

690.5 v. 59



MODERN store fronts of black and white Vitrolite cure this Toledo business block of a severe case of Rundownitis. Note that business property just beyond has also caught the urge to modernize.

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AMERICAN BUILDER

and Building Age

NAME REGISTERED U. S. PATENT OFFICE AND CANADIAN REGISTRAR OF TRADE MARKS

JANUARY, 1937

59th Year

Vol. 59—No. 1

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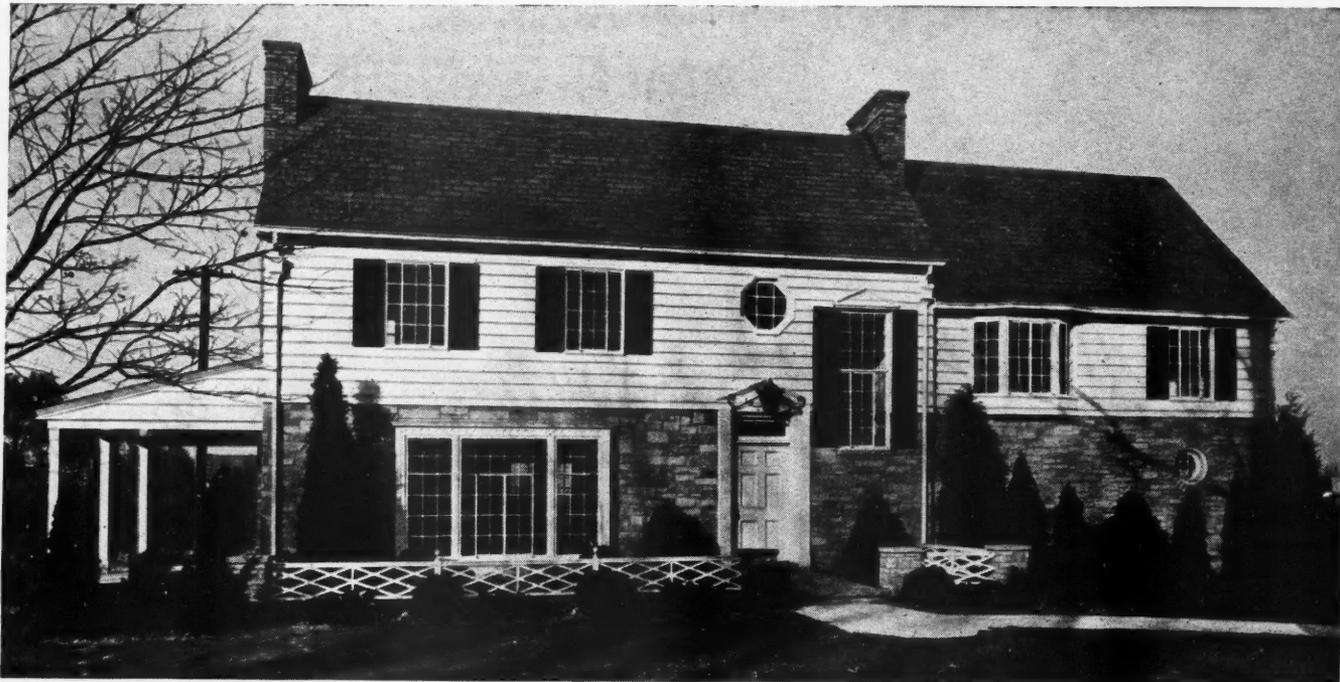
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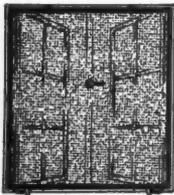


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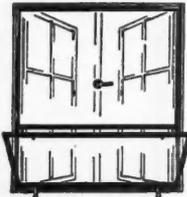
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THE COMPLETE WINDOW

Fenestra

PUBLISHER'S PAGE

"Happy New Year— and Many of Them"

THE nation has now had seven years of depression—the longest such period in its history. There has been a large measure of recovery since the bottom was reached. Four years ago we were just entering a terrible banking crisis. Conditions and prospects have since improved enormously.

This could not be more strikingly illustrated than by what has occurred in the residential construction field. Total expenditures in that field in 1933 and 1934 averaged only \$288,000,000 annually. They increased in 1935 to \$550,000,000. They increased again in 1936 to almost \$900,000,000. It is estimated that in 1937 they will be \$1,500,000,000—an increase over 1936 of 65 per cent; over 1935 of almost 200 per cent; over 1934 of more than 400 per cent.

BUT the depression is not ended. Least of all is it ended in the building field. Statistics are broadcast showing that "industrial production" is now about as large as before the depression. They are misleading as an index of general business—principally because they do not include construction. Expenditures for residential construction in 1928 were about 3 billion dollars and in 1929 over 2 billion dollars. Therefore, if they are 1½ billion dollars in 1937 they will still be less than three-fourths as large as in 1929 and only one-half as large as in 1928.

Why bring that up? To emphasize how much greater improvement can still be made in this field and thereby in general business and employment. *For the volume of Home Building which is done in every Urban and Rural Community, largely determines the total volume of all kinds of business and employment.*

Persons with a depression complex regard it as unduly optimistic to anticipate restoration of building, business and employment to the levels of '28 and '29. But after every previous depression in this country building, business and employment were advanced to levels never before approached. Economic conditions are now right for as great an advance as ever occurred; and another great advance above all previous levels will occur in the years immediately ahead unless prevented by new influences.

NEVER in all history was there need of so much residential construction as now. Never could it contribute so much toward creating prosperity for the masses and enabling them to have better homes and better lives.

Government can help by not entering the field of home building with excessive taxation, interfering legislation and subsidies.

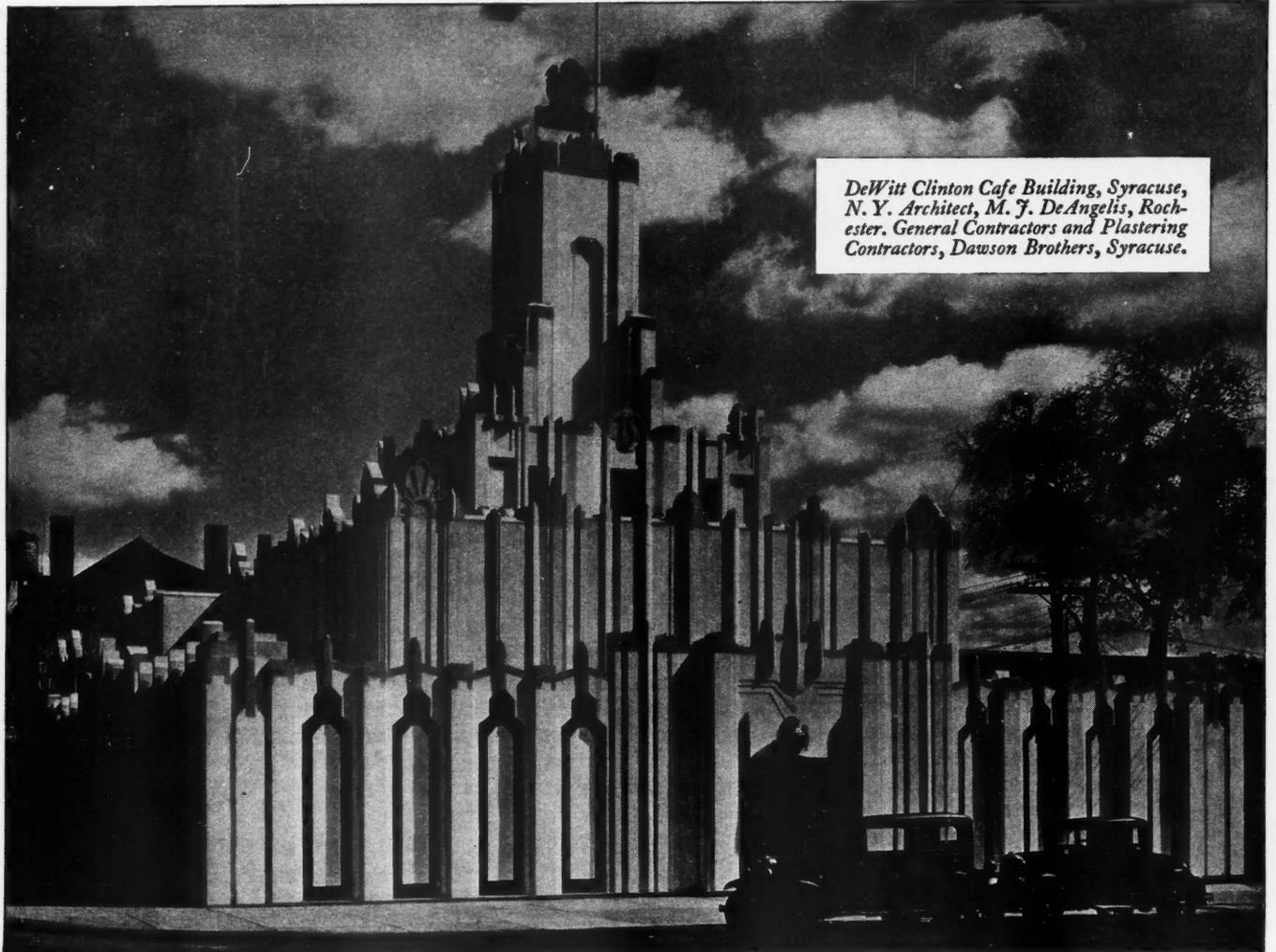
Labor can help by being reasonable regarding working conditions and hourly wages.

Business can help by doing constructive and effective selling and being reasonable regarding prices.

Present prospects in the home building field are the brightest for more than a decade. Given sane co-operation by government, labor and business, and home building in this country will soon surpass all previous records and make the Great Depression remembered chiefly as the precursor of Great Prosperity.

Samuel O. Dunn

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Stucco is beautiful. And its beauty is not restricted to a single color. For with Atlas White it is possible to get pure white stucco or any variety of pleasing tints. In texture, too, the architect or builder has free rein. In fact, whatever the color scheme—whatever the texture desired—it can be

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Some Needed 1937 Resolutions

AT THE beginning of the year 1937, which we all confidently believe will be one of increasing prosperity, it might be well for the men of the building industry to consider some good sound resolutions and reforms. Many lessons were learned during the depression years, but they will be valueless if not borne in mind now that prosperity—a capricious lady—has apparently once more decided to dwell with us for a time.

American Builder feels that the greatest evil that be-sets real estate and building today is **HIGH TAXES**. This is so apparent that many will say, "Yes, but what can we do about it?" The answer is, let every builder, dealer, architect and craftsman unite with the National Association of Real Estate Boards in its campaign for state laws restricting the amount of taxes that may be assessed against real estate. Such laws have been passed in a number of states. The Association is fighting for new laws in practically every other state. Every building man should resolve now to join this fight. It seems like a drastic move, but it is the only way to force distribution of the tax burden to other sources of revenue than real estate. Another approach to the tax problem is the adoption of laws putting the levying of real estate taxes on the basis of *income produced*. This system is used in England and other countries, where the owner pays taxes on the amount of rent produced, or its equivalent if occupied by the owner. It is a fair system, and worthy of support.

4% Building Money

Second on *American Builder's* program of resolutions is **LOWER INTEREST RATES**. With money as plentiful as it is in this country, home owners should be able to finance soundly built, soundly planned homes for as little as 4 percent. Yet by far the majority of financial institutions are still demanding 6 percent. They have been traditionally shortsighted in maintaining higher rates than prevail in most civilized countries, and it will take much pressure from building men to force the interest rate down. But it can be done.

What about building costs? They are undoubtedly working higher, but there is danger of this being overdone. It is very possible that too sharp an advance will stifle building, as it did after the World War. Let us resolve to keep costs as low as possible commensurate with a fair profit and fair wages to the workers.

Contractor's License Laws are another reform needed

at this time in the building industry. Laws similar to the one used in California would prevent too rapid an influx of inexperienced, unqualified builders into the field. With better times ahead, a swarm of new operators can be expected. A certain amount of new blood is needed, and will be a good thing, because new and young men usually bring new ideas and methods which in the long run advance the industry. But adequate state license laws to make sure that the new men who enter are suited, trained and qualified are highly important. The building industry needs *quality* not quantity as far as contractors are concerned.

Less Cumbersome Deed Recording

Another reform builders should resolve to work for in 1937 is the Torrens System of deed recording. The present system of title guarantees, title searches and legal costs attending them are little short of a racket in many states and communities. The property owner is forced to pay exorbitant and outrageous legal and other fees to obtain a clear title and to have it "guaranteed." Yet it has been amply proved that usually the "guarantee" is not worth the paper it is written on. And most of the fees and costs of searching the title are grossly excessive.

Better design and better construction ought to be the resolve of every builder in 1937. There have been notable advances during the depression. Design, especially in small homes, has greatly changed and improved. Better co-operation should be worked out between architects and builders to make the advantages of improved design available to the public at reasonable costs. Improved construction methods are first dependent on a receptive mind and a desire to learn about the new developments. Many builders still go on using outmoded methods until they suddenly find that a competitor has left them far behind. Calling him names and deriding his work will not be enough to make up for backwardness.

Team-Work for Success

Last, and probably most important on our list of resolutions is **CO-OPERATION**. Residential builders should organize to set up better trade standards, to exchange ideas and improve their own industry. Closer co-operation between builders and dealers, between both of these and the architects and real estate men is import-

ant. There is too much criticism of the other fellow. Perhaps the example of the builder who called in several oil burner men is worth telling. Each burner salesman described the faults of his competitor's equipment. Finally the builder was so confused and alarmed he decided to put in gas. Building men who unfairly run down their competitors may find that they have scared people so that they will not build at all.

♦ ♦ ♦

Mechanics Again Buying Good Tools

ONE of the most significant building recovery indicators we have encountered was reported recently by a sales executive of a leading firm producing a very extensive line of mechanics' tools. In the past 18 months, he stated, sales of quality tools such as are used by skilled building craftsmen have increased about 95 percent above depression level. Back in the dark days, he related, many in the tool trade predicted that there never again would be a normal demand, as of old, for quality tools—that cheap “handy man” lines would rule. However, 18 months ago a change appeared and the sale of quality mechanics' tools has grown in increasing volume as building has gotten under way and real jobs requiring good tools have again held out promise of steady employment.

♦ ♦ ♦

More Rural Building Facts Needed

ON December 18 the U. S. Crop Reporting Board released figures showing the total production and value of all crops produced in the country in 1936. The figures are complete and authentic, going right down to such items as “peanuts—1,300,540 pounds.”

Yet during this same year of 1936 no official body is able to give even a rough estimate as to the amount of construction that went on in the farm and rural areas of the country.

Preparation of such a Statistical Number as this January issue of *American Builder* is made difficult by the lack of data on rural construction. Cities and a considerable number of small towns down to 2500 population are fairly well covered by the U. S. Bureau of Labor Statistics, but no governmental agency attempts to cover the rural and farm areas. *American Builder* strongly urges the setting up of some national agency to record and report rural and farm construction.

The 1930 Census shows a farm population of 30,445,350 people. It shows another rural group of 9,183,453 people who live in very small communities of less than 2500. There is still another important rural group, the 14,480,000 people who live in rural areas but are neither farmers nor dwellers in small towns. This last group represents one of the most rapidly growing sectors of the population. It represents the people who are building houses outside of corporate towns or cities in

order to escape high taxes, restrictive building regulations and high union wage scales. These types of homes are built along the paved highways and on country roads within easy driving distance of cities and towns. They are classified by the Census as rural homes, yet they are not used by farmers, for most of the people who so build have jobs in, or income from, nearby towns. Included in this group are the millions who operate filling stations, roadside stands and tourist camps.

This important group of people represents a tremendous growing building market. The automobile has made homes in the country highly desirable. *American Builder* predicts these will make up an extremely important part of the residential market in the next decade. A method of reporting such construction should be established by the Federal Government.

Job for Bureau of Labor Statistics

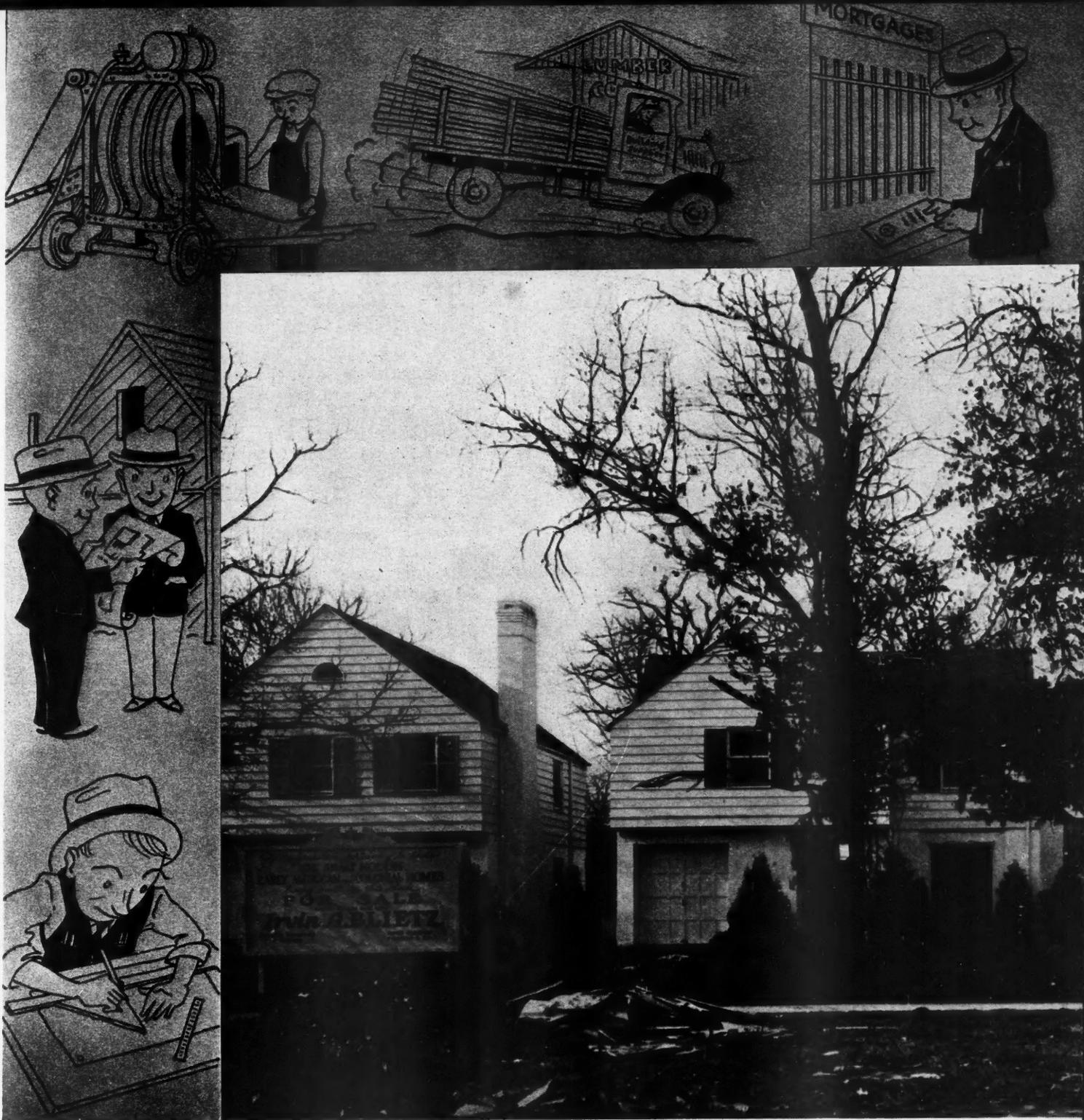
Probably the best equipped agency to report such construction is the Division of Construction of the U. S. Bureau of Labor Statistics which is under the able direction of Herman B. Byer. This Bureau already reports construction in some 1500 communities and is doing an excellent job. A method of reporting and estimating rural construction could be developed by “sampling” strategic counties. The difficulty of completely covering every part of the United States is made apparent when it is realized that there are 3,072 counties and roughly, some 75,000 townships. Perhaps the assistance of the Department of Agriculture's 150,000 crop reporters might be secured in this work.

Few people realize the enormous extent and ramifications of the building industry. Certain departments of the Federal Government are now making studies which are beginning to reveal how private construction on farms and in villages, as well as in towns and cities has affected the economic system of the country. These studies show that no enduring prosperity is possible without it. Once started, it leads to national cycles of prosperity approaching inflation, usually following several years after the construction activity itself reaches a peak. It thus becomes increasingly important that such activity be fully and accurately reported if a better understanding of the causes and controls of business cycles is to be achieved.

♦ ♦ ♦

425,000 New Homes in 1937

EXECUTIVES of firms serving the building field are planning their sales quotas and budgets for next year. They want to know how many homes were built this year, and what percentage of gain they can expect in 1937. Their questions are answered in a remarkable article written especially for this 1937 Statistical Number by William C. Bober, Statistical Research Department, Johns-Manville Corporation. He accounts for the erection of 260,000 new homes in 1936, and predicts that 425,000 new homes will be built in 1937.



ABOVE construction view shows two of six modern homes planned and now being built in Evanston, Ill., by Irvin A. Blietz of Chicago. Photographed by American Builder on Dec. 14 to illustrate current work typical of today's requirements for good design, construction and equipment supplied by the well co-ordinated service of local dealers and builders.

Home Building Industry Looks for Biggest Year Since 1929

WITH the bright prospect of attaining a volume of 425,000 new homes during 1937, all factors in the industry are preparing for what promises to be the best building market in the last seven years

1937 OUTLOOK BRIGHT

American Builder Presents the Facts Behind the Coming Boom and Predicts 65 to 100% Rise in '37 Home Building

Outlook Summary

400,000 to 500,000 homes will be built in 1937

Rents have risen one-third; will continue sharply up in 1937.

Real estate values will continue up, making building more profitable.

Building costs of all kinds to rise sharply.

Outlook for next 5 years excellent—volume may rise to 800,000 units annually.

THE residential building industry is on the verge of a boom that will carry it to greater heights than ever before. The *American Builder* estimates that residential volume in 1937 will run from 65 to 100 percent above 1936. This should result in a total of from 400,000 to 500,000 new homes, including farms and rural building. *American Builder* makes this estimate after careful study. Its figures are based on new and hitherto unpublished data.

A new understanding of the size, extent and economic ramifications of the building industry is being built up by a group of statistical experts representing important national institutions. These include the Federal Reserve Board, the Economics and Statistics Division of the Federal Housing Administration, the Construction Division of the U. S. Bureau of Labor Statistics, the Brookings Institute, the National Industrial Conference Board and the National Bureau of Economic Research. Much of the data of these groups is as yet unpublished. When it is, a much clearer picture will be revealed of what a construction giant the residential building field undoubtedly is.

All of the most reliable indices of construction point sharply upward. The only difference of opinion among experts is the estimate of the increase. The *American Builder* estimate of a 65 to 100 percent increase in 1937 is conservative in the light of the background data assembled by the statistical organizations mentioned above.

Before looking into the future, let us take a brief look at the past. Here a comprehensive group of studies

shows that the residential building field has been grossly under-estimated in the past. Indications are that in the years 1923, 24 and 25 there was a net increase in dwelling units in the neighborhood of 800,000 per year. The dollar volume of residential construction, repairs and maintenance during those years was in the neighborhood of 5 billion dollars. These figures give a new concept of the size of the home building industry and an indication of why it had such an inflationary effect on the general business of the country.

Looking back to the early 20's, it is recalled that conditions were very similar to today. It is estimated that residential units jumped from a low of around 250,000 in 1920 to 450,000 in '21 and had reached the neighborhood of 700,000 in '22. This amazing increase was the result of a period of non-building during the war. *The statistical need for homes in 1920 was not as great as that which exists today.*

The background for the coming boom in residential building, which will probably not reach its peak for another four or five years, can be seen in such basic economic factors as population growth and movement, marriages, demolition and loss of old houses and the ability of people to buy.

Let us consider some of these factors that the statistical organizations have uncovered. In the first place, the absolute dearth of home building in the depression years has not only canceled any over-building but has built up a deficiency estimated at 400,000 units. The growth of population in the next five years should add a need for two-and-a-quarter million households. The undoubling of families and the addition of new families by marriages will add a need for more than half a million homes. The U. S. Department of Agriculture estimates that there is a rapid movement of population from farms to cities, which in 1934 and 35 was in excess of 350,000 a year. The marriage rate for the country has moved sharply upward in the past few years, and the indications are that the number of new families formed—subtracting dissolutions by death or divorce—has risen from a low of around 125,000 in 1922 to the neighborhood of 400,000 in 1935. All of these figures account for the enormous statistical need for homes. In addition, every year a certain percentage of the houses of the country are destroyed by fire, flood, tornado, deterioration or to make space for new business structures. One estimate of the number so destroyed is 70,000 per year.

Thus the statistical need for homes mounts into a total of many millions. In fact, the estimate of *American Builder* in its February 1934 Re-employment and Financing Number that there is an annual need for 800,000 new homes per year is closely borne out.

It is agreed that there is a statistical need for 800,000 new homes per year for at least the next five years. But will this need become a reality in lumber, brick and stone? The answer is, not all at once, but ultimately these homes will be built.

The best estimates of the well-informed authorities indicate that the 1937 program will range from 400,000

American Builder Forecast

to 500,000 new homes. The following year will be much better, but, even so, the admittedly current high building costs are expected to hold back the required volume of construction so that it may not reach the 800,000 level for several years. The statisticians declare, however, that if building is prevented from going ahead at the needed rate in the years immediately ahead, it will result in a still greater boom in the early 40's.

One of the most immediate causes of the upturn in building is rising rents. The rent index for the country has been rising steadily for several years. Rents have now risen more than 25 percent from their low point in 1933, and when such items as concessions and non-collections that were prevalent during the depression are considered, it may be estimated that rents have risen one-third. The growing pressure for housing is driving rents rapidly higher. The statistical outlook is that building volume will not be able to keep pace with the demand for houses and that as a result rents will skyrocket in the next few years. It is predicted that people will once more be advertising for places to live in and offering a bonus to get suitable quarters.

Accompanying the rise in rents is a vigorous rise in real estate values. The "action point" is now being reached in many communities where it is once more profitable to build. In the last analysis, the volume of new building is closely controlled by the relation of building costs to present values. It is only profitable to build when a new structure can be built for less than the comparable old structure.

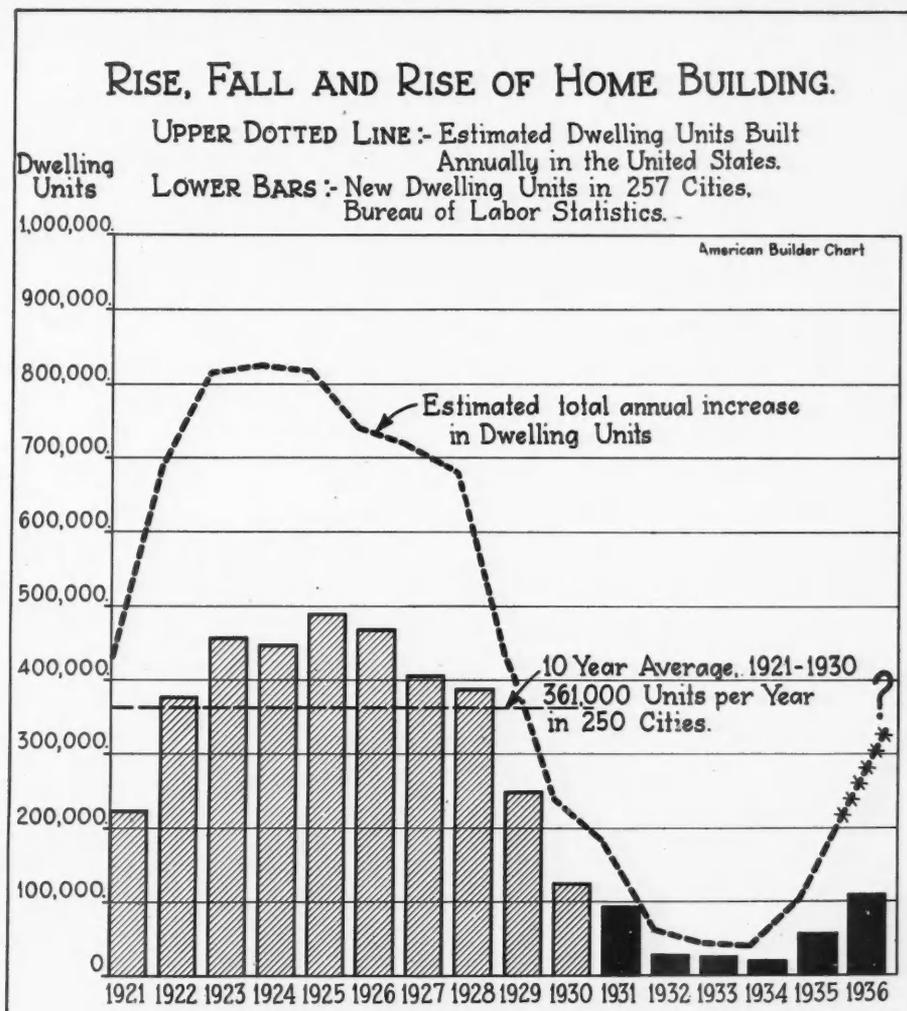
Building costs of all kinds are rising and will continue to rise sharply in 1937. A study of the relationship between building material prices and all prices in the U. S. shows that building material prices have always risen with a rise in the general price level. This happened in previous boom years and is happening again. There is every reason to believe that building material prices will not only rise to the 1926 levels but will probably exceed previous levels due to the effect of devaluation of the dollar.

There is also little doubt of a considerable rise in labor costs. The growing shortage of skilled labor is having a very pronounced effect on wages, and as building volume continues to increase in 1937 the labor problem may become acute in some sections. Since local conditions great-

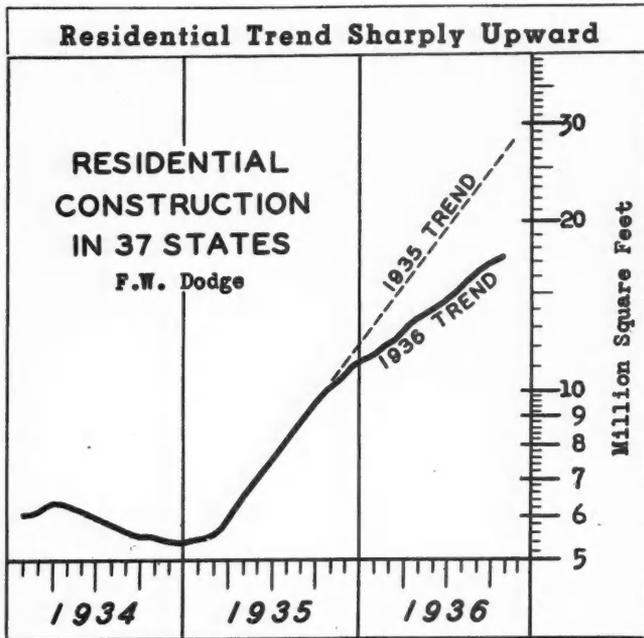
ly affect this important cost factor, contractors making building estimates for next year are urged to figure cautiously and after a thorough study of the labor pay prospects in their sections.

Another warning is the need for ordering materials and equipment farther in advance than has been the custom during the depression. Many products, such as hardware, millwork, cabinets, fixtures and even basic commodities, such as lumber, cement and brick, can no longer be obtained on short notice. Certain special types of hardware and equipment should be ordered as far as two months in advance. This situation calls for more careful scheduling of building jobs with corresponding advance planning.

In summary, probably the best statement of the outlook for next year is that the residential building industry is in a period of rapidly rising volume and costs similar to that which existed in 1920 and 21. Contractors should take cognizance of the changed state of affairs from depression years. No one knows how much or how far building costs will rise. In making future commitments on new construction this fact should ever be borne in mind. The experience of the past shows that a period such as is indicated for 1937 and the next few years is one when much money can be made by those who keep closely in touch with swiftly changing conditions. On the other hand, it is a period when losses may be high due to inaccurate estimate of the price trend.



HOW RESIDENTIAL BUILDING rose and fell and is likely to rise again is shown by the above chart. The lower bars are based on U. S. Bureau of Labor statistics in 257 cities. The dotted upper line is an estimate of the probable total non-farm home units built in U. S. This estimate is based on new statistical studies that reveal residential construction as much larger than is commonly assumed.



NEW RESIDENTIAL VOLUME has moved sharply upward since 1935 although the trend in latter part of 1936 tapered off slightly. Indications are that 1937 will run at least 65 percent ahead of 1936.

A FEW weeks after the year closes we will know exactly—right down to a car—how many automobiles were produced in this country in 1936. But we will never know how many new homes were built in the United States in 1936, not even by a margin of accuracy of 40,000 or 50,000. The primary reason is, of course, that all automobiles are produced by a very few, very large manufacturers, whereas homes are constructed by tens of thousands of small scattered pro-

425,000 Homes Est

Statistical Study Shows 260,000 Built in 1936 Including Rural and Small Town Work. Unreported "Hidden Market" Contributed Heavily to Total.

By **WILLIAM C. BOBER**

Statistical Research Department,
Johns-Manville Corporation

ducers. As a result statistical information in the home building field is far more difficult to gather and organize.

This writer could easily follow in the footsteps of others in the past and merely assert that so-and-so many homes were built in 1936 and so-and-so many will be built in 1937. Some newspapers and magazines have been willing to publish such assertions in the past and unsuspecting readers have been left quite ignorant of the huge element of guess in these assertions.

This writer proposes to be honest with his readers and with the trade. I say at the outset that the necessary statistical information to estimate closely the number of homes built in this country does not exist. Our basic

NEW HOMES BUILT IN FIRST 9 MONTHS OF 1936

Estimated from data by Division of Construction, U.S. Dept. of Labor, except where shown by star (*)

Sector	Number of Cities		Population			Number of Homes Built		
	In Entire Sector	Covered by Reports	In Entire Sector	Covered by Reports	Percentage Covered	As reported for population covered by reports	Per Million People	Estimated Total after Adjustment for population not covered by reports
1. Cities 500,000 and over	14	14	21,315,411	21,315,411	100	51,373	2,410	51,373
2. " 500,000 to 100,000	79	78	15,010,325	14,860,325	99	25,532	1,718	25,787
3. " 100,000 " 50,000	98	95	6,491,448	6,318,427	97	9,603	1,520	9,866
4. " 50,000 " 25,000	185	159	6,425,693	5,445,027	85	9,467	1,739	11,175
5. " 25,000 " 10,000	606	423	9,097,200	6,463,976	71	15,633	2,419	22,006
6. " 10,000 " 5,000	851	322	5,897,156	2,381,099	40	9,323	3,916	23,093
7. " 5,000 " 2,500	1,322	374	4,717,590	1,329,750	28	5,159	3,879	18,301
SUB - TOTAL	3,155	1,465	68,954,823	58,114,015	84	126,090	2,170	161,601
8. Incorporated places below 2,500 population	13,433		9,183,453	0			* 3,000	* 27,549
9. Rural territory			44,636,770	0			* 561	* 25,020
ENTIRE U.S.			122,775,046	58,114,015	47	126,090	1,744	214,170

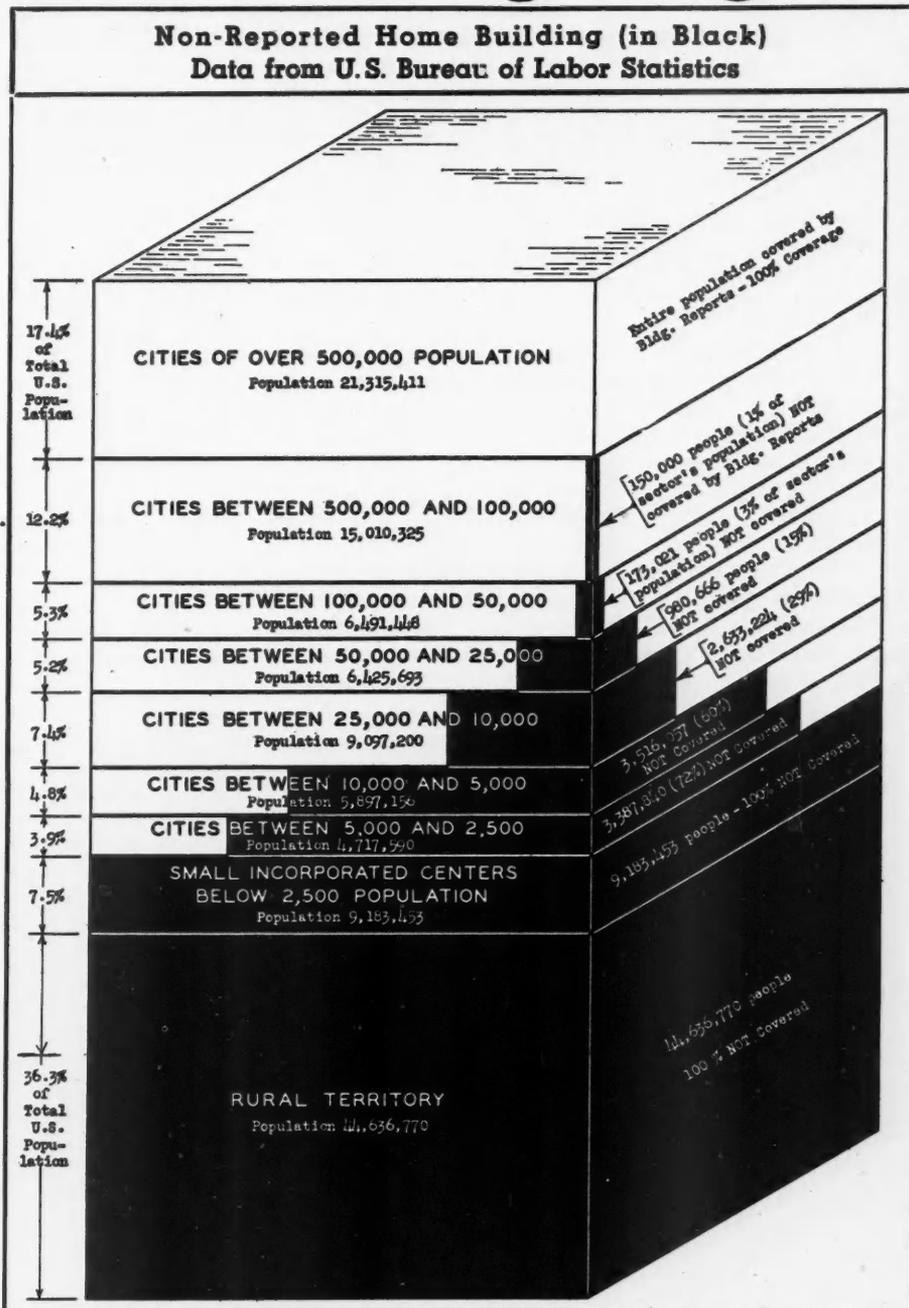
Estimated for 1937 Building Program

data are widening constantly, but we still have mere statistical "samples" of the production of homes, instead of complete records, in some of the most important sectors of the building field. I am going to let the reader see for himself in what sectors we have 100 per cent data, in what sectors data are much less than that, and finally in what sectors our information is so inadequate that all estimates of total construction are sheer guesses.

