

June 7, 1955

G. E. CURTISS, JR., ET AL

2,710,217

ADJUSTABLE LATCH STRIKE

Filed Nov. 18, 1953

2 Sheets-Sheet 1

FIG. 1

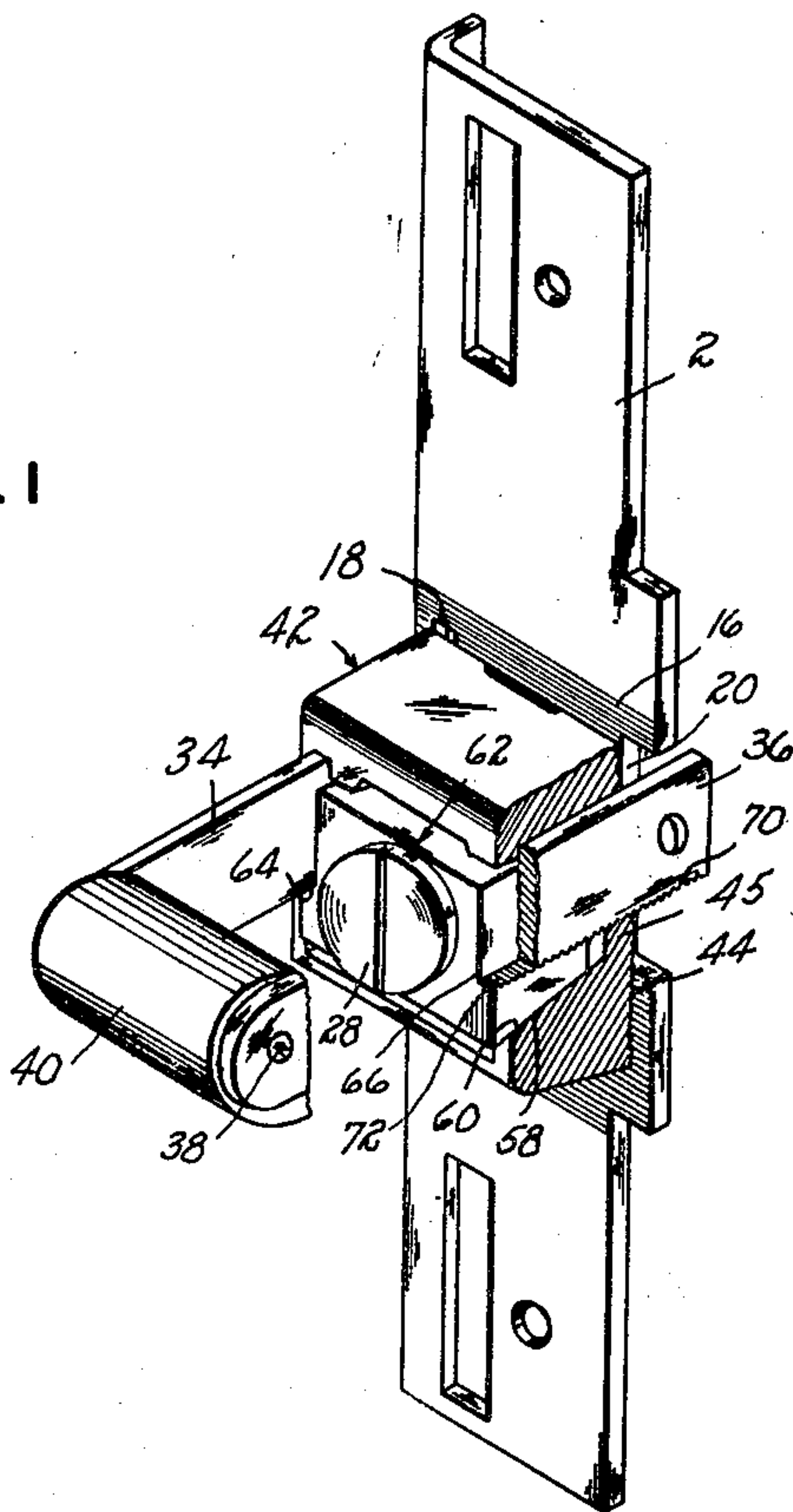
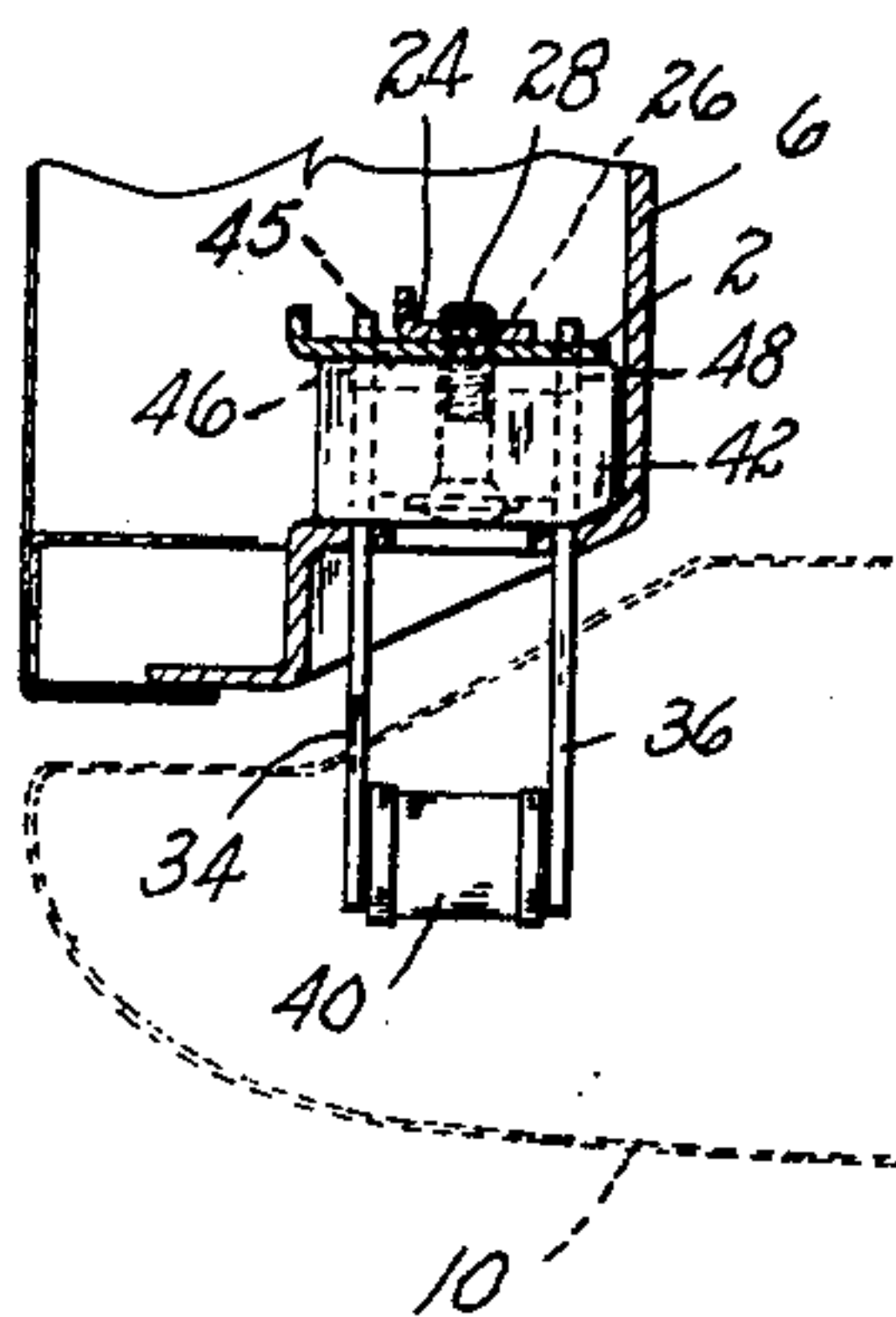


