Aug. 9, 1932. L. L. LEVENE 1,870,579

PARTITION WALL EDGE CONSTRUCTION

Filed March 9, 1931

FIG. 1.

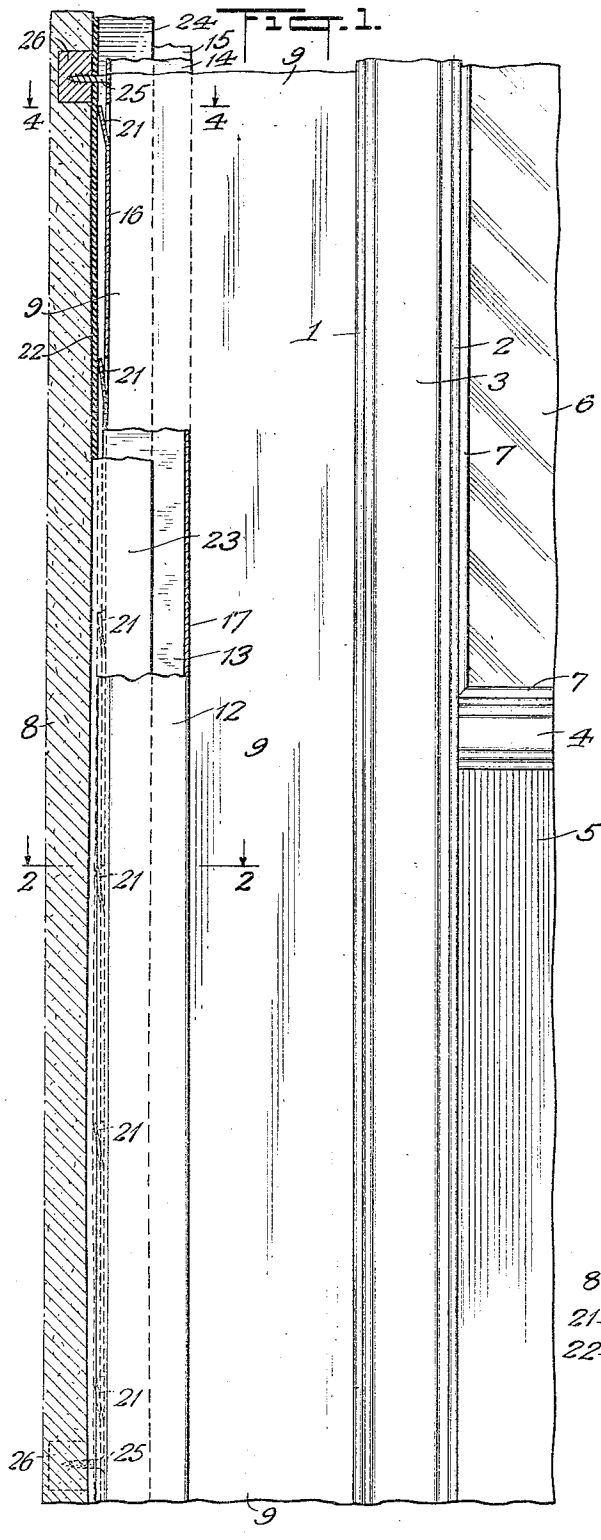


FIG. 2.

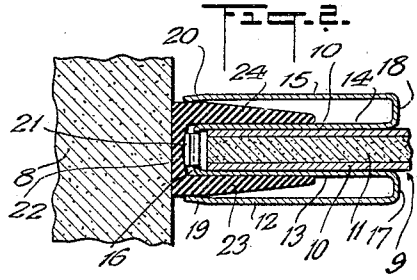


FIG. 3.

