

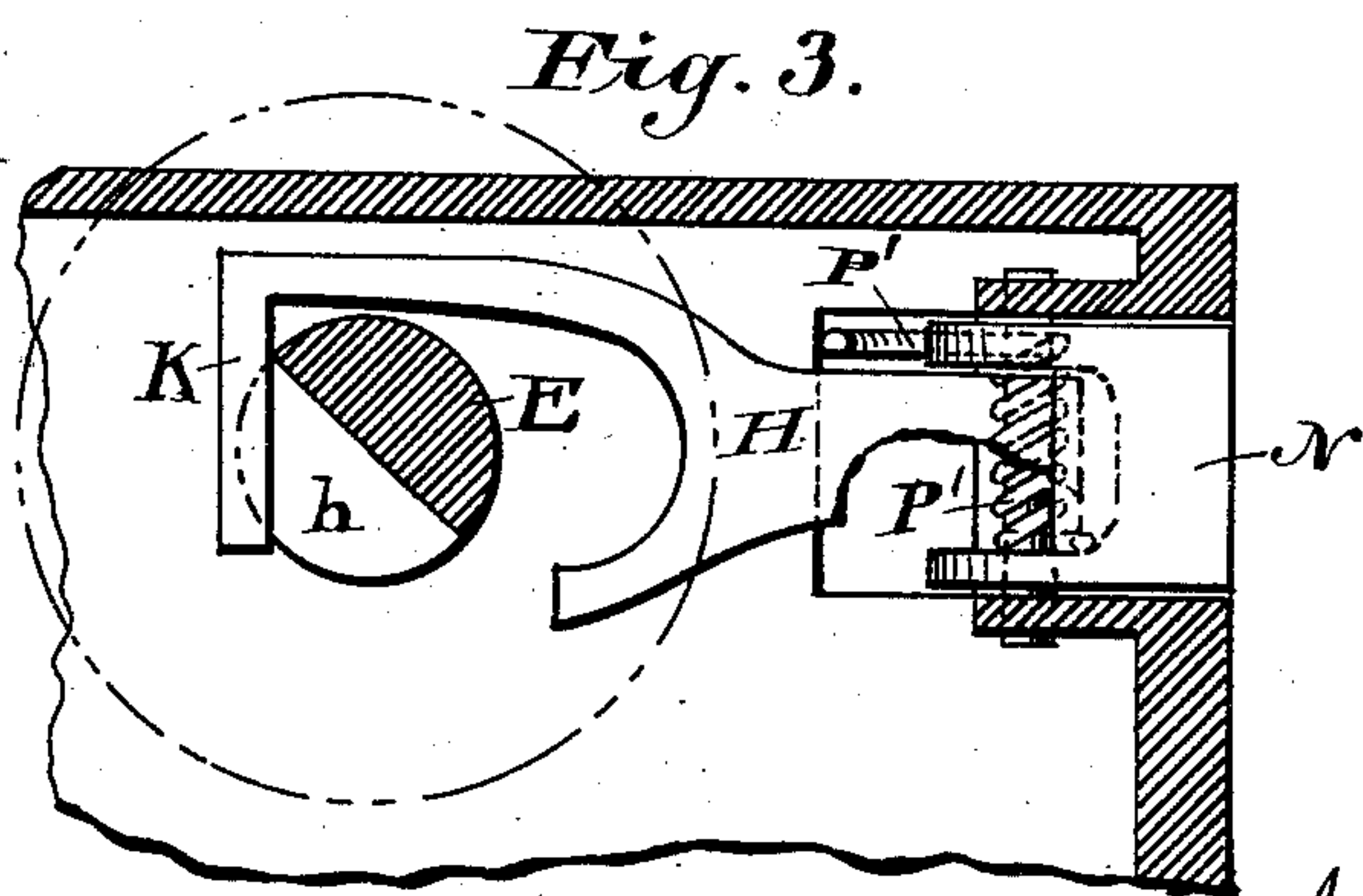
