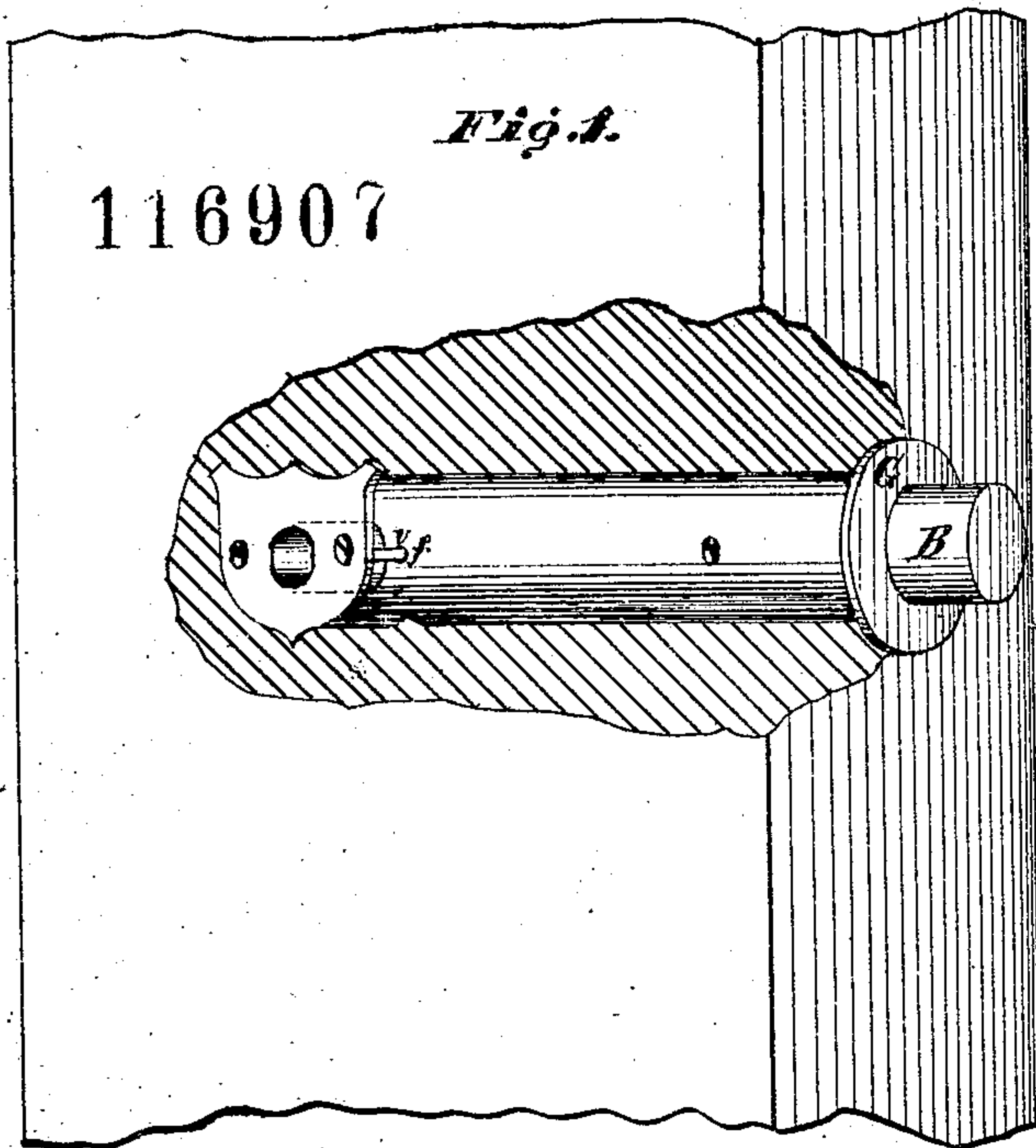


J. T. Williams. Round Mortise Lock.



