Feb. 8, 1927. 1,617,033

G. A. SHIELDS

BUILDING CONSTRUCTION

Filed Nov. 21, 1925

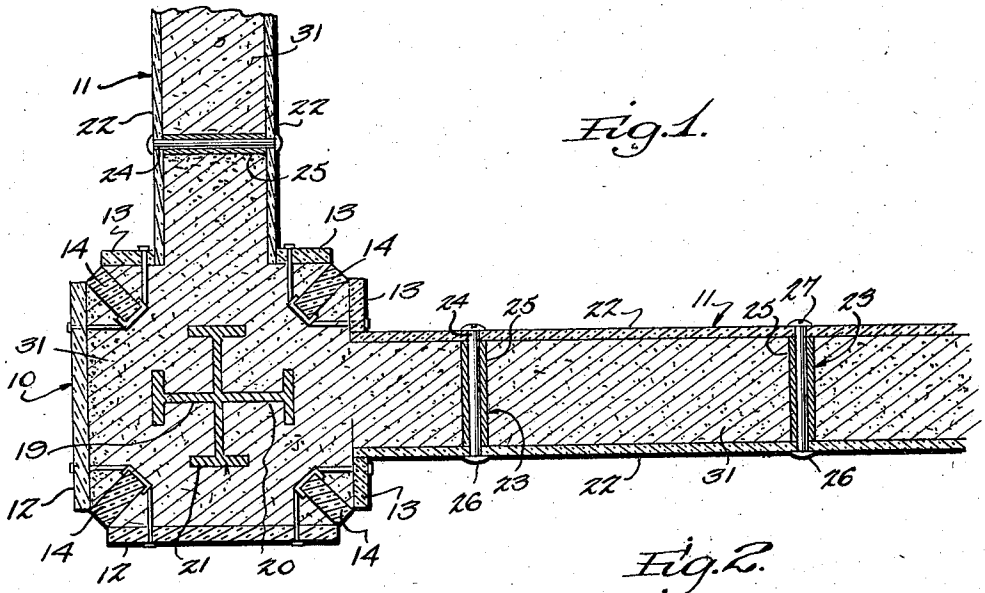


Fig. 1.

Fig. 2.

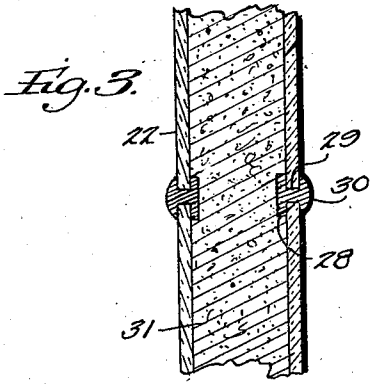
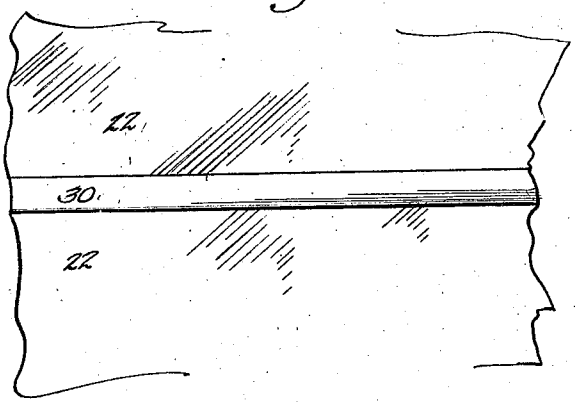


Fig. 3.



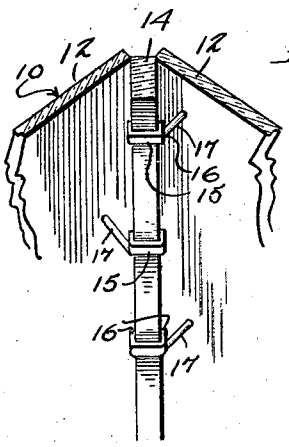


Fig. 4.

