

(Model.)

S. RUSSELL.
Door Knob.

No. 238,163.

Patented Feb. 22, 1881.

Fig. 1.

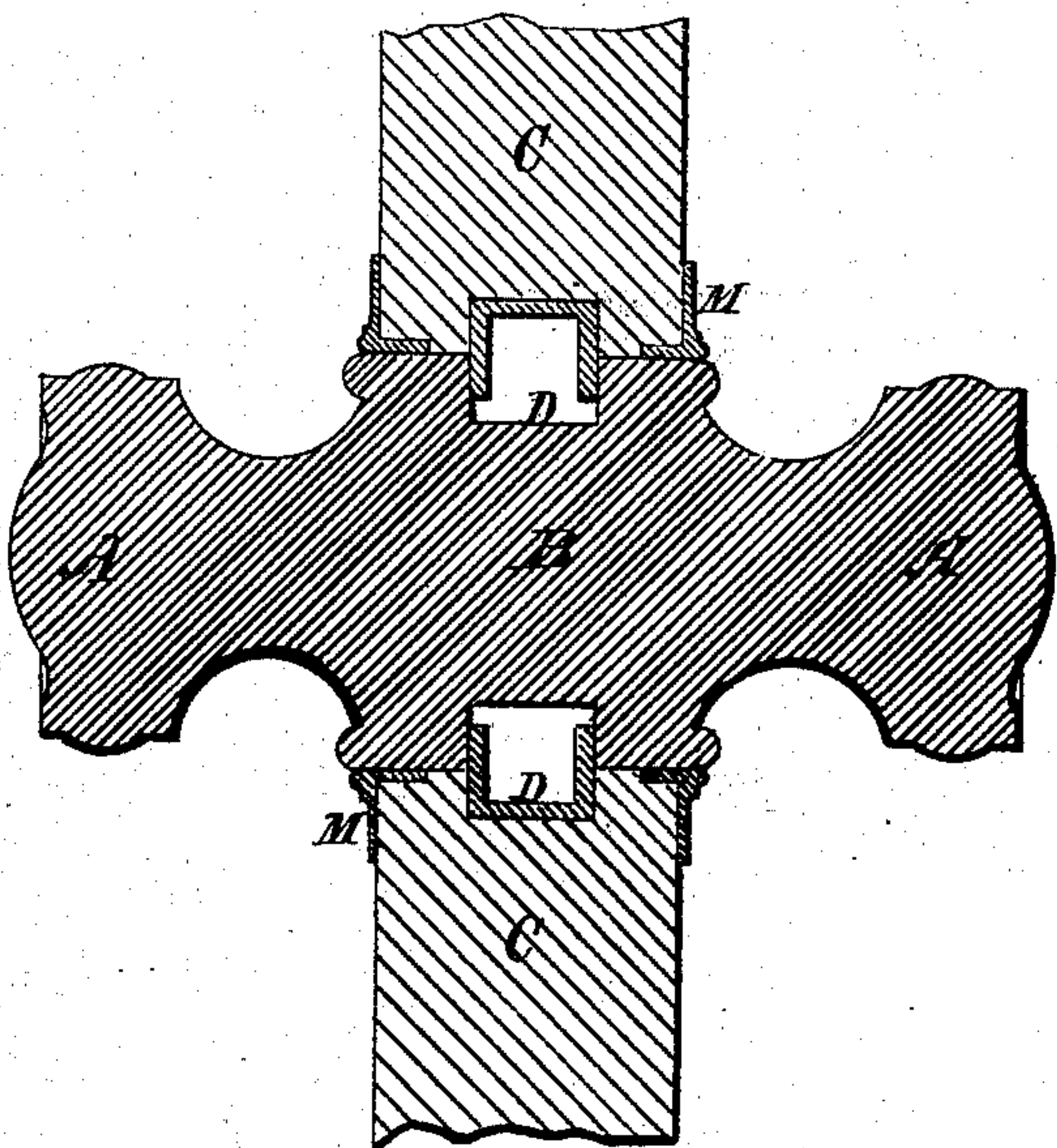


Fig. 3.

