May 10, 1938. F. E. McCABE 2,116,534

BUILDING STRUCTURE

Filed June 7, 1935

Fig. 1

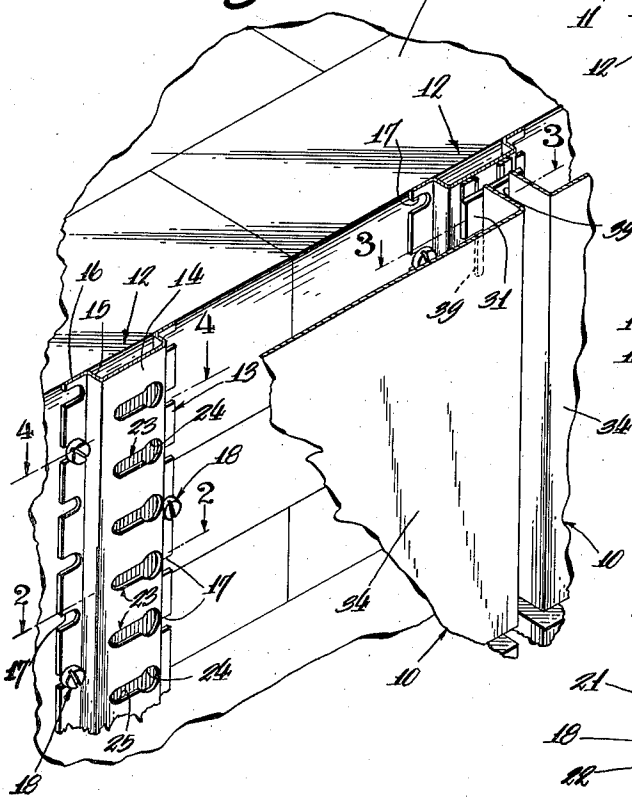


Fig. 2

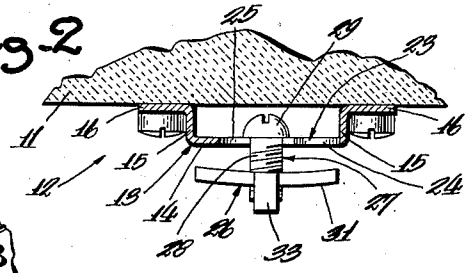


Fig. 3

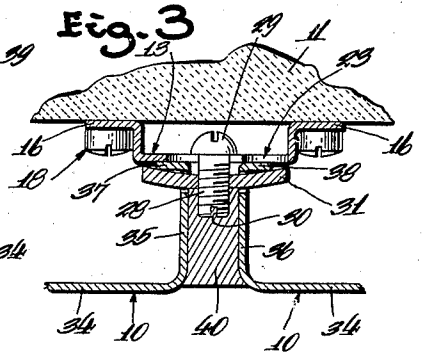


Fig. 4

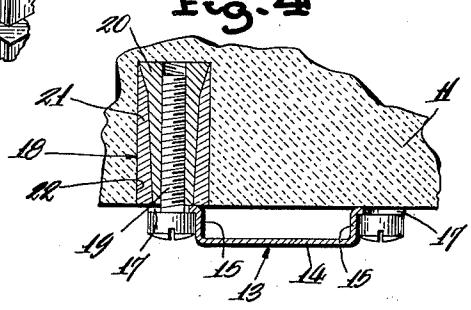


Fig. 6

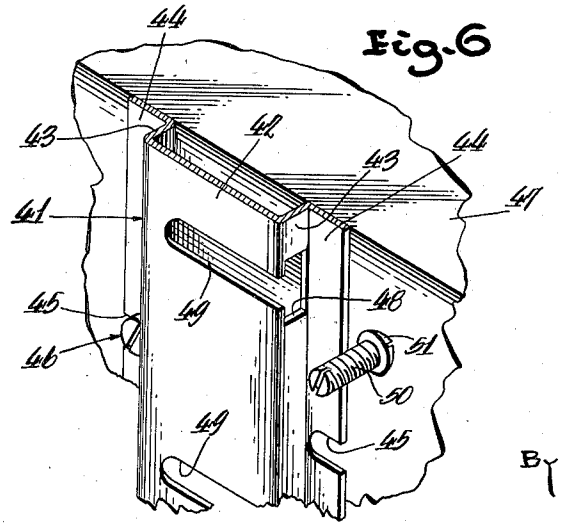
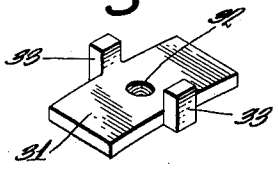


Fig. 5



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BUILDING STRUCTURE

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Application June 7, 1935, Serial No. 25,458

11 Claims. (Cl. 189—85)

This invention relates to building structures, and more particularly to face-work building structures, and has for an object the provision of new and improved structures of this character.

