S. SHANAHAN.

SERVICE BOX.

APPLICATION FILED JUNE 16, 1917.

1,267,284.

Patented May 21, 1918.

Fig. 1

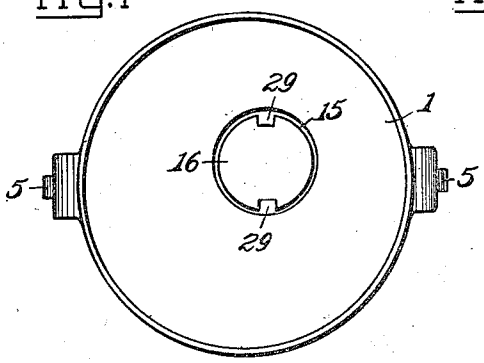


Fig. 3

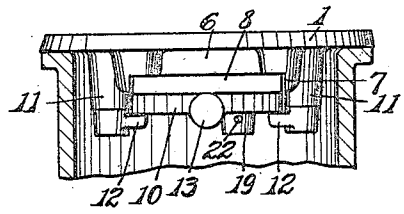


Fig. 4

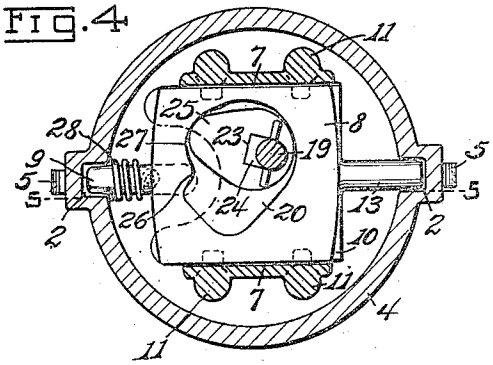


Fig. 2

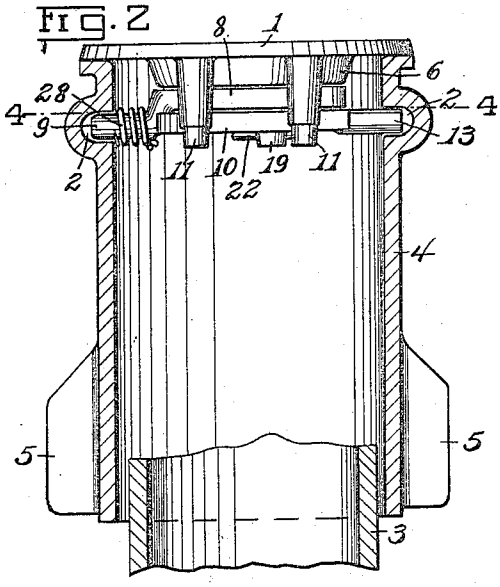


Fig. 6

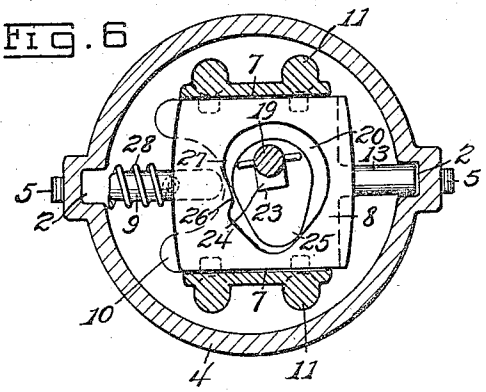
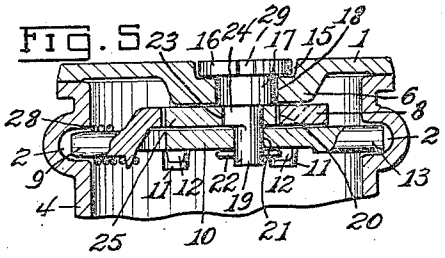


Fig. 5



WITNESSES:

W. B. Erskine

W. F. Keefer.

INVENTOR.

Stephen Shanahan.

BY

H. C. Dewolf

ATTORNEY.

UNITED STATES PATENT OFFICE.

STEPHEN SHANAHAN, OF URBANA, OHIO.

SERVICE-BOX.

1,267,284. Specification of Letters Patent. Patented May 21, 1918.

Application filed June 16, 1917. Serial No. 175,120.

To all whom it may concern:

Be it known that I, STEPHEN SHANAHAN, a citizen of the United States of America, and resident of Urbana, county of Champaign, and State of Ohio, have invented certain new and useful Improvements in Service-Boxes, of which the following is a specification.

This invention relates broadly to improvements in curb service-boxes, and more particularly to a cover for such boxes.

The primary object of the invention is to provide a service-box or casing of the general character employed at curbs in connection with underground house-service water and gas lines, having a cap or cover provided with novel attaching means which are readily operable to and from locking position.

A further object is to provide a device of the character mentioned wherein the use of the usual cover-attaching bolt, which is particularly objectionable owing to its propensity to become rusted and to break, is dispensed with.

And a still further object within the contemplation of this invention is to provide a top portion for service-boxes which is adapted for application to old or broken boxes or casings without removing the main body portion of the latter from the ground.

With these and other objects in view, the invention resides in the features of construction, arrangement of parts and combinations of elements which will hereinafter be fully described, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an upper face view of the invention;

Fig. 2 is a side elevation of the invention, showing the casing top applied to a broken box or casing, said parts being shown in vertical section;

Fig. 3 is a view of the invention taken at a right angle to the viewpoint in Fig. 2;

Fig. 4 is a horizontal section taken on line 4—4, Fig. 2, showing the positions occupied by the parts when the cover is locked in place;

Fig. 5 is a section on line 5—5, Fig. 4; and—

Fig. 6 is a view similar to Fig. 4, showing the positions assumed by the parts when the cover is unlocked.