PATENTED JUL 11 1871

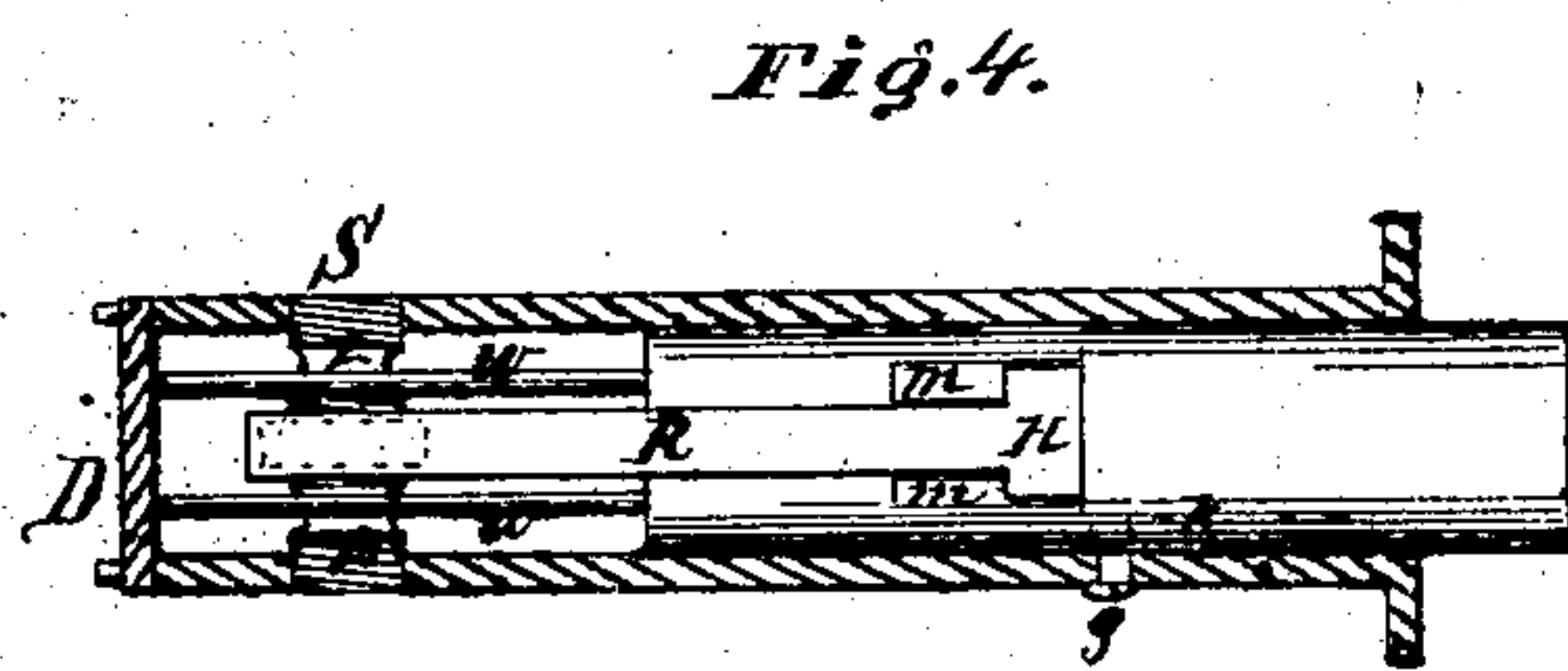
