Feb. 5, 1946. E. S. GUIGNON, JR 2,394,443

PLURAL-UNIT PORTABLE BUILDING

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Fig. 1.

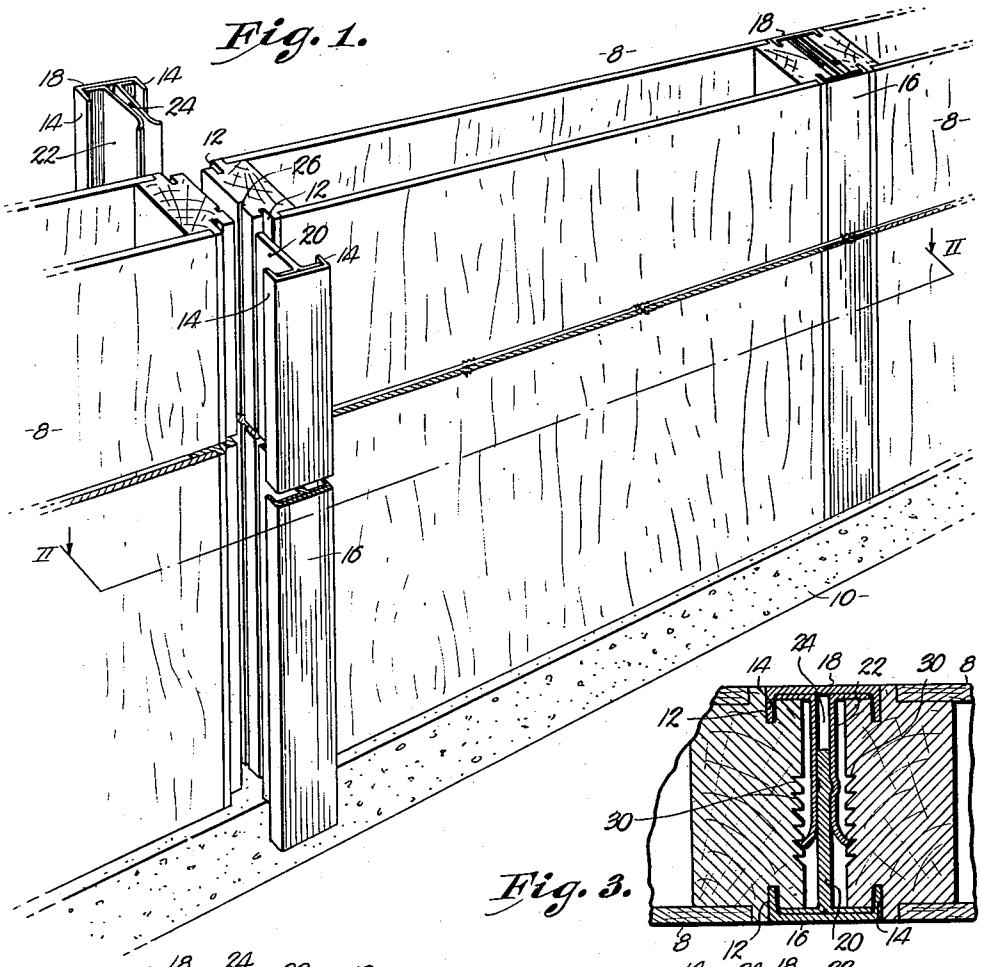

Fig. 3.

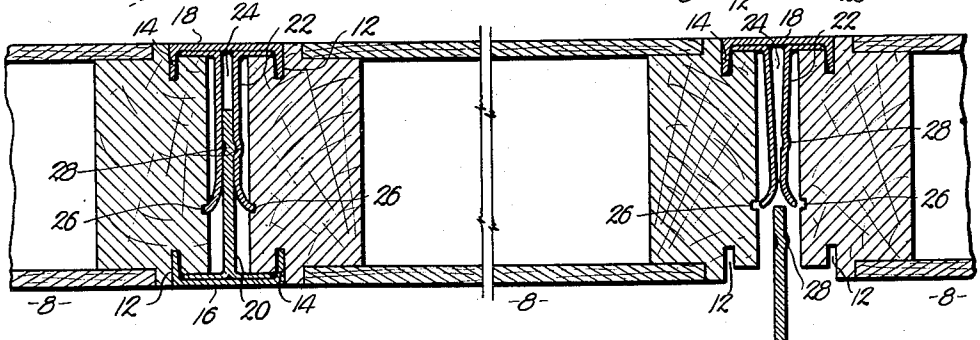

Fig. 2.