There are of course two basic sources of information on the production of homes—the figures issued by the Division of Construction of the U.S. Dept. of Labor and those furnished by F. W. Dodge Corporation. I propose to examine the Dept. of Labor data first and submit a schedule on the facing page which shows the number of homes built in the first 9 months of 1936. It is well at this point to remember that each apartment in a multi-family dwelling counts as a home:

We are a highly urbanized nation and over 17 per cent of our population lives in 14 big cities with over 500,000 people. It is natural that our building information should be most complete in this sector which comprises 21,315,411 people. All 14 cities are covered by U.S. Dept. of Labor permit tables and the "coverage" from this angle is therefore 100 per cent. The next sector is our group of 79 cities ranging from 500,000 down to 100,000 population. On the average 78 cities were covered by reports in the first 9 months of 1936 and the population coverage is 99 per cent. There is therefore relatively little to complain of here. Neither is there when we get to the 3rd sector which comprises the 98 cities of 100,000 to 50,000 population. The coverage is 97 per cent and we can therefore summarize by saying that we are getting very comprehensive reports for all cities over 50,000. But bear in mind that these cities contain only about 35 per cent of our population. The fact that they account for almost 69 per cent of all homes reported built this year should at once put us on our guard.

It is when we start analyzing the 4th sector—cities between 50,000 and 25,000—that we get the first glimpse of inadequate coverage. There are 185 of these cities but only 159 on the average are being reported in the Dept. of Labor's building tables. The coverage of population



HOW LARGE A PART of the residential building market is normally unreported is shown in this chart. The white area indicates part of population covered by U. S. Building Permits. The black area shows the large part of population not covered by reports and not usually mentioned in estimating total volume of home construction in U. S.

is 85 per cent which means we are in the dark as to the building activity of the remaining 15 per cent. The accompanying chart illustrates the situation. The portion of each sector's population not covered by building reports is shown in deep black, an appropriate color to indicate the extent to which we are in the dark.

Notice how the black area widens in the 5th sector, cities between 25,000 and 10,000 for which we only have 71 per cent coverage. But it is when we get below the 10,000 population line that our troubles really begin. Until the beginning of this year no building information at all was published for cities below 10,000. The decision to begin showing figures this year for the cities from

10,000 down to as small as 2,500 is greatly to the credit of the Construction Division of the Dept. of Labor and has materially widened the range of our view. This sector is of special importance because these small cities and towns are not necessarily in the strictly farming districts. Many such centers are suburbs of big cities and it is just such small suburban cities that account for a disproportionately large volume of our home building.

But the building information we are getting for the 6th sector, cities between 5,000 and 10,000, must be regarded as no more than an important sample of what is happening in the sector. Only 40 per cent of the total population is covered. As we get to the even smaller cities and towns from 5,000 to 2,500 the "sample" becomes still smaller. Only 28 per cent of the population is covered and the chart shows a deep black area (representing the area in which we are in the dark) for almost three quarters of this, our 7th and last urban sector.

We have now covered the urban United States with its 1,465 cities over 2,500 and aggregate population of 68,954,823. As the reported cities vary slightly from month to month, we must use certain averages, but we can sum up by saying that 126,090 homes were reported built in this area in the first 9 months of 1936. Many a press article will stop at this point and report this figure as the actual total number of homes built in the entire United States. This has occurred many times in the past. But informed people know that our major calculations are still ahead of us if we want to arrive at even an approximately accurate guess as to the total building activity for the entire country.

Adjustments for Uncovered Areas

As we have seen, the above 7 urban sectors are reported in varying degrees, ranging all the way from 100 per cent coverage for cities over 500,000 to a mere 28 per cent coverage for the smallest cities. Obviously we must make adjustments and the first step is to figure the per capita building in the "covered" sector so we can apply the same per capita ratio to the uncovered portion of the sector. Here, then, is the first important element of guess.

The first sector requires no adjustment as homes built in cities over 500,000 are reported 100 per cent; the chart shows no dark black area for this sector. But in the 2nd sector the schedule shows that 25,532 homes were built and that it is covered 99 per cent by permit reports. This requires a very trivial adjustment but gives us an opportunity to show the method we employ. 1,718 homes were built per 1,000,000 people and if we apply the same ratio to the uncovered 1 per cent of the sector's population, it raises our number of homes built from 25,532 to 25,787. We have applied this method in all 7 urban sectors and the element of guess grows with each sector. When we get to the smallest and least adequately covered cities—the 7th sector comprising cities between 5,000 and 2,500 population, the element of inaccuracy is very large. Only 28 per cent of the population is covered by permit reports which show 3,879 homes built per million people. Are we justified in applying this ratio to the remaining 72 per cent of the sector's population about which we are in the dark? Only if we knew that the home building data for the covered 28 per cent of the sector were a good representative cross section of the whole. In view of the inaccuracy of the many election straw polls, we hesitate to make the assumption. Yet we have to, if we are going to get anywhere. By applying the ratio, we come to the conclusion that around 18,301 homes must have been built in this 7th sector instead of the 5,159 reported.

It is not necessary to weary the reader with calcula-

tions already on the schedule. In total, 126,090 homes were reported built in the 7 urban sectors. By the time we have made the above adjustments allowing for inadequate coverage, this figure becomes 161,601. Therefore we can assume for the moment that roughly that many new homes were constructed in the urban United States in the first 9 months of 1936.

Estimating Rural Construction

But the urban area is only 56 per cent of our total population. What happened in the remaining 44 per cent, all of which is pictured deep black on the chart? Our troubles begin as we invade the 8th sector, the 13,433 incorporated small centers below 2,500 population in which 9,183,453 of our people reside. A great many of these small centers are of course in the farming districts but many others are really suburban to much larger cities. As farm income has risen very rapidly in this and recent years and as home building has been disproportionately great in the smallest suburban cities, we can perhaps assume that building activity in this sector was not so very much below that of our 7th sector—the cities between 5,000 and 2,500 population. In the latter, home building this year has been at a rate of 3,879 new homes per million for 9 months. If we assume 3,000 new homes per million in our 8th sector—and frankly this is a mere guess—we get a total of 27,549 additional new homes which we must add to our 161,601 homes built in the strictly urban section.

We have remaining one more sector, our 9th, and a very important one from the point of view of population. It is the rural section of the United States with its 44,636,770 people. No one knows the volume of construction here within even a very rough degree of accuracy. We have to fall back on certain figures from the Bureau of Agricultural Economics which has estimated the total expenditures on farm buildings and repairs on buildings for the 5 years 1930 to 1934 at \$675,000,000. No figures are available as yet for later years. Neither is there anything to guide us as to the distribution of this amount. How much was for barns, silos, sheds and how much for homes? How much was for repair and how much for new construction? We must guess. If we deduct one third for barns and non-home structures we have left \$450,000,000 which farmers spent in five years on homes. This does not seem like heavy investment even if we bear in mind the depression years and no doubt much repair work was done, and even small homes built that never got into the figures.

Farmers Spend 28% as much on Home Building

But it is interesting and instructive to compare this record of \$450,000,000 spent by 44,636,770 farmers on homes with residential construction in urban areas. There is a group of 257 cities with very nearly the same population—44,850,467 to be exact—for which we have a great deal of building information. In the same 5 years in which the farmers spent roughly \$450,000,000 on homes, these 257 cities spent \$1,612,207,847 on residential construction. That is, the farmers spent 28 per cent as much as the urban dwellers. Perhaps it is a fair assumption that this ratio has not changed much in 1936. These 257 cities are all over 25,000 population and in this urban section 2,004 new homes were built per million people in the first 9 months of 1936. If we assume 28 per cent of this ratio for the farmers, the latter built 561 homes per million. And as there are 44.6 million farmers, we get an estimate of 25,020 new homes built by our farm population in the first 9 months of 1936. This is shown on the schedule for our 9th sec-

tor. In grand total we now get an estimate of 214,170 new homes for the whole United States.

As the reader will have noticed, if he has had the patience to follow the calculations, the element of guess has widened steadily as we have entered the deep black zones on the chart which represent those entire sectors or parts thereof in which we are largely in the dark. But we are not through with estimating, or if you prefer, guessing.

Adjustments for Population Growth

First of all, our population figures are all as of 1930, taken from the Census. Since then our population has increased approximately 5 per cent. As our estimates, except in those sectors which are adequately covered, are based on "per million of 1930 population" figures, we must raise the number of homes built in certain sectors by the increase in population since 1930. The average works out at 3.8 per cent rather than 5 per cent. Increasing our grand total by 3.8 per cent we now get 222,308 homes for 9 months of 1936.

The next step is to estimate the homes that will be built in the remaining 3 months of this year as Dept. of Labor figures are not as yet available beyond September. This entire article therefore presents preliminary estimates which must be revised when 12 months figures are available. Experience with building permits in the past has shown that very roughly the first 9 months account for 76 per cent and the latter 3 months for 24 per cent of an entire year's home building. This is based on groups of cities above 25,000 and to a lesser extent on additional cities of over 10,000. I am aware that our figures include for the first time cities below 10,000 for which we have as yet no seasonal factor thereby adding an additional element of guess. But assuming that 24 per cent is a fair ratio, our estimate of 222,308 homes built in 9 months rise to 292,510 and represents the estimate for the entire 12 months of 1936. It is well to add a few more thousand homes to take care of those built in recorded areas but requiring no permits and call it 300,000.

Permit Figures Vs. Dodge Contract Reports

So we have finally worked our way thru many a guess and estimate to a grand total of 300,000 new homes built in 1936. How are we going to check this figure? The other source of information is F. W. Dodge. They record contracts awarded for 65,845 new single family houses in the first 9 months of 1936. Also 2,009 two family houses which means 4,018 homes and 30,662,000 sq. ft. of apartment house space. The latter must be converted into number of homes. We use the figure—650 sq. ft. per apartment home, thereby adding another element of guess. This gives us 47,172 new apartment homes. Adding up the 3 types of homes we get a total of 117,035 for 9 months in 37 states. How about the 11 Western States not covered by Dodge? Population would require us to increase the above figure by about 11 per cent; but building activity is rather a matter of growth from expected future population than existing population. Permit figures by geographical zones show that home building per capita is much more active in the West this year than in the country as a whole. The per capita construction in fact in the West is 64 per cent higher than in the remainder of the country. It seems therefore that we must raise the Dodge figures by 18 per cent instead of 11 per cent to cover the West and allow for its disproportionate home building. This gives us an estimated total of 138,101 new homes in the 48 states for 9 months. Using a seasonal factor based on

Dodge figures, about 76 per cent of a year's home building comes in the first 9 months and 24 per cent in the last 3 months. Applying these seasonal ratios, we get a rough estimate of about 182,000 homes contracted for in the entire United States in 1936.

How are we going to reconcile the above figures—300,000 homes derived from Dept. of Labor data and only 182,000 based on Dodge? The first point is that accuracy is strongly in favor of Dodge in the 37 states. Dept. of Labor data are based on permits which are more in the nature of intentions to build than actual commitments such as the contracts recorded by Dodge. All permits do not become actual buildings. Cancellations enter the picture and we have no record of them. On the other hand we must remember most of the inaccuracies involved in permit figures is in very loose estimates of the cost involved and not, of course, in the actual number of dwellings.

Both the Division of Construction of the U.S. Dept. of Labor and F. W. Dodge are rendering a service of incalculable value to the construction industry. I would be the last to criticize their excellent work. Both are limited by the expense factor. It is very expensive to gather production data in an industry so scattered as the construction industry. This expense factor limits the number of fieldmen that F. W. Dodge can profitably employ, especially in the thinly populated areas. It is my opinion that they cannot possibly cover the 37 states so as to record every home because the problem is too vast and too expensive. Working from permit data has one advantage over the use of fieldmen—you are making use of information actually recorded in thousands of local offices by many thousands of individuals.

Births, Marriages and Houses

It is my opinion that we must compromise between the two estimates. I would say the number of homes built this year is considerably greater than what Dodge will show but also considerably smaller than estimates based on Dept. of Labor data. I would sum up by saying that the irreducible minimum of homes built in 1936 is around 215,000 and that it is quite possible we built as high as 275,000. Perhaps 260,000 is a workable figure.

Many people figure the number of new homes required annually by using the *present* rate of growth of population which is between 800,000 and 900,000 annually in this decade. But as this writer pointed out in an article entitled "The Housing Shortage" published a few months ago, the following is the true situation:

The number of new homes required in any given year such as 1936 is dictated by the number of people reaching marriageable age (around 24 or so) in that year. People of that age were of course born around 1912 and it is the rate of increase at that time and not in the present year 1936 that is to the point.

Our rate of population growth is slowing down rapidly but the effects will not reach the demand for homes in full force until quite some time, except for the number of rooms per house which is determined by the size of the family at the present time. THERE IS A TIME LAG between declining population growth and its impact on the demand for homes. For instance from 1920 to 1924 we grew at the rate of 1,800,000 per year because of immigration and a higher birth rate than today. The people born at that time (less death rate) will reach marriageable age around 1944 to 1948 at which time our rate of increase will be no more than 800,000 per year (a full million less) if that much. From 1944 to 1948 we will therefore have a very large contingent of young people ready to marry and looking for new homes, but they will be the product of a very high rate of population

increase that will have ceased to exist in 1944 to 1948.

When we recollect that, on account of the disproportionately large contingents of young people who are now reaching marriage age, we require at least 350,000 new homes to take care of new families—we get some conception of the piling up of shortage in home space. As at least 50,000 homes should have been built to replace destruction, 1936 probably increased the shortage figure by 140,000 homes without allowing a single new home to replace antiquated and inferior dwellings.

Forecast for 1937

And now—how many homes will we build in 1937? In view of the difficulty we have in estimating actual construction in a year that is passing, it seems like sheer foolhardiness to venture into a future year. Nevertheless we can make some shrewd guesses. On what does home building depend? On the accumulated shortage, on the growth of population, on the availability of mortgage money at reasonable interest rates, on the relation between people's incomes and the cost of building homes, on the relation between rents and building costs in the speculative field, and above all, on the general level of business activity which of course determines in the last analysis the incomes of all of us.

We can probably take for granted that 1937 will be a year of continuing recovery, the home shortage is a fact, mortgage money exists in superabundance for safe prospects at a rate of interest that is lower than in our great building boom days of the past, rents are rising and so are incomes, and as to building costs—they will work higher, to what degree is a subject in itself that cannot be touched on here.

At this point however I think we should have a word of warning. There is a shortage of certain classes of skilled labor developing in certain building centers. It is not very widespread as yet. But if it becomes so and labor costs rise materially, it may have a pronounced effect on 1937 building volume. We must never forget that home building in the last analysis depends on the relation between cost of the home and the income of the prospective home owner, or the net rent the speculative builder can get out of the home. If building costs become excessive they may act as a serious break on volume. The estimates for 1937 are based on the expectation, or rather hope, that costs will rise no more than moderately.

The above factors in general make for continued expansion of home building. But there is another factor which is of first rate importance, namely—the home building industry is in competition with a thousand other industries for the consumer's dollar. This is nothing new of course. What is new—is that the producers of homes are for the first time fully conscious of the situation and have organized to do something about it. The lesson of the huge demand for automobiles, the result of an excellent product aggressively sold, has not been lost on the men who produce, and service homes.

The home building industry is at last awake to the fact that its products must be sold,—literally sold, not merely made available for sale. It is organizing for the purpose. The example I am most familiar with is naturally the one sponsored by my own company. I refer to the Housing Guild system whose sole purpose is to enable dealers and contractors to place trained salesmen in the field who know how to sell the materials and services of every branch of the industry. They are frankly telling the American people they ought to buy a 1937 model house because its better materials, more light,

more air, temperature control, reasonable financing, make it a bargain offer.

The trends of business are up, but they do not climb continuously upward at constantly the same rate of growth. The small chart shows the trend of residential construction in 37 states as recorded by Dodge. Note the steep trend in 1935 and the decided slackening in trend in 1936. In other words the rate of growth in home building that existed in 1935 as compared to 1934 was not maintained into 1936. If it had been, the Dodge figures for entire 1936 would show around 370,000,000 sq. ft. of residential construction instead of perhaps around 230,000,000 which they are more apt to show for this year. Because a year's home building is double its predecessor's, it is foolish to assume that a coming year will necessarily also double the volume of the preceding year. Such rates of increase never go on forever. I do not believe 1937 will double the volume of 1936 although the theoretical demand is certainly there. I think however we have a right to use 425,000 new homes for 1937 as a rough workable figure. Both 1936 and 1937 estimates are of course preliminary, based on 9 months figures and should be revised as more months' figures become available.

Inflation Boom Possible

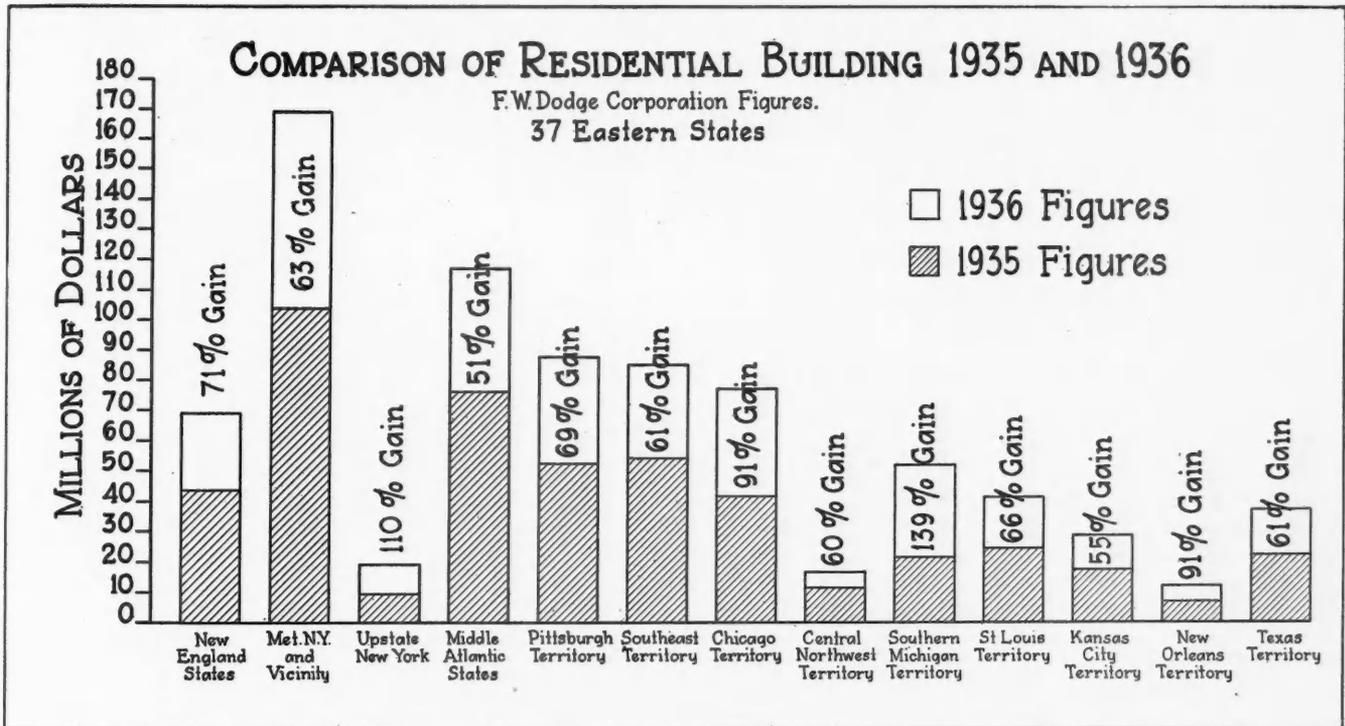
In case fear of inflation should become a much more pronounced factor than at present, this figure of 425,000 houses may become much higher as cash seeks refuge in real estate. I am referring here strictly to homes built entirely with private money. In my own opinion, slum clearance and homes for very low income groups built partly with public subsidies are very definitely on the governmental program. Whether many of us disapprove of this policy of subsidization is entirely beside the point if we are trying to look at things realistically. We are very likely to see the beginnings in 1937 of such a policy and it is entirely likely to develop into a factor of major proportions in the home building field in coming years.

In closing, it should be pointed out that when we say "so and so many homes were, or will be, built," we mean as shown by the records of building permits or contracts awarded. As a matter of fact, the permit may be taken out in November, the contract let in December and building operations not start until the beginning of the following year. One reason for the difference between Dept. of Labor and Dodge figures is that they do not cover the same time period. This was strikingly shown this year by the sudden spurt in apartment house construction as shown by permits in June and July but not reflected in awarding of contracts until August.

This article has incidentally brought out the extreme lack of statistical information in the home building field in many of its most important sectors. The question is whether it is not now time to expand our mechanisms for gathering data. We sincerely hope the Division of Construction in Washington will continue its policy of throwing new light into the dark areas shown by the chart and perhaps take up the matter of cancellations. We also hope F. W. Dodge may one of its days extend its invaluable service into the remaining as yet uncovered 11 Western States. It would also be decidedly helpful if Dodge would report the actual number of apartments in multi-family dwellings instead of merely the number of projects. I would also like to see the U.S. Bureau of Agricultural Economics give us a great deal more information about home building on the farms. In this extremely important sector of over 44,000,000 people we have almost no real information to guide us.

Geographical Analysis

Home Building for 1935 and 1936 Charted by Regions
with 1936 Gains Over 1935 Shown



RESIDENTIAL BUILDING — 1935 AND 1936 — F. W. DODGE CORPORATION FIGURES — BY REGIONS

	New England States	Met. N. Y. and Vicinity	Upstate New York	Middle Atlantic States	Pittsburgh Territory	Southeast Territory	Chicago Territory	Central Northwest Territory	Southern Michigan Territory	St. Louis Territory	Kansas City Territory	New Orleans Territory	Texas Territory	TOTAL
1935														
January	\$ 1,247,300	\$ 6,122,300	\$ 150,700	\$ 2,426,900	\$ 2,082,400	\$ 5,141,800	\$ 779,900	\$ 96,800	\$ 833,200	\$ 1,210,200	\$ 512,100	\$ 360,000	\$ 1,446,600	\$ 22,410,200
February	912,800	3,422,000	284,900	2,806,200	1,935,500	2,248,200	758,100	184,800	527,500	1,226,400	698,300	349,900	1,284,200	16,616,800
March	2,513,900	7,755,900	299,500	5,205,700	2,644,300	5,133,300	1,790,100	533,800	971,500	2,266,200	1,194,700	445,300	1,456,200	32,209,400
April	3,258,400	10,507,600	1,308,500	7,557,800	3,275,400	4,404,900	3,568,400	986,800	1,609,700	2,121,900	1,405,300	546,800	1,653,300	42,202,900
May	3,098,100	10,700,700	1,258,500	6,895,100	3,381,800	4,598,500	3,142,600	1,136,500	2,391,500	3,023,900	1,401,500	599,900	2,098,300	44,901,300
June	3,566,400	10,122,900	889,500	7,277,300	7,294,400	4,308,500	8,410,900	1,495,200	2,208,000	2,121,600	1,866,100	530,600	1,833,300	49,832,600
July	4,282,000	10,487,200	827,400	8,603,700	4,991,700	4,670,400	4,211,200	1,135,700	1,949,100	1,913,100	2,258,600	533,200	2,551,500	48,394,300
August	3,455,100	8,868,600	858,500	6,497,800	4,581,500	3,310,300	3,587,700	910,400	1,950,700	2,388,600	1,784,200	441,000	1,896,100	40,528,300
September	3,014,700	8,441,800	844,900	6,319,100	4,242,900	5,049,800	3,910,700	1,013,700	2,777,200	2,411,400	1,637,300	493,000	1,984,300	41,810,800
October	4,754,500	10,413,500	930,000	8,435,900	10,936,700	5,152,100	4,151,000	859,500	2,632,100	1,803,000	1,942,600	891,800	2,397,700	55,100,300
November	4,970,700	9,989,700	951,900	5,688,500	3,436,400	3,266,200	3,216,700	1,167,000	2,084,000	1,783,100	1,120,300	367,500	1,853,200	39,685,200
December	4,711,700	7,829,400	660,600	7,950,400	3,357,500	5,660,900	5,153,300	574,200	1,833,600	1,841,200	2,883,100	1,009,500	2,083,900	45,140,100
TOTAL	\$40,363,500	\$104,451,800	\$ 9,842,900	\$ 75,084,100	\$52,050,300	\$52,942,800	\$40,678,600	\$10,084,400	\$21,596,100	\$24,108,600	\$18,704,100	\$ 6,357,600	\$22,818,500	\$478,843,100
1936														
January	\$ 2,239,600	\$ 9,141,000	\$ 458,700	\$ 6,312,600	\$ 4,304,500	\$ 3,466,200	\$ 2,967,400	\$ 486,700	\$ 1,625,400	\$ 1,985,500	\$ 1,762,300	\$ 531,900	\$ 2,459,700	\$ 37,439,500
February	2,322,700	7,029,800	238,000	5,195,700	2,625,800	5,183,800	1,931,500	327,700	1,342,500	863,100	1,303,500	638,100	2,184,300	31,175,600
March	3,997,200	12,697,100	520,500	7,299,600	5,720,400	5,743,300	3,822,500	1,078,400	3,999,900	3,559,100	2,420,300	874,000	3,490,400	55,220,600
April	6,874,800	12,731,800	1,084,800	10,093,900	7,847,200	7,036,900	6,617,700	1,471,100	4,413,500	2,535,500	2,378,700	1,028,300	3,258,800	67,151,000
May	5,748,700	13,272,500	1,489,100	12,140,200	7,843,800	6,454,600	6,688,400	1,518,300	5,517,900	3,342,100	2,530,800	1,019,600	2,907,600	70,253,400
June	5,929,700	16,226,500	1,232,300	7,816,900	8,245,900	6,536,400	7,832,600	1,661,800	5,843,000	3,687,400	2,632,100	1,032,400	2,907,900	73,604,600
July	6,169,200	15,224,500	1,259,900	11,409,700	7,189,500	8,288,700	6,650,200	1,761,700	4,548,500	2,747,500	2,190,300	1,387,100	3,168,900	71,993,700
August	12,621,700	20,462,700	5,981,000	12,147,600	8,934,000	10,936,200	14,549,300	1,578,000	4,848,300	2,647,800	2,125,900	871,500	3,170,000	100,522,500
September	6,737,400	14,147,900	1,312,800	10,996,400	10,519,500	8,983,000	7,131,400	1,699,900	5,056,900	8,496,200	4,253,700	881,400	3,572,300	80,670,800
October	5,711,100	17,159,600	2,362,000	12,492,300	8,158,700	8,760,900	7,285,000	1,711,000	5,236,800	2,987,600	2,348,800	1,937,600	3,514,300	79,864,200
November	5,992,900	15,919,600	1,413,800	10,918,300	8,407,100	6,537,500	6,667,000	1,287,300	4,264,300	2,807,800	2,134,300	691,300	2,802,800	68,440,700
December	5,813,300	15,741,400	1,696,400	11,338,300	9,027,800	7,428,800	6,681,100	1,568,000	4,852,700	4,763,900	2,912,300	1,183,400	3,296,400	76,250,300
TOTAL	\$69,959,700	\$169,750,400	\$19,008,500	\$117,751,400	\$88,172,000	\$85,354,200	\$77,704,100	\$16,163,700	\$51,540,600	\$40,123,500	\$28,993,000	\$12,034,800	\$36,731,100	\$812,394,800

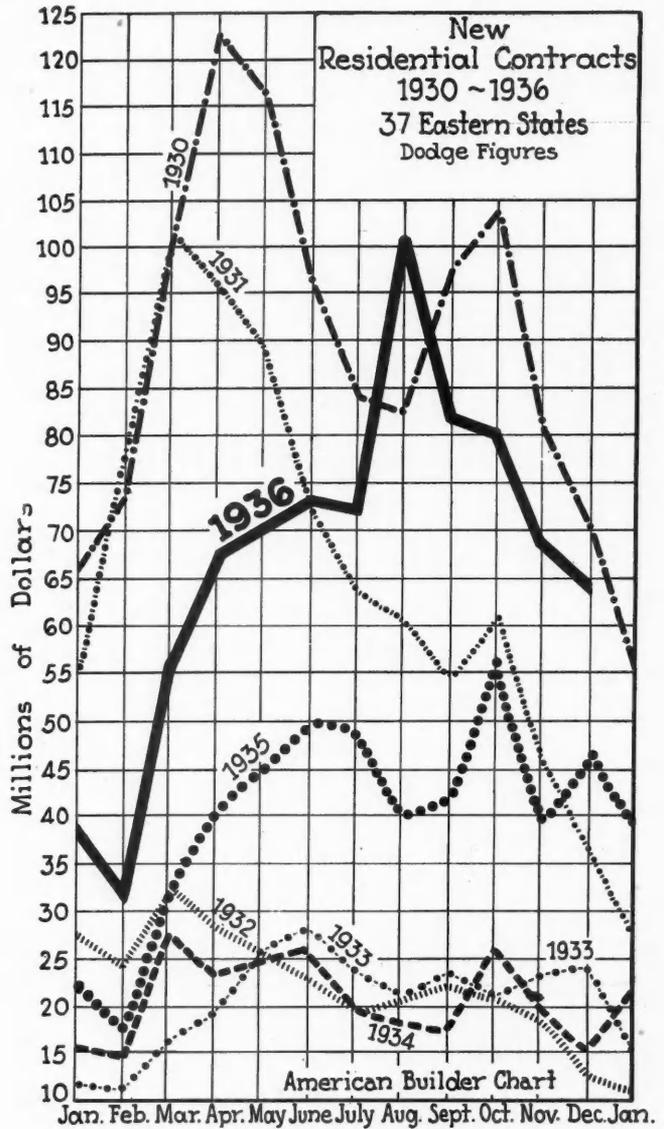
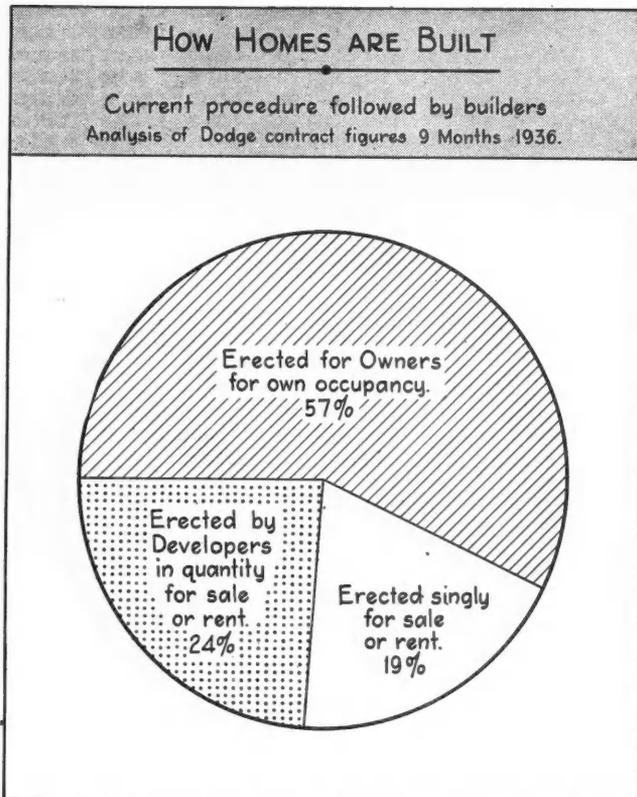
*Estimated.

"DODGE TERRITORIES" as tabulated above are defined as follows: New England States: Me., N.H., Vt., Mass., Conn., R.I.; Metropolitan N.Y. and Vicinity: Greater New York City including Northern N.J.; Upstate New York: N.Y. North of Greater New York City; Middle Atlantic States: Eastern Pa., Southern N.J., Del., Md., Va.; Pittsburgh Territory: Western Pa., W.Va., O., Ky.; Southeast Territory: N.C., S.C., Ga., Fla., Eastern Tenn., Ala.; Chicago Territory: Northern Ill., South-eastern Wis., Ia.; Central Northwest Territory: Minn., Northwestern Wis., Upper Peninsula Mich., N.Dak., S.Dak.; Southern Michigan Territory: Lower Peninsula Mich.; St. Louis Territory: Southern Ill., Eastern Mo., Ark., Western Tenn.; Kansas City Territory: Western Mo., Nebr., Kans., Okla.; New Orleans Territory: La., Miss., Texas Territory: Tex.

1936 Home Building Analyzed

- 1—The Percent Built for Owners' Occupancy
- 2—New Home Contracts 1930 to 1937
- 3—Monthly Totals 1936 Construction
- 4—Count of Major Building Industry Factors
- 5—Single, Double and Multi-Family Dwelling Units Built in 1936
- 6—1936 Homes by Price Classes
- 7—Present Taste in Home Styles

THE present home building market is divided approximately into two halves—with 57 per cent money value and 48 per cent number of houses being built individually for owners and 43 per cent money value and 52 per cent number of houses being built speculatively for sale or rent to home seekers. These significant figures are from a study of residential contracts reported by the F. W. Dodge Corp. for the 37 states east of the Rockies for the first 9 months of 1936. L. Seth Schnitman, chief statistician of the Dodge organization, in releasing this study said, "As the year 1936 draws to a close it becomes apparent that the one-family house still dominates the residential building field. Dwellings erected for owners for their own occupancy still are the most important class, followed by those erected for sale or rent."



SUMMARY OF CONSTRUCTION CONTRACTS IN 1936

F. W. Dodge Figures for 37 States East of Rockies

Month	Residential		Non-Residential	Public Works and Utilities	Total
	Value	Number			
January	\$ 37,439,500	4,831	\$ 90,479,800	\$ 76,873,500	\$ 204,792,800
February	31,175,500	4,176	62,610,900	48,263,800	142,050,200
March	55,220,600	7,601	81,460,300	62,297,400	198,978,300
April	67,151,000	10,385	94,068,100	73,412,500	234,631,600
May	70,253,400	10,516	82,251,700	63,565,600	216,070,700
June	73,604,600	10,211	79,078,900	80,371,100	233,054,600
Total 1st Half Year	\$334,844,600	47,720	\$489,949,700	\$404,783,900	\$1,229,578,200
July	\$ 71,993,700	10,576	\$ 96,125,200	\$126,615,600	\$ 294,734,500
August	100,522,500	11,046	80,379,900	94,379,000	275,281,400
September	80,670,800	11,396	69,098,700	84,502,000	234,271,500
October	79,664,200	10,378	79,071,300	67,032,400	225,767,900
November	68,440,700	9,498	65,895,300	73,868,200	208,204,200
December*	64,779,600	8,482	57,227,200	56,085,800	178,092,600
Total 2nd Half Year	\$466,071,500	61,376	\$447,797,600	\$502,483,000	\$1,416,352,100
Total 1936	\$800,915,000	109,096	\$937,747,300	\$907,266,900	\$2,745,930,300

*Estimated

WHY A BUILDING REVIVAL WILL END UNEMPLOYMENT

The construction industry is gigantic, widespread. It is carried on in villages, cities and farms—in some 3,072 counties and 75,000 townships. Listed below are important groups that make up the building industry.

THE MEN*

	1930
Builders and Building Contractors	167,512
Carpenters	766,787
Retail Lumber Dealers (men)	34,070
Laborers in Coal and Lumber Yards	73,232
Architects	22,000
Brick and Stone Masons and Tile Layers	157,180
Painters, Glaziers and Varnishers (Bldg.)	415,027
Plumbers, Gas and Steam Fitters	164,601
Plasterers and Cement Finishers	70,053
Roofers and Slaters	23,636
Structural Iron Workers (Bldg.)	25,400
Designers and Draftsmen	100,430
Tinsmith and Coppersmith and Sheetmetal Workers.....	83,427
Real Estate Agents and Officials	240,030
Electricians	82,875
Cabinetmakers	57,897
Laborers and Helpers, Bldg. Construction	419,802
Apprentices to Bldg. and Hand Trades	40,133

RETAIL STORES AND SALES, 1935**

	No. of Stores	Firm Members and Employees	Net Sales, 1935
Lumber and Bldg. Material Dealers	21,039	101,054	\$ 861,160,000
Hardware Stores	26,951	72,184	466,552,000
Heating and Plumbing Equipment Dealers	4,863	20,435	84,141,000
Paint, Glass, Wallpaper Stores	8,880	22,279	126,638,000
Electrical Supply Stores	1,471	4,708	22,134,000

WHOLESALESAERS AND SALES, 1929***

Construction and Building Materials (Other than Metal and Wood)	3,222	46,979	1,009,846,000
Lumber and Millwork	2,291	24,874	1,134,206,000
Construction Equipment and Supplies	498	4,059	132,690,000
Plumbing Equipment and Supplies	2,151	30,327	701,746,000
Heating Equipment and Supplies	635	6,025	117,921,000
Refrigerators (Electric)	172	7,950	104,292,000

*U. S. Census 1930, includes building workers in all industries.
 **Census of Business 1935.
 ***Census of Distribution 1929

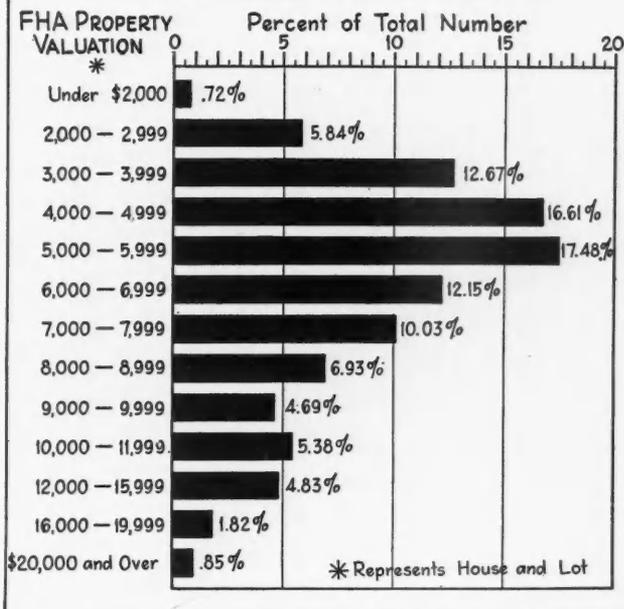
TYPES OF HOUSING

Single Family, Double Houses and Multifamily Dwellings Built in Some 1468 Cities, Ten Months, 1936, As Reported by U. S. Department of Labor

1936	Units in 1-family Dwellings	Units in 2-family Dwellings	Unit in Multifamily Dwellings
January	4,380	413	3,008
February	5,315	311	2,437
March	8,522	738	2,249
April	9,636	906	2,485
May	9,622	733	2,986
June	10,324	813	8,350
July	10,204	917	9,894
August	9,988	763	5,673
September	10,149	815	4,247
October	10,544	873	4,482
Total	88,684	7,282	45,811
Total, all groups, 141,777 Family Units.			
Per Cent of Total	63%	5%	32%

60% OF FHA INSURED HOMES VALUED UNDER \$7,000.00

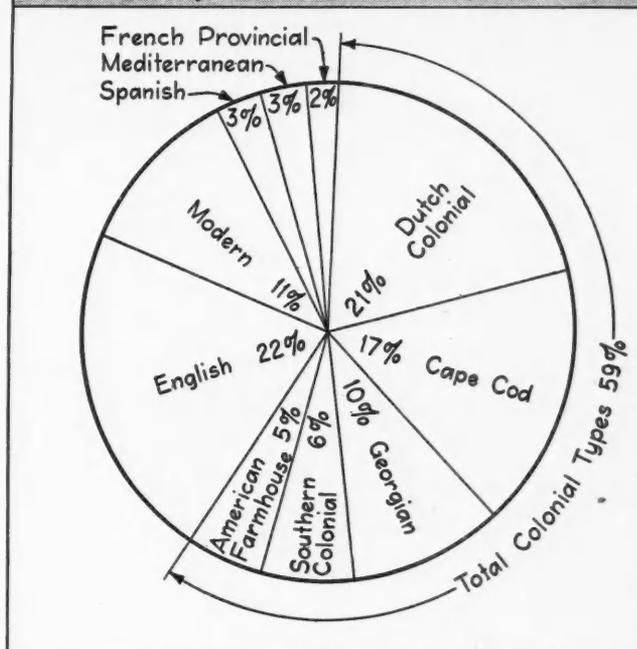
Bars show valuation of New Residential Properties on which FHA Mortgages were accepted for Insurance in 1936



A GOOD cross section of the value of residential properties (including house and lot) built in 1936 is given by the above chart. Half of the properties accepted for mortgage insurance by FHA were valued at less than \$6,000. Houses valued between \$4,000 and \$6,000 made up more than 1/3 of the total. Those above \$12,000 made up only 7 1/2 per cent of the total.

