Jan. 2, 1923.

L. OTTINGER.

ADJUSTABLE LOCK STRIKE.

FILED JUNE 1, 1921.

1,441,020.

2 SHEETS—SHEET 1.

Fig. 1

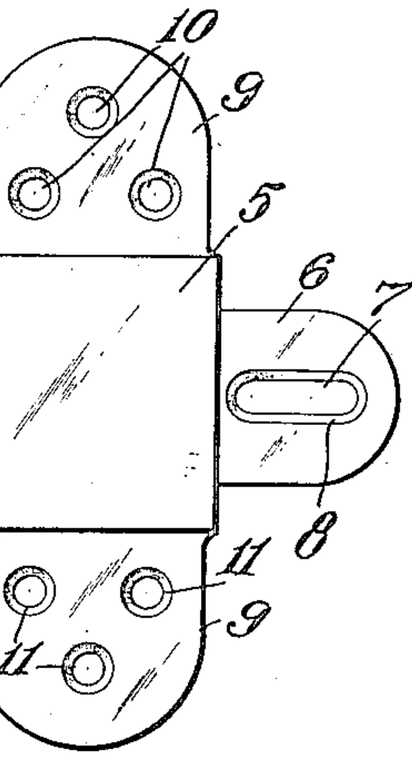


Fig. 1a

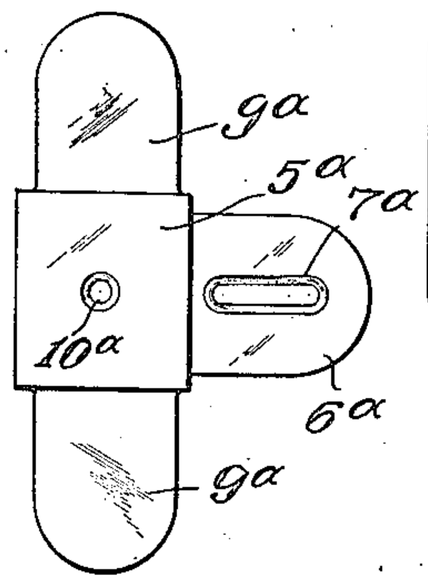


Fig. 2

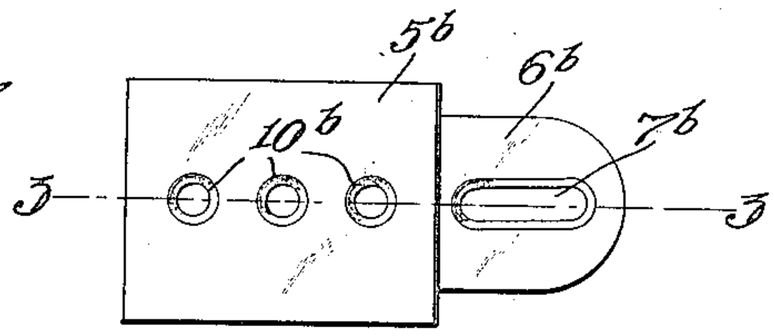


Fig. 3

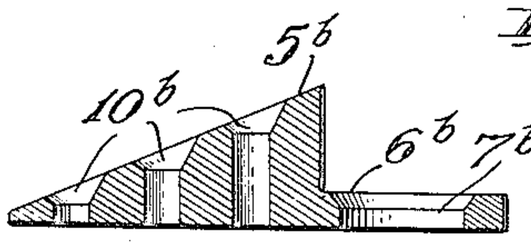


Fig. 4

