May 23, 1944. R. W. McLAUGHLIN, JR 2,349,358

BUILDING STRUCTURE

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Fig. 1.

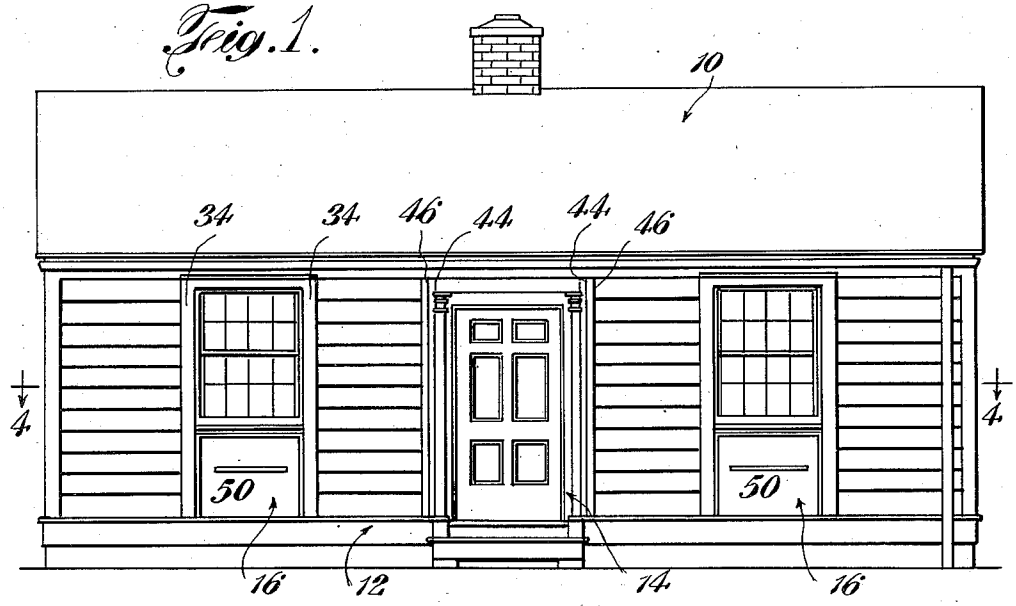


Fig. 2.

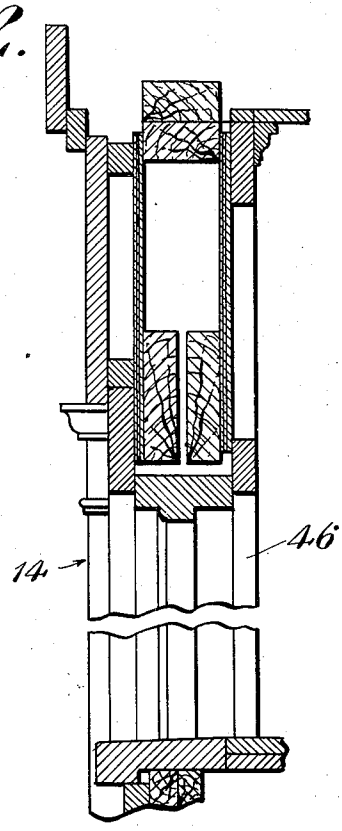
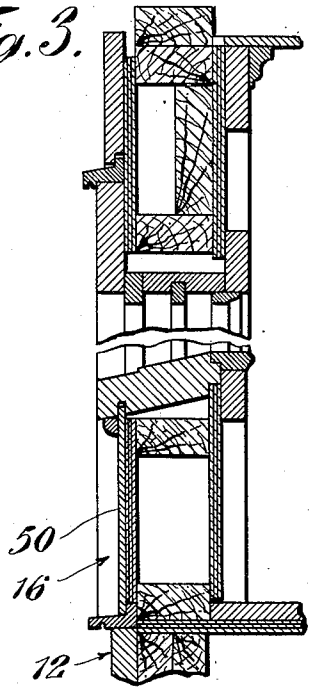


Fig. 3.



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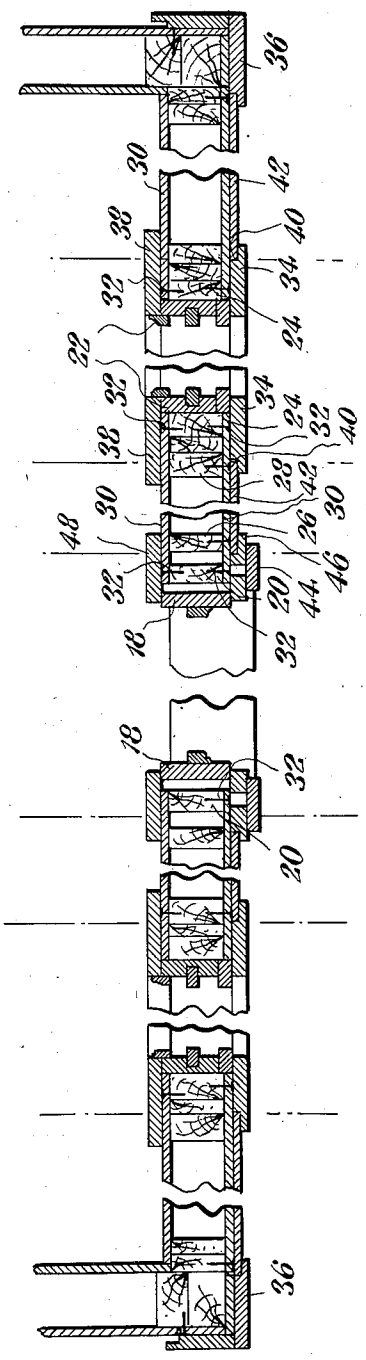


