

(Model.)

2 Sheets—Sheet 1.

E. W. BRETTELL.

LATCH.

No. 316,871.

Patented Apr. 28, 1885.

Fig. 1

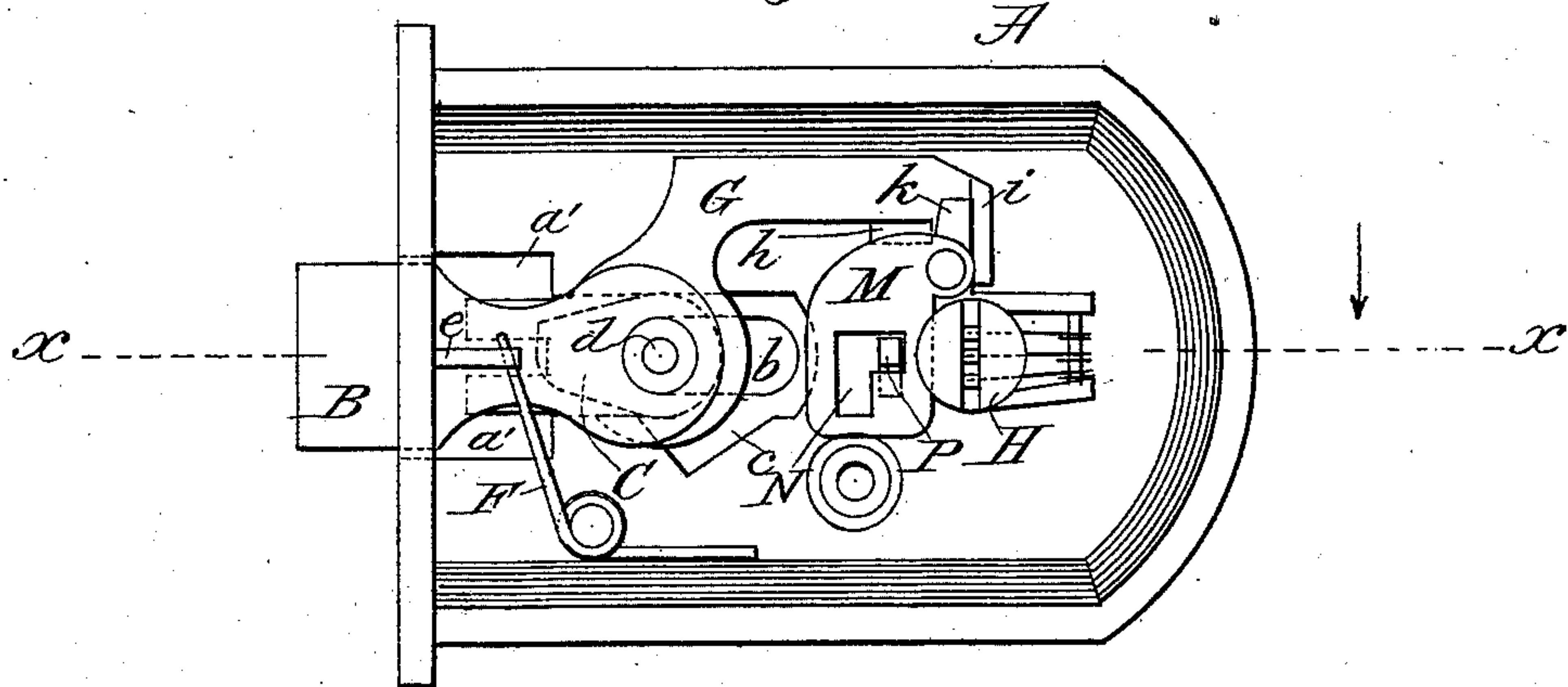


Fig. 2.

