

(No Model.)

G. PICCIONI.
LOCK.

No. 587,603.

Patented Aug. 3, 1897.

Fig. 1.

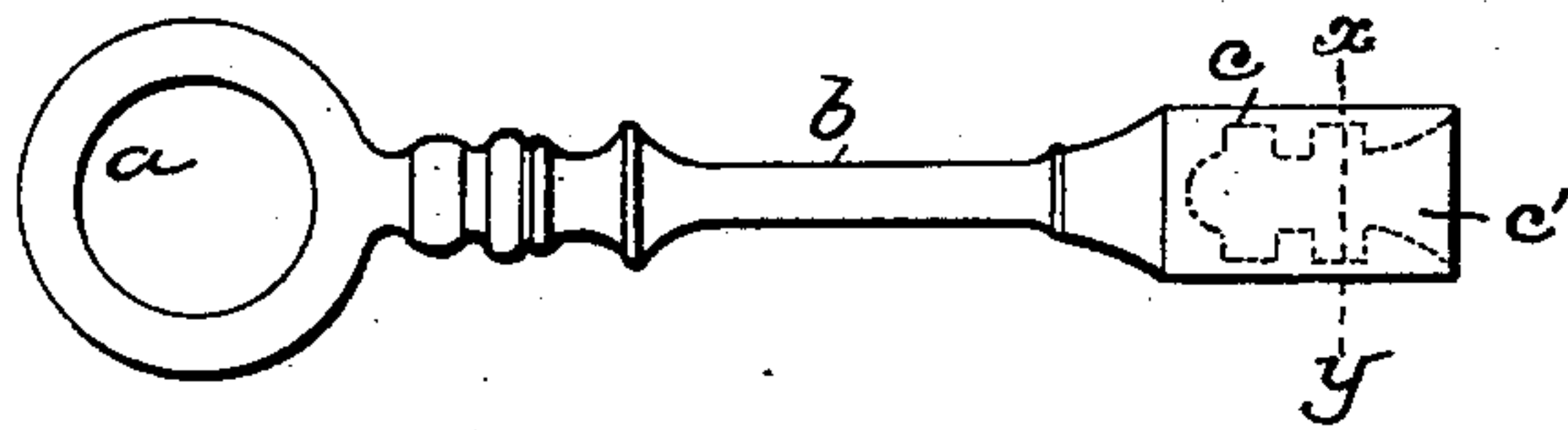


Fig. 3.



Fig. 2.

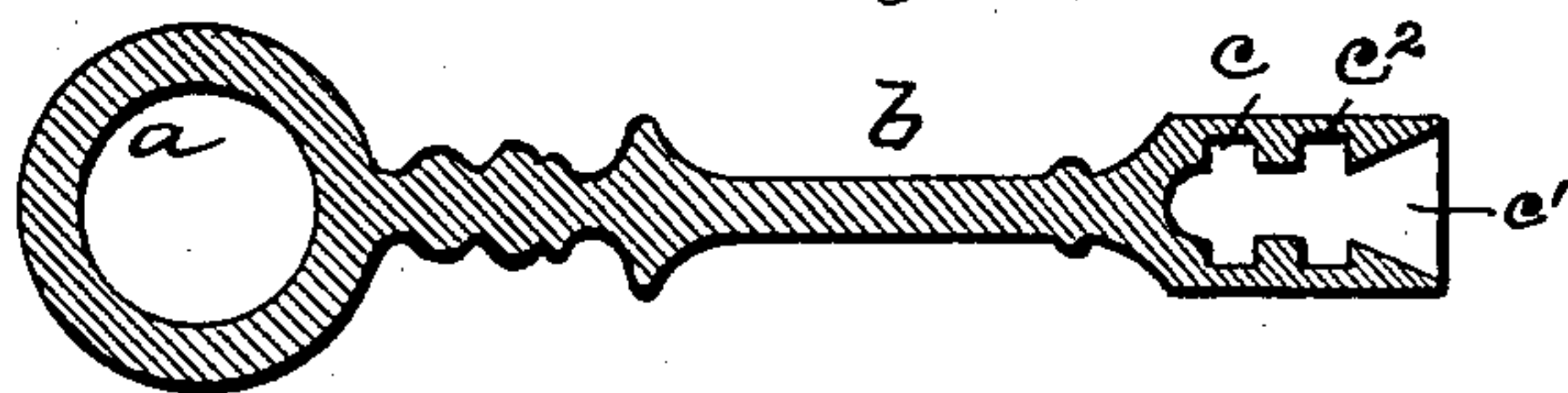


Fig. 4.

