

(No Model.)

J. B. MILLER.
PERMUTATION LOCK.

No. 446,071.

Patented Feb. 10, 1891.

Fig. 1.

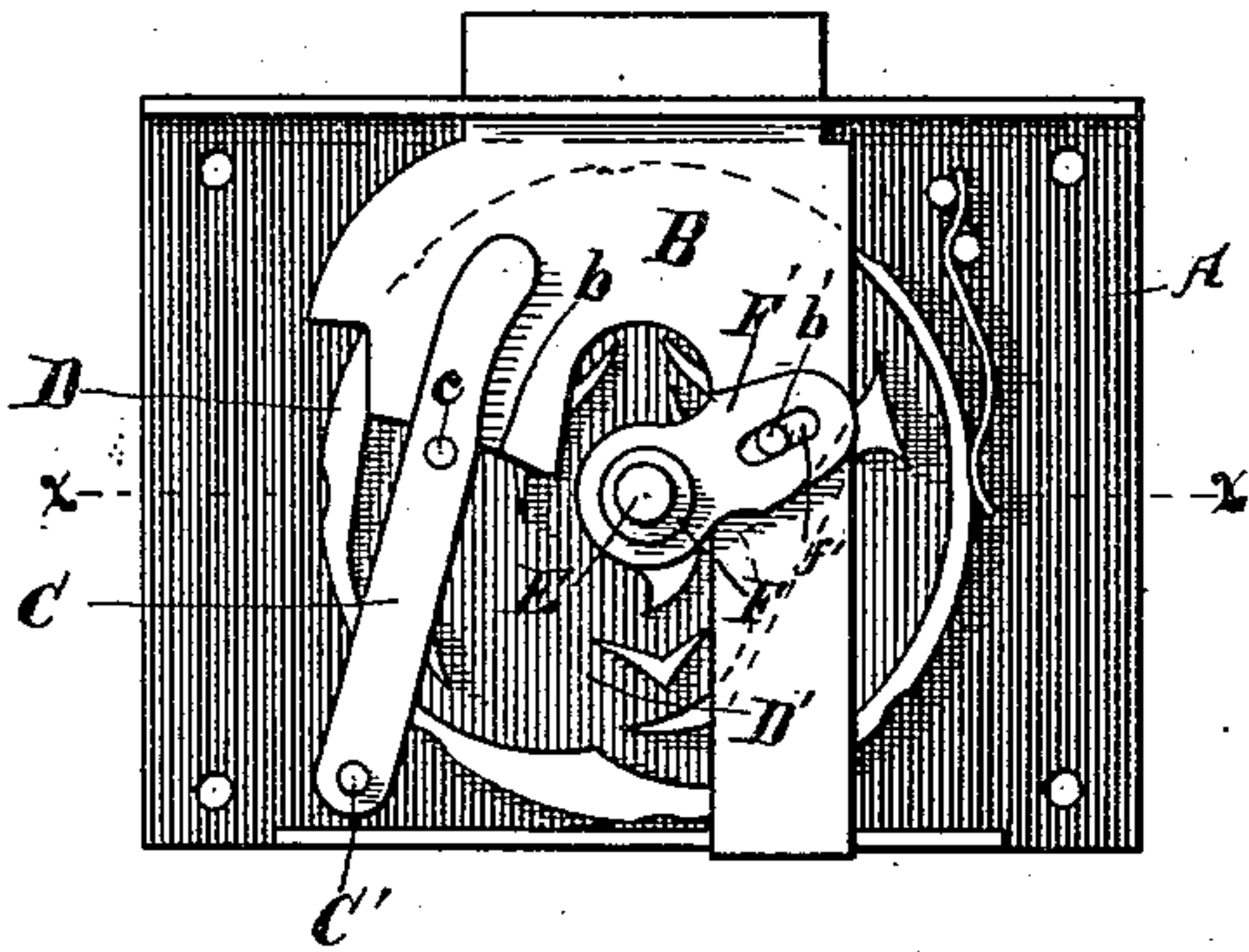


Fig. 2.