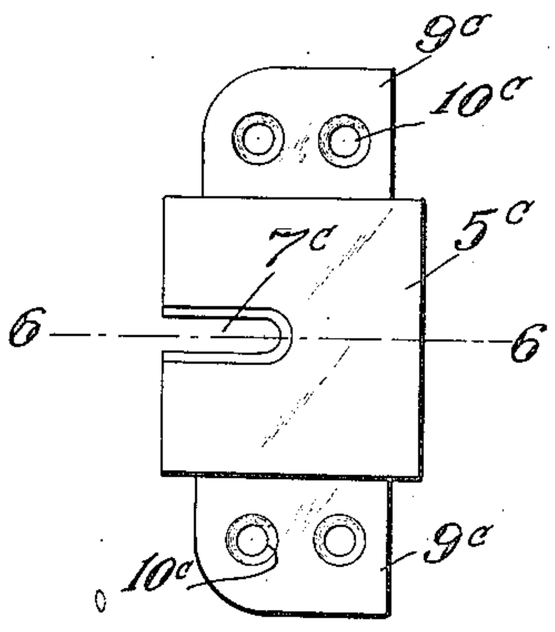


Fig. 5

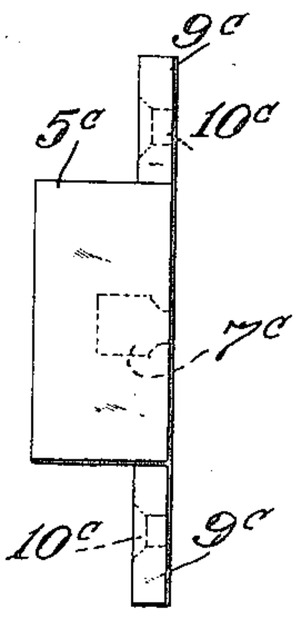


Fig. 6

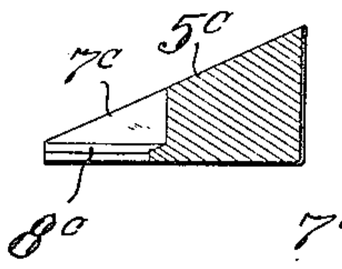


Fig. 7

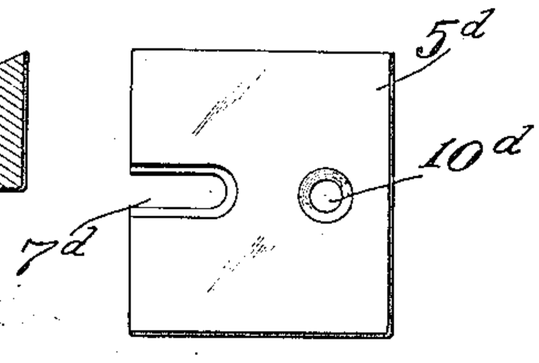
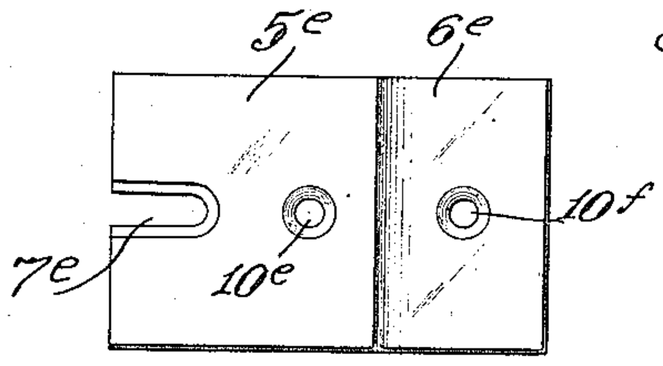


Fig. 8



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2 SHEETS—SHEET 2.