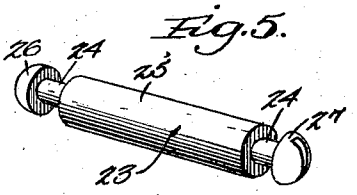


Fig. 5.

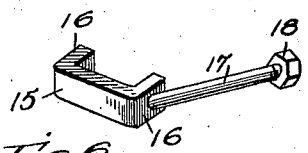


Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE A. SHIELDS, OF COLUMBUS, OHIO.

BUILDING CONSTRUCTION.

Application filed November 21, 1925. Serial No. 70,607.

This invention relates to building constructions and more particularly to the construction of columns and walls.

An important object of the invention is to eliminate the usual forms used in pouring monolithic walls, glass or other sheets being employed as forms and being retained as permanent facings not only to eliminate the other forms but to provide a decorative facing for the wall or column.

A still further object is to provide means for anchoring the glass or other sheets in position during the forming action.

A still further object is to provide means adapted to support the forms during the pouring operation, such means being embedded in the concrete to effectively bind the latter to the facing sheets.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings I have shown one embodiment of the invention. In this showing:

Figure 1 is a horizontal sectional view through a column and associated walls,

Figure 2 is a fragmentary face view of a portion of the wall,

Figure 3 is a detail vertical section through two adjacent facing sheets,

Figure 4 is a fragmentary perspective of one of the corners of the column,

Figure 5 is a detail perspective of one of the sheet retaining members, and,

Figure 6 is a similar view of one of the anchoring members.

Referring to the drawings the numeral 10 designates a column as a whole, formed at the inter-section of walls 11. In the drawing I have illustrated the walls 11 as being arranged at right angles to each other with the column formed at the junction of the walls, but it will be obvious that the column may be formed intermediate the length of a straight wall.

Referring to Figures 1 and 4, it will be noted that the column comprises relatively wide facing sheets 12 preferably formed of glass, marble or the like on the outer faces of the column, while on the inner faces thereof relatively narrow sheets 13 are arranged. The inner edges of the sheets 13 are spaced to provide connection with the walls in a manner to be described. The adjacent edges of the sheets 12 and 13 at the corners of the column are spaced as shown in Figures 1 and 4, and radial relatively narrow sheets 14 are arranged to form closures for these spaces. The corners of the outer edges of the sheets 14 coincide with the adjacent corners of the sheets 13 and 14 as will be obvious. Substantially U-shaped anchoring members 15 are provided for maintaining the sheets 12, 13 and 14 in their proper positions during the pouring operation to be described. Each of the members 15 is substantially U-shaped and is provided with arms 16 adapted to embrace the inner edges of the sheets 14. Preferably integral shanks 17 are carried by the arms 16 of the retaining member, and these shanks are arranged at right angles to and project through openings in the adjacent sheets 12 and 13. Nuts 18 are threaded on the ends of the shanks and are adapted to engage the outer faces of the sheets 12 and 13 as shown in Figure 1.

A reinforcing member 19 is arranged within the column 10 as shown in Figure 1. This member is provided with webs 20 arranged parallel to the sides of the column and each of the webs is provided with an integral outer flange 21. The reinforcing member is arranged centrally of the column and preferably extends throughout the height thereof.

Each of the walls 11 comprises facing sheets 22 preferably formed of glass and spaced from each other to define the thickness of the wall. Sheets 22 are arranged with their ends between the spaced edges of the sheets 13 and are maintained in spaced relation by members 23. Each of the members 23 comprises a shank 24 surrounded by a sleeve 25, the ends of which contact with the inner faces of the sheets 22. One end of each shank 24 is provided with a head 26 which engages the outer face of one of the sheets 22, while a screw 27 engages the opposite end of the shank to contact with the outer face of the opposite facing sheet. It will be obvious that the sheets 22 are provided with openings through which the shank 24 extends and any suitable number of the members 23 may be employed for properly anchoring the sheets 22 in position.