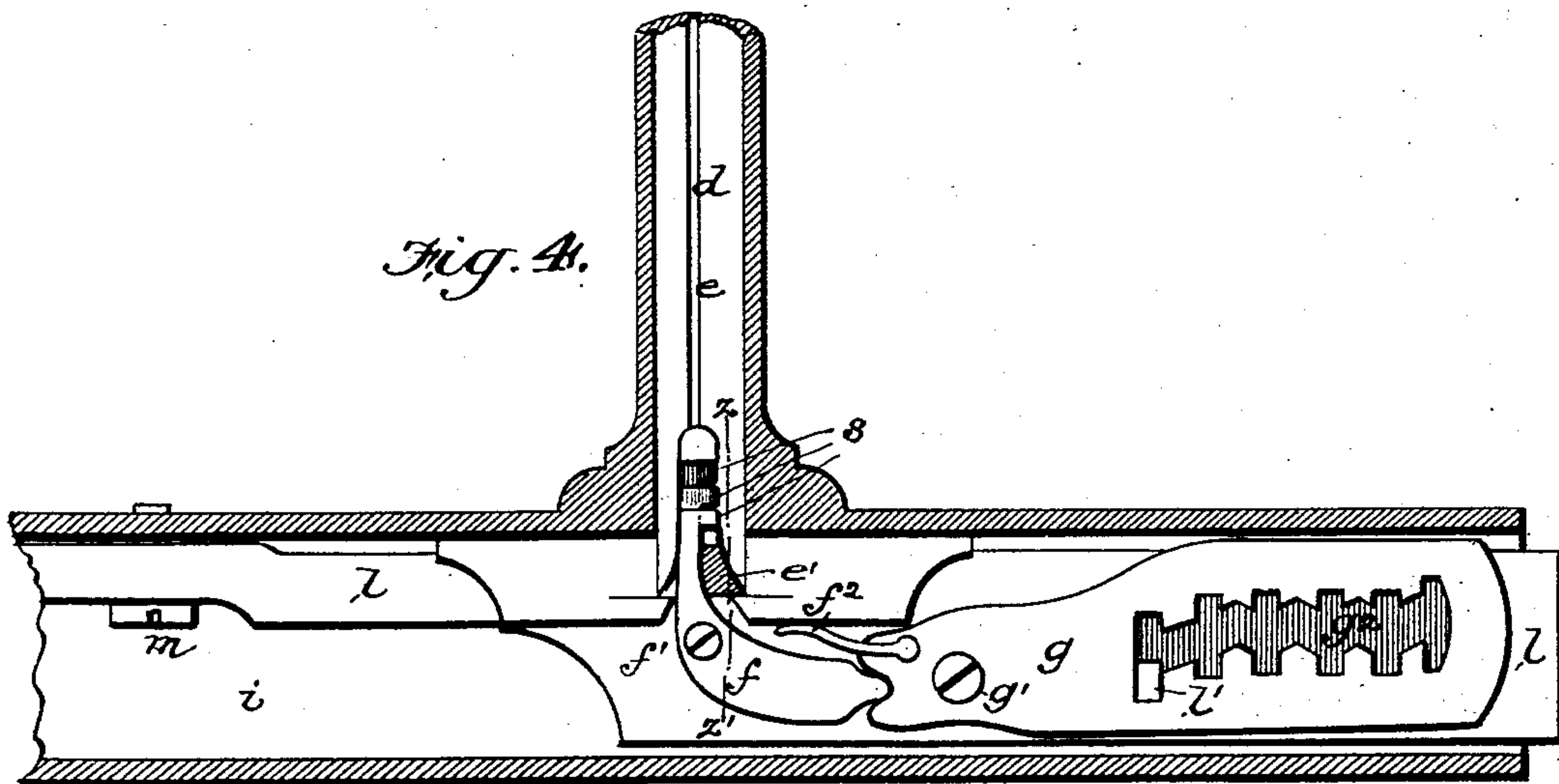