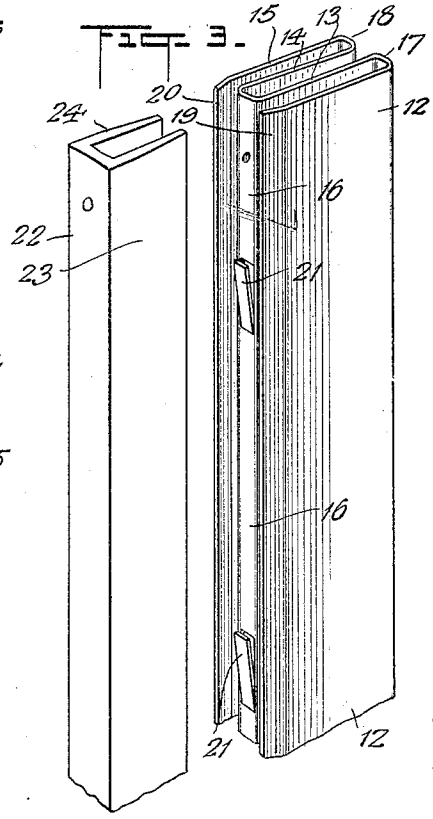
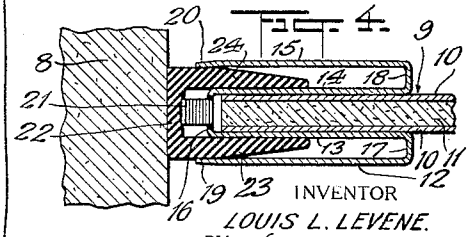


FIG. 4.



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PARTITION WALL EDGE CONSTRUCTION

Application filed March 9, 1931. Serial No. 521,226.

This invention relates in general to partition walls of the type having separate or structurally independent wall sections which may be assembled together to form the partition wall, or which may be disassembled relatively to one another and removed as separated units. The invention relates more particularly to means embodied or incorporated in the partition wall construction for forming a tightly closed joint along an edge of the partition wall with the surface of a wall or the like of a building.

While the invention is specifically shown in the accompanying drawing as incorporated in a vertical edge portion of a sectional partition wall, it is to be understood that the invention is similarly applicable, in accordance with the same principle, along a horizontal edge portion of a partition wall, such as at the ceiling or the floor. Also, of course, the invention may be likewise carried out in an edge portion of a partition wall along the vertical or substantially vertical surface or wall of a column, or along the wall surface formed by a horizontal beam or stringer.

Although the invention is shown in the drawing as carried out in a sectional partition wall constructed mostly of sheet metal, it is adaptable to being similarly carried out, in accordance with the same principle, in a partition wall construction of wood, either in whole or in part, or of other suitable materials, or combinations thereof.

Reference will now be had more particularly to the carrying out of the invention as disclosed in connection with a vertical wall of a building. Such walls are most commonly not flat or plane, particularly in the vertical direction between floor and ceiling, but at some places bow outward and at other places inward, in more or less irregular contour, forming undulations in the wall surface. If a close tight-fitting joint of the upright edge of the partition wall is not made with this uneven wall surface, cracks will be left through which light will shine and an unsightly appearance will result.

Heretofore commonly in partition wall construction the junction or joint of the upright edge of the partition wall with the wall surface of the building has been formed in part by means of a rectangular upright strip or bar of wood, secured to the wall of the building by means of screws or nails. The first post or other form of upright for supporting the panels is set out in the room any suitable or conveniently spaced relatively short distance from the wooden upright bar, for example, about ten inches. A pair of spaced full length panels or filler pieces are then used to fill the space between this post or upright and the wall of the building, where they are disposed at the opposite sides of the wooden bar or strip.

The edges of these filler pieces must be cut as nearly as possible to fit the irregular or uneven contour of the surface of the wall. In sheet metal construction that is particularly difficult and, in fact, has proved practically impossible. Such panel members or filler pieces are commonly technically known as "scribers", probably because their edge margins must be scribed, on a scribing block or otherwise, and cut to a contour which is complementary to the undulatory wall surface. This is a slow, difficult and expensive procedure which usually culminates in an imperfect and unsightly joint. Moreover, it has been found practically impossible accurately to fit the wood upright bar to the uneven wall so it will hug the wall surface closely at all points. Thus at some places cracks will be left open through which light can pass, and such illuminated cracks are particularly unsightly.

An object of this invention is to provide a partition wall edge construction by which a close fitting sealed joint, impervious to the passage of light, is formed with the wall surface of the building and which also has a neat appearance and presents a fine finish. Another object in this connection is to provide means by which automatic adjustment in part will take place together with means for effecting adjustment in a larger measure, particularly with respect to the larger undulations in the contour of the surface of the wall of the building. Other objects and advantages of the invention will hereinafter appear.