Fig. 9

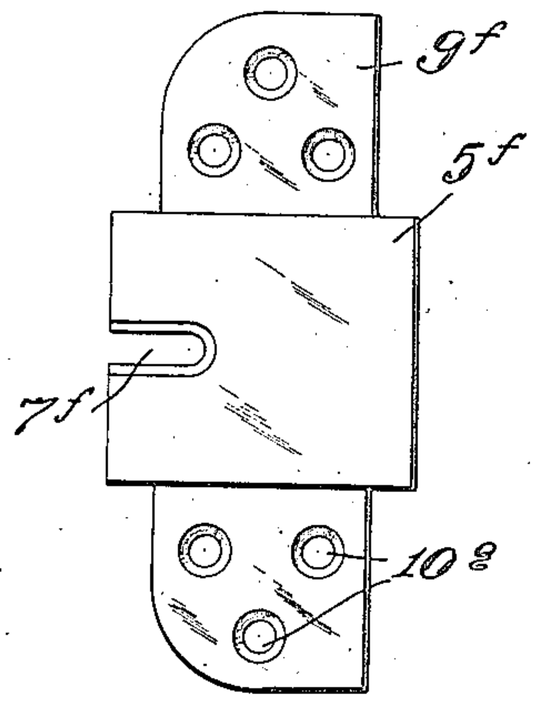

Fig. 10

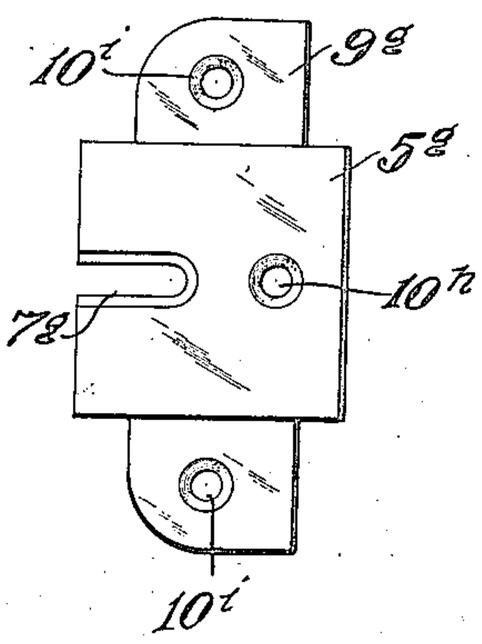

Fig. 11

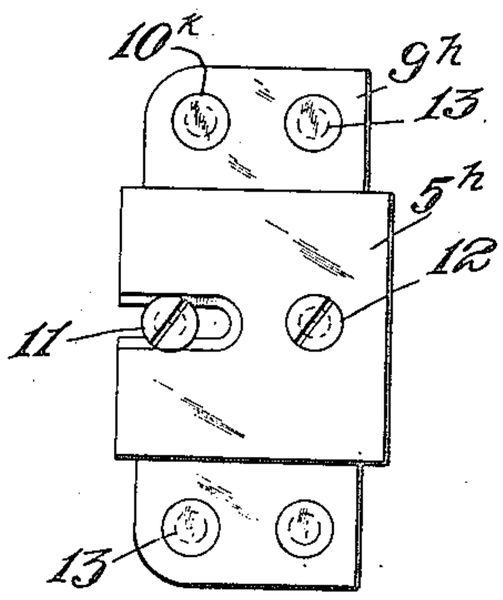

Fig. 12

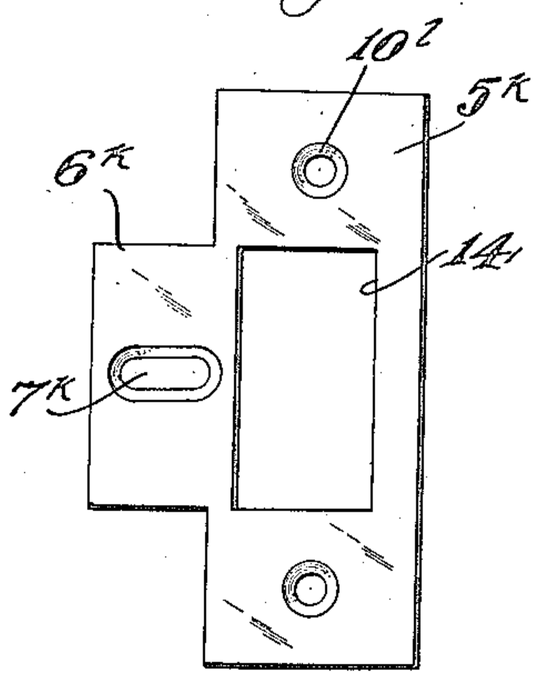

Fig. 14

Fig. 13

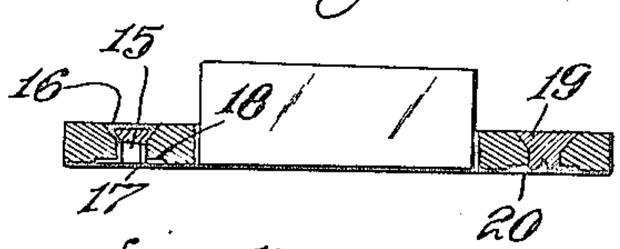

Fig. 15

Fig 16

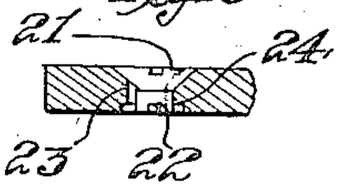

Fig 17

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Patented Jan. 2, 1923. 1,441,020

UNITED STATES PATENT OFFICE.