Fig. 4.

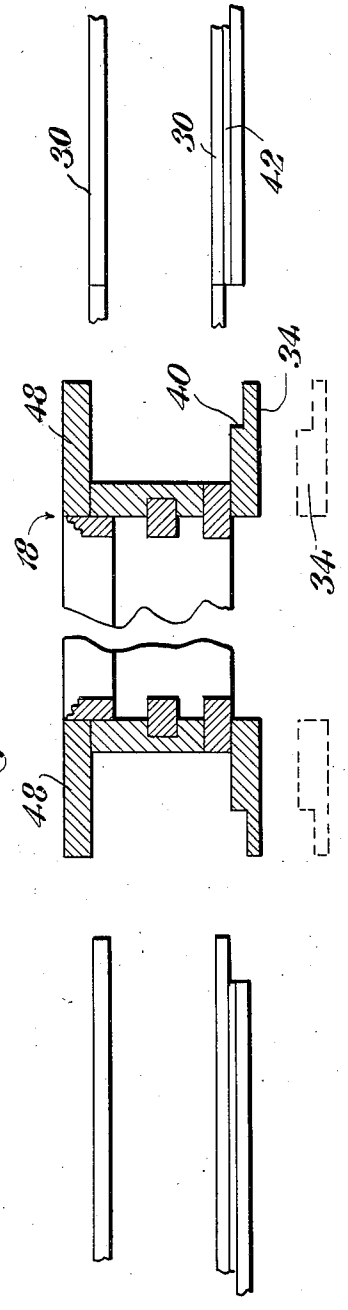


Fig. 5.

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BUILDING STRUCTURE

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Application August 13, 1941, Serial No. 406,572

1 Claim. (Cl. 20—4)

This invention relates to a building construction and more specifically to a prefabricated building.

In general, it is an object of the invention to provide a device of the character described, which will efficiently perform the purposes for which it is intended, which is simple and economical of construction, which can be readily manufactured and assembled and which can be expeditiously and conveniently demounted.

Another object of the invention is to provide a prefabricated building which does not have the appearance of being prefabricated in that the arrangement of surface elements is such that certain inter-unit elements seem to be functionally necessary for, or at least associated with, purposes other than those of covering inter-unit cracks and junctures; to provide such a building which is demountable and in which removable casing elements cover the means for holding the units in assembled position; to provide such a building in which the removable casing elements are rabbetted to receive the surface materials which latter may be prefabricated in units of substantially the same size as the underlying wall units whereby a modular system of interchangeable parts is possible with a modulus as large as a unit which in most instances would be large enough to include a door, for example.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claim.

Heretofore there has been a serious drawback to the adoption of prefabricated houses. It has usually been possible to determine at a glance the fact that a building had been only assembled but not built in the spot where it stood. The reason for this lay in the fact that buildings made up of large sized units have had a plurality of vertical lines, and horizontal as well, which occurred where the surfaces of adjacent units met. This has been emphasized by the vertical means which were applied to cover the inter-unit cracks. The result has been that even the unskilled were aware unconsciously that a house, e. g., had been prefabricated when such was the case. This fact has not been relished by the owner of the prefabricated house, and accordingly has affected all connected with this industry.

The present invention contemplates a prefabricated house which lacks the before-mentioned disadvantages but which nevertheless may be constructed with a large measurement modulus, that is to say, constructed of large units which may be easily taken apart. The ease in demounting arises in part from the fact that the casing or trim elements perform a dual function in the embodiment of the invention hereinafter described. They act as covers for means for fastening the wall units together and also act to receive and hold the surface materials of the inner or outer wall surface, as the case may be. Nevertheless, in spite of the increased importance of these inter-unit elements, they are no longer noticeable, i. e. they no longer appear to be covering strips for joints between adjacent wall units. They are made to appear to be an ordinary part of some adjacent architectural feature, such as a door or window, and furthermore, where that feature does not extend from the bottom to the top of the unit, there is inserted an additional, more or less useless, architectural feature, to which the vertical inter-unit elements may appear to belong and of which they may seem to be no more than a small decorative detail.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is a view in elevation of a structure embodying one form of the invention;

Fig. 2 is a vertical section of the doorway shown in Fig. 1;

Fig. 3 is a vertical section of a window shown in Fig. 1;

Fig. 4 is a horizontal section taken along the line 4—4 of Fig. 1; and

Fig. 5 is an exploded, enlarged portion of the section shown in Fig. 4.

