

(Model.)

J. H. BARNES.

LOCKING LATCH.

No. 244,842.

Patented July 26, 1881.

fig. 1

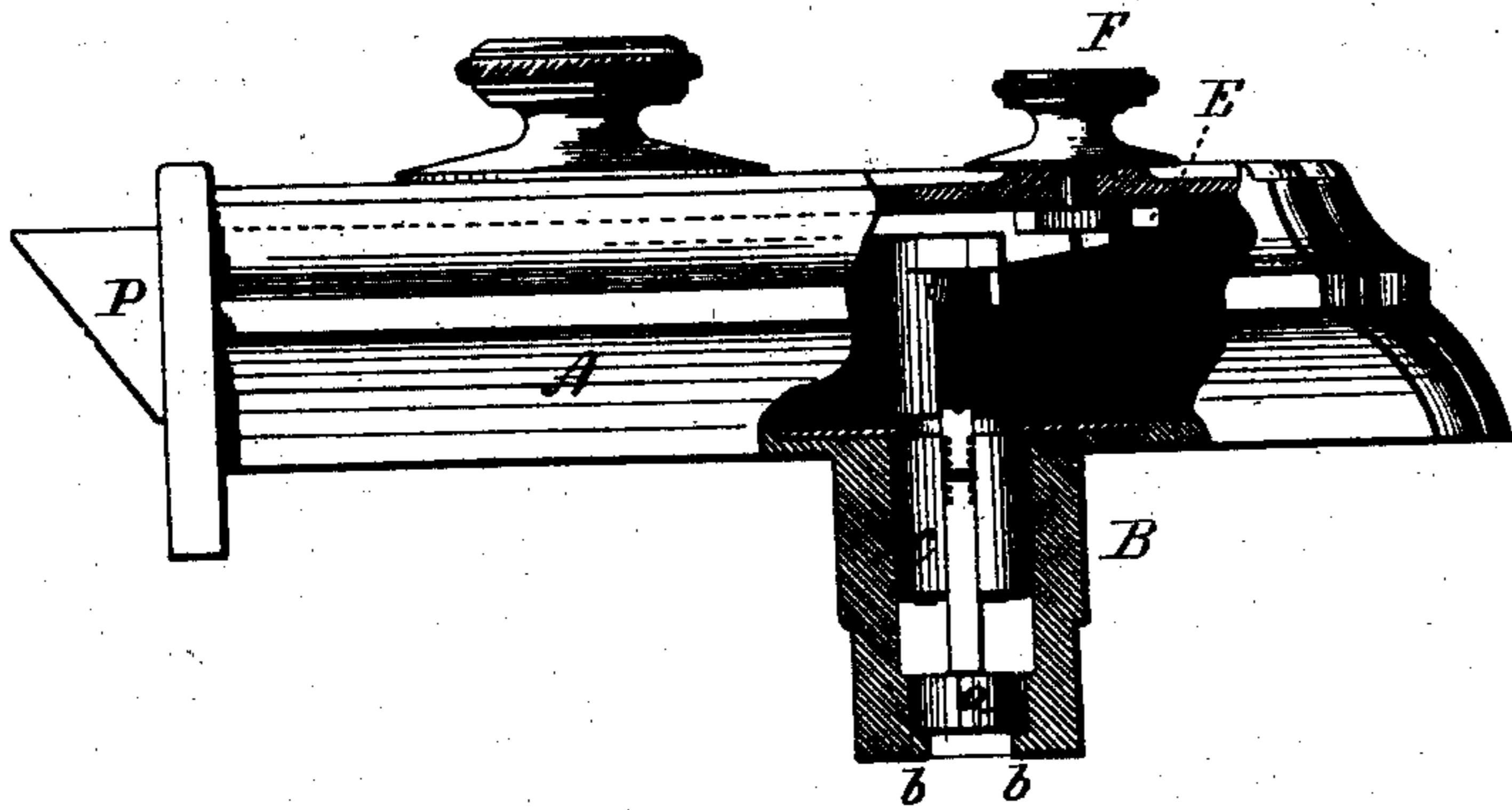


fig. 2

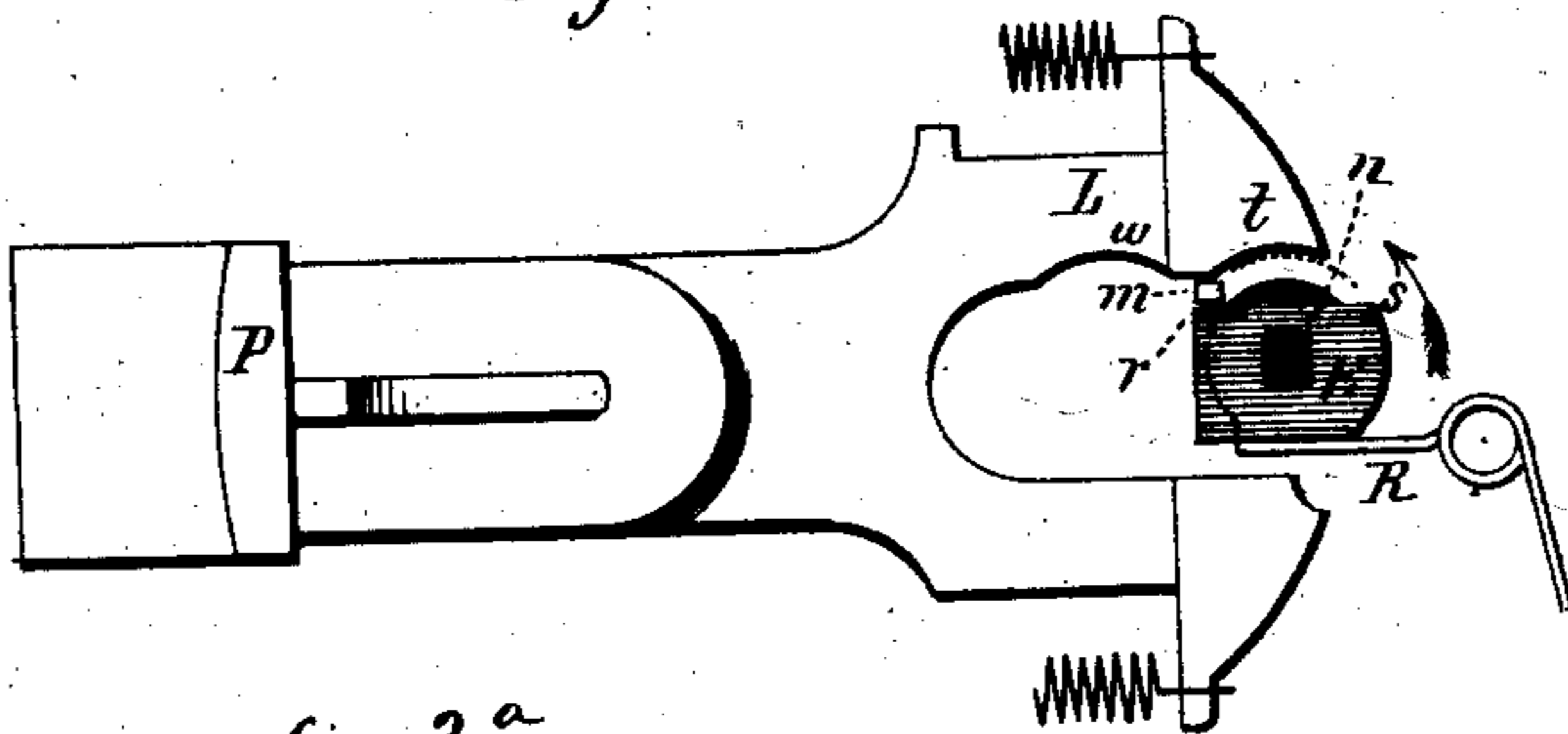


fig. 3

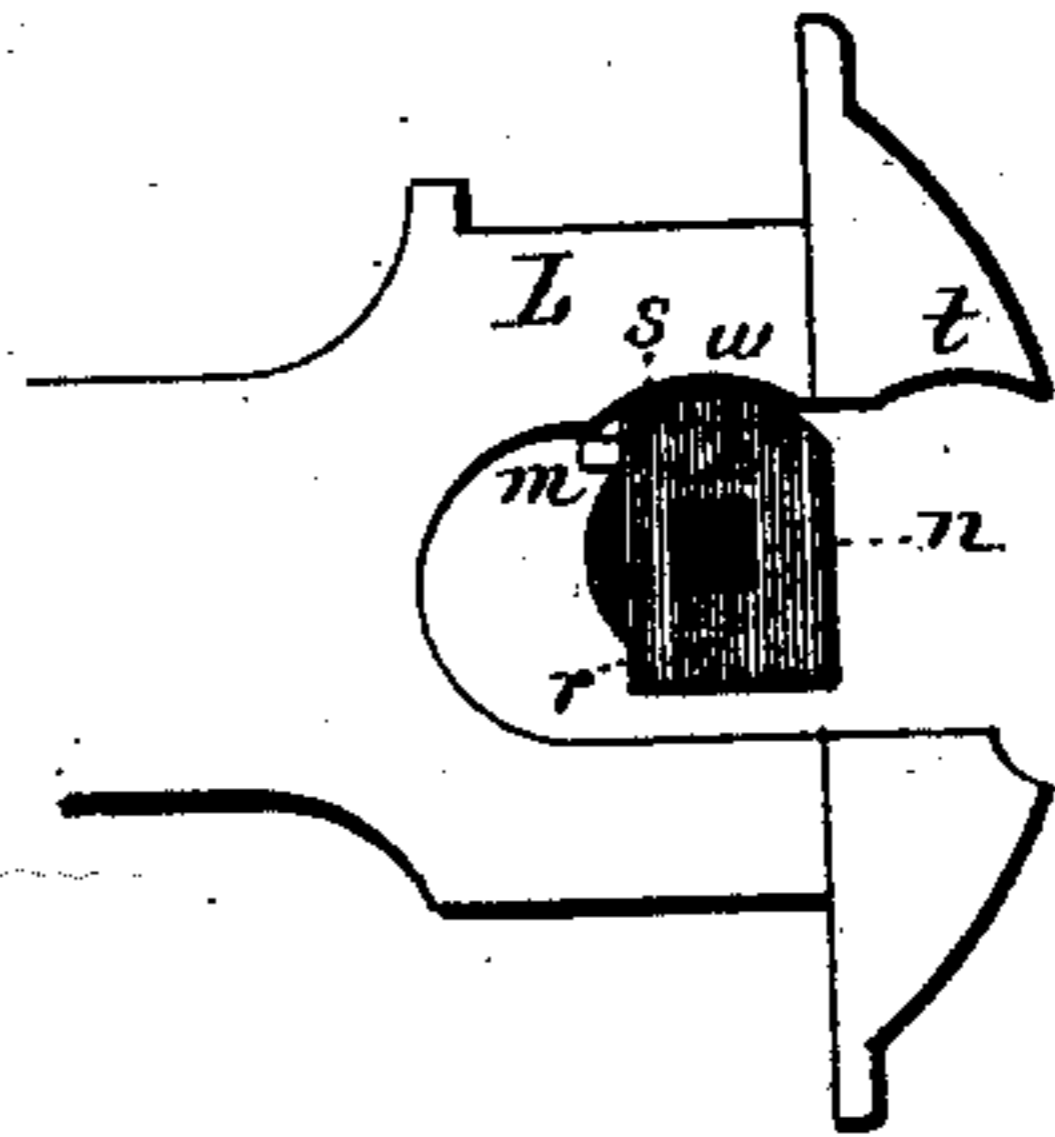


fig. 3<sup>a</sup>

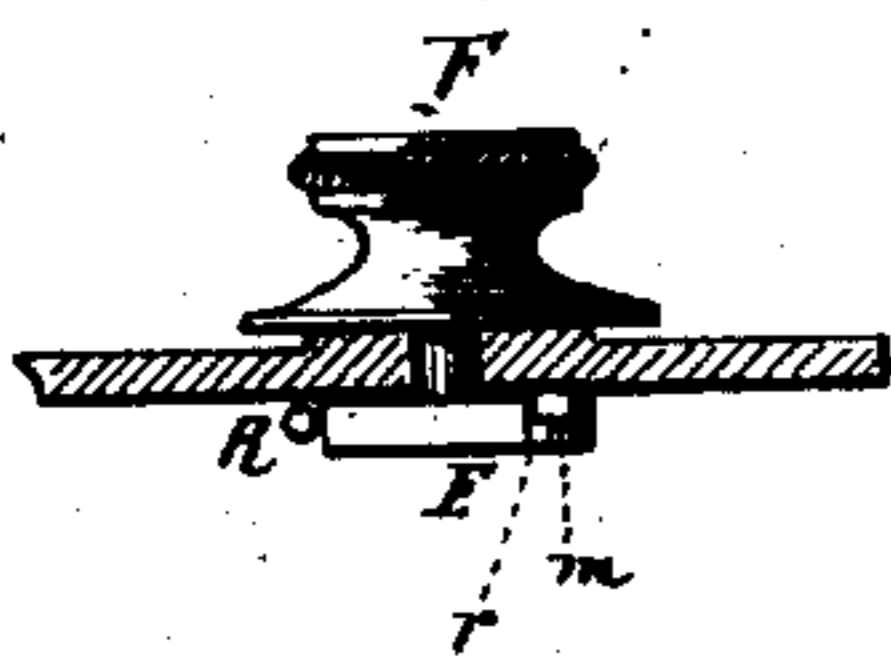


fig. 4

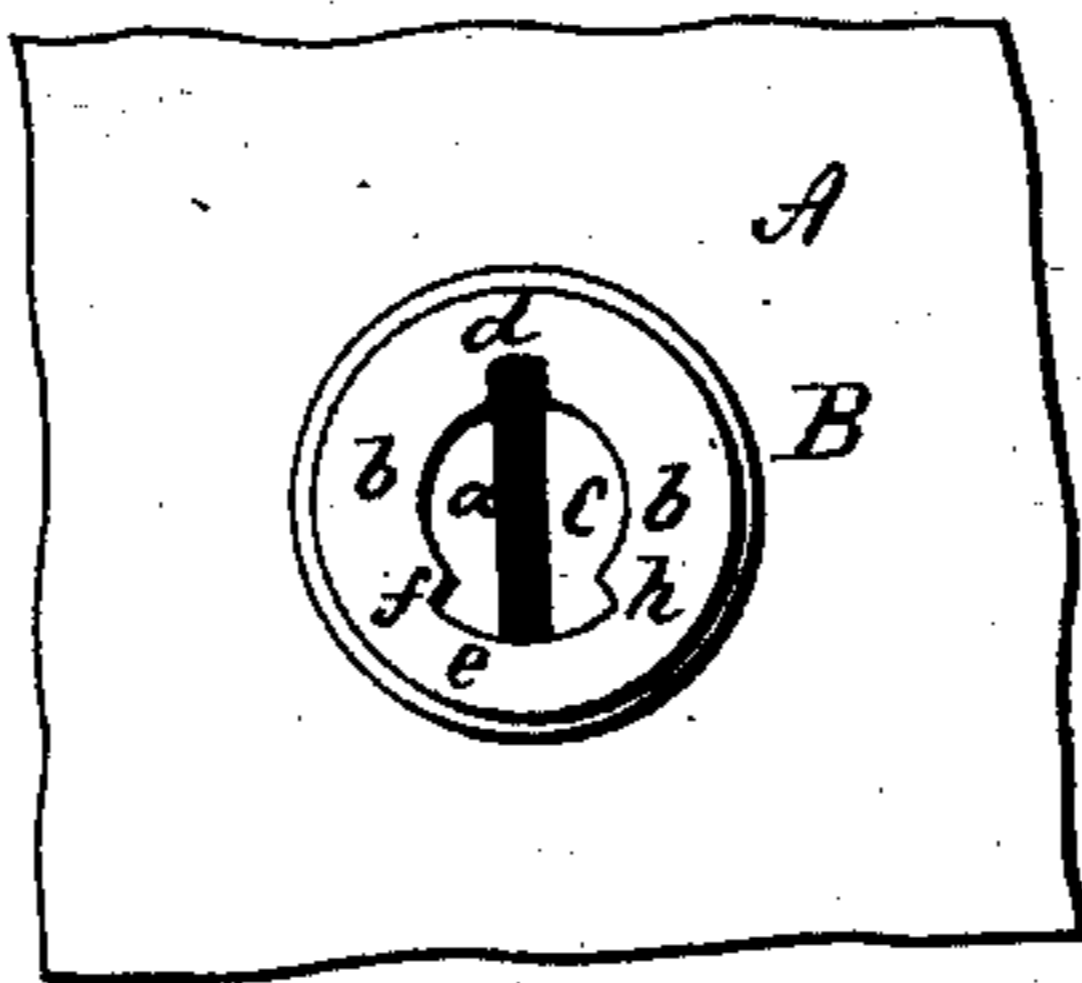


fig. 5



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## LOCKING-LATCH.

SPECIFICATION forming part of Letters Patent No. 244,842, dated July 26, 1881.