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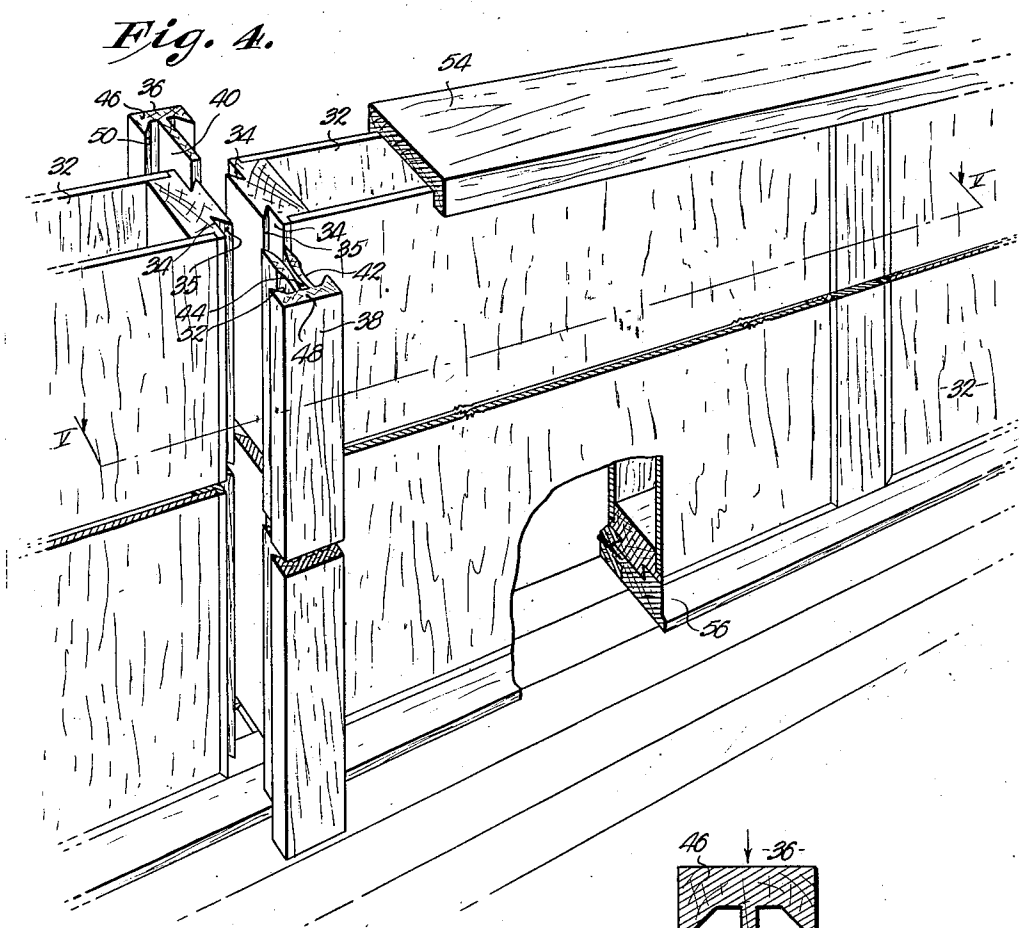
Fig. 4.



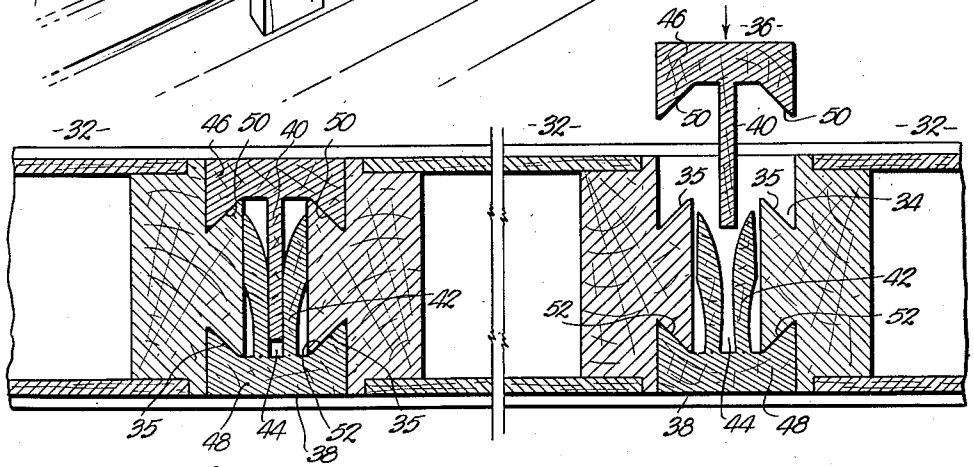


Fig. 5.

