J. W. GIBNEY.

COVER FOR SERVICE BOXES.

APPLICATION FILED FEB. 27, 1919.

1,349,610.

Patented Aug. 17, 1920.

Fig. 1.

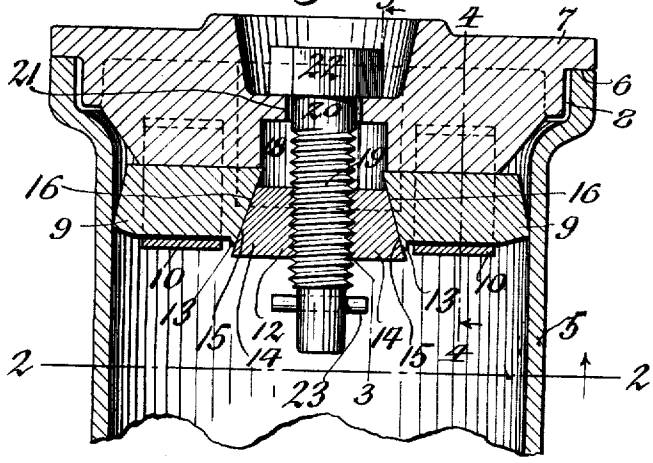


Fig. 3.

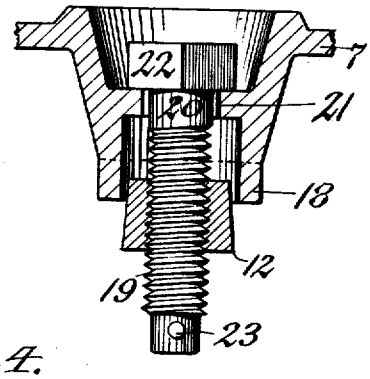


Fig. 2.

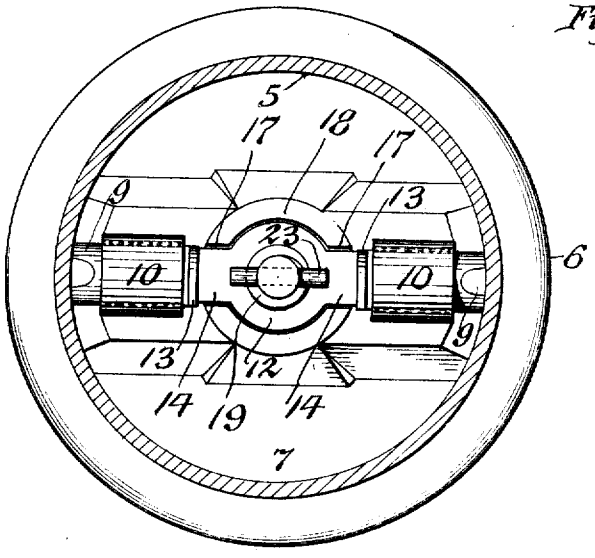
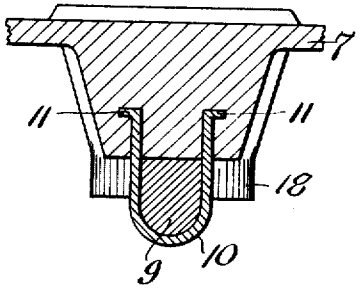


Fig. 4.



Inventor
James W. Gibney
By Geyer & Popp
Attorneys

UNITED STATES PATENT OFFICE.

JAMES W. GIBNEY, OF BUFFALO, NEW YORK, ASSIGNOR TO W. P. TAYLOR COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

COVER FOR SERVICE-BOXES.

1,349,610. Specification of Letters Patent. Patented Aug. 17, 1920.

Application filed February 27, 1919. Serial No. 279,558.

To all whom it may concern:

Be it known that I, JAMES W. GIBNEY, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Covers for Service-Boxes, of which the following is a specification.

This invention relates to a cover or lid which is more particularly designed for closing the ends of service boxes or pipes which surround the stop cocks or valves of water or gas service pipes and enable the same to be reached by a key from the surface of the ground.

It is the object of this invention to provide a cover or lid of this character with improved means for detachably connecting the same with the end of the service box so that the cover may be readily and conveniently applied to and removed from the box. A further object of this invention is to provide such a cover with means for fastening the same on the service box which are simple in construction, capable of being produced at comparatively low cost and not liable to get out of order.

In the accompanying drawings:

Figure 1 is a vertical section showing my improved cover applied to the upper end of a service box or pipe. Fig. 2 is a horizontal section of the same taken on line 2—2, Fig. 1, looking upwardly. Figs. 3 and 4 are fragmentary vertical sections at right angles to Fig. 1, taken on lines 3—3, and 4—4, respectively, on this figure.

Similar characters of reference refer to like parts throughout the several views.

5 represents the tubular body of a service box or pipe which in the present instance is provided at its upper end with an enlargement or collar 6 which projects upwardly. 7 represents the body of the cover or lid which is adapted to close the upper end of the box, this body being preferably constructed in the form of a plate or disk which rests at its margin against the upper end of the box collar and is provided on its underside with an annular flange or shoulder 8 which is adapted to engage with the inner side of the box for centering the same thereon against lateral displacement.

