April 2, 1929. S. W. PARSONS 1,707,682

DOOR CATCH

Filed Sept. 26, 1927

Fig. 1.

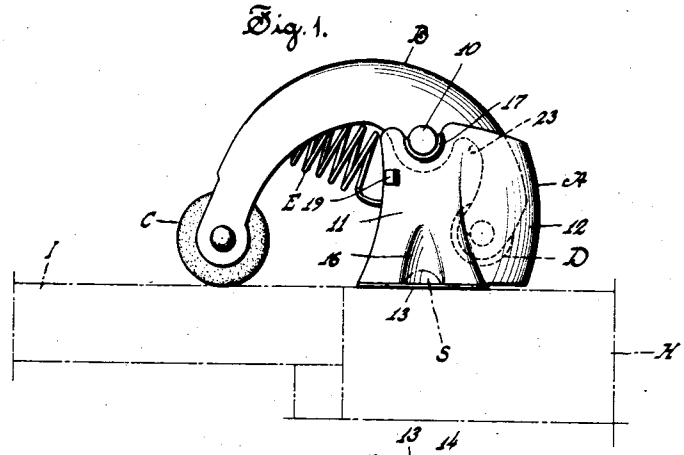


Fig. 2.

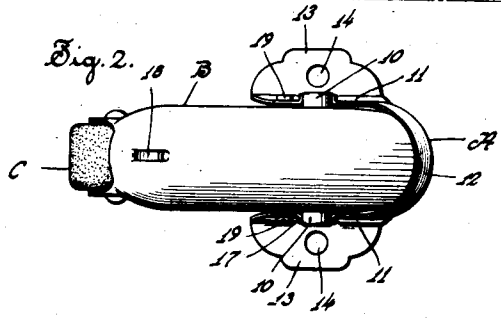


Fig. 6.

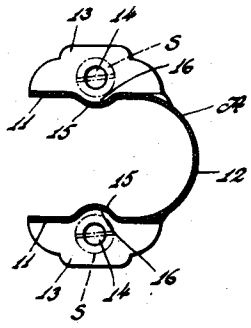


Fig. 4.

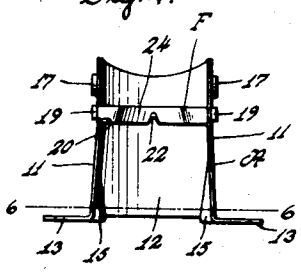


Fig. 3

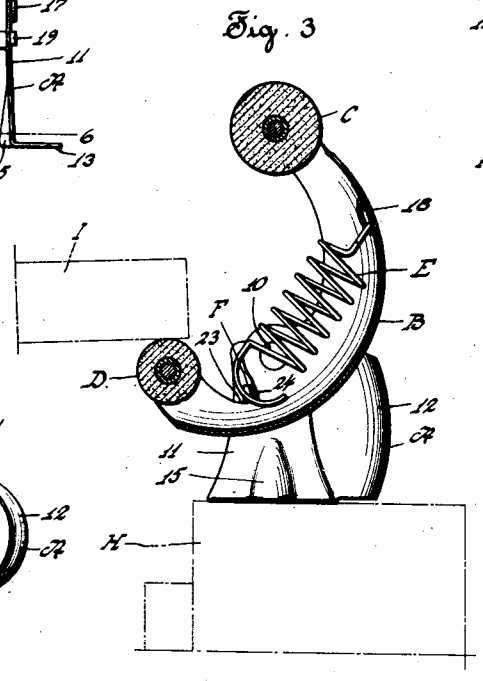
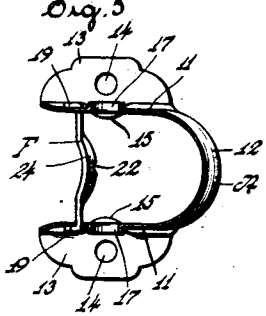


Fig. 5



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UNITED STATES PATENT OFFICE.

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DOOR CATCH.

Application filed September 26, 1927. Serial No. 221,884.

This invention relates to a door catch of the type disclosed and claimed in United States Patent No. 1,586,836 issued June 1, 1926, to The Stanley Works, as my assignee.

The aim of the invention is to provide certain improvements in door catches of this sort which make for greater simplicity and economy in manufacture and strength and durability.

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 hereinafter set forth and the scope of the application of which will be indicated in the appended claim.

In the accompanying drawings, wherein I have shown, for illustrative purposes, one embodiment which the present invention may take.