Application filed April 23, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, JOHN H. BARNES, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Cylinder-Locks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view in partial longitudinal section; Figs. 2 and 3, interior views; Fig. 4, outside end view of the tube; Fig. 5, the key.

My invention relates to that class of cylinder-locks in which the key is concentric with the cylinder—that is to say, its central longitudinal line is the axial line of the cylinder, so that the key extends equidistant each side of the axis of the cylinder.

The object of the invention is, principally, to construct the outer end of the tube in the form of a guard to engage a notch in one side of the key; and the invention consists in the construction, as hereinafter described, and particularly recited in the claims.

A is the case of the lock; B, the tube attached to the lock-case, or otherwise arranged in well-known relation to the case, and within which is the tumbler-cylinder C, concentric therewith.

Diametrically across the cylinder is the key-hole *a*, (see Fig. 4,) and over the outer end of the cylinder a flange, *b*, on the tube projects so as to partially cover the cylinder. In this flange, at one side, as at *d*, a notch is cut corresponding to the key-hole at that side. On the opposite side a notch, *e*, is cut in the flange, extending to the right and left from the key-hole the distance required to turn the key, and forming stops *f* at the left and *h* at the right, against which the key may strike in turning, and arrest the further turning of the key or cylinder.

The key D (see Fig. 5) is constructed with a notch, *i*, on the side corresponding to the notch *d* in the flange, and so that when the key is introduced it will pass through the notch *d* into the key-hole until the notch *i* of the key comes in line with the flange *b*. Then the key

may be turned to the right or left, the said notch *i* passing onto the flange *b* until the bolt is drawn or the opposite edge of the key brings up against one of the shoulders *f* or *h*. Hence the person using the key sees at once by the single notch on the key which edge up it should be introduced, and also knows that the key is fully turned when it strikes either of the shoulders *f* or *h*.

