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L. H. LEHMAN

1,841,898

HINGE

Original Filed Feb. 20, 1926

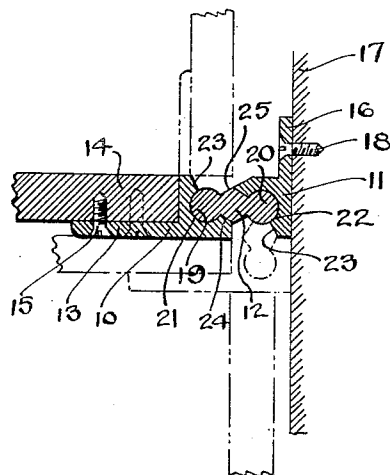


FIG. 1

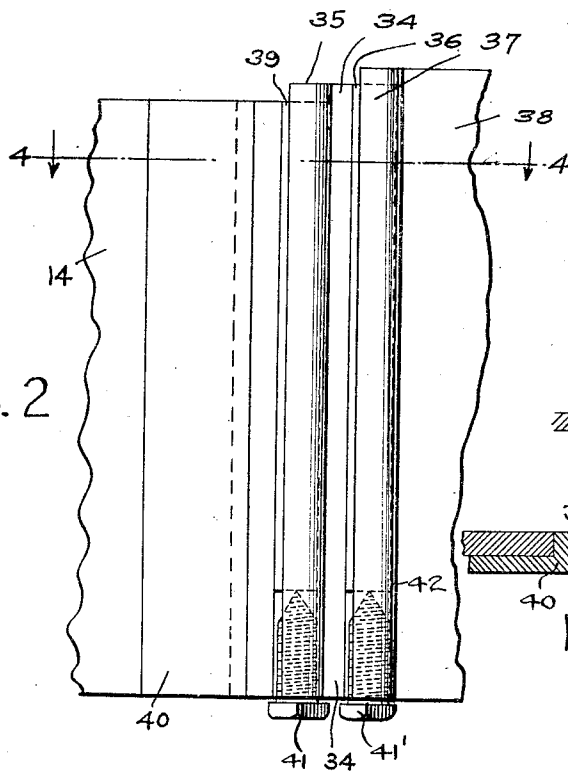


FIG. 2

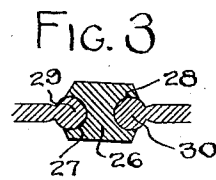


FIG. 3

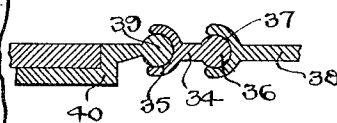


FIG. 4

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HINGE

Original application filed February 20, 1926, Serial No. 89,514. Divided and this application filed June 4, 1928, Serial No. 282,674, and in Germany May 1, 1928.

One of the primary objects of this invention is to devise a novel hinge in which relative longitudinal as well as swinging movements of the hinge sections are permitted, and wherein a water tight joint is formed between the sections, attention being directed to the fact that this application is a division of my co-pending application, Serial No. 89,514, filed February 20, 1926, upon which Patent No. 1,672,418 was granted on June 5, 1928.

With the above and other objects in view as will hereinafter more clearly appear, my invention comprehends a novel construction of a hinge wherein the hinge sections are capable of both relative longitudinal and swinging movements.

It further comprehends a novel hinge having male and female interlocking parts which limit the swinging movement of the element carried by one hinge section relatively to the element carried by the other hinge section.

It further comprehends a novel compound hinge having a plurality of sections which are relatively longitudinally adjustable, and wherein the movable parts carried by the hinge sections may swing into desired adjusted positions.

Other novel features of construction and advantage will hereinafter more clearly appear in the detailed description and the appended claims.

For the purpose of illustrating the invention, I have shown in the accompanying drawings a typical embodiment of it, which, in practice, will give reliable and satisfactory results. It is, however, to be understood that this embodiment is typical only and that the various instrumentalities of which my invention consists can be variously arranged and organized, and the invention is not, therefore, limited to the precise arrangement and organization of these instrumentalities as herein set forth.

Figure 1 is a section of a hinge embodying my invention;

Figure 2 is an elevation of a modified form of hinge arrangement;

Figure 3 is a sectional view of another embodiment of my invention; and

Figure 4 is a sectional view taken on line 4—4 of Figure 2.