PRESENT AMERICAN TASTE IN HOME STYLES

Analysis from investigation among Niagara-Hudson Customers by the Architectural Forum.



Home Building Costs in 1936

Total Costs and Cubic Foot Costs of Identical House Built in Representative Cities in Feb., May., Aug. & Nov., 1936

THE Federal Home Loan Bank Board reports that between August and November, 1936, the cost of building the same typical 6-room house went up 1 per cent or more in 8 of the 24 cities making comparable reports for these two periods. In 4 cities the costs went down 1 per cent or more and in 12 cities costs remained the same or the change was less than 1 per cent.

The largest increase of 9 per cent, or 2.1 cents per cubic foot, was reported by Pittsburgh, Pa. The change was principally due to wage increases. New Orleans, La., reported an increase of 5.3 per cent; and Los Angeles and San Diego, Calif., of 3.7 per cent and 3.1 per cent respectively. Cincinnati, O., and Phoenix, Ariz., both registered a drop of 3.1 per cent.

Special attention is called to the description of the standard house on which costs are obtained. This house is a detached 6-room home of 24,000 cubic-foot volume.

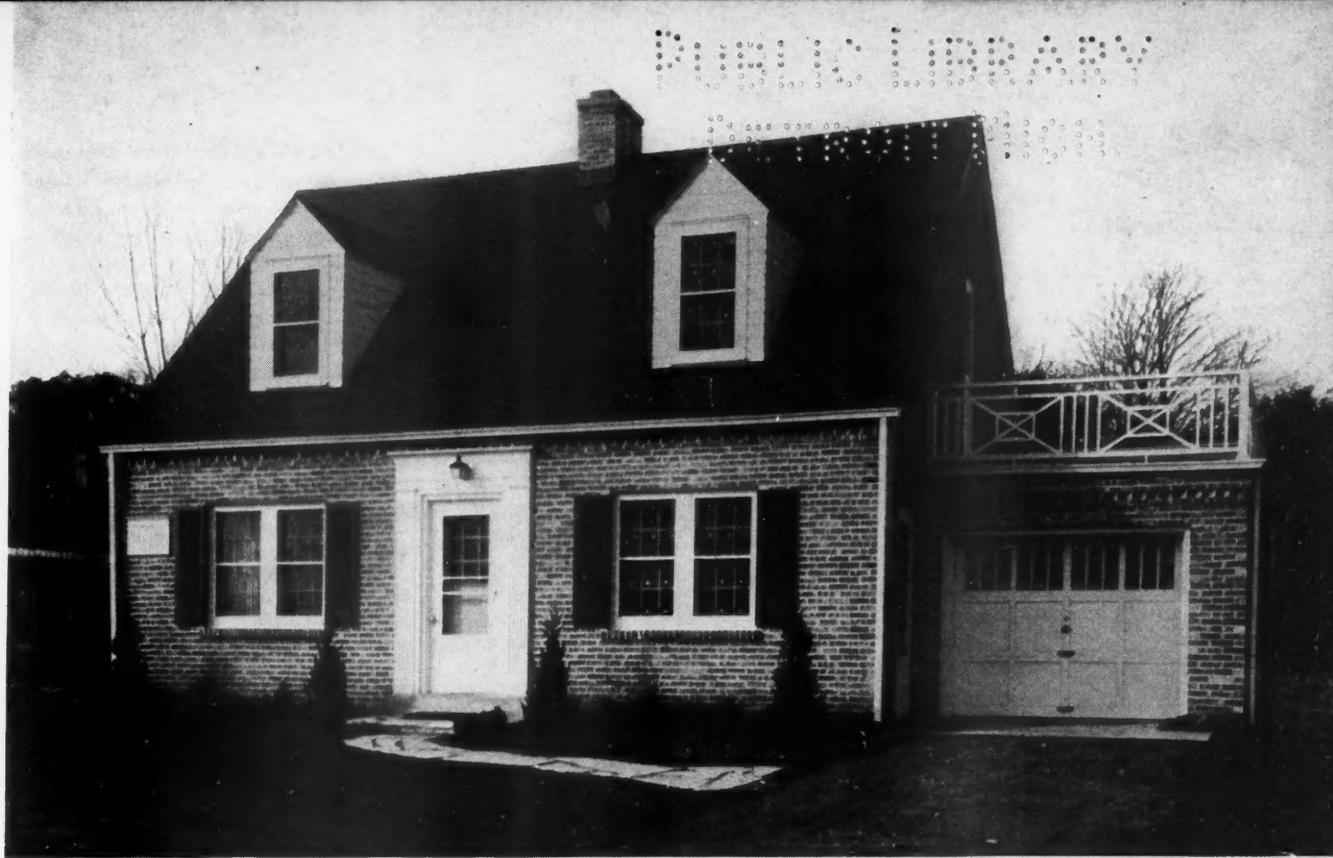
Living room, dining room, kitchen and lavatory on first floor; 3 bedrooms and bath on second floor. Exterior is wide-board siding with brick and stucco as features of design. Best quality materials and workmanship are used throughout.

It is emphasized by the Federal Home Loan Bank Review, in releasing these figures that the costs reported do not represent the cost of building a completed house in any of the cities. The purpose of the reports is rather to give a true picture of *movements* of costs within each city and a reliable comparison of costs among all reporting cities. The house is *not* completed ready for occupancy. It includes all fundamental structural elements.

In figuring costs, current prices on the same building materials list are obtained every 3 months from the same dealers, and current wage rates are obtained from the same reputable contractors and operative builders.

Total costs and cubic-foot costs of building the same standard house in representative cities in specific months
[Source: Federal Home Loan Bank Board]

Federal Home Loan Bank Districts, States, and cities	Total building cost				Cubic-foot cost			
	Novem-ber	August	May	Febru-ary	Novem-ber	August	May	Febru-ary
No. 3—Pittsburgh:								
Delaware:								
Wilmington.....	\$5,258	\$5,259	\$5,290	\$5,213	\$0.219	\$0.219	\$0.220	\$0.217
Pennsylvania:								
Harrisburg.....	5,408	5,405	5,439	5,371	.225	.225	.227	.224
Philadelphia.....	5,010	4,929	4,870	4,584	.209	.205	.203	.191
Pittsburgh.....	5,920	5,433	5,405	5,474	.247	.226	.225	.228
West Virginia:								
Charleston.....	5,696	5,564	5,477	5,475	.237	.232	.228	.228
Wheeling.....	5,763	.....	.....	.....	.240	.....	.....	.....
No. 5—Cincinnati:								
Kentucky:								
Lexington.....	5,183	5,196	5,079	4,952	.216	.216	.212	.206
Louisville.....	5,456	5,338	5,326	5,384	.227	.222	.222	.224
Ohio:								
Cincinnati.....	5,748	5,932	5,827	5,809	.239	.247	.243	.242
Cleveland.....	6,288	6,240	6,222	6,051	.262	.260	.259	.252
Columbus.....	5,778	5,850	5,529	5,522	.241	.244	.230	.230
Tennessee:								
Memphis.....	5,092	5,080	5,120	4,841	.212	.212	.213	.202
Nashville.....	5,094	5,096	5,089	5,030	.212	.212	.212	.210
No. 9—Little Rock:								
Arkansas:								
Little Rock.....	5,136	5,202	5,215	5,215	.214	.217	.217	.217
Louisiana:								
New Orleans.....	5,395	5,124	5,075	5,075	.225	.214	.211	.211
Mississippi:								
Jackson.....	5,412	5,365	5,333	5,319	.225	.224	.222	.222
New Mexico:								
Albuquerque.....	5,827	5,779	5,625	5,625	.243	.241	.234	.234
Texas:								
Dallas.....	5,641	5,641	5,618	.....	.235	.235	.234	.....
Houston.....	5,759	5,759	5,883	.....	.240	.240	.245	.....
San Antonio.....	5,538	5,532	5,532	5,464	.231	.231	.231	.228
No. 12—Los Angeles:								
Arizona:								
Phoenix.....	5,843	6,032	6,112	6,044	.243	.251	.255	.252
California:								
Los Angeles.....	5,489	5,301	5,239	5,316	.229	.221	.218	.221
San Diego.....	5,338	5,177	5,198	5,225	.222	.216	.217	.218
San Francisco.....	6,222	6,152	6,017	.....	.259	.256	.251	.....
Nevada:								
Reno.....	6,354	6,313	6,324	6,097	.265	.263	.263	.254



Popular Home Designs for 1937 Building



HOME planning ideas for this year's market presented on the following Design Section pages

THE CAPE COD Cottage with attached garage illustrated above was chosen as the January House of the Month; the style promises to be as popular in the small house field during 1937 as it has been for the past several years. A. J. Weil, Chicago, was the designer and builder of this well proportioned and carefully planned five-room model home. He has included numerous modern construction features in the layout which add efficiency and reduce building cost. A good sized combination living and dining room follows present trends. Kitchen, lavatory and bath are grouped for economy; utility room is of ample size.

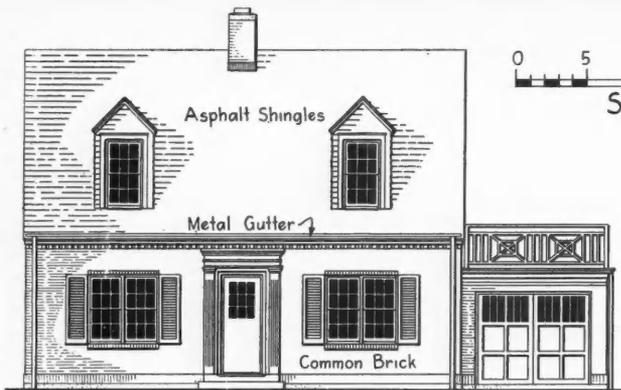
Exterior detailing is well handled, particularly the entrance which is shown at the left. The colors of the select common brick, interesting angled header course below cornice, light trim and green blinds combine to give a pleasing effect. The house is located in Wilmette, Ill.

**PLANS, ELEVATIONS AND DETAILS
GIVEN ON THE NEXT TWO PAGES**

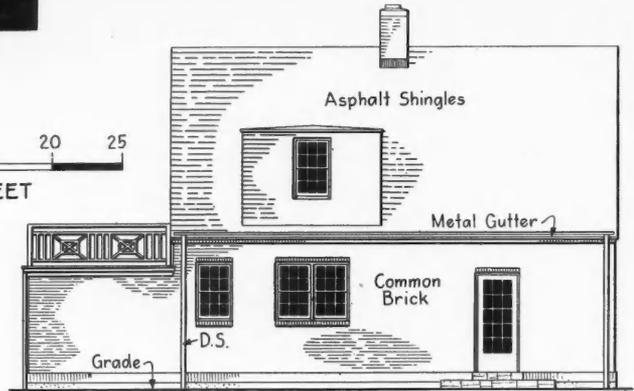
NUMEROUS variations are possible in the basic plan shown below. If a basement is desired, the space taken for the utility room can be used for a den, separate dining room or extra bedroom connecting with the hall. Also third bedroom can be added over the garage.

On opposite page, fireplace illustration shows built-in shelves and section indicates how an ash pit has been included in a basementless house; access is from the utility room which has a floor level slightly below grade. Inside walls of the utility room are open from bottom of first floor joists to the top of utility floor curb, allowing for air circulation under house.

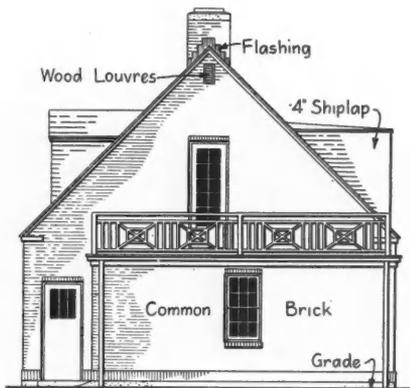
Cost Key is 1.666-137-(840)-(36)-21-16



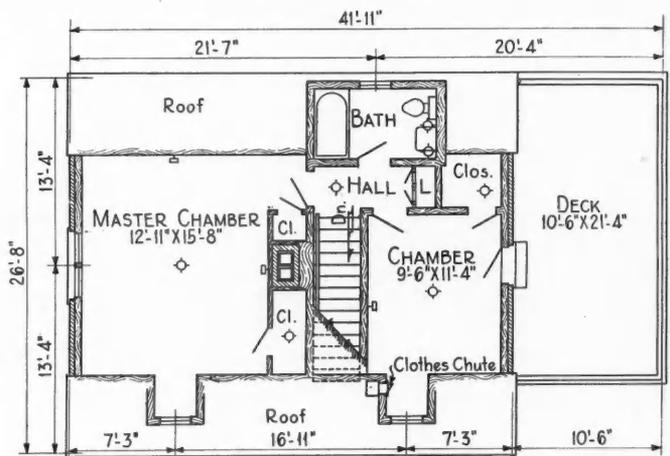
FRONT ELEVATION



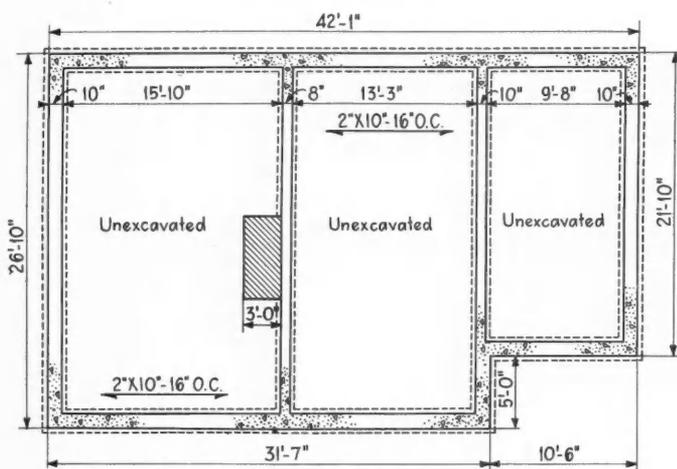
REAR ELEVATION



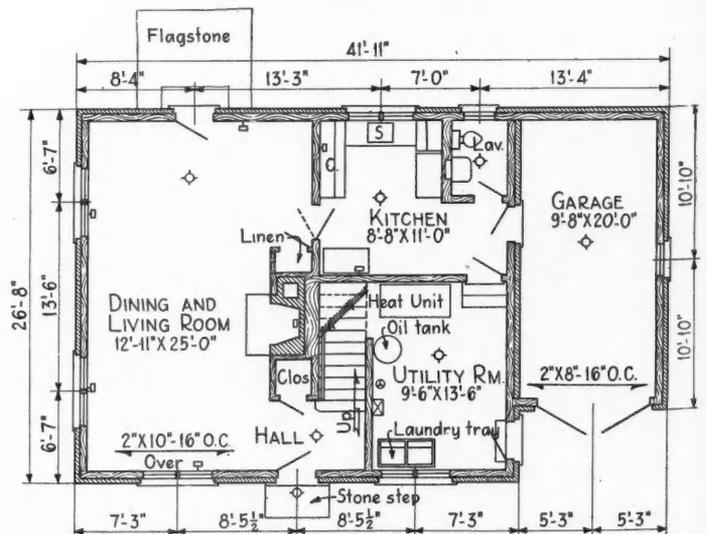
RIGHT ELEVATION



SECOND FLOOR PLAN



FOUNDATION PLAN



FIRST FLOOR PLAN

MASSIVE
CHIMNEY,
STUDIO LIVING-
ROOM FEATURE
ENGLISH HOUSE

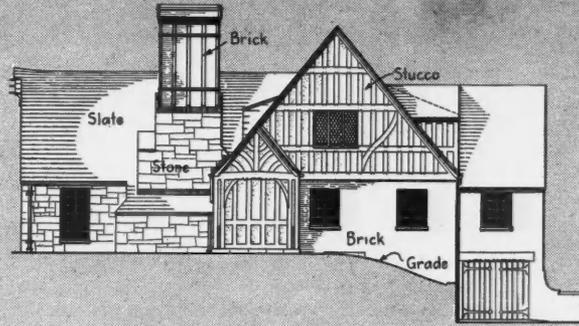
John J. Cappelli, Builder
Louis Kurtz, A.I.A.,
Architect

ONE of the most admired houses in the Riverdale section of New York City is this substantial English structure which was the result of the co-operation of a good builder and a good architect. The massive chimney has attracted unusual attention. The house has concrete floors and heavy insulation.

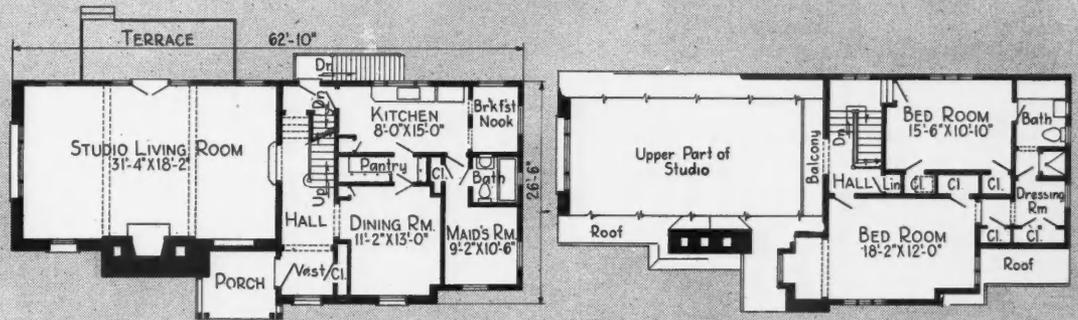
Photos by John Gass

CHIMNEY and entrance combine in a most attractive way.





FRONT ELEVATION



FIRST FLOOR PLAN

SECOND FLOOR PLAN

FLOOR plans reveal a spacious and comfortable home, well planned and well built. The studio living room, shown below, is the outstanding feature of the house, which is owned by an artist. A balcony runs across one end, and the other is dominated by the heavy window, letting in north light.

Cost Key is 2.088—185—1490—62—27—25





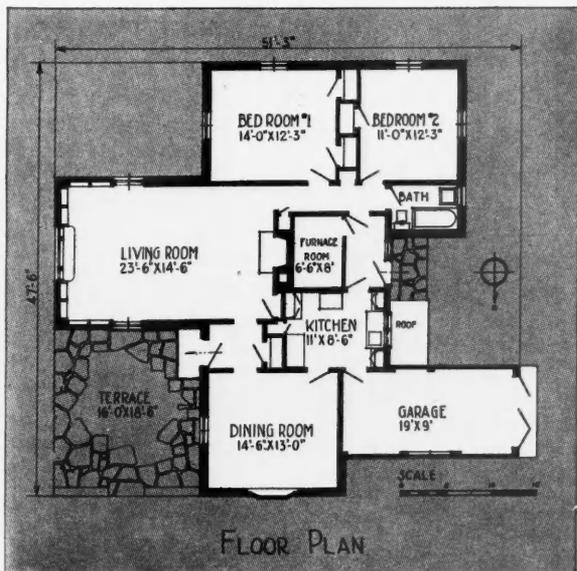
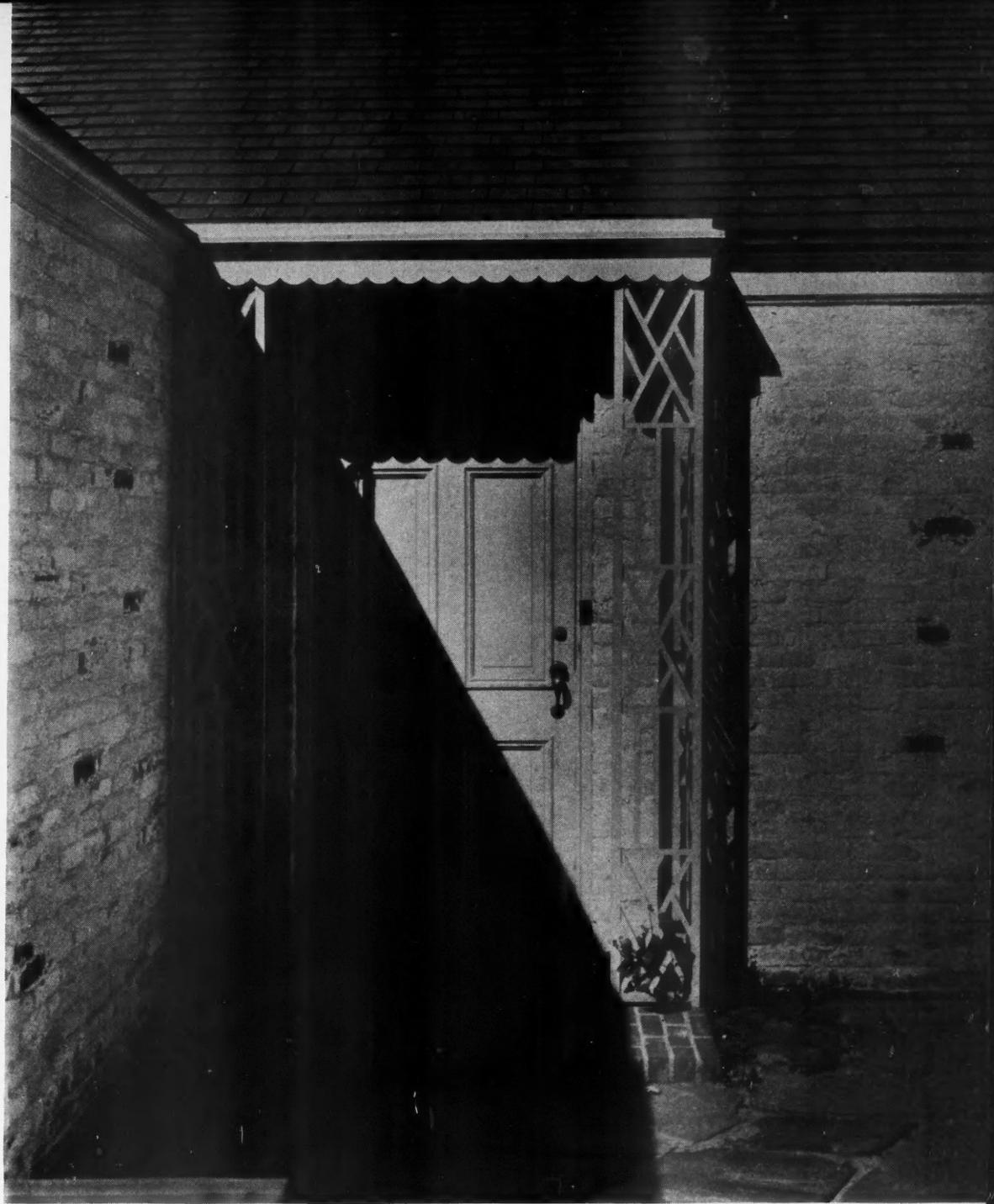
ONE-LEVEL HOUSE
CURVED CEILING

IN GREENWICH, Conn., this rambling brick house, designed by Architect Harrison Gill, establishes a high for good, forward-looking yet practical design in a small house. It is all on one level with a heater room off the kitchen. The living room is admirably laid out, with three exposures, and is finished in stained pine with ivory doors and trim. The curved ceiling is a striking feature.

Cost Key is 1.633-197-(1367)-(58)-21-22

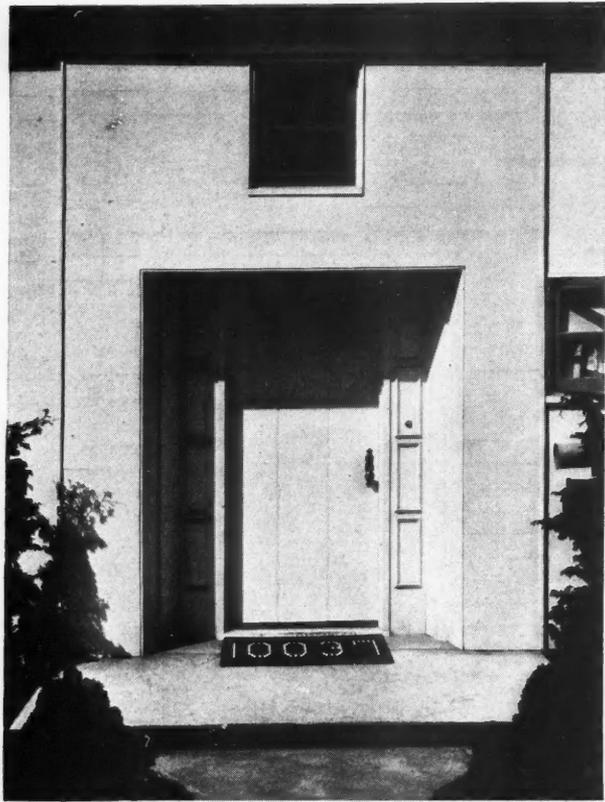


THE SIMPLE details of this entrance give life to an otherwise bare corner. Walls are of second-hand brick, painted with oil paint. Roof is of red cedar shingles. Outside trim is painted cream color.



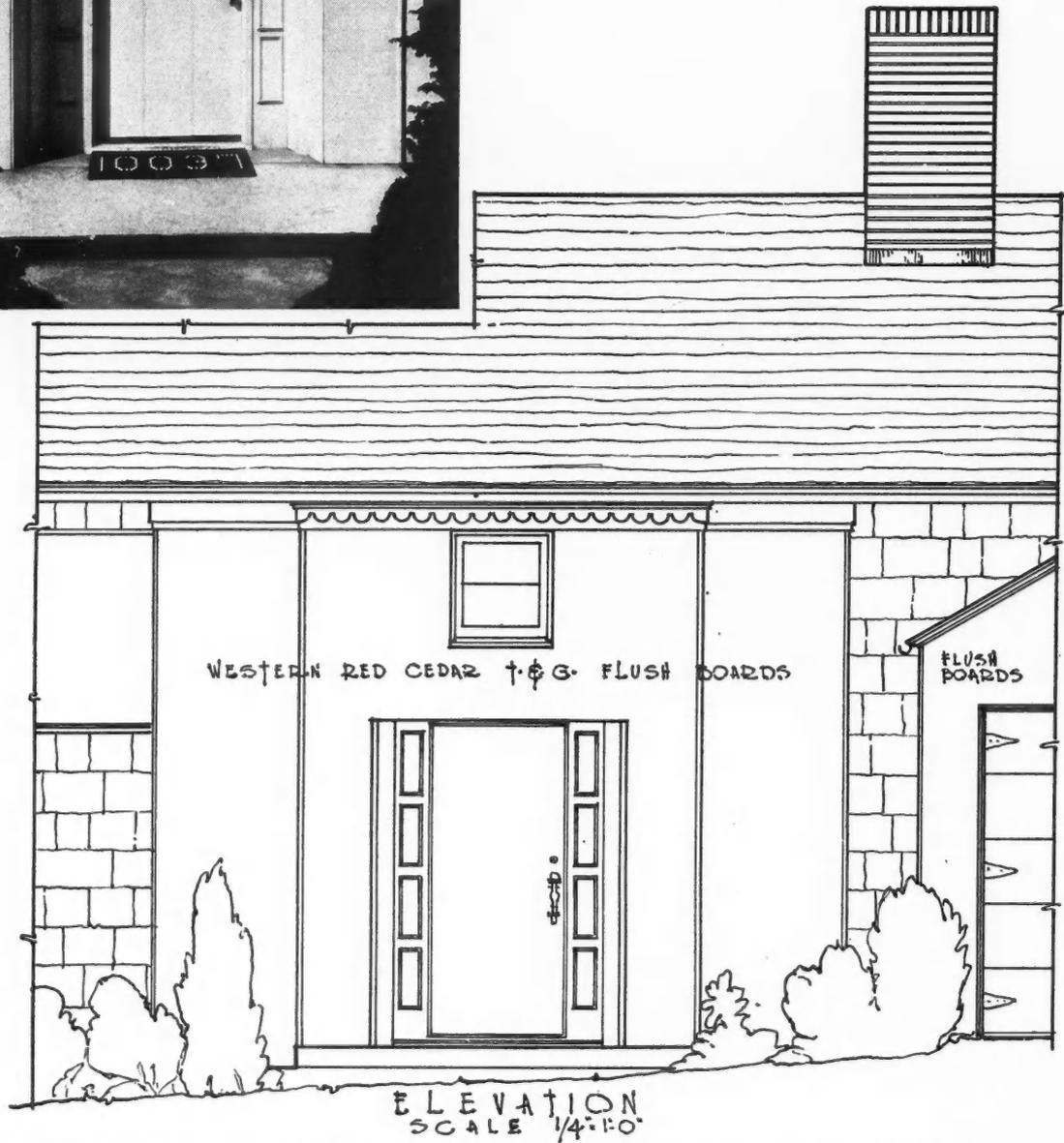
AIR CONDITIONER OFF KITCHEN

THE ROCKY soil of Connecticut makes basements expensive. This house has a winter air conditioning plant located in a small room off the kitchen and near the back entrance. Maximum economy in installation is achieved by this central location, which is also next to the living room fireplace so that one chimney only is required. Modern, attractive heating equipment makes such a furnace room entirely unobjectionable in such a location.



HOUSE AT BLUERIDGE

GEORGE WELLINGTON STODDARD
ARCHITECT A.I.A.

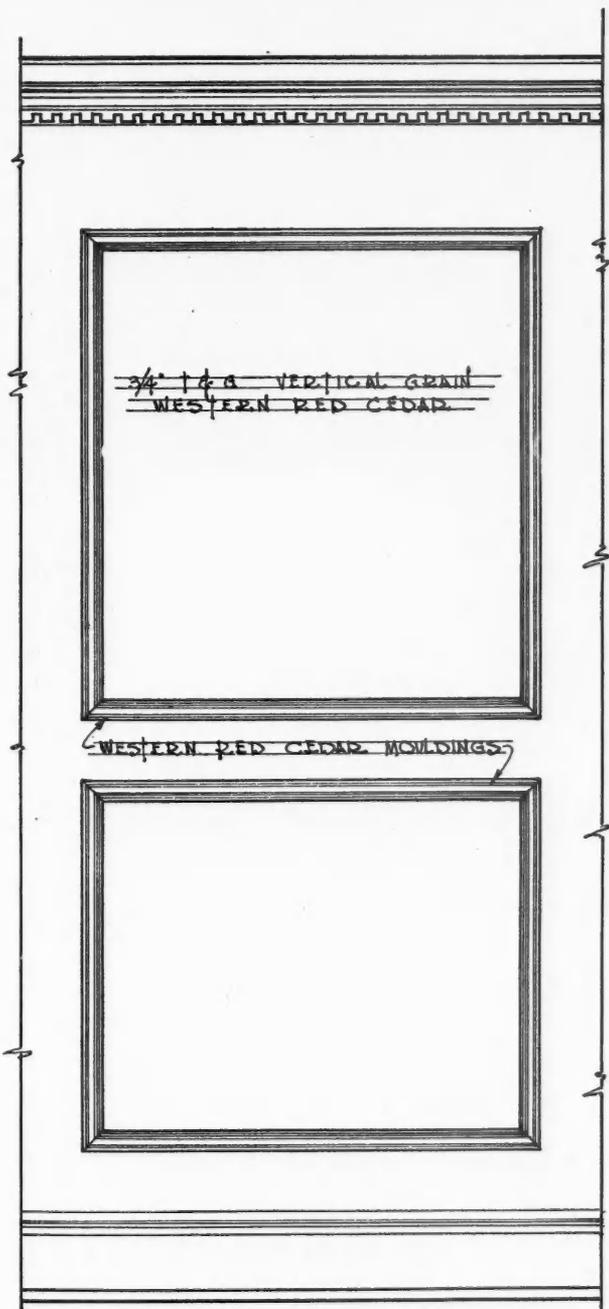


No. 9 of a Series
of Architectural Details that
help to sell homes

MODERN HOME ENTRANCE

TYPICAL DETAIL OF
WESTERN RED CEDAR
WALL PANELLING

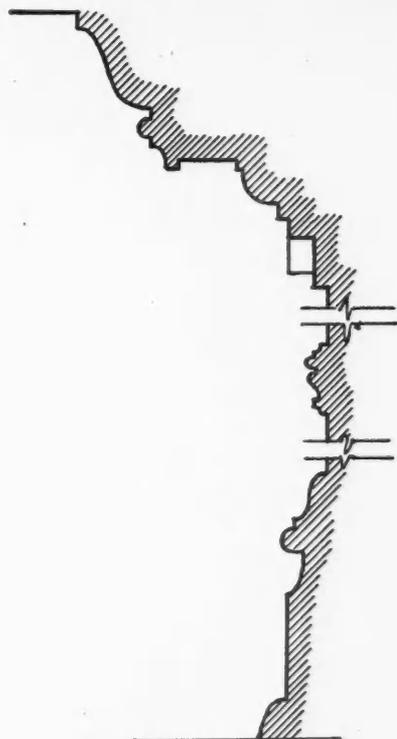
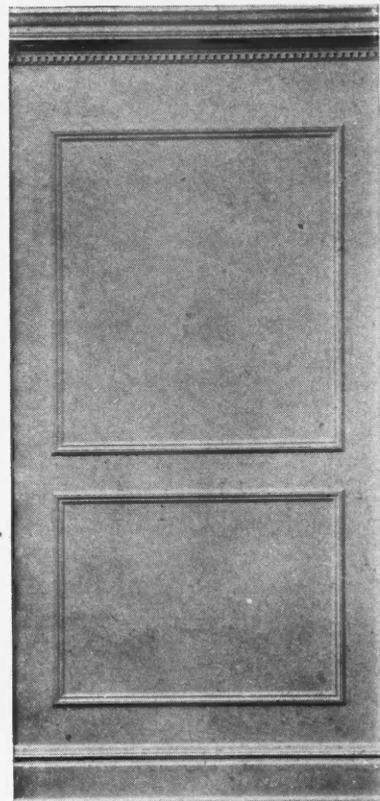
GEORGE WELLINGTON STODDARD
ARCHITECT A.I.A.



3/4" x 6" VERTICAL GRAIN
WESTERN RED CEDAR

WESTERN RED CEDAR MOLDINGS

ELEVATION
SCALE 3/4" = 1'-0"



SECTION
SCALE 3/4" = 1'-0"

INTERIOR WALL PANELLING

Measured Drawings of correctly detailed house construction



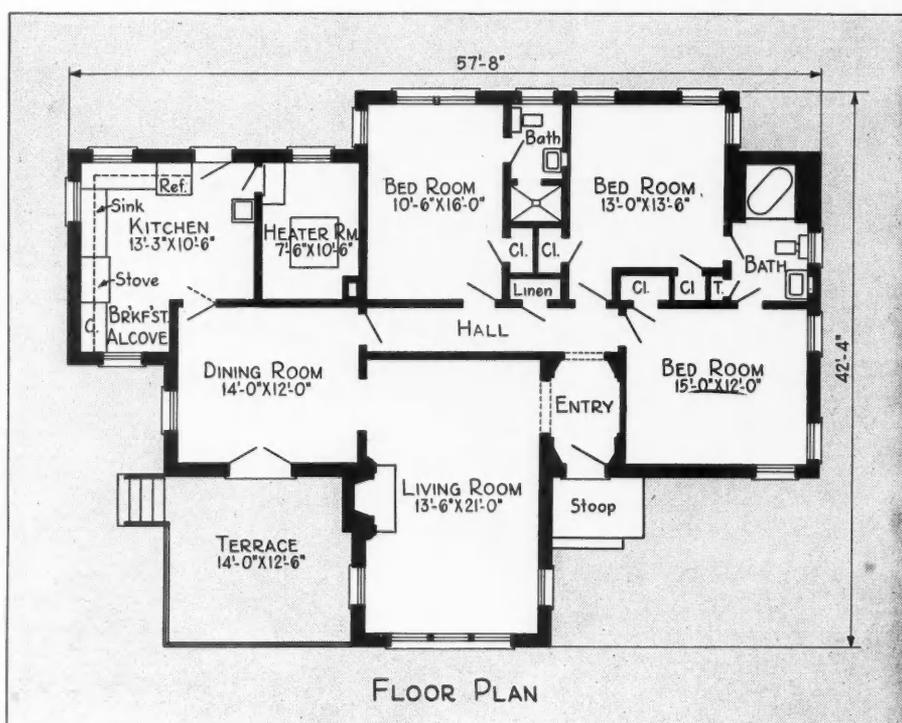
JUNIOR CHAMBER OF COMMERCE HOME BIRMINGHAM, ALABAMA

Jas. L. Gatling, Architect
Curtis F. Hooks, Builder

"YOUR House of Today," a model home built co-operatively by two dozen contractors and building supply people and sponsored by the Junior Chamber of Commerce recently opened and has so far been visited by 35,000 persons, who paid 25 cents each admission charges. The home is air conditioned with heating plant placed in a small room adjoining the kitchen. The kitchen is all electrical, the bathroom walls are of vitrolite, the living room walls of fir, one of the bedrooms is finished in masonite and others have paper or plaster walls. The house is of colonial style, whitewashed brick and with steel shingle roof.