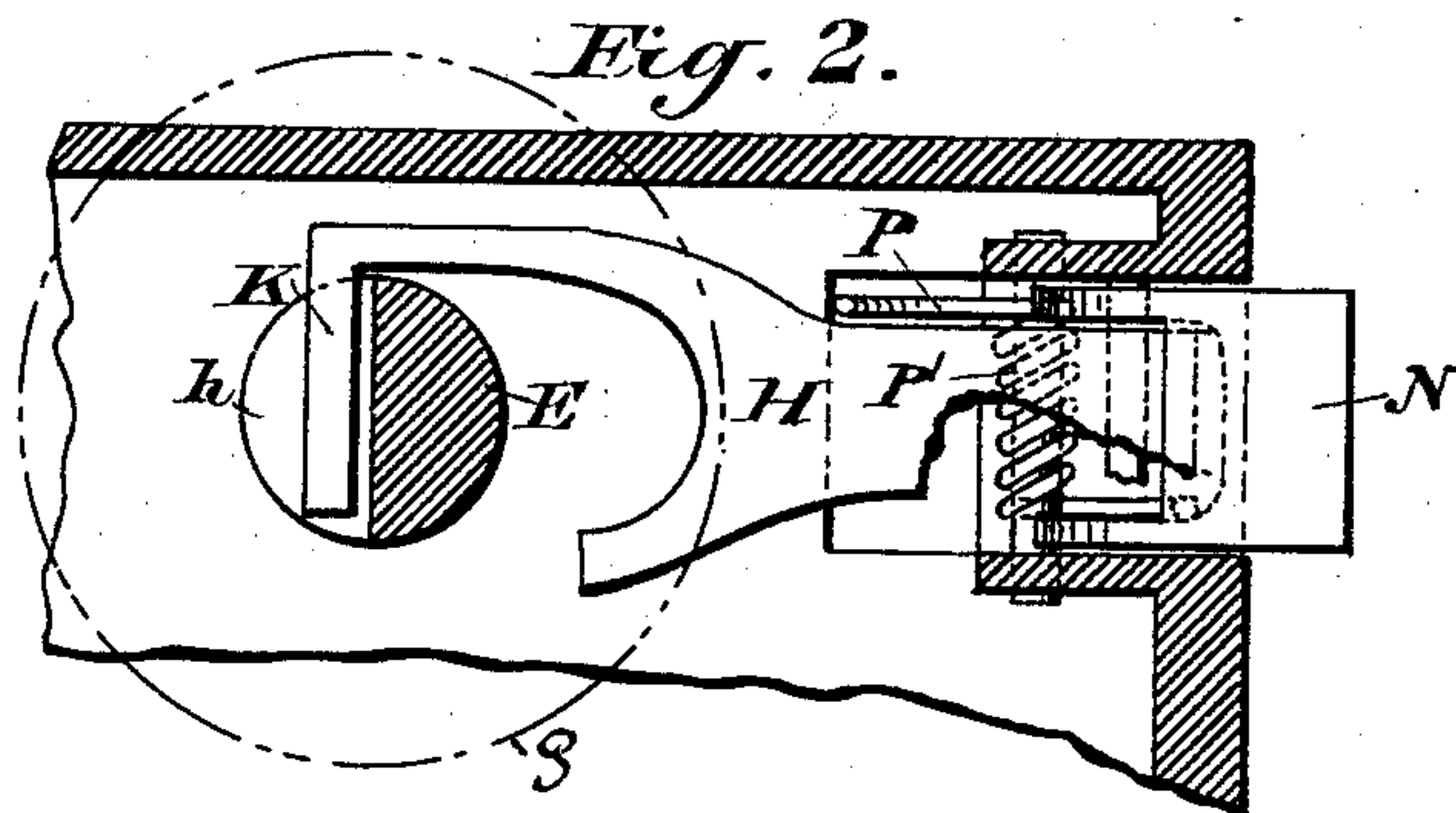