Referring to said drawings, in which like designating characters distinguish like parts throughout the several views—

1 indicates a circular cap or cover for a vertically disposed tubular box or casing of the general character commonly employed on house-service water and gas lines for inclosing the usual valves. Said box or casing may be of the usual one-piece casting form except that it is provided with oppositely disposed sockets 2; or, when it is desired to apply this invention to old casings, as 3, Fig. 2, the latter may be cut or broken off at a point a few inches under the surface of the ground and the specially designed casing top 4 shown in said figure mounted in embracing relation to said broken casing. When such special top 4 is employed, suitable anchoring means, as the laterally disposed integral wings 5, are preferably provided on said top.

Formed integral with the cap or cover 1 on its under side is a substantially circular boss 6, and located at each of two opposite sides of said boss and also formed integral with said cover is a straight-sided flange 7. The opposing inner sides of said flanges constitute guides against which the lateral edges of a movable plate 8 are slidable, said plate having formed integral therewith on its under face and adjacent to one end a locking bolt 9 which is adapted in one position of said plate to rest within one of the sockets 2 provided therefor in the adjacent casing wall.

Directly underlying said plate 8 is a second plate 10 the opposite parallel lateral edges of which are seated against the inner faces of downwardly projecting posts 11 which are formed integral with the cover 1. Said posts have integral inwardly directed foot portions 12 which underlie said plate 10 and serve to support the latter. The plate 10 has formed integral therewith at one end thereof a locking bolt 13 which seats within the opposite socket 2.

Seated in a circular socket or countersink 15 provided therefor in the upper face of the cover 1 is the circular head 16 of a key-bolt 17 which has its body portion rotatable in a hole 18 provided therefor in the boss 6 and a stem or shaft portion 19 protruding through apertures 20 and 21 provided respectively in the plates 8 and 10. A cotter-pin 22, or similar device, is projected through

the lower end of said bolt 17 directly underneath the plate 10 for maintaining said bolt in place.

The aperture 21 in the plate 10 is made of a size adapted to snugly receive the stem 19 of said bolt without binding, while the aperture 20 in the plate 8 is made of a comparatively large size and peculiar form, being adapted to receive loosely therein a cam 25 of elliptical form, as shown in Figs. 4 and 6. Said cam is carried by said bolt stem 19 and has an irregular aperture 23 therein in which is received said stem and a laterally directed tooth or prong 24 carried by the latter, whereby rotary movement of said bolt produces a corresponding movement of said cam.

The cam 25 and the aperture 20 in the plate 8 are of such relative forms that rotation of the former in one direction acts to slide the latter outward to a position wherein the locking bolt 9 thereof is received within socket 2 opposite that in which the bolt 13 is preliminarily seated, and rotation in a reverse direction acts to move said plate 8 inward, withdrawing said locking-bolt 9. As is obvious, the locking-bolt 13 of the stationary plate 10 is readily insertible in and withdrawable from the socket 14 when the plate 8 occupies its retracted position.

The point or nose of the cam when moved forward from the position shown in Fig 6, wherein it is illustrated as maintaining the plate 8 in retracted position, first engages the plate 8 in front of an inwardly projecting lip 26 and, with further rotation, thrusts said plate outward, projecting the locking bolt 9 thereof into the socket 2. Having passed by said lip 26, the nose of the cam enters a shallow pocket-like space 27 provided therefor, as shown in Fig 4. A coil spring 28 mounted upon the bolt 9 and having one end bearing upon the casing in encircling relation to the adjacent socket 2 serves to normally maintain said plate 8 in retracted position. Hence, when the said nose of the cam is moved into the pocket 27, in which position the locking-bolt is thereby held in place, the cam is maintained seated against chance displacement. The unlocking of the cap may readily be effected by rearward rotation of the key-bolt 17 from the position shown in Fig. 4 to that shown in Fig. 6, such rotation being accomplished by means of a suitable instrument applied to the oppositely disposed notches 29 provided in the head 16 of the key-bolt 17.

What is claimed is—

1. The combination with a casing having oppositely disposed sockets therein adjacent to its upper end, of a cover therefor, a plate slidable on the under side of said cover and carrying a locking bolt on one end thereof adapted for engagement with one of said sockets, means for guiding said plate, means whereby said plate is normally maintained in retracted position, a second plate disposed underneath the first plate and having a bolt for engaging the opposite socket, means supporting said plates, a cam aperture in the first plate, a cam disposed in said aperture, and a vertically disposed key-bolt rotatably mounted in said cover and having a portion in positive rotating relation to said cam.

2. The combination with a casing having oppositely disposed sockets therein adjacent to its upper end, of a cover therefor, a plate slidable on the under side of said cover and carrying a locking bolt on one end thereof adapted for engagement with one of said sockets, means for guiding said plate, means whereby said plate is normally maintained in retracted position, a second plate disposed underneath the first plate and having a bolt for engaging the opposite socket, means supporting said plates, a cam aperture in the first plate, said aperture being formed to provide a pocket at one side thereof, a cam disposed in said aperture and adapted in one position to have a portion seat in said pocket, and a vertically disposed key-bolt rotatably mounted in said cover and having a portion in interlocked relation with said cam whereby rotation of the former is imparted to the latter.

In testimony whereof, I affix my signature in presence of two subscribing witnesses.

STEPHEN SHANAHAN.

Witnesses:

EMMETT F. SWEETMAN,

JOHN B. O'DONNELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."