Nov. 19, 1929. J. RUTHERFORD 1,736,134

TOY BUILDING BLOCK

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Fig. 1.

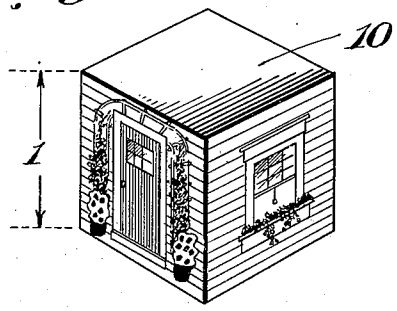


Fig. 2.

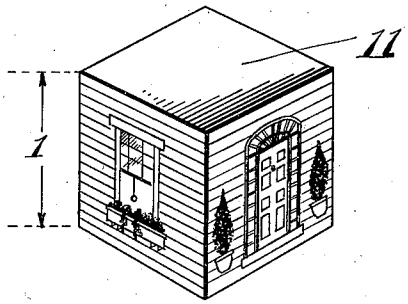


Fig. 3.

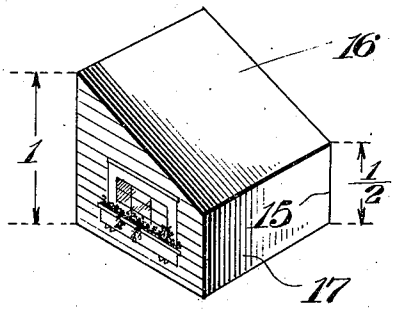


Fig. 4.

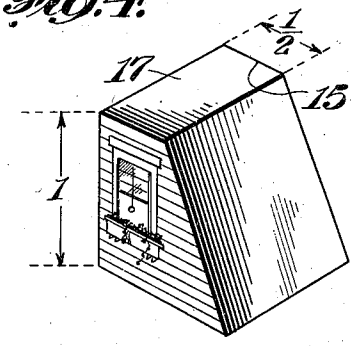


Fig. 5.

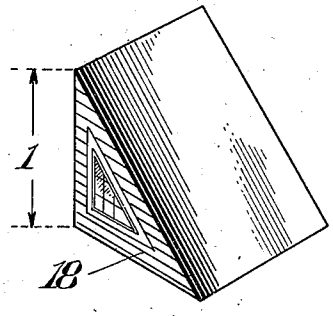


Fig. 6.

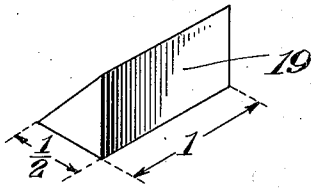


Fig. 7.

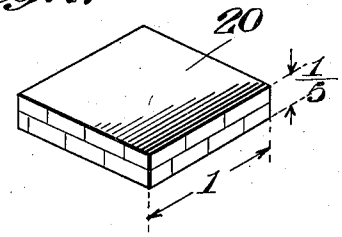
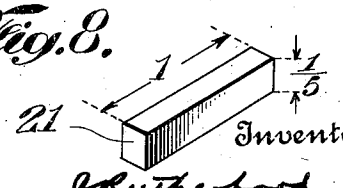


Fig. 8.



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Fig. 9.

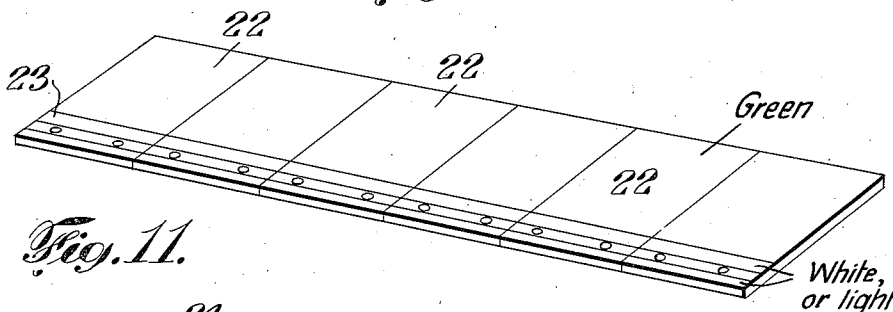


Fig. 11.