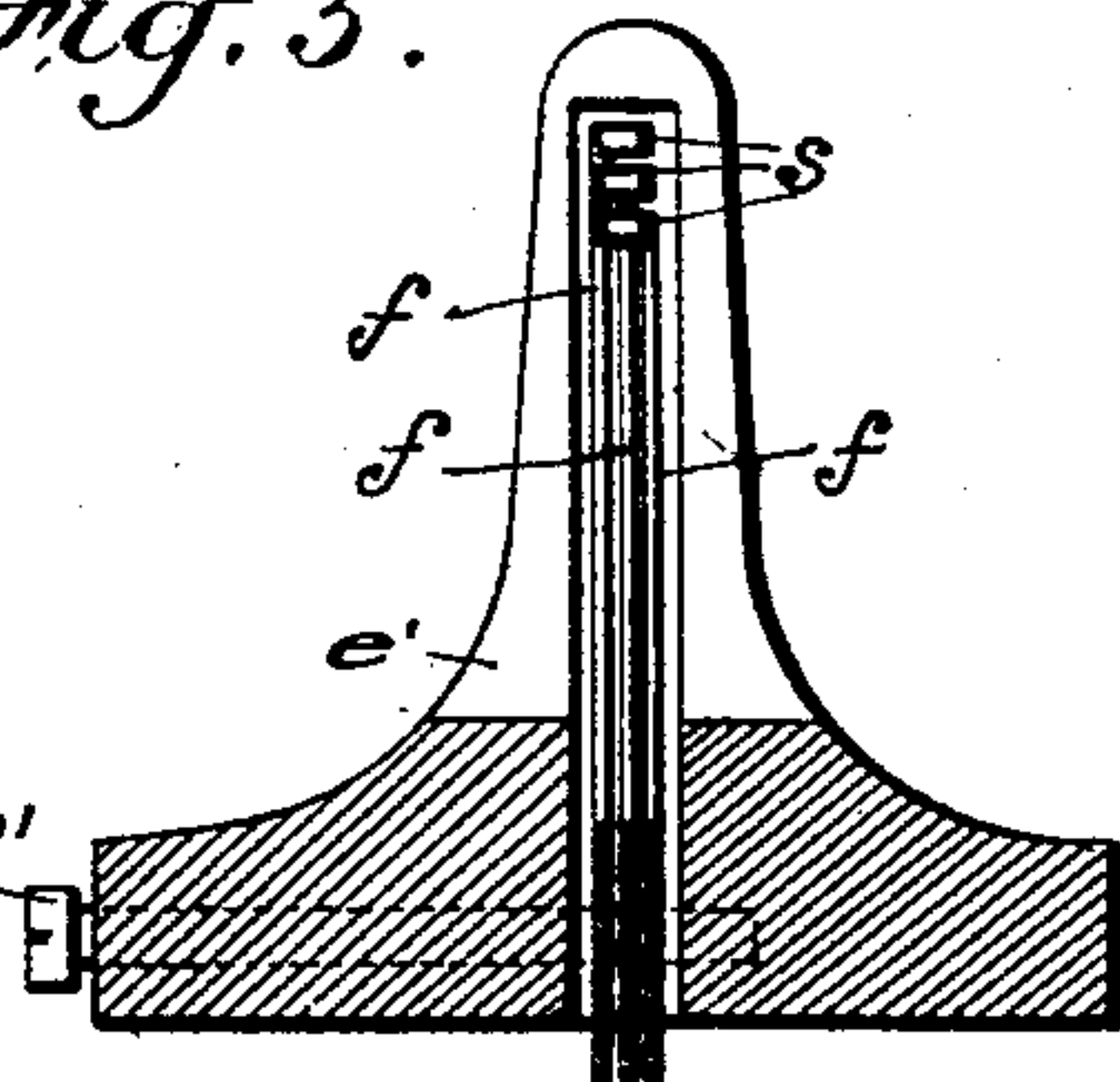