FIG. 2



INVENTORS
GEORGE E. CURTISS, JR.
BY LOUIS G. BOBROWSKI

Lindsay and Prutzman
ATTORNEYS

June 7, 1955

G. E. CURTISS, JR., ET AL

2,710,217

ADJUSTABLE LATCH STRIKE

Filed Nov. 18, 1953

2 Sheets-Sheet 2

FIG. 3

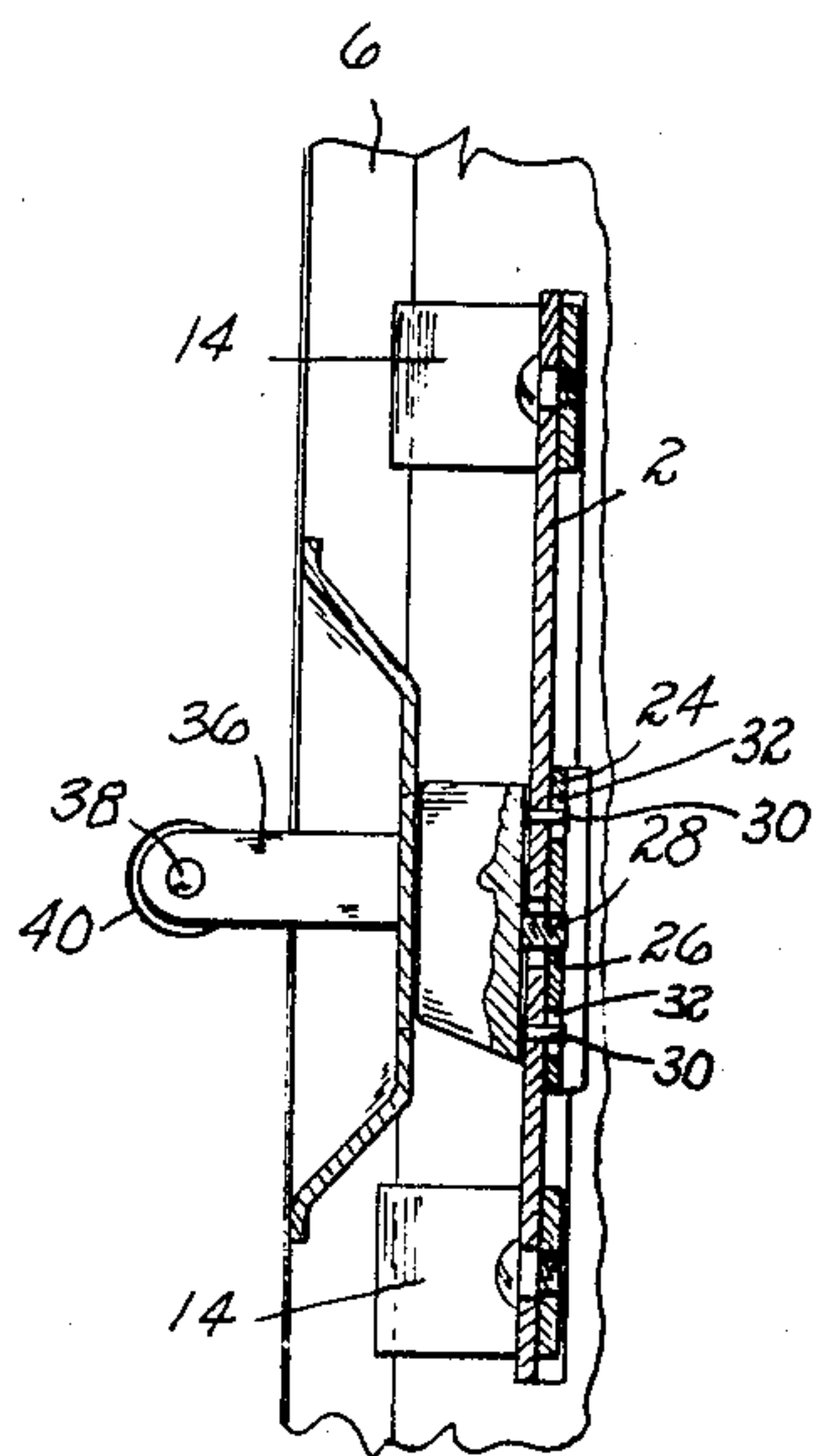
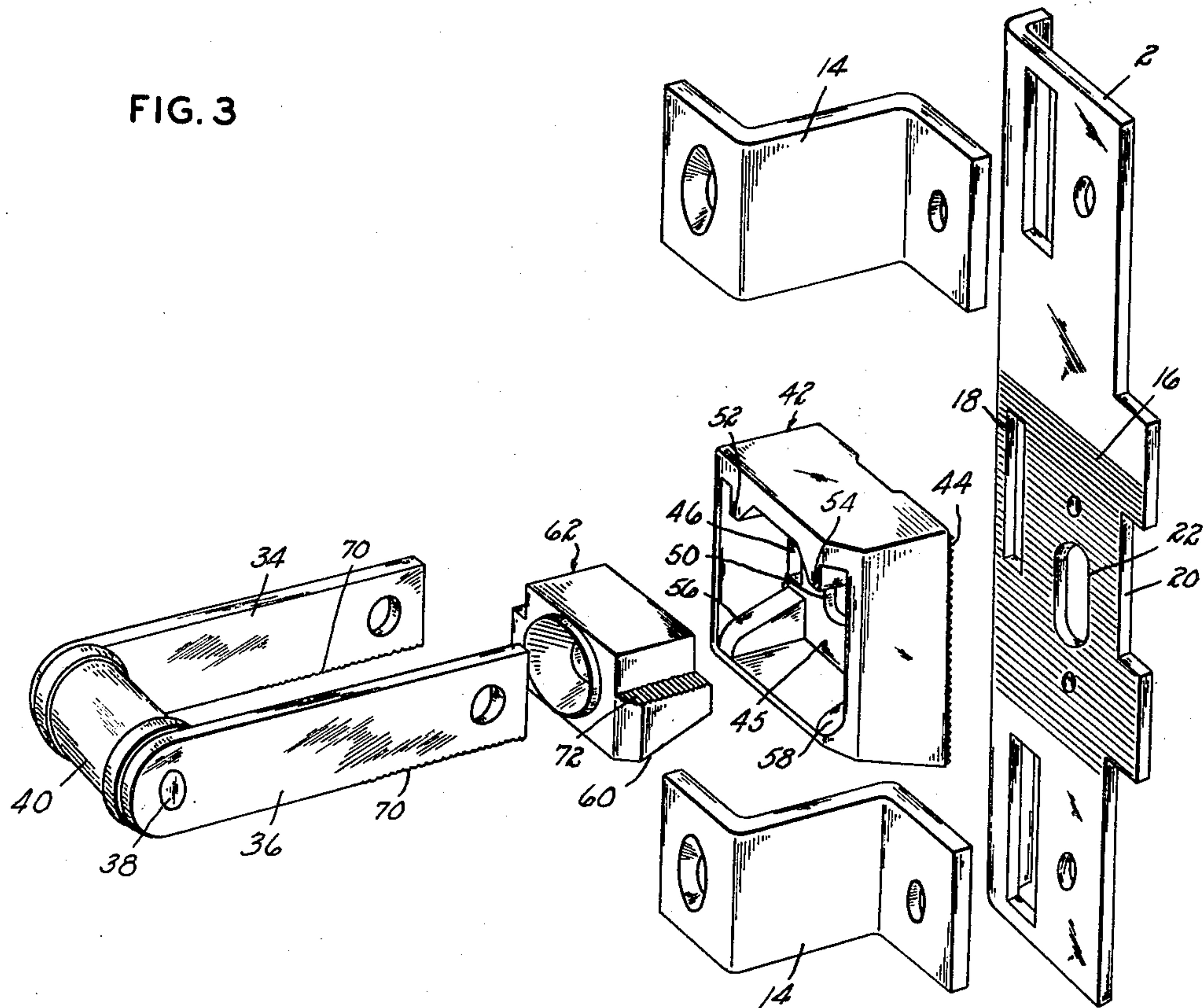


