

J. B. HEIM.
SERVICE AND VALVE BOX FOR WATER AND GAS.
APPLICATION FILED APR. 20, 1910.

981,262.

Patented Jan. 10, 1911.

FIG. 1.

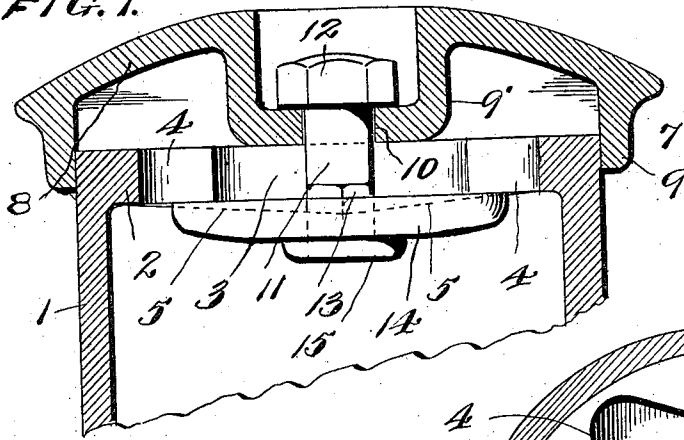


FIG. 3.

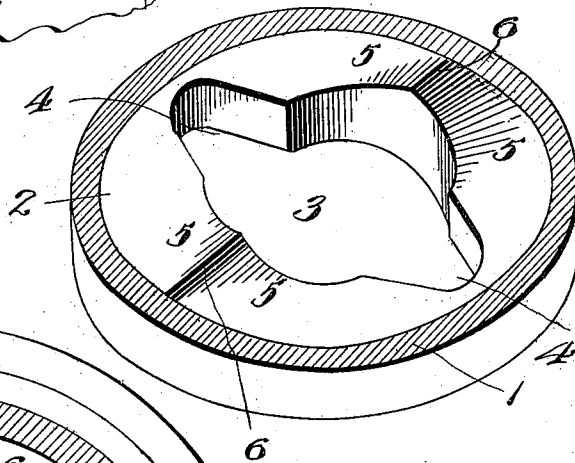
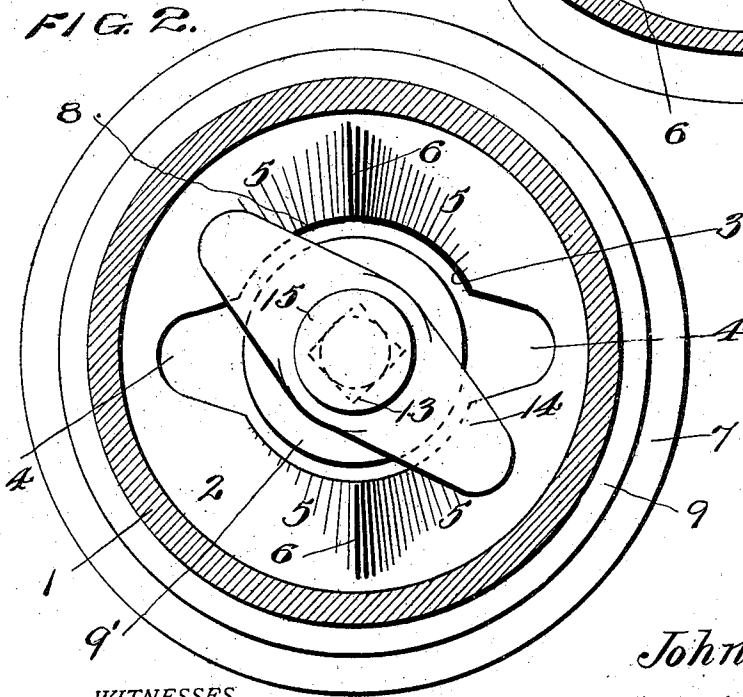


FIG. 2.



WITNESSES

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SERVICE AND VALVE BOX FOR WATER AND GAS.

981,262.

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To all whom it may concern:

Be it known that I, JOHN B. HEIM, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented new and useful Improvements in Service and Valve Boxes for Water and Gas, of which the following is a specification.

The present invention relates to improvements in service boxes as applied to mains for the distribution and control of water or gas, and contemplates especially improved means for securing the top or cover to such boxes.