Cost Key is 1.847-200-(1740)-(72)-19-23

FIRMS COOPERATING
CONCRETE, Sloss-Sheffield Co.
FLOORING—OAK BLOCK, E. L. Bruce & Co.
HARDWARE, Grayson Lumber Co.
HEATING PLANT, Alabama Coals, Inc.
COAL STOKER, Geo. F. Wheelock Co.
BUILDING MATERIAL AND LUMBER, Barnett Lumber Co.
LIVE RUBBER FLOORING—KITCHEN AND BATHS, Goodyear Rubber Co.
MORTAR AND CEMENT, Southern Cement Co.
PAINT, WALL PAPER AND VARNISH, Birmingham Paint & Glass Co.
PLASTER, Certain-teed Products Co.
PLUMBING, J. H. Morris Plumbing Co.
ROOF, Tennessee Coal, Iron & R.R. Co.
SASH, DOORS, CABINETS, Birmingham Sash & Door Co.
TILE, Wimberly & Thomas Hardware Co.
SHEET METAL, Alabama Tin Shop
VITROLITE AND MARSH TILE, Builders Supply Co.
WIRING AND LIGHTING FIXTURES, Simmons Electric Co.
WROUGHT IRON RAILING, Avon Iron & Wire Co.
PLUMBING, Peerless Alabama Co.
BUILDING LOT, Schultz-Hodo Realty.
LANDSCAPING, Pauly Nurseries
INTERIOR DECORATIONS, Miss Cary Johnson and Leon C. Bailey
ELECTRIC REFRIGERATOR, R. B. Broyles Furniture Co.
GAS RANGE, WATER HEATER, SPACE HEATER, Birmingham Gas Co.





INTERIORS of model home sponsored by the Junior Chamber of Commerce in Birmingham, Ala., and visited to date by more than 35,000 persons. ABOVE is view of living room which has walls of fir plywood covered with lauan wood, imported from the Philippines. BELOW to left is shown the heating and air conditioning plant in the heater room adjacent to the kitchen. Coal is fed to the furnace direct from the coal bin by a "bin-feed" coal stoker. Below to right is a view during construction showing Reynolds insulation used between brick and plaster of exterior walls and between the ceilings and roof.



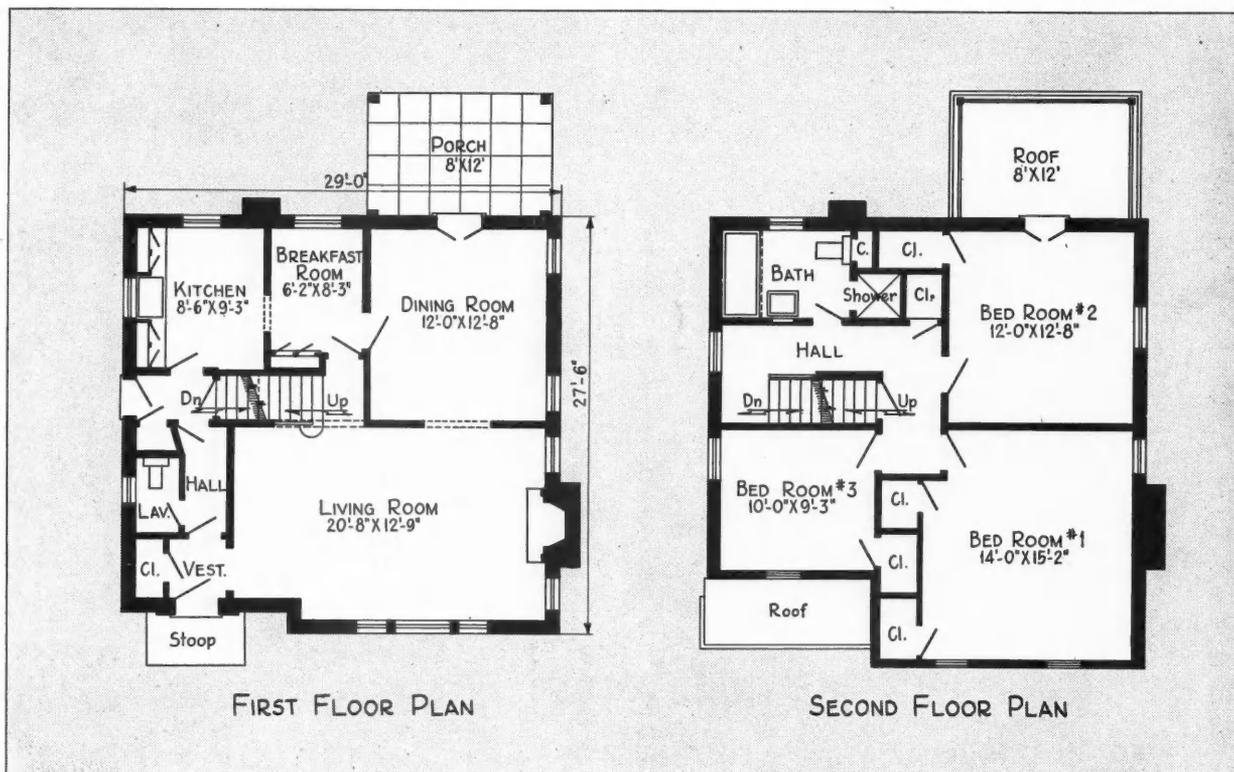


FEATURES:

- Heating—Moncrief Winter Air Conditioning
- Insulation—2" Rock Wool Bats in roof
- Floors—Select oak throughout
- Doors—Birch
- Finish—Gum first and second floors, pine on third floor
- Plumbing—Copper pipes, Standard Plumbing Fixtures
- Pine-panelled recreation room in basement
- Garage—Crawford Upward Acting Doors
- Frame—Pine with brick veneer over sheathing on three sides. Brick veneer and siding in front.
- Price Class—\$11,000.
- Cost Key is 1.678—113—780—893—24—13

**COMPACT COLONIAL
AT UNIVERSITY HEIGHTS, CLEVELAND**

**C. S. Kinney, Builder
Leonard Broida, Architect**



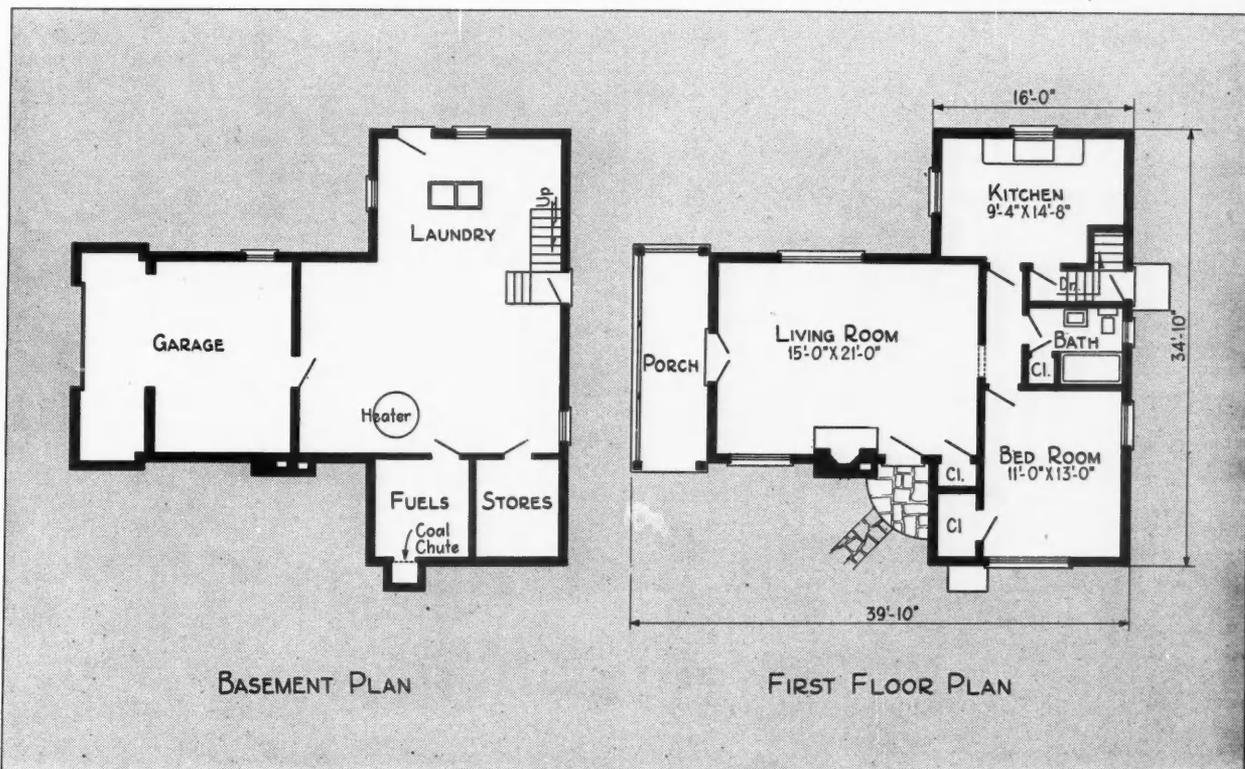


CONCRETE MASONRY HOUSE AT CINCINNATI

Walter Koenig, Builder

SIDE-HILL home with three big rooms on the upper level, and garage and basement entered from the lower side. Walks are of cinder concrete block finished with white portland cement stucco.

Cost Key is 1.072-138-848-37-15-16

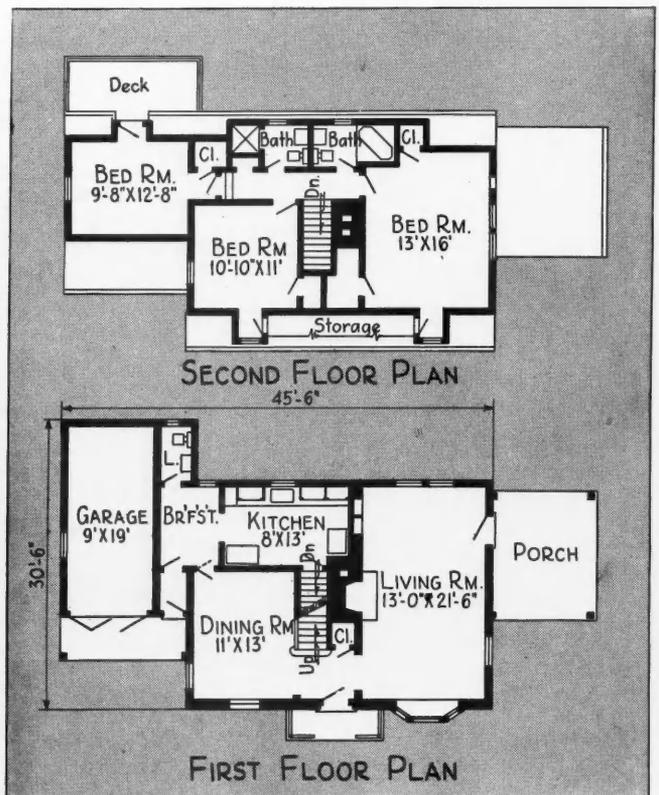




STONE FRONT COLONIAL

THIS stone front Colonial was opened as a model home last year by Harmon Realty Company in their Orchard Hills development. The floor plan is very efficient, with large living room, downstairs lavatory and two bathrooms upstairs grouped for economy. The bay window is an unusually attractive feature. The architect is Randolph Evans.

Cost Key is 1.880-152-736-33-25-19



NEW
ROCHELLE
CHAMBER OF
COMMERCE
MODEL
HOUSE

**George J. Ferns-
child, Jr., Architect**
**Cameron Construc-
tion Co., Builder**

THE unusually cheerful and attractive kitchen is further improved by a circular wall at one end, with a circular seat intended for quick meals or breakfasts. This makes the breakfast nook part of the kitchen and adds spaciousness to it and makes a most attractive spot without wasting much space.



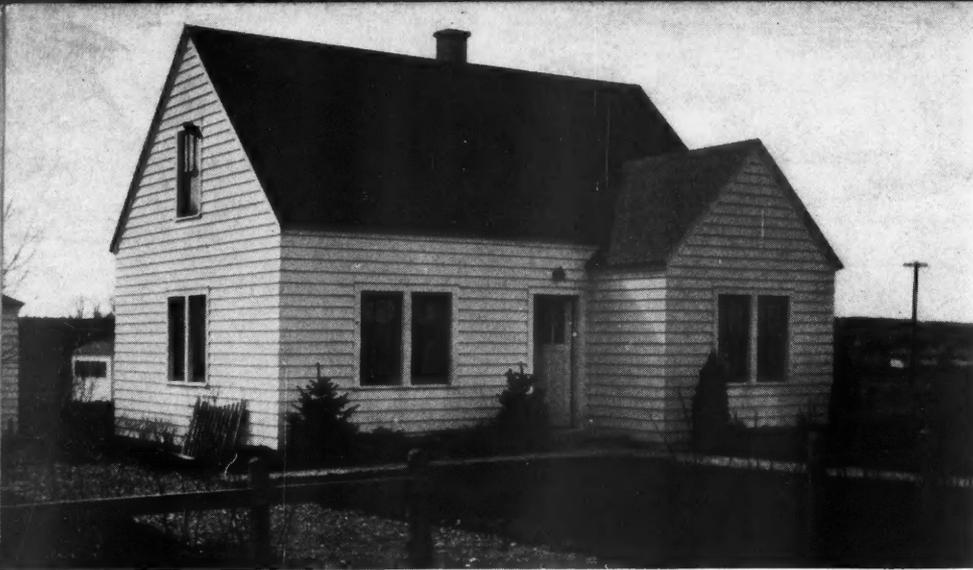
THE RECREATION room below is finished in knotty pine, has an attractive fireplace and French doors at one end opening upon a porch. This has been made an attractive, cheerful room.



FLOORS of the recreation room are of Johns-Manville 3/16-inch asphalt tiles, laid over a well waterproofed concrete slab. The entire basement was carefully laid out to be fully used throughout and is dry, warm and attractive.

WHILE this house was planned as a flexible unit for subsistence home-
stead development, it would with few
changes serve equally well as a sum-
mer cottage or low cost home in town
or city. The house shown here repre-
sents a minimum accommodation to
keep the original cost very low.

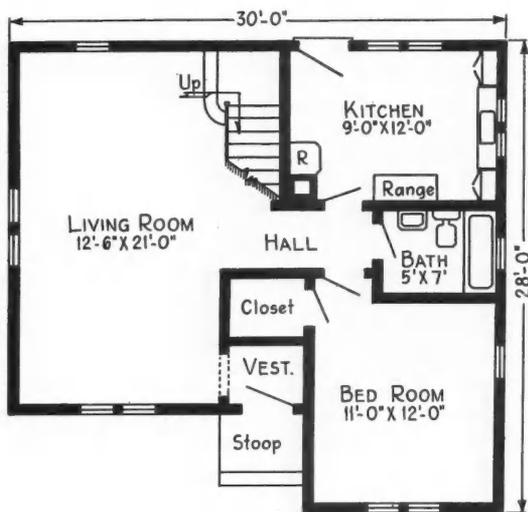
Two bedrooms and closet space
can be finished on the second floor;
the one on the first floor would be
used as a dining room and the closet
open into the vestibule. A basement
and furnace would replace the oil
heater placed under the stairs. Blinds
will improve the exterior appearance.



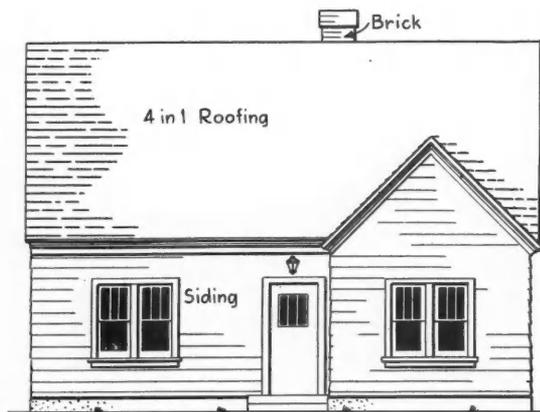
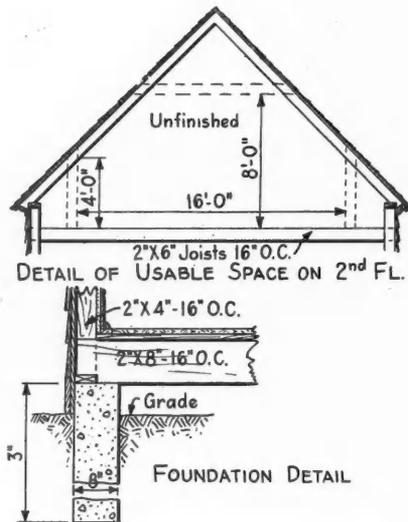
LOW COST GARDEN HOME

Built by Pepper Construction Co., Chicago, near
Palatine, Illinois, for Arthur T. McIntosh Co.

Cost Key is .869—
116-732-31-13-11



FIRST FLOOR PLAN



FRONT ELEVATION



SIDE ELEVATION

Plan For a Modern Basement

Successful builders must know every phase of basement space utilization to meet new demands of home buyers

By **LYMAN M. FORBES**

THE ability of contractor-builders to put attractive, comfortable basements into houses is becoming more important every day. Rapid development of automatic heating units has made residential basement space increasingly useful and valuable.

A central heating plant no longer sprawls in the center of a modern basement. It has been replaced by a compact, streamlined unit that will operate efficiently from practically any point. Bulky head-bumping ducts no longer lurk overhead, awaiting unwary owners. Flat ducts now hug joists, leaving plenty of head room. Usable space that formerly was wasted has been made available by the development of modern oil burners, gas heating units and coal stokers.

The many uses to which basement space can be put are too well known to need reviewing here. On the other hand, the best ways of making this space available are not so well understood. There are many opportunities to create striking new effects because of the ways in which basements are being "dressed up." The purpose of this department is to present and discuss the many improvements, conveniences and modern methods that are making attractive basements one of the strongest selling features of 1937 homes. This is to be an idea department for those who plan homes, with details for practical men on the job who build and install modern conveniences of all kinds.

The department includes a consulting service on basement designing and building. Readers are invited to submit problems of basement planning or construction. If you are having trouble arranging a basement to meet some special need, or some new requirement of an owner, write a letter to "Plan for a Modern Basement Department" in care of *American Builder*. Suggestions dealing with your problem will be sent without charge.

It takes more than a golden slipper in the form of an automatic heating unit to make a Basement Cinderella ready for presentation at the court of prospective home buyers. She must be properly dressed from head to toe. A basement that is to be used merely for storage, as a laundry, or while firing a furnace or boiler need not be finished. A modern basement that is to be used for recreation or living purposes must be ready for visitors at any time.

Each builder should become a basement expert who can talk at length on any specialized requirement that may arise. To do this he should know the merits of all modern equipment, materials, and conveniences used in basements; for present-day prospects and clients may want to make some unique and entirely new use of their basements. He should be prepared for anything.

This timely new department, "Plan for a Modern Basement," will present new ways of designing and building attractive residential basements that have maximum sales appeal. One or more of the following subjects will be presented each month.

Heating plant

*Coal stokers
Boilers for coal stokers
Dustless coal bins
Dustless coal
Coal windows that cut delivery costs
Hot Water Circulators*

Oil burners

*Boiler units
Oil storage*

Gas boilers

Air conditioners

*Furnace fans and filters
Flues, ducts, piping
Thermostats, timestats, aquastats,
safety controls*

Water heaters

Coal, Gas, Oil, electric

Incinerators

Water supply for rural and suburban homes

*Pumps
Pressure tanks
Water softeners and filters*

Basement drainage

*Sump pumps—back-water gates
Cast iron drain lines under buildings
Water—damp-proof walls and floors*

Basement lighting

Basement cooking

Bottled gas

Recreation rooms

*Entrances and stairways
Wall finishes
Floor coverings
Recreation equipment
Bar—billiard table—home work-
equipment*

Arrangement of basement space

Treatments of various sizes and shapes

Basement windows, area-ways, doors

Basement heating for comfort

Fruit and vegetable storage

Basement store rooms

Basement toilet, showers

Ceiling construction to isolate basement from main floor

Headroom, clear spans, fireproof first floor

Basement decorative schemes

"Tricky basements" sell the home

A partial list of the subjects to be presented in this department appears in the accompanying "box." Taken individually these topics might seem relatively unimportant, yet each is so closely related and intermingled in the complex business of producing an attractive modern basement that it cannot be ignored. Readers who follow each issue of this department will be able to discuss modern basements in ways that will impress clients with their well rounded knowledge and many ideas.

In modern homes it is not considered "fittin' and proper" to lead guests from an attractive living or dining room to a unique basement recreation room by way of the kitchen, where dishes are being washed, then through a dark or chilly hallway, down painted, open-tread stairs with no hand rail. Such a route to the basement might be acceptable in a "conversion job" in an existing house, but in a new home, where a modern basement recreation room has been included in original plans, it should not be tolerated.

In order to make this department more valuable to readers, and to further the development of effective basement utilization, *American Builder* has engaged architectural talent to explore the many interesting possibilities, and to conduct research on problems of basement development. These findings will be presented regularly, with descriptive matter that will enable the reader to adapt and use many salable ideas.

George W. Murison, Jr., of Chicago, was asked to develop some treatments of stairways leading to basement recreation rooms direct from upstairs living quarters. A tendency frequently noted in homes with basement recreation rooms was pointed out. Owners who insist on conservative, conventional interiors and furnishings in upstairs rooms often welcome the opportunity to use bright colors and modernistic effects downstairs. The stairway that connects the basement and first floor of such a home must effect a transition between two totally different decorative styles.

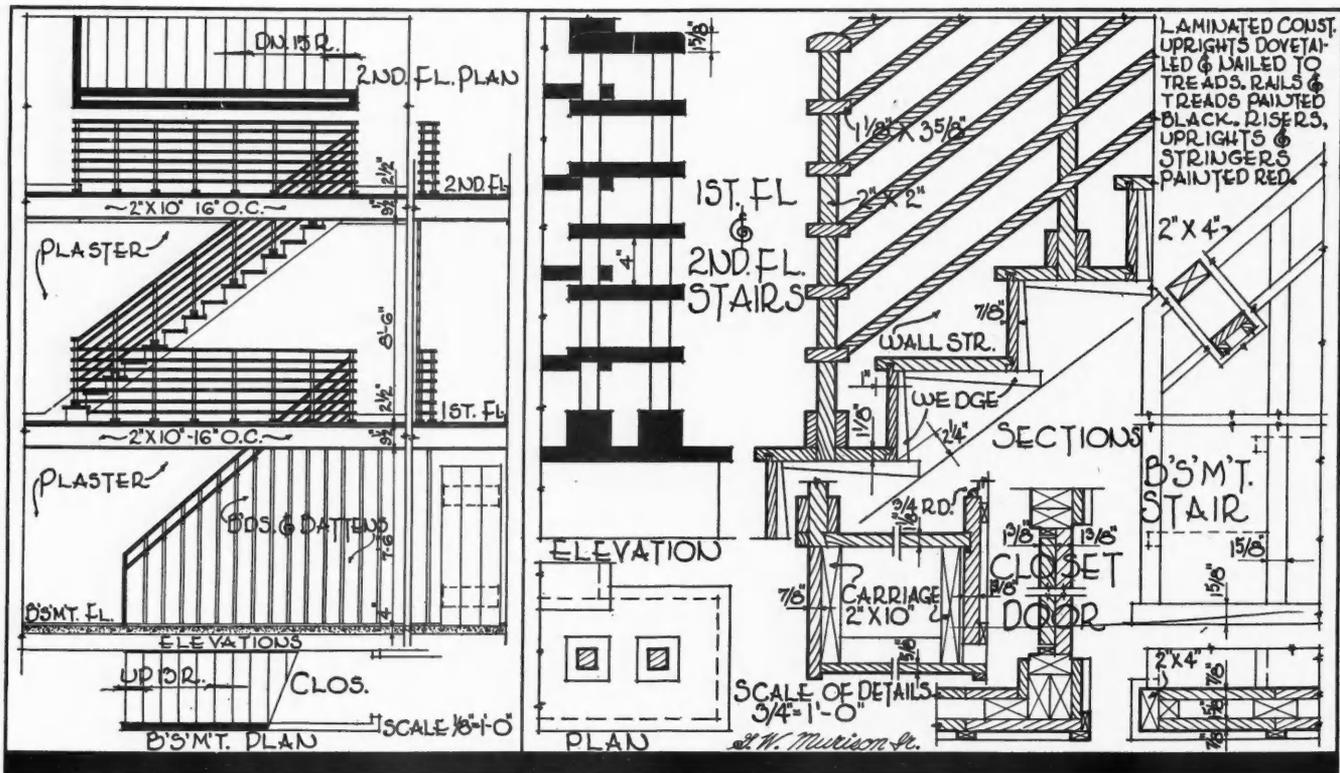
With the foregoing considerations in mind, Mr. Murison prepared the plan and details shown at the bottom

of this page, and the supplementary sketches on the facing page. The plan shows a stairway from basement to second floor, placed in an open well. Various treatments of rails and walls are suggested.

The open stairway shown in the plan below was designed for a house in which the basement is to be lived in and used regularly. No doorway has been indicated between the two floors. One can look over the first floor railing and see part of the basement recreation room. This means that the basement floor should be carpeted, covered with linoleum, or composition tile in mastic, and that the walls should be decorated, plastered, covered with wallboard, insulation board, plywood, hard-board, or other suitable wall covering.

The use of a single stair well for an entire house is currently popular, because it is a space-saving arrangement. If it involves use of an open stairway from living room to basement, special care must be taken in finishing and enclosing the recreation room. It should be clean, dry, and draft-free. Special attention should be given to soil drainage outside the house, so that water does not force its way into the basement after heavy rains. Walls should be insulated. Provisions should be made for heating the recreation room in winter, and adequate ventilation should be provided to keep the basement from "sweating" in summer.

The stairways shown in the accompanying sketches would be effective even though the upper end were placed in a stair hall, or were closed off by a door. The illustrations show stair treatments without attempting to solve problems of room arrangement and house design. When a basement stairway is made part of a living room, there usually should be a separate grade entrance to the laundry and heater room from outside the house. It might otherwise be necessary to bring wet laundry up from the basement and through the living room to reach the backyard. Similar problems would be encountered in the handling of supplies that are stored in the basement, moving of storm sash and screens, garden tools, and in the disposal of ashes where solid fuels are used.



ARCHITECTURAL rendering of recreation room stairway, especially designed for American Builder by George W. Murison, Jr.

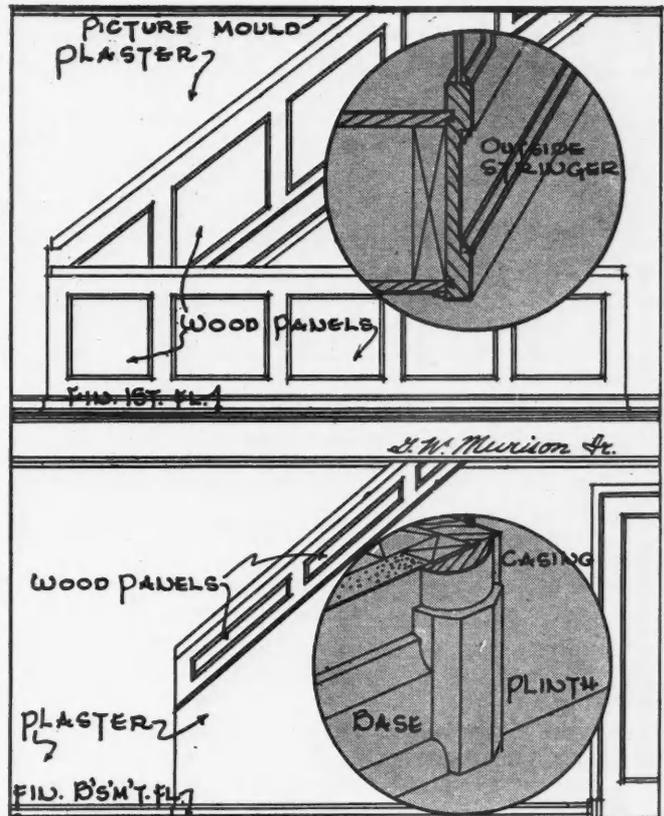
Regardless of its location, the landing at the top of the basement stairs is an important spot, and especially so when access to the basement is through a living room. In the ideal plan this landing should provide reasonably direct circulation to practically any point on the first floor. It might be placed between two open arches that connect a living room and dining room. It might be placed in an enclosed hallway that gives access to an attached garage.

The stairway was considered by Mr. Murison as a piece of furniture, part of a room, and as an object of beauty in its own right. He has emphasized strong horizontals in the open rails to give a modern effect suitable for stylistic surroundings. Yet this railing would not be out of place in conventional surroundings, and should be accepted in the same way that the horizontal slats of Venetian blinds are accepted today. A strong recommendation for this stairway is that it is inexpensive—a factor that will be carefully considered in all architectural presentations that appear in this department.

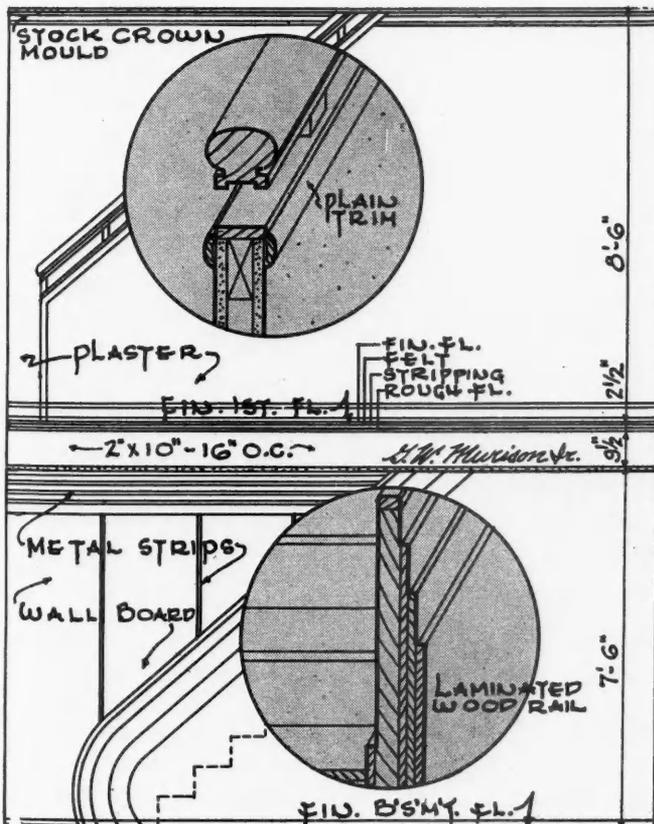
The laminated posts also present a new use of horizontals. A laminated post was suggested because it should be stronger and less likely to split than if made from a single piece. The projecting horizontal parts of the posts provide natural terminals for the open rails, and continue the strong horizontal effect. If desired, a bolt can be inserted in the center of each post to give added strength.

The entire railing and stairway suggest bold use of color, as indicated on the plan, with treads and rails painted one color, risers, uprights and stringers painted another. Where a more costly effect is desired, the rails and posts could be made of two different woods, stained and waxed to bring out variations in color and grain.

The transition from conventional first floor to modern basement is indicated by several different treatments. In the plan elevation, open rails of the basement stairway



NARROW wood panels on this basement stair rail lends harmonious variety to the wider panels used above. Detail (lower right) shows base moulding and casing treatment used for basement doorway.



MODERNISTIC effects in a basement stairway, created by use of a laminated railing with narrow set-backs, finished in contrasting colors, with horizontal metal bands at top of the basement wall.

are cut off below the first floor level. Beneath that point the stairway has been covered with vertical boards and battens to a point 4" below the open hand rail. Horizontal boards and battens would have been equally effective. Structural insulation board-tile, plywood, or other covering materials might have been used. In this way the stair is enclosed, and space that might otherwise have been wasted is used as a closet. The closet door (see right hand elevation of plan) is made of boards with concealed battens. It obviously is a door, yet it continues the same general effect as the stairway enclosure. No effort at concealment has been made. This provides a suitable "break" between the closet and basement walls. The latter may be plastered, decorated cement blocks, insulation board, plywood, wallboard, or other material. Sketches on page facing the plan show various treatments of basement and second floor stairways, with cross-section details of mouldings.

The panel treatments shown are inexpensive and easily produced. The striking streamlined effect was suggested by a department store escalator. It is particularly well suited to a recreation room where strong modern treatments are desired. Striking color effects could be produced by painting each of the set-backs of the built-up railing a different, graduated shade of the same color, in harmony with the solid color used on the side.

BASEMENT CONSULTING SERVICE

IF YOU have some special problem of basement design, or have been asked to construct a basement suitable for some new or unique use, write to "Plan For a Modern Basement," in care of AMERICAN BUILDER. Your questions will be answered and suggestions will be offered without charge.

Air Conditioned Shop Building

Installation Using Deep Well Cooling Assures Year 'Round Shopping Comfort for Winnetka, Ill., Business Property

OF THE small shop buildings completed in the last year, one located in Winnetka, Ill., North Shore Chicago suburb, is most interesting both from design and equipment standpoints. The street elevation is well handled in English Tudor style to conform with the general scheme of the surrounding business district. A conditioning system which delivers filtered air, cooled in summer, heated and humidified in winter, makes the building ideal for its two tenants, a dress shop and a beauty parlor.

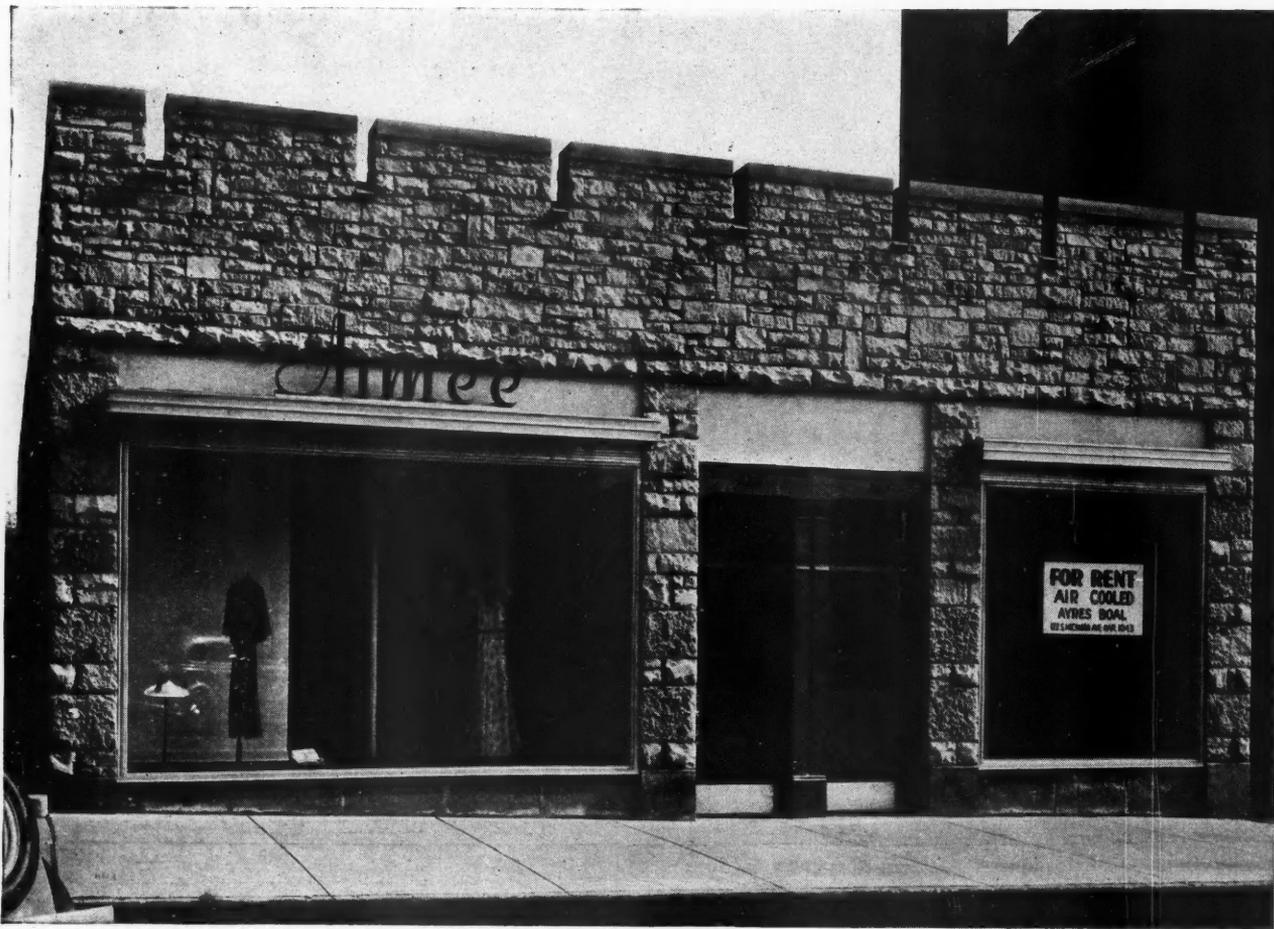
W. L. Suter, Chicago architect, has given the front of this small structure a dignified and imposing appearance. Lannon stone with a base of Indiana limestone was used; awning covers and window trim are Alumilite finish aluminum. Glass block serve as a display window screen in the dress shop, as seen in the illustration below. A 4-inch layer of Red Top rock wool between the suspended joists insulates the ceilings.

The drawings on the opposite page show the details of the conditioning system. There is no basement under the property, the heat supply coming from the building next door; a small utility room at the rear houses the deep-well pump, Crane heat exchange unit and control panel. The well was drilled to a depth of 260 feet and delivers water at about a 50 degree temperature to the

conditioning unit during periods when cooling is required.