Another advantage of the construction is the greater number of changes which are permitted by slight variations of the keys—as, for instance, the same bit D, (see Fig. 5,) if the notch *i* be made upon the opposite side, and a corresponding change of tumblers, makes an essentially different bit, but without changing its shape.

As represented in the drawings, this invention is applied to a night-latch, which is one of the principal uses for this class of locks—that is to say, locks in which the nose of the bolt is beveled so as to be forced inward by the closing of the door, or be drawn inward by the key, and then automatically thrown by a spring, and sometimes called “spring” latches or locks. In this class of locks it is necessary that an arrangement should be made upon the side opposite the key-hole to lock the bolt, either in its thrown condition, so as to prevent its being acted upon by the key, or to hold the bolt in its drawn condition when the latch or lock is not required. To this end a cam, E, is arranged upon a spindle, *n*, operated by a knob, F, and lying between the arms or near an arm, L, of the bolt P, and in the case of the lock is a single stud, *m*, in such relative position to the cam that when turned down, as in Fig. 2, a shoulder, *r*, of the cam will strike the said stud, or when turned up, as in Fig. 3, a shoulder, *s*, on the cam will strike the same stud *m*, the single stud serving as a stop for the cam in turning it in either direction.

That side of the arm adjacent to the cam is constructed with two cavities, *t* and *w*. When the cam is turned down, as in Fig. 2, and in which position it is held against the stud *m* by a spring, R, the bolt will slide freely out and in; but when the bolt is drawn, as in Fig. 3, if the cam then be turned up, it will enter the notch *w* and prevent its being thrown for-

ward; or, when the bolt is thrown as in Fig. 2, if the cam then be turned up it will enter the notch *t* and hold the bolt in that condition. By this construction the cam *E* may be cut  
5 from thin sheet metal.

The arrangement of the single stop or stud *m* in the case opposite the spring *R* which bears upon the cam, and avoiding the second stop, which is usually on the opposite side, or  
10 the same side as the spring, enables me to use the very thin cam described, because the stop and spring are in the same plane relatively to the cam, and not the spring above and so as to work over one of the stops, as in the usual  
15 construction.

I am aware that it is not new to arrange a cam which may be turned into the same position to hold the bolt either drawn or thrown, and therefore do not broadly claim such construction; but I am not aware that a cam has  
20 been arranged for this purpose in such manner that a single stud serves to stop the cam in either of its two positions, two studs having heretofore been necessary, one as a stop in one  
25 direction, and the other as a stop in the other direction.

I do not wish to be understood as broadly claiming a device to arrest the rotation of the cylinder or key-guide at a predetermined point,  
30 as such, I am aware, is not new.

I am also aware that the application of Woolaston and Priddy, No. 20,222, shows a latch substantially like the latch in this ap-

plication; but I make no claim to anything shown in the said application, except as re- 35 cited in the claims hereinafter.

I claim—

1. In a cylinder lock or latch, the tumbler-cylinder arranged within the tube of the lock, and provided with a key-hole the central line 40 of which is the axis of the cylinder, the tube constructed with a flange at its outer end projecting inward over the cylinder, with a notch, *d*, in one side of the flange corresponding to the key-hole when in its normal position, and 45 a larger notch upon the opposite side, combined with a key to enter the said cylinder through the two notches in the flange of the tube, with a notch, *i*, in one edge to engage with the flange at the notch *d*, while the oppo- 50 site edge turns free in the notch in the flange in the opposite side, and without engagement with the flange, substantially as described.

2. In a spring-latch, the combination of the bolt constructed with notch or notches *t w*, the 55 cam *E*, arranged to engage either of said notches, a single stud, *m*, against which corresponding shoulders, *s r*, on the said cam will strike in either of its positions of engagement or disengagement with the said notches on 60 the bolt, and a spring arranged to operate upon said cam, substantially as described.

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Witnesses:

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