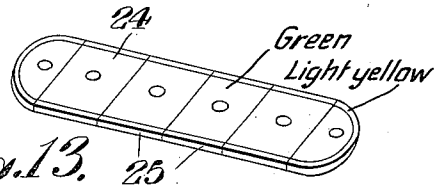


Fig. 13.

Fig. 10.

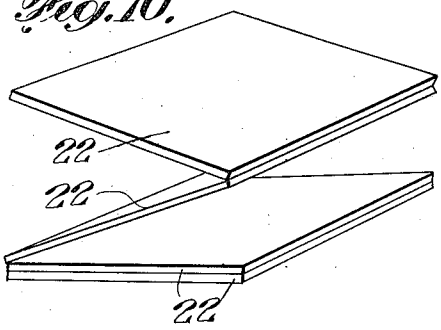


Fig. 14.

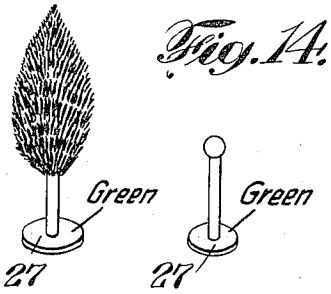
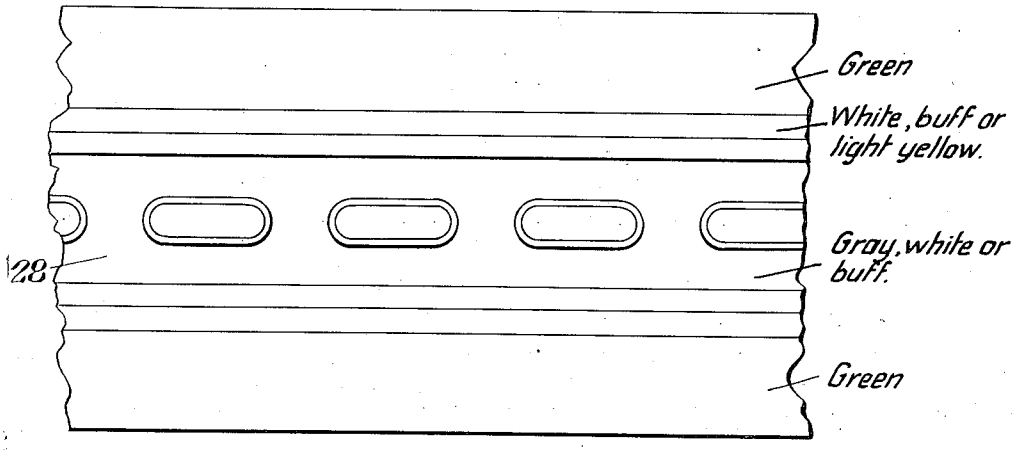


Fig. 12.



