H. C. EMRICH.

HINGE ADJUSTING DEVICE.

APPLICATION FILED SEPT. 3, 1910.

995,851. Patented June 20, 1911.

Fig. 1.

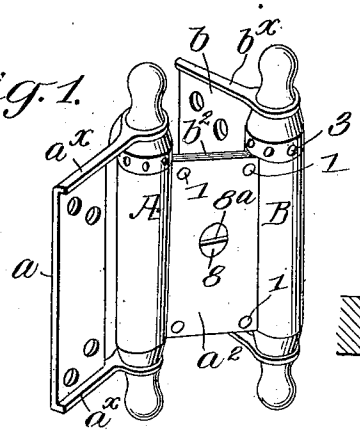


Fig. 6.

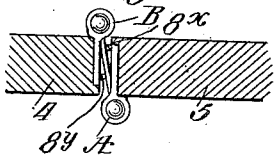


Fig. 2.

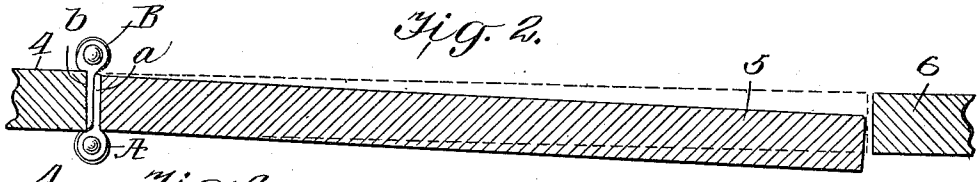


Fig. 3.

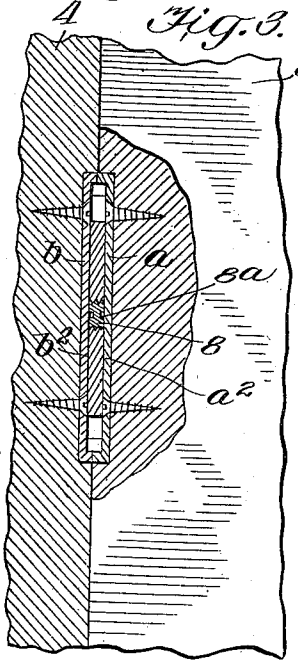


Fig. 4.

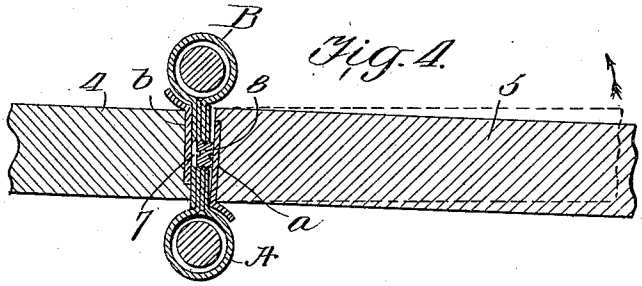
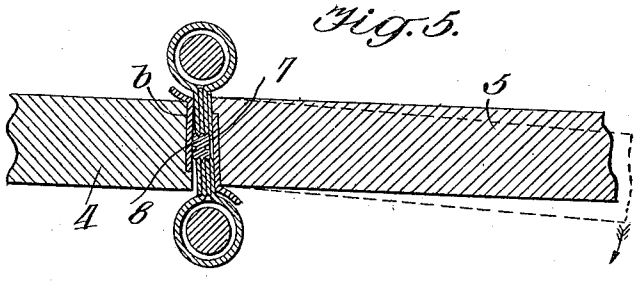


Fig. 5.



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HINGE-ADJUSTING DEVICE.

995,851. Specification of Letters Patent. Patented June 20, 1911.

Application filed September 3, 1910. Serial No. 580,335.

To all whom it may concern:

Be it known that I, HENRY C. EMRICH, a citizen of the United States, and a resident of Washington, in the District of Columbia, have made certain new and useful Improvements in Hinge-Adjusting Devices, of which the following is a specification.

My invention relates to improvements in devices for adjusting hinges. It is more particularly applicable to double hinges such as those used on doors which are designed to swing past the door jambs in both directions, and it consists in the combinations, constructions and arrangements herein described and claimed.

In the hanging of swinging doors, it is sometimes very difficult to bring the door into alinement with the door casing when it is in its closed position. The reason is obvious. A double hinge consists in reality of two hinges having their straps secured together on one side, one free strap being secured to the door jamb, and the other strap being secured to the door. It is apparent that if the edges of the door and door jamb or casing are not parallel that the door in its closed position will be out of alinement.

An object of my invention is to provide a very simple means for accurately adjusting the hinge, so that a door in its closed position will be in exact alinement with the sides of the casing.

A further object of my invention is to provide a device which can be applied to any type of double hinge with very little trouble, and by means of which the door may be brought into position through the adjusting member, at any time after it is once hung, with a very little effort.

A further object of my invention is to provide a device which is exceedingly simple in its nature, and, therefore, costs but little to make.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a perspective view showing a double hinge provided with my improved adjusting device, Fig. 2 is a horizontal section through a door and door casing, the hinge being shown in elevation, Fig. 3 is a vertical central section through a double acting hinge and a portion of the jamb and door, Fig. 4 is a horizontal section through the hinge, door and jamb, showing the adjustment required for bringing the door back to its position of alinement when its position of rest is on one side of the jamb, Fig. 5 is a view similar to Fig. 4, showing the adjustment when the door tends to remain on the opposite side of the jamb from that shown in Fig. 4, and Fig. 6 is a sectional view, showing a modified form in which two screws are used for adjusting purposes.