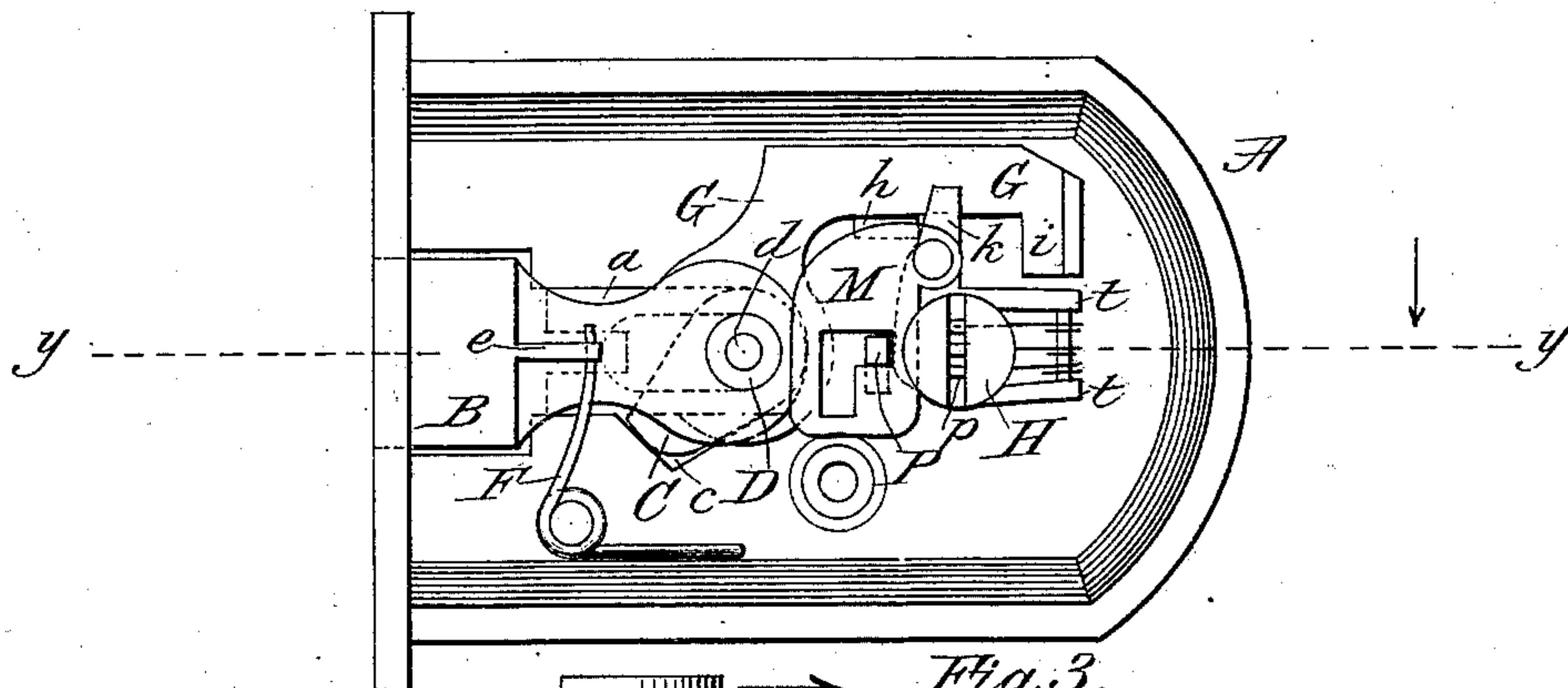


Fig. 3.