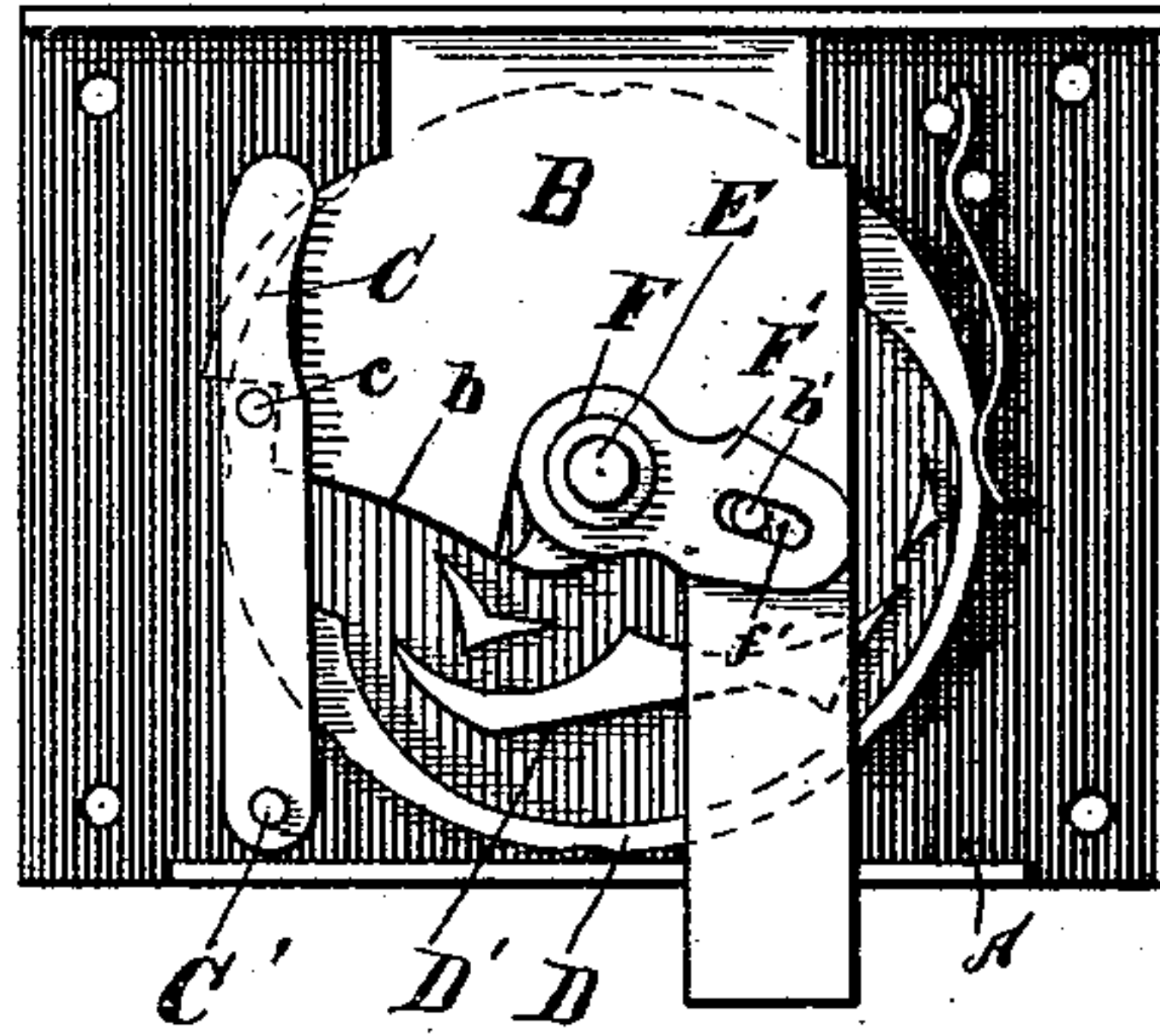


Fig. 3.

