Jan. 13, 1942. E. E. SLICK 2,269,490

BUILDING CONSTRUCTION

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Fig. 1.

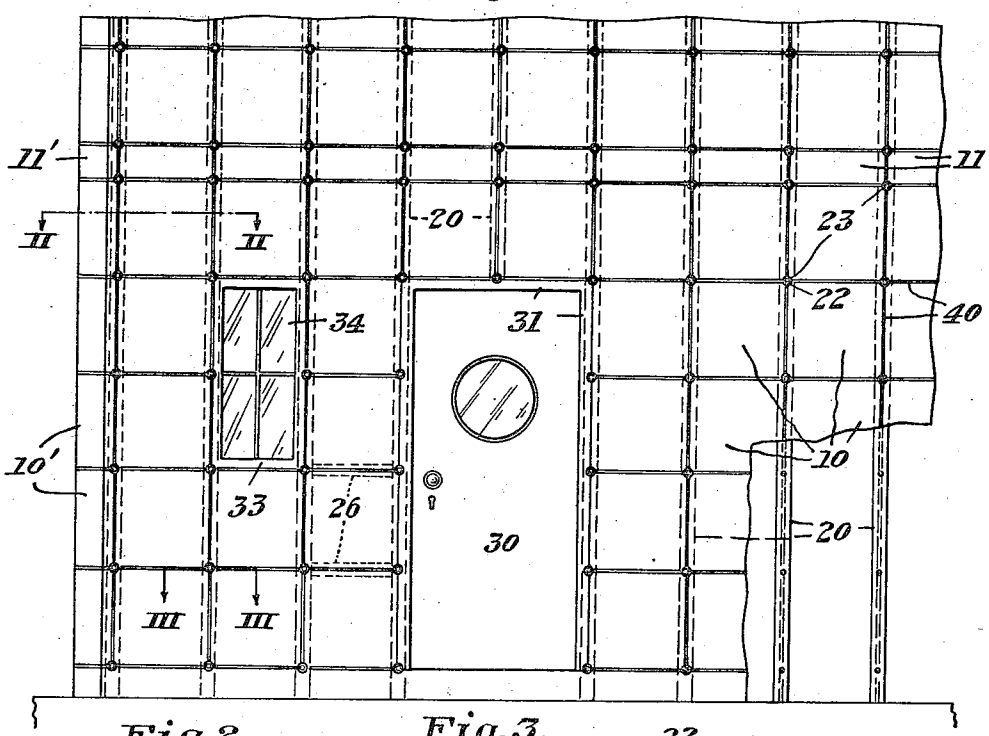


Fig. 2.

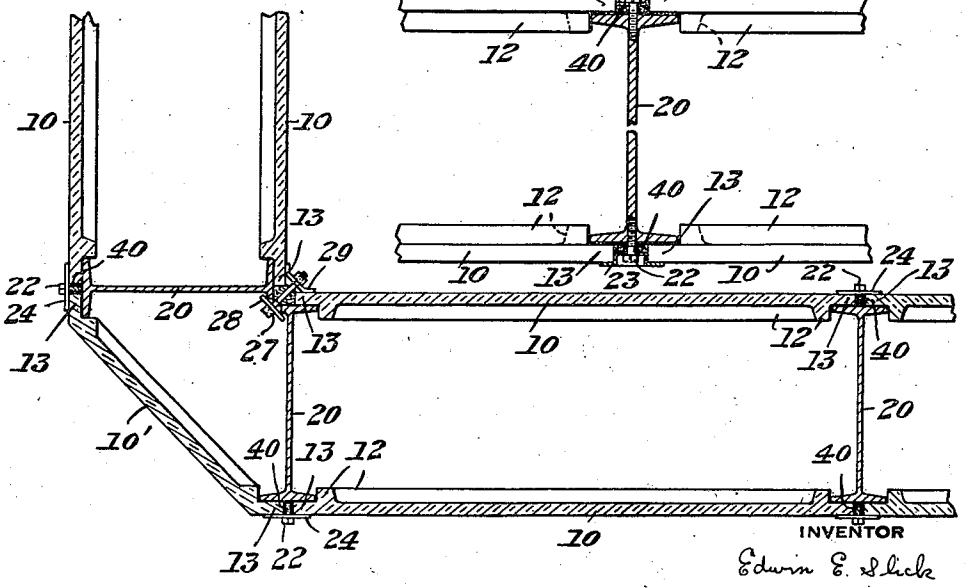


Fig. 3.