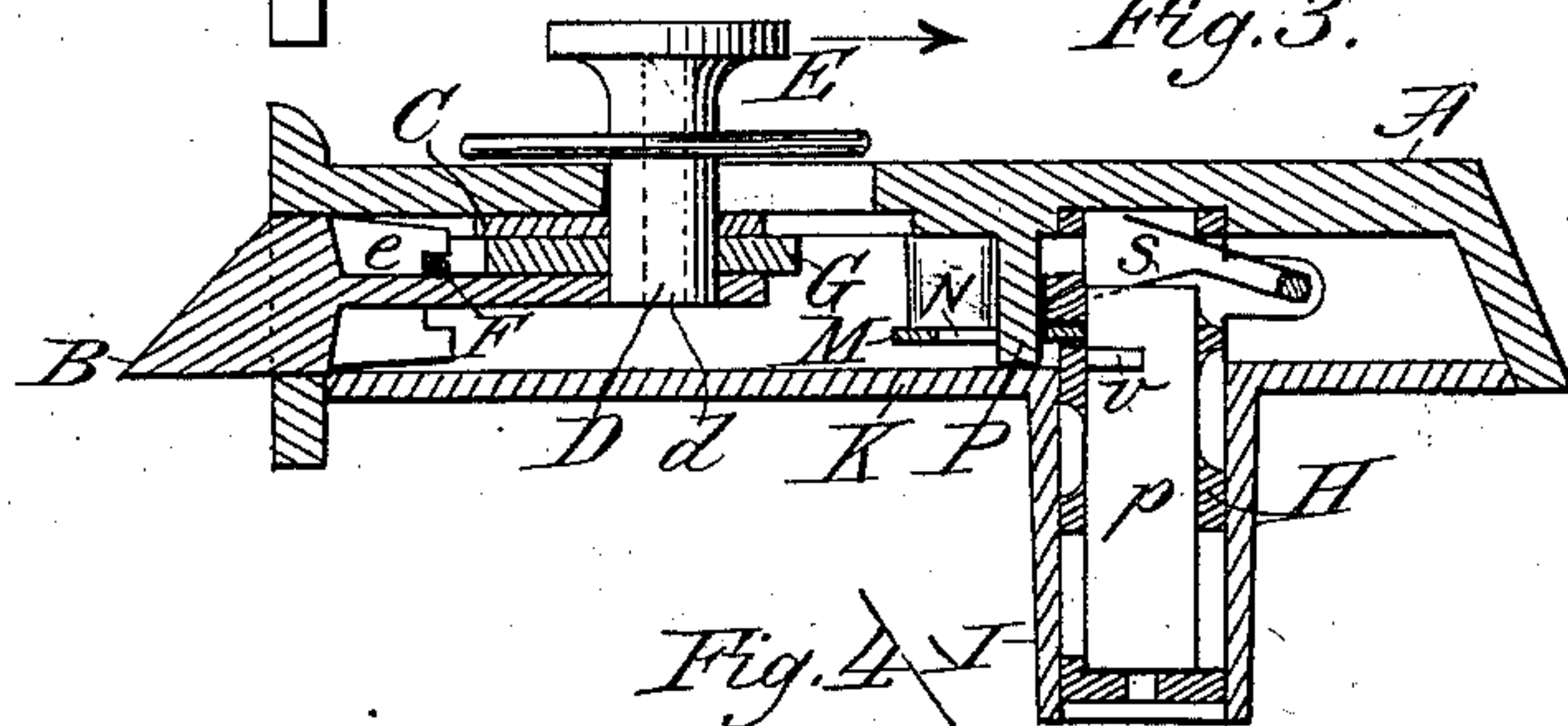
