June 25, 1935. R. L. HOHL 2,005,994

BUILDING CONSTRUCTION

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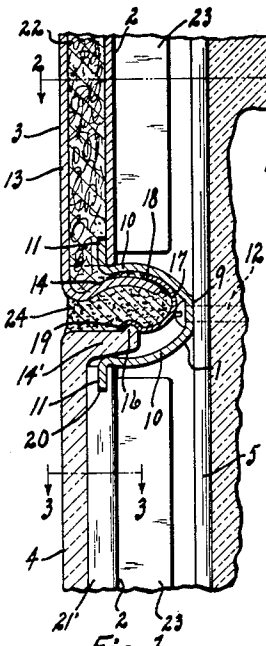


Fig. 1

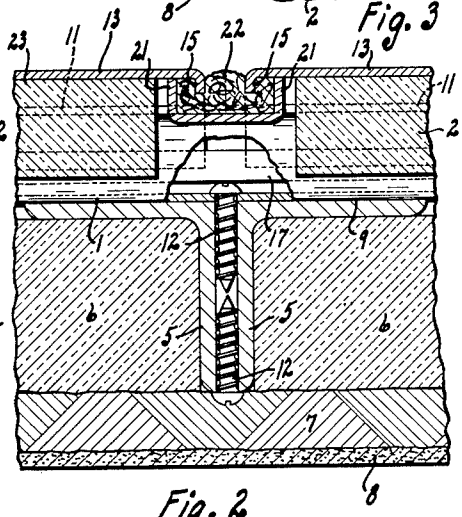


Fig. 2

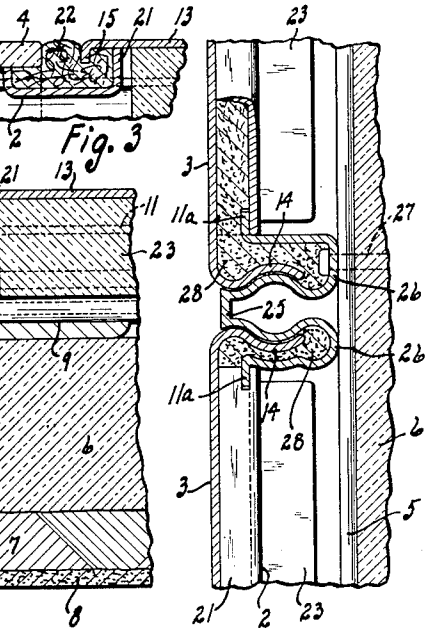


Fig. 6

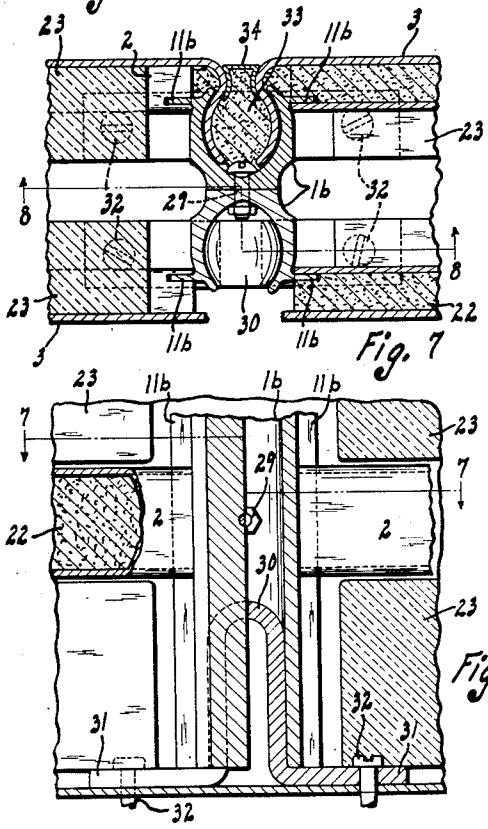


Fig. 7

Fig. 8

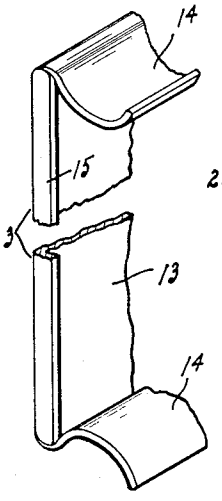


Fig. 4

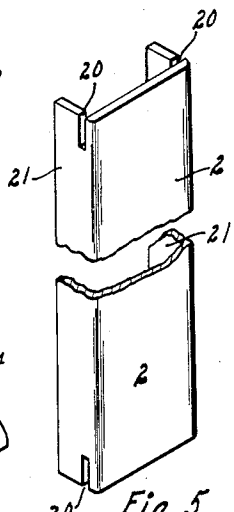


Fig. 5

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BUILDING CONSTRUCTION

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11 Claims. (Cl. 72—24)

This invention relates to wall structures and more particularly to means for mounting sheathing panels of metal, glass or the like, upon a wall body or frame structure, and for providing sealing between the sheathing panels.

