

# ELEVATOR SERVICE LIMITS HEIGHT OF THE SKYSCRAPERS

Maximum Carrying Capacity Is Reached When Car Stops on Four Floors Out of Possible 10 Each Way.

To what dizzying height will the skyscraper of the future mount? Has the physical limit been reached in the towering "Metropolitan Life," the "Singer," that pierces the sky to such a depth that a crawling ant of a man along lower Broadway can scarcely see the top of its slender tower? In the latest 41-story structure projected by New York's princely merchant, Woolworth, for the lower end of Manhattan Island?

Portland has its skyscrapers, some of them reaching so high that they put a crick in the necks of the thoughtless who try to locate the cornice; but Portland has not yet surrendered to the passion for "topless towers" which grips New York and Chicago.

Never doubt, however, that this metropolis of the North Pacific will keep up with the procession in the building of lofty structures, as it has and does in every man-made thing.

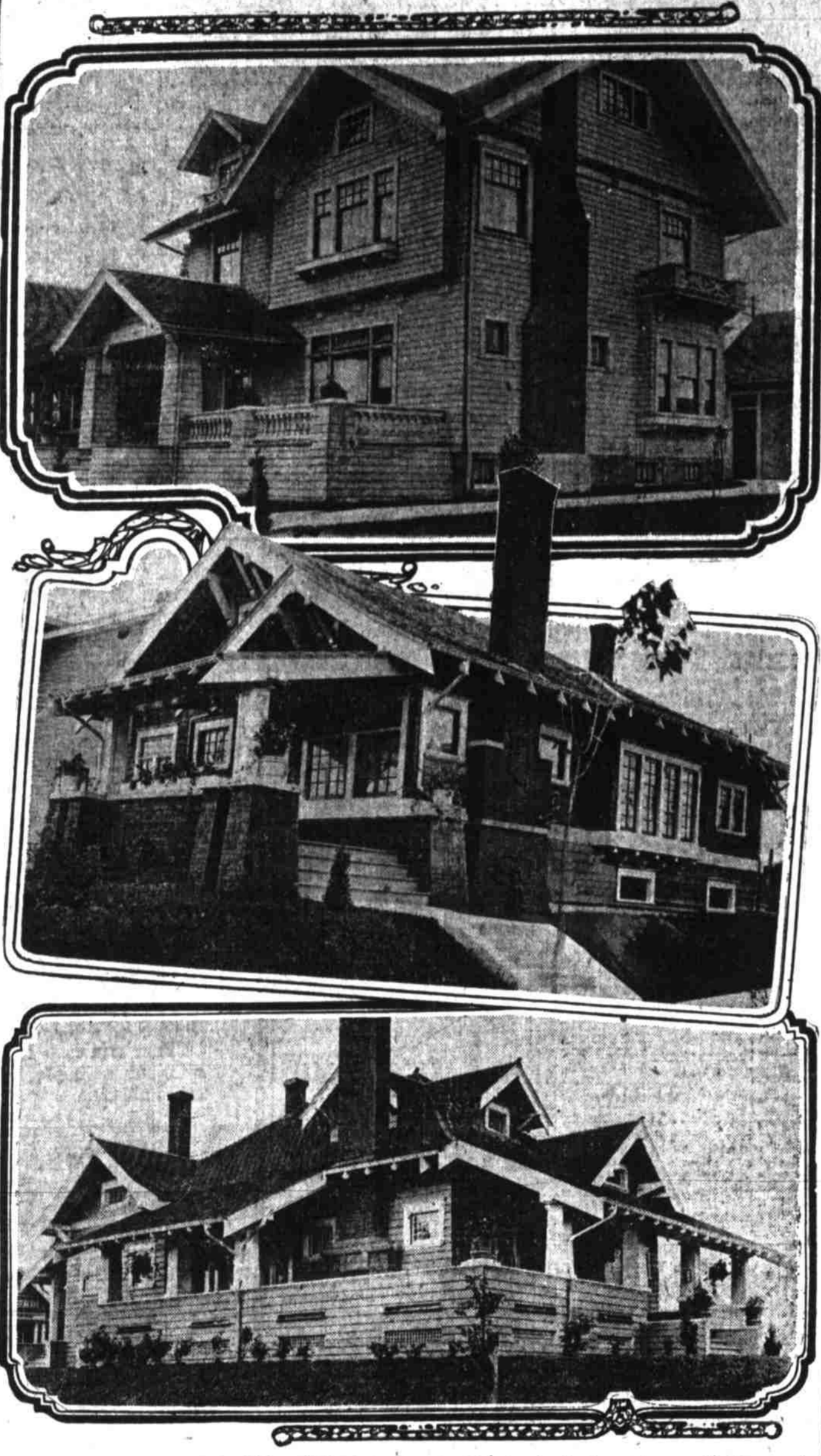
**Modern Giants.**  
The true titans of the modern world are the builders, heaving their tons of stone and steel and brick aloft, in defiance of the laws of gravitation and the wild winds of heaven, and daring even the earthquake to confound their work in ruin. Beside these modern giants of structural efficiency the builders of the early world were but pygmies playing with blocks in the nursery.