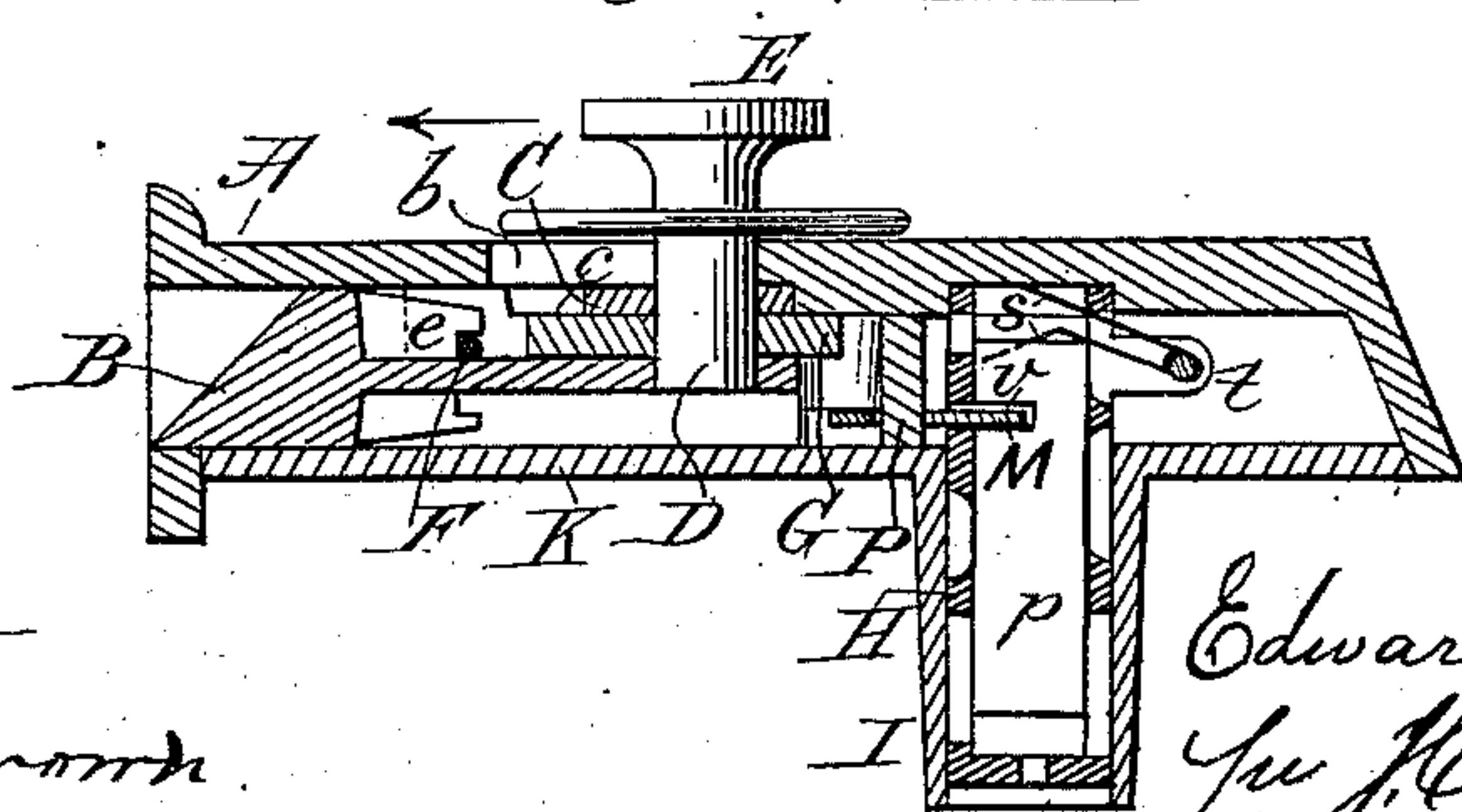