LEON OTTINGER, OF NEW YORK, N. Y.

ADJUSTABLE LOCK STRIKE.

Application filed June 1, 1921. Serial No. 474,081.

To all whom it may concern:

Be it known that I, LEON OTTINGER, a citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Adjustable Lock Strikes, of which the following is a specification.

This invention relates to an adjustable lock strike and more particularly, to articles of manufacture of that type adapted to be secured to door frames and with which the lock bolt coacts to retain the door in its closed position.

It is the primary object and purpose of the present invention to provide a simple and inexpensive lock strike particularly designed for the purpose of facilitating the initial installation of a lock strike upon automobile bodies so as to eliminate the necessity of cutting down or adjusting the door bumpers in order that the bolt member may properly coact with the strike. I also contemplate the provision of a lock strike which may be subsequently easily and quickly adjusted to compensate for sagging of the door, due to warping of its structure or of the frame, or other causes which would result in an improper coaction between the lock bolt and the strike when the door is closed so that the door would not be securely held in its closed position.

It is another object of my invention to provide an article of this character constructed in the form of a single casting and wherein provision is made for a series of adjustments. In each adjustment of the strike upon the door frame, the holding screw or other securing means is driven into the frame at a new place so that when the strike is fixed in its adjusted position, it will be as securely held upon the door frame as when it is initially adjusted and attached thereto.

In the accompanying drawings I have disclosed several practical constructions of the improved adjustable lock strike and it will be noted therefrom that in its generic aspect, the same fundamental thought is inherent in all of the illustrated constructions. Thus in each case I provide the lock strike with a slot adapted to receive a permanent fastening and guide screw threaded in the door frame and one or more additional screw receiving openings which are designed to receive additional screws to rigidly fix the lock strike in any one of several possible adjustments upon the door frame. I also propose to employ temporary plugs or closures by means of which the screw receiving openings not being used may be closed so that the lock strike will present a neater appearance.

With the above and other objects in view, the invention consists in the improved lock strike and in the form, construction and arrangement of its several parts as will be hereinafter more fully described, illustrated in the accompanying drawings and subsequently incorporated in the subjoined claims.

In the drawings wherein I have illustrated several practical and desirable embodiments of the invention and in which similar reference characters designate corresponding parts throughout the several views,

Figure 1 is a plan view illustrating one form of the improved lock strike;

Figure 1ª is an alternative of this form of the invention;

Figure 2 is a plan view illustrating another embodiment of the device;

Figure 3 is a section taken on the line 3—3 of Figure 2;

Figures 4 and 5 each illustrate a further embodiment of the invention in plan and side elevation, respectively;

Figure 6 is a section taken on the line 6—6 of Figure 4;

Figures 7, 8, 9 and 10 each illustrate an additional form of the adjustable strike;

Figure 11 is a plan view showing another form of the device and representing the same as secured upon a door frame and the unused screw receiving openings closed by removable plugs;

Figure 12 is a plan view showing the invention as adapted to another type of lock strike;

Figure 13 is a side elevation partly in section and showing the application of the removable plugs for closing the screw receiving openings;

Figures 14 and 15 are detail plan views of different forms of the plugs;

Figure 16 is a detail fragmentary section illustrating an alternative means for closing the screw receiving openings, and

Figure 17 is a detail elevation of another form of closure plug.

Referring in detail to the drawings and

more particularly to Figure 1 thereof, the lock strike as therein shown consists of a single one-piece metal casting having the body portion 5 substantially of rectangular form in plan, said body portion of this type of lock strike having the usual obliquely inclined striking face with which the end of the spring bolt of the door lock coacts until the end of the bolt is projected behind the end of the strike body 5.

Upon the end of the body portion 5 of the strike with which the lock bolt coacts there is formed at the base of said body, a longitudinally projecting lug 6 having a longitudinal slot 7 therein, the wall of said slot at the upper face of the lug having a continuous countersink 8.

In addition to the lug 6, ears 9 are formed on the strike body 5 in the same plane as the lug 6 and project from opposite sides of said body. Each of these ears is provided with a plurality of screw receiving openings 10. In the illustrated case each ear has three of these screw receiving openings though it is obvious that a greater or less number of these openings may be provided in accordance with the desired number of adjustments. The openings 10 at the upper faces of the ears 9 are likewise provided with countersinks 11.

