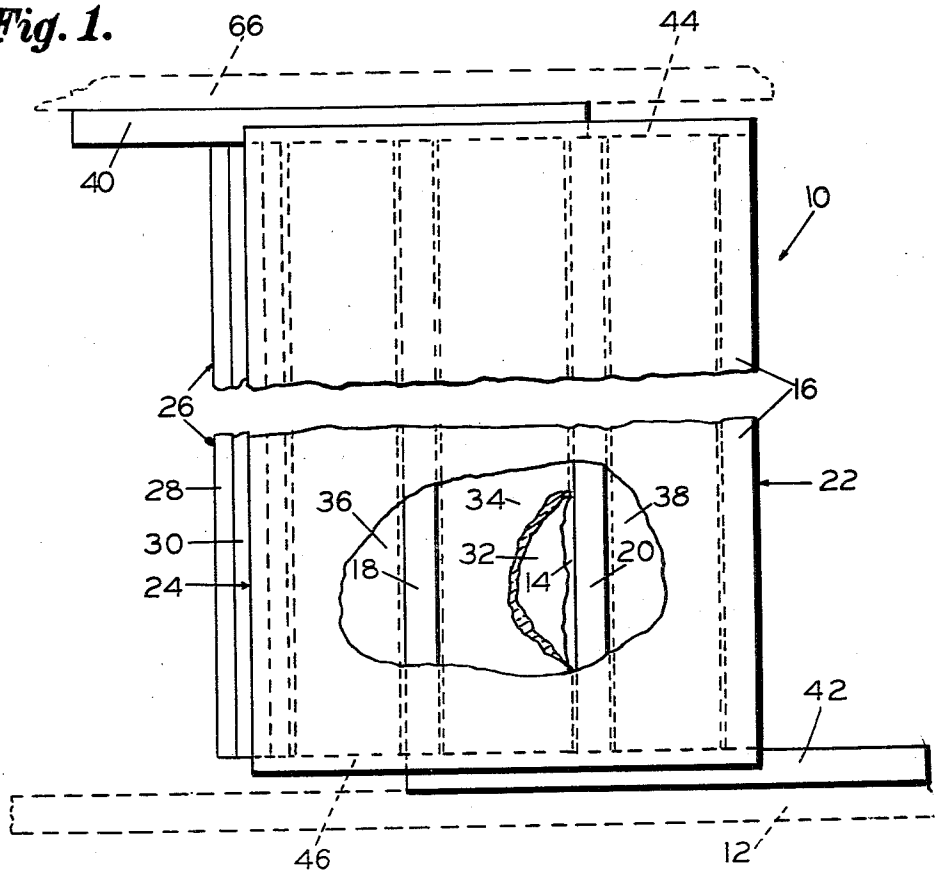
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WALL SECTION FOR DWELLING

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Fig. 1.



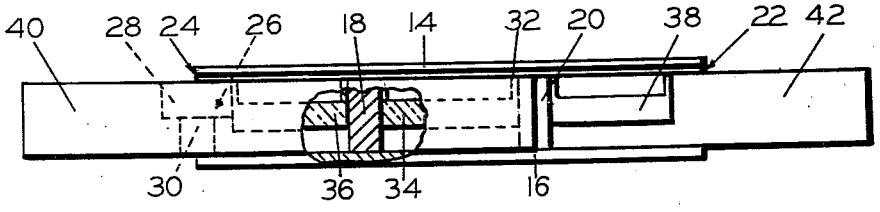


Fig. 2.

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Fig. 4.