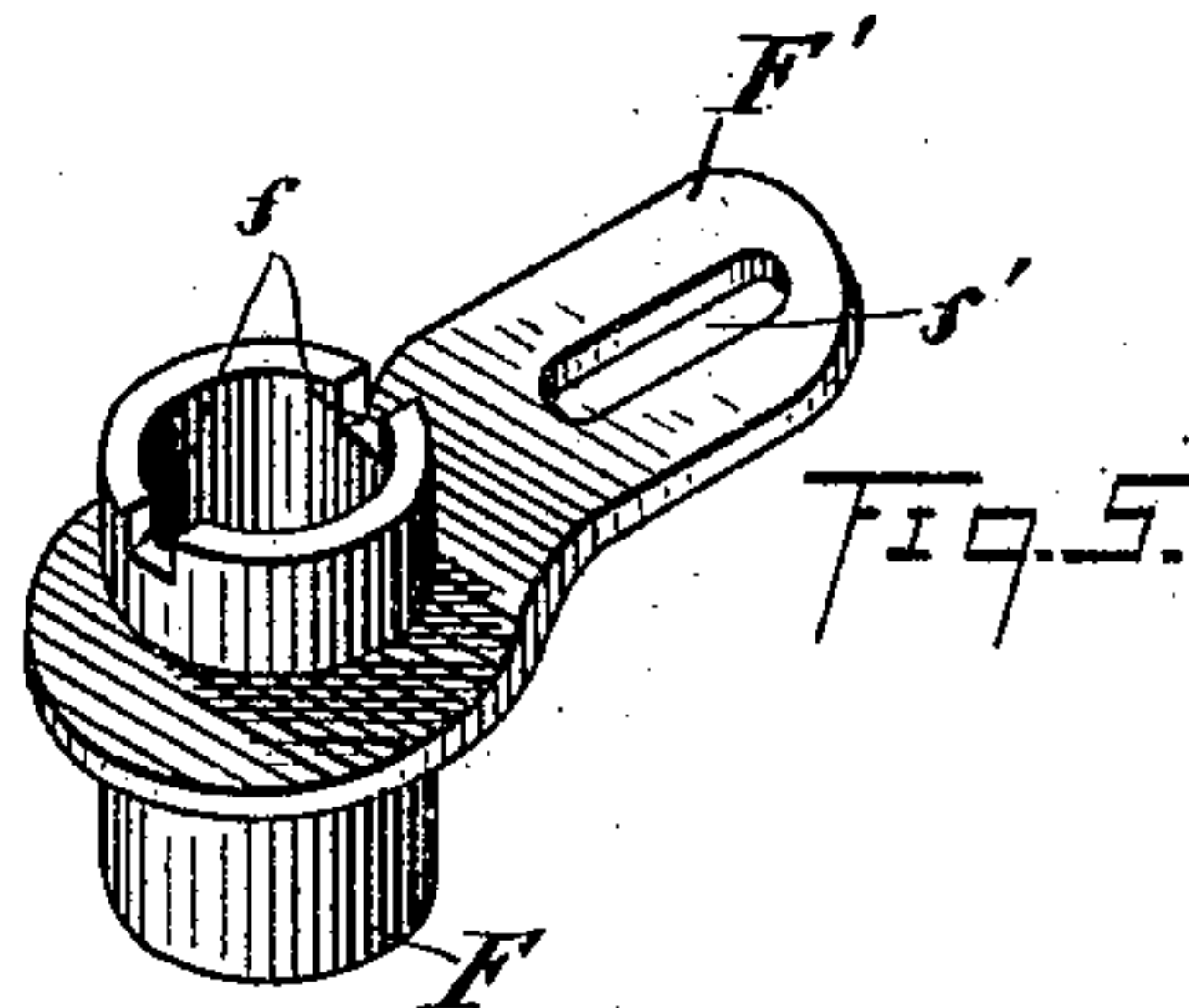
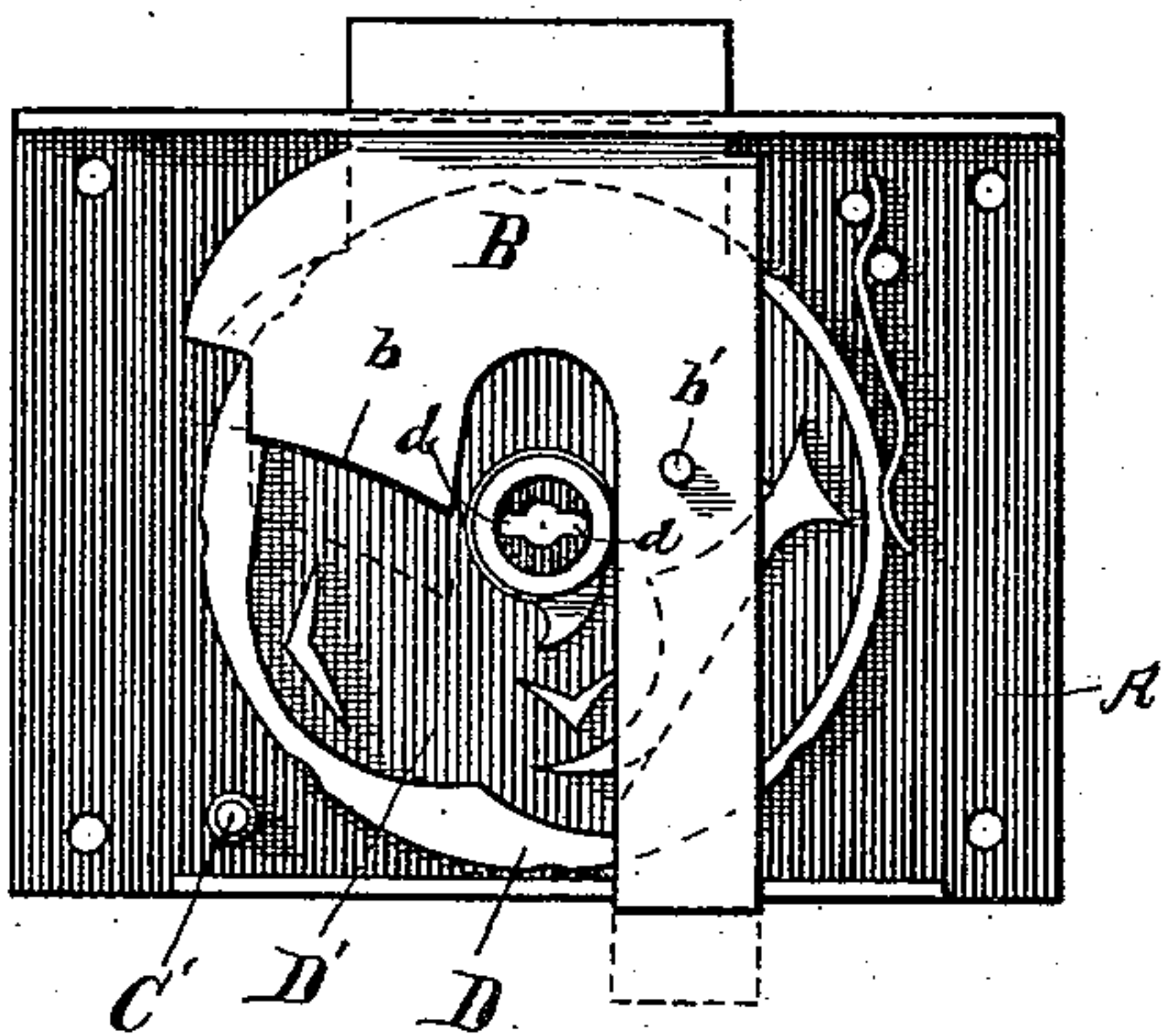