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Fig. 4.

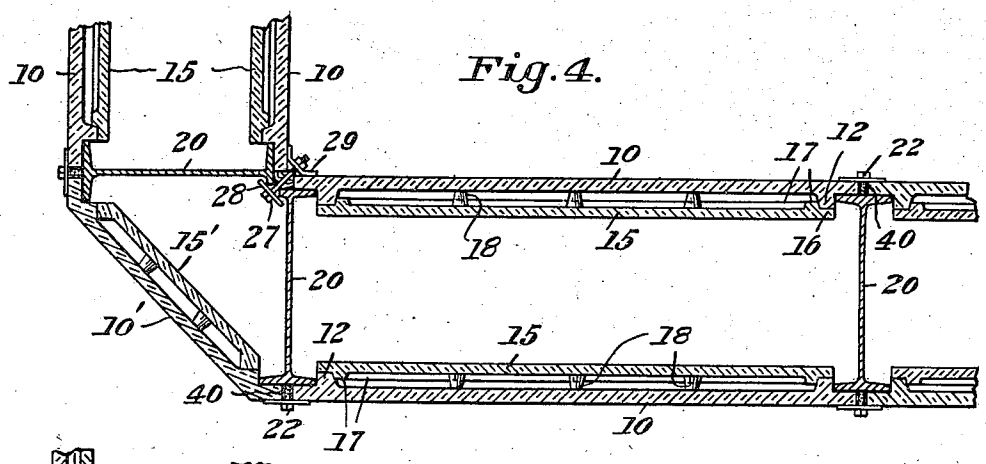


Fig. 5.

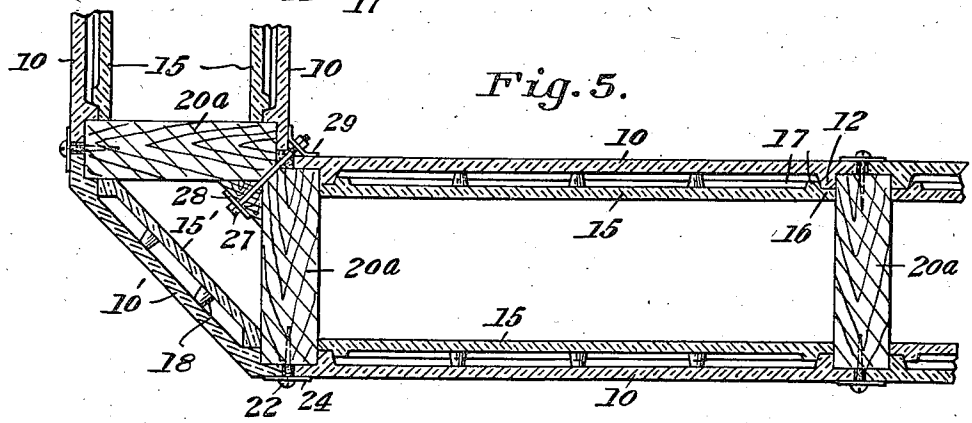


Fig. 6.

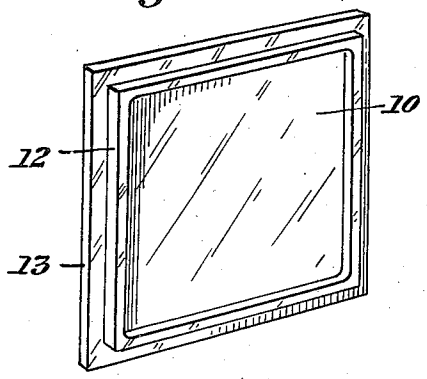
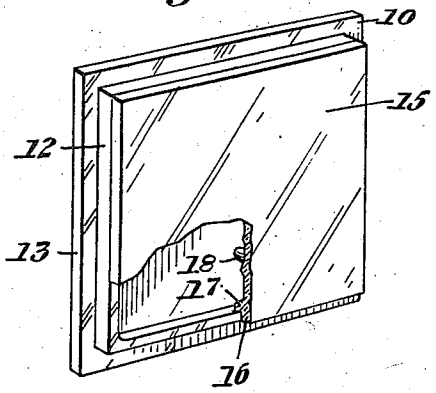


Fig. 7.



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BUILDING CONSTRUCTION

Edwin E. Slick, Pittsburgh, Pa.

Application February 20, 1939, Serial No. 257,298

18 Claims. (Cl. 72—16)

This invention pertains to building constructions, and more particularly, to a new and improved form of wall construction for buildings.