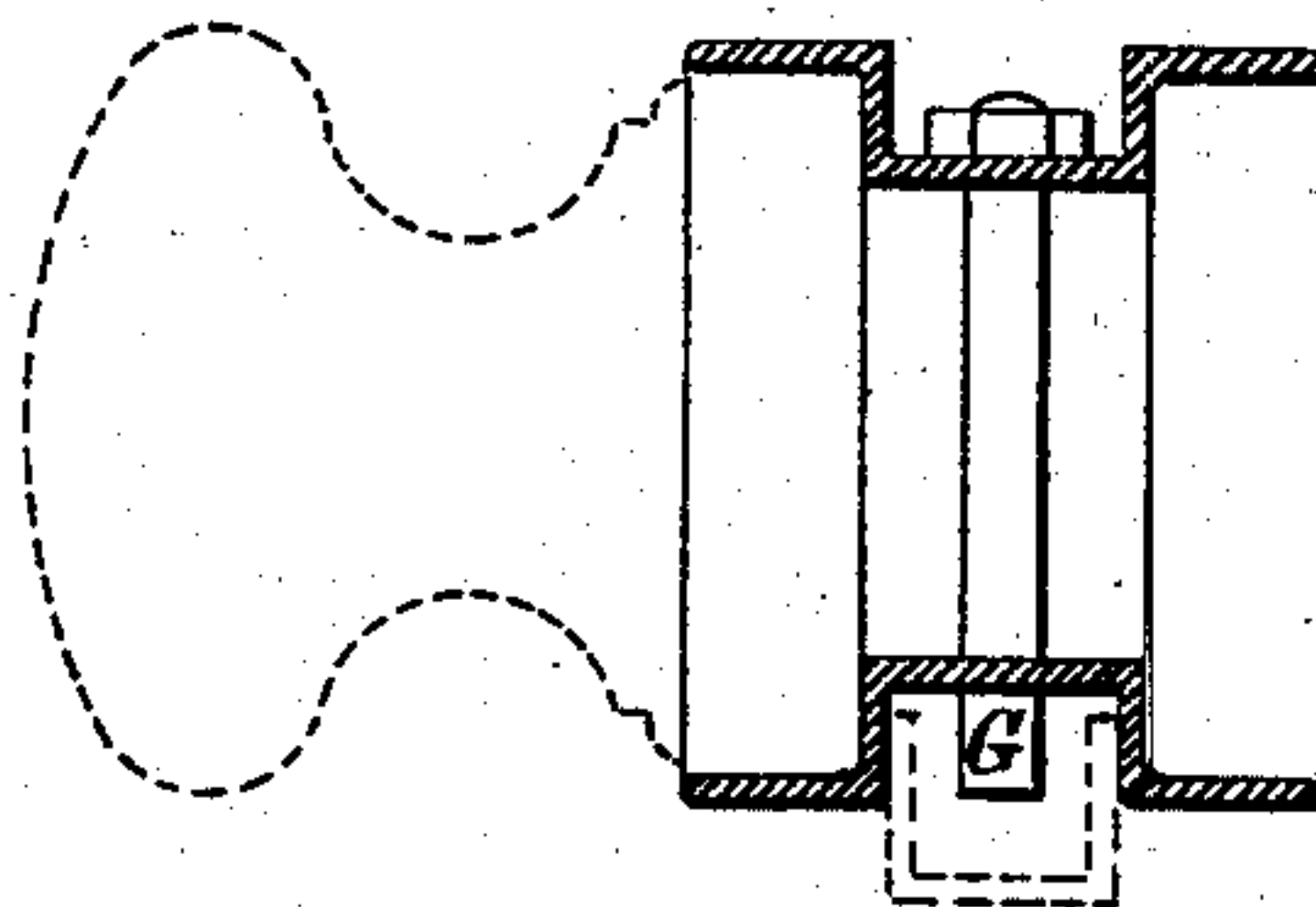
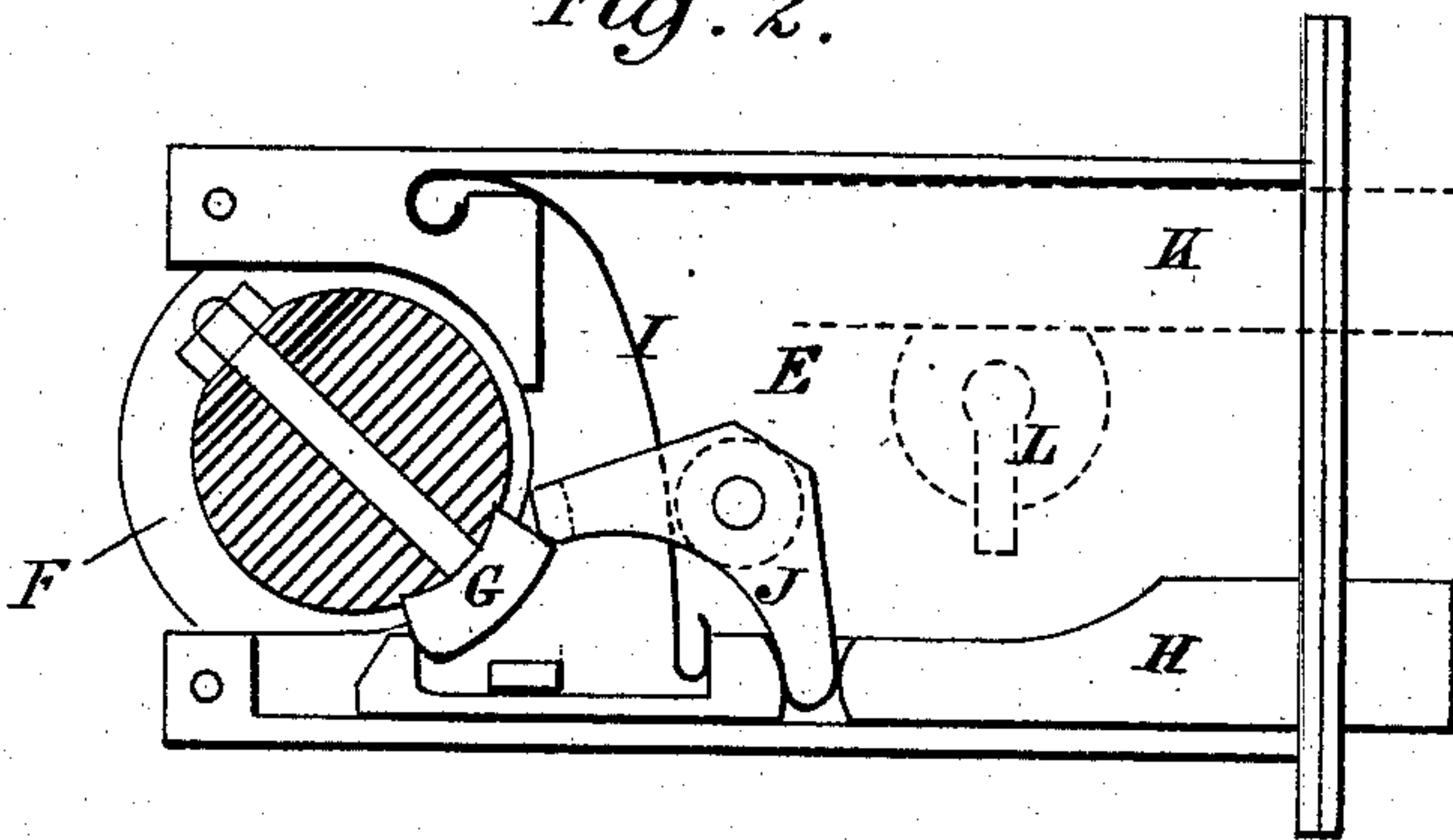