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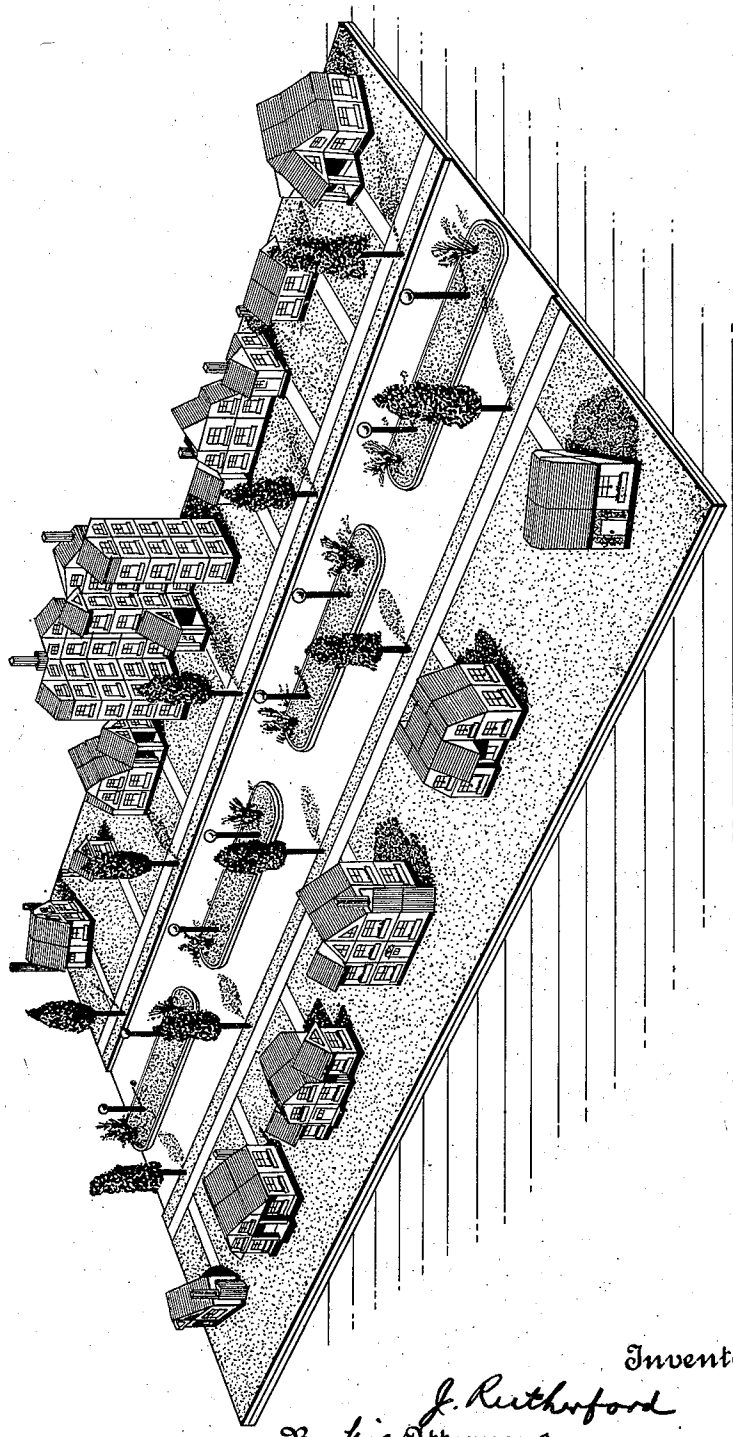


Fig. 15.