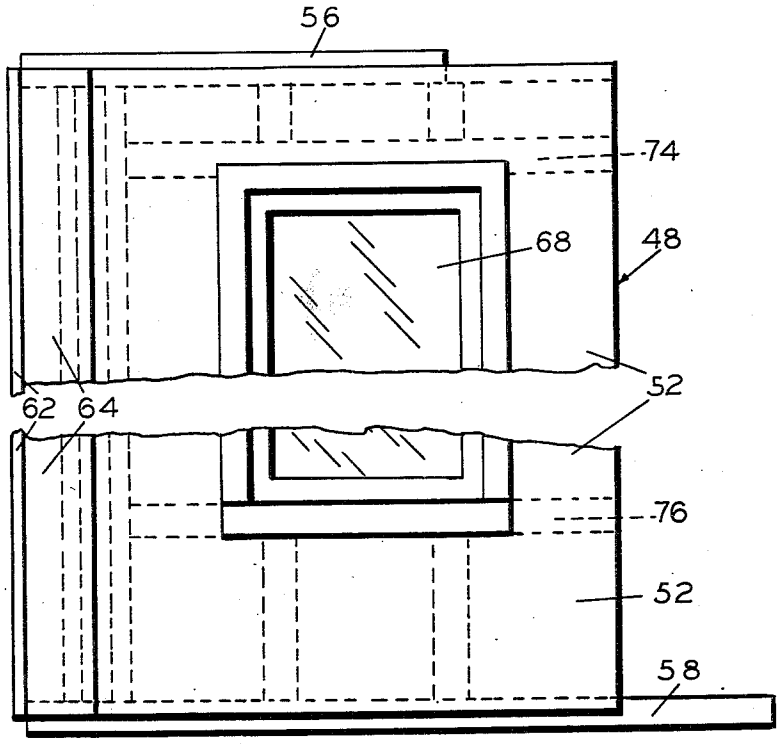


Fig. 3.

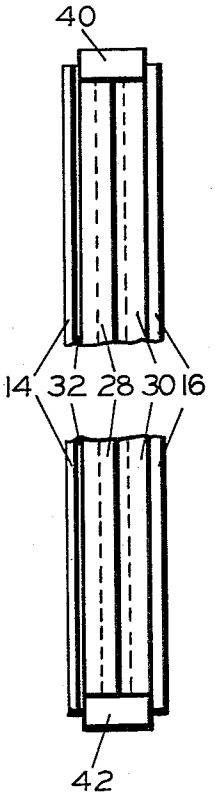
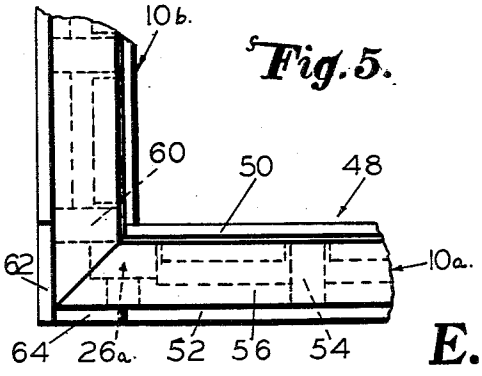


Fig. 5.



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WALL SECTION FOR DWELLING

Ernest A. Rethmeier, Council Bluffs, Iowa

Application July 7, 1955, Serial No. 520,538

5 Claims. (Cl. 20—4)

The present invention relates to improvements in construction units for buildings and is particularly directed to a novel wall or panel section of the prefabricated type.

A primary object of the present invention is to provide a wall or panel section which is so formed as to be easily secured in vertical position and to be easily attached in secure wall forming alignment and load transfer relation with other similar sections.

Another important object of this invention is to provide a wall section which may be prefabricated at a factory and erected in place at the site without any further treatment and without any special skill or knowledge and to which other similar sections may be attached in an extremely simple and speedy manner for forming load bearing walls.

A further important object of this invention is to provide a wall section which includes spaced apart and connected inner and outer panel faces that are provided at their upper and lower ends with interlocking means that interlock contiguous sections securely together and which are so formed at their ends as to mate correctly and positively with the faces of such contiguous wall sections.

A still further object of this invention is to provide a simple, durable and inexpensive wall section which can be erected by any person, irrespective of skill and experience, so that such a person can easily erect a wall with such wall sections.

The foregoing and ancillary objects are attained by this invention, the preferred embodiment of which is set forth in the following description and illustrated in the accompanying drawing, wherein:

Figure 1 is a front elevational view of the exterior of the wall section, with certain portions being broken away and others shown in section;

Figure 2 is a top plan view of the wall section of Figure 1, with certain portions broken away and others shown in section;

Figure 3 is an end elevational view of the wall section;

Figure 4 is a front elevational view of the wall section forming a corner of a building and showing a window unit therein, and,

Figure 5 is a top plan view of the corner portion of the section shown in Figure 4.

While one embodiment of the invention is illustrated in the attached drawing, described above, it is to be understood that such is merely for the purpose of illustration, and that various changes in construction may be resorted to in the course of manufacture in order that the invention may be utilized to the best advantage according to circumstances which may arise, without in any manner departing from the spirit and intention of the device, which is to be limited only in accordance with the appended claims. And while there is stated the primary field of utility of the invention, it remains obvious that it may be employed in any other capacity wherein it may be found applicable.