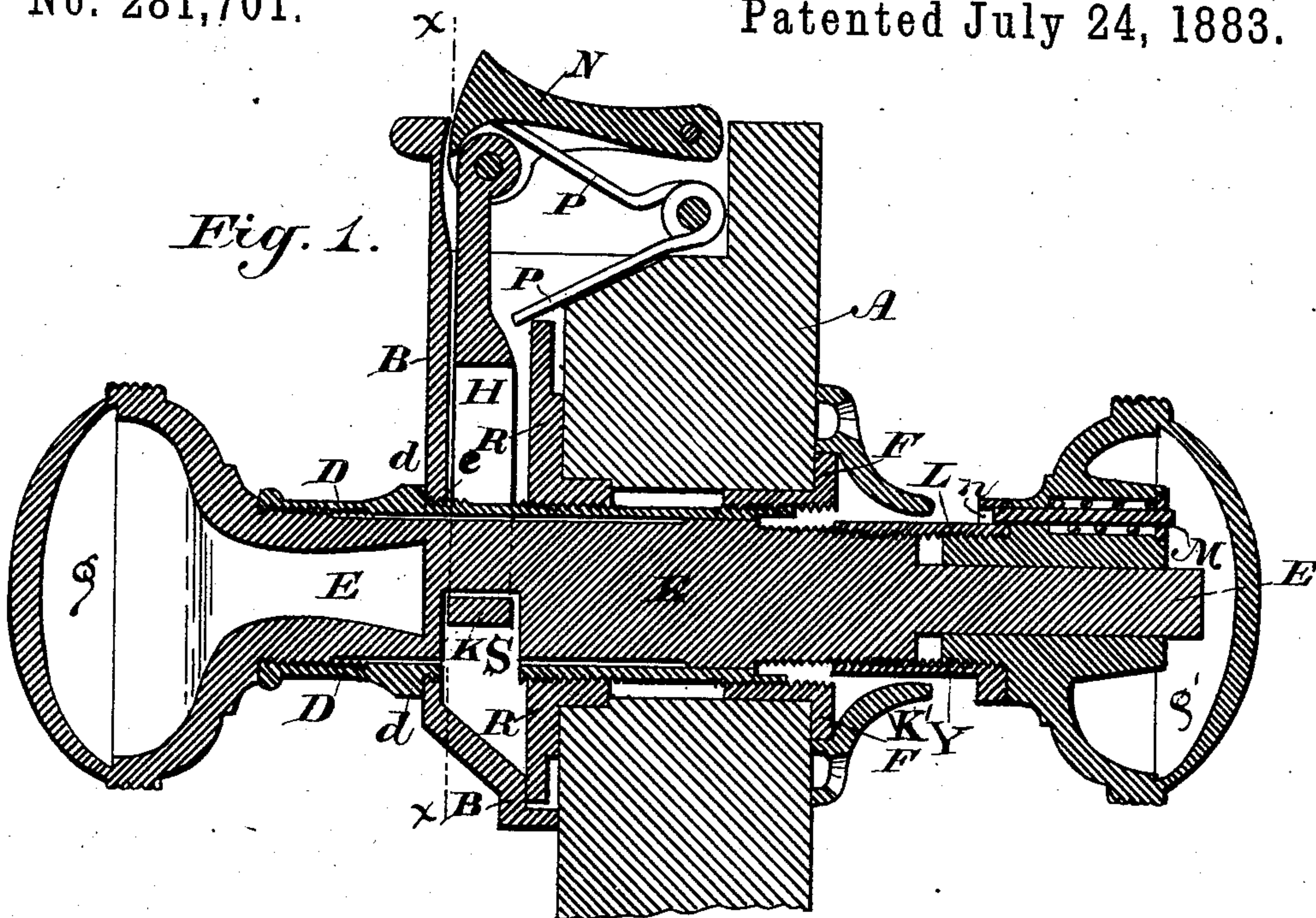
(Model.)

