J. O. FORD.

SAFETY DOOR OR GATE LATCH.

APPLICATION FILED MAY 3, 1915.

**1,163,397.** Patented Dec. 7, 1915.

FIG. 1

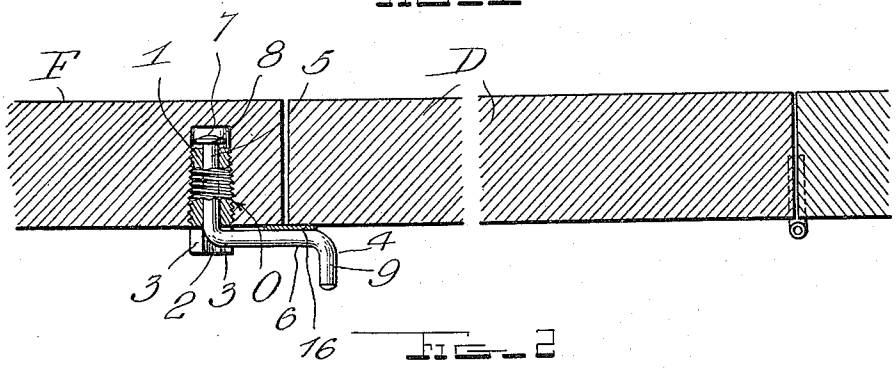



FIG. 2

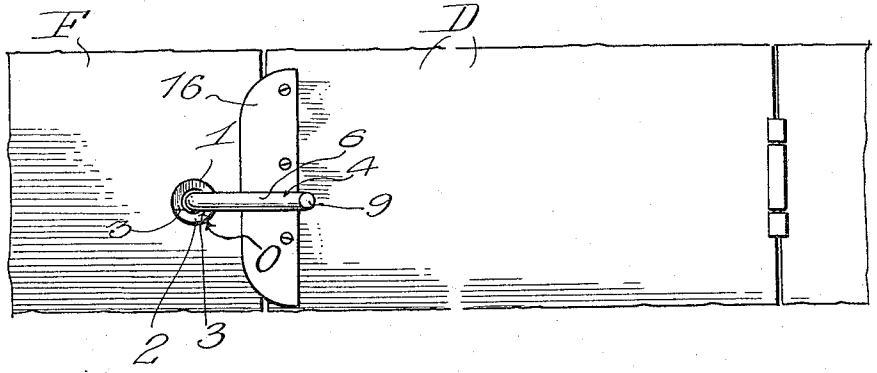



FIG. 3

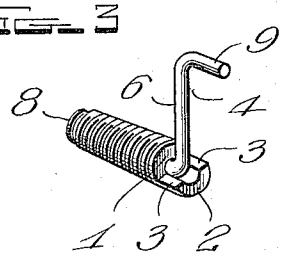



FIG. 4

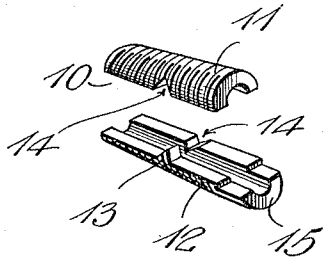
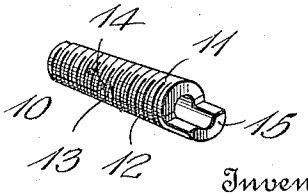



FIG. 5




Witnesses

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# UNITED STATES PATENT OFFICE.

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## SAFETY DOOR OR GATE LATCH.

1,163,397. Specification of Letters Patent. Patented Dec. 7, 1915.

Application filed May 3, 1915. Serial No. 25,549.

*To all whom it may concern:*

Be it known that I, JOHN O. FORD, a citizen of the United States, residing at Jacksonville, in the county of Cherokee and State of Texas, have invented certain new and useful Improvements in Safety Door or Gate Latches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in door and gate latches.

The object of the invention is to provide a simply constructed and efficient latch of this character whereby the door or gate to which it is applied will be securely held against shaking or jarring open.

Another object is to provide a latch of this character which may be readily applied and the casing of which will be held in assembled position by the bore or socket in the door to which it is applied.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings:—Figure 1 represents a horizontal section of a door and its frame showing a latch constructed in accordance with this invention applied, the latch shown closed; Fig. 2 is a front view with the latch shown closed; Fig. 3 is a detail perspective view of the latch detached; Fig. 4 is a perspective view showing a modified form of casing with the parts separated and shown in juxtaposition ready for assembling; Fig. 5 is a similar view showing the parts of the casing assembled and ready for use.

In the embodiment illustrated, this improved latch is shown applied to a door D and a frame F, the latch being disposed adjacent the free edge of the frame and designed to overlap the door as shown clearly in Fig. 1.

