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FASTENER FOR DOORS AND THE LIKE

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Fig. 1.

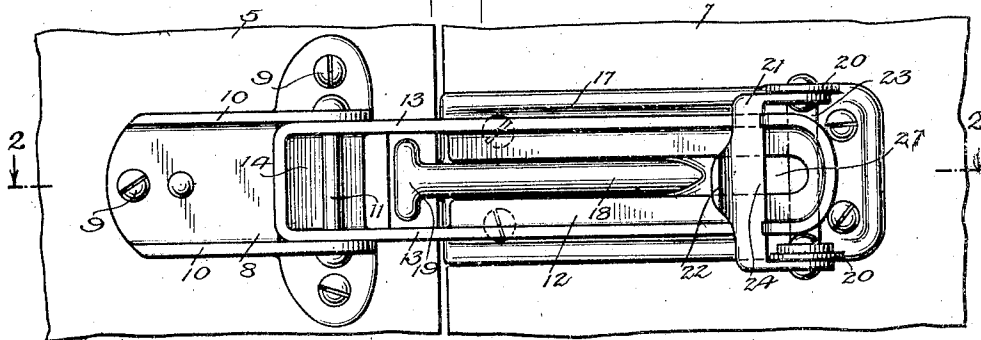


Fig. 2.

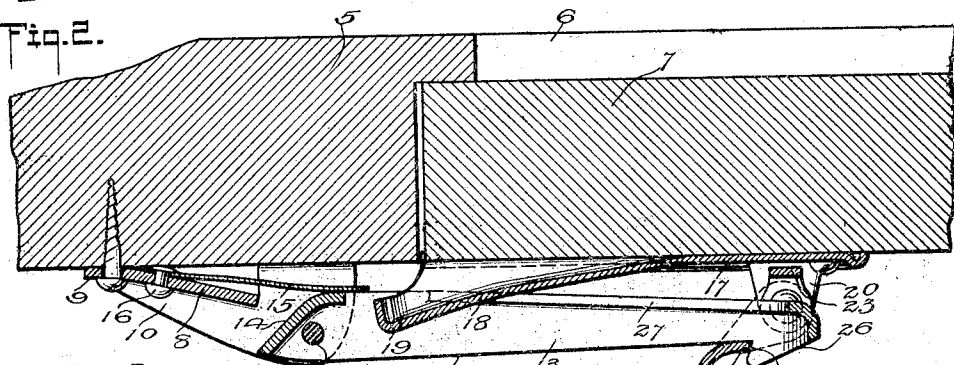


Fig. 3.

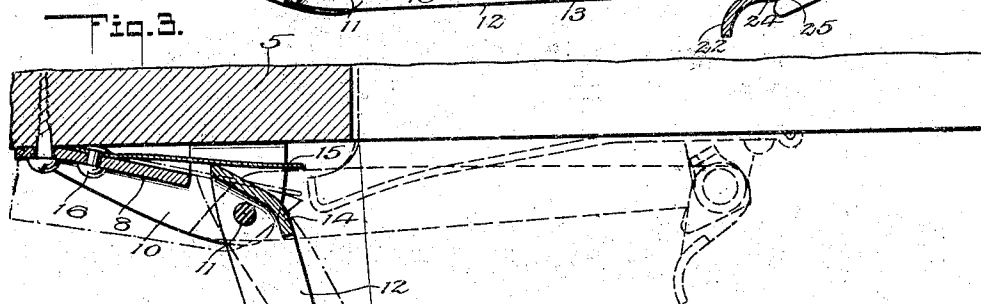
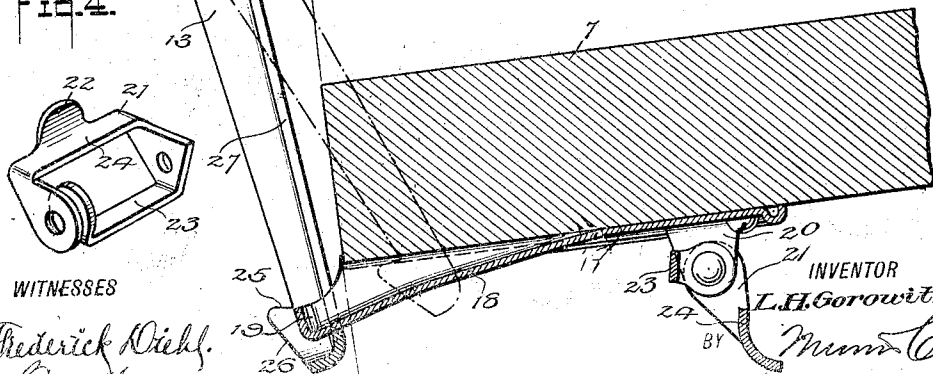


Fig. 4.



