glass Co. a new booklet on Celestialite with a report of laboratory tests of the efficiency of the unit.

835. SOUND CONTROL
From the Johns-Manville Corp., a new series of bulletins on sound control, and a new catalogue on roofing including J-M insulated roof and Holorb steel deck, which are now available as a complete roofing unit.

REQUEST FOR DATA
To obtain any of the publications reviewed on these pages, indicate the number and send coupon to The Architectural Forum, 135 East 42nd St., New York.

NAME

STREET ADDRESS

CITY AND STATE

Please check here if engaged in Architectural Practice.
One of our own 57 VARIETIES

... a Two-Bowl Sink in MONEL METAL!

This double-bowl sink is one of those things that makes a hit with clients. In the kitchen, the extra bowl comes in handy for cleaning vegetables—while the other harbors pots and pans. In the pantry, one bowl for washing and the other for the hot water sink.

Apologies to Mr. Heinz for our highhanded seizure of his number. But it turns out that 57 is exactly the number of models we need to satisfy every conceivable sink and cabinet requirement.

And in some of these models, we go to almost any length to please you. For example, you may specify the sink illustrated above in any length from 46” to 144” in fractions of an inch. In other words, we cut the sink to fit the kitchen, instead of asking you to alter the kitchen to suit the sink.

Having decided on the length, you will discover that you have a free hand in writing the other sink specifications. We manufacture both cabinet models and apron type sinks. Specify the latter with low backs or high backs—with smooth drainboards or grooved drainboards—with square or rounded corners.

And if you want to throw in a Westinghouse dishwasher, that can be installed in our standard cabinet sinks without alteration. In short, there are practically no limitations in Monel Metal—nothing to hinder you from giving your client your idea of a perfect sink.

For complete information and prices on Monel Metal sinks, get in touch with the distributors, Whitehead Metal Products Co. of New York, Inc., 304 Hudson St., New York, N. Y., or their branches in principal cities.

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

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

AUGUST • 1935
It isn't really modern unless it's WIRE FOR SOUND

The human voice can carry only so far. That's why we have such things as microphones and loudspeakers, and radio. And that's why wiring for sound is such an important part of the equipment of modern public buildings.

You'll find RCA Victor Sound Systems in schools and churches, hotels and restaurants, court rooms and legislative chambers. Sometimes the equipment is visible, sometimes cleverly concealed within harmonizing decorations.

Of course it is preferable to include the system in the original plans, and make the actual installation during the erection of the building. There is an RCA Victor Commercial Sound System Distributor near you who is able to assist you in planning an adequate system for any building now on your boards. He has at his command the world's greatest and richest experience in sound recording and reproduction—RCA Victor's. Write us and we will send you his name and address.
Exposed concrete surfaces on this great Federal-supervised job in Atlanta conform to government specifications. Those specifications called for dense, smooth surfaces. And dense, smooth surfaces were secured—in spite of adverse weather conditions—by using forms of 1/4" Genuine Masonite Tempered PRESDWOOD. • Slab panels were built and on the job, ready for use. Came the rain! Concrete pouring was postponed one week . . . two weeks . . . three weeks . . . and more, while heavy downpours alternated with blistering sunshine. When concrete pouring finally started, examination proved that the Genuine Masonite Tempered PRESDWOOD forms were unharmed. Showed no sign of warping or buckling. Were as flat and smooth as new. Time and expense of rebuilding forms were saved. Additional delay in pouring concrete was avoided.

Genuine Masonite Tempered PRESDWOOD saves money other ways too. It produces smooth-surface concrete without extra finishing. It preserves lumber used in building forms, and eliminates replacement. Genuine Masonite Tempered PRESDWOOD itself is frequently reused as many as 15 times. • There are hundreds more exterior and interior uses for these grainless boards—wherever smooth, lasting surfaces are needed. They come in 1/8", 3/16" and 1/4" thicknesses. Can be installed by regular carpenter with utmost ease and speed. Natural warm-brown finish produces beautiful effect without further treatment. Or it can be varnished, painted, or enameled with any standard application. Write us today for a free sample and additional information. Masonite Corporation, 111 West Washington Street, Chicago, Illinois.
One of the most pronounced lessons learned from the great building expansion of 1920-1930 has been the fallacy of unsubstantial, shoddy construction. Building investments running into countless millions have depreciated today to almost nothing because they were based on the principles of long profit and quick turnover instead of good character and permanence of building construction. Certain it is the lesson has been learned—and the fallacy will not be repeated.

Truscon can help you build permanently—help you to give your clients buildings that will show the minimum of yearly depreciation—that will cost less to maintain—and that will possess the highest degree of fire safety and enduring beauty. In short, Truscon can help you to produce buildings that are good, that will stay good, and that will carry a high resale value ten or twenty years from now. And yet, with all of these advantages, Truscon contributes definite building economies.

Truscon's catalog in 1935 Sweet's is complete. 80 pages of specifications, details and illustrations filed for your convenience and assistance.

TRUSCON STEEL COMPANY
YOUNGSTOWN, OHIO
Sales and Engineering Offices in all Principal Cities
It is up to you to make sure your business properties are modernized. Modernization depends on reliable electrical systems available everywhere. It is your duty to be sure that your wiring system is modern, efficient, and adequate.

General Electric's line of Conduit, Wires, Cables, Switches, Outlets, and other electrical materials are designed to modernize your business. Modernization is a business necessity. Your customers expect modern facilities, and your business will benefit from the increased efficiency of modern electrical systems. Contact your local General Electric representative for more information.

GENERAL ELECTRIC
WIRING MATERIALS

Modernize Main Street Electrically

Printed by The Scherlfer Press, N. Y.
Main lobby in the new U.S. Post Office in Minneapolis, which is both illuminated and air conditioned by the unique ceiling fixture shown. Two rotundas, and two secondary lobbies are similarly lighted and conditioned. All fixtures were fabricated of Anaconda Architectural Bronze Extruded Shapes by Benson Ornamental Bronze and Lighting Fixture Co., Kansas City. Magney & Tussler, Minneapolis, architects and engineers.

Unique Fixture ... for illumination and air conditioning ... of Extruded Bronze

One massive fixture ... fabricated from Anaconda Architectural Bronze Extruded Shapes ... provides all the illumination required in the main lobby of the new U.S. Post Office in Minneapolis. In it are five hundred 50-watt lamps, entirely concealed, the lighting being totally indirect. Also, an all-year air conditioning system is connected with the fixture, delivering 300,000 feet of filtered, washed, heated or cooled air per hour. The air is discharged horizontally through the sides of the fixture and returned through the bottom.

Anaconda Extruded Bronze offers almost endless possibilities for the faithful execution of original designs. Thousands of standard extruded shapes are available in Architectural Bronze and Nickel Silver. And Copper and various Copper alloys may be had in a wide range of standard drawn shapes.

THE AMERICAN BRASS COMPANY
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