C. TRAVALLED.

FLOOR AND CEILING CONSTRUCTION.

APPLICATION FILED JAN. 24, 1912.

1,046,903. Patented Dec. 10, 1912.

Fig. 1

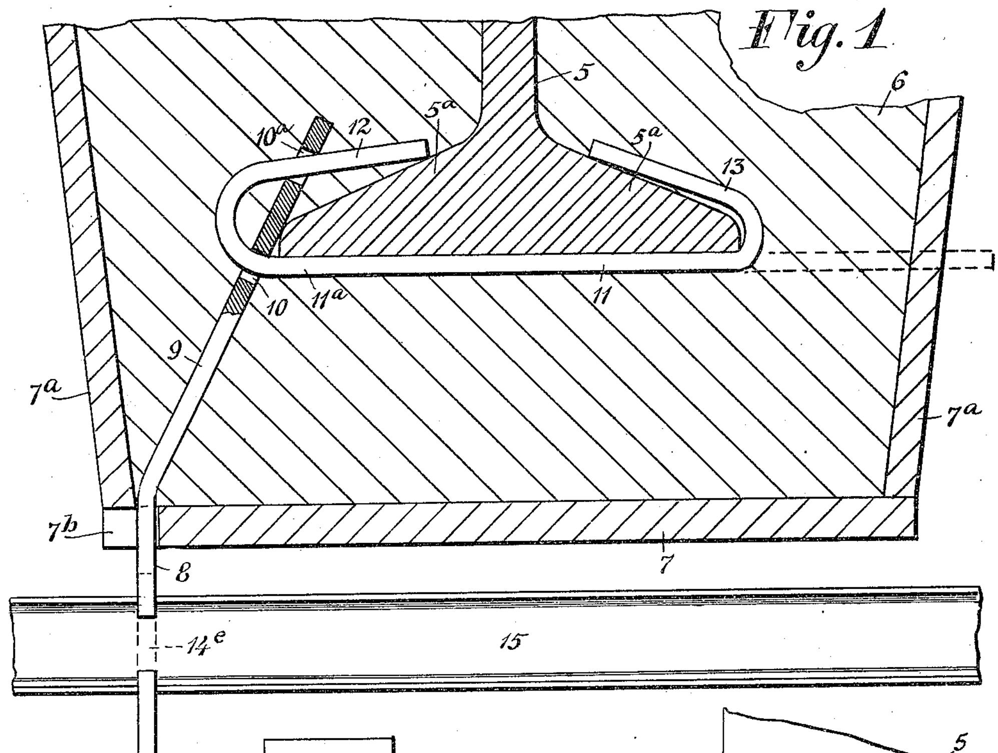


Fig. 2

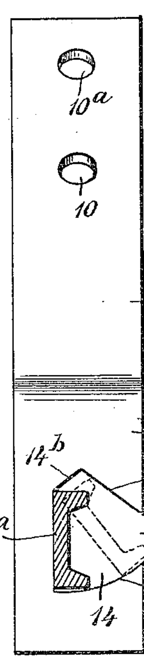
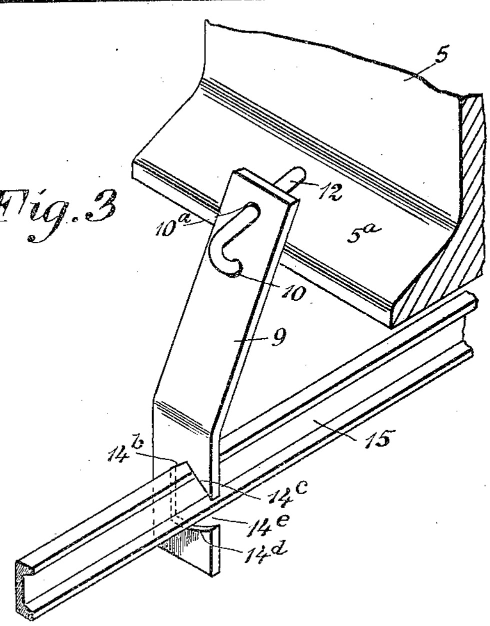


Fig. 3



WITNESSES

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FLOOR AND CEILING CONSTRUCTION.

1,046,903. Specification of Letters Patent. Patented Dec. 10, 1912.

Application filed January 24, 1912. Serial No. 673,218.

To all whom it may concern:

Be it known that I, CHARLES TRAVALLED, a citizen of the United States of America, and a resident of New Rochelle, Westchester county, State of New York, have invented certain new and useful Improvements in Floor and Ceiling Construction, of which the following is a specification.

My invention relates to floor and ceiling construction of the kind commonly known as fireproof construction, and more particularly to devices for supporting or suspending the ceilings and has for its object to provide a simple and efficient device of this character adapted to readily receive and to prevent accidental removal of the usual ceiling bars.

My invention will be fully described hereinafter, and the features of novelty will be pointed out in the appended claims.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a sectional view of a part of a floor and ceiling illustrating my improvement; Fig. 2 is a face view of my improved hanging device showing the ceiling bar in cross-section, and Fig. 3 is a detail perspective view of my invention.