Referring now to the drawings and particularly to Figures 1 and 2, it will be observed that the compound hinge comprises the female members 10 and 11 and the intermediate male member 12. As shown in the drawings, the female member 10 is provided with a flange 13 for securement to a swinging door or sash 14, this securement being effected through the securing element 15. The female member 11 is also provided with a laterally projecting flange, designated 16, by means of which the said female member 11 is secured to a stationary part 17, such as a wall, door casing or window frame. As in the former instance, this securement is effected through securing elements such as the screws 18.

It will be observed that the intermediate hinge member, which in this instance is the male member, is provided on its opposite sides with the substantially cylindrical bars 19 and 20, these bars being respectively seated in the complementally formed substantially cylindrical recesses 21 and 22 formed in the female hinge members 10 and 11. It will be observed that each of these female hinge members is provided with a pair of limiting walls 23 and 24, the function of which is to limit the degree of lateral movement which said female members may have with respect to the intermediate male member 12. Co-operating with these limiting walls 22 and 23 of the female hinge members, are the complementally formed side wall portions 25 of the male member 12.

As shown in Figure 3, the intermediate section may be a doubled female hinge section and the other hinge sections the male sections. In this case, the intermediate section 26 is provided with the cylindrical recesses 27 and 28 opening through its opposed side walls, these recesses 27 and 28 being adapted to receive the cylindrical bars 29 and 30 respectively of the male hinge sections 31 and 32.

In the embodiment shown in Figures 2 and 4, the intermediate member of the compound hinge is a combined male and female

section as are the other sections of the hinge. It will be observed that in this case, the intermediate member, designated by the numeral 34, is provided at one side with a cylindrical recess 35 opening through its side wall and at its opposite recess with a cylindrical bar 36 adapted to be received in a cylindrical recess 37 formed in the hinge section 38. The recess 35 of the intermediate member is in turn adapted to receive a cylindrical bar 39 of the hinge section 40.

In all of the embodiments herein shown, means are provided to permit longitudinal displacement of the hinge sections at the same time that this means permits relative longitudinal adjustment to be had between the various sections. Any desired means may be employed for this purpose, and such means may vary widely in construction and may be fixed or adjustable.

In the case of the modifications shown in Figures 2 and 4, the studs or bolts 41' are threadedly received within the bottom ends of the cylindrical recesses for engagement with the lower ends of the cylindrical bars respectively received within these recesses.

It will be observed that the hinge hereinbefore described permits a compound swinging movement to be had due to the provision of the intermediate hinge section, the result being that the movable part 14 (see Figure 1) can be swung in either direction to a position paralleling the fixed support or wall 17 to which the fixed hinge section is connected; or this movable part may be disposed at any position intermediate the dotted positions shown in Figure 1. The same is of course true as respects the modified arrangements shown in Figures 2, 3 and 4.

This invention is especially adapted for use with doors, screens and windows, the arrangement of hinge being such that the door, screen or window may be swung inwardly or outwardly through a quarter or half circle, while the movable parts of the hinge may be raised or lowered within certain limits to any position desired. The hinge is weatherproof and rustproof, thereby eliminating the necessity of weatherstripping. The close fit of the joint eliminates rattling between the several sections, yet the hinge may be manufactured economically and is easy to install.

What is claimed as new and useful is:

1. A hinge having two longitudinally continuous sections respectively adapted to be secured to the parts to be connected, one of said sections being stationary and the other freely movable with respect thereto, a longitudinally continuous intermediate section substantially coextensive in length with said stationary and movable sections, the opposed longitudinal edges of said intermediate section being respectively adapted for hinged securement to said stationary and movable sections.

2. A hinge having two longitudinally continuous sections respectively adapted to be secured to the parts to be connected, one of said sections being stationary and the other freely movable with respect thereto, a longitudinally continuous intermediate section substantially coextensive in length with said stationary and movable sections, the opposed longitudinal edges of said intermediate section being respectively adapted for hinged securement to said stationary and movable sections, and means for supporting the intermediate section and the movable section so that they are capable of relative swinging and longitudinal movements with respect to each other and to the stationary section.

In testimony whereof, I have hereunto affixed my signature.

LOUIS H. LEHMAN.