In one aspect, the invention relates particularly to facing members for a building construction which may be mounted in place between the structural support members of such a construction. This application is a continuation in part of my copending application Serial No. 159,454, filed August 17, 1937, and entitled "Building wall construction."

It has been an object of the present invention to provide new and improved forms of facing members and/or a facing construction that can be applied directly to the structural members of a building without the employment of block walls such as shown in my copending application.

Another object of my invention has been to provide an inexpensive and practical form of a glass-like building wall construction.

A further object has been to devise a wall construction of improved characteristics such that may be employed for transmitting light through a building.

These and many other objects of my invention will appear to those skilled in the art from the specification, the drawings, and the appended claims.

In the drawings:

Figure 1 is a vertical view in elevation showing an outer portion, partially in section, of a building wall constructed in accordance with my invention;

Figure 2 is an enlarged cross-sectional view taken along the line II—II of Figure 1;

Figure 3 is an enlarged cross-sectional view taken along the line III—III of Figure 1 and showing a detail of means for securing facing

Figure 4 is a sectional view similar to that of Figure 2 but showing a modified form of facing member construction;

Figure 5 is a view similar to that of Figure 4 but showing the facing members applied to a wood beam or stud construction;

Figure 6 is a perspective view in elevation of a preferred form of facing member or element; and

Figure 7 is a perspective view in elevation, partially in section, showing a modified form of facing member.

As seen particularly in Figure 1, the wall construction of my invention may be employed to form a complete wall of a building or a suitable portion thereof. It comprises a plurality of edge-aligned facing elements or members 10 preferably of some suitable transparent material such as glass, plastic, etc. The facing members 10, as shown in Figure 2, preferably have a size or facing width equal to the normal spacing between stud upright members 20 which may be, for example, junior I-beams 20, or wooden members 20a, see Figure 5.

The facing members 10 are provided with a rearwardly-extending continuous flange 12 and a forwardly-extending front-edge-continuation flange 13, see particularly Figures 2 and 6. The front flange 13 is adapted to rest upon the outer face portion of the flanges of a metal beam such as 20 or a wooden stud such as 20a, see Figure 5, while the flange 12 is adapted to abut against a side edge of the flange of the metal beam 20 or against the inner side wall portion of a wooden stud member 20a. It will thus appear that the facing members are adapted to rest or face upon the structural support members of the building construction, to extend between an adjacent pair of such structural members, and to fit between such adjacent pair of members.

The facing members 10 and 11 may be mounted in position by any suitable means, although for the purposes of illustration I have shown a corner-positioned bolt and flanged-cup combination 22 and 23 in Figures 1 and 3; the bolt 22 is threaded to the beam 20 and inset within the cup 23. In Figure 2, the bolt 22 extends between the jointure of a pair of members 10 and 11 and cooperates with a washer or flange 24. Suitable filler material 40 is preferably placed between adjacent members to provide joints; for example, a suitable cement, plastic, bituminous material, fabric, and/or binder material can be employed.

From the above description, it will be apparent that the facing members are, in effect, removably mounted and can be readily replaced in case of breakage or in case a different style and/or color is to be employed. In Figure 2, I have shown a special corner type of facing member 10'.

By way of illustration, I have also shown a modified form of corner-located positioning-element combination for holding the facing members 10 together adjacent a corner portion of a room construction. Such combination includes an exposed positioning flange 29, a hidden positioning flange 28, and a threaded bolt 27. If desired, the member 29 may be a continuous channel extending the full vertical height of the room. Other suitable means may be used in this connection.

As shown particularly in Figure 1, I provide a narrow width facing element 11 at a vertical position corresponding to the location of the floor or ceiling construction of the building. The element 11 is preferably dark colored, non-transparent, and at least translucent in order to hide the beam members of the floor construction. The vertical height or width of the element preferably corresponds to the corresponding vertical height of the particular floor or ceiling beam construction employed. The elements 10 may be opalescent, clear, colored, or translucent, as desired. Figure 1 also shows that the construction facilitates the mounting of a suitable door such as 30 or a suitable type of window such as 34. That is, the width of the door 30 will normally correspond to the spacing between one or more stud upright members 20, and for this reason, the continuity of the facing member arrangement is not disturbed. The same is true for the window construction 34. Door framing 31 and window framing 33 are shown mounted in position; any suitable form of door or window construction may be employed in this connection.