In the drawings, 5 represents the lower portion of an I-beam customarily used in constructions to which the present invention relates and which are covered either entirely or partially with concrete or other coalescent material 6 to render them fireproof. This concrete or other coalescent material is maintained in position until it becomes set or hardened by means of temporary centering indicated in the drawings as 7 and 7^a. In constructions to which the present invention relates it has been found convenient to incorporate hangers or suspending devices on which the material forming the ceiling is carried or supported through the medium of ceiling bars or other means. In the present case this hanger comprises a bar of metal 8 preferably flat and having a portion 9 which is preferably inclined provided with spaced apertures 10 and 10^a near its upper free end. A clip 11 has a main portion 11^a passing through the aperture 10 and a return or hook portion 12 projecting through the aperture 10^a and engaging the one upper surface of the lower flange 5^a of the I-beam 5 as clearly shown in Fig. 1. The main portion 11 of the clip initially extends in a substantially straight line, as indicated in dotted lines in Fig. 1, and is bent around the opposite edge of the flange 5^a to form a hook 13 after the clip has been passed through the apertures 10 and 10^a and the hook 12 positioned on the flange 5^a as described. The said clip is thus firmly secured in position on the I-beam and serves to lock the bar 8 in proper operative position. Adjacent to its lower end the bar 8 is provided with an open recess 14 having a vertical wall 14^a, upper walls 14^b and 14^c inclined in opposite directions or in other words diverging downwardly and a lower wall 14^d curved about a center located approximately at the center of the wall 14^b. With this construction the open end 14^e of the recess is smaller than the distance between the walls 14^b, 14^c and 14^d for the purpose to be more fully described hereinafter. This recess 14 is adapted to receive a ceiling bar 15 which may be of any desired construction and is preferably of U-shape in cross-section and adapted to act as a support from which the ceiling may be hung in any usual and convenient manner. This ceiling bar 15 is of a width greater than the open end or mouth 14^e and can be introduced and removed from the recess 14 only by an angular movement through said open end. That is, the one edge of the ceiling bar 15 is first passed through the mouth 14^e and raised until it is substantially in engagement with the wall 14^b in which position the lower edge of the bar 15 is slightly above the outer end of the lower wall 14^d, as clearly shown by dotted lines in Fig. 2. The said lower edge of said bar 15 may now be moved inwardly, the said movement being substantially in a curve and following the curve of the wall 14^d until finally the bar 15 reaches the position shown in full lines in Fig. 2 of the drawings in which position said bar is firmly supported. The said bar 15 can only be removed from the recess 14 by reversing the operation just described and cannot be taken therefrom in any other way, thus preventing accidental displacement and consequent destruction of or injury to the ceiling. It is of course to be understood that any well known means for securing the ceiling to the bars 15 may be employed and further that a series of bars 15 and hangers 8 are used in the completed structure.

By bending the bar 8, as shown and described, the vertical leg or portion thereof will come closely adjacent to the point of

engagement between the one member 7[a] and the member 7 of the temporary centering. It is therefore only necessary to slightly notch the member 7 of said centering, as indicated at 7[b], to accommodate the bar 8, an operation which results in an opening substantially filled by said bar, so that concrete or other coalescent material is prevented from escaping from said centering. In addition to this any pull or stress in a direction parallel with the vertical member of the hanger 8 will tend to move the inclined portion 9 on the edge of the flange 5[a] of the beam 5 as a fulcrum. This will cause the aperture 10[a] to tend to move away from said beam and the aperture 10 to move toward the same and will consequently compress the hook 12 toward the one portion of the flange 5[a] and cause it to exert a greater gripping pressure thereon and at the same time will move the hook 13 into closer engagement with the opposite portion of said flange and consequently more firmly seat it thereon. It will thus be seen that the greater the strain on the ceiling bars the greater will be the gripping power of the clip on the flanges of the I-beams and the more firmly will the hangers be secured in position. A very rigid and firm support for the ceiling is thus secured. With the present construction the ceiling bars 15 are also easily placed in position and as before stated are absolutely incapable of accidental dislocation.

It is, of course, to be understood that the centering 7—7[a] is removed after the concrete or other coalescent material 6 has set or become hardened.

Various changes may be made in the form shown and described within the scope of the claims without departing from the spirit of my invention.

I claim—

1. In a floor or ceiling construction, the combination of a supporting beam, a hanger carried thereby and having a recess provided with a contracted opening located intermediate of the upper and lower ends of said recess and a bar adapted to be inserted through said contracted opening into said recess and having a width greater than said contracted opening, said bar extending above and below said opening when in position in said recess.

2. In a floor or ceiling construction, the combination of a supporting beam, a hanger carried thereby provided with a recess having a top and bottom wall converging outwardly to form a contracted opening located intermediate of the upper and lower ends of said recess and a ceiling bar adapted to be inserted through said opening into said recess and having a width greater than said contracted opening and extending above and below the same when in position in said recess.

3. In a floor or ceiling construction, the combination of a flanged supporting beam, a hanger having an inclined portion extending from said beam and a vertical depending portion, said inclined portion being provided with spaced apertures, means for securing said hanger on said beam, said means having spaced members each adapted to pass through an aperture of the hanger and to respectively engage the upper and lower surfaces of the flange of said beam and ceiling supporting means carried by said hanger.

4. In a floor or ceiling coustruction, the combination of a flanged supporting beam, a hanger provided with spaced apertures, a clip connected with said beam and bent upon itself to form spaced members each of which extends through one of said apertures and engages the flange of said beam and ceiling supporting means carried by said hanger.

5. In a floor or ceiling construction, the combination of a supporting beam, a hanger carried thereby and provided with a recess having a contracted opening, a vertical wall, an upper wall inclined upwardly from said opening, a second upper wall inclined downwardly from said first named upper wall to said vertical wall, and a curved lower wall extending from said vertical wall to said opening, and a ceiling bar adapted to be inserted through said contracted opening and along said curved wall into said recess, said ceiling bar being of greater width than said open end and of less width than the widest portion of said recess.

6. In a floor or ceiling construction, the combination of a supporting beam, a hanger carried thereby and having an open ended recess formed therein, the lower wall of said recess being curved on the radius of a circle and a ceiling bar arranged to be inserted into the open end of said recess and moved along the curved lower wall thereof.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES TRAVALLED.

Witnesses:

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M. H. LOCKWOOD.