Figure 1 is a top plan of the device associated with a door shown in closed position and in horizontal section;

Fig. 2 is a front elevational view;

Fig. 3 is a view taken longitudinally and centrally through the device, the lever being shown in door-checking position;

Fig. 4 is a side elevational view of the support or base;

Fig. 5 is a front elevational view of the support; and

Fig. 6 is a sectional view through the support, taken substantially on line 6—6 of Fig. 4.

Referring to the drawings in detail, A designates a casing or support in which is pivoted a crescent-shaped lever B. Each of these elements is preferably formed by stamping a blank from sheet metal and then drawing the blank to the shape illustrated. The lever B is generally similar to the lever shown in said patent, it being longitudinally curved and generally U or channel-shaped in cross section. It carries rollers C and D respectively at its opposite ends. The lever has pivot studs 10 between its ends and extending from its top and bottom walls.

The support or casing A is also generally similar to the casing shown in my said patent, it being generally U-shaped in cross section and having parallel top and bottom walls 11 and a connecting or rear wall 12, the latter being longitudinally and transversely curved to correspond to the curvature of the lever. Extending at right angles from the back edges of the side walls 11 are flanges 13 provided with apertures 14 adapted to receive securing screws S or the like whereby the device is secured to the door casing. The casing is shown in dotted lines in Figs. 1 and 3 and is designated by the letter H. The door is designated by the letter I. The support is preferably made, to effect economy in manufacture, of relatively light-gage sheet metal and, in order to provide a relatively strong structure of such material, the arrangement is such that the securing screws may be placed immediately adjacent the walls 11. To this end these walls are provided with ribs 15 which preferably taper at their front ends into the plane of the walls. These ribs provide external grooves 16 which accommodate, at least in part, the heads of the screws and the blade of the screw driver or other tool by means of which the screws are driven home. The ribs reinforce the casing and as the screws are close to the walls thereof they will more securely hold the support to its shape and in place.

The front edges of the walls 11 are provided, in the present illustrative disclosure, with semi-circular pivot flanges 17 which are preferably struck out from the metal of the support. These pivot flanges or bearings detachably receive the pivots 10 of the lever.

The letter E designates a spring connected at one end to the lever B and at the other end to a cross strut or brace F carried by the support A. The spring is so arranged as to snap the lever to each of its extreme positions after it has been thrown past dead center. In the present illustrative disclosure, the lever adjacent its outer end is provided with a staple 18 to which one end of the spring is secured. This staple is preferably formed by making parallel longitudinally extending slits in the front wall of the lever and then bending or depressing the metal between the slits inwardly.

One of the novel features of the present invention resides in the manner in which the spring is anchored to the support by means of the strut F carried by the support adjacent its forward or open end. This strut or anchor is preferably formed of sheet metal and, in addition to constituting an anchor for the spring, it strengthens the support and holds the walls thereof in proper spaced re-

lation. The anchor F is preferably formed of sheet metal and has, at each end, an ear 19 of lesser width than the body portion of the anchor, thus providing shoulders 20. The side walls 11 have, adjacent their forward or free edges 25, openings 21 which closely receive the ears. These ears project through the openings and are bent over, as illustrated, so as to tie the walls 11 together, thus preventing them from spreading. The walls 11 shut up against the shoulders 20 so that the body portion of the strut prevents these walls from springing inwardly and cramping the lever. The anchor has, between its ends, a notch 22 adapted to receive the hooked end of the spring, as illustrated. In order that the anchor will not interfere with movement of the lever, the walls of the latter, adjacent the pivots 10, are provided with arcuate notches 23 which accommodate the anchor when the lever is thrown into the position illustrated in Fig. 3. By preference, the central portion 24 of the strut is bent or bowed rearwardly so that those ends or portions of the strut accommodated by the notches 23 are in advance of the point at which the spring engages the strut.

It will be seen from the foregoing description taken in connection with the accompanying drawings, that my improved arrangement may be produced at a relatively low cost and the parts thereof, though made of relatively light metal, are strong and durable. The base or support A is securely held in place by the screws and these screws aid in maintaining the shape of the support. The anchor or strut F is so located that the spring may be readily connected thereto. This anchor constitutes a reinforcing brace for the support, the walls 11 at their free edges being securely tied together and held in proper spaced relation. Furthermore, the strut F serves as a stop for limiting the opening movement of the lever. The lever may be readily assembled on and disassembled from the support.

As many changes could be made in the above construction and many apparently 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 drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claim 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 as my invention:

In a device of the character described, a sheet metal support having a pair of side walls and a connecting wall, said side walls having openings adjacent their forward edges, a strut having a body portion between said side walls and against the ends of which said side walls abut, said strut having reduced end portions extending through said openings and bent over, a lever pivoted in said support, and a spring between said lever and strut.

STUART W. PARSONS.