In the use of the invention, as shown in Figure 1, the strike is initially applied to the door frame in approximately its correct position for the engagement of the lock bolt therewith, by engaging a screw through the slot 7 in the lug 6 and threading the same into the door frame until the tapering head of the screw exerts sufficient pressure upon the walls of the countersink 8 to retain the strike temporarily in position. After the door has been closed to see that the bolt properly engages with the inclined face of the strike, such adjustment as may be necessary is made by loosening the screw disposed through the slot 7 and then shifting the strike on the door frame, or by merely tapping the strike with a hammer to shift the same in either direction without loosening the screw. Fastening screws are then inserted through one of the openings 10 in each of the ears or lugs 9 and threaded into the door frame until the screw heads are flush with the faces of the ears 9 while the screw extending through the slot 7 is also adjusted into tight clamping engagement on the lug 6. Thus the strike will be very rigidly fixed in its proper adjusted position.

Should the door or its frame warp or the door sag so that the spring bolt of the lock will not ride behind the end of the strike body in the proper manner so as to securely hold the door in closed position, it is a relatively simple matter requiring but a few moments time in order to properly adjust the strike upon the door frame so as to remedy this condition. Thus the screws disposed through the openings 10 are first removed anad the screw extending through the slot 7 is then loosened and the strike shifted on said screw which serves as a guide after which the screw is tightened against the edges of the slot 7 to retain the strike in its adjusted position while the fastening screws are inserted through another of the openings 10 in each series and threaded at a new place into the door frame. Thus the strike will be held with as great security as before since the screws disposed through the openings 10 do not enter the same apertures in the door frame which they formerly occupied. In this particular embodiment of the invention, as each ear or lug 9 is provided with three openings, still another adjustment may be made in the same manner as just described, should it become necessary.

In Figure 1[a] of the drawings, I have shown an alternative of this embodiment of the device wherein the ears or lugs 9[a] are not provided with the screw receiving openings but the body 5[a] of the strike is provided with a single centrally located screw receiving opening 10[a]. The first adjustment of the strike is made when the strike is initially applied to the door frame by inserting the securing screw through the opening 10[a] and driving the same into the frame after the strike has been adjusted on the guide screw extending through the slot 7[a] in the lug 6[a]. If additional adjustment is required, the individual user may by means of a suitable drill readily provide any number of additional screw receiving openings through the ears or lugs 9[a].

Figures 2 and 3 of the drawings show another embodiment of the invention wherein the ears or lugs 9 are omitted and only the laterally extending lug 6[b] is provided upon the larger end of the strike body 5[b]. This lug is provided with a longitudinal slot 7[b] while the body of the strike is centrally formed with a series of longitudinally spaced screw receiving openings 10[b]. The manner of adjusting this form of the strike will be readily understood. Thus when the strike is first applied and adjusted upon the door frame, the securing screw is engaged through one of the openings 10[b] after the strike has been adjusted with respect to the guide screw extending through the slot 7[b], after which the two screws are then tightened. Should adjustment subsequently be required, the fastening screw is removed, the adjustment made and said screw then inserted through another of the openings 10[b].

Figures 4, 5 and 6 of the drawings disclose another construction wherein the strike body 5[c] is provided with a longitudinal slot 7[c] opening upon its forward edge

and having its walls formed with a countersink 8^c to receive the tapering head of the attaching and guide screw. In this construction, the lug 6^b, above referred to, is omitted and only the lugs 9^c are provided extending from opposite sides of the strike body. Each of these lugs is provided with a plurality of screw receiving openings 10^c. Adjustment of the strike is made in this case in the same manner as above referred to in connection with the construction shown in Figure 1.

In Figure 7 I have illustrated the simplest form of the adjustable strike wherein the lugs 9, as well as the lugs 6 are omitted and only a rectangular body 5^d is employed. This strike body has a slot 7^d similar to the slot 7^c in Figure 4 and in addition to said slot a screw receiving opening 10^d extends through the strike body in longitudinal alignment with the slot 7^d. In this construction, when the strike is first applied to the door frame, only the attaching screw engaged through the slot 7^d is applied. The adjustment is then properly made and the securing screw inserted through the opening 10^d and threaded into the frame whereby the strike is rigidly held in its adjusted position. In this form of the device, if desired, additional screw receiving openings may be drilled through the strike body as required. Should subsequent adjustment of the strike become necessary it may be made in the same manner as above referred to in connection with Figure 1^a of the drawings.