In carrying out the invention, along the lines illustrated in the drawing, a straight stiff upright frame bar forms an edge or terminal stile alongside of and adjacent to the wall surface of the building. If desired in any particular installation this upright frame bar or stile may have the ends of cross rails secured to it, such as a base rail, a cornice, as well as intermediate rails. It may extend down to the floor or it may terminate at the top of a usual base board or mop board on the wall. It may or may not extend all of the way up to the ceiling, for example, it may stop at a usual cornice rail if so desired.

Along its side remote from the building wall this upright edge frame bar is provided with means for holding a filler panel member or scriber in place. Along its side adjacent to the wall surface it is provided with means for holding a sealing strip closely against this wall surface throughout the length of such strip. This sealing strip is of soft, yieldable or deformable and more or less resilient material, so as readily to follow or conform to any unevenness or undulations in the surface of the wall, and means are provided for adjusting the strip in that respect.

The upright stile bar may be of either wood or metal, such as sheet metal formed to a suitable shape. For example, in such a sheet metal construction, the sealing strip, which may be of soft rubber or of integrated compressed felt, may be of a U shape with its flanges telescopically received in a pair of deep grooves formed by outer flanges on the bar, and the edge portion of the scriber panel may be received in an intermediate or middle deep groove between the grooves for the flanges on the strip. In such case, the means for adjusting the strip may be carried by the bar at the bottom of the panel groove, to engage with the web of the sealing strip between its flanges. The invention also further includes various features of construction and combinations of parts, as will appear from the following description.

One embodiment of the invention, shown in the accompanying drawing, will now be particularly described, and thereafter the invention will be pointed out in claims, reference now being had to the drawing, in which:

Fig. 1 is a side elevation, partly broken away, of a partition wall construction in which the invention is embodied:

Fig. 2 is an enlarged partial horizontal section taken on the line 2—2 of Fig. 1;

Fig. 3 is a somewhat less enlarged disassembled perspective view of the upper end portions of a sheet metal edge stile or upright bar, together with a soft rubber U-shaped sealing strip which cooperates therewith; and

Fig. 4 is a sectional view similar to Fig. 2 and with the section taken on the line 4—4 of Fig. 1, showing a different position of adjustment of the sealing strip relatively to the upright stile bar.

The embodiment of the invention shown in the drawing will now be particularly described with reference to the drawing. The sectional partition wall construction, of which there is only sufficient shown in Fig. 1 of the drawing for clearly indicating the incorporation therein of the present invention, may be in general of any suitable construction desired, and in this particular instance is indicated as having a metal framework. For example, this sectional partition wall construction may be considered as being substantially similar to that disclosed in my copending application for Patent Serial No. 478,675, filed August 29, 1930, for a partition wall construction, although it is to be clearly understood that the sectional partition wall in which this invention is embodied does not necessarily need to be at all of that construction.

However, for convenience of description, it may be assumed that the illustrated sectional partition wall is substantially of the construction above noted. Thus the sectional partition wall shown in the drawing may include a main panel-supporting upright comprising a left hand stile member 1 and a right hand stile member 2, which may be detachably connected together, and the vertical joint between which may be covered at opposite sides of the wall respectively by a pilaster or face plate 3. The end of an intermediate cross rail 4 is shown as joined to the right hand stile 2. A lower panel 5, indicated as being made of opaque material, is joined to and in part supported by the right hand stile 2 and the lower side of the cross rail 4. Above the cross rail 4 a glass panel 6 is shown as held in place by moldings 7 which are held by the right hand stile 2 and the cross rail 4.

For convenience of manufacture and installation, in the sectional wall construction shown, the main panel-supporting upright, comprising the parts 1, 2 and 3, is shown as spaced a convenient distance inward from a vertical permanent wall 8 of the building. The left hand stile 1 of the panel-holding upright holds in place the adjacent outer edge of a filler panel or scriber 9 which is utilized for closing the space between the stile 1 and the inner surface of the building wall 8, this filler panel 9 thus, of course, forming a vertical margin or edge portion of the assembled sectional partition wall. This scriber or filler panel 9 may desirably be of the laminated composite construction which is shown in Figs. 2 and 4. This scriber panel member 9, as there shown, comprises three layers or plies which may be conveniently connected together, for example by means of an inter-

posed adhesive, so as thereby to constitute a unitary panel member. This panel member as shown comprises outer facing plates 10 of sheet metal, such as steel, and an intermediate thicker layer 11 which may be formed of asbestos. It may be mentioned that the above noted opaque wall panel 5 may also be of a composite construction similar to the filler panel or scriber 9.