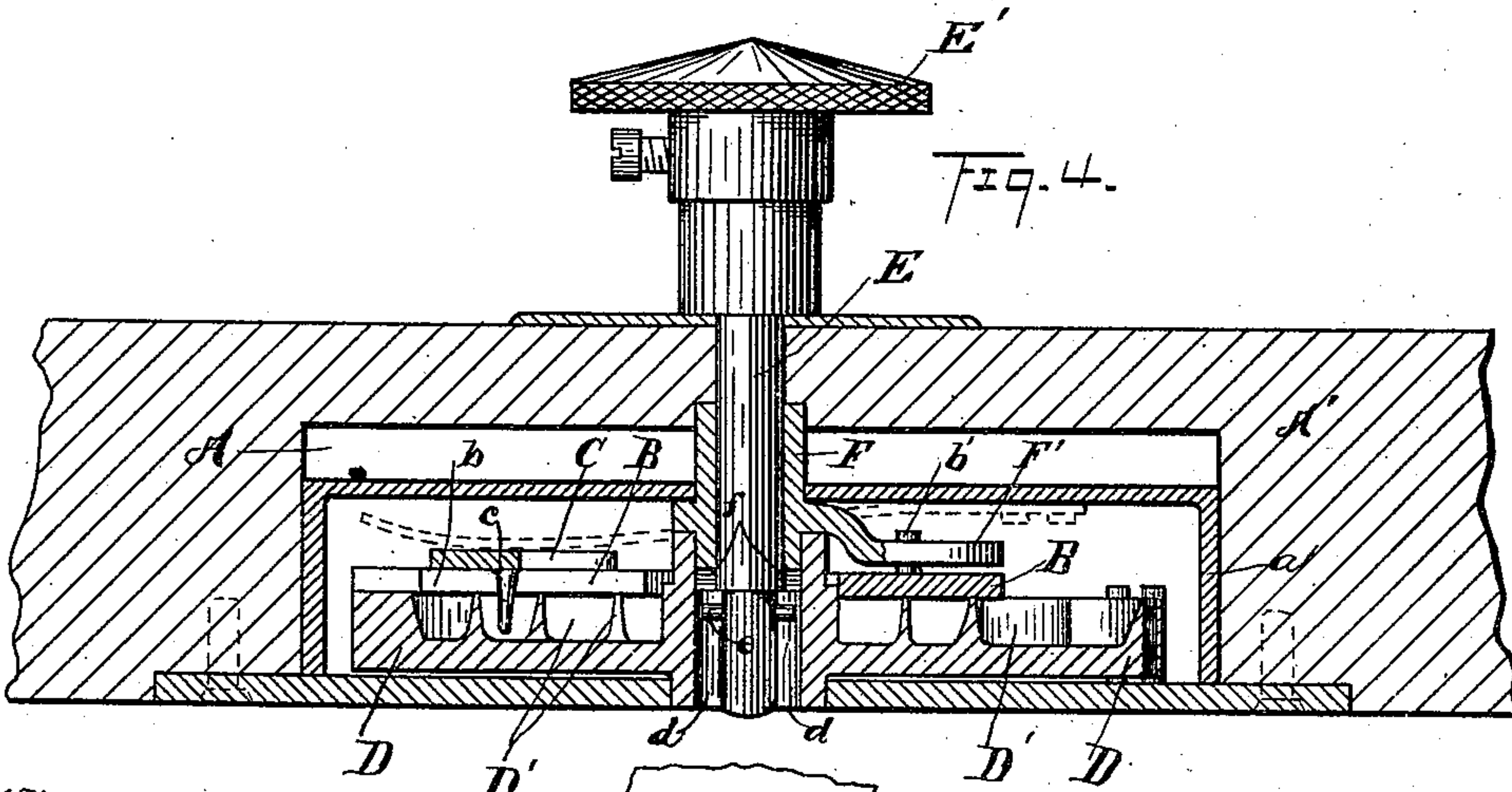