Fig. 5.



WITNESSES:

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GIUSEPPE PICCIONI, OF MONTEFIORE, ITALY.

LOCK.

SPECIFICATION forming part of Letters Patent No. 587,603, dated August 3, 1897.

Application filed November 26, 1895. Serial No. 570,187. (No model.)

To all whom it may concern:

Be it known that I, GIUSEPPE PICCIONI, a subject of the King of Italy, residing at Montefiore dell'Aso, Ascoli-Piceno, Italy, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks, and has for its purpose to provide practically absolute safety against the picking of locks, to so construct the key as to prevent a cast of the bits from being obtained, and also to so construct the lock proper as to prevent the taking of an impression of the wards.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an exterior view of the improved key. Fig. 2 is a longitudinal section thereof. Fig. 3 is a cross-section on the line xy of Fig. 1; and Figs. 4 and 5 are a sectional plan and a detail sectional elevation of the lock, the elevation being taken on line zz of Fig. 4.

As illustrated in Figs. 1 and 2, the key is made with a handle a and a shank b and is formed at the end opposite the handle with a socketed end c , having its mouth c' tapering inward and being provided in its inner portion with a series of grooves, such as c^2 , said grooves being continuous along the inner wall of the socket and being formed with shoulders, as shown in Fig. 3, so as to act on the wards of the lock after the fashion of bits, as will be further described hereinafter. It will be readily understood that no impression can be taken of the shape of the socket c , since if any material, such as wax, is inserted into said socket said material will fill the grooves, and thus the removal of the material will be prevented. It will therefore be impossible for any person to make a duplicate of the key.

It will be understood that the improved key hereinbefore described is to be employed in conjunction with a lock having wards adapted to fit the several grooves in the socket c . Such lock may be of any ordinary construction, but in order to afford a very high degree

of safety I prefer to construct the lock as shown in Fig. 4, in which d represents the tube or sleeve adapted to receive the key, e a guide over which fits the enlarged mouth c' of the socket of the key, and e' a conical casing within which are inclosed the wards f , pivoted at f' . The guide e and the conical casing e' are preferably made of one piece, as shown. The casing is slotted longitudinally, and the hook-shaped ends s of the wards f project through the slot of the casing.

Each of the wards has one end in contact with a tumbler, such as g , pivoted at g' , and pressed into contact with the corresponding ward by a spring f^2 . Each of the tumblers has a passage g^2 of a well-known character to receive a projection l' from a bolt l , it being understood that the bolt is free to move only when all the tumblers have been moved in an appropriate manner by the wards f . The bolt l slides in the casing i of the lock, the movement of the bolt being limited by a stationary screw or pin m , engaging a slot in the bolt, this being a well-known construction.

The advantage of the particular construction of the lock is that the ward f will yield in case a tool is inserted into the lock, and thus the wards in such case will not remain in their normal relative position and any attempt to obtain a duplicate of the key by taking an impression of the wards will thus be frustrated.

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

1. A key provided at one end with an axial socket having in its interior a continuous circumferential rigid wall provided with a shoulder located at a different distance from the center of the socket to that portion of the wall which is in the same transverse plane with the said shoulder, whereby said shoulder may act as a bit when the key is turned about its longitudinal axis, substantially as described.

2. A lock, comprising a guide located approximately centrally in the keyhole to fit axially into the socket at the end of a hollow key, a movable ward having one end extending into the keyhole in the rear of said guide, a tumbler actuated by the ward and a bolt whose movement is controlled by the tumbler, substantially as described.

3. A lock, comprising a guide located approximately centrally in the keyhole to fit axially into the socket at the end of a hollow key; a movable ward having one end extending to the rear of said guide, a slotted casing inclosing said ward and connected to said guide, a tumbler actuated by the ward and a bolt whose movement is controlled by the tumbler, substantially as described.

10 4. A lock comprising a movable ward having one end extending axially into the keyhole, a central pin or guide located in the keyhole in advance of the end of the ward,

and adapted to fit axially into the socket at the end of a hollow key, a tumbler actuated by the ward, and a bolt whose movement is controlled by the tumbler, substantially as described. 15

Signed at the city of Rome, in the Kingdom of Italy, this 24th day of September, A. D. 20 1895.

GIUSEPPE PICCIONI.

Witnesses:

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ROBERT B. HANDLEY.