Underneath the cover plate and on opposite sides of its center are arranged two transversely movable gripping or clamping jaws 9, 9 which are adapted to engage their outer ends with the inner side or bore of the service box or pipe for the purpose of clamping the cover thereon. These jaws are so guided on this cover plate that they are only capable of moving transversely on this plate but incapable of turning relatively thereto. The preferred means for thus controlling the movement of these clamping jaws consist of two guides 10 having the form of U-shaped loops each of which has its upwardly projecting legs provided with laterally projecting toes 11. The latter and the adjacent upper end portions of the legs are embedded in the body or plate. For this purpose each of these guide loops, consisting preferably of sheet metal are placed in a mold so that when pouring the metal for producing the plate the toes and the legs of the jaw guides will be anchored in the plate without requiring any additional fastening for this purpose. The lower portion of each guide loop projects a sufficient distance below the underside of the cover plate to form a guideway in which the central part of each clamping jaw is free to slide transversely but is prevented from rocking or turning therein. The outward motion of the clamping jaw is preferably limited so as to prevent loss of the same when the cover is removed from the service box this being accomplished by means of stop lugs or lips 13 projecting downwardly from the inner ends of these jaws in such a position that these stop lugs will engage the inner ends of the guide loops and thereby prevent the outward withdrawal of the clamping jaws from these guides.

The outward motion of the clamping jaws for causing the same to grip against the inner side of the service box may be effected

in various ways but the means for this purpose which are shown in the drawings are preferred and constructed as follows:

Centrally on its underside the cover plate is provided with a downwardly projecting tubular guide collar 18 which latter is provided in its lower end on diametrically opposite sides thereof with longitudinal guide slots 17, 17 and on the central part of the cover adjacent to the upper end of the guide collar the same is provided with a bearing opening 21.

Within the lower part of the guide collar is arranged the central part or hub 12 of a spreading member which hub is preferably of circular form so as to approximately fit the interior of the guide collar and on its opposite sides the hub is provided with laterally projecting shifting lugs 14, 14 which are arranged in the longitudinal slots 17 of the guide collar so that this spreading member is capable of axial movement but is held against turning about the axis of the cover. This spreading member is adapted to move the clamping jaws outwardly into their operative position by a wedging engagement of the clamping member with these jaws. In the preferred form of this wedging engagement the outer ends 15 of two lugs of the spreading member are provided with downwardly diverging inclined surfaces 15 which engage with correspondingly inclined surfaces 16 on the inner ends of the clamping jaws as shown in Fig. 1. It follows from this construction that when the spreading member is raised or moved axially upward its inclined faces by engaging with the inclined faces of the clamping jaws,—push the latter outwardly so that they grip against the inner side of the service box, while upon moving this spreading member downwardly the pressure on the jaws will be released and thereby permit the cover to be removed from the service box.

The axial movement of the spreading member is preferably effected by means of a screw having the lower externally threaded portion 19 of its shank arranged within the guide collar and engaging with an internally threaded opening in the center of the spreading member while the upper cylindrical part 20 of this shank turns in the opening 21 in the upper part of the cover plate and its upper head 22 bears against the upper side of the plate. Upon turning this screw in one direction the spreading member will be raised and upon turning the same in the opposite direction this member will be lowered, thereby either tightening or loosening the clamping jaws and either securing the cover to the service box or permitting the removal of the same therefrom.

In order to prevent the clamping screw from being entirely removed from the spreading member the lower or inner end of the shank of this screw is provided with a stop pin 23 passing transversely through the same and secured therein so as to project from opposite sides thereof, as clearly shown in Figs. 1, 2 and 3, whereby this pin serves as a stop which engages the lower or underside of the spreading member and prevents the withdrawal of the screw from the same.

These means for detachably securing a cover or lid on the end of a service box are not only simple and durable in construction but they are also very efficient in operation and permit of readily and quickly applying the cover to or removing the same from a service box. Moreover this cover and its fastening device contains but very few parts which can be produced at very low cost and are not liable to get out of order.

I claim as my invention:

1. A service box cover comprising a plate adapted to engage the end of a service box, guides mounted on the underside of said plate on opposite sides of its center and each being previously constructed of U-form independently of the plate and having its legs embedded in said plate by casting the latter on said legs, jaws sliding in said guides and adapted to engage their outer ends with the side of a service box, and means for spreading said jaws engaging with their inner ends of the same.

2. A service box cover comprising a plate adapted to engage the end of a service box, guides mounted on the underside of said plate on opposite sides of its center and each being previously constructed of U-form independently of the plate and having its legs provided with toes which latter together with the adjacent end portions of the legs are embedded in the plate by casting the latter on said legs and toes, jaws sliding in said guides and adapted to engage their outer ends with said box, and means for spreading said jaws engaging with the inner ends of the same.

3. A service box cover comprising a plate adapted to engage the end of the box and provided centrally on its underside with a guide collar having guide slots on its diametrically opposite sides, transverse guides arranged on the underside of said plate on opposite sides of said collar, jaws slidable in said transverse guides and adapted to engage their outer ends with the side of said box, and an axially movable spreader guided in said collar and having its ends arranged in said slots and engaging by a wedge action with the inner ends of said jaws.

4. A service box cover comprising a plate adapted to engage the end of the box and provided centrally on its underside with a guide collar having guide slots on its di-

ametrically opposite sides, transverse guides arranged on the underside of said plate on opposite sides of said collar, jaws slidable in said transverse guides and adapted to engage their outer ends with the side of said box, an axially movable spreader guided in said collar and having its ends arranged in said slots and engaging by a wedge action with the inner ends of said jaws, and an axial screw journaled in a central opening in said plate and having a head at its upper end engaging with the top of said plate and provided at its lower end with a thread engaging with a threaded opening in said spreader.

JAMES W. GIBNEY.