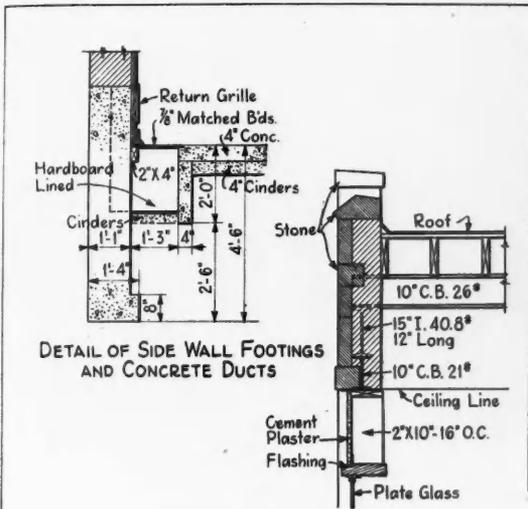
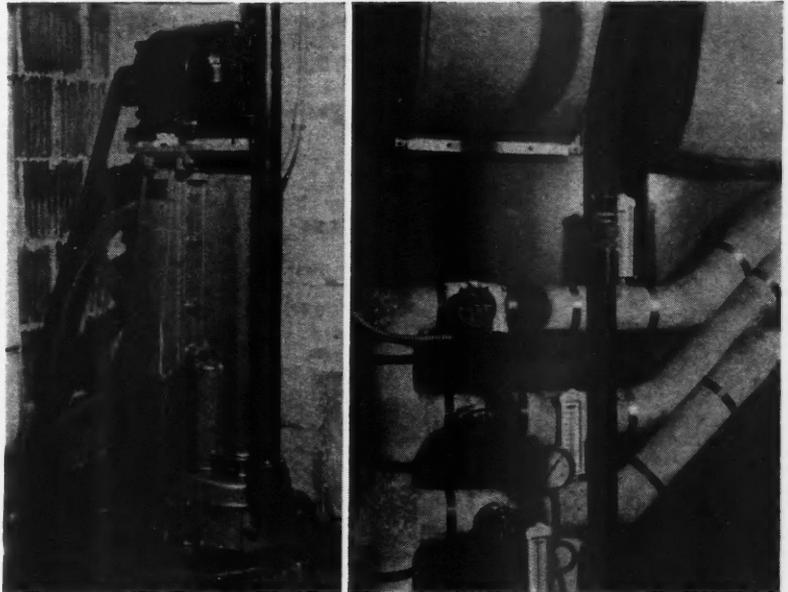
The sheet metal supply duct runs along the building above the dividing partition through which the branch ducts are carried. Return ducts of poured concrete, lined with Celotex hardboard, are placed under the floor at the wall line. The return grilles are located just above the baseboard and connect down to the concrete trunk with short ducts in outside walls. The workroom area at the rear has a separate return through the back wall of the utility room. Layout of this duct work is indicated in the plan and section on the opposite page; also shown are the pump unit in the photo at the left and one end of the heat transfer unit at the right, including the hot and cold supply lines, valves, indicators and ducts. McKeown Bros., Chicago, had the general contract and J. E. Miller of Evanston was the heating contractor.

The building has a content of approximately 55,000 cubic feet and cost 17.63 cents per cube without heating and conditioning, which added 4.87 cents per cubic foot. This total of 22.5 cents does not include architect's fee, decorating and lighting fixtures.



ATTRACTIVE front of Winnetka, Ill., air conditioned shop building designed by Architect W. L. Suter and built by McKeown Bros., both of Chicago. The vacant shop is now occupied by a beauty parlor; both tenants benefit from the summer cooling.

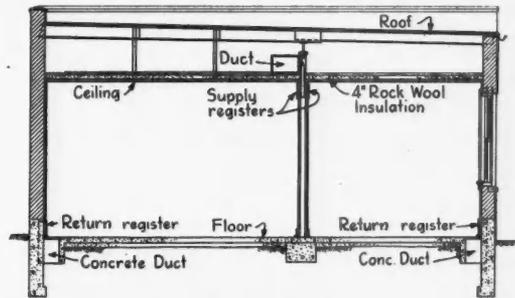
RIGHT: Deep well pump unit used in conditioning system to supply water for cooling; black painted supply pipe is connected to heat transfer unit through flexible hose as shown in other illustration.



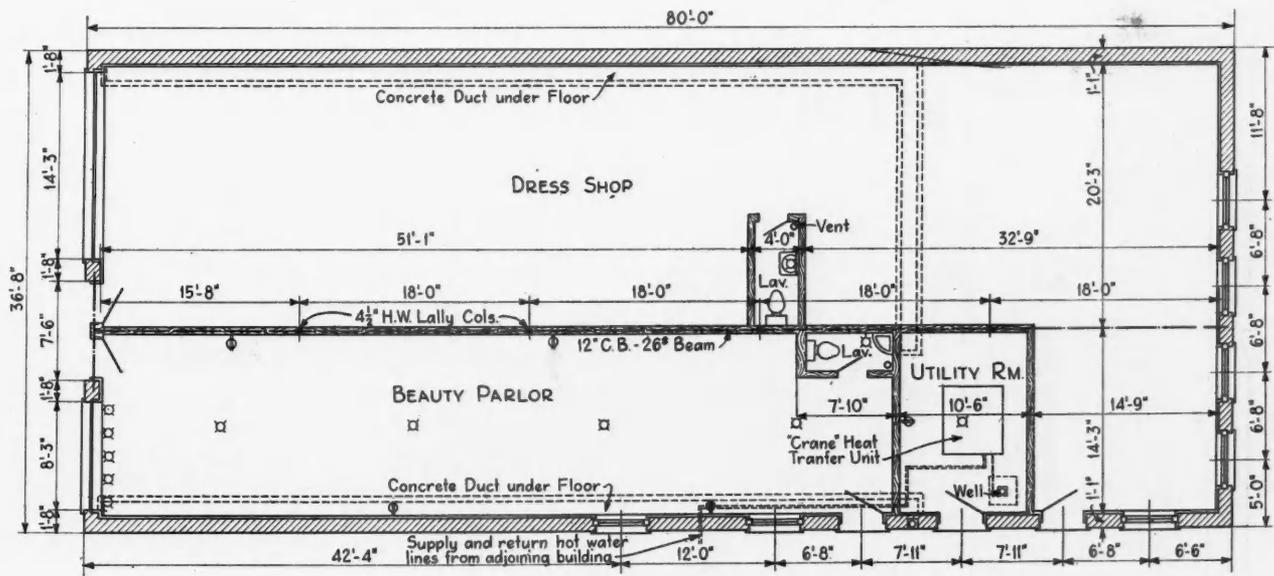
DETAIL OF FRONT PARAPET



FRONT ELEVATION



CROSS SECTION



FLOOR PLAN

ABOVE DRAWINGS show plan, section, front elevation and details giving construction features of air conditioned shop layout and indicating location of ducts and supply lines. The cost including heating and conditioning was 22.5 cents per cubic foot exclusive of architect's fee, decorating and fixtures; cubage, about 50,000 cu. ft.

Taking the Edge Off Winter

Improved environment through mechanical equipment

WHEN I was younger they used to speak of the "deadly effect of winter environment." The out-of-doors was my chief habitat in all seasons then and, except for chapped hands and face in cold weather and stone bruises in warm weather, nothing mattered much if there was plenty to eat. There always was. So it was some time before the word "environment" meant anything to me and still longer before the "deadly effect" meant much. The older folks seemed to patronize la grippe in the winter and other ailments during the summer, but they were obliged to remain indoors so much of the time compared to the youngsters and the farmer people that we felt sorry for them even if we did not know what "environment" stood for.

But there is a growing appreciation of the word and a growing suspicion among most of us that only by an improvement in our in-door environments can we protect ourselves from many of the ills which we had previously blamed on an all-wise providence. The doctors have shown us that what many took for careless feeding of the babies in the hot weather arose particularly from the consequences of overheated bodies. Their little insides could not operate properly with so much of the blood supply drawn to the skin in order to keep their inside temperatures normal. That we might call the deadly effect of summer environment.

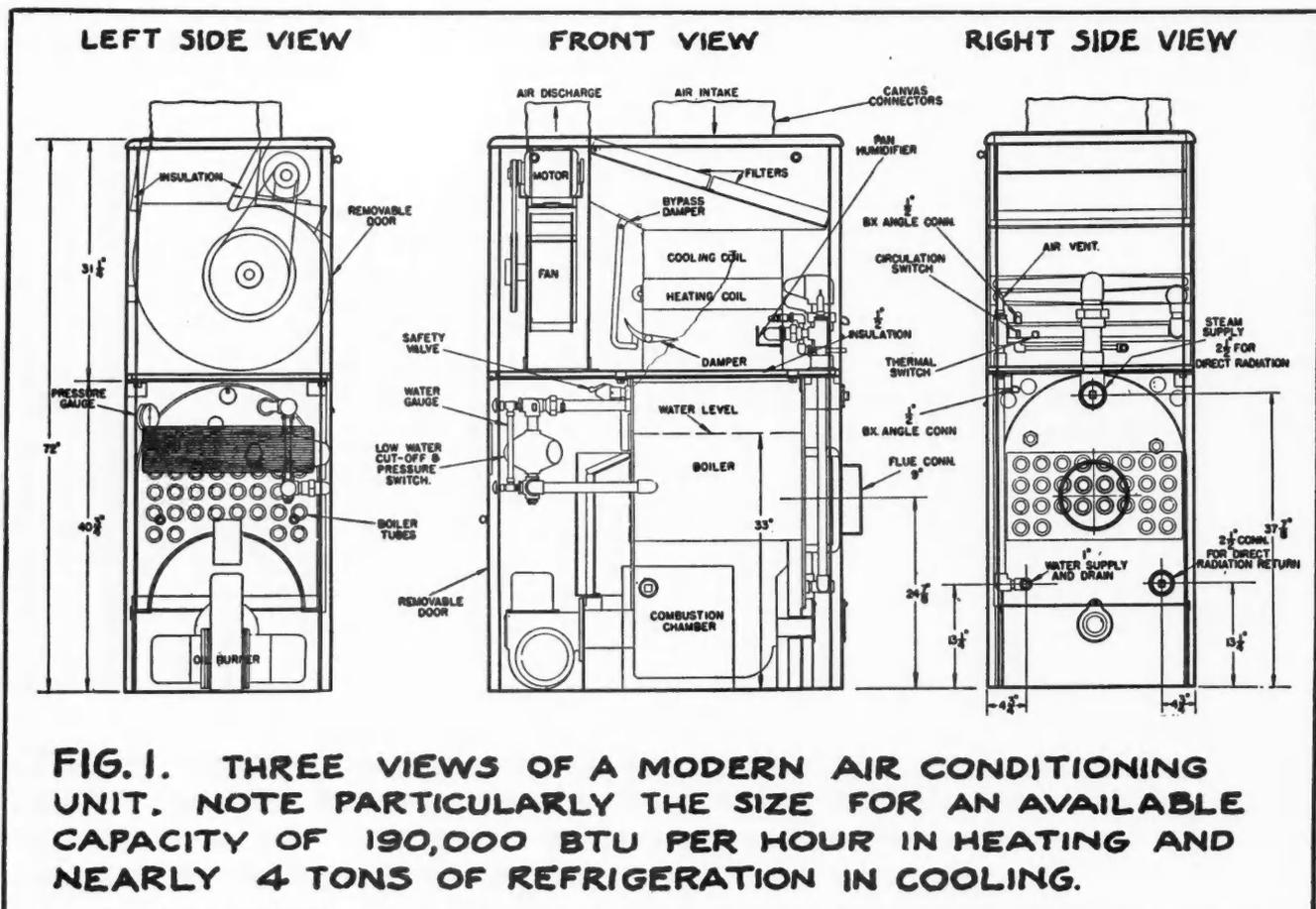
To go a little further in the way of environment and

By **V. L. SHERMAN**

Department of Mechanical Engineering
Lewis Institute of Technology, Chicago

possibly to clear up a term which is being mishandled more frequently as information on air conditioning spreads. Under certain conditions a surgical patient undergoes a "shock" after an operation. By this is meant, I believe, the consequence of undue loss of water from the system by perspiration, injury to the body, or any marked depletion of water from the circulation as a whole. The surgeons, I know, have done as much as they could to procure, as nearly as possible, a normal mental environment. They are not so cold blooded as many of us imagine. But it takes little imagination for most of us to sweat when we think of being opened up on an operating table. A comfortable atmospheric environment would help us along through the operation and afterwards, if we did not have to leave it too quickly.

Supposing, however, that upon finishing the operation, and in our weakened and unstable state of being, we were to be wheeled into a terrifically hot room we might suffer from "post-operative shock." "Shock" to the medical brethren is a pretty definite term. But the word "shock" as used in the study of air conditioning is that marked



MECHANICAL EQUIPMENT FOR 20-YEAR FINANCED HOUSES

sensation of warmth or chill which we experience when passing from one extreme to another of temperature and humidity without ample protection to the skin. Perhaps privately I might add that between the two terms it is really only a question of degree. A normal person would compensate automatically within a reasonable time. An unstable person might become sick for a while at least.

That is a long discourse on environment, but we are coming to appreciate the fact that there is such a thing and that many of our ills are our own fault rather than the ordinations of an all-wise providence. Figure 1 is chosen to show a piece of equipment which can rid us of bad in-door winter environment. There are other pieces and other means, of course, but as my predilection is effectiveness combined with size this one is shown. The air conditioning unit shown in Figure 1 is an oil burning unit. It can be had with gas. This unit can supply 190,000 British thermal units per hour by means of properly conditioned air or, combined with a compressor, almost four tons of refrigeration and properly conditioned air in the summer time. For such a load only modern equipment of the better type can stand only six feet in height and with proportional floor space.

Considerable work in research and design was necessary to bring out such units. The market is by no means restricted to this particular unit, but it is a good thing to know that the home owner through his general contractor has such means for home comfort within his reach, and that the results to be obtained are not a matter of speculation. As has been suggested previously it is not altogether required that all house space be air conditioned during the winter. Some spaces may be supplied with heat enough for comfort if little used and still come up to requirements. The attached garage is an example. Or it might be that some added direct radiation would prove effective. So we have, in such a unit as is shown, connections for direct radiation. Added to this we can have domestic hot water supply, tank or tankless.

It seems then that our old days of "deadly winter environment" are about to be ended if we avail ourselves of means which can equal such a unit. To get back to the reasons for favoring size or, really, lack of size. In order to produce the heat or the coolness or the moisture or the lack of moisture which must be assured in an air conditioned home it is necessary always to work toward efficiency if the results are to be obtained by smaller units. The urge toward smaller units has brought about efficiencies in all of the parts of the unit. Just as the power of the modern locomotive has been tremendously increased without proportionate increase in size so has the heating unit and the cooling unit and the whole air conditioning unit been improved. When a prospective owner looks over such units he must remember the size in the present equipment must not be compared to size of the old days.

The next subject matter is not mechanical equipment but is second cousin to it. The sketch shown in Figure 2 has to do with winter, or summer, environment in the home. Just now we will say winter, and later on there will be time for hot weather. The

fact may be repeated that under present day conditions of financing a home the Federal Housing Administration's policy points to a much greater comfort for the home owner. With his long term mortgage and the elimination of refinancing and the low rate of interest he has a great many advantages which were not to be procured in the "good old days." Then, to secure as much in the way of results as his finances would allow, his home's design had to toe the mark in certain particulars. It might be well to point these out, because even under present conditions in financing the prospective owner may not recognize his advantages.

It used to be said never to build the living room under 12 feet in width because if you did the living room could never be more than half occupied in cold weather without discomfort. There was not so much talk about radiant heat losses in those days or the deserved concern about proper insulation. Then there was the thought that windows should never be placed less than 15 feet from a fireplace. The reasons were the same but more emphatic, losses from the body by radiant heat to the walls and windows unless one wanted an uncomfortable gain through radiant heat from the fireplace. Sometimes the answer was, leave out the fireplace. But after the war the idea of keeping the "home fires burning" seemed to take shape in a real return to the open fireplace and they are now more popular than ever.

It was often a ticklish business in those days to get the floor layouts and the cubage and the window locations into suitable relationship. To please the prospective home owner and his wife and yet to feel sure that after a year of service the house would match their requirements without complete dissatisfaction was sometimes a job. But times have changed. In those days, to come within the estimates, and to come up to the anticipated size, there was a heat loss coefficient through the average wall of about .25 to .30 Btus per hour to cope with. With narrow rooms and fashionable windows and window spacings the problem became more intricate. With breakfast nooks and dining alcoves increasing in popularity it became more of a problem.

This sketch in Figure 2 is meant to show the difference between present day possibilities in design and what

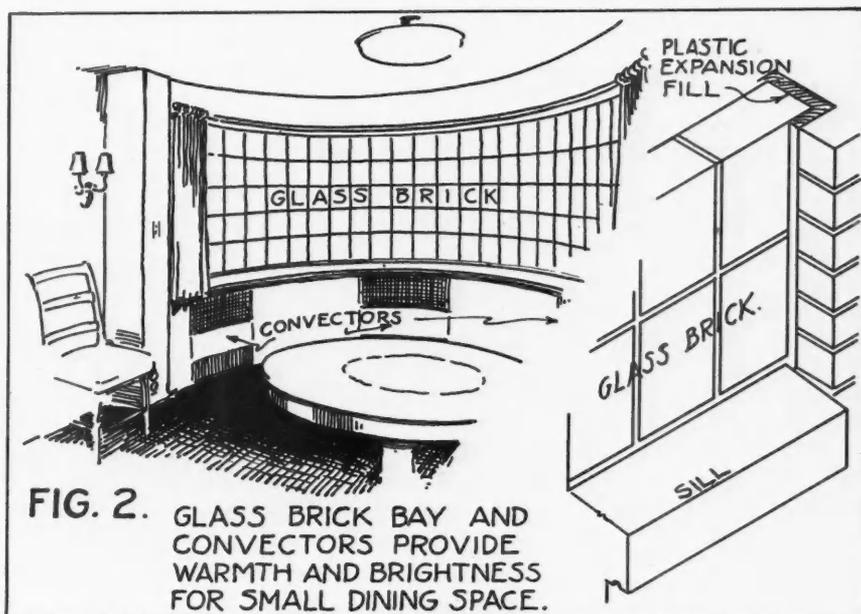


FIG. 2. GLASS BRICK BAY AND CONVECTORS PROVIDE WARMTH AND BRIGHTNESS FOR SMALL DINING SPACE.

HEATING-AIR CONDITIONING-PLUMBING AND WIRING

one could not have done a few years ago. As is often the case one end of the living room could be arranged to be used as a dining room. A dining room or a dining alcove should be bright and it should be warm. If the floor space is relatively small it sometimes has more appeal to the younger house-wife as a cozy place to eat. The problem now is not so difficult. Glass bricks will admit the light and at the same time provide a heat transmission coefficient of the average wall. Unless my memory is at fault glass brick a bit under 4 inches thick, with vacuum space sealed in, comes to about .29 Btus per square foot. They can be had without clear vision which gives brightness to a room without adding unattractive views.

This last point is one which is of great advantage. In industrial work it might be well to give workmen plenty of light without the distraction of the out-of-doors, and also to provide prismatic surface to reduce the sunlight effect. But to take advantage of this, glass walls or sections of walls can be used when the same reasons appeal to the householder. Some believe that a full wall, floor to ceiling, of glass to be the "better treatment," but I cannot entirely agree with that. To be effective there should be enough glass wall to make it part of the design, and since it must be an exposed wall, as such, it is entitled to a little extra heat if its heat losses are greater than other insulated exposed walls. Here is where the little direct radiation units can play their part.

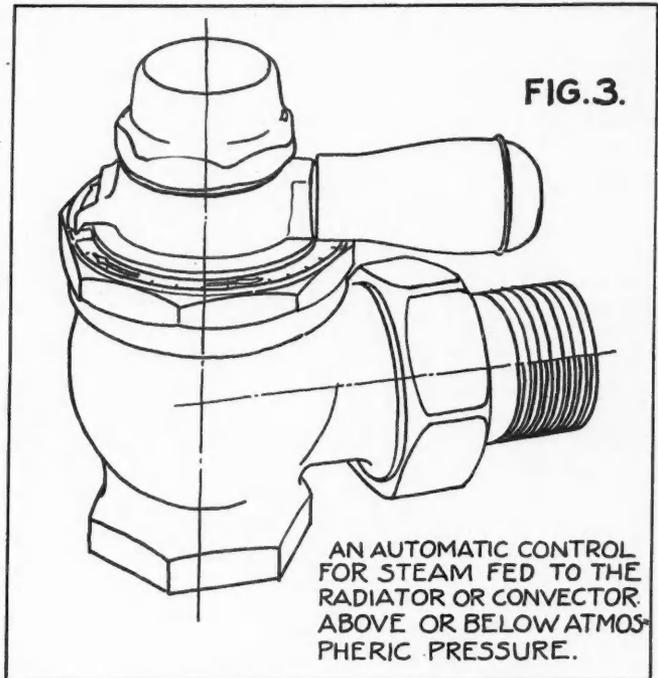
The thing to remember about glass walls is their great reduction in heat transmission, the reduction in "sun effect" during the hot weather, and their admittance of light.

Figure 3 shows a valve for a steam heating system. We are all familiar with the idea in steam heating systems that you can open a valve and admit steam to a radiator where, if the pressure be only a little above atmospheric, the steam will condense at the average rate of $\frac{1}{4}$ lb. per hour per square foot of radiating surface, thereby providing a little less than 250 Btus. This is the loss of latent heat from the steam when it changes to water on the inner surfaces of the radiator.

An increased heating rate can be given the radiator by building up the pressure of the steam, but with the reduction in the bulk of the steam and increasing pressures come certain disadvantages attaching to the entire system. But should the system be sealed to the outside air and steam generated in the boiler at pressures less than atmospheric, then the steam's bulk and, of course, the latent heat derived from the steam in the radiator, become quite adjustable.

Where air and water readily move themselves from a radiator and where the steam pressures and flow are well controlled we come onto the efficient system. Such a system is the kind called for where the heating requirements are large and the fuel costs are in danger of being greater because an oversupply of heat from a radiator can be most easily shunted to the out-of-doors. That is where the fuel costs go. Right along with the heat.

In Figure 3 is shown a valve which is used in connection with a steam heating system which operates at sub-atmospheric pressures. The steam is adjustable as to bulk, temperature, and somewhat in latent heat per lb. although that does not amount to much. This valve, in which the size of the orifice for steam flow may be changed without disconnecting the radiator, gives one a chance to balance and regulate individual radiators. The upper cap contains the mechanism for adjustment and is out of the path of the steam. That is a good item.



If any well versed salesman of valves comes your way be sure to make him comfortable and to make him talk. If he knows all about valves, especially steam flow valves, he cannot help but be interesting in telling about how the valves operate and what they can do in the way of supplying comfortable amounts of heat at the right points and the saving of money on the fuel bill. As has been remarked before in these pages it is the present home-builder's good fortune that so many of these improvements in mechanical equipment have been worked out on the larger systems of industry and are now adapted to residential work. What might be termed a negligible saving in fuel costs by a home owner would be proportionately large in industry. Here operating costs are very important.

These improvements in mechanical equipment were not originally worked out for the residential market. They were sought after and produced by hard headed folk who recognized the value of efficiency in equipment. That these improvements have grown over into the residential field is a sign that the average American home-builder is just as eager for improvement.

* * *

Expects Big Heating and Conditioning Year

THE outlook for increased sales of steel boilers is very favorable, according to Homer Addams, president of the Steel Heating Boiler Institute and the Fitzgibbons Boiler Company, Inc., and Kewanee Boiler Co., Inc., of New York.

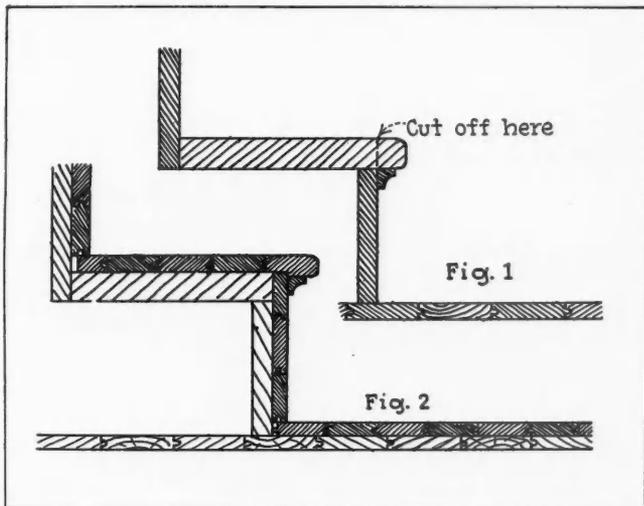
"Steel boiler sales in 1936 were 'way ahead of those in 1935' stated Mr. Addams. "Several reasons can be attributed to this increase. Among them are the large number of old, obsolete boilers that had to be replaced. The building expansion in the residence field I believe has just started. We look forward to over 400,000 new homes in 1937. In many of them the most modern automatic heating equipment will be installed. The demand for winter air conditioning equipment has increased so that we are enlarging our works at Oswego, N.Y., to meet the needs of this rapidly growing industry, and we anticipate the largest year in unit sales that our company has had in the past fifty years."

PRACTICAL JOB POINTERS

A READERS' EXCHANGE of tested ideas and methods, taken from their own building experience. Two dollars or a year's subscription to American Builder is paid for each item when published. State business connection or trade.

Veneering Old Steps

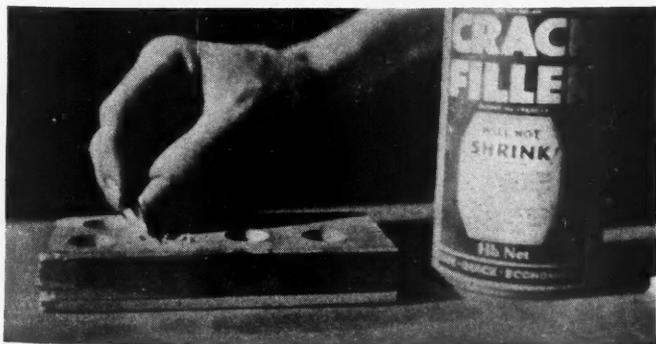
HERE is a simple method of veneering old steps which is a successful way of putting a new surface on worn-out stairs. Fig. 1 shows a section of the first step of a stair which is to be covered with veneering. The veneering in this case is 2 1/4-inch flooring. The dotted line shows where the nosing is cut off. It will be noticed here that a new floor has been laid; this usually is necessary about the time the stairs need renewing. The floor is laid up to the first riser which is covered with the same flooring. The last board of the riser is ripped off in such a manner that the nosing piece will rest tightly onto it as shown in Fig. 2. —H. H. SIEGELE, Emporia, Kans.



METHOD of veneering stairs when new floor is being laid.

Handy Mixing Block

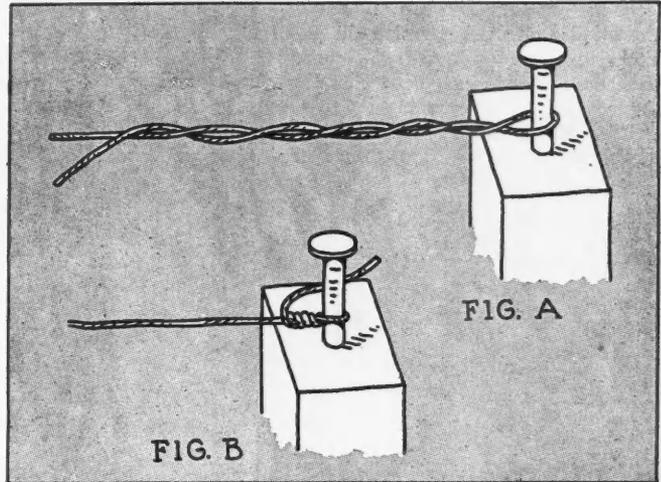
FOR a container in which to mix up small quantities of glue, wood pastes, etc., a number of holes an inch in diameter or larger are bored through a waste piece of 2x4 stock and a thin strip is nailed securely over the bottom. After using, it will not be necessary to clean it out as another hole is always available. —W. C. WILHITE, Litchfield, Ill.



USING handy wood block for mixing small quantities.

Quick Way to Tie Chalk Line

THE most awkward thing that I have watched carpenters do is to tie a chalk line, and the amount of time taken to do it. When putting up a line, hook the dead end as usual; then take the other end and loop around the index finger, then twirl five or six times, and slip off the finger, onto the nail as shown in Fig. A. Now pull the line to be tightened toward the nail and the loose end away from the nail until the line is tight, indicated by Fig. B. A quick jerk of the loose end back toward the nail will tighten the line hangman's fashion around the nail. To loosen, pull the loose end back and the line is free. I feel that this is one real speed trick, and have found that very few know of it.—FLOY E. MATTOX, Builder, Pomona, Calif.

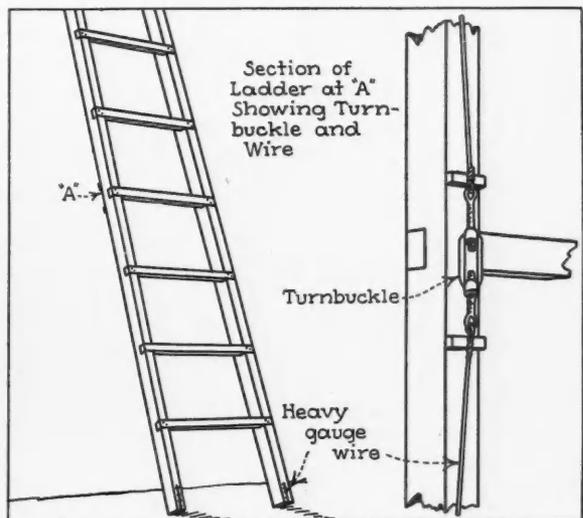


A QUICK jerk towards the nail ties the chalk line.

Strengthening Ladder with Wire

TO STRENGTHEN a ladder with heavy gauge wire proceed as follows: Cut two lengths, each length about 2 feet longer than the ladder. Then plow out on the back side of ladder, parallel with the carriages, just enough to let the wire fit in snugly and flush with the surface. Cut the wire in the center and fasten it securely to the turnbolts and proceed to let the wire into the groove as shown, bringing the wire around to the face of the ladder to help make the ends secure. About every 6 inches or so drive staples to keep the wire intact; then draw the wire taut to give it the bow-string effect.

In time the wire is apt to stretch and if turn bolts have been used, it is an easy matter to take up the slack and maintain the necessary bow-string effect.—JOS. H. STECHER, Carpenter and Builder, St. Louis, Mo.



TIGHTENED heavy wire let into rails strengthens ladder.

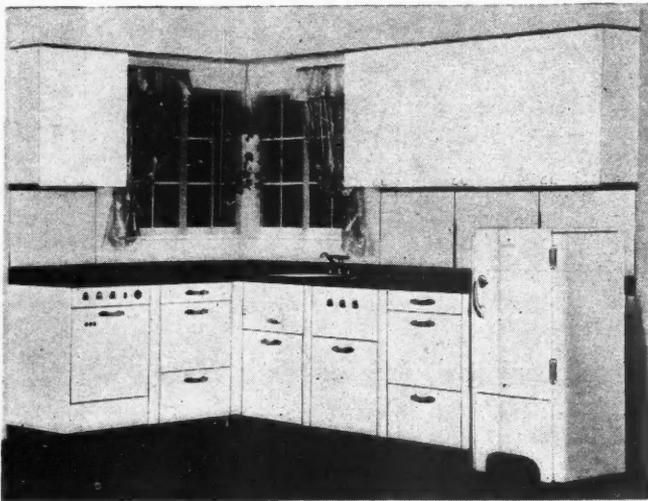
NEW PRODUCTS

FOR INFORMATION ABOUT any new product
write American Builder Information Exchange
105 West Adams Street, Chicago, Ill.

Interchangeable Kitchen Units

A NEW unit kitchen, with standardized, prefabricated and interchangeable units which will fit any kitchen plan, has just been announced by the appliance and merchandise department of General Electric Company. Low in initial cost, the unit kitchen also effects big savings in the cost of installation. The unit kitchen may be adapted to one-wall, L-shaped or U-shaped kitchens, and it is extremely flexible so that as many sections as desired may be ordered to fit any space for home or apartment.

There are six basic sections show in illustration below—range section, dishwasher section, sink section, refrigerator section, base



cabinet section and a corner section. Each section has four divisions—top storage cabinets, lighting strips or molding, back splash wall panel and base units of drawers or appliances. Other cabinet sections also may be added where desired.

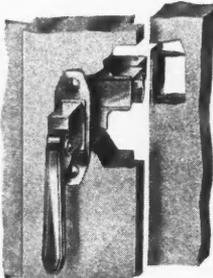
Each section, either a base cabinet section or an appliance section, is 24 inches wide. The maximum height of a complete section is 88½ inches. Work surfaces are all one height and the top storage cabinets are all one size. The wall panels, which are 18 inches high, are made to finish the wall area between the back splash and the storage cabinets. Lumiline lamp lighting strips or molding are used between the wall sections and the top storage cabinets.

Universal Cabinet Catch

A NEW cabinet catch, the "321," is being made by the Frantz Mfg. Co. of Sterling, Ill. It is necessary to bore only one small hole to install this catch, which is universal in that it may be applied to any door from ½ inch to 1½ inch—either flush or lip type, right or left hand.

The handle is solid brass and may be attached in either the vertical or horizontal position; the bolt, too, may be placed in any position, regardless of the position of the handle. Strike is designed so that it can be adjusted to fit the space between door and jamb or shelf, eliminating the need for shimming or mortising. Also the strike can be placed on the jamb or shelf in any position desired.

CABINET catch fits door in any position.



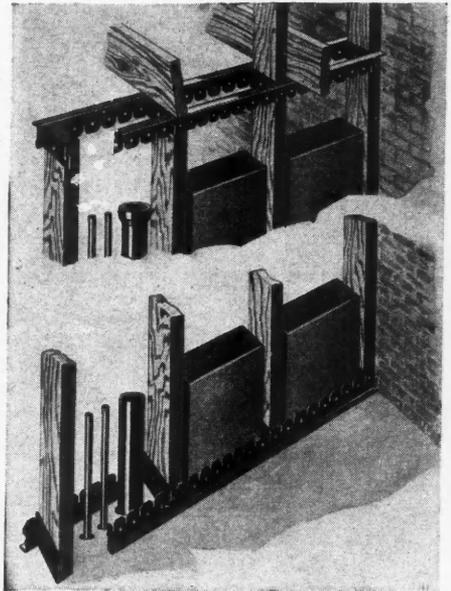
Adjustable Metal Bearing Plate

A SIMPLE device which allows air ducts and plumbing to pass through bearing plates in wood framing without cutting or destroying the strength of the plate or partition is being manufactured by the Adjustable Bearing Plate Co., St. Louis, Mo.

The plate which is made of rigid 12-gauge steel can be installed in three ways—it can be used in construction to eliminate the wood plate; where wood frame construction is used over concrete slabs; it can be installed instead of a wood sill; it replaces wood plate where cut for ducts and plumbing.

The Adjustable Bearing Plate carries any normal load subject to conventional wood plate framing, carries lapping joist stud over stud or continuous stud framing, permits fire-stop of rough blocking, minimizes shrinkage and locks studs in place. It is made for 4-, 6- and 8-inch studs and provides for any spacing. Erection is simple as the plate is only nailed and hammer-locked in place, requiring no bolts or rivets.

Another unit called the Clark Stud-Tie Plate is available as a continuous lateral plate tie for single duct or plumbing between two studs spaced 14 to 17 inches apart.

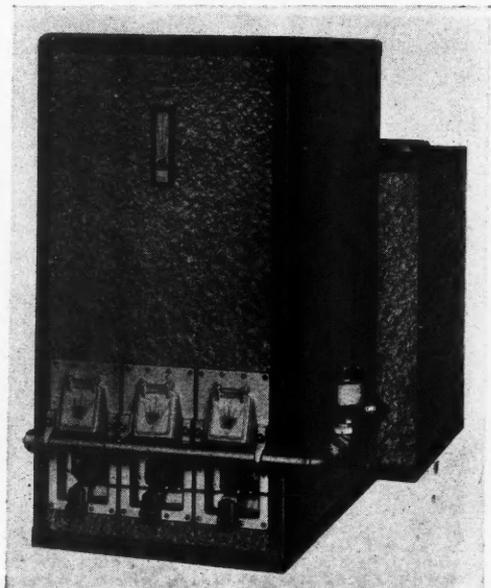


METAL bearing plate used in place of wood plate and sill around ducts and plumbing pipes.

Small Home Air Conditioner

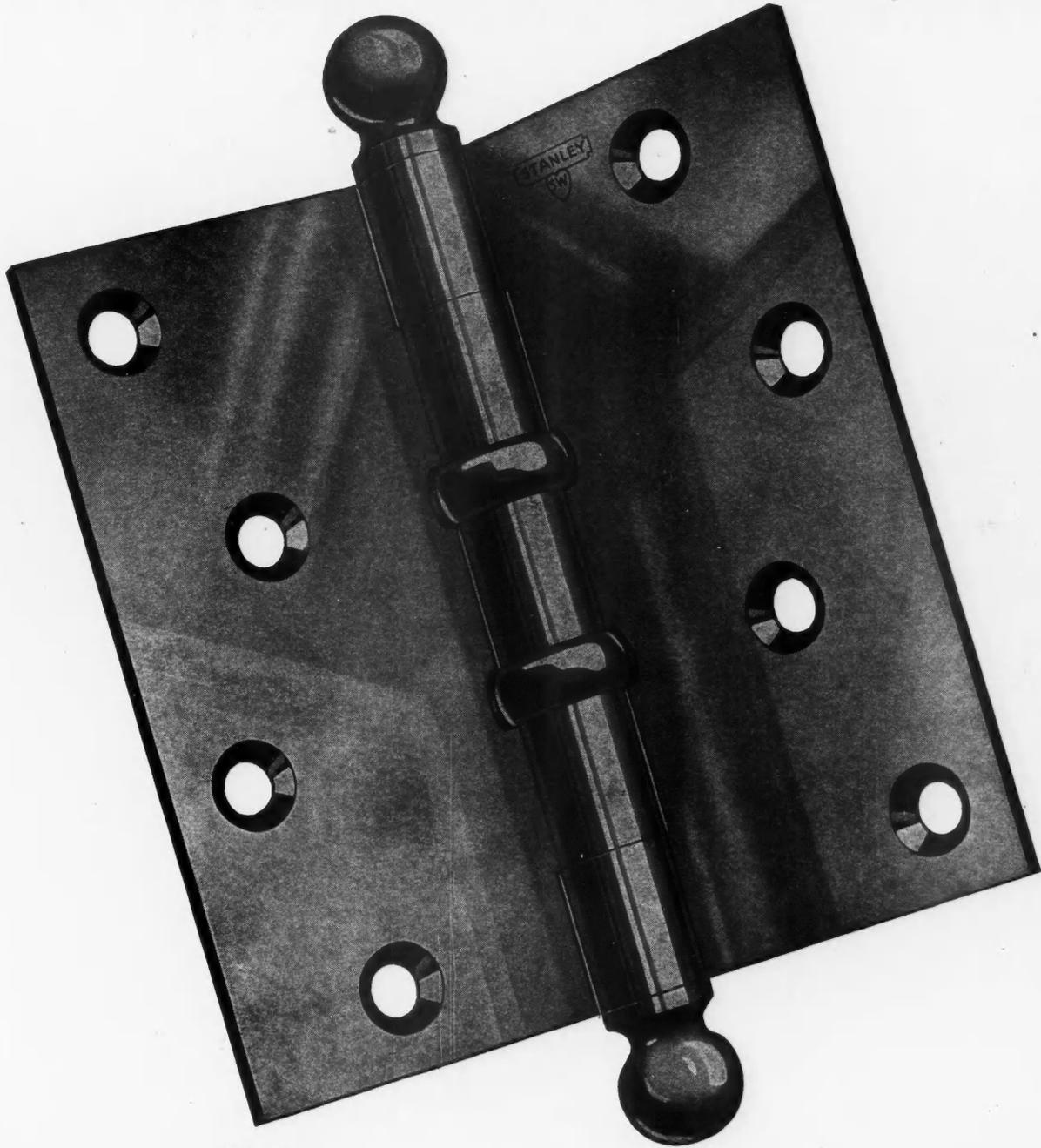
A NEW Sunbeam gas fired air conditioning unit for small and average size homes has just been announced by The Fox Furnace Company of Elyria, Ohio. Like all Sunbeam air conditioners, this unit warms, filters, humidifies and circulates the air in winter and in summer purifies the air and provides cooling ventilation. If desired mechanical cooling can be added.