The present invention is more particularly concerned with the making of a closely fitting and tightly sealed joint between the outer edge of the scriber or filler panel 9 and the adjacent inner surface of the wall 8 of the building. In thus carrying out the invention in accordance with the construction shown in the drawing, a sheet metal upright frame bar forms an outermost stile for holding and retaining in place the outer edge of this filler panel 9, together with means in accordance with the invention for providing a close fitting tightly sealed joint between this upright frame bar or stile and the adjacent inner surface of the wall 8, this inner surface of such a wall as 8 commonly being of more or less uneven contour or of an undulatory character, for example, such as is shown for the surface of the wall 8 in Fig. 1.

This panel-holding stile or upright frame bar shown in the drawing is constructed in one piece from suitably heavy and adequately strong sheet metal, such as steel. This upright stile bar, as a whole or complete entity, is shown in the drawing (Figs. 2 and 4) as of substantially rectangular transverse shape and of greater width in the plane of the partition wall than it has thickness in a direction perpendicular to or transversely through such wall. This panel-holding and supporting stile bar shown in the drawing comprises four suitably spaced substantially parallel wall portions 12, 13, 14 and 15 disposed in general in planes parallel with that of the partition wall as a whole. The two inner or intermediate wall portions 13 and 14 are shown as somewhat more widely spaced from one another than the outer wall portions or flanges 12 and 15 are spaced respectively from the adjacent intermediate wall portions 13 and 14.

At the left hand or outer side of this sheet metal upright frame bar the two intermediate wall portions 13 and 14 are connected together by means of an intervening web 16, while at the other or along the inner side of this frame bar the front wall portion or flange 12 is similarly connected to the next adjacent intermediate wall part 13 by means of an intervening web 17, and the other or rear flange wall 15 is in like manner connected by means of an intervening web 18 with the adjacent or rearmost intermediate wall part 14, all as clearly shown in the drawing, particularly in Figs. 2, 3 and 4. Thus it will be seen that the two intermediate wall parts 13 and 14, together with their connecting web 16, form a deeply slotted middle channel or groove in and running along the inner side of the upright frame bar, while by reason of their connecting webs 17 and 18, the front and rear flange walls 12 and 15 form a pair of deeply slotted outwardly opening channels or grooves with the respectively adjacent intermediate wall parts 13 and 14. The upright frame bar thus formed will be straight and stiff with adequate strength, as should be obvious.

Some further features of construction more in detail of this sheet metal frame bar will now be described, the purpose of which will soon be made clear. The sheet steel of which this frame bar may be advantageously constructed is capable of acting as a spring. Accordingly, this frame bar is originally made so that its spaced wall portions 12, 13, 14 and 15 will have a tendency to spring together, that is, each towards its next adjacent neighbor, along the open sides of the deep channels or grooves formed between these wall parts, as above described, this normal tendency thus to spring together being clearly indicated at the top in Fig. 3. Therefore, anything which may be snugly inserted into these grooves will be gripped and a closed joint formed therewith. The free edges of the flanges 12 and 15 are shown as projecting outwardly somewhat beyond the outer side of the intermediate web 16. These free edge portions of the flanges 12 and 15 are slightly angled inwardly towards each other to form narrow gripping lips 19 and 20.

At suitably spaced intervals along its length the intermediate web 16 of this frame bar has tongues 21 cut out therefrom. In the original manufacture of the frame bar these cut out tongues are left in or substantially in flat alignment with the web 16, and later, in making an installation of the sectional partition wall, these tongues 21 are bent or struck outwardly from the web 16, to a greater or less extent of projection individually, as may be required, for a purpose which will presently be described, and as shown in the drawing. While these tongues are rather stiff, due to the considerable thickness of the sheet metal, they are slightly yieldable and are resilient. These tongues may be spaced five or six inches apart, for example, in the longitudinal series thereof.

In further carrying out the invention, in the embodiment thereof shown in the drawing, a substantially U-shaped sealing strip is provided, comprising a web portion 22 having wide flanges 23 and 24 projecting therefrom, these flanges being slightly beveled or chamfered on their outer sides so as to taper gradually towards their edges, as shown in the drawing. This sealing strip should desirably be formed of rather soft somewhat yieldable

resilient material. For example, the sealing strip shown in the drawing is composed of a firm quality of soft rubber, which has been found to serve the purpose excellently. However, other suitable materials may be used, for example, felt. It will be noted that both the web 22 and the flanges 23 and 24 are of considerable thickness.