The general objects of the invention are to accomplish these purposes by novel parts arranged in novel cooperative relation, whereby the parts are simple and inexpensive and their assembly equally so.

The exact nature of this invention together with further objects and advantages thereof will be apparent from the following description taken in connection with the accompanying drawings, in which Fig. 1 is a vertical sectional elevation illustrating a typical wall structure in which an embodiment of the invention is incorporated, the view showing a sheet metal runner of elementary form with a metal sheathing panel and a glass sheathing panel associated therewith; Fig. 2 is a horizontal section as in the plane of line 2—2 of Fig. 1; Fig. 3 is a detail as in horizontal section as on the line 3—3 of Fig. 1, illustrating a vertical joint between glass and metal panels; Figs. 4 and 5 are perspective views illustrating respectively a metal sheathing panel and a stretcher as employed in the structure of Figs. 1 and 2; Fig. 6 is a sectional elevation corresponding to Fig. 1 but illustrating a modified form of runner and showing a pair of metal panels secured thereby; and Figs. 7 and 8 are horizontal and vertical sections through a partition wall embodying features of the invention in modified form, Fig. 7 being taken as on the line 7—7, of Fig. 8, and Fig. 8 as upon the line 8—8 of Fig. 7.

With reference now to the drawings and first to Figs. 1, 2, 4 and 5 thereof, the principal parts of the invention there shown are a runner generally designated 1, a stretcher generally designated 2 and sheathing panel members generally designated 3 and 4 respectively, it being the object to mount the sheathing panels upon a wall body which may, as here shown, comprise a frame of angle iron risers 5, filler blocks 6 and plaster base and finishing coats 7 and 8.

The runner 1 here shown may conveniently be of sheet metal formed from a strip, to the section illustrated Fig. 1. It has a back part 9 flattened to seat against the wall body, and a pair of sides 10 extending from the back part 9 to form a channel, the sides terminating in flanges 11 extending along the runner. The runner sides 10 are curved as indicated so that the channel formed therebetween has concave sides.

The runner is secured extending along the wall body with its back part 9 bearing thereagainst, preferably and as here shown horizontally, by a number of screws 12. As here indicated, each screw 12 is inserted in each of the frame risers of the wall body crossed by the runner, but it will be appreciated that the exact manner of securement of the runner is immaterial.

A plurality of such runners are so mounted on the wall body extending in parallel spaced relation, their number and spacing depending upon the area of wall body to be sheathed and the size of the sheathing panels as will appear.

In Fig. 4 is illustrated a typical sheathing panel having a rectangular part 13, the panel proper, with a pair of lips 14 extending rearwardly from its opposite side edges and flanges 15 similarly directed from its other end edges. The lips 14 are curved as indicated and have greater extent from the panel 13 than the flanges 15, which are straight. The sheathing panel may conveniently be of sheet metal and may have a coating of vitreous enamel or the like, although the exact material of the panel is not particularly important.

At 4 is indicated a sheathing panel of glass or the like having lips 14' along its opposite side edges, these lips being substantially straight as indicated and terminating with a bead as at 16.

Each sheathing panel 3 is mounted on a wall body between an adjacent pair of runners 1 with its lips 14 inserted into the panels of the runners, each lip being curved to fit against the near side at 10 of the corresponding runner. The lips 14 or the runners or both have sufficient resilient flexibility to permit mounting of each sheathing panel by merely pushing it toward the wall body, its lips 14 snapping into their places of seating in the runners.

In the case of a glass sheathing panel as at 4, its lips 14' similarly enter the runner cavities of its pair of runners. To secure such a sheathing panel so mounted, clips 17 may be employed, each having a tail part 18 inserted beneath the lip part 14 of the adjacent sheathing panel 3, and a head part 19 to seat over the bead 16, all as shown Fig. 1.

The stretcher 2 is preferably of sheet metal bent to the channel form indicated Fig. 5. Its ends are slotted as at 20 to receive the near flanges of an adjacent pair of runners, the length of the stretcher being appropriate for the purpose, dependent upon the spacing of the runners. It will be apparent that after the runners are mounted, any number of stretchers may be mounted on any adjacent pair of runners to ex-

tend therebetween, and may be shifted to any position along the runners.