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL RUSSELL, OF 83 MACFARLANE ROAD, SHEPHERD'S BUSH, COUNTY OF MIDDLESEX, ENGLAND.

DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 238,163, dated February 22, 1881.

Application filed October 2, 1880. (Model.) Patented in England September 11, 1878.

To all whom it may concern:

Be it known that I, SAMUEL RUSSELL, a subject of the Queen of Great Britain, residing at 83 Macfarlane Road, Shepherd's Bush, in the county of Middlesex, England, have invented certain new and useful Improvements in Door Locks and Handles, (for which I have received Letters Patent in England, No. 3,592, dated 11th September, 1878,) of which the following is a specification.

This invention relates to certain improvements in door locks and handles, to allow of the handles being better secured to doors. For this purpose the two knobs or handles which are to come on the two opposite sides of a door are made in one piece, or of various pieces permanently fixed together in the process of manufacture. The central portion between the knobs is of a length corresponding, or nearly so, with the thickness of the door, and has a diameter equal to, or more than, the diameter of the knobs. Round the circumference of this central portion a groove is sunk just wide enough to admit the thickness of the lock. The back end of the lock is made with a slot or opening through its entire thickness, extending inward for a suitable distance toward the opposite end. This said opening has the top and bottom sides parallel, and is in width slightly in excess of the diameter of the bottom of the groove in the cylindrical central portion of the knobs.