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TOY BUILDING BLOCK

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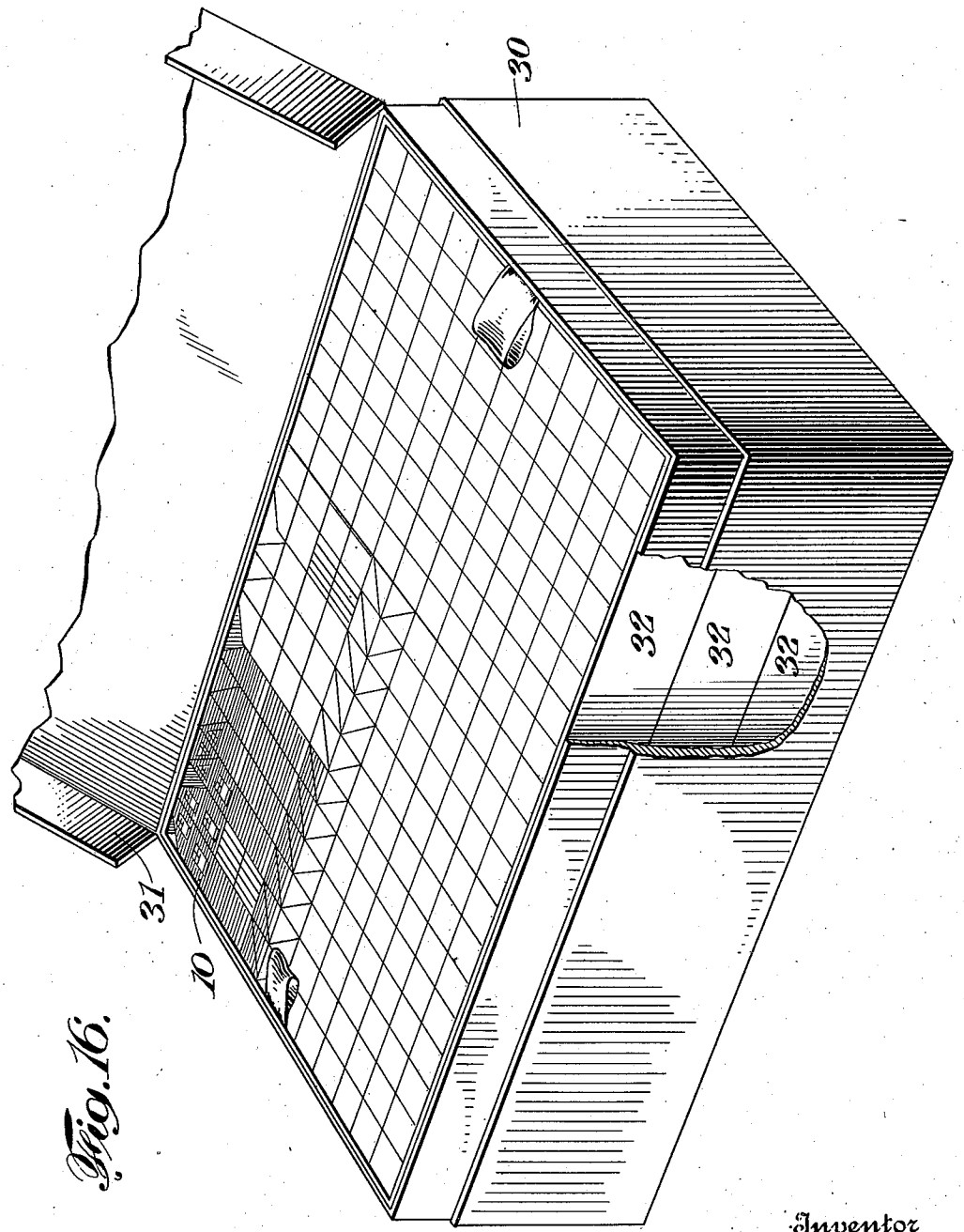


Fig. 16.

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UNITED STATES PATENT OFFICE

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TOY BUILDING BLOCK

Application filed March 25, 1927. Serial No. 178,191.

This invention relates to toy "building blocks" for children's use, and its chief object is to provide blocks which will afford a more realistic simulation of dwelling houses or other structures. In building blocks as heretofore made each block represented a single brick or stone, so that a considerable number had to be assembled to make a structure even fairly resembling a real building, and doors and windows could be represented only by omitting blocks here or there in the structure, leaving mere open holes. Such blocks can be used only by older children with any degree of satisfaction, because of the considerable amount of imagination required of the child, to say nothing of accuracy and steadiness of hand, and the structures made therefrom were exceedingly frail, being subject to demolition by a mere touch, often with very distressing grief to the youthful builder.

My present invention in its preferred form obviates these drawbacks in a novel manner, providing blocks, that is, three-dimensional elements as distinguished from flat pieces of sheet metal or the like, which can be assembled by younger children to form miniature buildings which have pleasingly realistic resemblance to actual buildings and which are not susceptible to collapse or demolition by any ordinary accident such as would completely destroy a structure built of blocks of prior types.

My improved blocks of the preferred type do not represent single bricks or stones, but are building-units or sections, representing complete parts of a dwelling house or other building, having doors, windows, roofs, and other features of a building painted, printed, or otherwise marked on appropriate surfaces of the blocks, so that even a single block can serve as a complete building, if desired, as for example a small bungalow; while by putting blocks side by side and one on top of the other an indefinite variety of buildings may be constructed, as one-story, two-story, or three-story dwellings, and multi-story apartment houses, with various types of roofs, as for example flat, gabled, or hipped roofs, with porches, ells, fireplaces, and chimneys, all matching or fitting together in architecturally correct proportions. With each set or outfit of blocks I may also provide a supply of permanently plastic modeling material. Such material is tough and sticky, so that a small pellet pressed between contiguous surfaces of the "building-sections" will hold them together with sufficient firmness to permit quite elaborate structures to be lifted and carried about without coming apart. One the other hand the units can be readily separated without damage for re-use in other buildings.

