

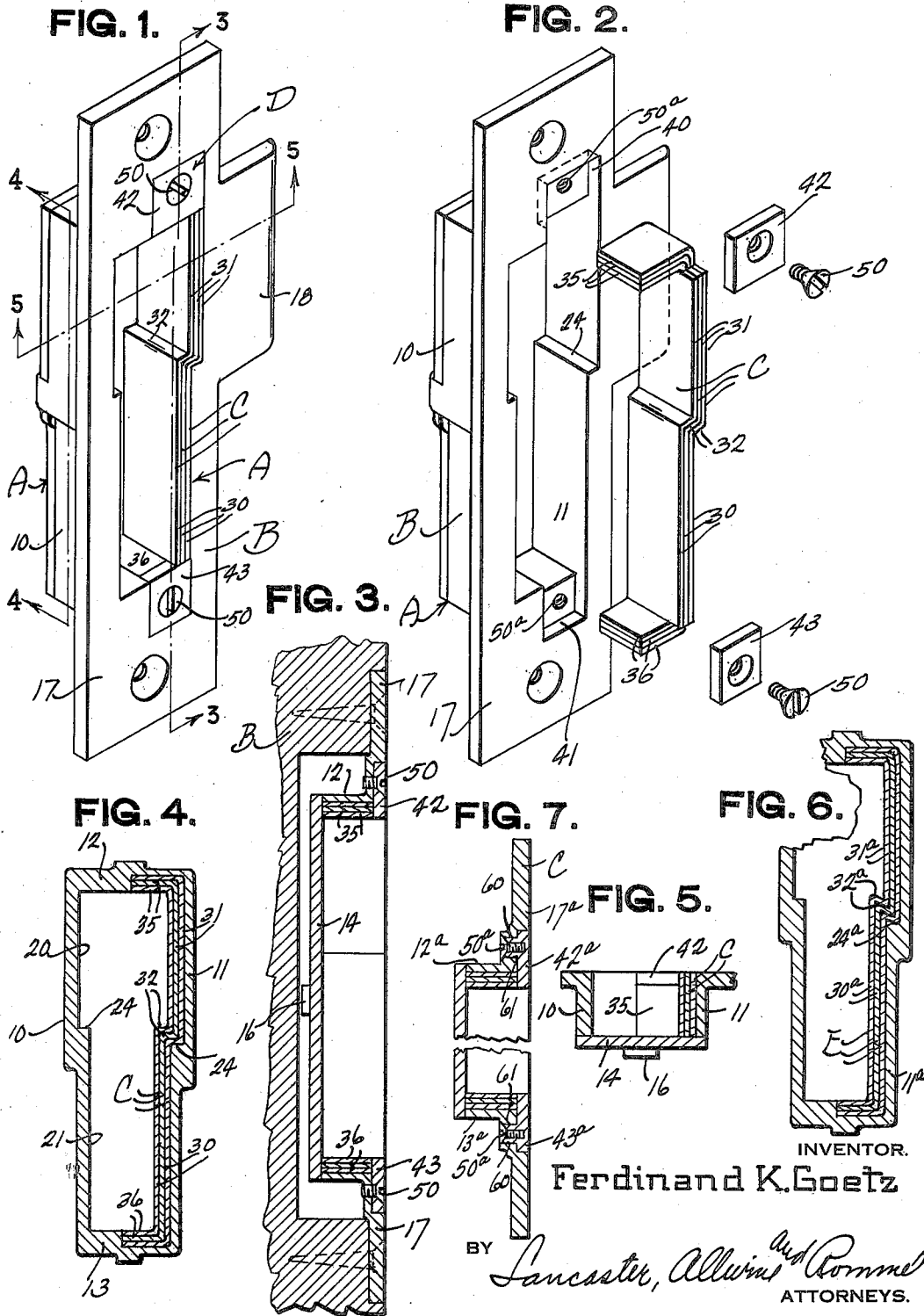
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ADJUSTABLE LOCK STRIKE

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## ADJUSTABLE LOCK STRIKE

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This invention relates to improvements in lock strikes, and particularly to an improved means of adjustment in order to compensate for closure and frame sagging and warpage so that the lock bolt may properly cooperate therewith.

The primary object of this invention is the provision of an improved lock strike having improved means for adjusting the width of the bolt receiving socket, for the purpose of compensating for door frame or door sag and warpage.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawing, forming a part of this specification, and wherein similar reference characters designate corresponding parts throughout the several views:

Figure 1 is a perspective view of the improved lock strike.