In Figure 8 I show another form of the strike wherein the body 5^e has the slot 7^e in its forward portion and the screw receiving opening 10^e extending therethrough in line with said slot. Upon the larger end of the strike body the lug 6^e is formed and is preferably of equal width to the body of the strike. The surface of the lug 6^e is likewise inclined similarly to the surface of the body 5^e and normally, the bolt is adapted to ride over the lug 6^e and behind the end thereof. However, in case the door should not be fully closed, the shoulder at the juncture of the lug 6^e with the body 5^e provides a safety catch with which the bolt will engage to prevent the opening of the door. The lug 6^e has a single centrally located screw receiving opening 10^f, though it will be manifest that if desired, a greater number of openings for the securing screw may be provided in this lug. In this instance, as illustrated, two adjustments of the strike may be made.

Figure 9 illustrates another alternative form in which the strike body 5^f has the longitudinal slot 7^f opening on its forward edge and is provided on opposite sides with the ears or lugs 9^f, in each of which a plurality of spaced screw receiving openings 10^g are provided. As shown, three adjustments of the strike are provided for.

In Figure 10, the strike body 5^g in addition to the slot 7^g has the screw receiving opening 10^h extending therethrough. In this case, the strike body is likewise provided with ears or lugs 9^h in each of which a single screw receiving opening 10^i is formed. This arrangement of the screw receiving openings provides for two adjustments of the strike.

In Figure 11, I have shown an embodiment of the strike fixed upon the door frame and in which the strike body has the screw receiving slot and opening as in Figure 10, the strike body 5^h, while the ears or lugs 9^h are each provided with spaced screw receiving openings 10^k. When the strike is first adjusted and secured upon the door frame the attaching and guide screw 11 is tightened against the walls of the longitudinal slot in the strike body after which the securing screw 12 is threaded into the door frame and adjusted into tight clamping engagement with the body 5 of the strike. The openings 10^k which are not being used are then closed by means of suitable removable plugs 13. These removable plugs or closures may be of any convenient form and I shall presently refer to several types of closures for the screw receiving openings which are capable of easy and quick application or removal.

In Figure 12 I have illustrated another type of lock strike wherein the strike member is in the form of a metal plate 5^k having a laterally disposed lug 6^k projecting centrally from one of its longitudinal edges and with which the end of the lock bolt initially engages as the bolt rides over the face of the strike plate and into the rectangular opening 14 formed therethrough. The lug 6^k on the strike plate has a slot 7^k formed therein while each end of said plate is provided with a screw receiving opening 10^L. The manner of attachment and adjustment of this type of strike plate will be obvious from the foregoing description.

In Figure 13 of the drawing I have illustrated several types of closure plugs which may be readily applied to the screw receiving openings of any one of the forms of the strike above referred to, which are not occupied by the securing screws. At the left hand side of this figure I have shown said plug as consisting of a pin 15 having a tapered head. This tapered head is enclosed within a sheet metal cap 16 which is formed on opposite sides with longitudinally extending arms 17. As indicated in the drawing, these arms extend through the screw receiving opening in engagement against the opposite sides thereof and normally project beyond the face of the strike. The ends of the arms are bent outwardly at right angles and seated in an annular recess 18 formed in the face of the strike

around the screw receiving opening. The inclined peripheral face of the cap 16 seats tightly against the countersink of the screw receiving opening, the outer face of said cap being flush with the surface of the strike.

At the right hand side of Figure 13, I have shown the detachable closure plug in the form of a rivet 19 having a split shank 20 the portions of which are adapted to be outwardly bent and seated in the recessed face of the strike.

Figure 14 represents an end view of the closure plug seen at the left of Figure 13 while Figure 15 is a similar view of the plug shown at the right of Figure 13.