The building-sections are based fundamentally on a cube, and may comprise single cubes; multiples of a cube, as two or more cubes in a single block; and proper and improper fractions of cubes, as a cube and a half, three-fourths of a cube, one-half, one-eighth, one-fifth, one-twenty-fifth, etc., the "basic" cube being preferably of the same size throughout, a one and five-sixteenth inch or a thirty-three millimeter cube being of convenient and suitable size.

Referring now to the accompanying drawings, in which one form of the invention is illustrated.

Figs. 1 to 8 inclusive show various blocks in the form of building-sections, all based on a cube of one size.

Figs. 9 to 14 inclusive show on a smaller scale various accessory parts which may be supplied with the blocks. Of these figures, Fig. 9 shows series of "yard" or "lawn" sections, on which the houses may be erected, with a side walk and a curb. Fig. 10 indicates how the yard or lawn sections may be hinged together so as to fold into compact form when not in use. Fig. 11 shows a series of "park" sections, which may be ar-

ranged in the center of the street to give a "boulevard" effect. Fig. 12 shows a sheet of paper colored to represent a section of a street with lawns and sidewalks on each side. Figs. 13 and 14 show, respectively, a miniature tree and lamp post.

Fig. 15 shows in perspective a section of a boulevard or avenue constructed with one of my building outfits.

Fig. 16 shows a complete outfit, say one of the rather elaborate type required to make such an assemblage as shown in Fig. 15.

The building-sections 10, 11, shown in Figs. 1 and 2 are whole cubes of unit size, as indicated by the dimensional arrows, and it will be noted that they do not represent single bricks or stones. On the contrary each is a complete section or part of a house, bearing on its sides pictured representations of windows, doors, and side-boarding for a frame house or bricks for a brick house. The top may be a solid color, as green or red; and the bottom (not shown) may show only bricks or side-boarding, so that when turned on its side between other blocks it will show a blank wall. The blocks may be made of light wood, and all the surfaces are preferably painted first in appropriate colors say red or green on top and white or buff on the sides and bottom. The doors, windows, etc., are then printed on, with a contrastive color, as brown or green. The pictures may include flower boxes under the windows, and trellises and shrubs or small trees at the doors. These units or sections are conveniently termed "whole-story" or "one-story" sections.

The blocks of trapezoidal cross-section, Figs. 3 and 4, are each three-fourths of a cube of the same size as the one-story cube of Fig. 1 or 2, the edges 15 being an aliquot part of the unit dimension, say one-half, as indicated. These sections are painted and printed to represent half-stories, and hence may be conveniently termed "half-story" sections. The sloping surfaces 16 and the half-size vertical and horizontal surfaces 17 may be painted green or red to represent parts of the roof. The blocks may also be used for making a porch.

The "attic-section" 18 shown in Fig. 5 is a half-cube, formed by cutting on a diagonal plane, the resulting cross-section being a right-angled isosceles triangle. The ends are printed as shown, with attic windows, and the other surfaces are painted green or red for roof purposes. This block is also used in making a porch.

Fig. 6 shows a "roof-section", 19. The cross section of this block is also a right-angled isosceles triangle, each leg of the triangle being one-half (an aliquot part) of the unit dimension, as indicated, thus making the block one-eighth of the basic or unit cube. The block is colored green or red on all surfaces, to serve as a roof or part of a roof, and may also be used as part of a chimney or fireplace on the outside of a house.

The flat square block 20 shown in Fig. 7 is also an aliquot part of the basic cube, being one-fifth thereof, and is intended to be used under other blocks, such as 10 and 11, to represent the foundation of the house. For this purpose the block may be colored red or green or other solid color, and may, if desired, be printed on its edges to imitate masonry, as indicated.

Block 21, Fig. 8, square in cross-section, likewise an aliquot part of the basic cube, is one twenty-fifth of the latter, and is useful for chimneys, porch pillars, doorsteps, etc., being painted an appropriate color, as red, green, buff, or white.