In the drawings, 10 denotes generally a structure or building such as a house, in the front wall 12 of which there are a doorway 14 and two window units 16. In accordance with the invention, the wall shown, like other walls not shown, is composed of units, all of which have the same lateral extent so that, except for the corner of the building, any wall is n units long when it is composed of n units, and n may take on any desired integer value. A doorway or a window may comprise one unit, or the wall between a door and window, or between a window and another window, or between a window or door and the corner of the building, may comprise one unit.

The fact that any unit may comprise one or more elements extending over an adjacent unit does not interfere with this unit structure of the wall. The plain surfaces of the wall may be treated in any desired fashion. They may have clapboards on them, in which case the clapboards are prefabricated at a manufacturing plant into a unit and brought in that condition to the site of the building to be constructed. The length of the clapboards may be conveniently taken as the length of the units. The unit lengths are shown in Fig. 4 as extending between the dot and dash lines. The actual distances in the drawing are not equal, because portions of the structure are indicated as having been broken away.

In Fig. 4, 18 indicates generally the framework of a doorway. That framework may include the studs 20. Similarly, 22 denotes the framework of a window, which may include the studs 24. Between the doorway and the window there is a wall unit, the lateral edges of which may include the studs, or vertical spacing elements, 26 and 28. The horizontal elements 30 of the wall unit are attached by fastening means such as nails 32 to some portion of the adjacent door and window units.

There are vertical elements provided which overlie the juncture of the wall and window or wall and other units. These elements may take the form of casings 34 or corner boards 36 or interior trim 38 or other similar trim or architectural design elements. These elements 34, 36, 38 and the like are held in position by any suitable means. It is desirable, in many instances, that these last-mentioned casings, etc., be rabbetted, as at 40, whereby the final surface layer of the wall may be positioned between the recesses in successive casings and corner boards, etc. Thus, between the window and the corner at the right of Fig. 4, the clapboard unit 42 is so placed, as is also the clapboard unit 42 to the left of the same window. In Fig. 2 there is shown a vertical cross-section of the doorway 14, and in Fig. 3 a vertical cross-section of the window 16, with its subjoined structure.

A slightly less simple construction is shown around the doorway where the rabbetted casing may comprise two elements 44 and 46, although the casing may have the same shape when formed of one piece of material. The casing elements need not always be rabbetted, for example those elements 38 and 48 between which there are no clapboards, as on the inside of the house, or no elements similar to clapboards, are not rabbetted, the surface of the wall element 30 being simply treated, as with a covering of paint.

When it is desired to demount the structure, the additional casing or trim elements 34, 36, 38, etc., are removed, and thereby the fastening means 32 are exposed, so that they may be readily removed or rendered no longer fastening. This last may be accomplished by pushing such means, if they are nails, right through the wall element 30 into the underlying element of the adjacent unit, whereby the wall unit is free to be removed from the adjacent door or window or other unit. These casing and trim elements thus act to cover tightly the line of jointure between the units. They appear to an observer to be an essential element of the window or door or corner and hence do not stand out as vertical joints between a succession of obvious units.

Various architectural devices may be included in a unit. Certain of these devices such as is shown in Fig. 1, will not occupy an entire unit from top to bottom, and would leave either above them or below them a horizontal area running for more than one unit, which in turn would give undesired vertical jointures. In these instances, additional architectural devices may be added, such as the panelling 50 shown in Fig. 1 beneath the window. When this arrangement is used, the casing elements 34 are extended to the sill or eave of the house, as the case may be, overlying the edge of the element 50.

These outermost surface units, whether on the inside or the outside of the wall, may be secured, if desired, either to the rabbetted casing elements or to the underlying wall unit. The construction described above may be used in connection with interior bearing walls and partitions.

Although a structure designed and constructed in accordance with the foregoing is prefabricated, it does not have the appearance of a plurality of vertical units erected monotonously side by side, and does not therefore give the effect of a house built with mass production methods. On the contrary, it gives the appearance of a house built entirely by artisans on the site.

What I claim as new and desire to secure by Letters Patent is:

In a building, in combination, a plurality of prefabricated wall units of substantially equal width, said units being substantially at least the height of a single story of said building, each said unit comprising a plurality of spaced, vertical, weight-supporting studs and wall closure means affixed thereto, means for holding said units in side by side position to form a wall, alternate ones, at least, of said units comprising decorative architectural panels and supplemental casings covering and hiding from view the lines of jointure between adjacent units, said casings extending substantially the full height of said units and comprising strips forming trim for said architectural panels and being recessed to receive the ends of outer wall-covering elements associated with adjacent wall units.

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