

April 19, 1932.

T. A. WRAY  
BUILDING CONSTRUCTION  
Filed Jan. 8, 1931

1,854,438

Fig. 1.

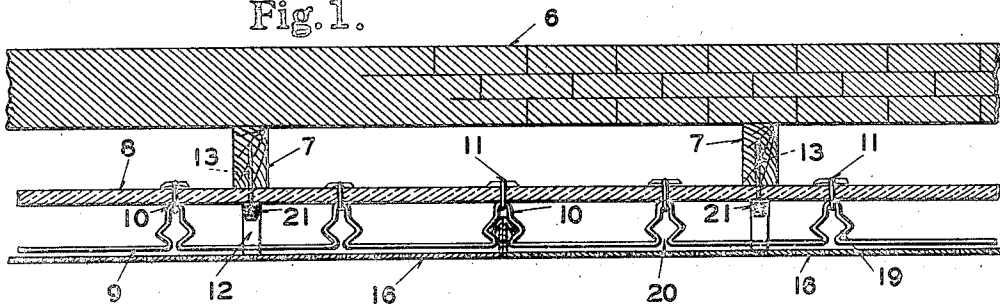


Fig. 2.

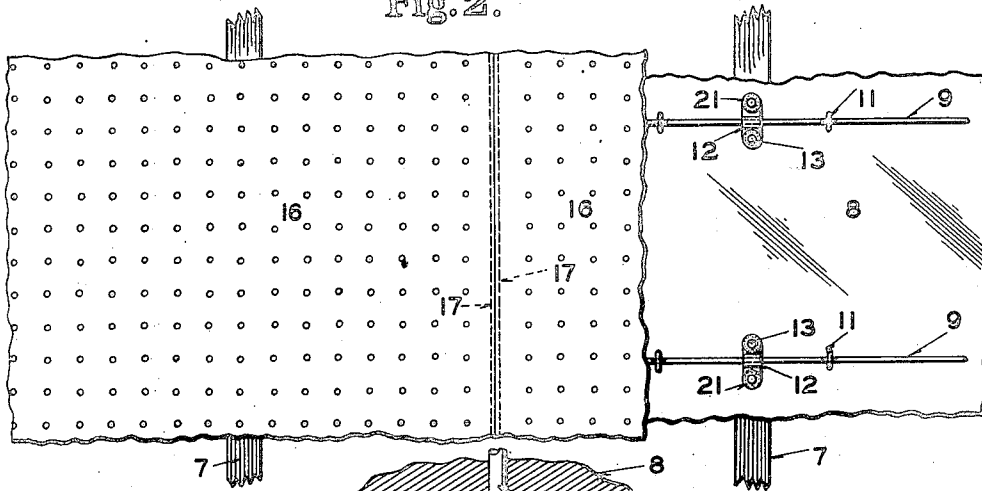


Fig. 3.

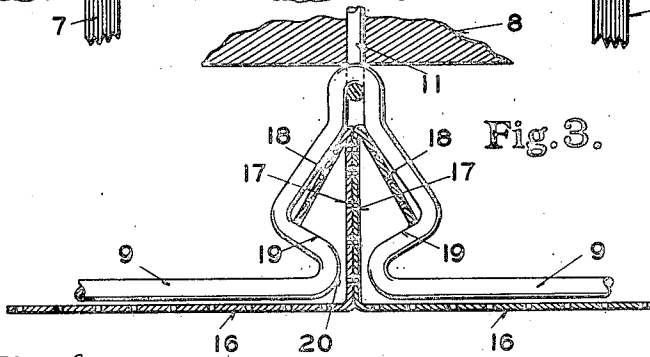


Fig. 4.

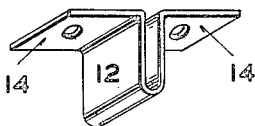
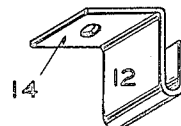


Fig. 5.



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## UNITED STATES PATENT OFFICE

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## BUILDING CONSTRUCTION

Application filed January 8, 1931. Serial No. 507,350.

My invention relates to the construction of side walls, partitions, or ceilings of buildings and particularly to improvements in that type of wall or ceiling construction shown and described in Patent No. 1,780,731, granted to me November 4, 1930, in which a lining sheet of flax fiber or the like has hinged to it spacing strips adapted to fold against the lining for convenience in storing and shipping.

The object of the present invention is not only to simplify and improve the construction, but to adapt it for supporting metallic panels as well as expanded metal lathing and the like.