FIG. 4

INVENTORS
GEORGE E. CURTISS, JR.
BY LOUIS G. BOBROWSKI

Lindsey and Prutzman
ATTORNEYS

1

2,710,217

ADJUSTABLE LATCH STRIKE

George E. Curtiss, Jr., and Louis G. Bobrowski, New Britain, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Application November 18, 1953, Serial No. 392,958

2 Claims. (Cl. 292—341.18)

This invention relates to latch strikes, and more particularly to an adjustable latch strike assembly for use with refrigerator door latches and the like.

In refrigerator door closures it is desirable to obtain a tight door seal to prevent refrigeration losses, and preclude the possibility of the door inadvertently rebounding to an open position or bursting open after once closed. To accomplish these ends door closures in the prior art have included a door-mounted latch mechanism, and a cabinet-mounted latch strike which is adjustable relative to the latch mechanism. By adjustment of such a latch strike, allowance can be made for such factors as manufacturing tolerances and imperceptible sagging of the door on its hinges, so that the exact relative position of the latch mechanism and strike can be obtained to insure proper operation of the latch, and proper closing and opening of the door.

It is a principal object of the present invention, therefore, to provide an adjustable latch strike assembly which affords improved convenience of adjustment of a latch keeper to insure proper operation of a cooperating latch mechanism and proper opening and closing of the door secured thereby.

Another object is to provide a latch strike assembly of the character described which is of simple design, rugged and durable in construction, and capable of providing adjustment of a latch strike in several different directions by the loosening of but a single fastening means.

Other objects will be in part obvious, and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

In the drawings:

Figure 1 is a perspective view of a latch strike assembly constructed in accordance with the present invention, partially cut away to show the internal relationship of certain of the parts thereof;

Figure 2 is a transverse cross-sectional view to a reduced scale of the latch strike assembly in operating position, mounted adjacent the door jamb of a refrigerator cabinet and with the latch keeper extending into operative engagement with the refrigerator door;

Figure 3 is an exploded perspective view of the structure shown in Figure 1; and

Figure 4 is a longitudinal cross-sectional view of the structure shown in Figure 2.

Referring to the drawing, an adjustable latch strike assembly constructed in accordance with the present invention is shown in Figure 1 and is adapted to be mounted adjacent the door jamb 6 of the cabinet of a refrigerator or the like, as shown in Figure 2, in a position generally opposite that of the door latch mechanism when the cabinet door 10 is closed.

The latch strike assembly includes a supporting base

2

plate 2 which is preferably mounted within the cabinet door jamb 6, as by means of brackets 14 secured thereto. On the front face of the base plate 2 is provided a plurality of transverse serrations 16, extending over a substantial proportion of its length. Within the serrated area, the base plate 2 is provided with a pair of transversely spaced longitudinal slots, 18, 20 and an adjacent bolt slot 22. At the back of the base plate 2 is an anchor plate 24 having a threaded hole 26 aligned with bolt slot 22, for receiving a single fastening bolt 28 therein as will later be explained. Anchor plate 24 is secured to base plate 2 for longitudinal sliding movement thereon, as by rivets 30 disposed in slots 32 in the anchor plate.

Adapted to be received within the slots 18, 20 in base plate 2 is a pair of parallel arms 34, 36 supporting at their outer ends a transverse pin 38 on which is carried a latch strike or keeper 40 of generally cylindrical shape. In accordance with the present invention provision is made for adjusting the arms 34, 36 within the slots 18, 20 both in a front-to-back direction and longitudinally thereof, to any desired relative position, so that the latch strike can be positioned at any desired distance in front of or along the base plate 2.

Arranged for mounting on base plate 2 is a holder or receiver 42 having a plurality of transverse serrations 44 on its back side which are adapted to mate with the serrations 16 on base plate 2 to permit receiver 42 to be securely clamped thereto in any desired position longitudinally of the base plate. The receiver 42 is preferably of generally rectangular shape and is provided with a hollowed out portion forming a back wall 45 which is perforated by a pair of slots 46, 48 transversely spaced so as to be aligned with the slots 18, 20 in base plate 2, and adapted to receive the parallel arms 34, 36 therethrough. The back wall 45 of receiver 42 is also perforated to define a bolt receiving slot 50 intermediate the slots 46, 48. Projecting internally of receiver 42 adjacent the slots 46, 48 are parallel bosses 52, 54 whose upstanding sides adjacent the slots 46, 48, together with the adjacent portions of the inner sides of receiver 42, form bearing surfaces for supporting the respective arms 34, 36.

Also provided in receiver 42 in spaced relation with the bottom edge of each of the slots 46, 48 is a pair of bosses forming wedging surfaces 56, 58. Coacting with these wedging surfaces is a sloping bottom face 60 of a tapered retainer element 62 adapted to be supported within the hollowed out portion of receiver 42. The retainer 62 also has a pair of shoulders 64, 66 having the same transverse spacing as receiver slots 46, 48 and so disposed in relation to the sloping face 60 as to be perpendicular to back wall 45 when face 60 is engaged with wedging surfaces 56, 58.