Fig. 4.



Witnesses.

Chas. S. Lewis.

C. H. Davis

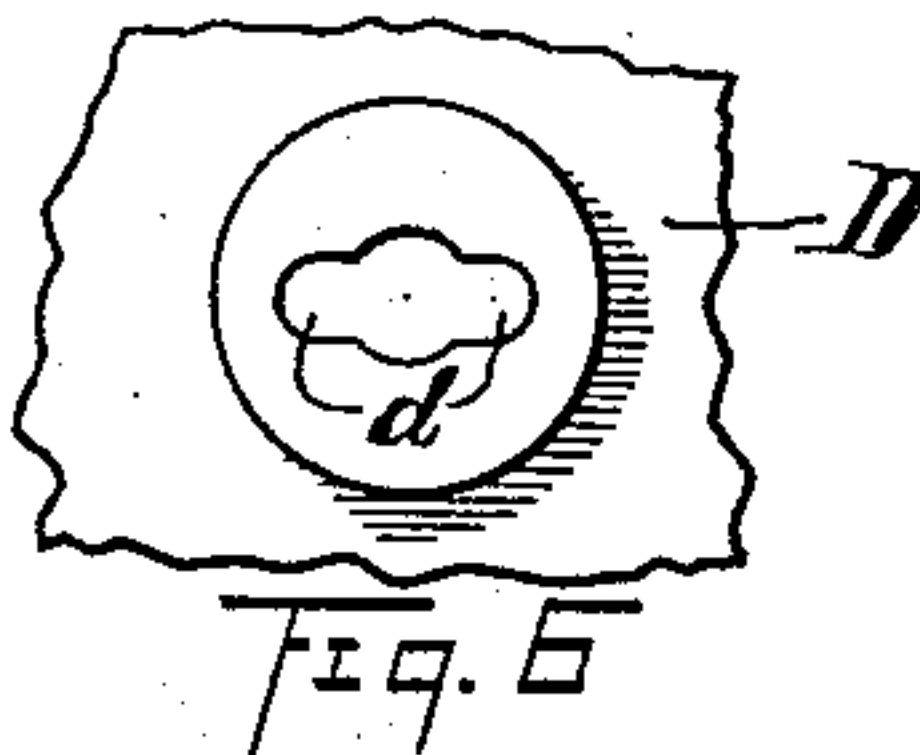


Fig. 6.