Fig. 4.



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Fig. 5.

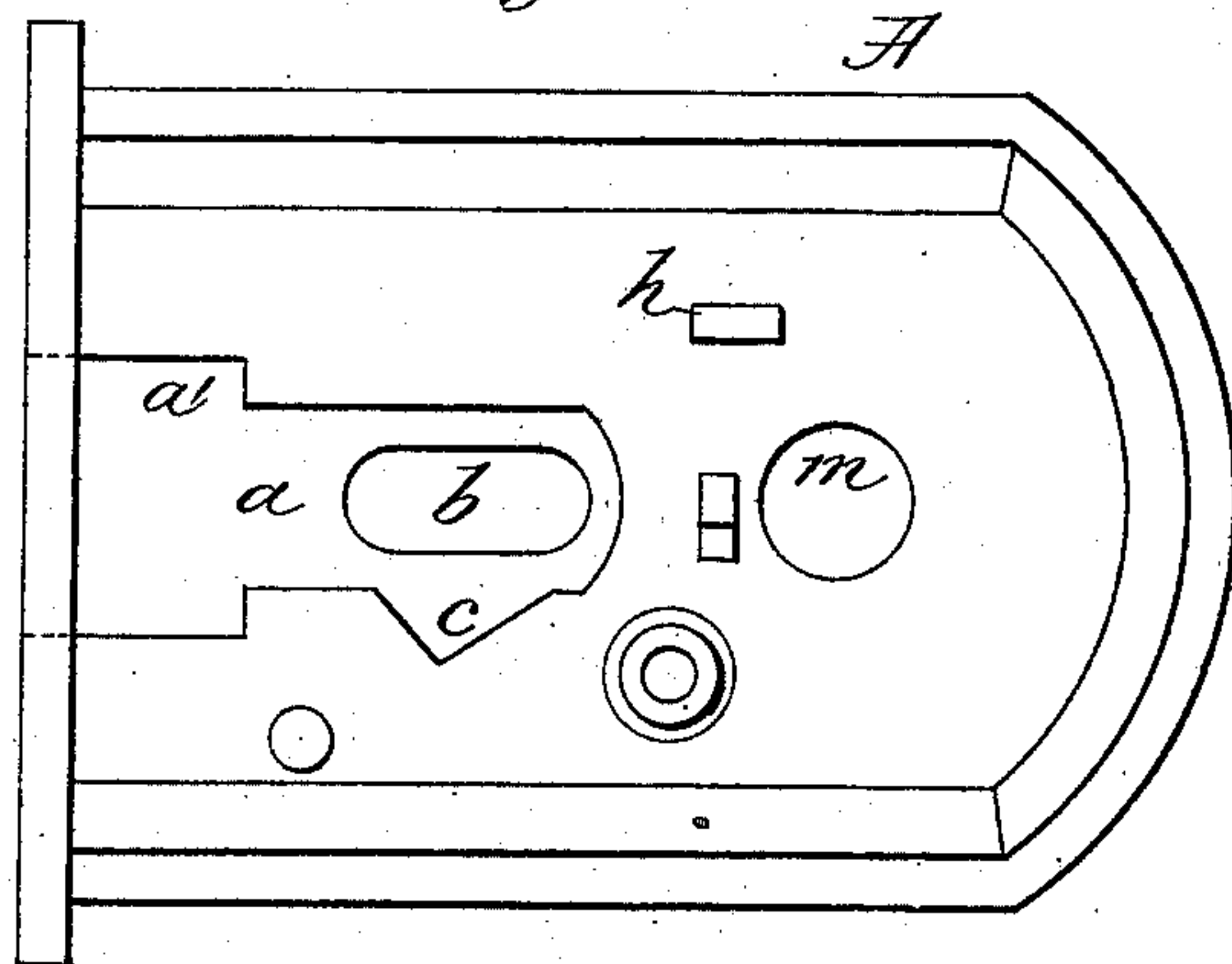


Fig. 6.