2 Sheets—Sheet 1.

J. KIRBY, Jr.
KNOB ATTACHMENT.

No. 281,701.

Patented July 24, 1883.



Witnesses:
Alfred O. Elzner
H. Gady.

Inventor:
John Kirby, Jr.
By Septa Garrard
Atty

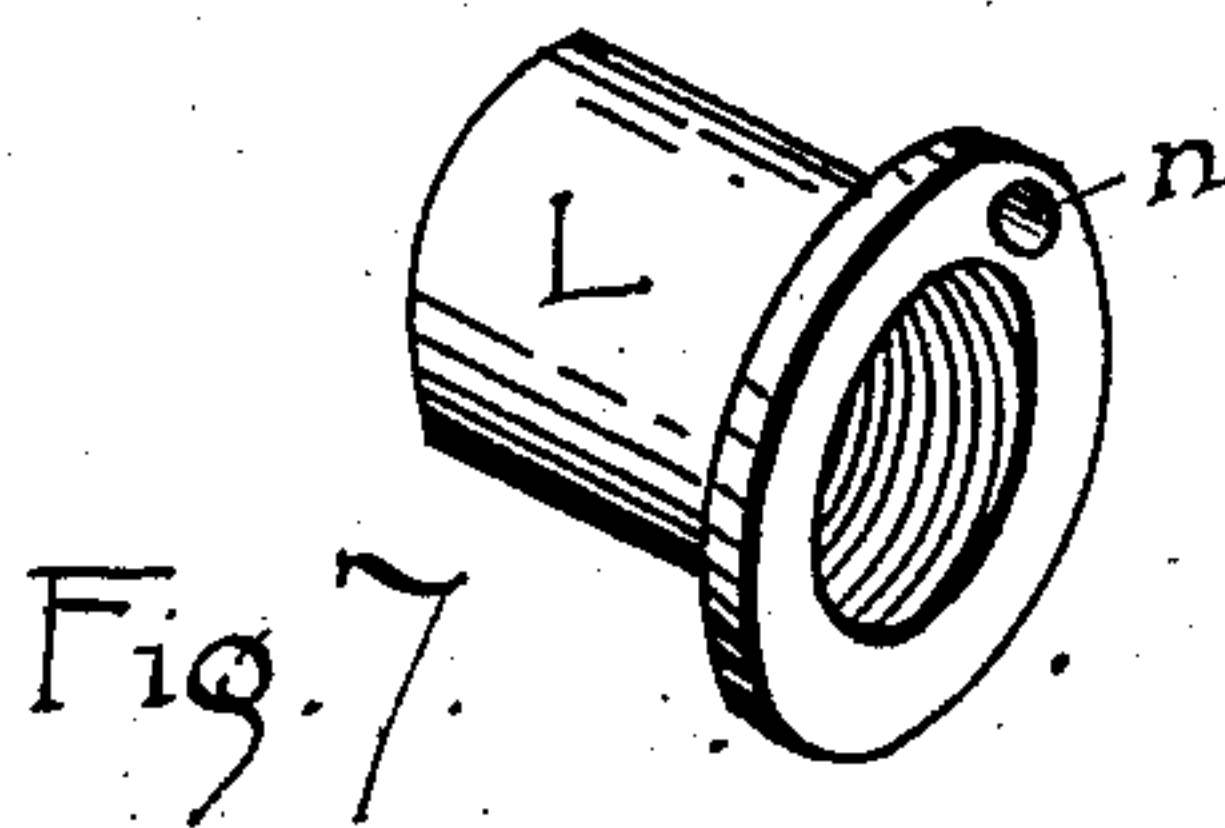
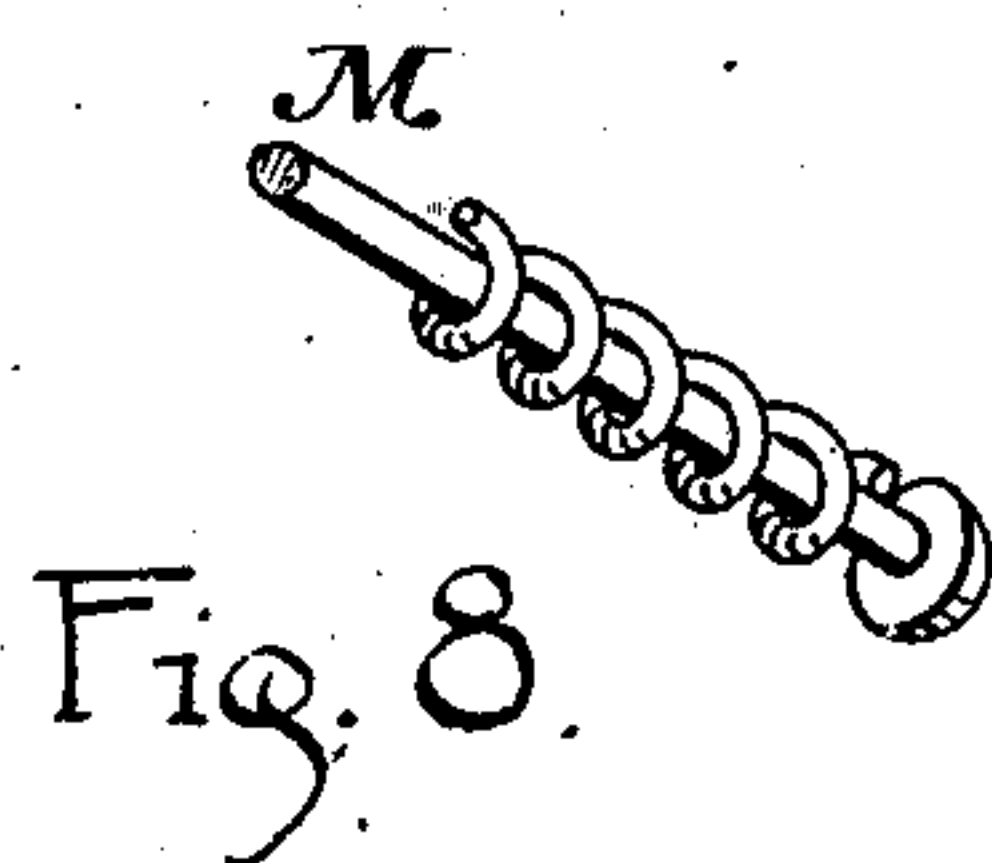