The latch constituting this invention comprises a tubular cylindrical casing 1 externally threaded for insertion in an opening O made in the form of a bore extending into the facing or door frame. This opening O corresponds in shape to the casing 1 which tapers toward one end to afford a wedge-like engagement thereof with the door opening O. The front or outer end of this casing 1 has a longitudinally extending arcuate lip or flange 2 which extends around a portion of the outer end of the casing, it being shown here extended around about one-half more or less of said casing and the ends of which form stops 3 for limiting the swinging movement of the locking element 4 now to be described. The locking or latch member proper is here shown L-shaped in form and preferably constructed of a straight piece of round stock of suitable diameter to adapt it to turn freely within the casing 1. The short arm 5 of this locking element is mounted in the casing 1 and is of a length substantially equal to the length of said casing, the bend at the junction of said arm with the long arm 6 being shown disposed at the outer or lip carrying end of said casing and positioned to abut the opposite ends of said lip for limiting the turning movement of the locking element relatively to the casing. In the form shown in Figs. 1 to 3, this casing is made in a single piece and consequently, the free end of the short arm 5 of the member 4 after being inserted in the casing, is headed as shown at 7, said head being here shown as formed by upsetting the free end of said arm and a washer 8 is preferably arranged between the head 7 and the inner end of the casing 1. The free end of the long arm 6 of the locking element 4 is bent laterally outward to form a handle 9 and extended in a direction opposite to the short arm 5, said short arm 5 and handle 9 being arranged in parallel planes. In the use of this form of the invention, after the casing has been engaged with the short arm 5 of the locking element 4 as above described, said casing is inserted in the threaded opening O of the frame F and when so positioned, the long arm 6 will be arranged so as to overlap the outer face of the door D and will project beyond the free edge of said frame when swung into one position as shown in Fig. 1 so that when so swung, it will overlap the door D and bindingly engage said door at the same time the bend at the junction of the two arms will come in contact with one end of the lip 2, and thus hold said arm in engagement with the door where it will remain until swung in the opposite direction to disengage it and when so swung, it will engage the other end of said lip and be supported in convenient position ready for use.

In the form shown in Figs. 4 and 5, the

casing 10 is formed of two longitudinal separable sections 11 and 12, the meeting edges of each of which are provided with a tongue 13 and a socket or notch 14, the tongues 13 being here shown triangular in shape and the notches V-shaped to receive them so that when these two sections are assembled, the tongue 13 of one section will fit into the notch 14 of the other and thereby securely connect the sections against longitudinal separation and when so connected, they may be screwed into the door opening O in the same manner of the one piece casing above described. The member 12 is here shown longer than the member 11 to provide the overhanging arcuate lip 15 which corresponds to the lip 2 of the other figures and is designed to operate in the same manner and to perform the same functions. By forming this casing in sections as shown in Figs. 4 and 5, the locking element may be quickly mounted therein as the casing members are engaged with said arm by separating them and clasping them around said arm instead of slipping them longitudinally thereon as in the form shown in the other figures.

From the foregoing description, it will be obvious that while this device is very simple in construction, thereby rendering it economical to manufacture, it will operate equally as well as the more expensive fastening devices and it is especially useful as a gate latch as there are no parts to get out of order and the locking element being formed of a heavy rod or round metal stock, is particularly strong and will securely hold a gate against all possibility of its opening when in operative position.

A plate 16 of any suitable metal is secured to the inner face of the door D being about one and a half inches long by three-fourths of an inch wide, more or less. This plate 16 is placed on the door where the latch comes in contact with the door and overlaps the facing or frame F when the door is closed, thus performing the double function of a wear plate to prevent injury to the finish of the door and a guard to prevent the possibility of the latch being lifted from the outside by slipping a thin instrument between the edge of the door and its frame.

From the above description, it will be obvious that since no part of the latch except the plate 16 is carried by the door or gate, sagging of the gate or door will cause no misfit nor have any effect upon the effectiveness of the latch.

I claim as my invention:

A latch comprising a tubular externally threaded cylindrical casing tapering toward one end, a longitudinally extending arcuate lip on the outer end of said casing, a one-piece L-shaped locking member having one arm extending through said casing and having a stop at its free end, said arm being rotatable in said casing, the other arm of said member extending at right angles to the casing with the bend at the junction of said arms engaging said arcuate casing lip, the ends of said lip forming stops for engagement by said free arm to limit the turning movement of said locking member, the free end of said last mentioned arm being bent laterally in a direction opposite to the first mentioned arm to form an actuating element or handle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN O. FORD.

Witnesses:
T. A. UPSHAW,
W. A. SIMPSON.