

No. 614,157.

Patented Nov. 15, 1898.

A. H. WORMALD.
LOCK AND KEY.

(Application filed Nov. 13, 1897.)

(No Model.)

FIG. 1.

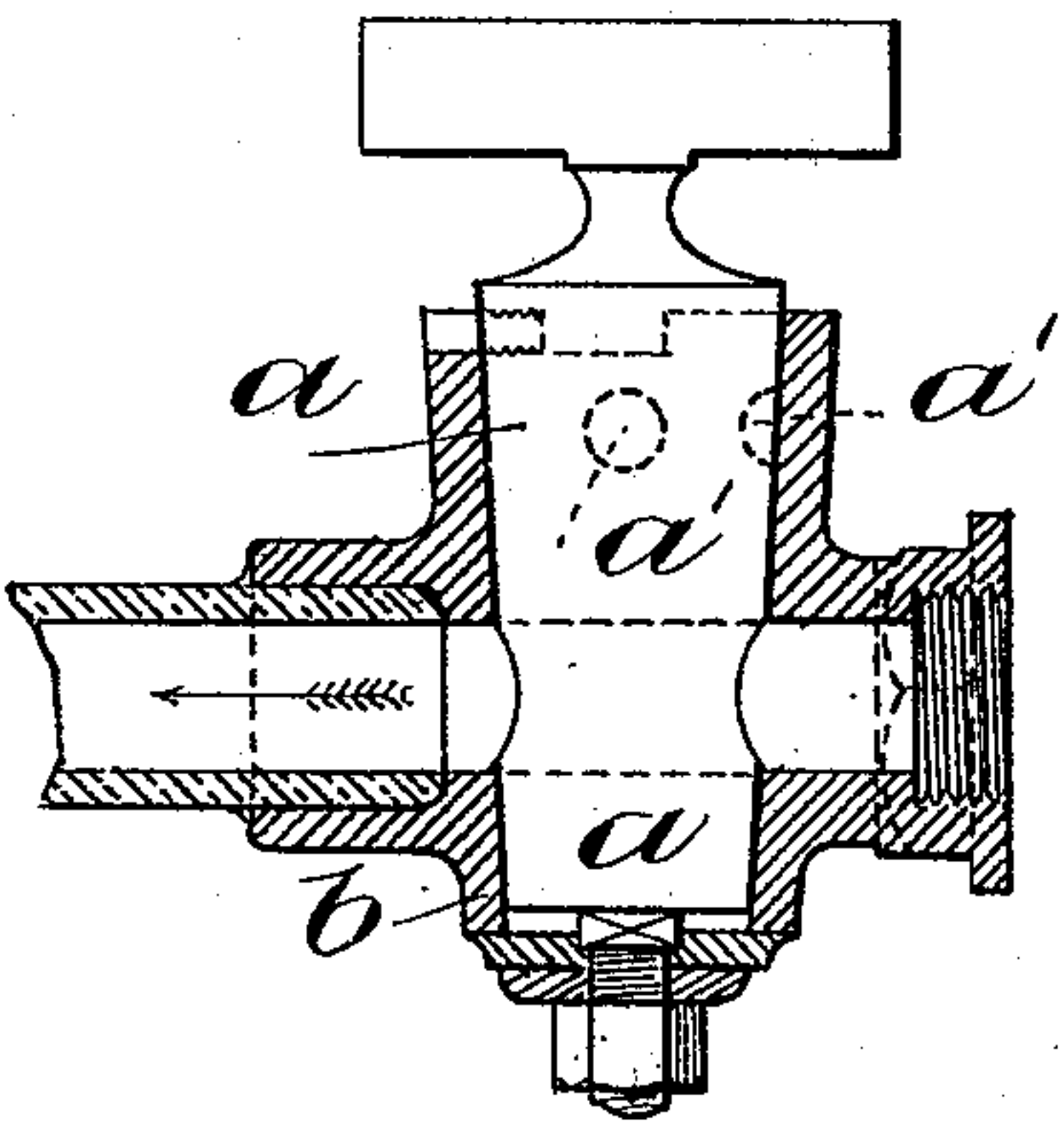
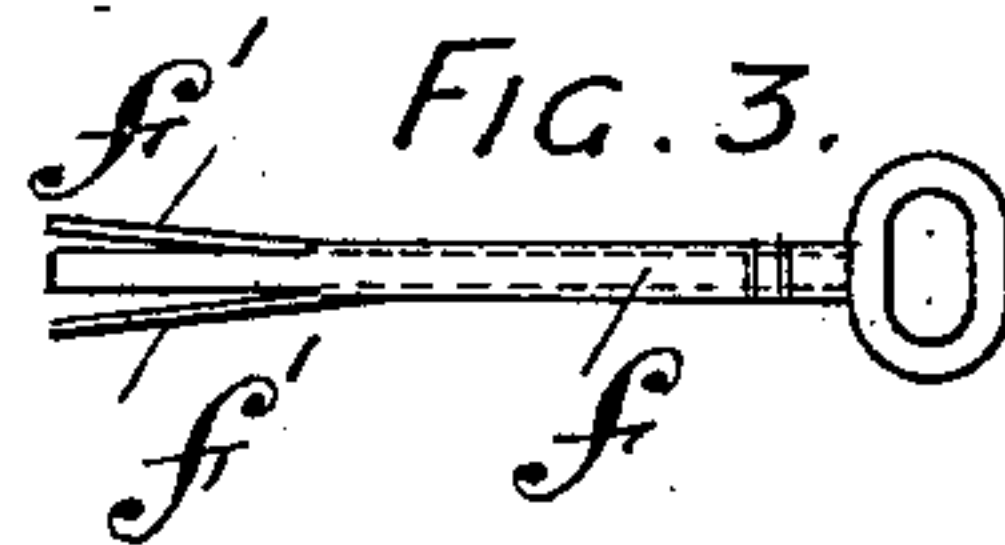
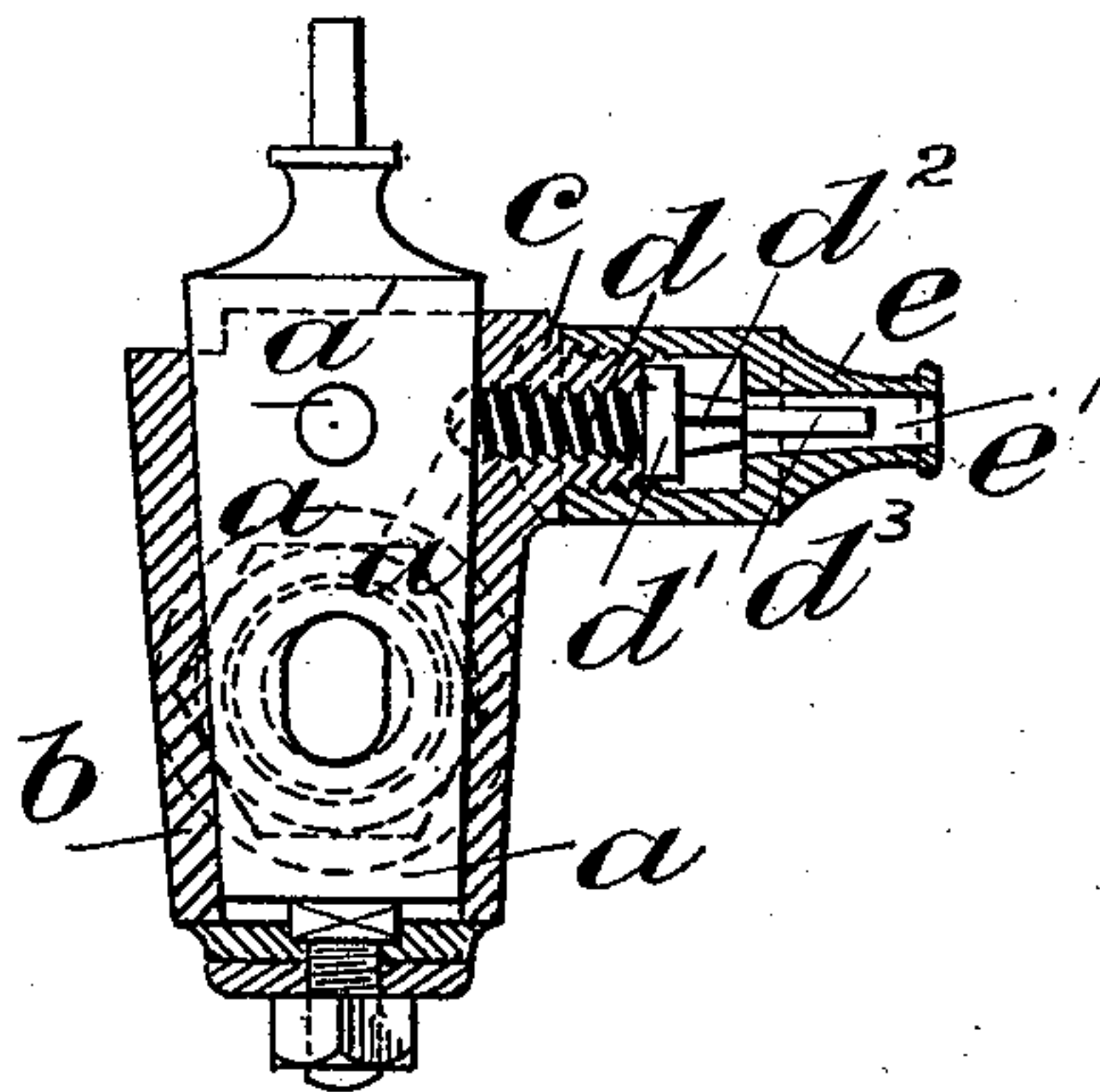