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UNITED STATES PATENT OFFICE.

JAMES B. MILLER, OF KENT, OHIO.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 446,071, dated February 10, 1891.

Application filed May 29, 1890. Serial No. 353,570. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. MILLER, of Kent, in the county of Portage and State of Ohio, have invented certain new and useful
5 Improvements in Permutation-Locks; and I do hereby 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 pertains to make and use the same.

10 My invention relates to improvements in permutation-locks of the variety known as the "Doud's lock," shown and described in United States Letters Patent No. 396,273, of January 15, 1889, and to which reference is hereby
15 made, the object being to adapt the lock to drawers, small doors, and other purposes.

In the accompanying drawings, Figures 1 and 2 are plans with the covering of the casing removed, showing different working posi-
20 tions. Fig. 3 is a plan with the vibrating lever and bolt-shifting device removed. Fig. 4 is an enlarged elevation in section. Fig. 5 is an enlarged perspective view of the bolt-shifting device detached. Fig. 6 is an en-
25 larged plan of the cam-disk hub.

A represents the casing of the lock, the same having a removable cover *a*.

30 A' represents the wood-work of, for instance, the door or the drawer, to which the lock is attached.

B is the bolt, having a shoulder *b* and having a projecting pin or member *b'*.

C is a vibrating lever, pivoted at C' and having a pin *c*, adapted to engage shoulder *b* of the bolt. This pin *c* is also adapted to en-
35 gage the cam D' of the cam-disk D. I will remark that two pins may be provided for the purpose, one short pin for engaging shoulder *b* and one longer pin for engaging cam D';
40 but I prefer the construction shown, where one pin serves for both purposes. The hub of the cam-disk is bored to receive spindle E with an easy fit. The spindle on the outer end thereof is provided with a thumb-nut E'
45 for operating the same. The spindle is also provided inside the lock with a lateral pin *e*, and the hub of the cam-disk is provided with notches *d* for engaging the protruding ends of this pin, whereby the cam-disk may be ro-
50 tated by oscillating the spindle. On this spin-

dle is mounted loosely the bolt-shifter, comprising sleeve F, having a lateral arm F'. This arm has a slot *f'*, adapted to engage pin or member *b'* of the bolt. The inner end of the sleeve is provided with notches *f*, adapted 55 to engage pin *e* of the spindle. With the spindle in position thrust inward, so that pin *e* engages notches *d* of the cam-disk, the latter may be rotated on its axis in the one direc- 60 tion or the other to operate the vibrating lever, so that a person knowing the combination of the lock may eventually swing the lever to the one side out of the way of the bolt, after which, by drawing the spindle outward, pin *e* is disengaged from notches *d* and enters 65 notches *f* of the bolt-shifter, thereby locking the latter with the spindle, after which, and by means of member *b'* of the bolt operating in slot *f'* of the bolt-shifter, the bolt may be withdrawn and afterward shot in, unlocking 70 or locking the door or drawer. The door or drawer having been locked by the means aforesaid, the spindle is again returned to its inward position and turned in the one direction or the other to return the vibrating spin- 75 dle to its position, locking the bolt. The thumb-knob E', in addition to its two functions already mentioned, may also serve as a pull for opening the drawer or door, and this lock is well adapted to drawers and small doors-- 80 such, for instance, as cupboard-doors, doors of sideboards and desks—in fact, may be used for a great variety of purposes where a small lock is wanted.

What I claim is— 85

In permutation-locks of the variety indicated, the combination, with a bolt, a vibrating lever, and a cam-bearing disk, of a bolt-shifter and a spindle having end movement and adapted to actuate the cam-disk or the 90 bolt-shifter, according to the position of the spindle, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 7th day of March, 1890.

JAMES B. MILLER.

Witnesses:

C. H. DORER,
WARD HOOVER.