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UNITED STATES PATENT OFFICE

2,394,443

PLURAL-UNIT PORTABLE BUILDING

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Application November 9, 1942, Serial No. 464,975

4 Claims. (Cl. 20—4)

This invention relates to buildings of the portable character, and particularly to that type of structure having a plurality of units arranged to interlock through friction, whereby all of the building parts are maintained assembled, yet in condition for quick separation for purpose of rendering the structure in a knocked-down condition for transportation with the units thereof compactly stacked.

One of the important aims of the instant invention is to provide a plural-unit, portable building, comprising a number of flat panels arranged in edge-to-edge relation to form a wall or the like, said wall having structural, weight supporting members at the juncture between proximal edges of the panels to hold the same together and against lateral displacement.

This invention has for one of its salient objects, to provide a sectional, structural member, specially formed to engage adjacent edges of abutting building units and provided with parts frictionally engageable to maintain the sections thereof in assembled condition and the building units in operative position.

One of the specific objects of the invention is to provide a sectional structural member comprising two parts substantially T-shaped in cross section and having the webs thereof arranged to frictionally engage, while the heads of the sections grip the building units extending to either side of the structural member.

Heretofore portable buildings have usually included some fastening means, such as clips, bolts, screws or brackets, which formed a part of the building structure and which relied upon their inherent contours to maintain themselves in a place where effective work was performed. A need has arisen in the art, for portable buildings having units and structural members that are interlocked and yet are maintained assembled without the employment of parts having the characteristics of those above enumerated. Accordingly, this invention comprises wall forming parts that may be used to create ceilings, floors, side walls or partitions, all without altering the principle involved and illustrated in the accompanying drawings wherein:

Fig. 1 is a fragmentary perspective view of a building wall made in accordance with the present invention.

Fig. 2 is a fragmentary condensed cross sectional view through the wall taken on line II—II of Fig. 1.

Fig. 3 is a fragmentary cross sectional view through a structural member made to embody a modified form of the invention.

Fig. 4 is a fragmentary perspective view of a building wall made in accordance with a still further modification of the invention; and

Fig. 5 is a fragmentary cross sectional view through a portion of the wall taken on line V—V of Fig. 4.

The form of the invention shown in Figs. 1, 2 and 3 comprises a series of building units 8 arranged in edge-to-edge relation and resting upon foundation 10. This illustrated embodiment is confined to wall structure but it must be borne in mind that the component parts may be disposed to establish a horizontal continuous building element, such as a floor, ceiling or the like.

Units 8 have longitudinal grooves 12 formed therein which extend inwardly from the two opposed faces to receive flanges 14 of the T-shaped sections 16 and 18 respectively. The structural member comprising sections 16 and 18 is a load-bearing element and constitutes conventional studding when in a vertical position, and stringer or joist when in a horizontal position. Properly disposed, this sectional structural member will not only serve as means for carrying the necessary load, but will serve to hold together the adjoining units 8 whether they form a wall, ceiling or floor.

Sections 17 and 18 that are illustrated in Fig. 1 are formed of metal having inherent resiliency sufficient to establish a grip between web 20 of section 16 and web 22 of section 18. This last mentioned web has a groove 24 extending longitudinally thereof to receive web 20 when sections 16 and 18 are moved together. As such movement occurs, flanges 14 enter grooves 12 and the free edges of web 22 move laterally from each other and against the proximal edges of units 8. Additional grooves 26 formed in these edges must be disposed to receive the slightly out-turned marginal portions of web 22 to assist in locking all of the aforesaid parts in a unitary condition.

Frictional engagement between webs 20 and 22 and those portions of building units 8 engaged thereby, will suffice to create a structural member rigid in nature and unlikely to accidentally part. A number of detents such as 28 provided of web 22 is not sufficient to adequately grip of web 22 is not sufficient to adequately grip the web 20. When web 20 is forced between the parts of web 22, adjoining units 8 are drawn together and against the marginal edges of web 22.

The modified form of the invention shown in Fig. 3 includes the additional group of grooves 30

formed to permit the marginal edges of web 22 to snap from one groove to another, thus, if units 8 are close together and web 22 must be forced therebetween, no danger of a retarding action is presented.