With an assortment of the above blocks or building-sections a great variety of miniature houses may be constructed, as illustrated in Fig. 15, for example, which shows a number of such structures, employing the various units or sections in various ways. Thus the house at the extreme right on the far side of the street has a ground floor or first story composed of six whole-story sections on six foundation-sections, and a second story composed of two whole-story sections (in the center) and two half-story sections on each side. The peak of the roof is made of two roof-sections arranged end to end. The porch is made of one foundation-section, four pillars, and one "attic-section" as the roof. On the near side of the street the third house from the right has two roof-section blocks set on end, one on the other, to represent the external portion of fireplace brickwork or masonry, with a pillar-block on top to represent the chimney proper. On the far side of the street is a five-story apartment house with chimneys and a porch.

Fig. 15 also shows, in use, a number of accessory parts which may be employed to form the "setting" of the building or buildings and thus widen the scope of the outfit and heighten the interest and attractiveness of the scene. The lawns on either side of the roadway may be made of rectangular or square sections 22, Fig. 9, of strong pulpboard or other suitable material, painted green with white, buff, or light yellow stripes to represent the sidewalk 23. The adjacent edges may be similarly colored to represent the curb. These sections may be entirely unattached to each other; or they may be hinged at the upper and lower surfaces alternately, by means of cloth, for example, to permit folding in zig-zag fashion as indicated in Fig. 10, for compactness when not in use, preventing loss, etc. The parking strips in the center of the roadway may also be made of sections 24, as indicated in Fig. 11, painted green with a curb 25. Holes, as 26, may be provided in the parking and lawn sections, to receive maniature bushes, trees, and lamp

posts, or these parts may have flat bases, as shown at 27 in Figs. 13 and 14, for example, so that they may be placed anywhere that fancy may suggest, the bases being preferably painted green. The roadway shown in Fig. 15 may be a strip of paper of suitable color, extending under the "lawns" far enough to hold it in place. In lieu of or in addition to the lawn-sections and parking-sections I may provide a sheet of paper, 28, Fig. 12, suitably colored, on which the buildings may be erected, or it may be used as a pattern on which the lawn and parking sections may be laid. The outfit may also include strips of suitably colored cardboard or paper, of various lengths, to be used as walks from the street to the buildings, as in Fig. 15. If plastic modeling material is included, for use as an adhesive to secure the parts together, I prefer it to be of a non-staining or unpigmented variety so that if the parts are disassembled it may be scraped or wiped off without leaving a colored mark.

The outfits put up for sale can include as many varieties of parts, and as many of each, as desired. One such outfit is illustrated in Fig. 16, comprising a stout box 30 having a hinged lid 31 and containing removable trays, 32, for the various parts. For the elaborate assemblage of buildings shown in Fig. 15 the outfit would have, say, eight dozen whole-story units, three dozen half-story units, two and a half or three dozen attic-units, two dozen roof-units, five and a half dozen foundation-units, and two and a half dozen pillar and chimney units; as well as the necessary lawn-sections, parking-sections, trees, and other accessory parts. The outfit may also include perspective or other views of one or more buildings, for instance buildings shown in Fig. 15, as examples to guide the child, together with printed suggestions helpful in making the toy entertaining and instructive.

It is to be understood that the invention is not limited to the specific details herein described, since these may be varied without departure from the spirit of the invention as defined by the appended claim.

I claim—

A building-block outfit for making toy buildings, comprising whole-story building-sections of uniform basic-cube size, half-story building-sections of trapezoidal cross-section, each a proper fraction of the basic cube and having a surface inclined relative to the outer surfaces, attic-sections of right-angled triangular cross-section, each a proper fraction of the basic cube, roof-sections of right-angled triangular cross-section, each a proper fraction of the basic cube but smaller than the attic-sections, foundation-sections square in plan and rectangular in cross-section, each a proper fraction of the basic cube, and chimney and pillar sections square in cross-section, each a proper fraction of the basic cube, various sections having on appropriate surfaces picture-representations of building features, including doors and windows; whereby miniature buildings of realistic appearance and proportions can be constructed, having doors, windows, porches, chimneys, and roofs, differing in ground-plan and number of stories.

nature.

In testimony whereof I hereto affix my signature.

JOHN RUTHERFORD.