This Woolworth building, which is to be piled higher yet—nobody knows quite how high—than anything so far built on "Lower Broadway," the abiding place of the world's tallest buildings, is responsible for starting a discussion which seems to have brought forth an answer to the question, "What is to be the determining factor of the future in regard to the height to which buildings may be carried?"

In giving the result of his investigations among the architects, builders and elevator manufacturers of New York, Edgar Allen Forbes, writing in *World's Work*, concludes that the elevator man holds the clue to the problem. To each class in turn Mr. Forbes put this question: "What is the limit of the height to which the skyscrapers may be built?" The architects were not dismayed. "If you will give me a base large enough," said one, "I am willing to go up 2000 feet." By a base "large enough" the architect meant a base one-tenth the height of the building. Clearly there was nothing to be looked for from the architect. The builder cared no more for height; he could erect whatever the architect could plan. Finally it was to the elevator maker that Mr. Forbes turned. "How tall could a building be made?" In putting the question he got a definite answer.

**Needs of Building.**  
"A building which is to pay its way must have two things—plenty of floor space and facilities for reaching it quickly and comfortably. The expert begins by allotting one person to every 100 square feet of rentable area, and that gives him the number of people that must be provided for. Every building is a law unto itself, but an analysis of 15 downtown buildings shows that the average number of square feet served by each elevator car is 16,000. (Ten years ago, when quick service was not required, it was nearer 40,000). If we leave out the tower buildings, the average for each car might be placed at 19,000 square feet. The higher the car must climb and the greater the number of stops, the longer the time required for its round trip, of course—and hence the smaller number of square feet of floor area that it can serve. The taller the building, therefore, the greater the number of cars for the same amount of floor space. Every car added to the battery means the subtraction of about 56 square feet per floor of rentable space. Continue this process of decreasing rentable area and increasing elevator space in mathematical proportion as your building climbs, and ultimately the elevators will require every available square foot, and there will be none left for offices.

**Elevator Sets Limit.**  
"Take another piece of figuring. A small car with a capacity of 12 people can move more traffic in an hour than a car carrying 20 people and making more stops. The maximum carrying capacity of an elevator is reached when it stops at only four floors out of every possible 10 floors, in each direction. Take one of these cars and let it travel at a rate of 1600 feet a minute, with the average number of stops; it will make the round trip in one of the high buildings in about three minutes. In



Top picture—Residence of E. L. Mills, 1397 East Seventeenth street. Center picture—Residence of Charles Hellborn, East Seventeenth and Bybee streets. Lower picture—Residence of E. A. Clark, 1387 East Seventeenth street.

other words, it would take three minutes for one car to get 12 people out of the building. A battery of 20 cars (which would require 1120 square feet of space, exclusive of the corridors) would take 240 people in three minutes. Suppose the population of the building is 2400; it would take 20 minutes for your 20 elevators to get them out to lunch, if the cars were all running at full capacity. As a matter of fact, it would take twice that long to get the people in some buildings out to lunch if everybody should want to go at the same hour. In Chicago, for example, one of the buildings has found it necessary to arrange for certain tenants to dismount their office forces at different hours, in order not to overcrowd the elevators. In a certain New York building the architect found that, with the maximum number of cars it would take an hour and a half to get everybody out of the building in case of a panic.

"The elevator service therefore sets the ultimate limit of height for buildings. The real reason why there is not likely to be a large number of very high, very slender tower buildings is

that there is only a small amount of floor area left when the elevator expert gets through figuring."

## 1360 ACRE WHEAT FARM IS SOLD FOR \$27,200

The Hunter Realty company closed a deal last week involving the sale of a 1360 acre wheat farm in Morrow county. The property was sold for Dr. N. E. Winnard, of Heppner, to E. M. Everett of Aberdeen, Wash., for \$27,200 which is at the rate of \$20 an acre. Over 1000 acres of the place is in cultivation. Dr. Winnard took as part payment for the land the St. James hotel at Winlock, Wash. The hotel property was valued at \$11,000. The Hunter firm also sold to J. F. Sappington, a modern residence and seven acres of land in the suburbs of Castle Rock, for \$2100.

## BUYS BLOCK FOR CATHOLIC CHURCH

\$8000 Paid for Site at Fifty-fourth Street and Sandy Road.

As a site for a new Roman Catholic church, parish house and parochial school buildings, Archbishop Alexander A. Christie has purchased from the Rose City Park association a block at the intersection of East Fifty-fourth street and Sandy road for \$8000. The church authorities were already the owners of the adjoining block to the north which with this last purchase gives the parish 200 by 400 feet of the choice property in Rose City Park. This sale was made by Hartman & Thompson, which firm reports a number of other important transactions in Rose City Park and Morningside.