As is well known the top or cover of the service box is usually placed flush with the surface of the ground and in an accessible location, due to the nature of the function of the box. In many instances the cover or top becomes dislodged and lost, and the box is frequently filled with debris, rendering the control valve in the main pipe temporarily, at least, valueless, thus placing the cut-off out of commission in the event of a leak or break in the connection on the premises. To overcome these and other objections, I provide a top or cover for the box which is readily removable by means of the proper tool, such as a wrench, and may be replaced with facility, the locking means being simple in construction and operation, and especially cheap in first cost.

The invention consists essentially in the combination with a box of the character set forth, of a ring or flange at the upper end of the box, a cover, and a key carried by the cover adapted to engage cam surfaces on the ring to lock the cover and box together.

The invention further consists in certain novel features of construction, and combinations and arrangements of parts as hereinafter set forth and as illustrated in the drawings.

In the accompanying drawings I have illustrated one example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles thereof, and which has proven entirely satisfactory in use.

Figure 1 is a central vertical sectional view showing the upper end of a service box, and the cover locked thereto, in accordance with the principles of my invention. Fig. 2 is a plan view, from the under side, showing the box in section, and the key

in locked position, and Fig. 3 is a perspective view, from the underside, of the plate or ring at the upper end of the box.

The service box 1 is or may be of usual construction, and is provided at its upper end with an integral ring or flange 2. This flange or ring is cast integral with, or may be otherwise secured to the box, and is formed with a central orifice or opening 3, for the passage of a tool when using the cut-off in the water or gas main to which the box is attached. Located at diametrically opposite sides of the center of the opening 3 and forming continuations thereof, are the cut out portions or recesses 4, 4. The underside of the ring or flange has double cam faces 5, 5, arranged thereon, the highest points 6, 6, being diametrically opposite each other, and located at right angles to the line passing through the axis of the recesses 4, 4. These cam surfaces form one medium of the locking means for securing the cover or top 7 to the box.

As clearly seen from the drawings the cover 7 is formed with a crown 8 and the ring or flanged portion 9, which latter is of a diameter to fit neatly over the outside perimeter of the top of the service box.

The central portion of the cover is countersunk to provide a cup 9', which is perforated centrally, at 10 for the passage of a bolt 11, whose head 12, rests upon the bottom of the cup. At its lower end the bolt is squared, as at 13, and is passed through a complementary opening in the key 14, the lower end of the bolt being offset and headed, as at 15, to secure the key thereon, and the squared shank 13 causes the key to turn with the bolt, when the bolt is so operated.

In Figs. 1 and 2 the key is illustrated as turned to locked position. This is accomplished by means of a well known form of wrench, the open end or cup of which is placed over the bolt head 12 (it being understood that the cover is properly placed over the top of the box). As the cover is placed upon the box, the key 14 passes through the openings 3 and 4 in the ring or flange 2, until the upper face of the key is below the lower faces of the ring. A twist, by means of the wrench, upon the bolt head 12, turns the key, so that its upper faces at the extreme outer ends, ride up, the inclined surfaces or cams 5, 5, at diametrically opposite points. This action causes the cover and box, through its ring 2, to be securely and

rigidly locked, against unauthorized removal.

The presence of the double cam faces allows for a twist of the wrench in either direction, so that the parts may be locked together by a simple action, and unlocked in like manner. This feature is especially advantageous, inasmuch as the key is hidden from sight when the cover is in place.

Another beneficial feature of the construction arises from the countersunk center of the cover, or recess, in which the bolt head is inclosed, which prevents destruction of the bolt head by means of a cold chisel or other tool in the hands of an improperly equipped mechanic.

From the above description taken in connection with the drawings it is evident that I have produced a device of the character set forth as the purpose of my invention, and which fulfils the object of eliminating objectionable features in existing devices.

Changes in the details of construction may be made without departing from the spirit of my invention, inasmuch as they are covered in the following claim.

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

A service box including an integral top provided with radially extending recesses, double cam faces on the underside of the top diametrically opposite said recesses, a flanged cover having a countersunk perforated central portion, a bolt rotatable therein, and a key upon the bolt adapted to be turned and its ends engage said cam faces.

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

JOHN B. HEIM.

Witnesses:

JOHN A. AYLWARD,
CONES HILL.