A stretcher is provided for each vertical or transverse joint between an adjacent pair of sheathing panels. As indicated Figs. 1 and 2, the depth of the sides 21 of the stretchers 2 are such that the sheathing panels will be positioned with uniform spaced relation from the wall body, against the runners. As indicated Fig. 2, the flanges 15 of such adjacent pair of runners extend into the cavity of the stretcher 2 underlying their joint. Thus the order of assembly requires mounting of the stretchers on the runners before the panel members are mounted.

In the case of the glass sheathing panel 4, in order that its outer face may be positioned in the plane of the outer faces of the metal sheathing panels 3, as indicated in Fig. 3 one of the sides 21' of the stretcher 2 is made shorter than the other.

It will be observed that each stretcher provides a cavity underlying the adjacent edges of the corresponding sheathing panels. This cavity is adapted to receive means for sealing the joint between panels. The sealing means is here indicated generally at 22. It may be of plastic material inserted as with a gun after the assembly, or it may be of felt, fabric or the like, inserted in the cavities of the stretchers to form a unit therewith before the mounting of the latter. After the panels are mounted the horizontal joints, along the runners, may be filled with a mastic cement as at 24.

For heat and sound insulation, the sheathing panels may be backed by pads 23 of suitable relatively soft nonmetallic material.

With reference now to the embodiment of Fig. 6, a modified form of runner is illustrated. This runner also is preferably of sheet metal formed to provide the typical section illustrated Fig. 6, having a pair of channels separated by a projection 25, on either side of which is a back part 26 bearing against the wall body. The uppermost only of these back parts 26 is necessarily secured to the wall body, as by screws 27, to satisfactorily mount the runner. The runner is provided with flanges 11*a* whereby stretchers are mounted between adjacent pairs of runners as before.

This form of runner is adapted for use with sheathing panels of the type illustrated Fig. 4. When so used, the lips 14 of the sheathing panels bear against the sides of the projections 25, the latter being curved to conform to the curvature of the panel lips. Preferably plastic cement 28 is inserted before the mounting of the sheathing panels so that the two cavities of each runner will have sealing means after the mounting of the panels. It will be observed that by the arrangement of Fig. 6 the projections 25 of the runners show, in the finished sheathed wall, as finishing beads along the horizontal joints between adjacent rows of panels.

With reference now to Figs. 7 and 8, a pair of runners 1*b* are secured back to back as by bolts 29. The form of runner here shown generally follows that of Fig. 1, but is one adapted to be made of extruded metal so that the section has varying thickness. Flanges 11*b* are provided as before. The pairs of runners are vertically disposed so as to form the vertical frame members or risers for a partition wall. These risers are secured upon the floor as by insertion into the hollow of one of the runners of the riser, at the foot of the latter, of a projection 30. This projection may be formed by bending a strap of metal of approximately semicircular section, as indicated particularly Fig. 8, with feet 31 secured to the floor as by screws 32. Stretchers 2 are employed between adjacent pairs of risers, and sheathing panels of the form of Fig. 4 are mounted upon the risers all as in Figs. 1 and 2, and with the same relations of parts except that the runners are now vertical and the stretchers horizontal, and the sheathing panels are applied to both sides of the partition wall. Plastic sealing may be employed as at 33 although not usually necessary in a partition wall. Whether or not the cement is used a finishing strip 34 is provided, of metal, and formed to be sprung between adjacent panel edges, as illustrated Fig. 7, and there retained by its bearing between panels.

What I claim is:

1. A runner for the purpose described comprising a flat back part adapted to be secured upon a wall body structure, having a pair of side parts extending from said back part to form channel means adapted to receive adjustably therealong the near inturned edges of sheathing panels for said wall body, with portions of said channel means reentrant to cooperate with said panel edges for securement of the latter by the bearing between the parts, and said runner having flange means extending straight laterally from its sides and adapted to position and support adjustably therealong the near ends of stretcher means for sealing the transverse joints between said panels.

2. A runner for the purpose described comprising a strip formed to provide a pair of spaced back parts adapted to bear against a wall body structure, extending from said back parts therebetween to form a projection, and having side parts extending from said back parts to provide a pair of channels on opposite sides of said projection, each channel being adapted to receive the inturned edges of a row of sheathing panels for said wall body, said projection being reentrant between said side parts for cooperation with said inturned panel edge parts to retain the panels.

3. In a wall structure of the character described and having a body part, a pair of runners secured therewith to extend therealong in parallel spaced relation, sheathing panel members for said wall body mounted on said runners to extend therebetween, and for each adjacent pair of panel members a stretcher disposed underlying the joints at their adjacent transverse edges, said runners having flange means extending straight laterally from their sides and therealong, and said stretchers having at their ends means cooperative with said flange means for mounting of the stretchers on the runners and adjustable therealong.