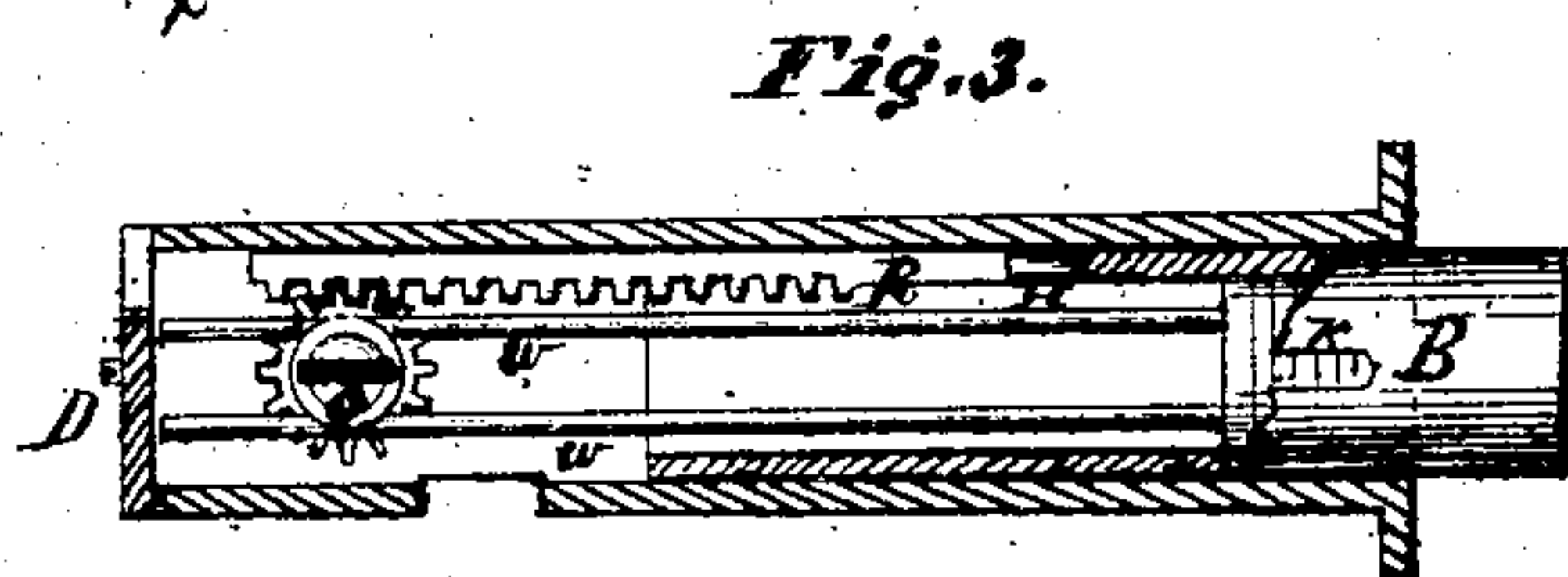
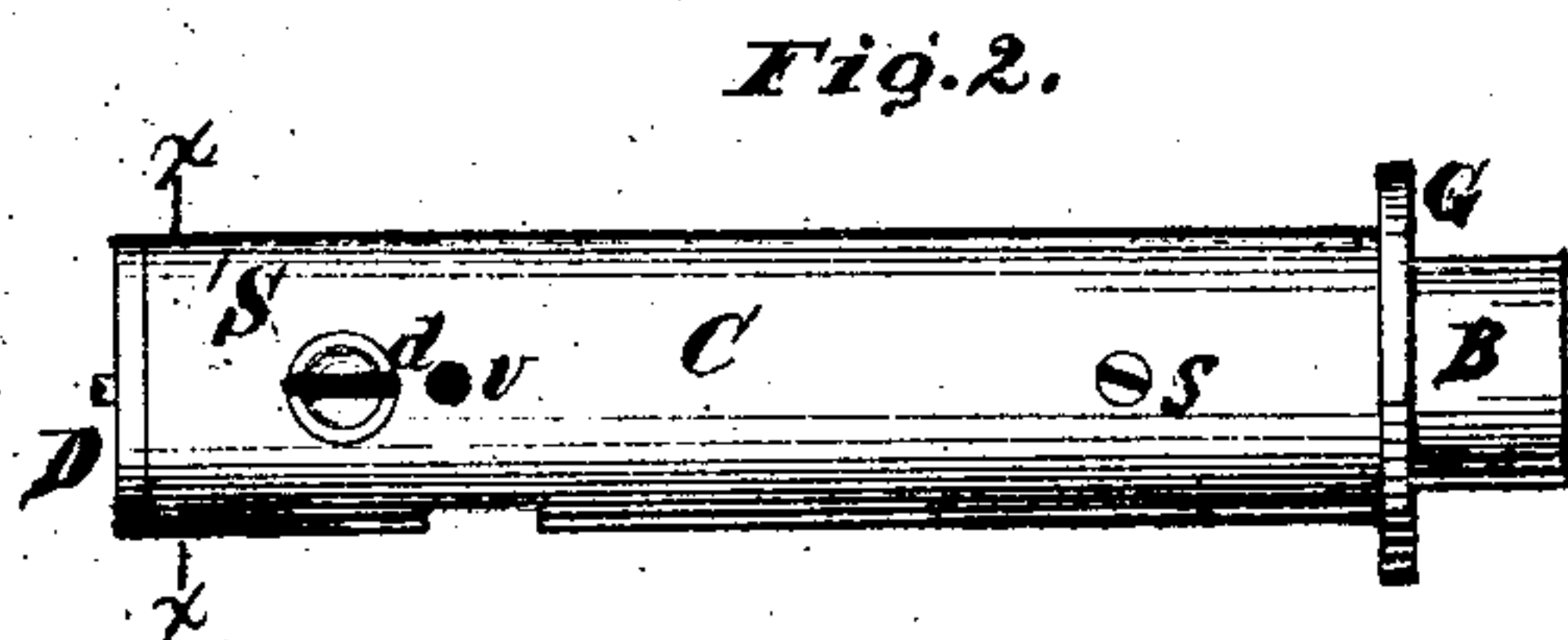