In the assembled partition wall edge construction the wide flanges 23 and 24 are telescoped into the respective deeply slotted channels or grooves formed by the flanges 12 and 15 of the frame bar, with the inner side of the sealing strip web 22 then adjacent to the outer side of the frame bar web 16, from which it may be caused to be spaced more or less at different places along its length by means of the outwardly bent tongues 21. However, the sealing strip is thus first initially assembled with the frame bar before the tongues have been thus bent out. The straight frame bar may then be secured to the building wall 8, to extend adjacent to and alongside of its more or less uneven undulatory surface, by means of a few screws 25 which pass outwardly through the web 16 of the frame bar, through the web 22 of the sealing strip, and screw into anchor blocks 26 which are inserted or embedded in the wall structure 8 of the building.

Then, by means of a punch or other suitable tool, the tongues 21 are struck out and bent against the web 22 of the sealing strip, thereby forcing it firmly against the undulatory surface of the wall 8, so that a closely fitting sealed joint is formed therewith throughout the length of this sealing strip, as shown in Figs. 1, 2 and 4. It will be noted that some of these tongues 21 will require to be thus bent out only slightly, or perhaps not at all, while others are thus bent to a greater extent, as indicated throughout the drawing, but shown more clearly in Figs. 2 and 4. Thus these bendable tongues 21 constitute adjusting devices for the sealing strip. It has been found that as much as an inch in unevenness or variation from a plane in the surface of a building wall such as 8 may be tightly closed and sealed by means of the construction shown in the drawing. Even if some wall of a building should present a perfectly flat or plane surface, still the construction shown would be highly advantageous for forming therewith a tightly closed and sealed joint.

In this assembled telescopic relation of the sealing strip and frame bar, the slightly inturned lip edges 19 and 20 of the frame bar are resiliently pressed against the flanges 23 and 24 of the sealing strip, to make a close joint therewith. The outer edge portion of the scriber or filler panel 9 is snugly received and held in the inwardly opening deeply slotted channel or groove between the two intermediate wall portions 13 and 14 of the frame bar and is resiliently gripped therein to form a close joint therewith.

While the partition wall edge construction shown in the drawing and above described has proved to be eminently practical and effective, it will be clear to those skilled in the art that the idea of the invention could be more or less effectively carried out in various other particular constructions, even though some of these on the whole might be somewhat less advantageous. A few such possible modifications might be briefly noted, in a general way. The frame bar might be made up transversely of a plurality of two or more pieces connected together in various ways. Both the frame bar and the sealing strip might be of a different shape transversely. In fact, a frame bar of the construction shown might be turned around with its opposite side towards the wall 8. In such case a sealing strip would take the place of the panel 9 and could be outwardly provided with a sealing head in more or less of a T shape, which could be pressed against the wall surface by bending the tongues 21 in the opposite direction, while a pair of spaced panel members forming scribers could be received within the flanges 12 and 15 of the frame bar.

Also in any case, instead of these bendable tongues 21, other forms of adjusting devices could be employed. Such modified adjusting means, for example, might be made operable from the remote edge of the scriber panel, adjacent to the stile 1 of the main upright. It will be further noted of the construction shown that the sealing strip may be adjusted, either unequally, as shown, or uniformly throughout its length relatively to the adjacent frame bar, for taking up space with the wall 8, along the entire length of the frame bar and sealing strip. It is evident that this latter kind of adjustment could be made at the stile 1 through adjusting means which would force both the scriber panel and the sealing strip towards the wall. As another example, a partition wall edge frame bar could be formed directly on projecting edge portions of the face plates 10 of the scriber panel 9 in the same piece therewith, and could be shaped to receive the flanges 23 and 24 of the sealing strip substantially in the same way as shown in the drawing. In fact, various modifications may be made in the construction shown in the drawing and above particularly described, within the principle and scope of the invention, which is defined in the appended claims.

I claim:

1. In a partition wall, the combination of a straight stiff bar incorporated in an edge portion of said partition wall adjacent to and alongside of a wall surface of a building structure, a sealing strip of soft resiliently yieldable material interposed between said bar and said surface so as to follow the con-

tour of the latter thereby to provide a tightly closed joint between said bar and surface, and means for adjusting said sealing strip along its length so as to move it transversely relatively to said bar thereby to follow said surface irrespective of undulatory irregularities in the contour thereof.