WITNESSES

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FASTENER FOR DOORS AND THE LIKE.

Application filed November 9, 1922. Serial No. 599,892.

To all whom it may concern:

Be it known that I, LOUIS H. GOROWITZ, a citizen of Russia, and a resident of the city of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Fastener for Doors and the like, of which the following is a full, clear, and exact description.

This invention relates to improvements in fasteners, and has particular reference to a fastener for doors, windows and other like closures.

An object of the invention is to provide a novel fastener for securing a closure in closed or partially opened positions and which effectually prevents entrance through the closure when the same is in either position.

The above and other objects will appear more clearly from the following detail description, when taken in connection with the accompanying drawing, which illustrates a preferred embodiment of the inventive idea.

In the drawing—

Figure 1 is a front elevation of the fastener showing the same in closed position;

Figure 2 is a longitudinal section on the line 2—2 of Figure 1;

Figure 3 is a view similar to Figure 2 showing in full lines the position the parts assume when the closure is in partially opened position, the dotted lines indicating the position of the parts at the time the fastener is released, but previous to the movement of the closure to its partially opened position; and

Figure 4 is a detail perspective view of the latching element employed in connection with the fastener.

Referring more particularly to the drawing, the numeral 5 indicates the frame of a door or other like structure having the opening 6 therein which is adapted to be closed by the door or other closure 7.

The fastener which comprises the essential features of the invention includes a bracket 8, preferably secured to the frame 5 by suitable fasteners 9 and having laterally disposed flanges 10 arranged on the opposite longitudinal edges thereof. Extending between the flanges 10 at adjacent ends thereof is a pivot pin 11, upon which is mounted one end of a locking element 12 in the form of a lever including the spaced side flanges 13 joined at the end adjacent

the pivot 11 by a transverse inclined portion 14. The portion 14 of the lever is designed to be engaged by the free end of a leaf-spring 15, the other end of which is secured to the inner side of the bracket 8 by means of the rivet 16. The spring 15 exerts an outward pressure upon the lever 12 so that when the free end of the lever is released, as will be hereinafter described, the same will assume a position extending diagonally outward from the frame 5, as shown in dotted lines in Figure 5. In this position of the lever the same is designed to maintain the closure 7 in its partially opened position. The lever 12 may also be swung to the dotted line position shown at the extreme left of Figure 3 and out of the path of movement of the closure 7 when it is desired to move the same to its fully opened position and in this event the spring 15 will also engage the portion 14 of the lever to yieldingly maintain the same in said position.

Secured to the closure 7 is a base plate 17 having a centrally and longitudinally arranged outstruck portion 18, one end of which is enlarged, as indicated at 19, and which extends beyond the vertical edge of the closure 7 when the closure is in its closing position. At the end of the plate 17 opposite the enlargement 19, said plate is provided with oppositely disposed lugs 20, between which is pivotally mounted a latching element 21, preferably stamped from a single piece of suitable material, to provide a finger grip 22 and a transversely extending bar 23 for a purpose which will presently appear.

When the parts are in the position shown in Figures 1 and 2, the portion 24, of the latching member engages in inclined notches 25 formed in the free ends of the sides 13 of the lever 12, the action of the spring 15 forcing the free end of said lever outwardly against the latching member 21. By reason of the inclination of the notches 25 the latching member is prevented from moving about its pivot when the free end of the lever 12 is in engagement therewith, but by exerting an inward pressure upon the free end of said lever the portion 24 of the latching member will be disengaged from the notches, after which said member may be swung about its pivot to the dotted line position shown in Figure 3. Then under the influence of the spring 15 the lever 12 will be