Fig. 10.

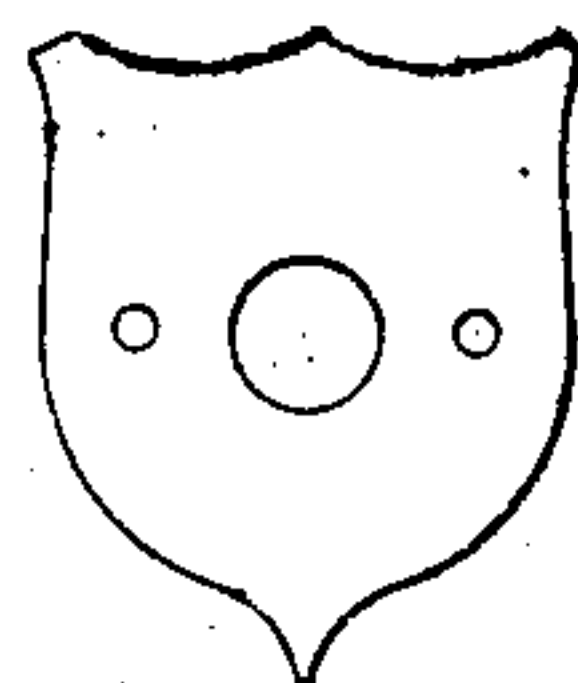


Fig. 9.

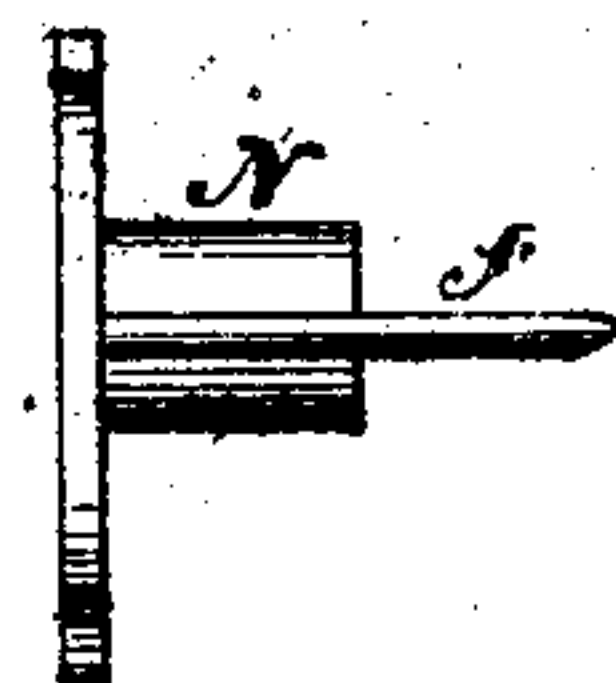


Fig. 7.

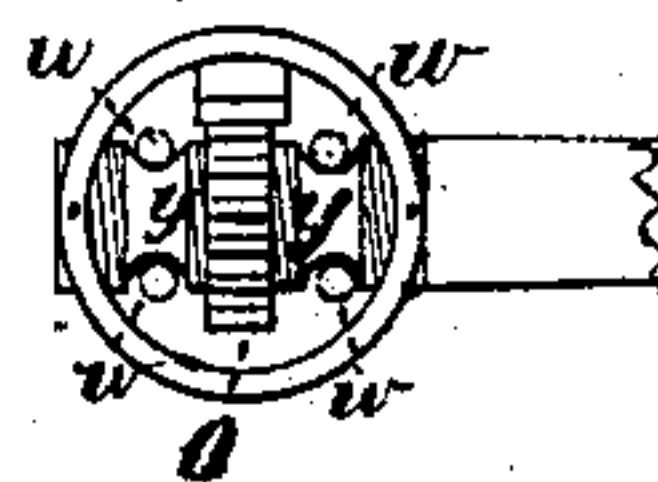


Fig. 8.