Figure 2 is a perspective view of the improved lock strike with the size adjusting shims and locking means therefor in disassembled relation with respect to the keeper box.

Figures 3, 4 and 5 are cross sectional views taken substantially on their respective lines in Figure 1 of the drawing.

Figure 6 is a fragmentary sectional view showing a modified form of interlocking shim.

Figure 7 is a vertical sectional fragmentary view taken through a modified form of lock strike, wherein the retaining plates or members are held in place by screws accessible only from the rear of the strike plate.

In the drawing, wherein for the purpose of illustration are shown preferred and modified forms of the invention, the letter A may generally designate the improved lock strike, which may include a keeper box B having shims C detachably associated therewith for the purpose of varying the width of the bolt receiving sockets of the keeper box. Improved means D is provided for releasably holding the shims in position. A modified form of interlocking shim E may be provided as shown in Figure 6.

The keeper box B may be of any approved construction. In the form illustrated it is of cast metal, although it may be of pressed metal, etc. In the most general form the keeper box will consist of side walls 10 and 11, a top wall 12 and a bottom wall 13. A rear wall 14 is preferably clamped in position by fingers 16 integral with the side, top and bottom walls. The side, top and bottom walls are flanged at their front edges to provide the attaching plate 17 which has a bolt strike extension 18 at a side thereof. This keeper

box provides communicating bolt receiving compartments 20 and 21, the former of which is the widest and adapted to receive a latch bolt. The other compartment receives the dead bolt.

The side wall 11 of the keeper box, and the adjacent portions of the top and bottom walls 12 and 13 respectively are properly recessed to provide a suitable socket for receiving the shims C. It is to be noted that the compartments 20 and 21 at their juncture have a reducing shoulder 24, which is taken advantage of to enable a crimping or offset in each of the shims C intermediate its ends, for the purpose of strengthening the same. This offset in the form of shim E is taken advantage of to interlock the shims with each other and with the wall 11, as shown in Figure 6.

As shown in Figure 2 each shim C consists of the portions 30 and 31 adapted to fit in the compartments 21 and 20 respectively, along the wall 11; the juncture of these portions 30 and 31 having a horizontal offset 32. At the free end the portion 31 of each shim C has a right angled flange 35 which terminates short of the forward edge of the shim C. Similarly the free end of the portion 30 has an attaching flange 36 which likewise terminates short of the forward edge of the portion 30. These flanges 35 and 36 respectively seat in the recessed socket portions of the walls 12 and 13.

Any number of shims C may be provided, as desired. They are not all of the same size, since they are nested together and in this respect are complementary for seating in the shim sockets provided in the keeper box, so that they may be removed one by one in order to adjust the size of the bolt socket to the position of the lock bolt upon the closure, without the necessity of removing and re-affixing the keeper box. As shown in the form of invention A only three of the shims C are provided, which are suitably nested together; the offset portions 32 resting in nested relation upon each other, and the shims C immediately adjacent to the wall 11 resting upon the shoulder 24. The nested flanges 35 seat in the recessed portion of the wall 12, and similarly the flanges 36 are nested in the recessed portion of the opposite end wall 13, as shown in Figure 4.

To prevent the accidental removal of the shims, and insure their proper locked positioning within the keeper box, the front face of the keeper box flange 17 is recessed at 41 adjacent the end wall 13, and at 40 adjacent the opposite end wall. These recesses are of different size and adapted to receive lock members 42 and 43 respectively, in the form of polygonal discs.

These discs are of different size in order that they may be properly assembled after detachment, or they may be interchangeable if found desirable. It is to be particularly noted that the flanges 35 and 36 were terminated at their forward edges short of the front edges of the body portions of the respective shims. This enables the forward edges of these flanges 35 and 36 to lie behind the lock plates 42 and 43 when the latter are in their respective sockets 41 and 42. This is well shown in Figure 3 of the drawing. The lock plates 42 and 43 are assembled and held in position by means of screws 50 detachably screw threaded in sockets 50<sup>b</sup> of the keeper box flange 17.