In carrying out my invention, I make use of any suitable type of double-acting spring-hinge, such as that shown in Fig. 1. In this figure, it will be noted that the hinge consists of a single spring hinge A, having the straps a and a^2 and a similar hinge B, having the straps b and b^2. The straps a^2 and b^2 are secured together by means of rivets 1, as shown in the figure. In the drawing the straps a and b are shown as provided with flanges a^x and b^x at their upper and lower edges, which flanges overlie the central straps when the former are in their closed position, as shown in Fig. 2. In Fig. 1, I have not shown the usual adjusting pins for the springs, but it will be seen that such pins may enter the openings 3 for adjusting the tension of the springs within the usual spring barrels A and B.

In hanging a door, the custom is to chisel a recess in the door jamb 4 (see Fig. 4) and to secure thereto one of the straps b of the hinge B. The strap a of the hinge A is secured to the edge of the door 5. In the closed position of the hinges, as shown in Fig. 2, it will be seen that the straps b and a are parallel, and if the edges of the door and the jamb are parallel, then the door will remain in alinement with the jamb 4 on one side and with the jamb 6 on the other, but if the edge of the door should not be parallel with the jamb, then the door will come to rest in a position out of alinement with the two jambs. Thus, in Fig. 2, the door 5, as shown in its full line position, is not in alinement. In order to adjust the door so as to bring it into alinement, I make a threaded opening 7 in the central plate in which I secure a screw member 8. This screw member, as will be observed from Figs. 3, 4 and 5, is of the same diameter from end to end and is provided with slots 8^a at each end for the reception of a screw

driver or other similar tool. The length of the screw is preferably that of the thickness of the two straps a^2 and b^2, which, in fact, form one integral central member. If the sides of the door and the jamb are parallel, then the screw member may be turned so that its ends are flush with the exterior portions of the middle strap members a^2 and b^2, as shown in Fig. 3. The hinge will then act precisely as if the adjusting member were not present. If, now, the edge of the door should be beveled in the manner shown in Fig. 4, it will tend to lie in the position indicated by the dotted line. By opening the door so as to gain access to the opposite side of the hinge, *i. e.*, by swinging it in the direction indicated by the arrow in Fig. 5, the screw member may be screwed forward, so that when the door is brought back it will throw the strap *a* outwardly in such a manner that the door will take the position of alinement, which is shown in full lines in Fig. 4. If the door should incline in the opposite direction, as shown by the dotted lines in Fig. 5, then the door may be pushed in the direction indicated by the arrow, until access is had to the inner side of the screw member 8 when it may be driven outwardly so as to contact with the strap *b* on the jamb 4 thereby bringing the door, when in its position of rest, in the position shown in full lines in Fig. 5.

It is obvious that if an upper hinge is adjusted so as to swing the upper part of a door into position, as described, and a lower hinge be adjusted so as to swing the lower part of the door in the opposite direction, a strain will be put on the door. Thus, the device may be used to correct the warping of doors, as well as to adjust their position of rest.

One feature of this invention lies in its simplicity. A very slight turn of the screw will serve to move the door some distance at its opposite edge. Therefore, the adjustment can be made with the utmost accuracy. Moreover, it can be made any time after the door is hung. The usual method is to plane off the door and reset the hinge until the door is finally brought into position, but even then it may get out of adjustment and cannot be brought back without taking off the hinge and replaning the edge of the door. It is obvious, therefore, that the device is especially useful to carpenters or others who are engaged in hanging doors, and that it will save not only the time of the carpenter in hanging the door, but will at all times be capable of adjusting the door immediately.

In Fig. 6, I have shown a modified form of the device in which two adjusting screws 8^x and 8^y are used. One of these screws may be turned so as to project beyond the central portion of the hinge on one side, while the other screw may be turned to project in the opposite direction the same distance. This will serve to cause the door to extend toward the opposite jamb, thus compensating for a door which has been planed down too narrow. This is a virtual adjustment of the width of the door, and amounts to a thickening of the hinge itself. The edges of the door and of the jamb may still maintain their parallel relation.

I claim:

1. The combination with a double acting hinge for a swinging door comprising in its construction a central plate and straps pivotally connected to the opposite edges thereof, of a stop screw carried by the central plate and adapted to be extended through on either side thereof into engagement with the adjacent hinge straps.

2. The combination with a double acting hinge for a swinging door comprising in its construction a central plate and straps pivotally connected to the opposite edges thereof, of a stop screw carried by the central plate and adapted to be extended through on either side thereof, said screw being provided with a slot at each end for permitting the adjustment of the screw, and the ends of the screw being adapted to act as a stop member for the adjacent hinge straps.

3. The combination with a double acting hinge for a swinging door comprising in its construction a central plate and straps pivotally connected to the opposite edges thereof, of a stop screw carried by the central plate, the length of the stop screw being the same as the thickness of the central plate, said screw being adapted to be moved so as to extend out from either side of said central plate, and to engage the adjacent hinge straps.

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