To adjust the lock and handles on the door, a circular hole is made in the door, passing at a suitable point through the mortise cut for the insertion of the lock, and just large enough to allow the handles to pass through, and into which they are inserted; or, if preferred, roses or bearings for the handle may be fixed at each end of the hole through the door. When the lock is slid back into the mortise the two opposite sides of the opening in the lock pass into and across the groove sunk in the handles, and span its diameter, by which means the handles are free to turn, but can have no other motion, and the whole is retained in position by fixing the lock, in the ordinary way, with two screws.

If the lock is to be used as a rim-lock, and not a mortise-lock, then the rose or bearing for

one end of the cylindrical central part between the knobs may be carried by a casing used to incase the lock, and which is secured to the side of the door, (and it might be to the lock also,) the lock would lie in this casing, instead of in a mortise in the door, and the knobs would be held in precisely the same way as when the lock is a mortise-lock.

To cause the turning of the knobs or handles to actuate the bolt of the lock, there may be a projection standing out from the bottom of the groove in the central cylindrical portion between the knobs, and various methods may be adopted for actuating the bolt of the lock by such projection.

Figure 1 shows a cross-section taken through part of a door fitted with a lock and handle in the manner above described. Fig. 2 shows one way in which I form the lock. The lock is shown with one of its cover-plates removed and the handles in cross-section. Fig. 3 shows how the central portion of the knobs may be of metal and formed to receive knobs of any suitable material.

In Fig. 1, A A are the two knobs or handles, with a cylindrical central portion, B, between them, of a length equal approximately to the thickness of the door C and a diameter equal to or greater than the diameter of the knobs. D is a groove formed around the central portion, B, just wide enough to admit the thickness of the lock or latch E. F is the slot at the inner or back end of the lock or latch. G is a small block, of metal, fixed on the bottom of the groove in the handles, and sufficiently narrow to allow the side plates of the lock to pass without contact, as shown by the dotted lines in Fig. 3. The block G may be secured to the handles in any convenient manner. The way shown is very suitable for the purpose.

As a guide for workmen two lines may be engraved on the outside of the lock, one parallel with its length and the other at right angles to it, in order to indicate, by the point at which the lines would intersect, the center of the hole which is to be formed through the door for the handles to work in.

In the lock shown at Fig. 2, H is a bolt pressed forward by a spring, I. J is a crank, one arm of which is coupled with the bolt H

and the other acted upon by the projection G on the handles. This same projection also acts upon the bolt at its rear end, as shown, so that whichever way the handles are turned the bolt is withdrawn. K is a lock-bolt, which may be shot or withdrawn by the action of a key inserted through a key-hole, L, and acting in any ordinary manner.

By making the central portion between the handles of two or more different lengths, and the roses or bearings of different depths, any thickness of door may be suited.

When the mortise to receive the lock has been made in a door, and a hole formed through the door where the knobs are to be inserted, and a rose or bearing, M, has, if desired, been fixed in each end of the hole, the lock and handles may be put into place and secured in the following manner: The handles are first inserted into the hole through the door with the projection G standing toward the front edge of the door. The lock is then slipped into the mortise and pressed back as far as it will go, the spring-bolt H of the lock being at the same time pressed back. A partial turn is then given to the handles in a direction to bring the projection G downward, and when this is done the lock can be pressed right home into its proper position, and can be held there by screws passed through the front end plate of the lock into the edge of the door in the ordinary manner. The parts of the lock-case above and below the slot F, formed in its rear end, enter the groove D, formed around the central cylindrical portion of the handles, and so securely retain the handles in place.

Having now described my invention, I would state that I do not confine myself to the way shown at Fig. 2 for enabling the handles to act upon the bolt H, as the locks may be constructed in a great variety of ways to allow of this being effected; but

I claim—

1. The central cylindrical portion, B, of a pair of door knobs or handles, the said central portion having the groove or channel D, and being of a diameter equal to or greater than that of the knobs or handles united thereby, and of a length equal approximately to the thickness of a door, substantially as and for the purpose described.

2. The lock constructed with a slot or opening at its rear end, extending entirely through the lock-case, the parts of the lock-case above and below said slot or opening being thus rendered fit to pass into the groove formed around the central portion of the handles, to secure the handles to a door, substantially as described.

3. The pair of door-knobs having the circumferentially-grooved cylindrical central portion made integral therewith, or permanently united thereto, of a diameter equal to, or greater than, that of the knobs, and suited for adjustment to a door and slotted lock-case, substantially in the manner and for the purpose described.

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