With more specific reference to the drawings, the numeral 10 generally designates the wall section of this

invention. Such section 10 is formed to be mounted on a foot plate, such as shown in dotted lines in Figure 1 and designated by the numeral 12, or may be secured directly onto the upper surface of the subflooring of a building, if a foot plate is not used.

The wall section 10 includes inner and outer facing panels or sheets 14 and 16, the inner sheet being preferably, though not restrictively, formed from plasterboard or the like material and the outer facing sheet being formed from plywood or the like material. The panels are coextensive in width and height, one example of such dimensions being 4 feet wide by 8 feet high. The panels are secured, as by nails, to identical studs 18 and 20, which are preferably two by four studs, which are disposed the conventional 16 inches, center to center.

The studs are of a less length than the height of the panels so that the are set in at their upper and lower ends from the upper and lower edges of the panels. The one side 22 of the wall section is left open while the opposite side 24 is closed by a two piece T-shaped stud member 26. The stud member 26, as shown in Figure 2, has a head 28, which is secured to the inner surface of the inner panel 14, at its side edge, and which projects beyond such side edge and beyond the side 24 of the wall section. A leg forming stud 30 is nailed to the center of the head and to the inside of the outer panel 16 and projects beyond the side edge of the panel 16 at its free end.

Vapor barriers 32 may be used and are preferably secured between the inner panel 14 and the studs. Such vapor barriers may be made in sheets and formed from aluminum, plastics and the like.

Between the studs 18 and 20, a bat of insulating material 34 is disposed, the bat being suitably secured between the studs and a similar bat 36 is secured between the stud 18 and the stud member 26. A similar bat 38 attached to the stud 20 and is disposed outwardly therefrom with its outer side edge initially left free and spaced inwardly from the open side 22 of the wall section.

As best shown in Figure 1, the upper and lower wall stringers 40 and 42, which are formed from 2" by 4" material, are fixedly mounted on the upper and lower ends of the studs. The stringers are positioned between the upper and lower confronting edges of the inner and outer panels and project above and below the edges of the panels. Preferably, such extension is about one-half the thickness of the stringers. The upper stringer has its inner end overlying and secured to the stud 20 while its upper end projects laterally above and beyond the side 24 of the wall section. The lower stringer 42 has its inner end underlying and secured to the stud 18 while its outer end extends laterally below and beyond the side 22 of the wall section. Thus, the upper end of the wall section has a groove 44 between the stud 20 and the side 22 while the lower end has a groove 46 between the stud 18 and the side 24, such grooves being provided by the extension of the upper and lower edges of the panels beyond the ends of the studs and the offsetting of the stringers.

During erection of the wall section 10, the lower stringer 42 is nailed to the foot plate 12 or, in the absence thereof, to the sub flooring. Since the lower half of the stringer 42 is exposed, the latter may be toe-nailed to said foot plate or directly to the sub flooring at each side of the stringer.

An identical wall section (not shown) is then erected in alignment with such section 10 and is secured to the foot plate or sub flooring, as described above. Such second wall section has its extending stud member fitted in the open side 22 of the wall section 10 and the panels 14 and 16 are nailed to such stud member so that the

edges of the panels **14** and **16** abut the edges of the panels of the added wall section. The extending outer end of the upper wall stringer of the added wall section is positioned in the groove **44** and is secured in a position so that it abuts the inner end of the stringer **40**. The extending end of the lower wall stringer **38** is received in the bottom groove of the added section.

Such overlapping of the extending ends of the wall stringers of the contiguous wall sections ties the wall sections securely together in complete load transfer relationship and the tie stud members **26** rigidly connect the wall sections in abutting relationship.

With regard to the bat **38** of the wall section **10**, the free edge thereof becomes compacted or tightly pressed by the tie stud **26** of the second or added wall section so that it is held securely in place. However, a different type of bat may be used, such as one which is encased between paper walls with one of such walls disposed between the panel **14** and the stud **26** of the added section for maintaining the bat in position.

The wall section **10** and the added identical sections may be joined together to form a corner, such corner construction being shown in Figures 4 and 5 and being generally indicated by the reference numeral **48**. The corner is erected first and then the wall sections are erected and tied together, as described above.