In the drawing accompanying this specification and forming a part of this application, I have shown, for purposes of illustration, embodiments which my invention may assume, and in the drawing:

Figure 1 is a fragmentary perspective view of a building structure, embodying the invention, and disclosing parts of the same in horizontal section, and also disclosing parts broken away to more clearly illustrate the construction,

Figure 2 is an enlarged fragmentary horizontal sectional view of the securing means, corresponding substantially to the line 2—2 of Figure 1, and showing fastening elements adapted to cooperate therewith,

Figure 3 is a view similar to Figure 2, corresponding substantially to the line 3—3 of Figure 1,

Figure 4 is an enlarged fragmentary horizontal sectional view corresponding substantially to the line 4—4 of Figure 1,

Figure 5 is a detailed perspective view of clamping means employed in connection with the invention, while

Figure 6 is a fragmentary perspective view, similar to Figure 1, and disclosing a different embodiment of the invention.

As shown in Figures 1 through 5 of the drawing, the invention comprises a building structure, wherein a plurality of facing panels 10 are disposed edge to edge and flatwise along the surface of a supporting wall 11, which may be the front wall of a building or the like, and said panels 10 are secured in position along said wall by a plurality of sets of securing means, each set being indicated generally by the reference character 12, and adapted to be positioned between juxtaposed edges of each pair of panels 10; the sets 12 are duplicates in construction and operation and only one of the same will be described in detail.

Each of the sets 12 comprises an elongated member 13, preferably of sheet metal, channel-shaped in cross-section, having an intermediate portion 14, angularly extending webs 15 along opposite edges, and out-turned marginal flanges 16 adapted to rest against the supporting wall 11. Each of the flanges 16 has a plurality of laterally extending, outwardly opening notches 17 in its edge, the notches preferably being formed at regular intervals along the length of each flange 16, and fairly close together. Adapted for accommodation in selected notches 17, are anchoring members 18, each comprising a screw-bolt 19 having a head bearing against the outer face of the related flange 16, and a shank threaded into a wedge part 20. The wedge part 20 is encased in an expansible sleeve 21, which may be of lead, and the wedge part 20 and sleeve 21 may be accommodated in a suitable cavity 22 formed in the supporting wall 11. Rotation of the bolt 19 serves to draw the wedge part 20 inwardly and to expand the sleeve 21 into anchoring engagement with the wall of the cavity 22. As many of the anchoring members 18 may be employed as are desired or are necessary, and these may be positioned along the length of the flanges 16, in any selected notches 17, as seems most convenient, a preferable arrangement being shown in the drawing, wherein the anchoring members 18 are positioned in staggered relation along opposite flanges 16 of the member 13. When all of the anchoring members 18 have been tightened, the member 13 is fixedly secured to the supporting wall 11 with the intermediate portion 14 thereof spaced outwardly from the wall 11.

The intermediate portion 14 of each of the members 13 is provided with a plurality of transversely extending parallel key-hole slots 23, each having an enlarged entrance 24 at one side of the longitudinal central axis of the intermediate portion 14, and a restricted slot portion 25, extending transversely across the intermediate portion 14 to a point well past the longitudinal central axis of the intermediate portion 14. A relatively large number of the slots 23 are provided for the accommodation of fastening means 26, any one of which may be accommodated in any one of the slots 23. As many fastening means 26 may be employed as seems desirable, the large number of slots 23 making it possible to locate the fastening means 26 in the most convenient and efficient manner. Each of the fastening means 26 comprises a screw 27 having a threaded barrel 28 and a relatively large head 29, small enough to be inserted into the enlarged entrance 24 of any one of the slots 23, but larger than the restricted slot portion 25 thereof, and the outer end of the barrel 28 has a slot 30 for the reception of the end of a tool by means of which the screw may be rotated. The barrel 28 of each of the screws 27 is adapted to be threaded into a clamping member 31, preferably in the form of an oblong piece of metal, preferably longitudinally curved (Figure 5), having a threaded aperture 32 for the accommodation of the threaded bar-

rel of the screw 27, and also having formed along each of its opposite longitudinal edges a centrally disposed lug 33, the lugs 33 being intended for a purpose presently to appear.