4. In combination, cooperative runner and stretcher means for the purpose described, said runner being adapted to be mounted on a wall body to extend longitudinally therealong and to secure the corresponding longitudinal edges of adjacent sheathing panels for said wall body, and said runner having straight laterally projecting flange means running therealong, said stretcher being adapted to be disposed underlying the adjacent transverse edges of an adjacent pair of sheathing panels to provide a seal therealong, and having at its end, slot means cooperative with the corresponding of said runner flange means with tongue and groove relation to removably position and support the stretcher adjustably along the runner.

5. In combination, cooperative runner and stretcher means for the purpose described, said runner being adapted to be mounted on a wall body to extend longitudinally therealong and to secure the corresponding longitudinal edges of adjacent sheathing panels for said wall body, and said runner having straight laterally projecting flange means running therealong, said stretcher being adapted to be disposed underlying the adjacent transverse edges of an adjacent pair of said sheathing panels to provide a seal therealong, and being of uniform section throughout its length but endwise slotted to fit over the corresponding of said runner flanges to receive support from the latter.

6. In a wall structure of the character described and having a body part, a pair of runners secured therewith to extend therealong in parallel spaced relation, a plurality of stretchers each mounted upon said runners to extend therebetween adjustably therealong and define panels of adjustable length, and for each of said panels a sheathing panel member having means mounting it at opposite side edges upon the runners, and having at its other end edges means cooperative with the adjacent pair of stretchers to provide a seal, said stretchers being formed to provide cavities overhung by their panel members, and said panel members having end parts extending into said cavities to position their stretchers upon their runners.

7. In a wall structure of the character described and having a body part, a runner secured therewith and having a channel, a pair of oppositely disposed sheathing panel members having lips extending into said channel to provide mounting of said panel members on said runner, and a finishing strip for the joint between panel members adapted and arranged for insertion into said channel from the mouth of the latter and yieldably maintained so positioned by engagement with the corresponding pair of lips.

8. In a wall structure of the character described and having a body part, a runner secured therewith and having a channel with concave sides, a pair of oppositely disposed sheathing panel members having lips extending into said channel, one of said panel members having its lip curved correspondingly with its channel side, the other panel member having a bead toward the first panel member, and clip means having a part secured between the lip of the first panel member and the corresponding side of the runner, and a tongue sprung over said bead to secure the second panel member in the channel.

9. In combination for the purpose described, a runner comprising a back part adapted to be secured upon a wall body structure, extending from said back part to form a channel adapted to receive the near edges of a pair of rows of sheathing panels for said wall body, with the channel sides reentrant to cooperate with said panel edges for securement of the panel by the bearing between the parts, and a stretcher disposed to extend transversely from said runner, said runner and stretcher having cooperative parts for supporting the near end of the stretcher upon the runner, disposed entirely beyond the runner cavity, and adjustable along the runner, said cooperative parts being arranged to provide tongue and groove relation, with an element extending laterally from the runner and a cooperative element extending endwise of the stretcher.

10. In combination with a wall body structure for the purpose described, a plurality of runners disposed in parallel spaced relation each comprising a back part secured upon said wall body structure, extending from said back part to form a channel opening outwardly of said body structure, with the channel sides reentrant, sheathing panel members each having a pair of opposed edge parts inwardly turned to enter the cavities of an adjacent pair of runners and engaging the near channel sides thereof to support the sheathing panel extending therebetween, and a stretcher disposed along each joint between an adjacent pair of panel members mounted upon a common pair of runners, said stretcher and corresponding runners having cooperative parts for supporting the ends of the stretcher upon the runners, one end upon each, clear of the runner cavity and adjustable along the runner, said cooperative parts being arranged to provide tongue and groove relation for the purpose, each stretcher providing a cavity back of its adjacent pair of sheathing panels and the corresponding edges of said sheathing panels being inwardly turned to enter said stretcher cavity and thereby position said stretcher lengthwise of its runners.

11. In combination with a wall body structure for the purpose described, a plurality of runners disposed in parallel spaced relation each comprising a back part secured upon said wall body structure, extending from said back part to form a channel opening outwardly of said body structure, with the channel sides reentrant, sheathing panel members each having a pair of opposed edge parts inwardly turned to enter the cavities of an adjacent pair of runners and engaging the near channel sides thereof to support the sheathing panel extending therebetween, and a stretcher disposed along each joint between an adjacent pair of panel members mounted upon a common pair of runners, said stretcher and corresponding runners having cooperative parts for supporting the ends of the stretcher upon the runners, one end upon each, clear of the runner cavity and adjustable along the runner, said cooperative parts being arranged to provide tongue and groove relation and including flange means laterally extending from the runners, each stretcher providing a cavity back of its adjacent pair of sheathing panels and the corresponding edges of said sheathing panels being inwardly turned to enter said stretcher cavity.

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