

(No Model.)

M. J. KALLAHER & J. MULROONEY.
EXPANSION BOX AND KEY FOR WATER OR GAS PLUGS.

No. 414,546.

Patented Nov. 5, 1889.

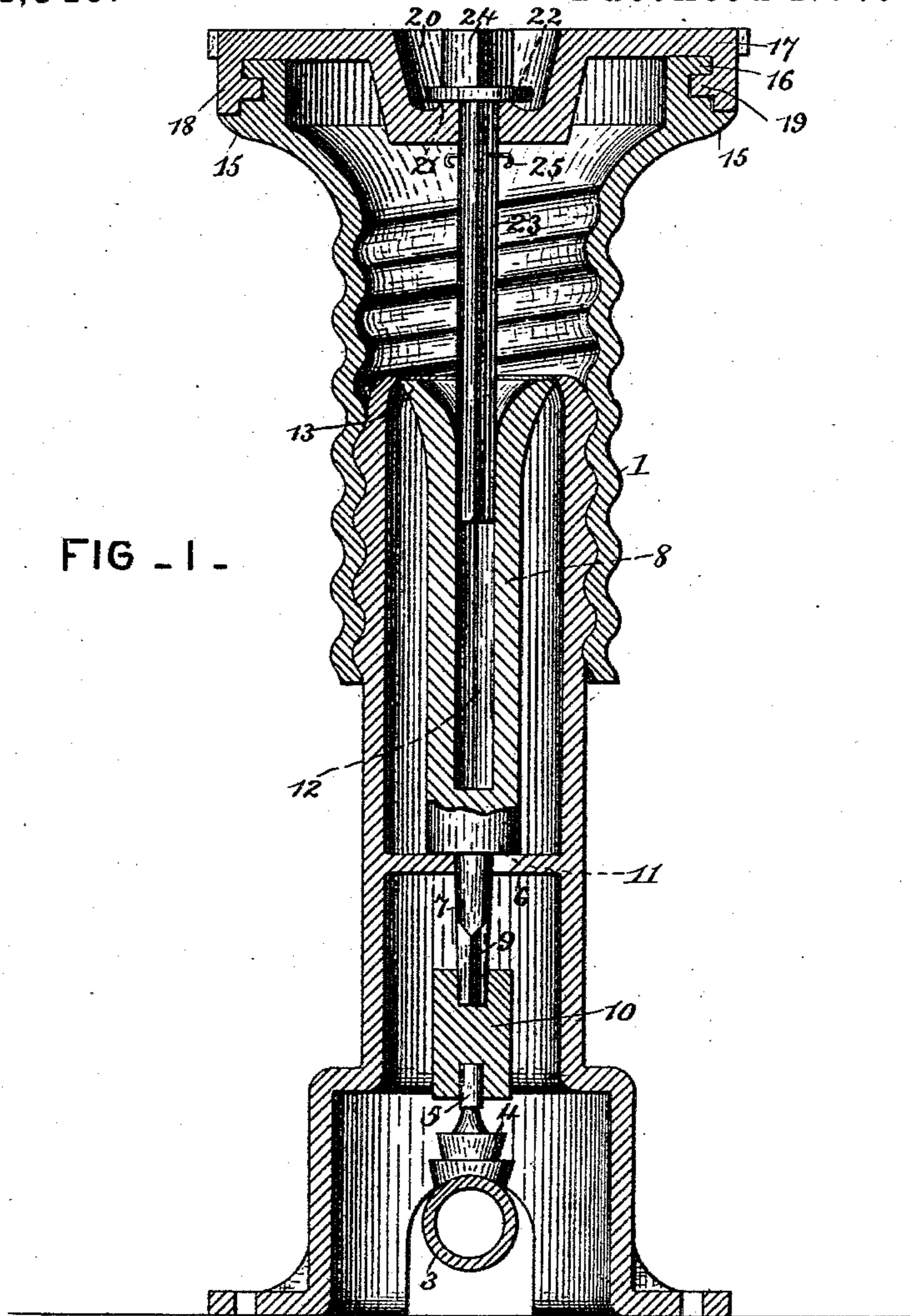
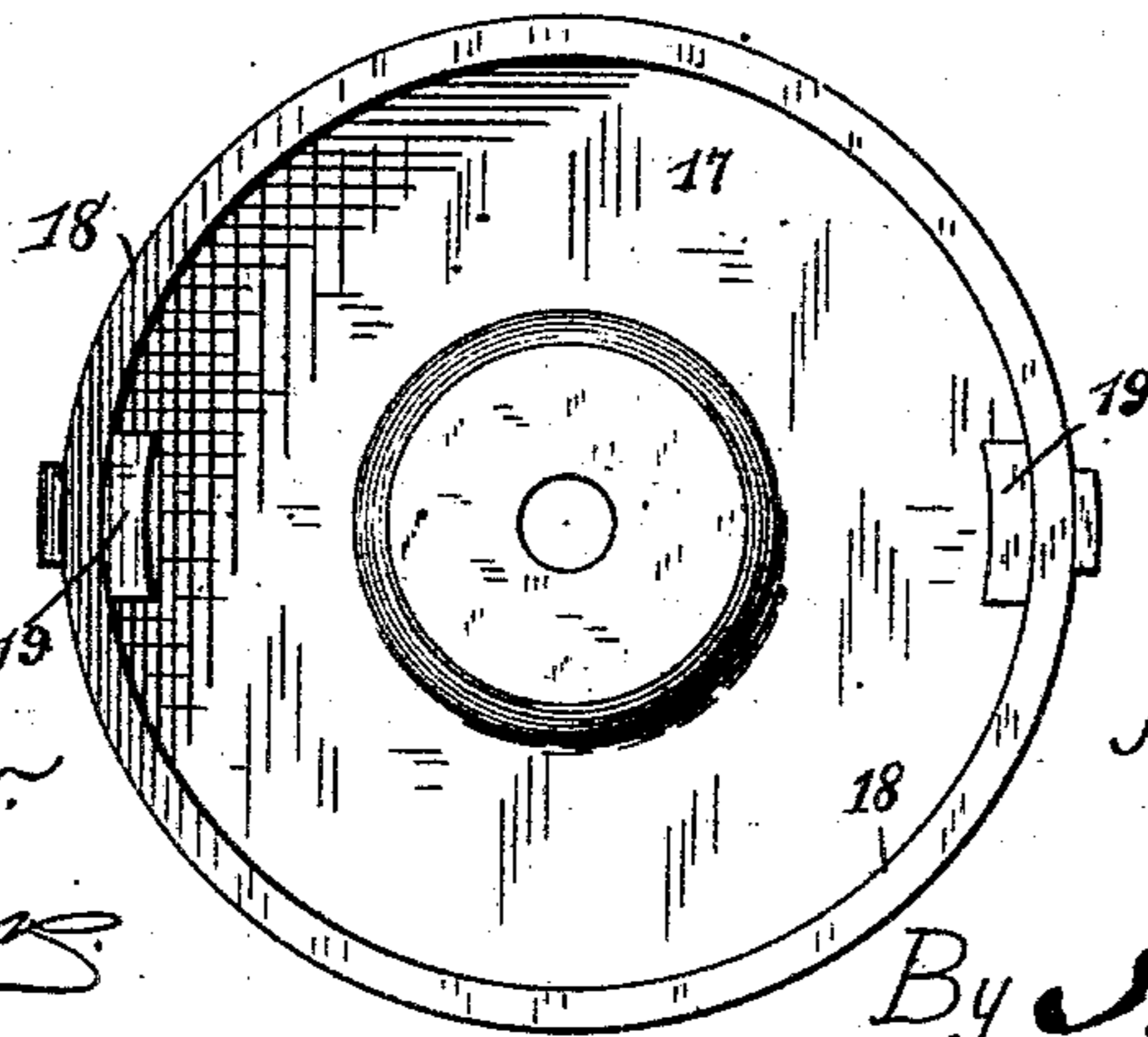


