

(No Model.)

R. A. BONINE.
LOCK.

No. 587,424.

Patented Aug. 3, 1897.

Fig. 1.

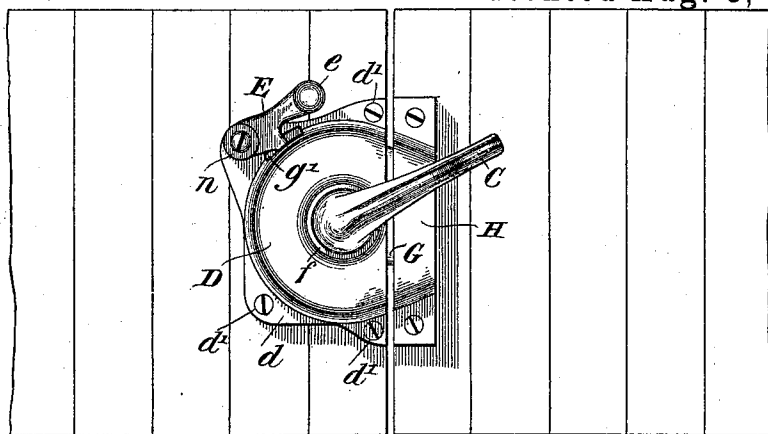


Fig. 2.

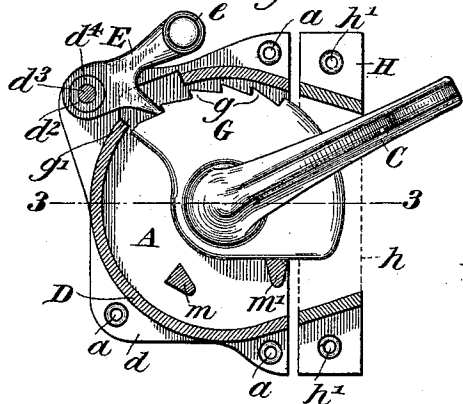


Fig. 3.

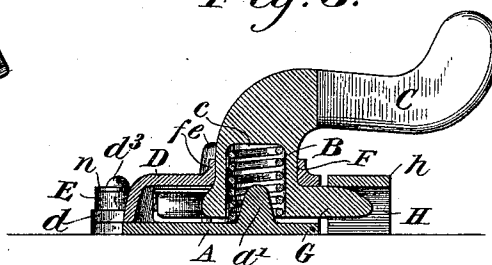
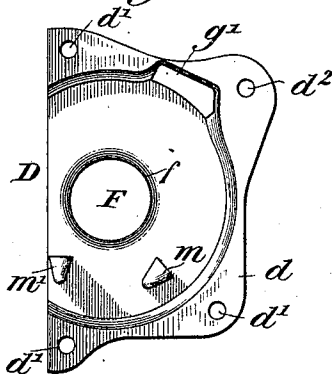


Fig. 4.



Witnesses

J. M. Witherow
E. A. Balloch.

Inventor,
R. A. Bonine.

By his Attorneys,

Baldwin, Davidson & Wight.

UNITED STATES PATENT OFFICE.

ROBERT A. BONINE, OF ALTOONA, PENNSYLVANIA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 587,424, dated August 3, 1897.

Application filed December 17, 1896. Serial No. 616,026. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. BONINE, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification.

According to my invention I provide an improved lock, latch, or fastening device especially adapted for doors, but it may be applied to boxes, windows, &c.

It is well known that doors often sag or settle and also often get sprung. I especially desire by my improvements to provide a fastener for doors which will accommodate itself to any inequalities of this sort.

In the accompanying drawings, Figure 1 is a front elevation of my improved fastener applied to a door. Fig. 2 is a view partly in front elevation and partly in section. Fig. 3 shows a transverse vertical section on the line 3 3 of Fig. 2. Fig. 4 is an inside view of the upper member of the casing.

The lower member or flat bottom plate A has apertures *a* for the fastening-screws. It is formed with a lug *a'* to receive a spiral spring B, which enters a recess *c* in the handle C.

The upper member D of the casing is concavo-convex and it is provided with a flange *d*, having three apertures *d'* for fastening-screws and an aperture *d''* for a screw *d'''*, which connects the pawl E with the casing. This member of the casing is also formed with a boss *d''*, which constitutes a bearing for the pawl. The screw *d'''* passes through an aperture in the boss and also through the aperture *d''* and through one of the apertures *a* in the lower member of the casing. The upper and lower members may readily be connected together, as shown in Figs. 1 and 3.

The handle C projects through a central opening F in the upper member of the casing, which is flanged, as shown at *f*, to provide a long bearing for the handle, permitting it to easily turn without shaking or wobbling. The handle is connected at its inner end with the bolt G, which is sector-shaped and is also rounded and beveled at its edge, as shown particularly in Fig. 3. It is also formed on its edge with a series of ratchet-teeth *g*, with which the pawl E engages. The

pawl, it will be observed, passes through an opening *g'* in the casing, and it is provided with a weighted handle *e*, which causes the end of the pawl to engage with the teeth.

The keeper H is formed with a case or housing *h* for the end of the bolt and with flanges having apertures *h'* for the fastening-screws. Normally the parts occupy the position shown in Fig. 2 when the door is locked, the edge of the casing *h* coinciding with the edge of the casing of the bolt. When in the position shown in Fig. 2, the bolt cannot be turned back, because the pawl E prevents it from doing so. It can, however, readily be turned back when the pawl is elevated. The spring B tends to press the bolt against the upper member of the casing, and it will have a slight movement back and forth in line with the longitudinal axis of the lug *a'* when positively moved. This allows the bolt to accommodate itself when the door is sprung or does not close tightly. When this is the case, the handle can be so moved as to allow the bolt to give a little and permit the beveled or rounded edge to engage with the keeper. Then the bolt may be turned and the door may be thus fastened. Were it not for this provision it might be difficult to cause the bolt to enter the keeper.

As will be observed by reference to Fig. 2, there is a considerable free space between the edge of the bolt G and the upper and lower ends of the casing or housing *h*. Should the door sag or drop, the bolt may still be properly operated, but will not enter into the housing quite so far, and the pawl E, instead of entering the first tooth, as shown in Fig. 2, would enter the second or one of the succeeding teeth.

In practice there may be a variation of over an inch for a moderate-sized lock of this kind. Within the casing member D are formed two lugs *m m'*, which limit the movement of the bolt G in both directions.

There are only four principal parts to this lock, only four patterns being required, the spring and the screws and a small washer *n* being the only other parts used. A gravity-pawl is shown, and this is always used when the lock is attached to an upright door. When the lock is used in other positions, a spring may be added to the pawl. The spiral spring pre-

vents rebounding and can easily be strengthened by spreading the spirals. Obviously the lock may be made right or left handed, so as to suit both sides of the door.

5 I claim as my invention—

A fastening device for doors, &c., comprising a sector-shaped bolt having rounded, beveled edges, and provided with teeth in its periphery, a handle secured to the bolt at its
10 axis, a series of teeth formed in the periphery of the bolt, the lower member of the casing having a lug formed with it which projects into a recess in the bolt and handle, a spring

contained in said recess and adapted to move the bolt longitudinally of its axis, the upper 15 member of the casing having a central opening and an elongated bearing-surface for the handle, and a pawl pivoted to the casing and adapted to engage with the teeth on the bolt.

In testimony whereof I have hereunto sub- 20 scribed my name.

ROBERT A. BONINE.

Witnesses:

W. E. BLANCHARD,
DAVID G. HURLEY.