In Figures 4, 5, and 7, the facing member 10 has been provided with an inner facing member 15 that has interfitting, preferably continuously-extending flange portions 16 and 17 that cooperatively engage the inner flange 12. I prefer to separately press out, shape, and/or form the portions 10 and 15 and then while they are still hot from the shaping operation, to align them and fuse them together while thus aligned. The cooperating edge portions hold the members in alignment without the employment of additional agencies. When the portions 10 and 15 have been fused and cooled, a sealed off space will be provided between them which may be gas or air filled. I have found that a vacuum tends to form in the space as the members cool, and for this reason, that there is a tendency of body portions of the members to bow, sag, or buckle, particularly in the case of large size facing members; to prevent this and to additionally strengthen and support the members along their lengths, I provided the member 15 or the member 10, or both of them, with inwardly-extending knobs or buttons 18 that are adapted to abut against cooperating inner portions of the other member and that can be fused thereto in the same manner as the edge portions.

It will be apparent from the above description that the facing construction of the present invention can be employed with any suitable type of structural framework members of a building in place of the ordinary type of complex structure heretofore employed which may, for example, comprise clapboards, weatherboarding, a brick or stone veneer, laths, plaster, plasterboard, etc. It will also be apparent that the facing members of the present invention can be applied to an outer or inner or to both sides of a wall construction, and can also be employed in combination with other standard forms of wall constructions to an advantage, although I prefer such a simplified arrangement as shown in the drawings. And, as previously intimated, it is quite easy to adapt such a wall construction for doors, ordinary windows, etc., by reason of the fact that the facing members are preferably provided in sizes substantially corresponding to the ordinary spacing between the structural members.

It will also be apparent that mount means, such as 22—24, or 22—23, may be positioned along jointure wall edges or portions of the blocks rather than at adjacent corners thereof. Also, as shown in Figure 1, suitable cross bracing members 26 may be welded to or in another suitable manner secured to the vertical members 20 or 20a and are preferably positioned in alignment with horizontally-extending edge portions of an adjacent pair of blocks; in this manner, the cross member 26 will provide a backing support for the adjacent horizontally-extending edge or joint portions of a pair of facing members 10 or 11 and will be substantially hidden thereby.

It will be apparent that the spacing between a combination of portions 10 and 15 will provide suitable insulation for each individual facing member, if desired. It will also appear that the portions 10 and 15 may be provided with any suitable color combination, or that one may be clear and the other etched or mirrored or colored.

Although for the purposes of illustration, I have shown preferred forms of my invention, it will be apparent to those skilled in the art that many other suitable arrangements may be employed and that various modifications, substitutions, additions, and/or subtractions may be also provided without departing from the spirit and scope of the invention as indicated by the appended claims.

I claim:

1. In a building construction having load-supporting side wall portions and an opening therebetween, a panel of glass or similar material covering the opening, said panel having means interfitting with said side wall portions and mounting said panel upon a plane representing surface portions of a side of the building wall, and means removably securing said panel to said side wall portions after it has been positioned thereon, said panel being positioned beyond load-carrying portions of the wall.

2. In a building construction having load-supporting side wall portions and openings therebetween, adjacently-positioned panels of glass or similar material covering the openings, each of said panels having means interfitting with said side wall portions and mounting said panels upon a plane representing outer surface portions of a side of the building wall, said panels being positioned beyond load-carrying portions of the wall, and means mounted at the corners of adjacently-located panels for removably securing them in position with respect to each other and removably securing them to the side wall portions after they have been positioned on said side wall portions.

3. In a building construction having load-supporting side wall portions and an opening therebetween, a panel of glass or similar material covering the opening, said panel having a rearwardly-extending flange portion fitting between said side wall portions and having a side edge flange portion adapted to be positioned beyond the face portions of said side wall portions, and means engaging at least one of said flanges for removably securing said panel to said side wall portions.

4. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of a substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, a facing member of glass or similar material mounted upon side portions of and extending across the spacing be-

tween an adjacent pair of said support members to form a side wall of the construction, and means for attaching said facing member to said support members after it has been positioned upon said support member.

5. In a building construction as defined in claim 4, said facing member being of transparent material.

6. In a building construction having suitably spaced-apart and longitudinally-extending structural support members, a facing member of glass or similar material having inner and outer facing portions, means interposed between said inner and outer facing portions for preventing buckling and warping of said portions, and means for attaching said facing member to said pair of support members.