In the assemblage of the shims upon the keeper box it is to be noted that the outer surfaces of the retaining plates 42 and 43 are flush with the front surface of the strike plate, as are also the forward edges of the body portions 30 and 31 of the shims C. There are no free and open spaces between the wall 11 and the shims C, and this is a considerable advantage over some types of expedients for adjusting the width of the keeper box socket by means of adjustable movable plates which invariably permit a sediment collecting recess between the side wall and the movable or adjustable portion. Another distinct advantage of the present adjustable lock strike is the fact that the adjustment may be taken care of in a very simple and efficient manner without removing the keeper box or rearranging it in its mortise. Furthermore the arrangement is not only practical but simple and economical to manufacture.

In the form of invention shown in Figure 6 the shims E and associated parts of the keeper box are the same as above described except that the side wall 11<sup>a</sup> has a shoulder 24<sup>a</sup> with a surface sloping at an acute angle to the inner surface of the side wall. The offset portions 32<sup>a</sup> of the shims E, which correspond to the offset portions 32 of the shims C are not at right angles to the body portions 30<sup>a</sup> and 31<sup>a</sup>, but are acutely positioned with respect thereto, in a sort of Z-shaped arrangement. This enables the interlocking of the shims E not only with each other but with the shoulder 24<sup>a</sup>, as is shown in Figure 6. In a keeper box having a relatively long lock bolt keeper socket this will insure that there will be no bending of the shims E by reason of the lock bolt striking thereagainst or sliding thereover.

It is of course to be understood that the size of the bolt receiving socket of the keeper box may be adjusted endwise as well as laterally. Thus the shims may be placed at either of the bolt end walls. Indeed it is within the contemplation of the invention to entirely surround the bolt socket of the keeper box with such shims.

In the modified form of invention C illustrated in Figure 7 the front plate or wall 17<sup>a</sup> of the keeper box above the wall 12<sup>a</sup> and below the wall 13<sup>a</sup> is provided with openings 60. The retaining members or plates 42<sup>a</sup> and 43<sup>a</sup> have rearwardly projecting cylindrical shaped portions 61 with screw threaded sockets opening rearwardly and terminating in dead end planes in the respective retaining members. The openings 60 are countersunk and adapted to receive countersunk head retaining screws 50<sup>a</sup> which are adjustable in the screw threaded sockets in order to hold the retaining plates 42<sup>a</sup> and 43<sup>a</sup> in position. With this construction it is necessary to take off the keeper

box from the frame in which it is mortised in order to reach the screws 50<sup>a</sup> for adjusting the number of the shims. The advantage in this construction is that the retaining plates cannot be readily loosened and are protected against unauthorized tampering.

Various changes in the shape, size, and arrangement of parts may be made to the forms of invention herein shown and described, without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a lock strike the combination of a keeper box having dead and latch bolt receiving sockets therein of different widths and communicating with each other and having a lateral offset shoulder at the bolt strike wall where they communicate with each other, and a plurality of shims in nested relation, each shim being offset intermediate its ends and each shim extending into each of the bolt sockets with the offset portions thereof nested together at the shoulder of said sockets.

2. As an article of manufacture a shim for strike plates comprising a body portion having attaching flanges at opposite ends thereof extending transverse thereto and the front edges of which are offset rearwardly from the front edge of the body portion.

3. In a lock strike the combination of a keeper box having a bolt receiving socket therein, a plurality of shims in associated contact within the socket along a wall thereof, retaining members at the front of the box for holding the shims in position, and means accessible only from the rear of the keeper box for releasably holding said retaining members in position.

4. A lock strike comprising a keeper box having a lock bolt keeper socket therein, a plurality of shims located directly in the bolt receiving portion of said socket in associated contact with the strike side wall of said box and positioned for individual removal and replacement, and fastener devices at the front of the box removably connected therewith and engaging the opposite ends of the shims for releasably holding them in position.

5. A lock strike comprising a keeper box having a bolt receiving socket therein, a plurality of shims directly within the bolt receiving portion of said socket in nested relation against the bolt strike wall of said socket, individually removable for selectively varying the width of said socket in order to permit the bolt of a lock to properly engage in the socket without excess play across the width of the socket, and releasable means connected with the keeper box and engageable with the opposite ends of the shims at the top and bottom of the keeper socket for releasably holding the shims in position against said bolt strike wall.

6. A lock strike comprising a keeper box having a bolt receiving socket therein, a plurality of shims removably disposed directly within the bolt receiving portion of said socket and in relatively nested assemblage directly against the bolt strike wall of said socket so as to permit the bolt of a lock to properly engage in the socket, without excess play across the width of the socket, and strike directly against the outermost of said shims, and means for releasably retaining said shims removably within said socket against accidental displacement.

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