FIG. 2.



WITNESSES.

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LOCK AND KEY.

SPECIFICATION forming part of Letters Patent No. 614,157, dated November 15, 1898.

Application filed November 13, 1897. Serial No. 858,427. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM HENRY WORMALD, a subject of the Queen of Great Britain and Ireland, and a resident of Sheffield, in the county of York, England, have invented a certain new and useful Improvement in Locks and Keys for the Same, (for which I have obtained patents in Great Britain, Nos. 15,211 and 23,418, bearing the dates September 27, 1889, and December 20, 1892,) of which the following is a specification.

My invention relates to means for locking taps or valves used to control the supply or flow of water, gas, and other fluids, and for locking velocipedes or rendering the same temporarily useless, and generally to locks and keys for portmanteaus or bags, the drawers or money-receptacles of coin-freed apparatus, and for similar uses.

The means I have devised to carry my invention into effect will be more clearly followed by a reference to the accompanying sheet of illustrative drawings.

In the said drawings, Figure 1 represents a sectional view of a simple form of stop-tap to which my invention may be applied. Fig. 2 is a sectional view at right angles to Fig. 1 and shows my improved locking plug or screw applied and locking the plug of such a tap. Fig. 3 is a view of a key designed to operate the screwed locking-plug.

In applying my invention to lock the plug or barrel of a gas or water tap I form the plug or barrel a of the tap with countersinks, holes, or recesses a' , and I cast or provide the body or casing b of the tap with a pap or teat c . This pap and the casing are tapped to receive a screwed plug d , having a collar d' and a triangular extension d^2 , which terminates in a cylindrical prolongation d^3 . I box in the screwed locking-plug d by means of an inclosing nozzle, housing, or covering e , having a restricted opening or keyway e' , the nozzle being permanently secured to the pap by solder or by means of a rivet or pin. It will be obvious that to operate such a screwed locking-plug a key of special design, such as is shown at Fig. 3, is requisite. The key f is

produced by sliding a tube of thin steel at one end, so as to form three spring-fingers f' , or by bending a slitted strip. A key of this description can be readily inserted through the restricted passage e' , the fingers f' closing or coming together on first entering the keyway, having passed which they are expanded on and grip the triangular portion d^2 of the plug, the ends abutting against the collar d' . The inner end of the keyway insures the grip of the fingers on the plug. Now by a right or left hand operation of the key f the plug may be advanced or retracted, so as to engage or withdraw from the countersinks a' , and thereby lock or unlock the plug or barrel a of the tap. The plug might either be locked in such a position as to allow uninterrupted flow, to shut off flow entirely, or to allow only of a restricted flow.

The screw would lock the plug of the tap or spindle of the valve or a revoluble shaft or part of the velocipede by entering a recess in such plug, spindle, or part, and in the cases of locks for other purposes would in a similar manner prevent the revolution or withdrawal of a part until the screw would be turned back by the use of the key.

By the use of my invention unauthorized operation of the lock is prevented, as the plug can only be operated by means of the special keys hereinbefore described.

I declare that what I claim is—

In combination, the casing having a restricted keyway and an enlarged recess, a screw-plug having a head arranged in said recess and a larger cross-sectional area than that of the restricted keyway and a key having spring-fingers adapted to grasp the outer side of the head of the screw-plug, said spring-fingers being compressed in passing through the restricted keyway, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ABRAHAM HENRY WORMALD.

Witnesses:

JAMES H. BARDSLEY,
JOSHUA ENTWISLE.