7. In a building construction having suitably spaced-apart longitudinally-extending structural support members, a pair of facing members of glass or similar material having panel portions extending between a pair of said support members, said pair of facing members having a mounted relationship with respect to each other, means extending from a body portion of at least one of said members and suitably positioned therealong and cooperating with an adjacent portion of the other of said facing members to prevent warping and buckling of said members with respect to each other, and means for attaching said facing members to said pair of support members.

8. In a building construction having suitably spaced-apart longitudinally-extending structural support members, a pair of facing members of glass or similar material extending between at least a pair of said support members, one of said facing members having a flange resting upon face portions of said pair of spaced-apart support members and having a backwardly extending flange interfitting between said pair of support members, the other of said facing members having an outwardly extending flange interfitting with the backwardly extending flange of said first-mentioned facing member and between said pair of support members.

9. In a building construction having suitably spaced-apart longitudinally-extending structural support members, a facing member extending between a pair of said support members and having separately formed inner and outer body portions, each of said body portions having flanges interfitting with respect to each other and with respect to said pair of support members, and means extending at spaced intervals between an inner face of one of said portions and an inner face of the other of said facing portions.

10. In a building construction having suitably spaced-apart longitudinally-extending structural support members, a pair of facing members of glass or similar material having internal marginal recesses and arranged to form front and back faces of the building construction, the marginal recesses of said facing members being disposed between a pair of said structural members to form therewith a closed hollow building construction of which said facing members form the sides, and marginal ridges of said facing members extending in such a manner that they provide a cement-receiving joint space with marginal ridges of adjacent facing members and with said structural members, and means extending into the joint space between adjacent facing members and into said support members to secure said facing members upon said support members after said facing members have been positioned thereon.

11. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of a substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, a facing member of glass or similar material mounted upon side portions of and extending across the spacing between an adjacent pair of said support members to form a side wall of the construction, means for attaching said facing member to said adjacent support members after it has been positioned upon said support members, and an interfitting member of glass or similar material cooperating with said facing member and providing an insulating chamber therewith.

12. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of a substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, a facing member of glass or similar material mounted upon side portions of and extending across the spacing between an adjacent pair of said support members to form a side wall of the construction, means for attaching said facing member to said adjacent support members after it has been positioned upon said support members, and an interfitting member of glass or similar material cooperating with said facing member and providing an insulating chamber therewith, said interfitting member being positioned between confining portions of said adjacent pair of support members and being free to expand and contract in a plane representing its surface face portions.

13. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, a pair of facing members of glass or similar material mounted upon opposite side portions of and extending across the spacing between an adjacent pair of said support members to form side walls of the construction, and means for securing said facing members to said support members after they have been positioned upon said support members.

14. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, facing members of glass or similar material mounted upon opposite side portions of an adjacent pair of said support members and having panel portions extending substantially between said adjacent pair of support members to form side walls of the construction, said facing members having portions interfitting with said adjacent pair of support members, means for securing said facing members to said adjacent pair of support members after they have been positioned upon said support members, and an additional member of glass or similar material constructed and arranged to co-

operate and provide an air space with at least one of said facing members.

15. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, facing members of glass or similar material mounted upon opposite side portions of an adjacent pair of said support members and having panel portions extending substantially between said adjacent pair of support members to form side walls of the construction, said facing members having portions interfitting with said adjacent pair of support members, and means for securing said facing members to said adjacent pair of support members after they have been positioned upon said support members.

16. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of a substantially conventional load-carrying shape, said members having a lateral depth substantially conforming to a desired depth between inner and outer wall portions of the construction, a facing member of glass or similar material having a substantially planar face portion terminating in an edge portion and mounted upon an adjacent pair of said support members, said facing member having a flange extending from the body portion thereof and adapted to be positioned against and to interfit between said pair of structural support members.

17. In a building construction having spaced-apart and longitudinally-extending preformed structural support members of a substantially conventional load-carrying shape, a facing member of glass or similar material having inner and outer panel portions extending between an adjacent pair of said support members to form a side wall of the construction, one of said panel portions being mounted upon side portions of said adjacent pair of support members, said inner and outer panel portions being sealed together and having an air space therebetween, and means for attaching said facing member to said adjacent pair of support members after it has been positioned thereon.

18. In a building construction having suitably spaced-apart and longitudinally-extending structural support members, a facing member of glass or similar material having inner and outer facing portions providing an enclosed space therealong, means interposed between and connecting said inner and outer facing portions for strengthening said facing portions, and means for attaching said facing member to said pair of support members.

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