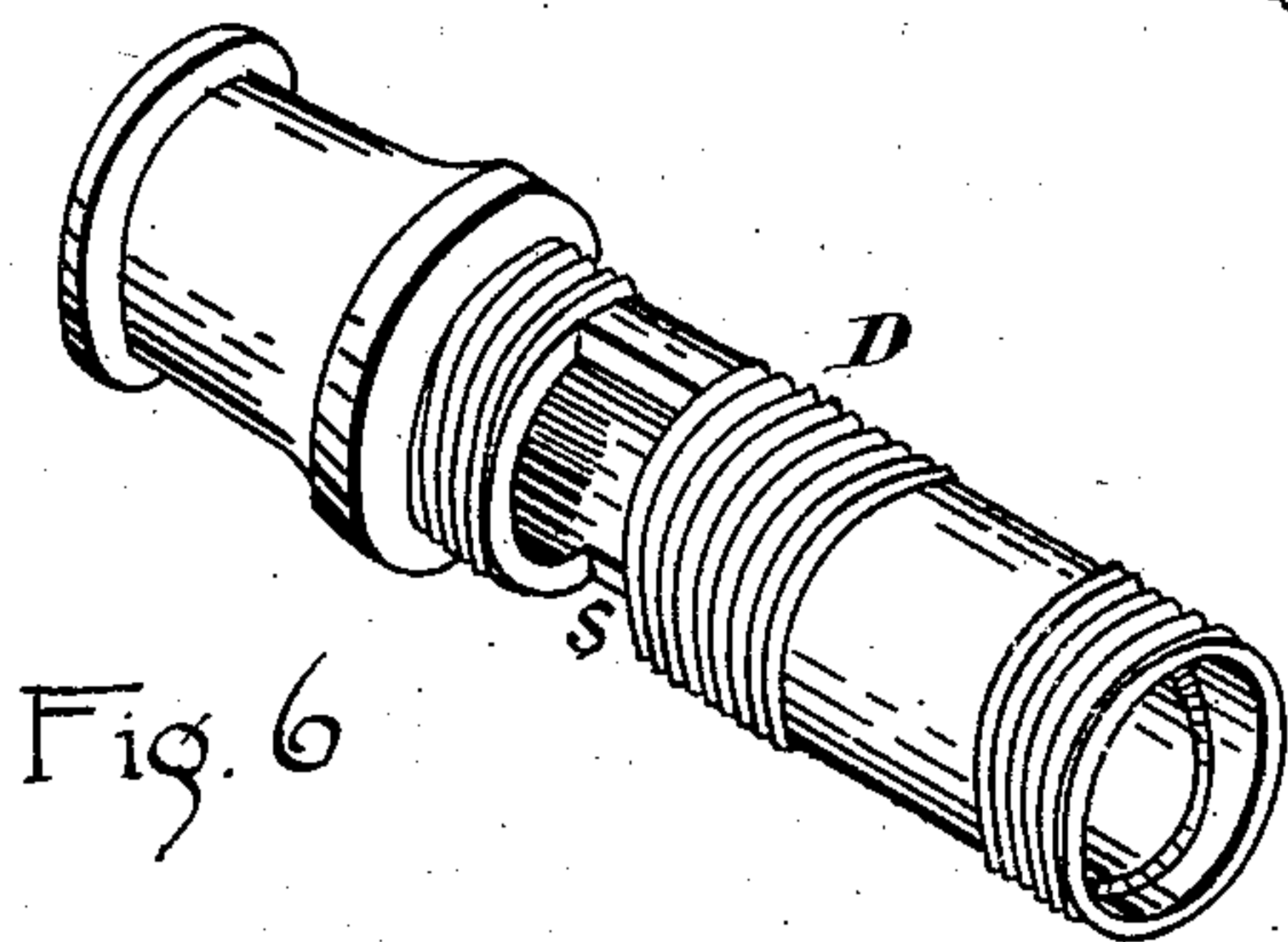
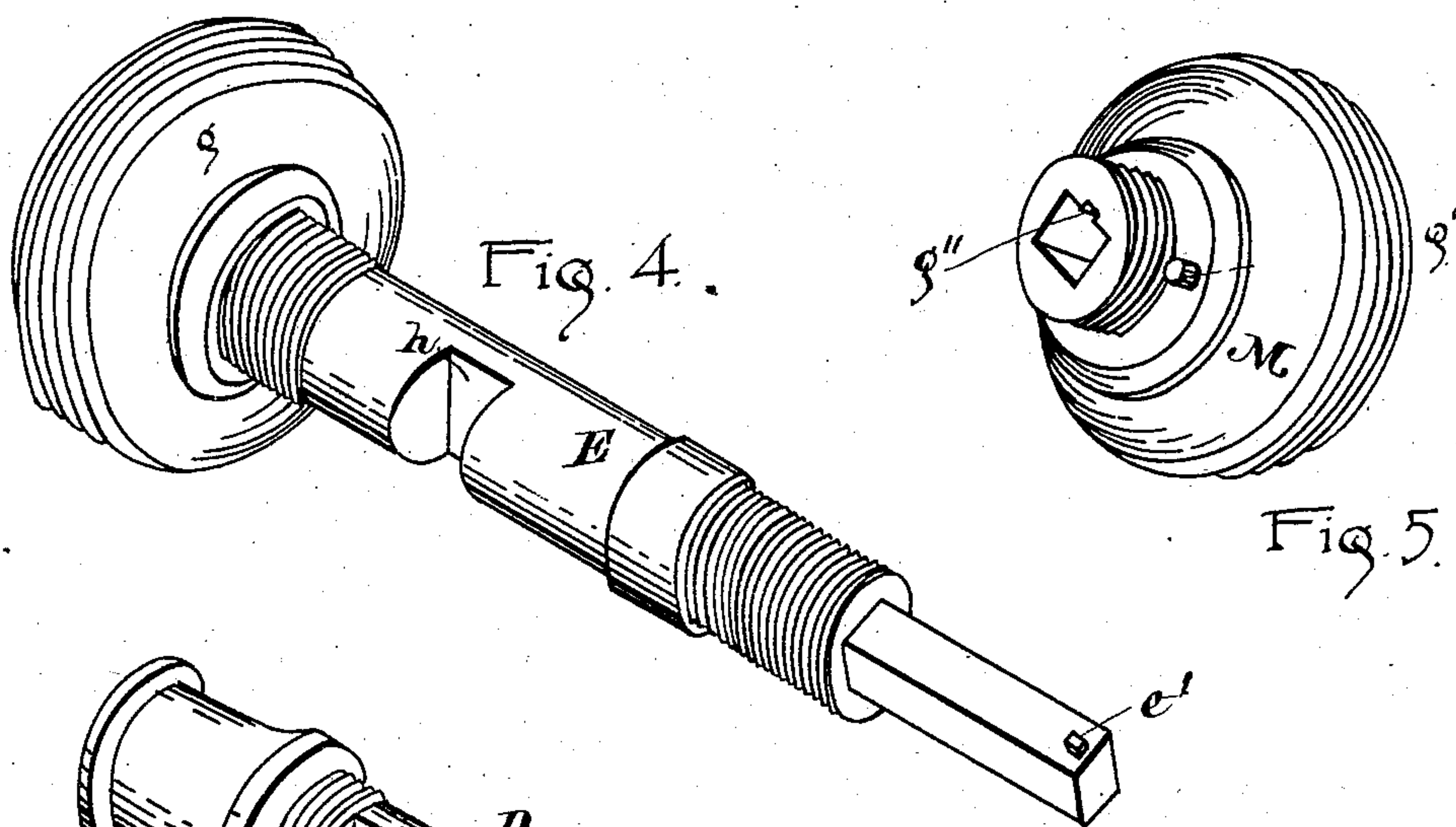
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2 Sheets—Sheet 2.