## \$150,000 IN ORCHARD LAND-CHANGES HANDS

Over \$100,000 worth of Hood River orchard lands, in large holdings, changed ownership last week, while numerous small transactions brought the total for the week to well above \$150,000. The largest transaction was the sale of the orchard belonging to Manning and Jerome Wells for \$54,000. This property was purchased by the Hood River Mineral Springs company. W. S. Harris took over the 40 acre place belonging to R. E. Harbison, paying \$22,500 for it. The Harbison place has a 30 acre orchard of trees from one to 10 years old, one acre in small fruit and nine acres of uncleared land.

E. O. Hall bought the 10 acre orchard belonging to J. W. Shipley for \$15,000. John Radcliff's 15 acre place located near Belmont was purchased by Anton Hanigsmann, of Wenatchee, Wash., for \$5500.

largely by decreasing the size of one or both of the chambers. Cost to build this model home \$3700.  
Journal Want Ads bring results.

# HOME BUILDING IN PORTLAND HOLDS CENTER OF STAGE

In Laurelhurst Alone, Since January 1, About \$250,000 Has Been Invested in New Residences—Other Homes.

"That home building in Portland is holding the center of the construction stage is shown from the fact that every addition bisected by the Sandy road car line is literally alive with all sorts of house building mechanics. A run out on this line will show where a good big slice of the million dollar a month residence permits issued in Portland since the first of the year is being expended.

In Laurelhurst alone since January 1 fully \$250,000 has been invested in residence construction, and the present indications are, judging from the reports from the offices of local architects and from the building preparations that are under way, another \$250,000 will be invested in new construction in that addition alone, before the building season ends next winter.

Eighteen months ago there were but three new residences in Laurelhurst. Now there are not far from one hundred complete and under construction. All of them are of the higher grade of houses, costing from \$3500 to \$15,000. They are of an unusually attractive class of homes and represent the newest and most up to date types of architecture.

**Building in Laurelhurst.**  
In addition to the home builders a large number of building contractors are operating in Laurelhurst. George W. Priest, who has just completed several blocks of modern houses in the additions to the north of Sandy road, recently bought nine lots facing Peersless Place, near East Thirty-ninth, on each of which he plans to build this summer a house to cost from \$4000 to \$6000. J. E. Fenton, another builder, is putting up three houses on Clackamas street, between East Thirty-third and East Thirty-fifth. On Hazelfern street, near East Thirty-ninth, A. F. Smith is building two very attractive up to date homes. Other speculative builders operating in Laurelhurst are A. W. McCain, on Senate street, near Imperial avenue; W. L. Page, on Miramar Place, near East Irving street; W. L. Lempe and F. G. Wagner, on East Gilsan street, near East Thirty-ninth, and C. R. Lewthwaite, on Hazelfern Place, near East Everett, and on East Everett, near Laurelhurst avenue.

**Two Handsome Residences.**  
Two of the handsomest residences in Laurelhurst, and for that matter in Portland, are the homes of Charles K. Henry and Dr. Homer I. Keeney. The Henry house is a low, rambling structure of the early English type and occupies an elevated site facing Laddington Court and East Gilsan street. Dr. Keeney's house is a large two story building, with an attractive exterior and is located at the corner of East Thirty-ninth and East Gilsan streets. In the same block as the Henry home.

On Hassalo street, near Peerless Place, C. A. Hoy has built two modern homes. In the same block was recently completed the handsome residence of E. E. Goff. P. A. Carlander has one of the prettiest in Laurelhurst, facing Hazelfern Place, near East Gilsan street. W. L. Page owns two beautiful houses at the corner of Miramar Place and East Irving street.

The home of Louis J. Urdahl is located on Oregon street, near Peerless Place. One of the most attractive of the residences completed last year in Laurelhurst is that of M. S. Eastman, which occupies a commanding site on Peerless Place, near Multnomah street.

**Alger's Home.**  
Among the many fine homes built in Laurelhurst since the first of this year is that of Edgar B. Alger on Laurelhurst avenue, near East Gilsan street. Lester B. Markham, who recently came to Portland from the east, has purchased and is occupying the fine building erected by the Laurelhurst company at the Gilsan street entrance to the tract. Mr. Markham paid \$10,000 for this property, and has since spent a considerable sum in remodeling the house.

Clifford E. Nichols and C. D. Thomas each have built an attractive home on Hazelfern Place, at the intersection of Floral avenue and East Couch street. T. S. Townsend has just com-

pleted one of the handsomest of the newer homes in the addition, boundary of the original Rose City Park tract.  
The Jackson Democratic association of the District of Columbia, which recently celebrated the eighty-third anniversary of its formation, is the oldest political organization in the United States, with the single exception of Tammany Hall.