2. In a partition wall, the combination of a straight bar incorporated in an edge portion of said partition wall adjacent to and to extend alongside of a wall surface of a building, a sealing strip conformable to the contour of said surface and having transverse interengaging telescopic relation with said bar so that said strip may follow the contour of said surface while at the same time remaining in engagement with said bar, and means acting between said bar and said strip for adjusting the latter to the contour of said surface and relatively to said bar transversely thereof and substantially perpendicular to said surface said sealing strip being of soft resiliently yieldable material so that in cooperation with said adjusting means the said sealing strip may readily conform to and follow smaller as well as larger irregularities in the contour of said surface.

3. In a partition wall, the combination of a straight stiff bar incorporated in an edge portion of said partition wall adjacent to and to extend alongside of an uninterrupted surface of a building structure, a sealing strip of soft resilient material interposed between said surface and said bar and having transverse interengaging telescopic relation with said bar to enable said strip to follow the contour of said surface, and a longitudinal series of adjusting devices carried by said bar and operable to force said strip against said surface so as to form a tightly closed joint therewith while at the same time forming a tightly closed joint with said bar.

4. In a partition wall, the combination of a straight stiff bar to extend adjacent to and alongside of an unbroken surface of a building structure, said bar being provided with means to receive and hold a panel along the side of said bar remote from said surface and said bar along its side adjacent to said surface being provided with means for holding a sealing strip in transverse telescopic relation therewith relatively to said surface, a deformable sealing strip to conform to the contour of said surface in cooperating relation with said latter means of said bar, and a series of concealed adjusting devices carried by said bar along its length and operable to force said sealing strip against said surface to produce a tightly closed joint therewith while at the same time maintaining a closed joint with said bar.

5. In a partition wall, the combination of a straight stiff bar to extend adjacent to and alongside of an unbroken surface of a building structure, said bar being provided with means to receive and hold a panel along the side of said bar remote from said surface and said bar along its side adjacent to said surface being provided with means for holding a sealing strip in transverse telescopic relation therewith relatively to said surface, a deformable sealing strip to conform to the contour of said surface in cooperating relation with said latter means of said bar, and a series of concealed adjusting devices carried by said bar along its length and operable to force said sealing strip against said surface to produce a tightly closed joint therewith while at the same time maintaining a closed joint with said bar, said sealing strip being formed of soft resiliently yieldable material whereby in combination with said adjusting devices said strip may follow smaller as well as larger irregularities in the contour of said surface.

6. In a partition wall, the combination of a sealing strip at an edge of said partition wall, said strip being deformable and of soft resilient material so as to conform to both major and minor irregularities in the contour of the adjacent surface of a building structure along the length of said strip, a panel member extending away from said strip at the side thereof remote from said surface, frame means for the panel along the edge of said panel adjacent to said strip for supporting the latter and holding it against said surface in conformity to the contour of said surface, and a longitudinal series of manually actuatable adjusting devices cooperating with said strip and its said holding means and operable to press said strip against said surface along the length of said strip thereby to produce a tightly closed joint between said strip and said surface irrespective of irregularities in the contour of the latter along the length of said strip.

7. In a partition wall, the combination of a straight stiff bar to extend adjacent to and alongside of an unbroken surface of a building structure, said bar along its side remote from said surface being provided with means to receive and support the edge portion of an adjacent panel and said bar along its side adjacent to said surface having therein a deep longitudinal groove which opens towards said surface, a deformable sealing strip to conform longitudinally thereof to the contour of said surface and having a portion remote from said surface which telescopically enters said groove in said bar, and a series of adjusting devices carried by said bar longitudinally thereof and operable to press said strip out of said groove and against said surface in conformity with the contour of the latter so as thereby to form a tightly closed joint between said bar and said surface.

8. In a partition wall, the combination of a straight stiff bar to extend adjacent to and alongside of a surface of a building structure,

said bar having longitudinally along its side adjacent to said surface a pair of spaced deep grooves opening towards said surface and having along its side remote from said surface a panel-receiving groove, a transversely U-shaped sealing strip the flanges of which telescopically enter said spaced grooves and the web portion of which extends along said surface in contact therewith and in conformity to the contour thereof, said strip being deformable along its length so as to conform to the contour of said surface, and a series of adjusting devices on said bar between said spaced grooves and engageable with the web of said strip to press it against said surface in conformity with the contour of the latter thereby to produce a tightly closed joint therewith as well as also with said bar by reason of the telescopic relation of said flanges of the strip in said pair of grooves in said bar.