J. KIRBY, Jr.
KNOB ATTACHMENT.

No. 281,701.

Patented July 24, 1883.



Witnesses:
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H. Gady.

Inventor:
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UNITED STATES PATENT OFFICE.

JOHN KIRBY, JR., OF LUDLOW, KENTUCKY, ASSIGNOR TO POST & CO.

KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 281,701, dated July 24, 1883.

Application filed October 16, 1882. (Model.)

To all whom it may concern:

Be it known that I, JOHN KIRBY, Jr., of Ludlow, Kenton county, and State of Kentucky, have invented certain new and useful
5 Improvements in Knob Attachments, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, in which—

Figure 1 is a horizontal section of lock in
10 position. Fig. 2 is a vertical section through line *x x*, Fig. 1, showing latch out. Fig. 3 is a vertical section through line *x x*, Fig. 1, showing latch withdrawn. Fig. 4 is a perspective view of knob-shank. Fig. 5 is a view
15 of knob *g'*. Fig. 6 is a view of sleeve. Fig. 7 is a view of the coupling-nut. Fig. 8 is a view of pin or bolt with spring.

Similar letters of reference in the several drawings denote the same parts.

20 My invention relates to locks for doors, more especially for the doors of railroad-cars; and it consists, first, in making a lock in which the movement of the outside knob is independent of the rosette; second, in providing a more
25 substantial manner of attaching knobs to doors.

Heretofore it has been customary, in constructing door-locks, to connect the outside knob and the rosette together, the bearing for the knob being made in the rosette, and the
30 two knobs being connected by means of a spindle.

It has been found troublesome to fit a lock of the usual description to the doors, because, unless the spindle be perfectly straight and
35 true and the surface of the rosette true with the face of the lock-rim of the lock, the lock will stick and bind. The same difficulty in fitting the lock to place arises from any unevenness in the door itself.

40 It will be seen by the drawings that in my lock the outside and inside knobs are connected, and are independent of the rosette, the rosette being used for a finish only.

My lock is constructed and fitted to a door
45 as follows: A suitable hole is bored through a door, A. Back plate, R, having a boss, *a*, is placed against the door with the boss inserted in the hole. This boss *a* has a screw-thread cut on the inside. The lock-case B is then
50 placed in position. This case B is perforated with a hole suitable for the insertion of the

sleeve D and shank E, and has a screw-thread, *e*, cut on the interior face of said hole. Sleeve D is now inserted. This sleeve D is tubular, has a flange, *d*, on its exterior side, which, when
55 sleeve D is in position, rests upon the lock-case B. Beyond this flange the neck has a screw-thread cut on it on its outside. It has also a screw-thread cut on its inside above the line of the flange, and is cut away on one side for
60 for a short space, at S, Figs. 6 and 1, to allow of the placing of the hooked end of latch-lever. This sleeve screws through the back plate, R, and also into a screw-threaded bushing, F. The bushing F is tubular, screw-threaded on
65 the inside, and is flanged, and when in position the flange is pressed up on the surface of the door. When ready to be applied to doors, the lock-plate R, case B, sleeve D, and shank E are united by the means described. 70

