Jan. 21, 1941. H. L. FINCH 2,229,064

MEANS FOR SUSPENDING INSULATING CEILINGS, ETC

Filed June 2, 1939

Fig. 1.

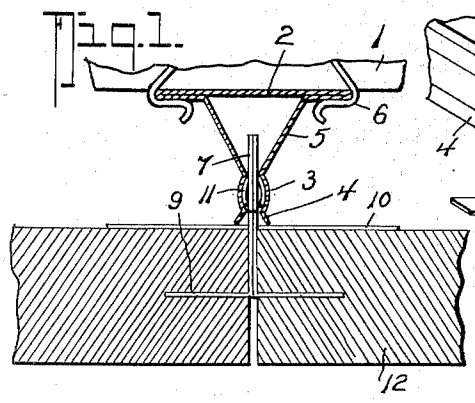


Fig. 2.

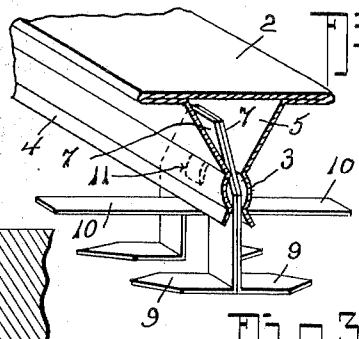


Fig. 3.

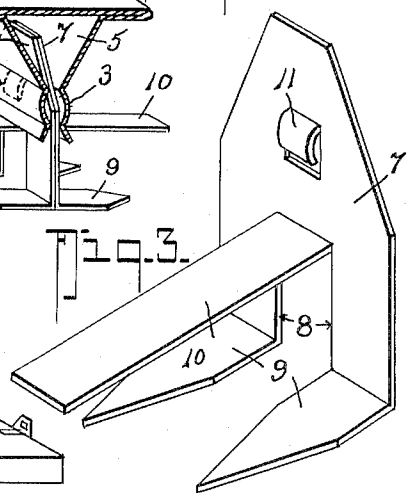


Fig. 4.

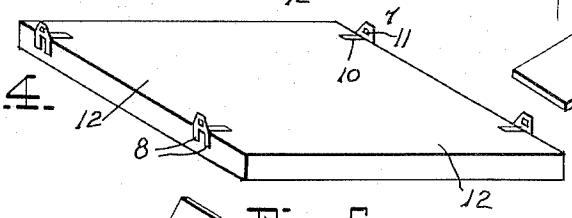


Fig. 6.

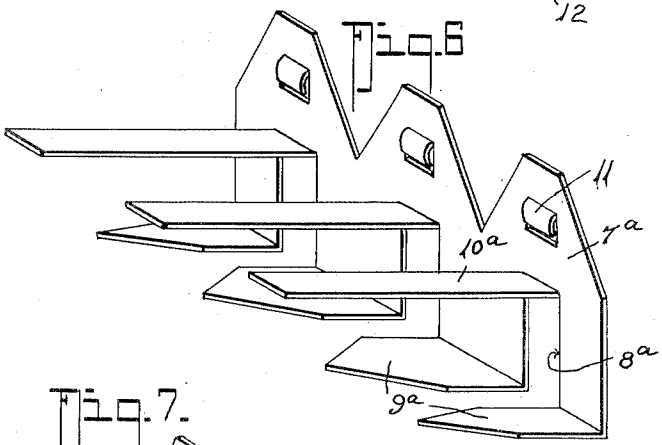


Fig. 5.

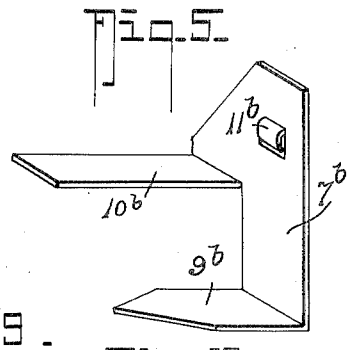


Fig. 7.

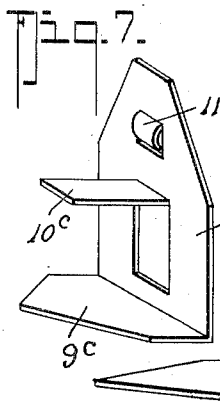


Fig. 8.

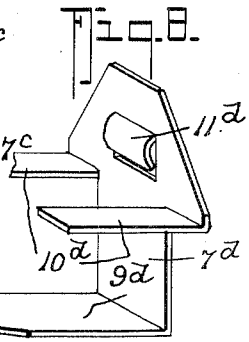


Fig. 9.