### WHOSE PROPERTY NEXT?

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**REAL ESTATE MAN ACCUSED OF FRAUD**  
Elias Nelson Charged With Being Member of Ring of Operators.  
FORGED DEEDS ARE FILED  
Arrest Made by County Detective Mafer May Be Followed by Others—Eugene Jeweler Loses Diamond in Deal.

Elias Nelson, real estate dealer in the Gerlinger building, was arrested yesterday afternoon on a charge of being implicated in a fraudulent transfer of property to A. C. Girard of Baker. Girard bought the property of Harry Vireck, who is also in jail on a similar charge. C. S. Elton, former chief of police of Los Angeles, has been drawn into the deal, but released yesterday. The municipal court upon hearing the case will show whether or not the deal is a forgery.

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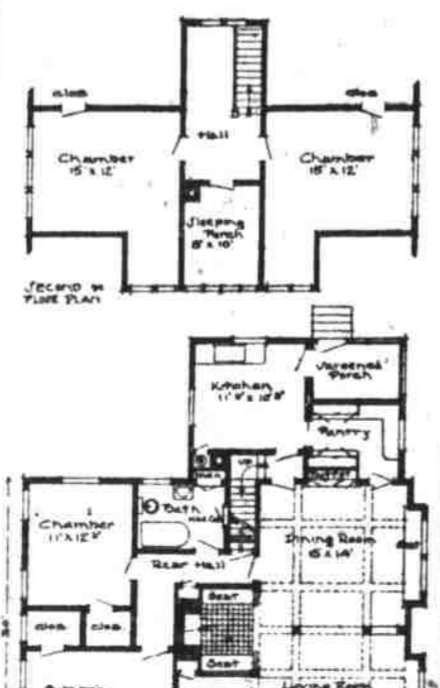
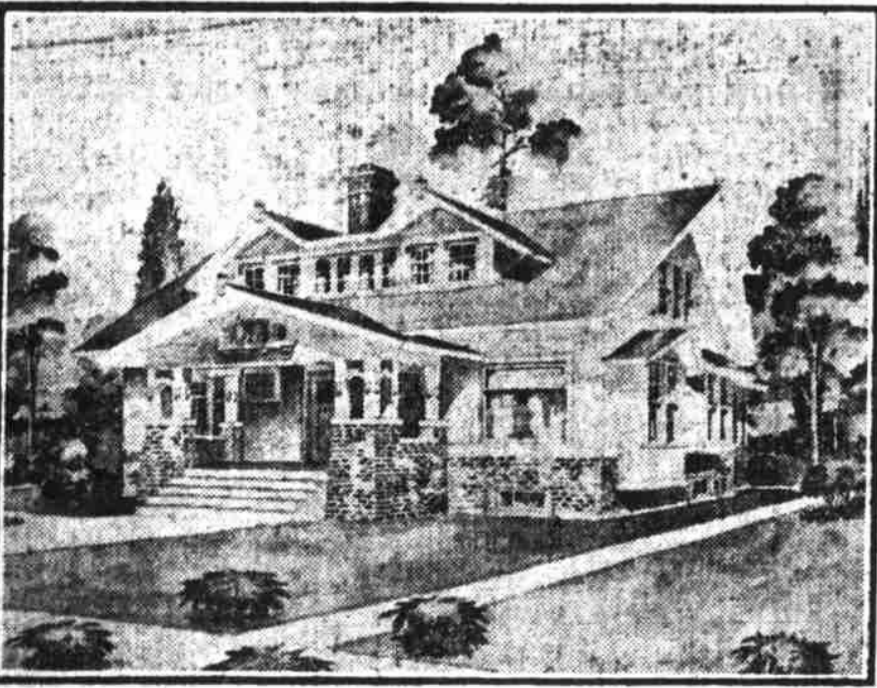
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## A Moderate Cost Home With Many Attractions



This is an original conception and represents much study in both exterior and interior. The force of its individuality will win its own way. The house is centered porch with its unique detail has a very inviting air. The unusual shape of the front dormer is very fitting and effective for this type of cottage. A brick veneer is carried up to the window sills and around the buttresses of porch. The remaining walls are plastered. The trimmings should be painted pure white. The interior of the

tion and, single nook, living and dining rooms are as one room, their divisions being only suggested by the square posts that run from the floor to the ceiling beams and the buttresses and seat. From the reception hall a view of the single nook and dining room may be had over the back of the seat. All the ceilings are beamed. The rear hall reaches the two chambers on the first floor and the bath. Another hall opening off the dining room leads to the second floor where are two chambers and a sleeping porch that may be enlarged by decreasing the size of one or both of the chambers. Cost to build this model home \$3700.

## The Land of Opportunity

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