In the accompanying drawings, which illustrate one form of building construction made in accordance with my invention, Figure 1 is a vertical section; Figure 2 is a bottom plan view; Figure 3 is an enlarged section; and Figures 4 and 5 are perspective views showing double and single wing fastening stirrups, respectively.

Referring first to Figure 1, 6 indicates a side wall, partition, or ceiling of a building, all of which parts I intend to include in the general term "wall" when used in the specification or claims. Carried by the wall 6 are the studs or joists 7 to which the insulating sheet 8 is to be secured.

The insulating sheet, as is set forth in my prior patent above referred to, is provided at regular intervals with hinged spacing strips. In the present construction each of these spacing strips is formed of a piece of wire 9 having formed in it at regular intervals loops 10 determining the width of the strip. These loops are attached by staples 11 to the insulating sheet 8, the loops and staples forming hinges between the strips and the insulating sheet so that the former may be folded against the latter for shipping or storing. In order to hold the spacing strips at right angles to the insulating sheet, I employ clips or stirrups 12 straddling the spacing strips and fastened in place by nails 13 passing through wings 14 and the insulating sheet 8 into the studding 7. As these clips may be moved along the strips to any desired position, the spacing of the studding

does not affect the application of the sheet. While the clips used in open position are provided with two wings 14, as shown in Figure 4, those which are placed close to an adjoining wall have one of the wings omitted, as shown in Figure 5.

If the construction is to be completed by the application of expanded metal or similar lathing neither the shape nor the spacing of the loops 10 is of importance. When, however, the construction is to be finished by the application of metal panels the loops are spaced to conform to the size of the panels. This result may be secured by placing the loops four inches apart as it is the practice to make these panels of dimensions which are multiples of four inches, as for example, sixteen inches square. Heretofore metal panels for covering walls and more particularly ceilings, have consisted of a square or rectangular part or panel proper 16 having its edges bent over at right angles to form flanges 17. In carrying out my invention I provide a pair of flanges 17 located at opposite sides of the panel with reverse or locking flanges 18. These locking flanges project inwardly at an angle to the flanges 17, as most clearly shown in Figure 3. The loop 10 is so shaped as to provide a pair of locking shoulders 19 for engagement with the edges of the locking flanges 18, the sides of the loop being flared to form recesses for the reception of the locking flanges which spring into the recesses after they are forced into the loop through its throat 20. The relative length of the loop and flanges should be such that the apex of the flanges has a bearing against the narrow end of the loop while the edges of the locking flanges bear on the locking shoulders and the body of the panel lies against or close to the spacing strip 9. Due to this construction the panels are secured firmly and positively in place simply by forcing them into position without the use of any fastening devices such as tie wires, nails, or screws. In the drawings I have shown the panels 16 as provided with perforations as such perforated panels used in connection with a base of material such as flax fiber, greatly enhance the acoustic

properties of the structure to which they are applied but it will be apparent that my construction is equally applicable for use in connection with imperforate paneling. Felt washers 21 may be used under the heads of the nails 13 to aid in preventing the transmission of sound.

When my construction is used in connection with expanded metal or similar lathing material for the reception of plaster or stucco, it has all the features set forth in my prior patent, above referred to, with the advantage that the spacing strips are lighter and more cheaply manufactured. Further, owing to the fact that the clips may be applied at any point along the strips, no difficulty is encountered in securing the structure in position when the studding is not uniformly spaced. When used in connection with metallic paneling the construction provides an easy means of applying and positive means for holding the panels in position.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a building construction, the combination with a lining sheet, of spacing strips hinged to said sheet to fold against it, said strips being provided with shouldered recesses, panels having locking members adapted to engage with the shoulders of said recesses to positively lock said panels in position, and means for holding said strips in extended position.

2. In a building construction, the combination with a lining sheet, of spacing strips each formed of wire having laterally projecting shouldered loops, said loops being hinged to the lining sheet, panels having locking members adapted to engage with the shoulders of said loops to positively lock said panels in position, and means for holding said spacing strips in extended position.

3. In a building construction, the combination with a lining sheet, of spacing strips each formed of wire having laterally projecting shouldered loops, said loops being hinged to the lining sheet, panels having flanges projecting therefrom, spring locking flanges carried by said first named flanges and adapted to engage with the shoulders of said loops to positively lock said panels in position, and clips adapted to embrace said strips at any point in their length to hold them in extended position.

In testimony whereof, I hereunto affix my signature, this 5th day of January, 1931.

T. A. WRAY.