FIG. I.

FIG. II.



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UNITED STATES PATENT OFFICE.

MICHAEL J. KALLAHER AND JOHN MULROONEY, OF MEMPHIS, TENNESSEE.

EXPANSION-BOX AND KEY FOR WATER OR GAS PLUGS.

SPECIFICATION forming part of Letters Patent No. 414,546, dated November 5, 1889.

Application filed May 17, 1889. Serial No. 311,105. (No model.)

To all whom it may concern:

Be it known that we, MICHAEL J. KALLAHER and JOHN MULROONEY, citizens of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Extension-Boxes and Keys for Water or Gas Plugs, of which the following is a specification.

Our present invention is designed as an improvement over the device shown in our application, Serial No. 286,409, filed September 26, 1888, to which reference may be had for an understanding of any features not fully explained here.

The invention consists in features of novelty, which will now be described with reference to the accompanying drawings, forming a part of this application, and will then be more specifically pointed out in the claims hereto annexed.

In the said drawings, Figure I is a vertical section of the device; and Fig. II is a bottom view of the cap, hereinafter referred to.

1 2 represent the upper and lower telescopic sections of the extensible box, and 3 is the service-pipe, passing through the usual opening in the foot of the section 2, and having the shut-off plug 4, provided with a turning-key 5. In the device shown in our aforesaid application the lower section 2 is provided with an upper and lower internal flange or diaphragm; but in our present invention we do away with the upper diaphragm and employ but the lower one 6, through which passes a tenon or journal 7 of the concentrically-located elongated key-socket 8. This journal 7 has a prismatic end 9, which is jammed into a complementary socket in the wrench 10, fitting over the key 5 of the shut-off plug. The journal 7 being smaller than the key-socket 8, it forms on the latter a shoulder 11, which rests upon the diaphragm 6, and thus prevents the socket from slipping downward, while the wrench 10 prevents it from being withdrawn upward. This key-socket has an elongated prismatic cavity 12, terminating at its upper end in a flaring mouth 13, which is of sufficient diameter to fill the mouth of the lower section 2, and thus serve the purpose of the upper diaphragm in our former application—that is to say, it holds the upper end of the key-socket concentrically within the

section 2, while at the same time it permits of free revolution of the socket 8. The main object and purpose of the mouth 13, however, is to guide the key 23 into the socket 12.

The upper end of the section 1 is provided with an annular flange or rim 15 and with two lugs or projections 16, which latter, however, extend but a slight portion of the way around its edge. A solid flat cap 17 is fitted upon the upper end of the section 1, and has a downwardly-projecting annular flange or rim 18, which rests upon the flange 15, while the body of the cap rests upon the upper end of the body of the section 1. As shown in Fig. II, the cap 17 has two lugs or projections 19, which are in all respects similar to the lugs 16 on the section 1, with the exception that they project inward and are sufficiently low down on the rim 18 to engage under the lugs 16 when the cap is turned, and thus lock it in place. In the center of this cap is a countersink 20, which has in its bottom an annular aperture surrounded by an upwardly-projecting boss 21, which forms a seat for a washer 22, and which, together with said washer, serves to exclude dirt that might wash with rain-water from entering the interior of the box. Through this washer passes the prismatic key 23, engaging in the prismatic interior of the key-socket 8 at its lower end, while its upper end is provided with a prismatic turning-head 24 for the application of a wrench or key. The countersink in the cap is made only sufficiently large to admit the wrench or key around the head 24, and such head projects upward far enough to be exactly flush with the surface of the cap, and the cap itself is let into the pavement sufficiently deep to be flush with the surface of the pavement, so that the whole exposed surface of the cap will be practically flat and there will be nothing to act as an obstruction to the feet of pedestrians, as is the case with devices provided with removable covers, for the covers frequently become detached and broken and the box is left in an unsightly as well as dangerous condition, whereas with our device it is never necessary to remove the cover in order to operate the cut-off plug, and at the same time the key-head 24 is out of the way, while yet it is exposed to plain sight and readily accessible.

The box may be adjusted to the proper height, and then the key 23 is cut the requisite length and put in place, where it is held from being withdrawn by a pin or wire 25, 5 passing through it just below the bottom of the cap. The cap is provided on the outside with lugs 26, which facilitate in releasing it from the box.

Having thus described our invention, the 10 following is what we claim as new therein and desire to secure by Letters Patent:

1. The combination, with the upper and lower extensible sections and the plug-key 5, of the key-socket 8, located within said sections, a wrench secured to said socket 8 and 15 engaging over the key 5, and said socket having a flaring mouth 13, filling one of said sections, for holding the socket 8 concentric with the box, and a key engaging in said socket, 20 substantially as set forth.

2. The combination, with the upper and lower extensible sections 1 2, of a diaphragm located within said lower section, a key-socket

having a journal provided with a wrench projecting through said diaphragm, an elongated 25 key projecting into said socket 8, and said socket having a flaring mouth located within the lower section and forming a guide for the key and serving to hold the socket concentric with said lower section, substantially 30 as set forth.

3. In a box for street-plugs, the combination, with the upper section 1, of a flat cap fitted thereon, forming the entire exposed surface of said box, and having the perforated 35 countersink, the key 23, projecting through said perforation, a key-head on said key projecting upward so as to be flush with the surface of said cap, the lower section, and the key-socket in the lower section, in which said key 40 engages, substantially as set forth.

M. J. KALLAHER.
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Witnesses:

J. J. KEENAN,
G. GARNER.

It is hereby certified that the title of the invention described in Letters Patent No. 414,546, granted November 5, 1889, upon the application of Michael J. Kallaher and John Mulrooney, of Memphis, Tennessee, should have been written and printed *Extension-Boxes* and Keys for Water or Gas Plugs, instead of "Expansion-Boxes" and Keys for Water or Gas Plugs; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned and sealed this 19th day of November, A. D. 1889.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,
Commissioner of Patents.