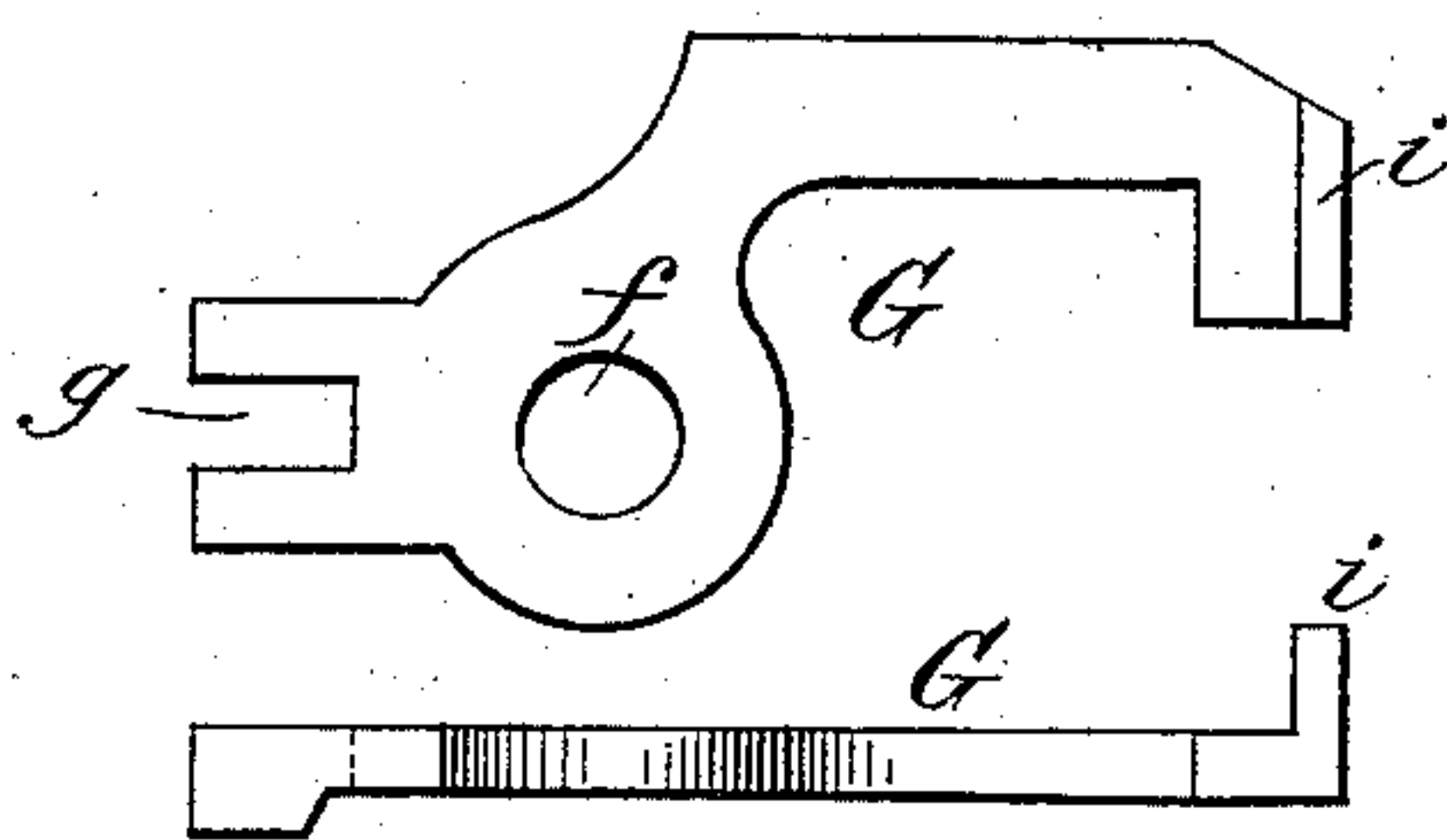


Fig. 7.