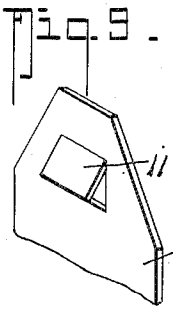
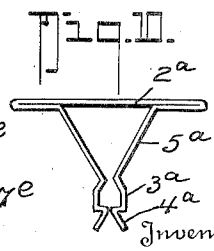


Fig. 10.



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UNITED STATES PATENT OFFICE

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MEANS FOR SUSPENDING INSULATING CEILINGS, ETC.

Harold L. Finch, Davenport, Iowa

Application June 2, 1939, Serial No. 277,069

7 Claims. (Cl. 72—118)

My invention relates to the art of building construction and, more particularly, to that branch of the art which has to do with sound deadening and/or insulating of wall and ceiling structures.

Many devices have heretofore been suggested for the purpose, but all those which have come to my attention are open to one or more objections.

My invention has for its primary object to provide means for the purpose stated which will not be open to the objections that have been or can be raised to the prior art devices.

Further, it is an object to provide improved nailless means, including invisible clips, which may first be attached to the fibreboard and then the board, with clips attached, may be snapped into place as a unit.

Further, it is an object to provide a clip which is driven or pushed into the edges or sides of the fibreboard or acoustical tile, and will cooperate with the standard T-runner (see Figs. 7 and 8 of Pat. No. 2,059,483).

Again, it is an object to provide a clip which can be installed without the necessity of grooving the fibreboard or acoustical tile, and without the necessity of nailing or riveting the clip to the board or tile.

A further object is to provide a clip that may be driven or pushed into the fibreboard or acoustical tile while the same is still at floor level, thus saving an expensive operation of assembling a clip to a supporting moulding member and then assembling the board or tile to the clip while on a scaffold in an unnatural position (a slow, expensive and skilled operation).

Another object is to provide a clip that is uniform in design regardless of whether it is to be used in a wall or ceiling construction, or whether it is used in the field of design, or whether it is used for the border adjacent the field, which in all affords additional savings in that only one type of clip need be made, and further that less skilled effort need be employed to make an installation in that no assorting of special clips for special purposes is necessary.

A further object is to provide a clip that is so designed as to have an upper prong which is longer than the lower prongs, thereby providing a gauging finger which enables each clip to be uniformly pushed into the tile, resulting in a level uniform ceiling or wall construction.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, and then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:

Fig. 1 is a detail section and elevation showing my invention in use.

Fig. 2 is a detail perspective view showing two clips in place, back to back, in the T-runner.

Fig. 3 is a perspective view on a larger scale of one embodiment of the invention.

Fig. 4 is a perspective view of a board or tile with the clips in place.

Fig. 5 is a perspective view of a modified form of the invention.

Fig. 6 is a perspective view of another modification.

Fig. 7 and Fig. 8 are perspective views of further modifications.

Fig. 9 is a detail perspective view of another modification.

Fig. 10 is an end elevation of another form of T-runner.

In the drawing, in which like numbers and letters of reference indicate like parts in all the figures, 1 represents the angle bar or furring to which the T-runners are secured by suitable means, such as stirrups 6.

The T-runners, which are well known (see, for instance, Pat. No. 1,833,174), comprise a base 2, two oppositely disposed web members or spring sides 5, suitably converging; longitudinal beads or ribs are formed in the sides and extend outwardly to form the groove 3, the lower ends of the sides below the groove 3 being outwardly bent to constitute flared lips 4 adapted to aid the ready insertion between them of the fastening clips.

The fastening clips, which constitute the essential part of my invention, comprise plate 7 from which at least one upper tongue 10 and at least one lower tongue 9 are stamped by slitting the plate at 8 and bending the tongues. The upper tongue or tongues are longer than the lower ones.

The tongues 9 and 10 lie in parallel planes normal to the plane containing the body of the plate 7 and they are spaced apart a distance preferably approximately one-half the thickness of the insulation board, slab or tile 12. The tongues 9 are also pointed to facilitate their entry into the body of the board, etc.

At such distance above the tongue 10 as will permit that tongue to lie up in contact with—or as close as possible to—the lips 4, a latching

tongue 11 is stamped from the plate 7 to lie within the groove 3 and act as a means to hold the clip firmly to the T-runner.

The lengths of the tongues 9 and 10 may vary. The clip may have one tongue 10 and two tongues 9 (Figs. 1 to 4), or one tongue 10^b and one tongue 9^b (Fig. 5) in staggered relation, or one tongue 10^c and one tongue 9^c (Fig. 7) arranged one directly above the other, or two tongues 10^d and one tongue 9^d (Fig. 7), or the clips may be made up of several integrally formed units (Fig. 7).