Space saving compactness is one of the features of this unit which fits into limited areas. The outer casing, of modern design, is finished in green crystalline enamel with a contrasting trim of dark green glossy enamel. Capacities at register range from 61,000 to 153,000 BTU per hour.



GAS-FIRED conditioning unit for small and average size homes.

FOR *Carefree* **DOORS**
USE STANLEY HARDWARE



**THE SYMBOL OF LEADERSHIP
IN DOOR HARDWARE FOR 90 YEARS**

THE STANLEY WORKS



New Britain, Conn.

Tempered-Aire Principle

THE Tempered-Aire principle used in the conditioning units manufactured by Gar Wood Industries, Inc., Detroit, is shown in the illustration below. Polluted air, indicated by arrows, is drawn into the unit from a return air duct and is forced through a group of specially woven cloth filters which remove bacteria-laden dust, dirt and pollen. (A recent test has shown that two quarts of dirt have been stopped by air filters from entering a single room in one month's time—note lower left picture-inset.) The cleaned air, pumped by a silent-acting power-blower, contacts and scrubs the heating surfaces. The air, now cleaned and warmed, is then humidified properly before entering the rooms of the home. After the conditioned air circulates evenly and gently throughout the entire home, it is forced into the return air duct which leads back to the unit in the basement. This cycle is repeated continuously.



CLOTH filters when dirty can be cleaned in washing machine.

1937 Line of GMC Trucks

A COMPLETE new line of trucks has been announced for 1937 by the General Motors Truck and Coach Division of the Yellow Truck and Coach Manufacturing Company. For the first time in its history, the company has introduced a new light, short wheelbase unit at an extremely low price. It is a 112-inch wheelbase truck, rated at half-ton capacity. Continued in the 1937 line is the 126-inch wheelbase $\frac{1}{2}$ ton unit which proved so popular during 1936.

Indicative of the trend towards cab-over-engine design is the fact that the company now has a complete line of COE models ranging in carrying capacity from $1\frac{1}{2}$ to 12 tons. All models in the GMC line have been improved and refined. The advanced stream-styling is emphasized by Dual-Tone color-design—a new and exclusive GMC development—offered in twelve color combinations at no extra cost. New all-steel "helmet top" cabs, standard and de luxe, are available for every model.

In addition to a complete new series of trucks, the GMC line also includes a complete new group of trailers.



THIS pickup model in 1937 line of GMC trucks has $\frac{1}{2}$ -ton capacity.

J-M Asbestos Clapboard

AN ASBESTOS clapboard for residential siding and re-siding made by Johns-Manville is now available. This new clapboard, an exclusive J-M development, is a companion product to Johns-Manville Cedargrain asbestos siding shingles.

J-M clapboard is made of asbestos and portland cement; its surface texture is similar to old weather-worn clapboards such as those found on Colonial houses.

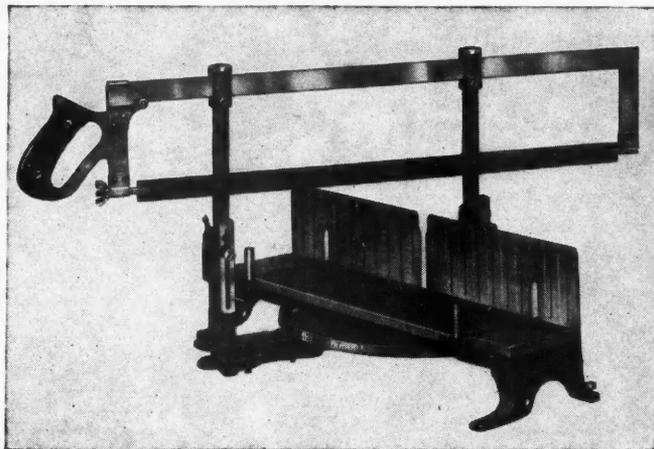
This new clapboard, the high quality and white color of which are due to the special white portland cement used in its manufacture, is $9\frac{1}{2}$ inches wide by 8 feet long and $\frac{3}{16}$ inch thick. It is designed for an exposure of eight inches.

APPLYING new J-M asbestos clapboard.



Metal Cutting Mitre Box

A NEW sturdy easy-to-use mitre box for cutting metal trim, metal mouldings and similar work, is now being manufactured by Stanley Tools, New Britain, Conn. Attractively finished in light blue, orange and aluminum color, this No. 2358MC mitre box has a special saw frame with a high quality hack saw blade, 24 inches by 1 inch—24 teeth to the inch. Swivels, uprights, legs and saw guides are made of malleable iron. Two roller bearings in each saw guide assure smooth saw action. Automatic saw guide catches hold of saw above work, leaving both hands free. Box has a depth capacity of $4\frac{1}{2}$ inches, width capacity at right angles, $9\frac{1}{2}$ inches, and at 45 degrees, $6\frac{1}{2}$ inches.

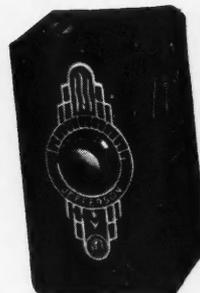


MITRE box with special frame for cutting metal work.

New Temperature Controls

THE Jefferson Electric Company, Bellwood, Ill., has just placed on the market a line of temperature controls for industrial and domestic applications. Cases are of one-piece construction finished in crackled art lacquer, with easily readable outside dials and attractively knurled regulating knobs.

Air switch, No. 634-321, illustrated at right is designed for applications requiring remote control of the heating plant and regulation of the plant by room temperature, or the temperature of any body of gas. Range of adjustment is 25 degrees to 85 degrees Fahrenheit. Dimensions, $5 \times 3 \times 2\frac{3}{4}$ inches.

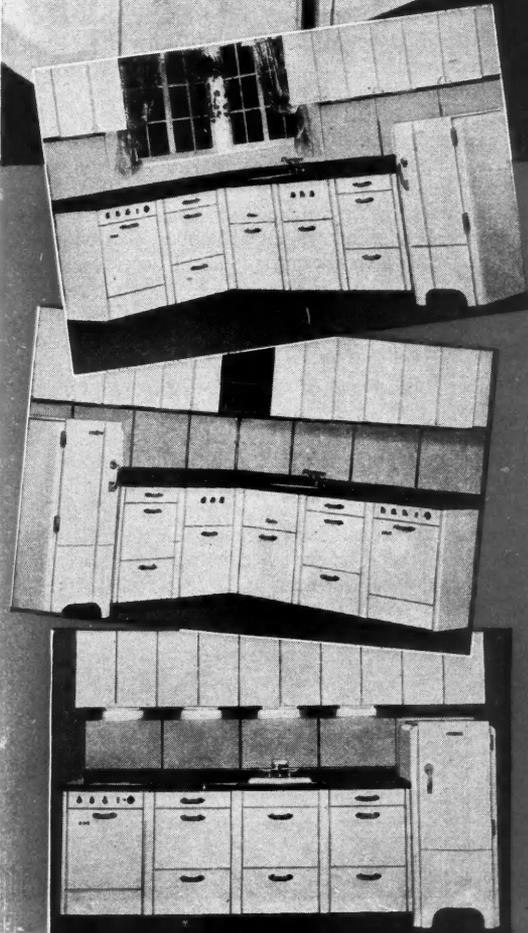
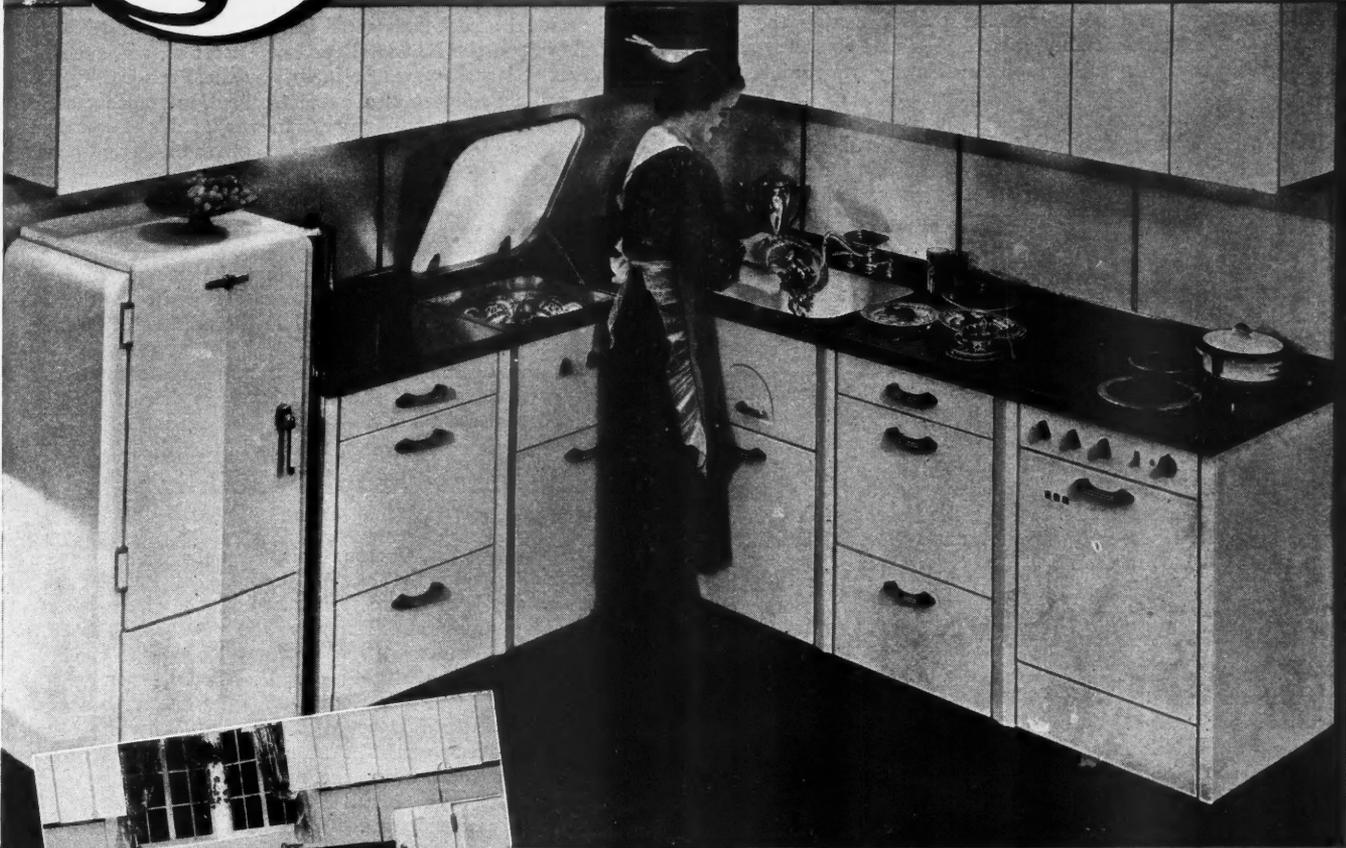


AIR-SWITCH temperature control.



General Electric Presents a New

UNIT KITCHEN



A Complete Electric Kitchen with Standardized, Pre-fabricated, Interchangeable Units at a New Low Cost. Readily Installed in New or Old Buildings.

General Electric now offers a new G-E Unit Kitchen that is complete in every detail and will fit any plan—one wall, L-shaped or U-shaped kitchens. It includes G-E Refrigerator, G-E Range, G-E Dishwasher-sink, G-E Garbage Disposall, cabinets, work surfaces, wall splasher, and lumiline lighting. All units are pre-fabricated and interchangeable.

Big savings are effected by the General Electric Unit Kitchen in installation time and costs, for it is only necessary to attach each unit to the wall in desired location. Your General Electric distributor can show you a 10-minute motion picture illustrating how easily a General Electric Unit Kitchen is installed in any structure.

New low cost General Electric Unit Kitchens can be assembled to accommodate any sized rooms—large or small. See the one on display at your General Electric distributor show rooms or write for descriptive literature. General Electric Co., Sec. CW1, Nela Park, Cleveland, Ohio.

GENERAL  ELECTRIC
All Electric Kitchen

News of the Month

Building Activities and Meetings

Private Building Exceeds Public Volume

REPORTING on construction in November, 1936, F. W. Dodge Corporation showed a total of \$208,204,200 for the 37 eastern states covering both public and private jobs, as against \$188,115,000 for November, 1935, and \$225,767,900 for October of this year. Of the November, 1936, total about 58 per cent represented private projects, the remainder being public, making the sixth time this year that the monthly volume of private construction has exceeded the total for public projects of every description. For November, 1935, private construction accounted for less than 40 per cent of the total.

Residential building during November in the 37 eastern states amounted to \$68,440,700 as against only \$39,695,200 for November, 1935, and \$79,664,200 for October this year. Non-residential building reported by the Dodge organization totaled \$65,895,300 for November as against \$68,115,300 for November of last year and \$79,071,300 for October, 1936. Heavy engineering projects of every description undertaken in the 37 eastern states during November amounted to \$73,868,200 as against \$80,339,500 for November, 1935, and \$67,032,400 for October, 1936.

The total volume of construction started in the 37 eastern states during the elapsed eleven months of 1936 amounted to \$2,475,600,300 as compared with \$1,580,408,400 for the corresponding eleven months of 1935. Of the 1936 cumulative total, \$736,136,500 was for residential building; \$880,303,700 for non-residential building, while the remainder went for heavy engineering projects. For residential building the improvement over 1935 now stands at 70 per cent while for non-residential building the gain is almost 60 per cent.

Shackelford Made J-M Vice President

H. M. SHACKELFORD has recently been elected vice president of the Johns-Manville Sales Corporation. For the last three years he has been sales promotion manager for Johns-Manville, which position he retains under his new title.

Mr. Shackelford entered the services of the Goodyear Tire and Rubber Company after his graduation from Indiana University. World War service was followed by a brief period

as coal mine operator in his native state and later by a successful theatrical career on the Broadway stage and radio. In 1928, he joined J-M as manager of national shows and exhibits. In 1931 he was made assistant to Ken R. Dyke, sales promotion manager, whom he succeeded in 1933. Mr. Shackelford's election as vice president follows three successful years in directing Johns-Manville's extensive advertising and sales promotional activities.



H. M. SHACKELFORD

Lumber Manufacturers Develop 1937 Program

THE lumber industry made plans looking to new prosperity highs for 1937 at an enthusiastic meeting of the Executive, Trade Promotion and Advisory Committees of the National Lumber Manufacturers Association, held at the Loraine Hotel, Madison, Wis., Dec. 7, 8 and 9. High light of the business session was the decision of the Association to launch in 1937 a

nation-wide home building demonstration of unprecedented scope.

The Executive Committee adopted the following resolutions:

1. That the President of the National Lumber Manufacturers Association call a Conference on Forest Conservation to meet as early as practicable after Mar. 1, 1937, to review industry practices in forest conservation and recommend such further developments thereof as seem desirable; to review the public activities and legislation pertaining to forest conservation and recommend needed public action and legislation, with reference particularly to supporting and giving full effect to the program of the industry.

2. That the industry representatives at the Conference on Forest Conservation consist of officers of NLMA and members of the Forest Conservation Committee, delegates selected by the several regional associations equal in members to their respective membership upon the NLMA Board of Directors, and such representatives at large as may be invited by the President.

3. That the President also invite to the Conference the Secretary of Agriculture and representatives of his Department, the Secretary of the Interior and representatives of his department, representatives of State Departments of Forestry, and such other representatives of public forest agencies and national organizations interested in Forest Conservation as the President shall select.

It is the intent of this resolution that the number of representatives of public agencies and organizations invited to the Conference shall be approximately equal to the number of representatives of the industry.

4. That the President invite the industry representatives to meet shortly in advance of the Conference, to discuss the problems to be considered therein.

Republic Plans Complete Building Products Line

THE Berger Mfg. Co., Canton, Ohio, Republic Steel Corp. subsidiary, will re-enter the building products fabrication field, in which it has not been active for several years, with a complete line of building products. The new line will be manufactured under the Berloy trademark and will supplement the company's present line of sheet metal products. R. I. Schuppener, who has had more than 20 years experience as a sales executive with the Milcor Steel Co., the Klauer Mfg. Co., and Wheeling Corrugating Co., will act as general sales manager of the new division.

Among the products which the company will start producing shortly after January 1st are eaves troughs, conductor pipe, gutters, valleys, and ridgings. In addition they will have complete lines of trimmings and accessories, galvanized and black sheets, ternes, and coke plates. Other products will include roofing, siding, shingles, metal ceiling, metal lath, corner beads, channels and accessories. Metal windows, metal lumber, coal windows, wire products, furnace and ventilating pipe and accessories will also be produced.

Lowe Paints Get New Labels

THE Lowe Brothers Company of Dayton, Ohio, paint manufacturers for 67 years, have dressed their entire line of paints, enamels, and varnishes in new labels developed by Arther S. Allen, which suggest the pleasing effects secured by using the products. In keeping with modern packaging one basic design unifies the entire line, yet the various product labels differ through the use of individual color combinations. For instance, the High Standard House Paint label is blue and brown; Mellotone Flat Wall Paint is green and buff; Standard Barn Paint is deep red with tones in medium and high value.



NEW labels for Lowe Bros. line of paints.

Memo Re: WINTER SALES AND PROFITS

This is a winter of opportunity for up-and-coming men in the building industry. Their business no longer need suffer a winter let-down. We have shown them how to make this slack season profitable—how to contact new customers—how to keep their staffs employed.

REYNOLDS METALLATION* takes up the winter slack. It provides a solution for that great body of householders who want effective home insulation. It overcomes sales resistance because it is inexpensive and economical. It is the practical modern reflective insulation, within the reach of every one.

The proper application of Metallation in accordance with approved standards is simple and easy. It comes in rolls and can be installed by any one with ordinary ability and a hammer—no special tools or tricks required. That's why you can train a man one day and have him out on the job the next.

There are at least two places in almost every house where Metallation is badly needed. One is in the attic where it constitutes an effective barrier to prevent loss of heat. The other is behind radiators where it reflects heat into the room and prevents its absorption by the walls. Metallation is unique for this purpose. It is unique in other ways too—it is not affected by moisture and is permanently efficient. These are two good reasons why it is speeding up air-conditioning installations, especially sales of Reynolds Air-Conditioning Systems.

Estimate for yourself the jobs in your community, insulating attics and radiators. Then talk it over with our distributor or your building supply dealer. He will put you on the right track for winter profits, and a better spring and summer business. And he will keep you going!

Write me and I will send you our distributor's name and address by return mail.

Very truly yours,



General Sales Manager

*Reg. U. S. Pat. Off.

REYNOLDS CORPORATION
19 RECTOR STREET, NEW YORK

JAEGER MIXERS



3/4 S "DUAL-MIX" PNEUMATIC TIRE TRAILER:
Biggest value on market—Timken Bearings, spring mounted, far speed for job. 1 1/2" bottom Dual-Mix Drum for double mixing action on the job. Outperforms any model we've ever built.

STREAMLINED ACTION—

7 1/2" DISCHARGE SPEED KING:
First choice for bridge builders and general work. Faster to trail, quicker to spot because of 2-wheel mounting, linkers and pneumatic tires. Fastests product because of stepped-up loading and discharge ability to pour direct into forms.



ON THE ROAD — ON THE JOB



10 S SIDE DISCHARGE MIXER:
ADVANCED TIRE 4-WHEEL MODELS: Latest model 75, 10 S and 146 side discharge mixers have same stepped-up action as our Speed Kings. Handle dry, sticky mixes fast. Machined steel tracks, 25% bigger engineer Man-Ten Alloy Steel for longer life.

Jaeger prices mean more for your money. Get our new Mixer Catalog. Tires 3/4 S, 5 S, 7 S. Note fits to 56 S—equipped to meet any job.

THE JAEGER MACHINE CO.
521 DUBLIN AVE. COLUMBUS, OHIO

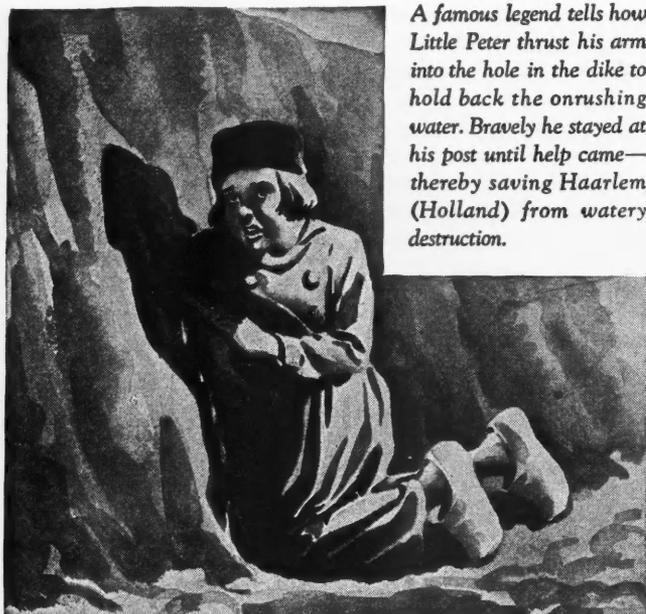


TIMKEN SCREW THRUST HOISTS, TOWERS, MAST PLANTS, HOPPERS, CHUTING.

"SURE PRIME" CONTRACTORS PUMPS—2, 3, 4, 6, 8, 10 INCH SIZES.



Born Years too Soon



A famous legend tells how Little Peter thrust his arm into the hole in the dike to hold back the onrushing water. Bravely he stayed at his post until help came—thereby saving Haarlem (Holland) from watery destruction.

Nowadays BONDEX Keeps Water Out

A momentous act indeed was Peter's—yet keeping their basement walls free from leaks and resulting unhealthy dampness is equally important to home owners. You can solve their problem simply for them—suggest BONDEX, Reardon's Waterproof Cement Paint.

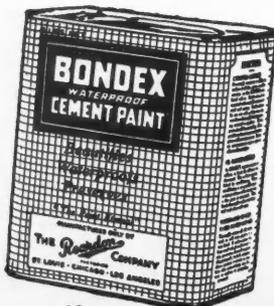
Bondex—"The Paint Eternal"—beautifies, waterproofs and preserves—all in one treatment. Yet, Bondex costs little. Familiarize yourself now with its superior advantages.

Bondex also Preserves Stucco Buildings

Stucco homes and buildings stay young and beautiful or regain their first charm when weatherproofed with Bondex.

Send for New Illustrated Bondex Folder Now

THE REARDON CO.
Chicago • St. Louis • Los Angeles



93

Reardon's BONDEX WATERPROOF CEMENT PAINT

NAREB Elects Officers at Convention

PAUL E. STARK, Madison, Wis., was elected president of the National Association of Real Estate Boards for the year beginning January, 1937, at the recent twenty-ninth annual convention of the Association at New Orleans. Mark Levy, Chicago, was re-elected treasurer for a sixth consecutive term. Other action taken included the launching of a national foundation for research and education in real estate and the adoption of recommendations for action at the coming session of Congress as to real estate mortgage structure and national housing program.

The real estate finance committee recommended:

1. That this Association reaffirm its belief in the need of a mortgage discount agency to be established as soon as possible and that we work to that end.

2. That we seek an extension of Federal guarantee of mortgages and such changes in the National Housing Act and its administration as will make the plan more flexible and more useful to our business.

A summary of the conclusions reached regarding action on housing follows:

1. The Federal Government should abandon its direct housing project and turn them over to private enterprise.

2. Private enterprise can serve all except a small fraction of the housing needs of the country and there is no need for subsidies or governmental help for most American families.

3. For the very lowest income group unable to pay economic rents or purchase homes under present conditions, low cost housing can be provided through the setting up of limited dividend or public utility housing companies, organized locally and eligible to receive loans and assistance from federal agencies.

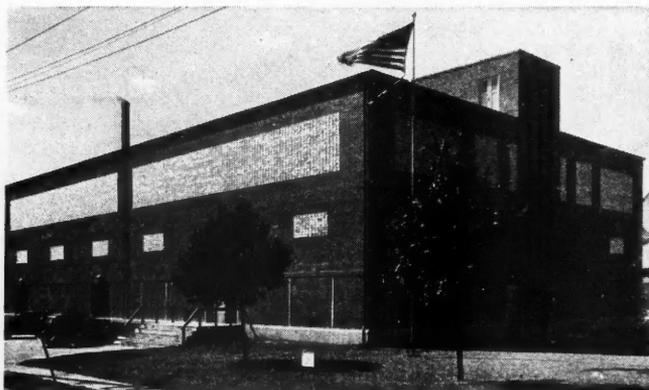
4. The clearance of slum districts should be undertaken by local governments with financial help, if necessary, from federal agencies, but the local governments should in no case undertake to build or operate new housing facilities.

5. High taxes on homes is still one of the great obstacles to better housing and no sound national housing policy can be evolved which does not seek to deal with this factor.

Glass Brick Used in Modern Factory

SCIENTIFIC interior layout of the corrugated container factory and warehouse recently completed by The Austin Company for the Owens-Illinois Glass Company at Gas City, Ind., is reflected by the functional arrangement of more than 42,000 glass bricks in panels, which indicate the interior plan. (See illustration.) Eight huge horizontal panels extending along the 541 foot east wall admit abundant glareless daylight all along the corrugating and box production line which occupies the second floor. The panels, 61 feet 5 inches wide and 8 feet 7 inches high, are the largest independent exterior sections to be constructed of glass brick up to the present time.

The lower course of small horizontal panels, situated at ceiling height throughout the bottle warehousing area, which extends the full length of the first floor, is arranged so as to admit necessary light in the storage area. Glass brick recessed in three towering shafts on the north elevation affords illumination for stairway and lobby, and serves as a motif over the entrance.



GLASS brick used extensively in Owens-Illinois factory.



You
Asked For It —
Now Here It Is

THIS book on Home Heating Helps wasn't first-off intended for you builders. But a lot of you wanted a book of this kind to help with your heating jobs. Not your end of the job, but getting your customers to better know what they were getting.

So we took you at your word and made it. Made it, so it will help you with your customers. Help you, by presenting in a friendly, untechnical way, the things you so often have to wrestle with them about, on their home heating problems.

To use one builder's comment: "It certainly has helped us to take the cuss out of heating decisions with both those who think they know all about heating, and those who frankly admit they don't know a thing."

If therefore, you have any customers you feel this Home Heating Helps Book would be of assistance to, send us their names and along it will go. Or if you prefer, we'll gladly send it to you for placing in their hands.

You'll want one for yourself anyway. Might be a good idea to have a few on hand. Tell us how many and we'll send them right along. It is really a mighty helpful book.

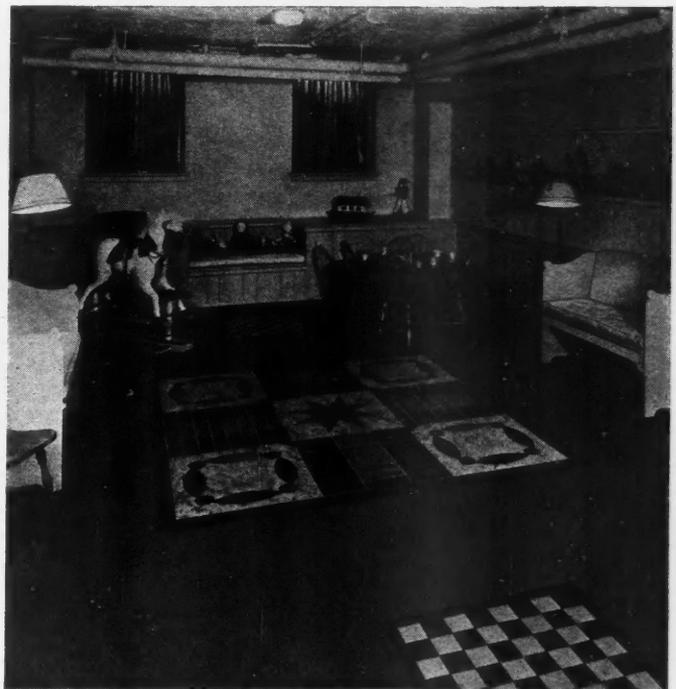


Burnham Boiler Corporation

Irvington, New York Zanesville, Ohio

*Representatives in All Principal Cities
of the United States and Canada*

**Your prospects want HOMES
NOT HOUSES**



Floors of Armstrong's Linoleum in various colors make the nursery the feature of this Worcester, Mass., home. With floors like this, wouldn't your houses be easier to sell? Architect: L. W. Briggs.

*... and floors like this are the touch
that makes a HOUSE a HOME*

YOUR "For Sale" sign won't stay up long on a house that has rooms with interesting floors like this one. The beauty and convenience of Armstrong's Linoleum Floors have a powerful influence on sales. The rich colors and friendly warmth make any house more inviting, more livable . . . easier to sell.

In your hard-to-sell properties, an Armstrong's Linoleum Floor may be the extra feature that will make the difference between a sale and a "white elephant." Armstrong's Linoleum is not expensive to install. There are grades for every pocketbook. And because it is nationally advertised, your prospects will "sit up and take notice" when you tell them the floors are Armstrong's Linoleum.

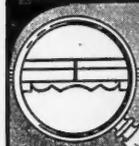
Send ten cents now for color-illustrated copies of "Floors That Keep Homes in Fashion" and "Gay Floors for Basement Playrooms"—two books offering practical suggestions on sales-making floors. Armstrong Cork Products Company, Building Materials Division, 1218 State Street, Lancaster, Penna.



ARMSTRONG'S *Linoleum*
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LINOTILE • ACCOTILE • CORK TILE • RUBBER TILE • LINOWALL • ACOUSTICAL CEILING

YOU CAN'T TELL WHERE THE PANELS JOIN!



Does away with battens



All mouldings flush with surface



Joints invisible and sealed for insulation



Takes any wood finish



32 square ft. put up at a time; eliminates construction delays.

ART-PLY reduces the cost of real wood paneling and ushers in a new mode for modern interiors . . .

ART-PLY is unlike anything on the market today. It offers so many unusual decorative possibilities, at reasonable cost, that architects, contractors and builders prefer it to imitation wood materials.

ART-PLY is an innovation in three outstanding particulars: (1) Battens, or strips over joints, are eliminated. (2) Mouldings are inlaid flush with the surface to form standard multi-paneled sections. (3) Joints between sections are entirely concealed and sealed for insulation.

ART-PLY is manufactured from durable Douglas Fir. Its natural surface grain has all the beauty of this famous wood. ART-PLY is $\frac{1}{4}$ inch thick, and has great tensile strength. It is crack-proof—will not bulge, sag or crumple. Installation is simple and low in cost. Stain it; paint it; enamel it; stencil it—ART-PLY will take any finish that wood will take.

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746 New Center Bldg.
SIDNEY W. CORNELL . . . St. Louis, Mo.
4938 Lindenwood Ave.
GEORGE C. PHILLIPS . . . Los Angeles, Calif.
423 Petroleum Securities Bldg.
R. C. FREDERICK . . . Houston, Texas
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ART-PLY

THE INLAID PLYWOOD
with invisible sealed joints

Patents Pending



ART-PLY, inlaid multi-paneled sections come in 4 standard patterns. Size, 4 ft. x 8 ft.; 3-ply thickness.

VANCOUVER PLYWOOD AND VENEER COMPANY (ABV-1)
Vancouver, Washington, U.S.A.
Gentlemen—Please send me more information about ART-PLY.

Name

Address

Wilby in New Job for Carnegie

APPOINTMENT of A. C. Wilby as manager of Public Relations for the Chicago District has been announced by B. F. Fairless, president of the Carnegie-Illinois Steel Corporation. Mr. Wilby for a number of years has been assistant to the president of the Universal Atlas Cement Company, a subsidiary of the United States Steel Corporation, according to a statement from G. C. Kimball, executive vice-president of the Carnegie-Illinois Steel Corporation.

A similar department of public relations has been established in the Pittsburgh district with William Voigt Jr. in charge.

Modern Laboratory for Armco

CONSTRUCTION of a modern research laboratory to replace the research building which was leveled by an explosion in December, 1935, has been announced by The American Rolling Mill Company. This building, to be erected in Middletown of porcelain enameled sheets, other decorative metal products, and glass blocks, will cost approximately \$260,000, exclusive of equipment. A multiple-story building of equal floor space but of conventional construction would cost about \$400,000.

The laboratory, a single-story building designed and to be erected by The Austin Company, is the outgrowth of extensive research which led to the use of sheet iron and steel as building materials. Six hundred lineal feet of porcelain enamel side wall—cream colored with contrasting decorative pilasters and band of stainless steel—will enclose the three street sides. Between the pilasters there will be broad areas of glass block in which horizontal steel sash with clear glass will be set to accentuate the sweep of the building which describes impressive areas where corners ought to be.

A massive square central entrance tower will dominate the principal facade. Vertical shafts of glass block, recessed between narrow strips of porcelain, will extend upward for its full two-story height from a semi-circular marquise of stainless steel at the portal.

Welded steel frame construction of a special new design will be employed. Structural steel required for the job is being fabricated from heavy rolled sections at The Austin Company's Cleveland shops and will be delivered in sections to the site ready for assembly into a continuous sturdy frame.

The building will provide an area of 41,900 square feet on one floor and an additional 1,600 square feet in the square entrance tower. Although there are to be more than 100 individual offices, laboratories, conference rooms, etc., abundant daylight will be furnished in all sections through vertical saw-tooth monitors closed in with glass block in continuous sections, 175 feet long and 10 feet high. The entire building is being equipped for summer and winter air conditioning.



ARMCO to build modern laboratory of metal and glass.

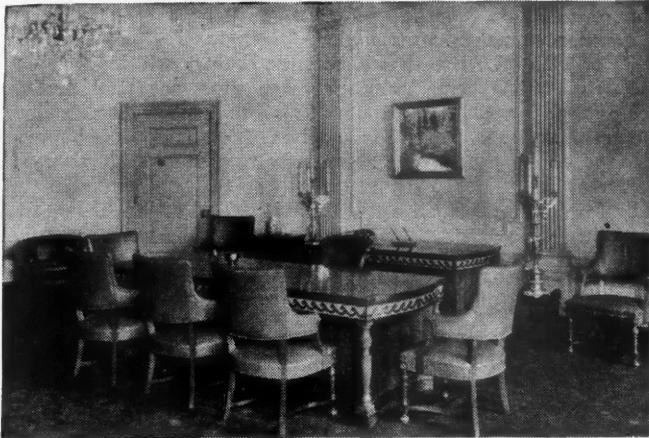
Indirect Labor Large on PWA Projects

THREE years of PWA's program are covered in a Department of Labor study which shows that during these 36 months PWA's non-federal projects alone created 299,000,000 man hours of site employment. Materials ordered during the same period totaled \$539,000,000. To produce these materials, according to the bureau's compilation, 741,000,000 man hours of labor were required in forests and mines, in mills and factories, and in transportation; these two figures give a 2.5 to 1 ratio between indirect and direct employment resulting from PWA non-federal projects.

ANOTHER FINE LIME FINISH

with

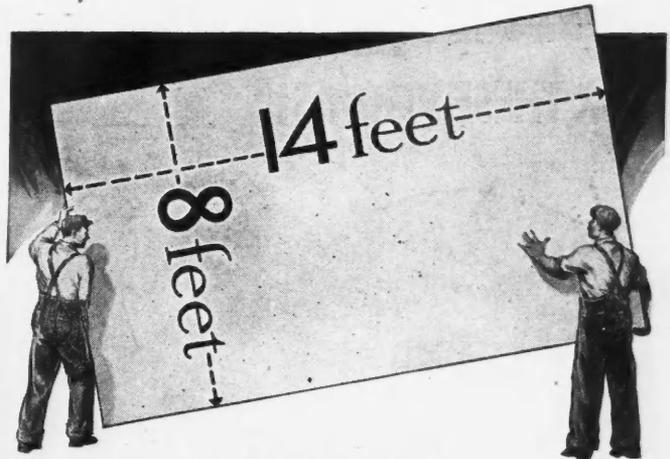
Original OHIO WHITE



Denver, Colorado, Court House; at top, mayor's office.
Architects: Association of Allied Architects.
Contractor: Varnum, Bate & Fleischer.
Ohio White Finish Lime used for white coat.

● From the world's greatest and purest deposit of dolomitic limestone—in northwestern Ohio—comes the fine quality Ohio Hydrate Finishing Lime being used so widely today. Ohio White and Hawk Spread White Finish are noted for plasticity, coolness and as the best-known decorating base. Ohio Sanlime Sand Finish, ready mixed to insure uniform plasticity, quality and color, is popular for tinted or textured finishes. Ohio Ritewall Hair Fibered Lime Plaster for basecoats spreads more easily than any other plaster, requiring less labor—with resulting economy. All Ohio Hydrate limes are made of 99½% pure dolomite. Guaranteed to meet A.S.T.M. and U.S. Government standards. Write for your copy of 16-page book, "Lime for Plaster and Stucco"; also, 12-page book, "Lime for Masonry Mortar and Concrete." The Ohio Hydrate & Supply Company, Woodville, Ohio.