The corner construction is composed of a wall section **10*a*** which includes inner and outer panels **50** and **52** that are nailed to the stud **54** at the prefabricating site. A T-shaped stud member **26*a*** is secured to the side of the wall section **10*a***. The upper wall stringer **56** overlaps the stud member **26*a*** and has its outer end mitered. The lower wall stringer **58** underlies the stud member **26*a*** and is nailed thereto.

As shown in Figure 5, a wall section **10*b*** is disposed at a right angle to the wall section **10*a*** and terminates in a stud **60** which forms a corner post and which is fastened to the stud member **26*a***. The inside corner is defined by the angularly contacting inner panels of the wall sections **10*a*** and **10*b*** while filler pieces **62** and **64** are fastened to the stud member **26*a*** and to the corner post **60** to define the outer corner.

After the wall is erected, as shown partially in Figure 1 and above described, a single head plate **66** or a double plate formed of 2" by 6" boards is nailed to the upper wall stringers of the wall sections so that the rafters of the building may be secured to the wall sections by being nailed to the head plate.

Inasmuch as the upper edges of the panels of the wall sections are disposed lower than the upper wall stringers thereof, molding strips may be nailed to the upper stringers on the inside of the walls to cover the inner surfaces of the stringers.

Any one of the wall sections may be provided with a window opening to accommodate a window, such as the window **68** shown in Figure 4. The opening is formed to receive headers of 2" by 4" material, such as the headers **74** and **76** of Figure 4. The headers are nailed to the studs in the usual manner.

It will be understood that doors and other openings required for house construction shall be of substantially the same construction as that section containing a window in Figure 4 of the drawings, and therefore need no further consideration or explanation in this specification.

From the foregoing specification, it will become apparent that the invention disclosed will adequately accomplish the functions for which it has been designed and in an economical manner, and that its simplicity, accuracy, and ease of separation are such as to provide a relatively inexpensive device, considering what it will accomplish, and that it will find an important place in the art to which it appertains when once placed on the market.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore a more lengthy description is regarded as unnecessary.

Changes in shape, size and rearrangement of details and parts such as come within the purview of the invention claimed may be resorted to, in actual practice, if desired.

I claim:

1. A preformed wall section comprising spaced apart, confronting inner and outer facing panels of coextensive width and height, spaced apart, parallel studs interposed vertically between the panels and to which the panels are fixed, said studs being spaced below and above the upper and the lower end edges of the panels to define top and bottom grooves in the wall section between the panels, wall stringers fixed in said grooves and extending partially above and below the top and bottom edges of the panels, said wall section having opposing sides, one of said wall stringers being spaced from one side and projecting laterally beyond the other side and the other wall stringer being spaced from the other side and projecting laterally beyond the one side whereby said wall stringers form an interlocking means for coupling the wall section to adjoining like wall sections.

2. A preformed wall section as claimed in claim 1, wherein one of said sides is open and the other side houses a stud member which is similar in length to the studs and which projects outwardly from said side to fit in the open side of an adjoining like wall section.

3. A preformed wall section as claimed in claim 1, wherein bats of insulating material are interposed between the panels and secured to the studs and the stud member.

4. A preformed wall section as claimed in claim 1, wherein vapor barriers are fixedly superimposed on the inside of one of the panels.

5. In a prefabricated wall unit, the combination which comprises spaced parallel panels positioned in opposed relation, spaced vertically disposed studding positioned between the panels, said panels being secured to edges of the studding, the upper ends of the studding being spaced below the upper ends of the panels and the lower ends of the studding being spaced upwardly from the lower ends of the panels, the edges of the panels at one side of the unit being extended beyond the last stud, a T-shaped stud positioned between the edges of the panels opposite to the edges extended beyond the last stud with a portion of the head of the stud and also part of the web thereof extended beyond the corresponding edges of the panels whereby with a plurality of the units assembled to form a wall the T-shaped studs of one unit provide supporting means for extended edges of an adjoining unit, and stringers mounted in upper and lower edges of the unit with one end of the stringer in the upper end spaced inwardly from one edge of the unit and the opposite end extended from the opposite edge, and with one end of the stringer in the lower end of the unit spaced inwardly from the edge of the unit from which the stringer in the upper end extends and with the opposite end extended from the opposite edge of the unit, the upper and lower surfaces of the stringers being extended beyond the upper and lower ends of the panels, respectively.

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