To attach the lock to the door, the bushing F is inserted in the hole on the opposite side and screwed onto sleeve D. The shank E is inserted into the sleeve D. This shank E is by preference a projection from lower half of
75 knob *g*, and is a part of the same casting. Near the knob *g* the shank on its outside is screw-threaded, and when inserted is screwed into sleeve D, but not so firmly as to interfere with the turning of the knob. It is cut away at *h*,
80 (see Fig. 4,) to accommodate the insertion of the end K of latch-lever H. It is also screw-threaded for a part of its length where it passes through the other surface of the door. Beyond the threaded part it is reduced in diam-
85 eter and squared. This square part is designed to be inserted in the opposite knob, *g*, being provided with a pin or lug, *e'*, fitting a groove, *g''*, in the mortise of the shank of the outer knob. The rosette K' is then placed in
90 position and attached by screws. A coupling-nut, L, is now passed over the square end of shank E and screwed to the shank. Knob *g'* is now pushed onto the square end of shank E, and the coupling-nut L is screwed back
95 onto the thread of knob *g'*, being in this operation partly unscrewed from shank E, but not far enough to prevent a firm hold on shank E. Nut L is made of sufficient length to take hold firmly of shank E and knob *g'* at the same
100 time. The case B is further secured to the door by screws, in the usual way.

To prevent the loosening of the parts, there is a hole, *n*, in the flange of coupling-nut L, into which a spring bolt or pin, M, in knob *g'* engages when knob *g'* is screwed home.

5 The shank E is cut away in that portion of its length which is between the case B and back plate, R, to permit of the placing of the hooked end K of the latch-lever H in position to be moved back by the full portion of the
10 shank E when the knob is turned, and thus withdraw the latch. Latch N is returned to its first or locking position by spring P, or by spiral spring P', as may be desired.

An advantage arising from the construction
15 of my lock is that a blow on the inside knob cannot easily destroy the lock, because, the sleeve D being screwed through both the back plate and case, the case is strongly braced against an outside pressure or impact such as
20 the knobs of car-doors are subject to.

I am aware that shanks have before been made to extend through the lock and back plate, and that they have been cut away to operate the latch-lever without the aid of a
25 follower; and I do not claim, broadly, a lock having a shank made in this manner.

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

30 1. In a door-lock, the combination of a sleeve extending entirely through the casing and door, having a neck on the outside of the casing and the rear end screw-threaded on the outside, a bushing to receive the rear end of
35 the sleeve, and a shank extending entirely through the sleeve, having a spindled projection at its rear end to receive a knob, independent of the rosette, as set forth.

40 2. In a door-lock, the combination of a sleeve extending entirely through the casing and door, having a neck on the outside of the casing, the rear end screw-threaded on the outside, a bushing fitting on the rear end of the sleeve, a shank extending entirely through

the sleeve, having a screw-threaded rear end 45 and spindled projection, a knob having a screw-threaded shank fitting the spindle, and a nut securing the two shanks together, as set forth.

3. In a door-lock, the combination of a sleeve 50 extending entirely through the casing and door, having a neck on the outside of the casing, and screw-threaded on the outside at its rear end, a bushing fitting the rear end of the sleeve, a shank extending entirely through 55 the sleeve, having a screw-threaded rear end with spindled projection, a knob having a screw-threaded shank fitting the spindle, a nut securing the two shanks together, having a perforated flange, and a spring-bolt in the 60 outer knob engaging with the perforation in the nut-flange, as set forth.

4. In a door-lock, the combination of casing B, back plate, R, bushing F, the sleeve D, having flange *d*, and screw-threaded through the 65 casing, the back plate, and into the bushing, shank E, extending through the sleeve, and having screw-threaded rear end provided with spindled projection, and the outer screw-threaded shank secured to the inner shank by 70 adjustable nut L, as set forth.

5. In a door-lock, the combination of inner knob having shank screw-threaded at its rear end, a spindled projection from its rear end, having a pin or lug on one side, an outer knob 75 having a screw-threaded shank longitudinally mortised, and a groove on one side of the mortise to receive the pin or lug on the spindled projection, and a nut securing the two shanks together, as set forth. 80

The foregoing specification of my invention signed by me this 13th day of October, A. D. 1882.

JOHN KIRBY, Jr.

Witnesses:

JEPHTHA GARRARD,
JOSEPH COX, Jr.