Each of the sets of securing means is adapted to secure juxtaposed edges of a pair of the panels 10 to the supporting wall 11. The panels 10 are formed for cooperation with the securing means 12, each of the panels 10 comprising a channel-shaped formation having an intermediate portion 34, and angular webs 35 and 36 extending along opposite edges of the portion 34, the web 35 having an inturned marginal flange 37, and the web 36 having an inturned marginal flange 38, both adapted to rest against the outer surface of the portion 14. Each of the angular webs 35 and 36 of the adjoining panels 10 at intervals, corresponding to the locations of the securing means, is provided with longitudinally extending slots 39 adapted for the reception of the ends of the clamping members 31, the slots 39 being of sufficient length to facilitate engagement of the clamping members 31 with the slots 39. When the securing screws 27 are taken up, the clamping members 31 are drawn into clamping engagement with the panels 10, the lugs 33 of the clamping members 31 being adapted to abut the adjacent webs of the panels 10 to prevent turning of the clamping members when the screws 27 are rotated.

Installation of the face-work structure is preferably effected by first securing a plurality of the members 13 vertically and in spaced relation along the supporting wall 11, through the medium of the anchoring members 18, the members 13 being spaced apart a distance corresponding to the width of the panels it is desired to use. A suitable member of the fastening means 26, each including the screw 27 threaded into the clamping member 31, are interengaged with the securing member 13, by inserting the head of each screw 27 through the enlarged entrance 24 of the related slot 23, and the screw 27 is then pushed into the restricted portion 25 of the slot 23. As many of the fastening means are employed as desired, and are placed in selected slots 23, after which the panels 10 are brought into position, and the ends of the clamping members 31 inserted into the slots 39, the curved formation of each clamping member 31 being provided to enable the clamping member 31 to clear any raised portions bordering the inner edges of the slots 39, which might be present as a result of slight inaccuracy in forming the slots 39, and permit the clamping members 31 to bear directly upon the flanges 37 and 38 of the panels 10, without any tendency to tip or distort the panels 10. The screws 27 are then rotated to bring about clamping engagement of the clamping members 31 with the panels 10. After all of the clamping members 31 have been adjusted, the space between the webs 35 and 36 of the secured panels 10, may be filled with a suitable filling material, indicated at 40.

Although the securing members 13 are shown as secured vertically to the wall 11, it will be understood that these securing members 13 may be arranged horizontally, and the panels 10 secured thereto, or, if desired, the securing members 13 may be arranged both vertically and horizontally to present rectangular formations to which all four edges of the panels 10 may be secured, the panels 10 in this latter case of course having all four edges formed as heretofore described to cooperate with the securing means.

Referring to Figure 6, a somewhat different embodiment of the invention is disclosed, comprising elongated securing means 41, each having an intermediate portion 42, webs 43, and flanges 44, corresponding to the parts 14, 15, and 16, respectively, heretofore described, the flanges 44 being notched, as at 45 for the reception of anchoring members 46 similar to the anchoring members 18 already described, for fixing the securing member 41 to a wall 47.

In this construction, however, instead of employing the key-hole slots 23, one of the webs 43 of the securing member 41 is cut out, as indicated at 48, and the cut-out 48 communicates with a transversely extending slot 49 formed in the intermediate portion 42 of the member 41, and any suitable number of cut-outs 48 and slots 49 are provided along the length of the member.

Fastening means, similar to those already described, are provided for cooperation with the members 41, each including a screw, shown at 50, identical to the screw 27, and a clamping member identical to the clamping member 31, the screw 50 being adapted to be threaded into said clamping member, and the fastening means assembled with the member 41 by inserting the head 51 of the screw 50 through the cut-out 48 and moving the screw laterally into the communicating slot 49 with the clamping member outside, after which the marginal portions of panels, similar to the panels 10, are interengaged with the fastening means.

It will be apparent to those skilled in the art that I have accomplished at least the principal object of my invention, and it also will be apparent to those skilled in the art that the embodiments herein described may be variously changed and modified, without departing from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described; hence it will be appreciated that the herein disclosed embodiments are illustrative only, and that my invention is not limited thereto.

I claim:

1. A building structure of the character described, comprising: a support; elongated securing means fixedly connected to said support and having a laterally extending cut-out formed with an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means; and holding means having an element insertable through the enlarged entrance of said cut-out and movable into said restricted portion to provide interconnection with said securing means, said holding means including means engageable with said facing member to secure the same to said securing means.