9. In a partition wall, the combination of a straight stiff bar to extend adjacent to and alongside of a surface of a building structure, said bar having longitudinally along its side adjacent to said surface a pair of spaced deep grooves opening towards said surface and having along its side remote from said surface a panel-receiving groove, a transversely U-shaped sealing strip the flanges of which telescopically enter said spaced grooves and the web portion of which extends along said surface in contact therewith and in conformity to the contour thereof, said strip being deformable along its length so as to conform to the contour of said surface, and a series of adjusting devices on said bar between said spaced grooves and engageable with the web of said strip to press it against said surface in conformity with the contour of the latter thereby to produce a tightly closed joint therewith as well as also with said bar by reason of the telescopic relation of said flanges of the strip in said pair of grooves in said bar, said strip being formed of resiliently yieldable material thereby to be readily deformable and also whereby said strip may adjust itself automatically to the smaller irregularities in the contour of said surface.

10. In a partition wall, the combination of a sheet metal frame bar comprising four spaced substantially parallel wall portions connected together by three intervening webs thereby to provide a single middle deep slot at one side of such bar to receive a panel and to provide a pair of laterally spaced deep slots at the other side of said bar, and a resiliently yieldable sealing strip of substantially U shape the flanges of which are telescopically received respectively in the two slots of said pair.

11. In a partition wall, the combination of a sheet metal frame bar comprising four spaced substantially parallel wall portions connected together by three intervening webs thereby to provide a single middle deep slot at one side of such bar to receive a panel and to provide a pair of laterally spaced deep slots at the other side of said bar, a resiliently yieldable sealing strip of substantially U shape the flanges of which are telescopically received respectively in the two slots of said pair, and means carried by said frame bar in cooperation with the web which forms the bottom of its panel-receiving slot and with the adjacent web of said sealing strip for adjustably varying the extent of the telescopic relation permitted of said sealing strip with said frame bar.

12. In a partition wall, the combination of a sheet metal frame bar comprising four spaced substantially parallel walls connected together by three intervening webs thereby to provide a single middle deep slot at one side of such bar to receive a panel and to provide a pair of laterally spaced deep slots at the other side of said bar, a resiliently yieldable sealing strip of substantially U shape the flanges of which are telescopically received respectively in the two slots of said pair, and a longitudinally spaced series of tongues struck outward from the middle web of the frame bar which is adjacent to the web of said sealing strip and to be individually bent outward more or less for thereby spacing the web of the sealing strip more or less as may be desired from said web of the frame bar, whereby the outer side of the web of this sealing strip may be pressed closely against a wall surface irrespective of irregularities in the contour of such wall surface.

13. In a partition wall, the combination of a substantially rectangular sheet metal frame bar which as a whole is of less thickness in a direction transversely through said wall than its width in the plane of said wall and which comprises four substantially parallel wall portions which are spaced from one another to a less extent than their width in the plane of said partition wall and having three intervening webs connecting together the successively adjacent wall portions of said bar so as thereby to form three deep grooves parallel with the plane of said partition wall, and a longitudinally spaced series of tongues cut out from the middle or intermediate web of said frame bar to be bent at will to a greater or less extent out of the plane of said web from which they are cut.

14. In a partition wall, the combination of a sealing strip incorporated in an edge portion of said partition wall, said sealing strip being conformable to irregularities in the contour of the adjacent surface of a building structure along the length of said strip, and manually actuatable adjusting means independent of said strip itself operable to force said strip against said surface to follow ir-

regularities in the contour thereof and make a tight joint therewith.

15. In a partition wall, the combination of a sealing strip incorporated in an edge portion of said partition wall, said sealing strip being conformable to irregularities in the contour of the adjacent surface of a building structure along the length of said strip, a panel member extending away from said strip at the side thereof remote from said surface, frame means along the edge of said panel adjacent to said strip for supporting both said panel and said strip, and manually actuatable adjusting means operable to move said strip relatively to said frame means so as to force said strip against said surface to follow the contour thereof and make a tight joint therewith.

In witness whereof, I hereunto subscribe my signature.

LOUIS L. LEVENE.