Referring now to Figs. 4 and 5 where the illustrated embodiment comprises parts made entirely of wood—the units 32 are of a nature very similar to those above described but have grooves 34 formed between an inclined face 36 and the end of the unit. Structural members in the form of studding include sections 36 and 38 capable of frictional engagement through the medium of their webs 40 and 42 respectively. The last mentioned web has a longitudinal groove 44 provided therein to receive web 40 of the opposed section.

Heads 46 and 48 of sections 36 and 38 respectively, have longitudinal flanges provided with inclined faces 50 and 52 respectively that bear against faces 36, as the sections of the structural members are forced together. When said sections are in the operative position, the webs thereof are related as shown at the left of Fig. 5. The free marginal edges of web 42, are forced against the opposed faces of units 32 to create further frictional interengagement of parts.

Prior to forcing the sections together, the marginal edges of web 42 are inclined with respect to the opposed faces of units 32, as shown at the right in Fig. 5. Such disposition insures a full surface contact when section 36 is moved in the direction of the arrow. In some instances, a header 54 extends along the edge of the wall formed by the abutting units 32. When such is the case, the channel-shaped header 54 will serve as means for precluding accidental parting of sections 36 and 38 of the structural member.

Units 32 are anchored in place by a base member, such as shown in Fig. 4. This base member has one element thereof anchored to base member 56 while another coacting element is movable to and from a position where each unit 32 is gripped thereby. This sectional base member serves to preclude upward movement of the wall from base 56 and any relative lateral movement on the part of units 32 is precluded by sectional structural members comprising parts 36 and 38.

It will be obvious to one skilled in the art the manner in which the features contemplated by this invention might be embodied in buildings of portable nature, and while only vertical walls have been illustrated and described, it is to be realized that the units above specified, may be assembled to create partitions, floors, ceilings, and many other parts not illustrated.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a plural-unit, portable building of the character described, a series of units disposed in edge-to-edge relation to form a wall or the like; and a structural member between the proximal edges of said units, said structural members each being formed of two separable, frictionally interengaged sections, said sections being substantially T-shaped in cross section, the web of one section being longitudinally slotted, the web of the other section being within the said slot to hold the heads of both sections against said units, said slotted web being in frictional engagement with the opposed edges of the proximal units when the web of the other section is within the said sections and said units being provided with shoulders formed to interlock when said webs are in engagement, said shoulders being forced together when the webs of the sections are in the operative position.

2. In a plural-unit, portable building of the character described, a series of units disposed in edge-to-edge relation to form a wall or the like; and a structural member between the proximal edges of said units, said structural members each being formed of two separable, frictionally interengaged sections, said sections being substantially T-shaped in cross section, the web of one section being longitudinally slotted, the web of the other section being within the said slot to hold the heads of both sections against said units, said slotted web being in frictional engagement with the opposed edges of the proximal units when the web of the other section is within the said slot, said free edges of the slotted web having faces of appreciable area disposed at angles to the opposed edges of the proximal units when the web of the said other section is disengaged, and in frictional engagement with the said edges of the units when the sections are together.

3. In a plural-unit, portable building of the character described, a series of units disposed in edge-to-edge relation to form a wall or the like; and a structural member between the proximal edges of said units, said structural members each being formed of two separable, frictionally interengaged sections, said sections being substantially T-shaped in cross section, the web of one section being longitudinally slotted, the web of the other section being within the said slot to hold the heads of both sections against said units, said slotted web being in frictional engagement with the opposed edges of the proximal units when the web of the other section is within the said slot, the heads of each section and the marginal edges of the proximal units having interengaging faces disposed to draw the units together and into tight engagement with the sides of one of the sections of the structural member as the sections of the structural member are forced toward each other.

4. In a plural-unit, portable building of the character described, a series of units disposed in edge-to-edge relation to form a wall or the like; and a structural member between the proximal edges of said units, said structural members each being formed of two separable, frictionally interengaged sections, said sections being substantially T-shaped in cross section, the web of one section being longitudinally slotted, the web of the other section being within the said slot to hold the heads of both sections against said units, said slotted web being in frictional engagement with the opposed edges of the proximal units when the web of the other section is within the said slot, the heads of each section each having inwardly extending portions at the edges thereof, said units each being slotted along the marginal edge thereof to receive said portions when the sections of said structural members are in engagement with each other.

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