2. A building structure of the character described, comprising: a support; elongated securing means fixedly connected to said support having a wall extending outwardly from said support and a connected wall spaced from said support and extending substantially parallel to said support, said parallel wall having a laterally extending cut-out formed with an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means; and holding means having an element insertable through the enlarged entrance of said cut-out and movable into said restricted portion to provide interconnection with said securing means, said holding means including means engageable with said facing member to secure the same to said securing means.

3. A building structure of the character described, comprising: a support; elongated securing means fixedly connected to said support and having a laterally extending cut-out formed with an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means; and holding means having a head insertable through the enlarged entrance of said cut-out and a shank movable into said restricted portion to provide interconnection with said securing means, said holding means including means connected with said shank and engageable with said facing member to secure the same to said securing means.

4. A building structure of the character described, comprising: a support; securing means fixedly connected to said support and having a cut-out formed with an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means; and holding means including a screw having its head insertable through the enlarged entrance of said cut-out and having a shank movable into said restricted portion to provide interconnection with said securing means, said holding means including clamping means threaded onto said screw and engageable with said facing member, said shank having a slot in its end for the reception of a tool by means of which said screw may be rotated to draw said clamping member against said facing member.

5. A building structure of the character described, comprising: a support; securing means fixedly connected to said support; a channel-shaped facing member having an intermediate portion, an angular web portion, and an angular flange on said web portion, said facing member being adapted to be secured to said securing means, and the web of said facing member having a slot therein; curved clamping means insertable through the slot in said web adapted to clear the edge of said slot, and to bear upon said flange; and actuating means connected to said securing means and to said clamping means, and operable to draw said clamping means into clamping engagement with said facing member.

6. A building structure of the character described, comprising: a support; elongated securing means fixedly connected to said support, and having a plurality of spaced laterally extending cut-outs therein, each having an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means; and holding means having an element insertable through the enlarged entrance of any of said cut-outs and movable into said restricted portion to provide interconnection with said securing means, said holding means including means engageable with said facing member to secure the same to said securing means; said holding means being selectively accommodatable in any one of said cut-outs depending upon the location with respect to said facing member and securing means at which said holding means may be most effectively employed.

7. A building structure of the character described, comprising: a support; elongated securing means fixedly connected to said support and having a laterally extending cut-out formed with an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means, and having a slotted portion; and holding means having an element insertable through the enlarged entrance of said cut-out and movable into said restricted portion to provide interconnection with said securing means, said holding means including means insertable into the slotted portion of said facing member to secure the same to said securing means.

8. A building structure of the character described, comprising: a support; securing means fixedly connected to said support, having a wall extending outwardly from said support, and a connected wall spaced from said support and extending substantially parallel to said support, said spaced wall having a cut-out formed with an enlarged entrance and a restricted portion; a facing member adapted to be secured to said securing means and having a slotted portion; a headed screw having its head insertable through the enlarged entrance and its shank rotatably disposed within the restricted portion of said cut-out; and a clamping member inserted into the slotted portion of said facing member, and having a threaded connection with the shank of said screw.

9. A building structure of the character described, comprising: a support; securing means fixedly connected to said support, having a wall extending outwardly from said support, and a connected wall spaced from said support and extending substantially parallel to said support, said outwardly extending wall having a cut-out portion for the reception of holding means, and said substantially parallel wall having a slot therein communicating with said cut-out; a facing member adapted to be secured to said securing means; and holding means insertable through said cut-out portion and adapted to bear on said securing means, having means extending outwardly through said slot, and having means engageable with said facing member to secure the same to said securing means.

10. A building structure of the character described, comprising: a support; securing means fixedly connected to said support; a facing member adapted to be secured to said securing means, and including a body portion, a reversely extending marginal portion, and an angular portion connecting the body and marginal portions, said angular portion having a slot therein; clamping means disposable in the slot of said angular portion of said facing member; and rotatable means, engageable with said securing means, rotatable with reference to said securing means and with reference to said clamping means, and operable to draw said clamping means into clamping engagement with said facing member, said clamping means having a projecting portion engageable with the angular portion of said facing member to limit rotation of said clamping means.

11. A building structure of the character described, comprising: a support; elongated securing means fixedly connected to said support, having a wall extending outwardly from said support, and a connected wall spaced from said support and extending substantially parallel to said support, said outwardly extending wall having a cut-out portion therein, and said substantially parallel wall having a laterally extending slot therein communicating with said cut-out; a facing member adapted to be secured outwardly of said securing means; a connecting member insertable through said cut-out into bearing relation with said securing means; and fastening means engageable with said facing member and connectible to said connecting member.

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