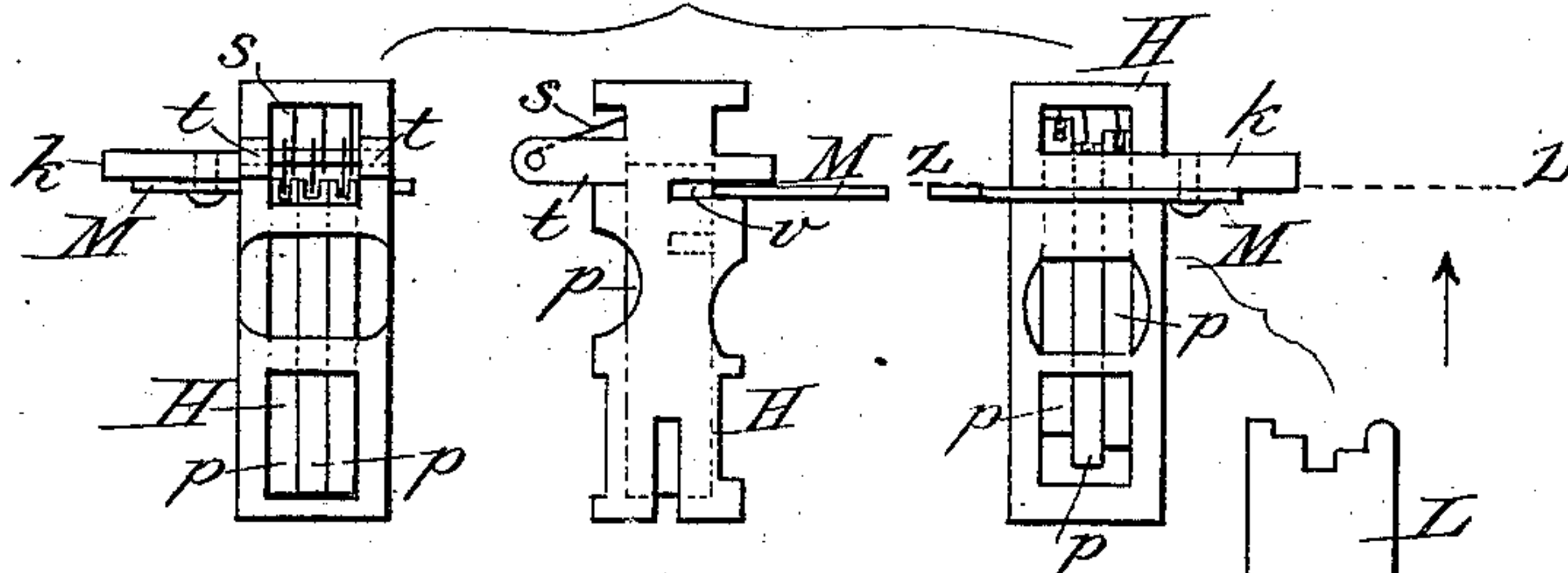
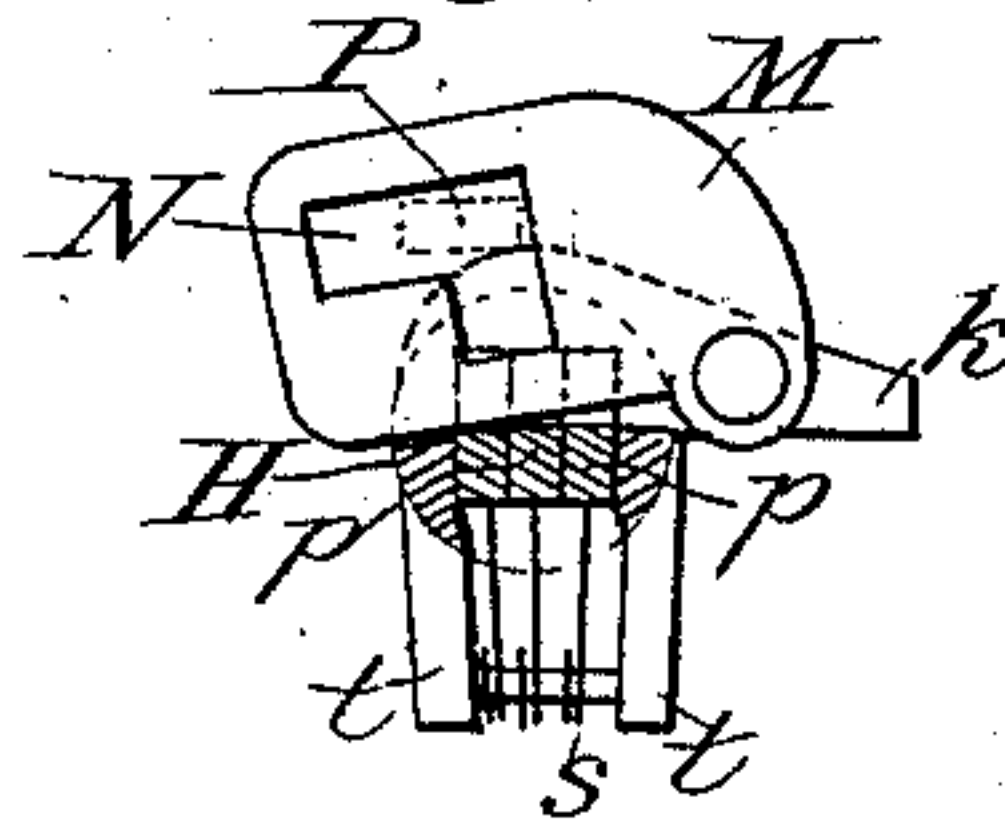


Fig. 8.



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# UNITED STATES PATENT OFFICE.

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## LATCH.

SPECIFICATION forming part of Letters Patent No. 316,871, dated April 28, 1885.

Application filed January 29, 1885. (Model.)

*To all whom it may concern:*

Be it known that I, EDWARD W. BRETTELL, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Night-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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in night latches and locks; and it consists in the construction and arrangement of parts, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a plan view of my improved lock with back plate removed, showing the bolt projected. Fig. 2 is a similar view showing the bolt retracted. Fig. 3 is a section on the line *xx*. Fig. 4 is a section on the line *yy*. Fig. 5 is an inner plan view of the lock-case. Fig. 6 is a plan and edge view of a sliding dog by which the latch-bolt is connected with the key mechanism. Fig. 7 represents side views of a cylinder supporting the tumblers or key mechanism and connected parts. Fig. 8 is a section on the line *zz*.

Like letters designate like parts.