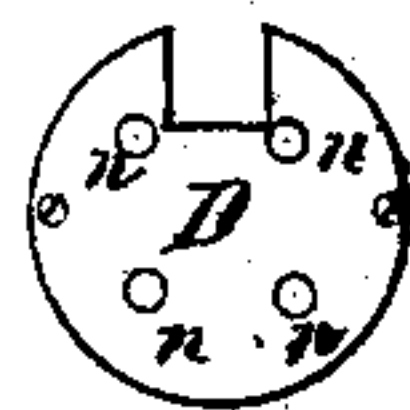
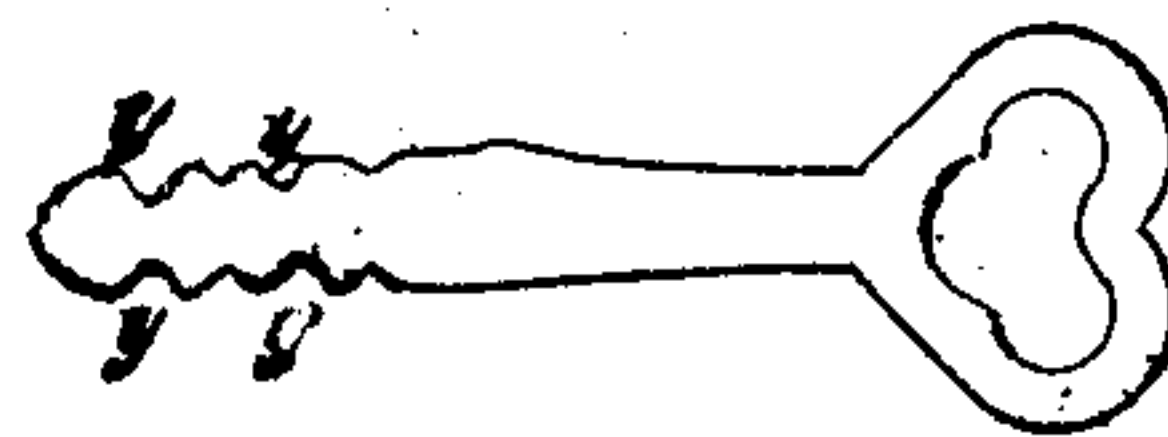


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN THEOPHILUS WILLIAMS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LOCKS FOR DOORS, &c.

Specification forming part of Letters Patent No. 116,907, dated July 11, 1871.

To all whom it may concern:

Be it known that I, JOHN THEOPHILUS WILLIAMS, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in a Mortise-Lock for Locking Doors and Drawers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 is a perspective view of the lock inserted in the edge of a door or drawer, with a section of the wood cut away to show the attachment of key-hole escutcheon to lock; Fig. 2, a longitudinal elevation; Fig. 3, a vertical longitudinal section; Fig. 4, a horizontal longitudinal section and elevation. Fig. 5 is a detailed view of the bolt-rack; Fig. 6, the key; Fig. 7, a transverse section of Fig. 2 at *x*; Fig. 8, an end view of Fig. 2; Fig. 9, a transverse elevation of key-hole escutcheon; Fig. 10, a longitudinal elevation of key-hole escutcheon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my lock-case and bolt of two hollow cylinders, of brass or other metal, one sliding easily into the other, and prevented from turning therein by the screw *g* working in slot *k*, Fig. 4. The smaller tube, when plugged at one end, serves as a bolt, and is shown at Fig. 2 at B. Inserted securely in the plug of the bolt are four tumbler-wires, shown at *w w*, Fig. 3, extending backward nearly parallel with the axis of the tube as far as the plate D. At right angles to the axis of the tubular case is a screw inserted, extending from side to side, (shown at *s*, Figs. 2 and 4.) On the screw is fixed a pinion, shown at *o*, Figs. 3 and 7. This screw is slotted in the direction of its axis, so as to be nearly cut in halves and turned away at *z z*, Fig. 4, so as to allow the

wires *w w* to approach each other, as shown in Figs. 4 and 7. Working in said pinion is a rack, R, Figs. 3, 4, and 5. This rack moves the bolt by means of its head H in slot *m*, Fig. 4. At the rear end of the case (shown at D, Fig. 2) is a plate pierced with four holes, *n*, as shown at Fig. 8. The key is formed of thin sheet-steel or other metal, as shown in profile at Fig. 6. *y y y* are the notches that guide the wires to the holes *n n n n* in D, Fig. 8.

In order to explain the action of the lock we will suppose, Fig. 2, the lock put together, and inserted in the edge of a door or drawer, as shown at Fig. 1; the key inserted in the slot *d* in screw *s* and turned to the left. The pinion *o* draws the rack R and the cross-head H moves in the slot *m* until the pinion has made one-fourth of a revolution and the wires *w w* are lying in the notches *y y*, Fig. 7. Now the cross-head begins to move the bolt B and wires *w w*, and the notches *y y* in the key will guide the wires *w w* through the holes *n n* and the bolt will be withdrawn. The lock is inserted in a door or drawer by boring a hole in the edge of said door or drawer just large enough to receive the casing, countersinking for the flange. G, another hole, is bored at right angles to this, at the right distance from the edge for the key-hole, and large enough to admit the tube N of key-hole escutcheon. The pin *f* of said escutcheon goes into a hole in the lock, shown at *v*, Figs. 1 and 2. This serves to keep the lock in place.

I claim—

The plate D, provided with the holes *n* and the tumbler-wires *w* capable of being moved in all directions, in combination with the pinion *o*, rack R, bolt B, and key, substantially as and for the purpose set forth.

J. T. WILLIAMS.

Witnesses:

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