OHIO PRODUCTS SOLD EVERYWHERE IN FAMOUS ZIG ZAG BAGS
Ohio White Finish—Hawk Spread White Finish—Ohio Ritewall Fibered Lime Plaster—Ohio Sanlime Finish—Mastite Masonry Mortar—Ohio Masons Lime—Ohio Ground Lime.



BIG SHEETS

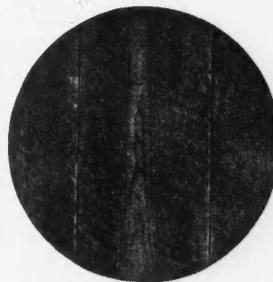
mean new uses
and new economies

THERE'S many a wall—many a ceiling—that is made of a single sheet of Homasote (there are nineteen sizes, from 4' x 4' to 8' x 14'). Think what this means in time and labor. Think how greatly it reduces the number of joints in walls and ceilings.

Homasote has both high structural strength and high insulation efficiency. Its surface takes paint or paper perfectly—with quick adhesion and no waste of materials.

Here is the answer for low-cost house construction! In conjunction with their materials, Homasote engineers have undoubtedly worked out the lowest cost construction per cubic foot yet devised. We can show you how to build a 6-room, 30-year house to sell for \$3500. (Qualified for FHA Mortgage.)

On every job you do—new construction or remodeling—there are jobs Homasote can do for you and save you money. In rural areas the sales opportunities are multiplied even further. Write for our simplified methods of planning. Let us send you literature and samples and suggestions for new sales. Homasote is nationally advertised—in both urban and rural areas. Do business with the Homasote dealer; we are working with him to supply you with live leads to new business. Our methods are tested; they are profitable for you, as well as for us. Write today.



And now the new PANELYZED INSULATION

We have just recently introduced Homasote in a new form—panels with the grain and beauty of wood (several types). Same strength, same insulation—new uses. Let us send you pictures and prices.

THE AGASOTE MILLBOARD CO.

TRENTON, N. J.

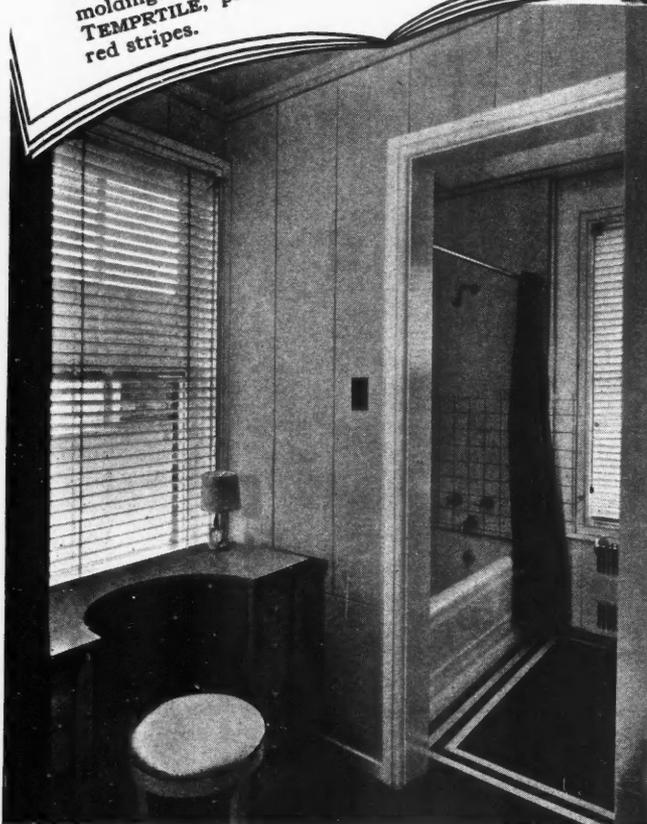
Manufacturers of Quality Products since 1909

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HOMASOTE
INSULATING AND
BUILDING BOARD

"HERE'S THE MASONITE 'SPEC' FOR THESE ROOMS!"

POWDER ROOM
 CEILING—MASONITE QUARTRBOARD, painted white. WALLS—MASONITE DE LUXE QUARTRBOARD, cut and leveled to produce modern "plank" design, painted light green.

BATHROOM
 CEILING—MASONITE TEMPERED PRES-D-WOOD, painted white, with chromium moldings over joints. WALLS—MASONITE TEMPTILE, painted white, with Chinese red stripes.



WHEN you specify Genuine MASONITE Products you provide beautiful, durable surfaces for the life of the building. And—you cut costs to a minimum without sacrificing quality of material or workmanship. Find out ALL about these modern, grainless boards before planning any new building or remodeling. Mail coupon for FREE samples and full details.



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 111 W. Washington Street, Chicago, Ill.
 Please send FREE samples and full particulars about Genuine MASONITE Products.

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Material Manufacturers See Good Building Year Ahead

Various Predictions Outline 1937 Prospects

AS ONE of the material manufacturing company executives who predict a good building year for 1937, Lewis H. Brown, president of Johns-Manville Corp., recently told 500 building material dealers from the mid-Atlantic and New England states that the country has arrived at the threshold of a building program of major proportions, and to avoid repetition of past disastrous "booms" the cost of homes must be lowered while construction standards are raised.

For 1936, Mr. Brown said that the country will build approximately 260,000 home units, or seven times the total for 1934. He foresaw a 425,000 total for 1937, a tremendous acceleration in three years' time, but still below the 590,000 units needed annually to wipe out the existing home shortage and keep abreast of current needs.

"I think we are all agreed," he said, "that we do not want another boom such as we experienced in the twenties. I hope we are further agreed that the consequence will be disastrous if we do not begin to plan now for a sound and orderly type of progress."

"To reduce home building costs without sacrificing quality, financing for the home owner must be on a sound basis, providing a single mortgage—up to 80 per cent of the dwelling's value—amortized over a long period of time with small monthly payments taking care of interest charges, which must be consistent with sound financing principles, and at the same time reducing the sum of the mortgage so that eventually the property passes to the home owner."

"These fundamental principles are incorporated in Title II of the National Housing Act, and the ultimate challenge to industry and finance is to demonstrate that it can gradually absorb the function now performed by the federal government in providing for sound mortgage financing."

"Manufacturers must continue development of better materials at less cost, while manufacturer and dealer must strive to reduce cost of distribution."

Abraham Sees Increasing Residential Construction

A steady acceleration of activity in the residential construction industry that may closely approach 1929 proportions by the end of 1937 and should continue for four or five years, is predicted by Herbert Abraham, president of The Ruberoid Co., manufacturers of asphalt and asbestos building products.

Mr. Abraham's prediction was based chiefly, he said, on five considerations: first, the actual experience of The Ruberoid Co. during the past three years; second, the growing improvement in general business conditions; third, greatly increased employment by private industry; fourth, the tremendous backlog of repairs, replacements, and new construction piled up during the depression years, and, fifth, the present position of the building industry in its underlying economic cycle.

Convincing evidence of rapidly growing activity in the building field throughout the country is found in current reports of the United States Department of Commerce, indicating that the number of standard units of asphalt shingles and prepared roofing shipped by manufacturers representing virtually the entire industry will show an increase of around 22 per cent in 1936 over 1935.

Electric Products Sales Are Moving Upward

The prospects for the electrical manufacturing industry are very bright, according to A. W. Robertson, chairman of the Board, Westinghouse Electric and Manufacturing Company. Practically all divisions are operating at capacity and orders in sufficient volume are coming to warrant an optimistic view for the next several months. Incoming business is not confined to any one type of product. The demand for household goods is excellent and the public utilities and industry generally are making substantial purchases.

Notwithstanding many threatening, unpredictable contingencies, there is evidence that we are moving upward along a more or less typical American business curve. The upward swing may continue for considerable time.

Specify The OVERHEAD DOOR

FOR GARAGE—FACTORY—WAREHOUSE AND SIMILAR BUILDINGS

BACKED BY A NATION-WIDE SALES—INSTALLATION SERVICE

A service that stands willing to assist you in satisfying your customer by the selection of the proper "OVERHEAD DOOR" to suit his requirements.

A service that takes the full responsibility in making the installation and rendering future service that insures lasting satisfaction to the customer.

**OVERHEAD DOOR CORPORATION
HARTFORD CITY, INDIANA U.S.A.**

A MILLION USERS THE BEST RECOMMENDATION

CLIP THIS COUPON and MAIL NOW

Please send me literature and full information regarding your product.
I am interested in doors for the particular purpose as checked.

MADE IN ANY SIZE FOR ANY OPENING FROM A HANGAR TO A PRIVATE GARAGE

Name

Address

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

PRIVATE GARAGE
PUBLIC GARAGE
WAREHOUSE
FILLING STATION
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WOOD DOORS
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AGRICULTURAL BUILDINGS
ELECTRIC CONTROL
AP-1-37

Mail to: OVERHEAD DOOR CORPORATION, Hartford City, Indiana, U. S. A.

IT'S GOING TO BE A Colonial YEAR



...and EAGLE WHITE LEAD will solve all your paint problems...because it's troubleproof



The EAGLE-PICHER LEAD COMPANY
CINCINNATI, OHIO



Colonial architecture is the overwhelming choice of prospective home-builders—according to the famous 5-Star Survey made by *Architectural Forum*.

Colonial means white paint—and to contractors who want to make sure of a long-wearing, trouble-free paint job, it means Eagle Pure White Lead.

Eagle White Lead is the ideal

pigment for all surfaces—wood, brick, stucco. It weathers well—wears longer—anchors deep—because it's a *chemically active* pigment.

Standardize on Eagle Pure White Lead this year—and you'll have no paint complaints from your customers and nothing but enthusiastic support from your painter contractors. Sold by paint dealers from coast to coast.

EAGLE pure WHITE LEAD

The HEATILATOR makes a FIREPLACE

easier to
build...



**WILL
NOT
SMOKE..**

Circulates Heat

THE Heatilator is a correctly designed metal form around which the masonry is easily laid. Complete from floor to flue, it replaces firebrick, damper and other materials. Yet it does not limit the design of your fireplace or the type of masonry.

Operating on proved warm-air heating principles, the Heatilator is a steel heating chamber hidden in the fireplace—correctly proportioned for smokeless operation. Cold air is drawn from the floor into this heating chamber—warmed—then circulated uniformly to every corner of the room and even to adjoining rooms.

Ideal for Homes and Camps

By providing living comfort on cool spring and fall days, the Heatilator cuts weeks off the furnace-firing season and dollars off the fuel bill. In mild climates, or in summer homes and camps, it is the only heating equipment required.

Present low prices make the cost of a Heatilator Fireplace but little more than ordinary construction. Heatilators are sold by leading building-supply and lumber dealers . . . with stocks in principal cities for quick delivery.

Heatilator Fireplace

Send the coupon today for complete information and prices. Heatilator Company, 751 E. Brighton Ave., Syracuse, N. Y.

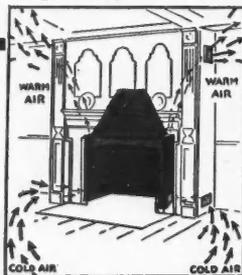
Heatilator Company
751 E. Brighton Ave.,
Syracuse, N. Y.

Please send me complete Heatilator information and prices.

Name

Street

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



LETTERS from Readers on All Subjects

Facts, opinions and advice
welcomed here

Secretary Bodfish Defends Building & Loan Attitude on FHA

Chicago, Ill.

To the Editor:

Your editorial in the November *American Builder* raises some issues on which you may welcome the point of view of our organization, especially since we were specifically mentioned. The FHA has become a subject of such controversy of late that oftentimes the points from which the objections to it arise are obscured in the intensive defense voiced by those who are convinced that it is responsible for all the improvements in building, mortgage practice, etc.

You are convinced apparently that those of us engaged in home financing object to the 5 per cent interest rate because it is low. On the contrary we object to the advertising of a 5 per cent rate which does not represent a 5 per cent cost of money to the borrower, but rather turns out to be something over 6 per cent. The Report of the United States Building and Loan League's Committee on FHA, made recently to our annual convention, has this to say on the interest rate question:

"Continuously the statement is made in advertising and publicity that the FHA mortgage rate is 5 per cent. Actually the typical rate paid by the borrower on a loan with a maturity of 15 to 20 years is closer to a 6.4 per cent rate and accordingly usually higher than that charged by savings and loan associations giving a loan plan equally desirable from the point of view of the borrower. The FHA is sometimes directly responsible for statements that the FHA rate is 5 per cent. In other cases, mortgagees seeking these loans make such statements."

In your editorial you say that the FHA's chief fault has been its failure to reduce interest rates sufficiently. This being the case we should think that the advertising of the rate which is misleading, as to its apparent lowness, would not meet with your approval any more than it does with ours.

The crux of the matter, in our opinion, is whether the FHA has accomplished what it set out to do. I imagine that is your building man's concern with it, too.

Has he stopped to consider the fact that the mortgage loans disbursed for home building under the protection of the FHA Title II insured plan totaled in October not more than \$100,000,000, after two years of operation? After all, he should not be encouraged to overlook the fact that the valuation of new residential construction in the 37 states east of the Rockies, according to the F. W. Dodge Corporation figures, amounted to \$1,066,000,000 for the same period and there was quite apparently therefore nine times the volume of insured mortgage money coming from the mortgage lenders who did not feel it necessary to ask the borrower for an extra 1/2 per cent or 1 per cent a year to insure that he would be a good customer. Construction financing by savings, building and loan associations this year amounts to more than \$200,000,000 to date.

When the builder gives the FHA credit for organizing a home-ownership sentiment and for several other things the United States Building and Loan League committee in its report is in accord. Paragraph three of the report emphasizes five things which it feels to be good results achieved in the administration of Title II; 1) better understanding of the principles and advantages of the long-time, monthly payment loan on homes; 2) revival and encouragement of the desire for home ownership; 3) education in architecture, worthwhile construction and neighborhood standards; 4) emphasis upon the individual's credit standing; and 5) development of the monthly loan payments on taxes and fire insurance premiums.

Let's remind ourselves that there was one other thing the National Housing Act was supposed to accomplish which at its inception was considered the most important—the reflow of private

(Continued to page 84)

WINDOWS

Casement and Double Hung

BRONZE or ALUMINUM

NOW USED IN BUILDINGS OF MODERATE COST AS WELL AS MONUMENTAL STRUCTURES

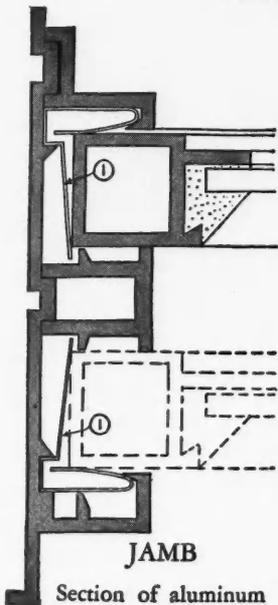
WEATHER-TIGHT

RUST, DUST AND RATTLE PROOF
DO NOT WARP NOR STICK

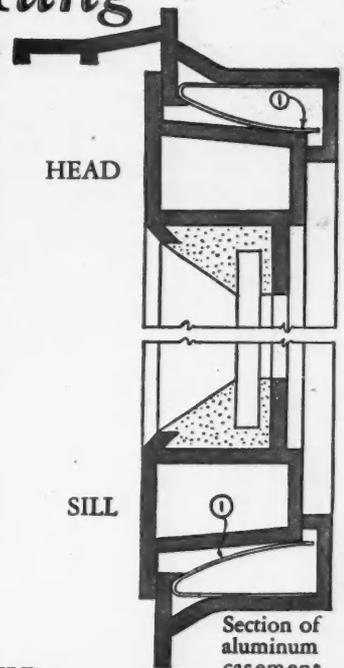
Note sturdy construction and tubular sections, giving maximum strength; also resilient non-corrosive weather-stripping, positively sealing contact between sash and frame in continuous line.

(1) PATENTED WEATHER STRIP

WRITE DEPT. E-1 FOR CATALOGUE OR SEE SWEETS 1937 FILE



Section of aluminum double hung window



Section of aluminum casement window



GENERAL BRONZE CORPORATION

LARGEST FABRICATORS OF ARCHITECTURAL METAL WORK

34-19 TENTH STREET • LONG ISLAND CITY, N. Y.

CONSTRUCTION COSTS REDUCED $\frac{1}{3}$

With UNITS MADE ON THIS MACHINE

When modern buildings are being erected with $\frac{1}{3}$ savings in material costs, $\frac{1}{2}$ in mortar and $\frac{1}{3}$ in labor, it again furnishes definite proof that **DUNBRIK and DUNSTONE Build Better Buildings Cheaper.** In addition multiple sizes offer wide flexibility, permitting solid—vener—ashlar and hollow wall construction,—all in full range of color, shade and texture.

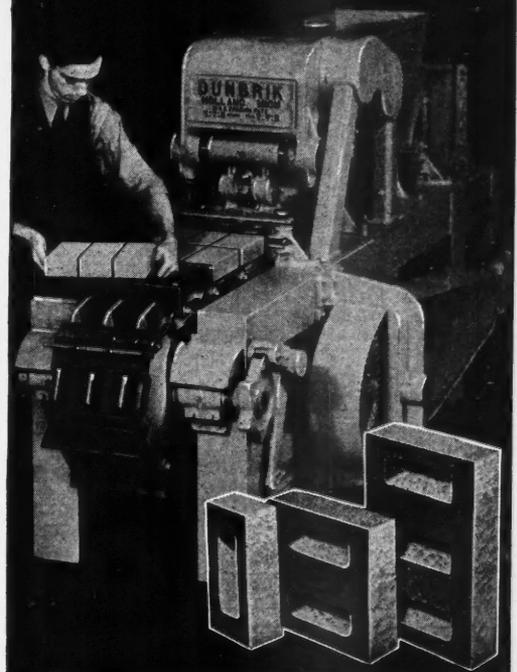
Manufacturing Opportunity

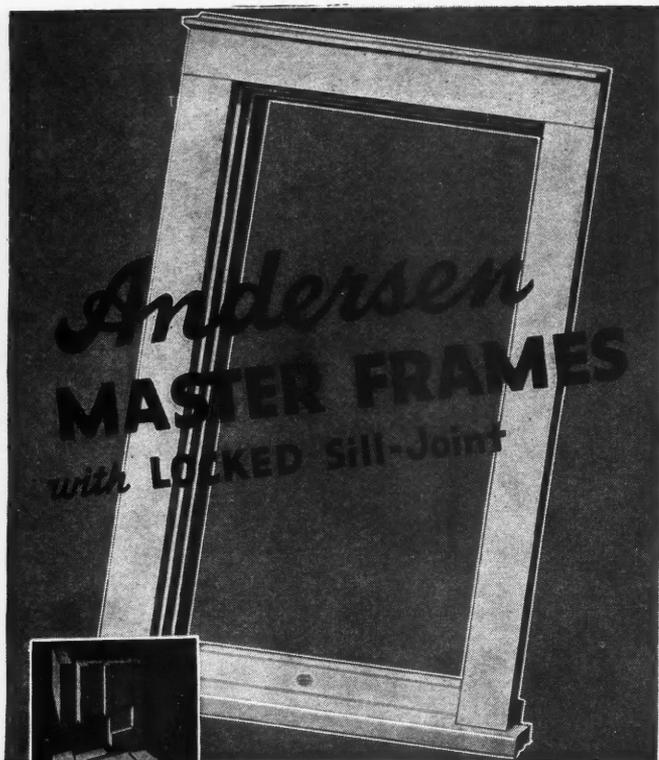
The manufacture of **DUNSTONE** offers big money-making possibilities for the man equipped to supply the building trade in his territory with this exclusive product. We equip you with new and revolutionary line production machinery, permitting large production with only one or two men. Equipment costs but a fraction of what would be required for other processes of equal capacity, and production costs are far lower.

INVESTIGATE

Write today. Ask for "4 Keys to Manufacturing Success," and let us show you how present **DUNBRIK** Manufacturers are making outstanding progress in a business that offers unlimited opportunity for growth, expansion and profit.

W. E. DUNN MFG. CO.
450 West 24th St., Holland, Michigan





Absolutely
CAN NOT LEAK!

Locked sill-joint construction holds sill and jamb rigid so they cannot pull apart. This construction positively cannot leak. It has all the advantages of both sill-dadoed and jamb-dadoed frames with none of their disadvantages.

Exclusive with Andersen Weathertight Master Frames: the *leakproof* locked sill joint construction; the steep sill slope; the chamfered blind stop; the removable jamb liner; the mortar clinch grooves; Andersen noiseless, wear-proof pulleys assuring a lifetime of trouble-free operation.



Andersen Casement
A modern, weathertight unit with removable double glazing and spring bronze weatherstripping.

Contractors Save
TIME and MONEY

Thousands of contractors have told us they save time and labor because of the accuracy of the Master Frame. 87% reported a saving of more than 25 cents per opening and one-fifth of these saved more than \$1.00 per opening! Ask your dealer to demonstrate for you. Or use the convenient coupon below.

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I would like complete details and a demonstration on Andersen items checked below:		
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<input type="checkbox"/> ANDERSEN CASEMENTS	<input type="checkbox"/> BASEMENT WINDOWS	
Name _____		
Address _____		

Letters Dept.

(Continued from page 82)

capital into the home financing field. As to this, the best way to examine what has happened is to see where we would have been without the FHA. Banks were not making many mortgage loans before the FHA came into being, and they are now making 70 per cent of the Title II mortgage loans. Aside from all the dangerous implications of filling up bank portfolios with long-term mortgage loans which have troubled the most astute financing minds of the country before now, let us consider what particular gain to anybody there has been in having \$70,000,000 go into the residential building field from the banks under the FHA plan of mortgage insurance.

It is costing the borrower no less to have his building money under this plan than it would have cost him had he borrowed it from a savings and loan association. Moreover, the charter of a federal savings and loan association and the laws under which many state associations operate permit them to lend 75 per cent of the value of the property. At the beginning of 1936 the report of the Federal Housing Administrator shows that 48.4 per cent of the volume of construction loans insured by the FHA up to that date was for amounts less than 75 per cent of the property value. But the builder asks: where else could borrowers have gotten this \$70,000,000 to build their houses except from the banks which were persuaded to do it by the FHA insurance plan? The answer is that savings and loan associations had the money with which to do it and were looking for loans at the same time that this group was placed in banking portfolios. The builder comes back, being a practical man, with the question: what is the difference in the whole situation whether the banks did it or the savings and loan associations? To them naturally the all important thing is that the money was forthcoming, but I believe that the business men of this country are profoundly interested in the effect which some of these policies have upon the credit of the federal government. The difference between these two sources of the money is that the savings and loan associations in the main would have disbursed the \$70,000,000 without asking the federal government to co-sign the note of the borrower before they loaned the money and the banks by using Title II insurance did ask for something tantamount to that co-signing.

This brings me to the last point with which your editorial takes issue with our stand on the whole question of FHA. You state that there is a difference of opinion as to whether it was only an emergency measure and that many persons felt it was a permanent development. You are undoubtedly right, but if permanence of the FHA depends upon permanent use of the credit of the United States to insure the banking debts of a growing group of borrowers, when there are institutions which would be willing to make the borrower a proposition as favorable if not more favorable, without placing this extra liability upon the government, those persons should do some broad thinking.

Your editorial asks what builders think about the FHA? A fair enough question, certainly, in a builder's magazine. My thought is that you will want the builders, in forming that opinion, to understand clearly the reasons why the mortgage bankers and the building and loan associations oppose some of the FHA principles and practices, because the men in charge of these financial institutions cannot possibly be without common interests with the lumbermen and the builders and the other patrons of your magazine. We all are interested in home building, sound home building and sound home financing. We in the finance end provide the credit which makes possible their activities today. It just occurs to me that, considering these things, your readers might be interested in seeing this letter in print, or the Report of the U. S. Building and Loan League's Committee on FHA, verbatim. A copy of that report is enclosed.

MORTON BODFISH, Executive Vice President
United States Building and Loan League.

Paint Industry Strong for FHA

Washington, D.C.

To the Editor:

I have read with interest the article in the November issue of your magazine entitled "Shall FHA Be Continued." I think this is a splendid article and I know most of your readers will find it extremely interesting.

(Continued to page 86)



- Modern homes need modern materials of all kinds, and especially paper! And the improved modern paper is SISALKRAFT.
- Every air-conditioned house needs it to prevent infiltration of air. Use it under floors, under roofs, over sheathing, around doors and windows. Use it to cover insulating material—increases efficiency of any kind of insulation.
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- SISALKRAFT is as modern as television. It's made of two sheets of kraft paper, waterproofed and inlaid with millions of real sisal fibres—which act like steel reinforcing bars in a concrete slab. Sisalkraft is tough—clean—won't tear or break. No holes. Waterproof as a duck's back. Easy to handle, cut, fit, and nail. It's the quality building paper, readily available, sold and stocked by lumber dealers in every county. Inexpensive—saves money right on the job. No house is really modern without it.

We'll send you a liberal sample, free, with new ideas for use and typical specifications. What's your address?

THE SISALKRAFT CO.
203b West Wacker Drive Chicago, Ill.

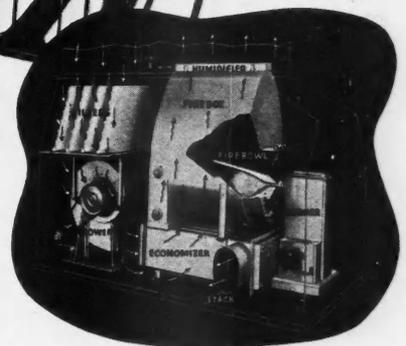
Gar Wood

AUTOMATIC HEAT and Air Conditioning



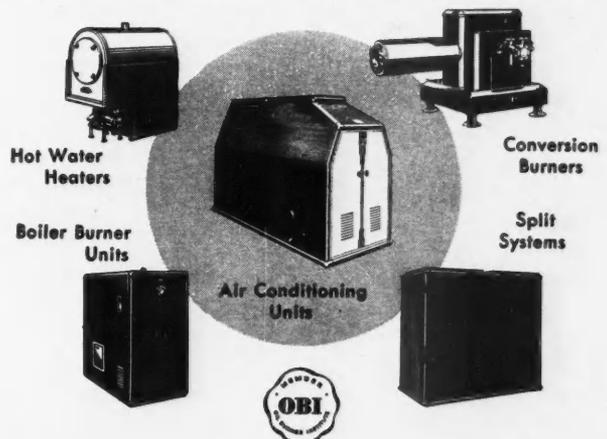
THE PRACTICAL TEMPERED-AIRE AIR FILTER

Examine the various units of the coordinated Tempered-Aire chassis and you will see that each is a masterpiece of efficiency and simplicity.



The Tempered-Aire filter consists of a series of collector screens made of special woven fabric. It has so much area that it needs attention only at long intervals. To clean, the screens are lifted off and put in the washing machine. No trouble, no expense. Exclusive features such as this encourage more and more architects and builders to recommend Tempered-Aire to their clients.

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Designed Like the SMITH BOULDER DAM MIXERS

SMITH 3 1/2-S

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- Spring Mounted Axle
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- Low Charging Height 34 1/2"
- Big Wide Feed Chute (optional)
- End-To-Center Mixing Action
- Short Drum Tilt (thru 40° arc)
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- Stover Enclosed Crankcase Engine
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- Machine Cut Gear and Pinion
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A brand new machine • the ONLY mixer with ALL these quality features. Write for new bulletin.

SMITH
MIXERS

The T. L. Smith Co., 2849 N. 32nd St., Milwaukee, Wis.
LEADERS FOR 36 YEARS

Letters Dept.

(Continued from page 84)

In the article I note the following, "What do building men in general feel about the strong denunciations by the financiers? Do builders want FHA continued? If they do they should make their feelings and opinions known and *American Builder* will be glad to have letters from its readers on this subject."

I am attaching hereto resolution adopted at the annual convention of our Association held in Chicago last month which will show you that the paint industry, which is a part of the building industry, has received benefits from the National Housing Act, and that they very definitely want FHA continued.

These are sent you so that you may know what the members of the paint, varnish and lacquer industry think about the continuation of FHA.

LAWRENCE KIEFER, Secretary, Trade Sales Division
National Paint, Varnish and Lacquer Association.

A Resolution Adopted by the National Paint, Varnish and Lacquer Assn. Inc., at the Annual Convention Assembled in Chicago, Illinois, November 19, 1936.

WHEREAS the insured mortgage program of the Federal Housing Administration in the brief period of two years in which it has been in operation has already proved itself to be the principal factor in producing the widespread revival now apparent in home building and allied construction and business activities in the building trades to such an extent that an actual shortage of skilled labor in these trades has become noticeable; and

WHEREAS such insured mortgage program has by its insistence upon the use of the long term amortized mortgage at a maximum rate of interest not to exceed five per cent per annum, together with a service charge, optional with the mortgage not to exceed one-half of one per cent per annum and the mutual mortgage insurance premium of one-half of one per cent per annum on the original face amount of the mortgage, and by its system of mortgage risk valuation, property inspection and minimum property standards, largely eliminated from the home mortgage field secondary financing, excessive fees, commissions, hidden charges, shoddy construction, etc., thus bringing sound debt-free home ownership within the means of the average citizen of this country; and

WHEREAS the mutual mortgage insurance provided through the Mutual Mortgage Insurance Fund established by Title II of the National Housing Act, is a device which without cost to the taxpayer is capable of placing the home mortgage market of the country on a permanently staple basis; and

WHEREAS this insured mortgage program now has the active and enthusiastic cooperation of some 5,000 banks and other financial institutions throughout the country;

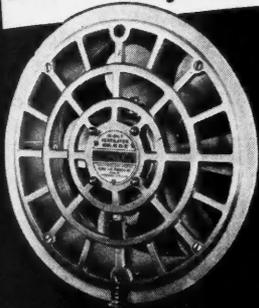
NOW, THEREFORE, BE IT RESOLVED that the National Paint, Varnish and Lacquer Association, Inc. go on record as endorsing the program of the Federal Housing Administration under Title II of the National Housing Act and as favoring any reasonable measures calculated to make that program more widespread and effective.

AND BE IT FURTHER RESOLVED that the National Paint, Varnish and Lacquer Association, Inc. specifically urge the extension by the Congress of the United States of the guarantee by the United States of principal and interest of the debentures of the Mutual Mortgage Insurance Fund issued by the Federal Housing Administrator in exchange for properties foreclosed under insured mortgages. The contingent liability of the United States under such guarantee is so remote that the possibility of its being invoked cannot reasonably be anticipated. The expiration of such guarantee at a time before the Mutual Mortgage Insurance Fund has had an opportunity to build itself up through the premiums paid for mortgage insurance to a capital figure reasonably proportionate to its total insurance liability, would have an unfortunate psychological effect seriously inhibiting the development of a program which has justified itself beyond question from a social and economic as well as a business point of view.

AND BE IT FURTHER RESOLVED that a copy of this resolution be mailed to the Federal Housing Administrator, Washington, D.C., and that copies be made available also to members of Congress representing all states in which the members of this Association operate.

(Continued to page 88)

GIVE THEM CLEAN AIR
and they'll buy your homes



**VICTOR
IN-BILT
VENTILATORS**



Free!

Complete information—mechanical specifications—installation details are given in free Bulletin No. 30D-1. Write for your copy today.

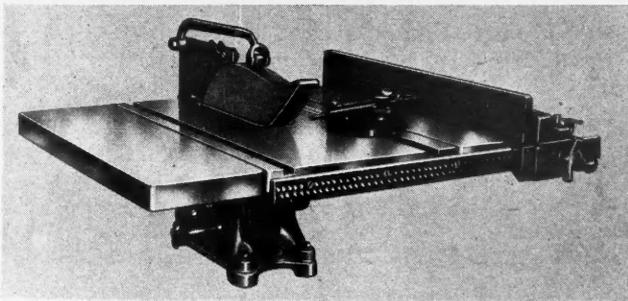
● Based on the experience of builders everywhere, your chances of selling your homes *quicker* are definitely greater when the kitchen is Victor In-Bilt equipped. Fresh, clean air is a comfort necessity for modern living and, therefore, a powerful sales magnet. Think of this — wouldn't any woman prefer a home where cooking odors and greasy fumes are removed as fast as they are formed? And, a Victor In-Bilt in the kitchen even changes the air in all the rooms on an entire floor—removing smoke, stale air and keeping cleaning bills low!

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DEALERS Unless you are in position to sell home ventilators, you are overlooking a big bet. "Ventilation for the Home" is here to stay and growing every day. Victor has a real proposition to offer you. Write today for details.

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Cream-colored Temlok De Luxe decorates and insulates the ceiling of this attractive interior. Temlok Insulating Lath also used. Contractor: Harry Brownette, Jacksonville, Fla.



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OFFER Attractive Decoration
Efficient Insulation
IN ONE MATERIAL**

NOW you can offer your clients interior finishes that combine colorful decoration and insulation in one material. Armstrong's Temlok De Luxe Interior Finishes permit you to do this **AT NO EXTRA COST**. These attractive new finishes are available in factory-finished colors—white, walnut, cream, green, ash—as well as natural. They will harmonize with any decorative scheme—help you win contracts for smart interiors like the one shown above.

Furnished in boards, planks, tiles, panels, battens, and border strips, Temlok De Luxe Interior Finishes can be used to create a variety of decorative effects. They are easy and economical to erect either by nailing or cementing. And thanks to their high insulating efficiency, they make possible greater comfort—lower fuel bills in homes, stores, restaurants, commercial and public buildings of all types.

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Temlok Insulating Board ~ Temlok Insulating Lath



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**IDEAL FOR EXTERIOR
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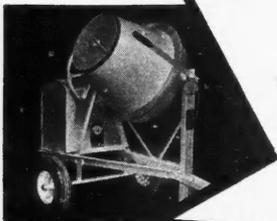
Completely waterproof . . . resistant to attacks of termites, vermin, rodents, bacteria, and fungus . . . DURAPLY makes the well-known advantages and economies of plywood available for exterior as well as interior building purposes. Produced by the ALGOMA Resin-Fused process, DURAPLY provides strength approximating that of steel . . . has excellent insulation qualities . . . will not warp . . . is more economical than multiple-ply fibers and other compositions. Available in every type of domestic or imported veneer. Write for full details and free sample.

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**CONSTRUCTION MACHINERY
COMPANY**

WATERLOO, IOWA



Letters Dept.

(Continued from page 86)

"8 Per Cent Boys Are Itching"

Dallas, Tex.

To the Editor:

Here is a permanent vote for a permanent FHA. The "8 per cent boys" are itching to gobble up the common rabble. And this is exactly what will happen if the FHA is discontinued. I am in the contracting business. Previously I was connected with a large life insurance company here in Dallas. This company gets its share of the FHA business.

From my experience I highly endorse the whole FHA structure.

WM. J. HAHNEL,
Beilharz & Hahnel, Contractors & Builders.

No Tears Here for "Loan Structure Upset"

Sioux Falls, S.D.

To the Editor:

It is too bad that the FHA is "attempting to upset the existing mortgage loan structure," as Mr. L. A. McLean, president of the Mortgage Bankers had stated. It is too bad that the interest rate has been reduced and that the boosters of home ownership can't have their way about charging 7 and 8 per cent interest and getting their little commission every three or five years together with other charges the home owner has had to pay.

I am not defending the material men, but if the building and loan league would be satisfied with a reasonable charge, they would not try to lay the blame for the high cost of building on the labor unions.

Yes indeed, we want FHA continued. It was good enough to bring the building industry out of the mire and it is good enough now to keep us up and going. Home ownership has been popularized by FHA. We want to go ahead now and I hope that the *American Builder* and all building men will do all in their power to keep it so.

NELS OIE NOREM, Carpenter & Builder.

Some Charges Still Excessive

Kenosha, Wis.

To the Editor:

We wish to compliment you on your article in the *American Builder* of November 1936 entitled, "Shall FHA Be Continued?"

In my estimation the FHA has been a big factor in the return of residential construction. Prior to the inauguration of the FHA, it was physically impossible to obtain a mortgage loan for construction purposes.

There are still some charges made by the local banks on FHA loans which we consider exorbitant. As an illustration, there is a charge of some \$20.00 to \$24.00 made for photographing the mortgagee's lot.

RAY J. ECKENRODE COMPANY, Contractors & Builders.

Politics in FHA Appraisals

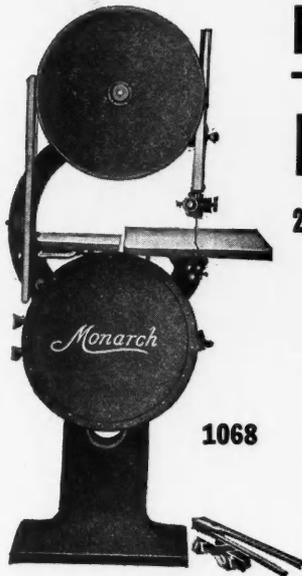
Jonesboro, Ark.

To the Editor:

I have just read your article entitled, "Shall FHA Be Continued?" There is no doubt that the need for the provisions of Title I has just about passed. With the elimination of equipment sales the loss on this type of financing would be small, however, and it might be continued with certain additional restrictions.

The provisions under Title II should mean that the FHA is an insuring agency only. The condition that is developing in our locality is that the banks will make any loan the FHA will insure. The RFC Mortgage Company will buy any new construction loan that the FHA will insure. Neither of the lending institutions has any knowledge of the value of the property, in most cases never sees it, and relies wholly on the appraisal of some employee of the Federal Housing Administration. Most of these men have been hired by their political pull rather than for their qualifications. The result is that it is no uncommon thing for a prospective home owner to secure a loan of sufficient size to pay for the lot, build the house, pay all the loan costs, and have something left when it is all over. There is no point in building up

(Continued to page 90)



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20" ECONOMY BAND SAW

only \$75.00

27" and 36" sizes priced in proportion. Saw Blade, Saw Guides, Brazing tongs and clamp included. Ball Bearings and Guards at slight extra cost.

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MADE IN U. S. A.

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Uncle Sam will help you make money if you are ready.

Billions of dollars are being used to make jobs and the Home Building Program offers the biggest chance to make money carpenters have ever known. Are YOU Ready? Can you remodel from start to finish—do you know the tricks of estimating, laying out, etc.? Here's your chance to get these facts—quickly—easily, without study or work—just put your finger on what you want to know instantly.

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I would like to look at the five books described above. Send them on your free examination offer. I will pay the few cents delivery charges only and will examine them thoroughly and return them in ten days unless I like them in which case I will send you \$2.00 and after that \$3.00 per month until the total price of only \$19.80 is paid. You are also to send me an extra book, "Blueprint Reading," and consulting membership certificate without extra charge.

Name _____
Address _____
Attach letter stating age, employer's name and address and that of at least one business man as a reference.

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Ro-Way Over-Head Type Doors require no alterations in most old buildings, and are available in all sizes to fit all door openings. That means real economy for both owner and contractor.