It will be obvious that a number of sheets 22 must be employed for forming the walls, and means are provided for maintaining the adjacent edges thereof in proper alinement. As shown in Figures 2 and 3, the

numeral 28 designates a flat band adapted to be arranged against the inner faces of the sheets and having a straight shank 29 adapted to be arranged between the adjacent edges of the sheets. The shank 29 is provided outwardly of the sheets with an ornamental bead 30 contacting with the outer edges of the adjacent sheets. Thus it will be apparent that the adjacent edges of the sheets which form one face of the wall will be properly alined with respect to each other during the pouring operation.

As shown in Figure 1, the space within the column 10 communicates with the spaces within the walls 11 and concrete 31 is poured in these spaces to form a monolithic structure.

In erecting the structure, the walls 12 and 13 are placed in position with the sheets 4 therebetween whereupon the retaining members 15 are secured in position. The sheets 22 are then erected with the ends thereof between the spaced edges of the sheets 13 and the opposite sheets 22 may be held in position by the spacing members 23. After all the sheets have been placed in position and secured, the plastic mixture is poured in the spaces within the column and walls as shown in Figure 1. The plastic composition flows around the anchoring members 15 and the shanks 17 thereof whereby these members will be embedded in the concrete and the plastic mixture also flows into the spaces between the webs 20 and flanges 21 of the reinforcing member 19. It also will be apparent that the spacing members 23 will be embedded in the concrete, and thus it will be apparent that the entire structure will be united into a single mass. By using glass or similar sheets, these sheets may be permitted to remain in position after the wall is completed to form finished surfaces thereon, thus eliminating the necessity of plastering or otherwise finishing the wall and column.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. In a building construction, a plurality of facing sheets arranged to form sides of a column, radial sheets arranged within said facing sheets with their outer edges against the edge portions of adjacent facing sheets, and means for securing each of said radial sheets to the adjacent facing sheets.

2. In a building construction, a plurality of facing sheets arranged to form sides of a column, radial sheets arranged within said facing sheets with their outer edges coinciding with edge portions of adjacent facing sheets, means for securing the inner edges of said radial sheets to the adjacent facing sheets, and a monolithic filler for said facing sheets.

3. In a building construction, a plurality of facing sheets arranged to form sides of a column, radial sheets arranged within said facing sheets with their outer edges against the edge portions of adjacent facing sheets, and means for securing each of said radial sheets to the adjacent facing sheets, said means including a plurality of U-shaped members receiving the inner edges of said radial sheets, each of said members having a shank extending therefrom through one of the adjacent facing sheets substantially at right angles thereto.

4. In a building construction, a plurality of decorative facing sheets arranged to form sides of a column, a substantially radial member arranged adjacent each corner of the column and having portions substantially snugly fitting within adjacent edge portions of said sheets, the inner portions of said members extending partially into the column, metallic fastening elements supporting said members with respect to said sheets, and a monolithic filler for said facing sheets, said members and said fastening elements being embedded in said filler.

5. In a building construction, a plurality of facing sheets arranged to form sides of a column, radial sheets arranged within said facing sheets with their outer portions contacting with edge portions of adjacent facing sheets, a plurality of fastening elements connected between the inner edges of said radial sheets and said facing sheets at points spaced from the edges of the latter, and a monolithic filler for said facing sheets.

6. In a building construction, a plurality of facing sheets arranged to form sides of a column and having their adjacent edges spaced from each other, radial sheets arranged in the space within said facing sheets with their outer edges coinciding with the edge portions of said facing sheets, and means for securing said radial sheets to the adjacent facing sheets, said means including a plurality of U-shaped members embracing the inner edges of said radial sheets, each of said members having a shank extending therefrom through one of the adjacent facing sheets at a point spaced from the edge thereof, the outer ends of said shanks being threaded, and nuts arranged on the threaded portions of said shanks.

In testimony whereof I affix my signature.

GEORGE A. SHIELDS.