In Figure 16 I have illustrated another form of this plug which likewise consists of a rivet or pin 21 having a tapering head corresponding with the countersink at one end of the screw receiving opening. Upon the periphery of said pin at its other end, a radially projecting lug 22 is formed and when the plug is inserted in the opening this lug moves through a groove 23 formed in one side of said opening. After inserting the plug through the opening, said plug is then turned so as to position the lug 22 thereon in the annular recess 24 out of registering relation with the groove 23. When the strike is applied with this form of detachable closure for the screw receiving openings, when the screws are adjusted to tightly clamp the strike in a fixed position on the door frame, the bearing pressure of the ends of the plugs 21 against the frame prevents the casual turning movement of said plugs so that there is no possibility that the lugs 22 will align with the grooves 23 and result in the displacement or loss of said plugs.

In Figure 17 I show another form of the closure plug which consists merely in the provision of a pin 25 of but slightly greater length than the length of the screw receiving opening and having a conical head 26 at one of its ends, said pin projecting from the apex of the head 26. Plugs of this type can be easily and quickly applied by simply centering the pin 25 through the screw receiving opening and then driving the same with a hammer until the head 26 fits snugly within the countersink at the end of the opening. With each type of the closure plug herein referred to, when said plug is in position, the head thereof is flush with the surface of the strike so that the appearance of the strike is not detracted from by the exposed openings, while at the same time by the provision of these closures, the collection of dust and dirt within said screw receiving openings is obviated.

From the foregoing description considered in connection with the accompanying drawings, it will be seen that the present invention provides a very simple and inexpensive lock strike whereby a plurality of adjustments of the strike upon the door frame may be easily and quickly made should such adjustment become necessary owing to the sagging of the door or warping of the door or its frame so that the spring pressed lock bolt does not properly coact with the strike when the door is closed. The improved adjustable lock strike greatly facilitates the proper application of the same, especially when used upon automobile bodies and enables the door lock to be initially applied so as to insure proper coaction of the lock bolt with the strike without necessitating the cutting down or the adjustment of the door bumpers, usually consisting of rubber stop plugs suitably fixed in the door frame.

While the device is primarily designed for use in connection with automobile door locks, it is apparent that it may also be advantageously employed in connection with ordinary house doors or in various other analogous instances where a quickly adjustable lock strike is desirable.

While I have herein described and illustrated numerous practical forms of the adjustable strike, it is possible to devise still further alternative structures which would accomplish the same end or purpose. It is accordingly to be understood that still further embodiments may be resorted to and I, therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

I claim:

1. As an improved article of manufacture, an adjustable lock strike having a part provided with a slot to receive an attaching and guiding screw adapted to be threaded into a door frame, said strike being further provided with a circular screw receiving opening in spaced relation to said slot to receive a fastening screw whereby the strike may be rigidly secured in its adjusted position.

2. As an improved article of manufacture, an adjustable lock strike having a part provided with a slot to receive an attaching and guiding screw, said strike being also provided with a plurality of circular spaced openings exposed at their outer ends in the different adjusted positions of the strike and adapted to selectively receive a securing screw to rigidly secure said strike in its adjusted position.

3. As an improved article of manufacture, an adjustable lock strike having a body portion with which the lock bolt is adapted to be engaged and a lug projecting from said body portion, one of said portions having a slot to receive an attaching and guiding screw and the other portion of the strike being provided with a substantially circular

opening to receive a securing screw whereby the strike may be rigidly secured in its adjusted position.

4. As an improved article of manufacture, an adjustable lock strike having a slot therein to receive an attaching and guiding screw, said strike being provided with a plurality of lugs each having a series of spaced openings to respectively receive an attaching screw in the various adjusted positions of the strike to rigidly secure said strike in its adjusted position.

5. An adjustable lock strike having a plurality of spaced screw receiving openings to selectively receive a securing screw in the different adjusted positions of the strike, and removable closure plugs constructed for insertion through the openings not occupied by the securing screw and for removal from such openings without injury to themselves so that they may be again used, the lock strike being adjustable after removal of the securing screw and being adapted to be secured in adjusted position by a screw inserted into a previously plugged opening, and the plug from said opening being insertable into the opening previously occupied by the securing screw.

6. An adjustable lock strike having a slot to receive an attaching and guiding screw, said strike being also provided with a plurality of spaced openings to respectively receive a securing screw in the different adjusted positions of said strike, and detachable closure plugs for closing the openings in the strike not occupied by the securing screw.

In testimony that I claim the foregoing as my invention, and I have signed my name hereunder.

LEON OTTINGER.