The T-runner grooves may be of different shapes in cross section, viz, for examples, curved (Figs. 1 and 2) or angular (Fig. 10). When angular, clips 7^e with flat tongues 11^e (Fig. 9) are preferably used. The tongue 11^e, when used in T-runners having the groove 3^a shaped as in Fig. 10, affords a positive lock that requires very little pressure in assembling the board to the runner, but when once in place the clip will withstand a great deal of pull, yet it can be released when desired by merely inserting a screw-driver in the bead and twisting it to separate the sides 5^a.

In the several views of modifications of the invention the corresponding parts bear the same reference number plus the index letter *a, b, c, d, e,* or *f,* as the case may be, so further detailed description of the several figures of the drawing is thought to be unnecessary.

From the foregoing description, taken in connection with the accompanying drawing, it is thought that the complete construction, operation and advantages of the invention will be clear to those skilled in the art.

What I claim is:

1. In building construction of the character described employing known T-runners; novel sheet metal clips each comprising a flat body, at least one upper tongue and at least one lower tongue said tongues being located in parallel planes and extending out at right angles from said body from one side of said body only, and a latching tongue projecting out from said body at a definitely predetermined distance above said upper tongue, by virtue of all of which when said clips are in place on the panels and the panels are in place on said T-runners the clips will be invisible and each panel will be supported in place individually and independently of the others.

2. In building construction of the character described employing known T-runners; novel sheet metal clips each of which comprises a flat body, at least one upper tongue and at least one lower tongue located in parallel planes and extending out at right angles from one side only of said body, and a latching tongue projecting out from said body on the same side as the parallel tongues at a definitely predetermined distance above said upper tongue to cooperate with said T-runners, said lower tongue being pointed to enable the forcing of the tongue into the edge of a panel.

3. In building construction of the character described employing known T-runners; novel sheet metal clips each of which comprises a flat body, at least one upper tongue and at least one lower tongue located in parallel planes and extending out at right angles from one side only of said body, and a latching tongue projecting out from said body on the same side as the parallel tongues at a definitely predetermined distance above said upper tongue to cooperate with said T-runners, said lower tongue being pointed, in combination with a panel having a continuous unbroken or uninterrupted edge, said lower tongue projecting from said edge into the panel, said upper tongue lying on one face of the panel and said body lying flat against said edge of the panel.

4. In the art of building construction, wherein is employed known T-runners, and sheet metal panel mounting clips; a novel clip comprising a flat body, at least one upper tongue and at least one lower tongue located in parallel planes and extending out at right angles from said body and from one side of the body only, and a latching tongue projecting out from said body at a definitely predetermined distance above said upper tongue to cooperate with said T-runners, the lower tongue being spaced from the upper tongue a distance substantially less than the thickness of the board or tile to be supported.

5. In the art of building construction, wherein is employed known T-runners, and sheet metal panel mounting clips; a novel clip comprising a flat body, at least one upper tongue and at least one lower tongue located in parallel planes and extending out at right angles from said body and from one side of said body only, and a latching tongue projecting out from said body on the same side as said parallel tongues at a definitely predetermined distance above said upper tongue to cooperate with said T-runners, said upper tongue being longer than said lower tongue, thereby making the upper tongue a gauging member to facilitate the proper locating of the clip into a tile board.

6. In the art of building construction, the combination of T-runners, each having spring sides formed with a groove and diverging lips adjacent said groove, panels with uninterrupted edges, clips for supporting said panels from said T-runners, said clips each comprising a flat body having at least one upper tongue and at least one lower tongue located in parallel planes and extending out at right angles from said body at one side thereof only, and a latching tongue cooperating with said T-runners projecting out from said body on the same side as said parallel tongues and located at a definitely predetermined distance above said upper tongue such that said upper tongue will engage said lips when said latching tongue is assembled in said groove, said lower tongue being pointed to facilitate its being forced into the edge of the panel.

7. In the art of building construction, the combination of T-runners, each having spring sides formed with a groove and diverging lips adjacent said groove, panels with uninterrupted edges, clips for supporting said panels from said T-runners, said clips each comprising a flat body having at least one upper tongue and at least one lower tongue located in parallel planes and extending out at right angles from said body at one side thereof only, and a latching tongue cooperating with said T-runners projecting out from said body on the same side as said parallel tongues and located at a definitely predetermined distance above said upper tongue such that said upper tongue will engage said lips when said latching tongue is assembled in said groove, said lower tongue being pointed to facilitate its being forced into the edge of the panel, the distance between said upper and lower tongues being less than the thickness of the panel.

HAROLD L. FINCH.