swung outwardly and in so doing the inclined portion 26 will engage the portion 24 of the latching member and swing the same further about its pivot to the full line position shown in Figure 3, in which position the transverse bar 23 will be disposed in the path of the inward movement of the free end of the lever 12 when the same is returned to its locking position. After the lever 12 has assumed the diagonal position shown in Figure 3, by reason of the action of the spring 15, the closure 7 may be moved toward its open position and in so doing the enlargement 19 of the plate 17 will enter a longitudinal slot 27 formed in the bottom of the lever 12 and terminating short of the free end thereof. As the closure 7 is swung outwardly the end of the plate 17 contiguous to the enlargement 19 engages the bottom or inner portion of the lever 12 and forces the same toward the full line position shown in Figure 3 until the enlargement 19 comes in contact with the free end of said lever, whereupon any further outward movement of the closure 7 is stopped and the same is thus maintained in a partially open position, the closure being at the same time free to move toward its closing position. When restoring the closure to its closing position, the enlargement 19 is moved inwardly and longitudinally of the slot 27 and in so doing again moves the lever to the diagonal dotted line position shown in Figure 3, in which position said lever remains after the enlargement 19 has been disengaged from the same. With the latching element 21 in the position shown in full lines in Figure 3 and with the closure in its closed position the transverse bar 23 of said latching element is arranged in the path of movement of the free end of the lever toward its locking position, so that when the lever is moved toward its locking position against the tension of the spring 15, the bottom or rear portion of the free end of the lever will contact the bar 23 and swing the latching member about its pivot until the portion 24 thereof is again engaged in the notches 25, whereupon the closure will again be locked in closing position.

In the construction of the fastener as described, the parts thereof may be stamped from any suitable material, thus simplifying the structure and materially reducing the cost of production thereof.

What is claimed is:

1. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element pivotally connected to one of said members, a plate secured to the other member and having a portion thereof cooperating with said locking element to limit the movement of said closure toward its open position, and a latching element having a

swinging movement toward and away from said plate and engageable with said locking element to maintain the closure in its closing position.

2. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element pivotally connected to one of said members, a plate secured to the other member and having a portion thereof cooperating with said locking element to limit the movement of said closure toward its open position, and a latching element having a pivotal movement with respect to said plate and provided with means engageable by said locking element to move said latching element into latching engagement therewith.

3. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element carried by one of said members and having a plurality of locking positions and an unlocking position, means engaging said locking element to move the same to one of said locking positions and to maintain the same in its unlocking position, means carried by the other member and cooperating with said locking element when the same is in said locking position to limit the movement of said closure toward its open position, and a latch pivotally connected to the last named member and engageable with said locking element to maintain the same in its other locking position.

4. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element carried by one of said members and having a plurality of locking positions and an unlocking position, means engaging said locking element to move the same to one of said locking positions and to maintain the same in its unlocking position, means carried by the other member and cooperating with said locking element when the same is in said locking position to limit the movement of said closure toward its open position, and a latch pivotally connected to the last named member and engageable with said locking element to maintain the same in its other locking position, said latch including a bar adapted to be contacted by said locking element when the same is moved toward the last named locking position to move said latch into locking engagement with said locking element.

5. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element carried by one of said members and having a plurality of locking positions, means carried by the other member and cooperating with said locking element when the same is in one of its locking positions to limit the movement of said closure to-

ward its open position, and means pivotally associated with the last named means and engageable with said locking element to maintain the same in its other locking position.

6. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element carried by one of said members and having a plurality of locking positions, means carried by the other member and cooperating with said locking element when the same is in one of its locking positions to limit the movement of said closure toward its open position, and means pivotally associated with the last named means and engageable with said locking element to maintain the same in its other locking position, said means including a bar arranged in the path of movement of said locking element toward the last named locking position and adapted to be contacted by said locking element to move the last named means into latching engagement with said locking element.

7. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element pivoted at one end to one of said members and provided at its free end with notches, a plate carried by the other member and having a portion engageable with said locking element to limit the movement of the closure toward its open position, and a latch pivotally associated with said plate and having a portion engageable with the notches in said locking element to maintain the same in

locking position when the closure is fully closed.

8. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element pivoted at one end to one of said members and provided at its free end with notches, a plate carried by the other member and having a portion engageable with said locking element to limit the movement of the closure toward its open position, and a latch pivotally associated with said plate and having a portion engageable with the notches in said locking element to maintain the same in locking position when the closure is fully closed, said latch including means contacted by said locking element when the same is moved toward the last named locking position to actuate said latch whereby said portion thereof will engage in the notches in said locking element.

9. In a fastener, the combination with a frame having an opening therein and a closure for said opening; of a locking element pivotally connected to one of said members, a plate carried by the other member and having a portion cooperating with said locking element to limit the movement of said closure toward its open position, and means having a swinging movement toward and away from said plate and engageable by said locking element when the same is being moved toward a locking position to move said means to retain said locking element in its locking position.

LOUIS H. GOROWITZ.