The arrangement is such that, as retainer element 62 is inserted toward the back of the receiver 42, the coacting sloping surfaces 56, 58 and 60 cam the retainer longitudinally toward the slots 46, 48 thereby wedging shoulders 64, 66 into contact with the lower sides of arms 34, 36.

Arms 34, 36 are preferably provided on their lower edges with transverse serrations 70, which coact with mating serrations 72 preferably provided on the tops of shoulders 64, 66, thus firmly clamping the arms against front-to-back movement relative to receiver 42 or base plate 2.

The retainer 62 is also provided with a cylindrical throughbore aligned with the bolt receiving slot 50 in the back of receiver 42 and the bolt slot 22 in base plate 2. The single fastening bolt 28 previously referred to is inserted through the retainer 62, the back of receiver 42 and base plate 2, and is taken up within the threaded

3

hole 26 in the anchor plate 24. As the bolt 28 is tightened, the retainer 62 is drawn into the hollowed out portion of receiver 42, and due to the coaction of the inclined face 60 of retainer 62 and the wedging surfaces 56, 58 in receiver 42, arms 34, 36 are firmly clamped as explained above, and the coacting serrations 16, 44 insure non-slip clamping of receiver 42 to base plate 2.

With the adjustable strike assembly above described, when compensating as desired for any slight sagging of the door on which the latch mechanism cooperating with the latch strike is mounted, or when establishing the exact relative position of the latch mechanism and strike to insure proper operation of the latch mechanism, it is merely necessary to loosen the single bolt 28; thereafter receiver 42 may be longitudinally positioned along base plate 2 at the proper location, the arms 34, 36 are positioned within slots 46, 48 in the receiver and slots 18, 20 in base plate 2 to space the strike 40 the desired distance in front of the base plate, and then the bolt 28 is taken up to draw the retainer 62 into the receiver 42, thereby wedging the arms 34, 36 securely within the receiver slots 46, 48 and clamping the receiver 42 securely to the base plate 2. When the several parts are thus secured together by driving the bolt 28 home in the anchor plate 24, the serrations 44 on the back side of receiver 42 prevent any longitudinal movement of the receiver along the base plate 2, and the serrations 70 along the lower sides of the arms 34, 36 coacting with the serrations 72 on the upper side of the shoulders 64, 66 on retainer 62 prevent any in-and-out movement of the strike supporting arms.

As many changes could be made in the above construction and many apparent widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. In an adjustable door strike assembly, a supporting

4

plate, a strike unit having a strike member and a pair of parallel arms supporting the strike member, a holder member adjustable against the supporting plate and having slots for accommodating said arms, bearing surfaces for said arms in said holder member at right angles to said slots, a wedging surface in said holder member inclined relative to said bearing surfaces, a tapered member adapted to fit within said holder member and having a surface complementarily inclined to said wedging surface for coacting therewith to cam said tapered member toward said bearing surfaces in proportion to its depth of insertion into said holder, clamping surfaces on said tapered member for engaging said parallel arms to clamp the same against said bearing surfaces, and means engageable with said tapered member and said supporting plate for drawing said tapered member into said holder and securing the assembly together.

2. In an adjustable latch strike assembly, a longitudinal base plate having transverse serrations and a pair of transversely spaced longitudinal slots therein, a receiver adapted to be secured to said base plate and having transverse serrations on its back side mating with said base plate serrations, a pair of slots in said receiver spaced for alignment with said base plate slots, bearing surfaces in said receiver perpendicular to said slots, a strike, a pair of parallel arms supporting said strike and spaced to fit in said receiver slots and against said bearing surfaces, transverse serrations on the edges of said arms opposite from said bearing surfaces, a wedging surface in said receiver disposed opposite said serrations on said arms, a tapered retainer adapted to be wedged into said receiver between said arms and said wedging surface and having serrated bosses engaging said arm serrations, a bore in said retainer and slots in said receiver and base plate aligned with said bore, and a bolt extending through said bore and aligned slots to draw said retainer into wedging engagement with said receiver and clamp the assembly rigidly together.

References Cited in the file of this patent

UNITED STATES PATENTS

518,453	Hollar	Apr. 17, 1894
2,161,757	Brantingson	June 6, 1939
2,669,477	Jewell	Feb. 16, 1954