The interior of the lock-case *A* is provided with an elongated recess or depression, *a*, the forward end of which is expanded at *a'* to correspond with the head of the bolt *B*. In the narrow part of the recess *a* is a slot, *b*, and below this slot the recess *a* is formed with an angular extension, *c*, that affords a locking-bearing for the reception of a lug, *C*, on the spindle or shaft *D* of a sliding and rotating thumb-button, *E*. The end of the spindle *D* engages in an opening, *d*, in the bolt *B*, so that the latter can be actuated from the inner side of the sliding and rotary thumb-piece or knob. It will be seen that when the bolt is projected, as shown in Figs. 1 and 3, it can be retracted by simply sliding back the knob or button *E*, the bolt being then held in a drawn position by rotating the button *E* until the lug *C* enters the angular recess *c*, as shown in Fig. 2. If

the button is now rotated in the opposite direction, so as to disengage the lug *C* from the recess *c*, the bolt will be projected under the pressure of a spring, *F*, that bears against a lug, *e*, formed on said bolt.

Beneath the bolt *B* is a sliding dog, *G*, by which said bolt is connected with the key mechanism. The form of this dog is shown in Fig. 6. It has an opening, *f*, through which the spindle *D* passes, thus connecting the bolt and dog, and at its forward end it is provided with a slot or elongated notch, *g*. It will be observed that the bolt *B* is provided on each side with a lug or ridge, *e*, as shown in Figs. 3 and 4. One of these lugs fits in the slotted end of the dog *G*, while the other serves as a bearing for the spring *F*. It will thus be seen that the bolt can be readily reversed to suit right or left hand doors, as required. The rear or inner end of the dog *G* is curved around a post or stop, *h*, Figs. 1 and 2, and carries a lug, *i*, that serves as a bearing for a lug, *k*, on a rotary cylinder, *H*, that supports and incloses the key mechanism. The rotary cylinder *H* rests at one end in a circular depression, *m*, in the lock-case, and is surrounded and held in position by a hollow pillar, *I*, on the back plate, *K*. The cylinder *H*, as shown in Fig. 7, is partially cut away on each side to show the inclosed tumblers or slides *ppp*, the lower ends of which rest on springs *s s s*, that are supported by a pin passed through lugs *t t*, near the inner end of the cylinder. The inner ends of the tumblers or slides *ppp* are notched transversely at different points, or varying distances from the end, so that when said notches are brought to a coincident position, or made to register, under the pressure of a proper key—such as that shown at *L*, Fig. 7—they will form a transverse slot, *v*, for the reception of a thin guide-plate, *M*, that is pivoted to the lug *k* on the cylinder *H*. This guide-plate *M* is provided with an L-shaped slot, *N*, that engages with a post, *P*. It will be seen that when the slides or tumblers *ppp* are pressed inward by means of a proper key the notches *v* will be brought into alignment, so as to form a slot for receiving the edge of the guide-plate *M*, which then gravitates into said slot. By turning the key the cylinder *H* can now be rotated so as to bring the lugs *k i* into close engagement and



retract the dog G and bolt B, said dog and bolt being connected, as before described. In its rotary movement with the cylinder H the guide-plate M turns on the post P by means of its L-shaped slot N, as shown in Fig. 8. This rotary movement of the cylinder and guide-plate cannot be accomplished until, by means of a proper key, the notches *v* have been aligned so as to form a continuous slot and remove the resistance from that edge of the guide-plate, thereby enabling its slot N to play on the post P when the cylinder is rotated. Upon withdrawing the key, or relieving it of pressure, the tension of the spring F will again project the bolt, thus drawing the dog G forward and causing its lug *i* to rotate the cylinder H in the opposite direction and return the plate M and tumblers to their former position. If it is desired, however, to hold the bolt B in a drawn position, it is only necessary to turn the button E so as to bring the lug C into engagement with the recess *c*, as before described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the lock-case A, having recesses *a c* and slot *b*, the bolt B, having opening *d*, the sliding and rotating button E, having shank D and lug C, and the spring F, substantially as described.

2. The combination of the bolt B, dog G, having lug *i*, rotary cylinder H, having lug *k*, the notched tumblers *p p p* inclosed in said cylinder, the pivoted guide-plate M, having L-shaped slot N, and the lock-case A, having post P, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD W. BRETTELL.

Witnesses:

JOHN W. MCLEOD,  
CHAS. R. WESTERVELT.