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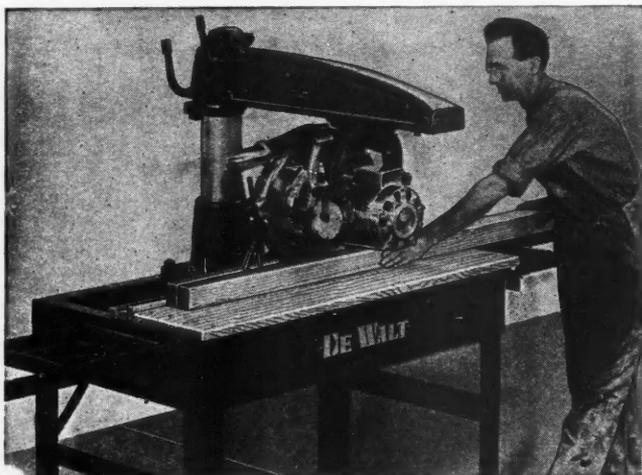


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SPOT SASH
CORD**

MADE of extra quality uniform fine yarn, spun in our own mills. Firmly braided, smoothly finished, carefully inspected and guaranteed free from imperfections which cause inferior sash cord to wear out quickly. Specified by leading architects everywhere. Send for sample.

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A prominent Kansas City Lumber Company—name on request—writes: “We are more than pleased with the power of the DeWalt machine and must admit that a direct-driven outfit eliminates a terrific power loss over the belt-driven type of equipment.”

The building trend is up; profits follow fastest when the cost trend is down. DeWalts eliminate the labor waste of table tilting and material swinging. DeWalt direct-drive gets the most out of power. Write for information.

DEWALT PRODUCTS CORPORATION
267 Fountain Ave., Lancaster, Pa.

Letters Dept.

(Continued from page 88)

false values in this manner only to see them crash in the next depression.

The money for home construction, either from banks or savings and loan associations, comes from the investing public. A conscientious lending institution therefore must have some reason to believe that the borrower has an actual equity in the property.

Many of the employees of the Federal Housing Administration have assumed the attitude of dictating policies to the lending institution. They do not have full knowledge of the responsibilities of the management of the associations. There was some talk a few months ago that an attempt to co-ordinate all these activities would eliminate many of the present misunderstandings.

I hope that in your future articles relative to the work of the FHA you will try to secure the viewpoints from all interested parties. In this way the readers who are builders will have a true picture of the situation and maybe a better understanding of what this whole thing has been created for.

C. A. STUCK & SONS, Lumber Dealer,
By William R. Stuck.

Red Tape No Worse Than “Banker Mind”

Wichita, Kans.

To the Editor:

Regarding the editorial in your last issue pertaining to “Shall FHA Be Continued?” we wish to take this opportunity to write you and let you know that we are heartily in favor of the continuance of FHA.

There is no doubt but that this government agency has done more to put us back on Good Times Street than any other stimulant taken by the public for the ails of republican depression.

The set-up of the Federal Housing Administration that we come in contact with shows efficiency throughout, down to the personnel. The red tape is no worse than the slow functioning of the minds of those in the building and loan and the mortgage bankers organizations to assist the ones that are deserving to finance a new home or to remodel their present old run-down one.

We understand perfectly the attitude of the above mentioned two organizations who recently condemned the FHA at their national conventions, but they seem to have forgotten their predicament of four years ago before the HOLC stepped in and put them back on their feet.

To continue up the steps from depression, rather than even to think of discontinuing the FHA, we should be working toward 4 per cent money and 90 per cent loans. Then the happiness of the multitude will prevail.

THE JOHN ENGSTROM LUMBER COMPANY,
By Robt. M. Moore, Sales Manager.

How Would You Modernize Old Style Tub?

New York City.

To the Editor:

I would like to know if there is on the market anything that will cover the old footed bathtub so as to appear built in. Also which are the cheapest imitation tiles for remodeling kitchen and bathroom? There are many small houses that could be improved, but owing to the cost they are left as they are.

MAURO REALTY CORP.
By Nicholas R. Mauro.

Stair Building Articles Requested

Ravanna, Mo.

To the Editor:

I think that it would be a good idea if you publish in your magazine a series of articles on stair building.

H. B. CLARK.

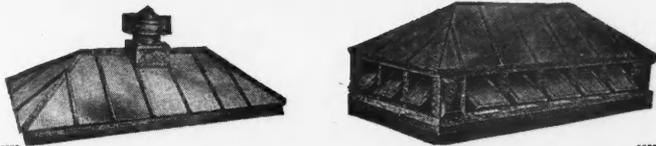
California Home Designs

San Jose, Calif.

To the Editor:

I have been a subscriber and reader of the *American Builder and Building Age* for many years, and always take time to read

(Continued to page 92)



... for new jobs or remodeling
 ... for any style of installation
 specify

WILLIS SKYLIGHTS

because of their long-standing reputation for dependability. They're made only of the best materials by workmen of long experience, and are *guaranteed not to leak*. Condensation bars on all sides and at eaves. Made in all styles and sizes, with or without ventilation.

Show your clients how they can save money and improve working conditions by *more daylight, more fresh air* ...

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SYRA-BORD "stays put" and will not curl, warp, creep nor crack—therefore you can install this product and be sure you'll have no "come backs." Write us today for descriptive bulletin and color chart.

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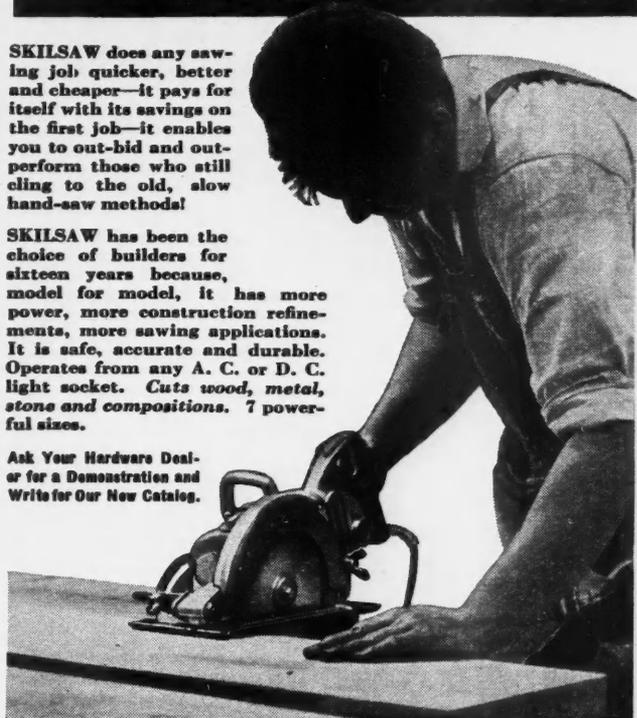
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Steel Ceiling

*Harmonizes with
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From Massachusetts to Alabama and from Virginia to Texas leading sheet metal

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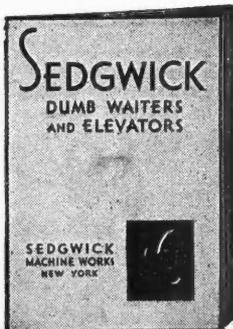
“The same perfect ceiling as when installed twenty years ago.” “The best investments I ever made.” “Highest quality and satisfactory to the owners.” “Beautiful jobs, satisfied customers and nice profits—all that anyone could ask for.”

Now the demand is for our “Herringbone” design, the only steel ceiling that ties in with the prevailing use of tile and tile substitutes for side walls, wainscote and floors.

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Catalog includes informative data on Dumb Waiters, Freight and Sidewalk Elevators, Residence Elevators, Fuel Lifts, Trunk Lifts, Correspondence Lifts and Ash Hoists. Also details of the ROTO-WAITER—the latest type and safest electric dumb waiter that is proving so popular with owners. Ask for your free copy now.

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154 WEST 15th STREET, NEW YORK
Established 1893. Agents in Principal Cities.

Letters Dept.

(Continued from page 90)

each issue from cover to cover, noting many items of great interest to us contractors and builders.

Specializing, as I do, in industrial construction, you might think that I would not be interested in the designs of homes which, seem to constitute the major part of all construction magazines. However, I am much interested and will have to admit that the building of a home or residence, designed especially for a certain family and its needs, is and always has been the most pleasing work ever done by a contractor or the real building mechanic who makes building his life's work.

Many times my thoughts return to the years when I erected 25 to 30 homes each year, by contract, for real home owners who had them designed to meet their individual requirements. Very few, if any, in these days were erected “to sell” or on the present speculative plan, hoping that someone would come along and be so pleased with the new house that he would want it as his.

Watching with much pleasure the many designs in the *Builder* of the present day homes, I am led to make a “few remarks” regarding them. The major part of the homes are of Eastern design. We here in California seem to demand the style which our history has created as California Architecture. The larger home or estate on larger tracts of ground is very easy to design, especially when the costs are not held down to the price the working man is able to own. The home that is now much discussed is the California Home that can be erected on a 45 or 50 foot lot, 125 feet or more in depth with the garage in the rear or attached, either one-story plan or one and a half story.

I would be very much pleased if some issue of the *Builder* could feature our California Architecture in the small homes.

FRANK L. HOYT, General Building Contractor.

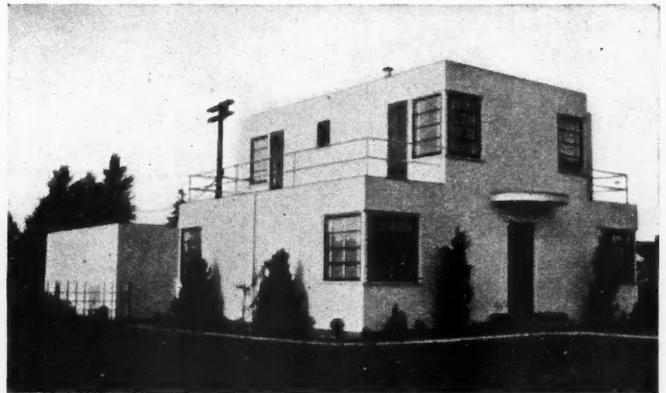
“A Text Book for Over 20 Years”

Burlington, Wash.

To the Editor:

Just a word of appreciation of your years of service and education, for your magazine has been a text book to me for over twenty years.

Haven't written anything for you since I described a Gothic roof barn in about 1923 for *Building Age*, but I am enclosing a picture



of a modern design I built last year, using *American Builder* information very largely to get my design true to type.

I enclose requests for catalogs. These, too, are a wonderful source of information and are filed for reference.

C. E. KELLY, Carpenter & Builder.

Three Houses from “American Builder” Designs

Lyons, Kans.

To the Editor:

Please note that I have marked quite a number of publications, all of which I want for my files.

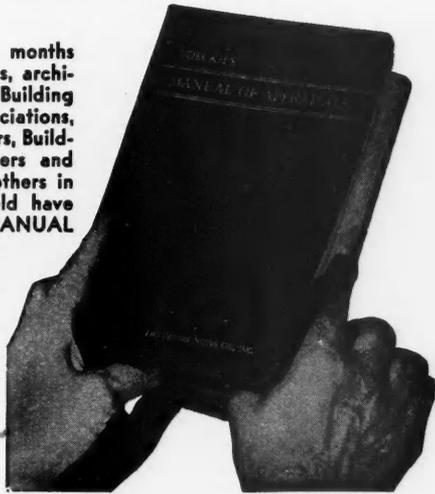
I am a young contractor, started in business for myself four years ago and have taken your magazine for the last two years. I have gotten enough information from it during this time to pay for the subscription price the rest of my life. I have built three houses from your designs and am going to start your featured design for November in about six weeks.

LLOYD G. REEVE, Contractor.

(Continued to page 94)

**MAKE QUICK,
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Within six months 2,500 contractors, architects, banks, Building and Loan Associations, HOLC appraisers, Building Commissioners and Assessors, and others in the building field have adopted the MANUAL and its method. This is a new SECOND EDITION.



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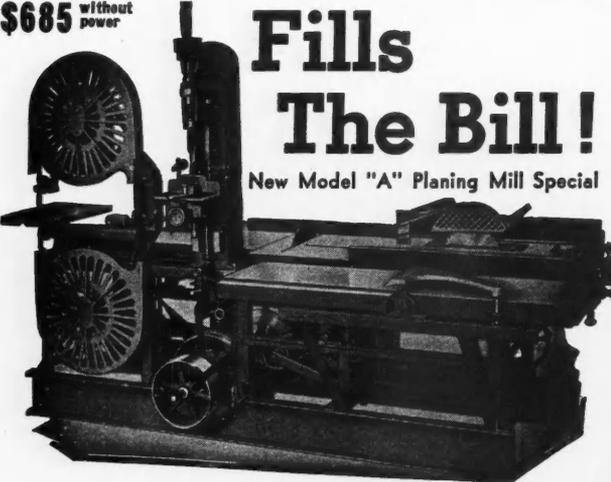


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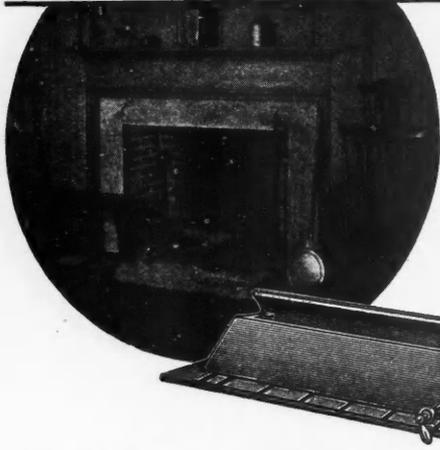
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Letters Dept.

(Continued from page 92)

"Old Baby with New Paris Gown"

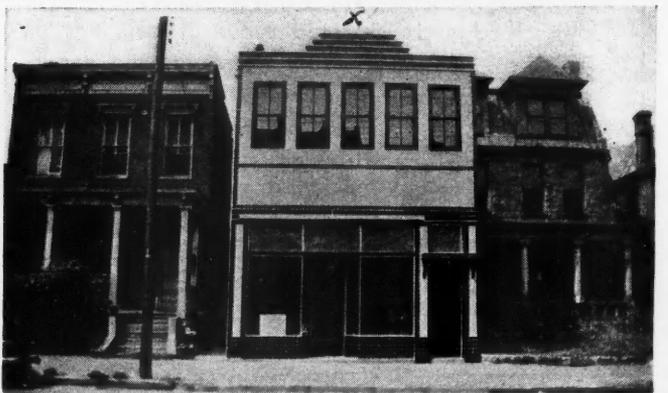
Norfolk, Va.

To the Editor:

Our secretary is very much interested in your valuable magazine, the *American Builder*, and seems to enjoy looking at the various plans and modernizations of buildings.

The officials of the Atlantic Life Insurance Company called on us to obtain the advice of various agents on what to do with a certain property in this city which they had to take over under foreclosure. We undersand some agents told them that the building was not worth spending any money on and to have it torn down.

Mr. Curry of said company called on the writer and asked what our views would be. The writer told Mr. Curry that if he would



Above "Before" and below "After" the "Paris Gown" was put on.

leave it with us we would doll the old baby up and put a new Paris gown on her. He became very much interested; so the writer prepared the plans, and obtained the contract prices which met with the approval of the company and they authorized the writer to proceed with the work. The writer prepared the plans and specifications and superintended the construction of the building.

We are enclosing pictures of the old building as it was, and as it is today.

H. C. HOGGARD & CO., INC., Realtors,
By H. C. Hoggard.

Youth Will "Come Through" When Called

Los Angeles, Calif.

To the Editor:

I read with interest the article in the July issue of the *American Builder* about apprentice training in the coming building boom. Also I noted the complaint of the head of the building trades department of the Wiggins Trade School in Los Angeles that young men want "white collar" jobs. Being myself a young man, commercially trained with several years government clerical experience, I have changed over to construction work because of expectations of better future opportunities in building. I have read

(Continued to page 96)

MORE and MORE.... Contractors are Using REID-WAY PROFESSIONAL

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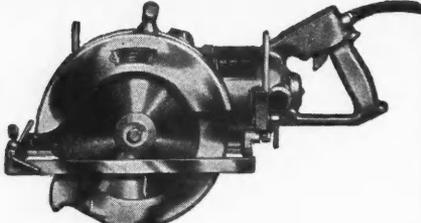
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Letters Dept.

(Continued from page 94)

nearly every issue of the *American Builder* the past year and a half. Perhaps my ideas, presented in the following, about youth and building will be interesting to readers.

Whenever the construction industry offers to young men better wages, better social security, better associates, better opportunities for financial success than competing professions, then it will be surprising how quickly fine young men will become skilled mechanics, building superintendents, and real estate operators. For some time other professions have promised and given more in wages and working conditions.

For example, the clerical profession offers to a beginner, after 15 months' business schooling, \$18.00 a week steady work, well lighted and heated office, clean working conditions, association with executives, chance for advancement. The building trades offer, after 9 months' study in a trade school, to the inexperienced young man a starting job at \$3.20 a day, irregular work out in the weather, association with derelicts, "hard boiled" foremen.

The building profession today, due to extremely stiff competition, is full of what is called "chiseling" in the West. The owner chisels the architect who chisels the contractor who chisels the sub-contractors who chisel their mechanics and everyone chisels the material dealers and salesmen. Everyone in the building game must be "closer" than the proverbial Scotchman to keep going. We cannot blame any particular one for the situation. It is due to the present economic condition.

But, I agree, the future looks very rosy indeed. Contractors will soon be able to make money using apprentice labor and turn out a better job than is done today by skilled mechanics who "must be fast." Shortage of skilled labor will not hold back the building boom. Vocational school employment agencies will spring up, government and private. Soon fathers will be saying, "My boy four months ago finished a nine-month course in the trade school. Now he is working for the Packard Construction Co. at \$40.00 a week."

The necessary economic condition for the arrival of the building boom and great general prosperity is a proportionately greater income from labor and less from capital, in other words, higher wages with lower interest rates. Planning, by owners and executives, is, of course, labor. Civilization has been slowed down by an improper adjustment of the income from labor and capital just as an improper mixture of air and gasoline impairs the efficiency of a motor. The present economic trend is definitely in this right direction.

In Washington, D.C., several months ago I had the opportunity of discussing matters with the Federal Committee on Apprentice Training, a part of the National Youth Administration in the Department of Labor building. I was much impressed by the practical objectives of the Committee, namely, better working and learning conditions and better apprentices secured through co-ordination by the Committee of Apprentices, employers, vocational schools, labor unions, and the Government.

I have gambled considerable time, study and money to fit myself to take advantage of these expected future opportunities in building. No doubt many other young men have done the same. I feel sure that we will win.

THEODORE W. PECKHAM.

Who Wants Historic Magazines?

Chelsea, Mich.

To the Editor:

Would you be interested in the purchase for cash of the following bound volumes of "Carpentry & Building" Magazine:

Volume 5 (1883) to and including Volume 27 (1906). Also, the following bound issues of the years 1900, 1, 2, 3, 4 and 1905 National Builder.

I also have the complete issues of both of the above magazines from the dates above shown to the time the National Builder became known as *The American Builder and Building Age*.

I would appreciate hearing from you regarding this matter.
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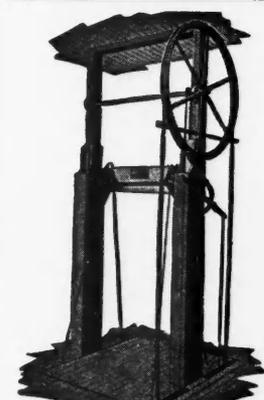


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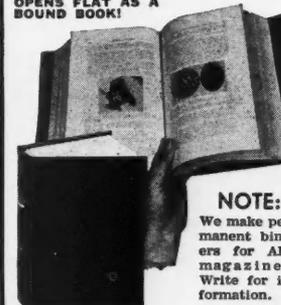
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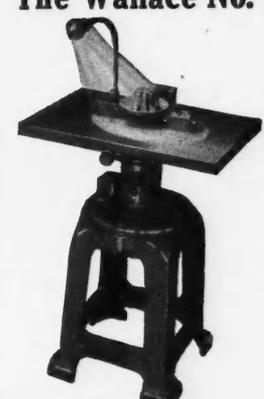
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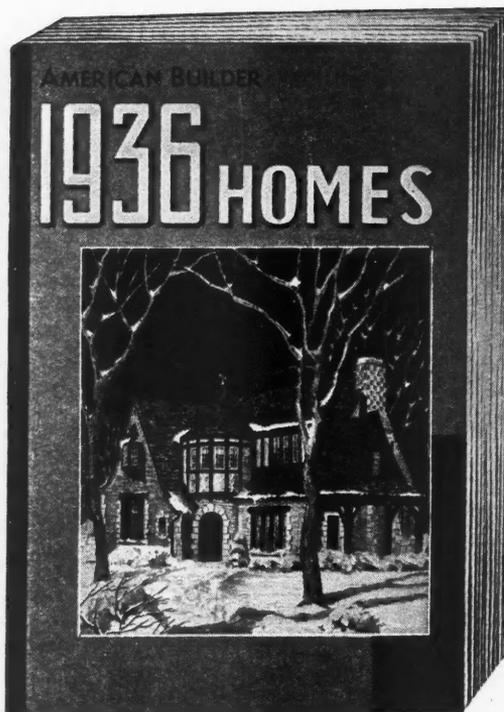
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With so many thousands of copies of "American Builder 1936 Homes" in the hands of the key men of the industry, it is certain that many of the 425,000 new Homes predicted for 1937 will be reproductions, in whole or in part, of the scores of expertly planned, sturdily built and modernly equipped Homes presented in this unique Plan Book.

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Its contents include Home Designs (each with its Cost Key), Floor Plans, Interior Details, Exterior Views, Modernization and Restyling Ideas, outstanding Model Homes, Farm Structures of every description, Garages, and much useful information on how to get better homes for less money.

There's a home here for every pocket-book, with low-cost and medium-priced Homes predominating. There are homes for city and for suburb, cottages for mountain side and seashore, homes for those living in East and West, North and South—all of them masterpieces of the master artisans of the industry.

With its 172 pages—its 300 illustrations—its twelve pages printed in 4 colors—its durable binding in heavy paper with clothstrip reinforcement—it is as attractive as it is useful, and can be counted upon to prove a productive business-getter for all who use it.

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Chapter 1 contains 24 pages of FORWARD LOOKING HOMES—ultra modern, streamlined, shop-cast, etc.

Chapter 2 presents 34 pages of HOME DESIGNS OF TESTED WORTH (detailed on the following page).

Chapter 3 assembles a marvelous collection of LOW COST HOME PLANS—Colonials, Cape Cod, Curtis Homes, some "Build Now, Finish Later" Homes, Cottages, One-Room Retreats, etc. 34 pages of them.

Chapter 4 devotes another 34 pages to new ideas for GETTING NEW VALUE THROUGH RESTYLING AND MODERNIZING, exteriors and interiors.

Chapter 5, COUNTRY HOMES AND FARM BUILDINGS,—Low Cost Subsistence Homes, New Homestead Barns, Farm Profit Buildings, Some clever Garages, Poultry, Hog and Smoke Houses, etc.

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Chapter 2 of "American Builder 1936 Homes" Detailed

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Levitt & Sons' Manhasset Model Home, modified Georgian in style, each room distinctive by itself, with full-page view of its graceful winding staircase.

An Exhibit Home of unusual charm across the Potomac from Washington. A 6-room creation in English Colonial, with a stately paneled living room and inviting fireplace.

Lancaster Realty Board Model Home, modernized Early American, insulated and air-conditioned. Half-page view of its truly modern kitchen.

Two Northern Jersey Suburban Homes. Moderately priced, despite their full complement of modern features.

A Detroit Cotswald Cottage, with layout of air-conditioning plant. Of staunch construction and attractive design.

Five pages are devoted to the famous "Time Proof" Home, triple insulated, with two pages of construction details and building methods. A house that was put up in mid-winter.

"Carefree Cottage," at Hempstead, one of the country's best Model Homes. In Cape Cod fashion, with shingle exterior. Includes two pages of complete working plans.

Westchester Model Home that looks like a lot of house, but its cost is really low. Views are given of entrance, stair detail, dining room, kitchen, bath, boys' room and basement recreation room.

Other items in this chapter on HOMES OF TESTED WORTH include a 6-room Colonial in Kansas City; a well designed Cape Cod Colonial at Elmhurst, Ill., and some new ideas in Recreation Rooms, Study and Bath.

Miscellaneous Features

Many new modern Kitchens, Bathrooms, Entrances, Living Rooms, Staircases Built-in Breakfast Nooks, Bookcases and Bar. . . . A 4-page Shopcrafter's Corner. . . . Today's Small House requires new Methods and Materials. . . . Planning Farm Improvements. . . . New ideas in Garages. . . . What can be done on a half-acre lot. . . . The use of Arkansas Pine Paneling. . . . The construction advantages of Enameled Sheets for Wall Finish. . . . New suggestions for Recreation Rooms, Studies and Open Halls. . . . Some airconditioning layouts. . . . A master Material List for Wind-Proof Gothic Barns.

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The publications listed below may be obtained without charge either by using the coupon, listing the numbers desired and mailing to American Builder, 105 West Adams Street, Chicago, or by applying on your business stationery to the manufacturers direct, in which case kindly mention this publication. Either the titles or the numbers may be used in ordering. This list is an editorial feature for convenience of our readers.

BUILDING MATERIALS

277—Walls and Ceilings—"Modern Interiors by Insulite," a remarkably attractive brochure illustrated with photographs, tinted, showing the use of Insulite plank and tile finish for side walls and ceilings in store, offices, theatres, churches and the home. Permanent decoration plus accoustical correction is secured by following these suggestions.—THE INSULITE CO., 1100 Builders Exchange Bldg., Minneapolis, Minn.

278—Sash Pulley Catalog—"Stanley Sash Pulleys," a new 16-page catalog giving sizes, weights and properties of the extensive line of sash pulleys now offered by—THE STANLEY WORKS, New Britain, Conn.

279—Dexter Lock Catalog—"Quality Hardware for Quality Buildings," Catalog No. 30 with new supplement, is an illustrated handbook of 72 pages plus 48-page supplement. These catalogs illustrate the latest ideas and developments in lock sets, including the unique Dexter type locks and latches and complete line of door hardware.—NATIONAL BRASS CO., Grand Rapids, Mich.

280—Venetian Blind Equipment—"Venetian Blind Hardware of the Better Type," a 36-page handbook covering cord locks, tiltors, brackets, valance clips, operating cords and cord holders, pulleys and complete tools for installing venetian blinds. A quantity of valuable information on figuring and installing venetian blinds is included.—FIWALE EQUIPMENT MANUFACTURING CO., Inc., 64 Reade St., New York City.

281—Garage Door Hardware—"The Empire Automatic Hinge" is featured in a new 4-page circular giving illustrations of the low cost, upward-acting doors hung with this hardware. Also full specifications and installation data.—THE EMPIRE PLOW CO., 3140 E. 65th St., Cleveland, O.

282—Syrax-Bord Rubber Tile Flooring—New illustrated folder on this tongued and grooved rubber flooring which is guaranteed not to warp, creep, curl or crack. How this interlocked rubber tile flooring is installed is clearly shown.—SERVICISED PRODUCTS CORP., 6051 W. 65th St., Chicago.

283—Walls and Floors of Tile-Tex—"Modern Walls of Tile-Tex" and "Tile-Tex Floors That Endure" are two new data sheets illustrating in black and white and in full color the wide variety of uses

of this tested line of asphalt tiles. A brilliant array of some 71 plain and marbled color effects is available in these resilient stain-proof materials. Numerous design suggestions are presented in this new literature.—THE TILE-TEX CO., Chicago Heights, Ill.

284—Ruggedwear Resurfacers—"Solves the Floor Problem" is a new circular describing the Flexrock products used for resurfacing worn floors of wood, concrete or other material. Information which building managers, plant superintendents and contractors should have.—FLEXROCK CO., 800 N. Delaware Ave., Philadelphia, Pa.

285—Bostwick "Truss-Loop" Metal Lath—"Plaster for Profit Over Super-Bostwick 'Truss-Loop' Metal Lath" is an informative folder on improved plastering practice and of metal lath construction. A companion piece, "Bostwick Bead Makes Better Corners," is also available.—THE BOSTWICK STEEL LATH CO., Niles, Ohio.

286—Monel Roofing—"Basic Data" on Monel Metal sheets for roofing where extreme service is required has been prepared by—THE INTERNATIONAL NICKEL CO., Inc., 67 Wall St., New York City.

287—Reynolds Metallation—"Reflective Metal Insulation, Efficient, Durable, Economical," is a new 8-page data sheet giving many specifications, detail drawings and clear directions for installations of Reynolds Metallation in side wall, ceiling and roof construction. New information regarding this revolutionary building material.—REYNOLDS CORP., 19 Rector St., New York City.

288—Ornamental Wrought Iron—"Wrought Iron for Beauty and Protection" is a new folder illustrating porch rails, balusters, window guards and gates for both exterior and interior decorative use.—CINCINNATI IRON FENCE CO., Inc., Cincinnati, Ohio.

289—Walnut Finish—"The Story of American Walnut" is a new handbook of 36 pages, beautifully illustrated, telling all about walnut as a wood and as a construction and finishing material of surpassing beauty. This is the 8th edition of this authoritative work by Burdett Green and Bernard C. Jakway recently issued by—AMERICAN WALNUT MANUFACTURERS ASSN., Chicago, Ill.

290—Hard Maple Flooring—A new service folder prepared for the convenience of architects, contractors, dealers and builders

when discussing flooring grade requirements with their clients.—MAPLE FLOORING MANUFACTURERS ASSN., McCormick Building, Chicago, Ill.

291—Cypress—"An Inside Story of Tidewater Red Cypress for Interiors of Beauty and Stability" is a 24-page brochure, beautifully presented in two colors, illustrating cypress as a material for beautiful inside finish and for long life exterior use. This book has been prepared by the Southern Cypress Manufacturers Assn. and is being distributed by—FLORIDA LOUISIANA RED CYPRESS CO., Jacksonville, Fla.

292—Ohio Hydrate Lime—"Ohio Hydrate for Masonry Mortar and Concrete" is a 12-page data sheet, well illustrated, giving the "6 essential properties of masonry mortar," specifications for masonry mortar and specifications for lime in concrete.—THE OHIO HYDRATE & SUPPLY CO., Woodville, O.

OF SPECIAL INTEREST

293—Sanitas Samples—The 1937 book of samples of "Sanitas Cloth Wall Covering" is ready for distribution to architects, building contractors, building supply dealers, painters and decorators. The wall covering samples range from modern simplicity of pattern and covering to styles elaborate enough to satisfy the most Victorian of housewives. Dull finish patterns for living rooms, as well as enamel finishes in tile designs for kitchens, bathrooms and laundries, are included.—THE STANDARD TEXTILE PRODUCTS CO., 320 Broadway, New York City.

294—Wood Carving Manual—"Wood Carving for Pleasure," a 24-page beautifully illustrated elementary treatise for the amateur wood carver, as well as the professional. It features sugar pine as the proper wood to work on, and was prepared by the Association in collaboration with Herbert Rayner, wood carver.—WESTERN PINE ASSN., Portland, Ore.

295—Concrete House Promotion—"The Biggest Year Ever for Concrete Houses" is a great big broadside by the Association, illustrating some of the results of the educational campaigns in favor of concrete homes, which has been placed before 3,000,000 home-interested families during the course of the year. Building material dealers and contractors interested in concrete houses are putting up these display posters in their offices, as well as in store windows, bank lobbies, etc. A dozen very interesting home designs, both modernistic and of traditional architecture, are pictured on this display.—PORTLAND CEMENT ASSN., 33 W. Grand Ave., Chicago.

296—Industrial Wiring Survey—A survey form has been designed to facilitate investigation of the condition of the electrical equipment and wiring in industrial plants, from the standpoint of the ability to carry load, surplus or spare capacity, system defects, safety, deterioration and obsolescence. Contractors will find this set of forms extremely useful in working with their local industrial plants for modernization programs.—ANACONDA WIRE AND CABLE CO., 25 Broadway, New York City.

297—Cold Weather Concrete Work—“Put the Winter Months into Productive Building with Marquette High Early Strength Portland Cement” is an attractive folder giving new information on cold weather construction.—MARQUETTE CEMENT MANUFACTURING CO., Chicago, Ill.

HOME EQUIPMENT

298—Home Ventilating Fans—“Home Ventilation Is Now a Necessity” and “Enjoy Cool Comfort in Hot Weather” are new illustrated circulars presenting the built-in kitchen ventilating fans and the attic ventilators recommended and furnished by—BUFFALO FORGE CO., Buffalo, N.Y.

299—Parsons “Pureaire” Kitchens—Full information regarding the compact kitchen units, all metal enclosed, combining gas or electric range, oven, refrigerator, sink and cupboard, all snugly built into one compact steel cabinet. A profit maker in hotels, apartments and homes.—THE PARSONS CO., Detroit, Mich.

300—Pumps and Water Systems—“Water System Catalog C,” a 40-page catalog completely illustrating and describing the Deming water systems. Shows how to select the proper unit for various types of wells.—THE DEMING CO., Salem, O.

301—Grand Gas Ranges—“The Grand Parade,” a loose-leaf portfolio containing a 4-page presentation and 7 color plates showing line of Grand gas ranges.

A companion piece presents the “Grand-aire” gas heater for homes, summer cottages, shops, factories, recreation rooms, stores and small business establishments. It is an attractive cabinet heater to be located in the space to be heated.—THE CLEVELAND COOPERATIVE STOVE CO., 2323 E. 67th St., Cleveland, Ohio.

302—Safe-T-Showr Thermostatic Water Mixing Valve—Full information regarding this safety device which automatically regulates the temperature of shower bath water, preventing scalding. New catalog now ready.—DORAN MANUFACTURING CO., 75 Horton St., Seattle, Wash.

303—Dumbwaiters—“Kiesling Electric Dumbwaiters and Doors” is an attractive 4-page folder presenting complete specifications and illustrations of this improved equipment.—JOHN W. KIESLING & SON, Inc., 1793 Atlantic Ave. Brooklyn, N.Y.

304—Barn and Poultry House Equipment—New barn equipment catalog No. 24-A is a big, 144-page handbook of barn design and barn equipment details giving sizes, weights and other design data. A companion piece, “Poultry Health and Profits!” is a 48-page poultry house book full of poultry house designs and details of construction and equipment.—CLAY EQUIPMENT CORP., Cedar Falls, Ia.

HEATING AND VENTILATING EQUIPMENT

305—Code for Heating Systems in Residences—“Code for the Installation of Mechanical Warm Air Furnace Heating Systems in Residences” as compiled by the Code Committee and frequently revised is an 8-page data sheet presenting a world of authoritative information for heating and general contractors. Standard code for installation of gravity warm air heating systems in residences is also available. This is a 20-page pamphlet full of basic data.—NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSN., 50 W. Broad St., Columbus, O.

306—Moncrief Air Conditioning Systems—Full information regarding Moncrief warm air pipe fittings and specialties is presented in a series of illustrated catalogs prepared in a very thorough manner. The complete line of Moncrief equipment is illustrated and described.—THE HENRY FURNACE & FOUNDRY CO., Cleveland, O.

307—Favorite Warm Air Furnaces—A 24-page illustrated catalog shows the complete Favorite line with installation data and detailed specifications.—THE FAVORITE MANUFACTURING CO., Piqua, Ohio.

308—Coal Stokers—The Combustioneer line of coal stokers is graphically presented in a series of pamphlets to appeal both to home owners and to home building contractors and architects. The Combustioneer automatic respirator is described and its fuel-saving features made clear.—COMBUSTIONEER DIV. of The Steel Products Engineering Co., Springfield, Ohio.

309—National-Unitem Submerged Water Heaters—Full information regarding this economical method of securing domestic hot water when used with National Premier steel boilers. A companion catalog gives full particulars and specifications of these boilers.—NATIONAL RADIATOR CORP., Johnstown, Pa.

CONTRACTORS' EQUIPMENT

310—Construction Machinery, Mixers, Hoists, Pumps, Saw Rigs, Etc.—Celebrating its 25th Anniversary, a new silver covered general catalog presenting the complete and modernized line of concrete mixers, plaster and mortar mixers, hoists, pumps, saw rigs, pneumatic tired concrete carts and wheelbarrows, has just been issued. In it will be found particulars on the new Wonder tilting and Master and Silverstreak non-tilt mixers.—CONSTRUCTION MACHINERY CO., Waterloo, Ia.

311—Ransome Concrete Machinery—A new 28-page vest pocket sized catalog gives the essentials of the Ransome line of mixers, pavers, forms, towers, carts, hoppers, etc.—RANSOME CONCRETE MACHINERY CO., Dunellen, N.J.

312—Republic Tilting Mixers—A 16-page catalog, well illustrated, presents the Republic improved concrete mixers, “dependable equipment since 1849.”—H. BREWER AND CO., Tecumseh, Mich.

313—Monarch Woodworking Machinery—An elaborate loose-leaf indexed portfolio ranging from portable saw benches to large planers and resaws has just been issued. The cover is of actual wood veneer, 4/1000 of an inch thick, and is fitting for a book devoted to woodworking machinery.—AMERICAN SAW MILL MACHINERY CO., Hackettstown, N.J., and 26 Platt St., New York City.

314—Power King Portable Electric Saws—A new 4-page circular presents the Power King line of power saws and electric drills.—POWER KING TOOL CORP., Warsaw, Ind.

American Builder,
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(January, 1937)

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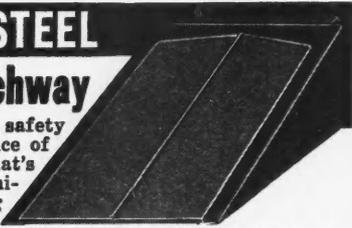
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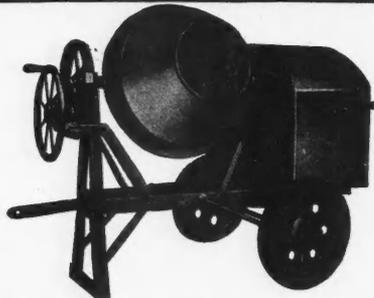
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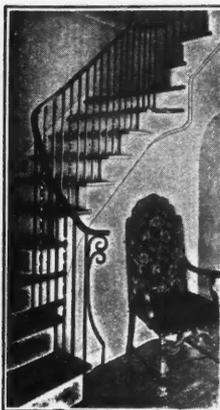
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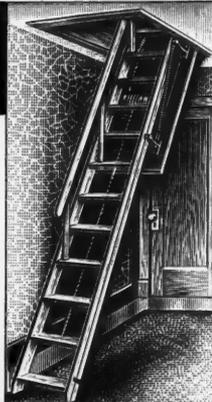
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