A. J. TYLER.

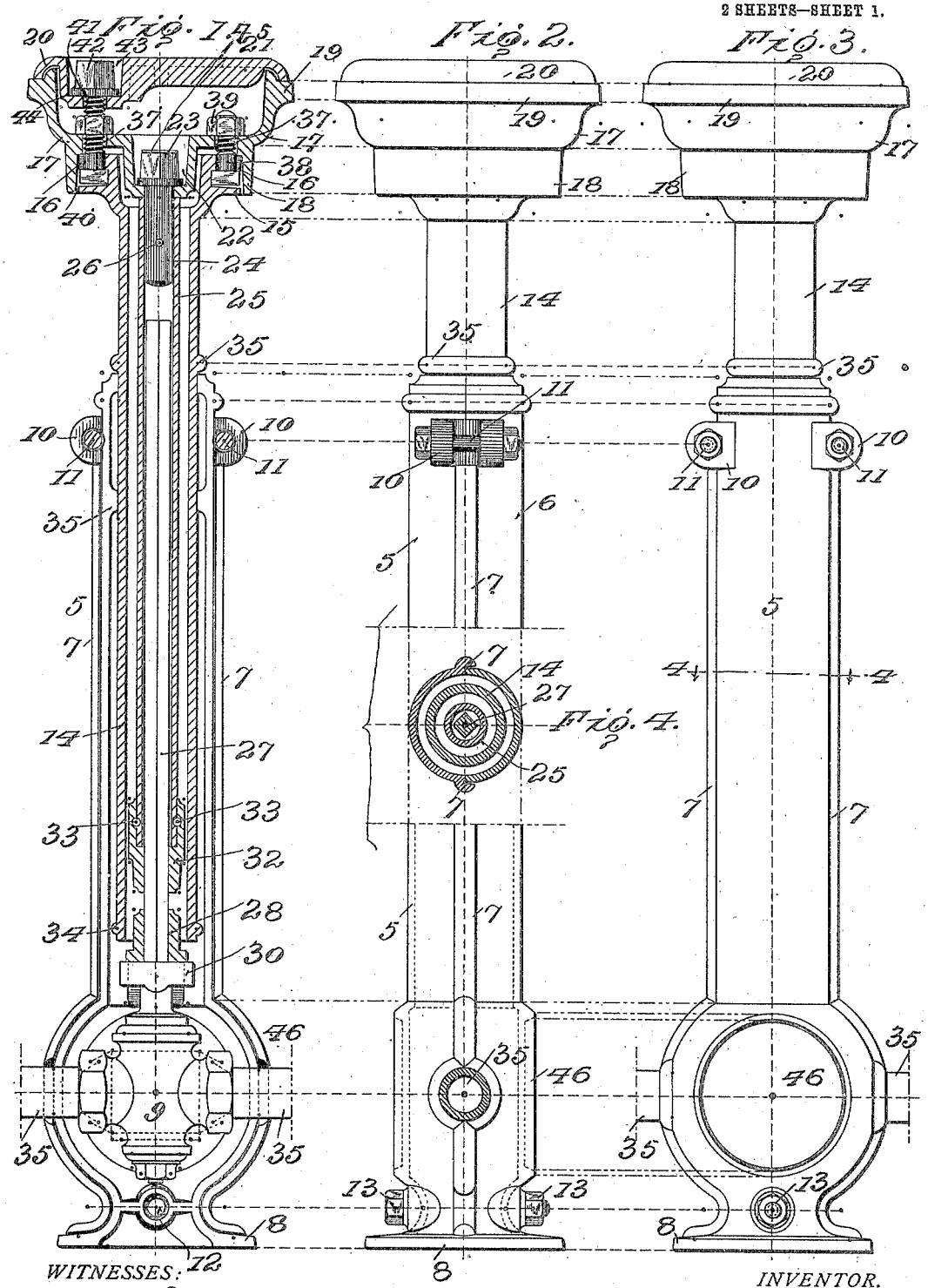
CURB BOX.

APPLICATION FILED FEB. 25, 1909.

948,001.

Patented Feb. 1, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

INVENTOR.

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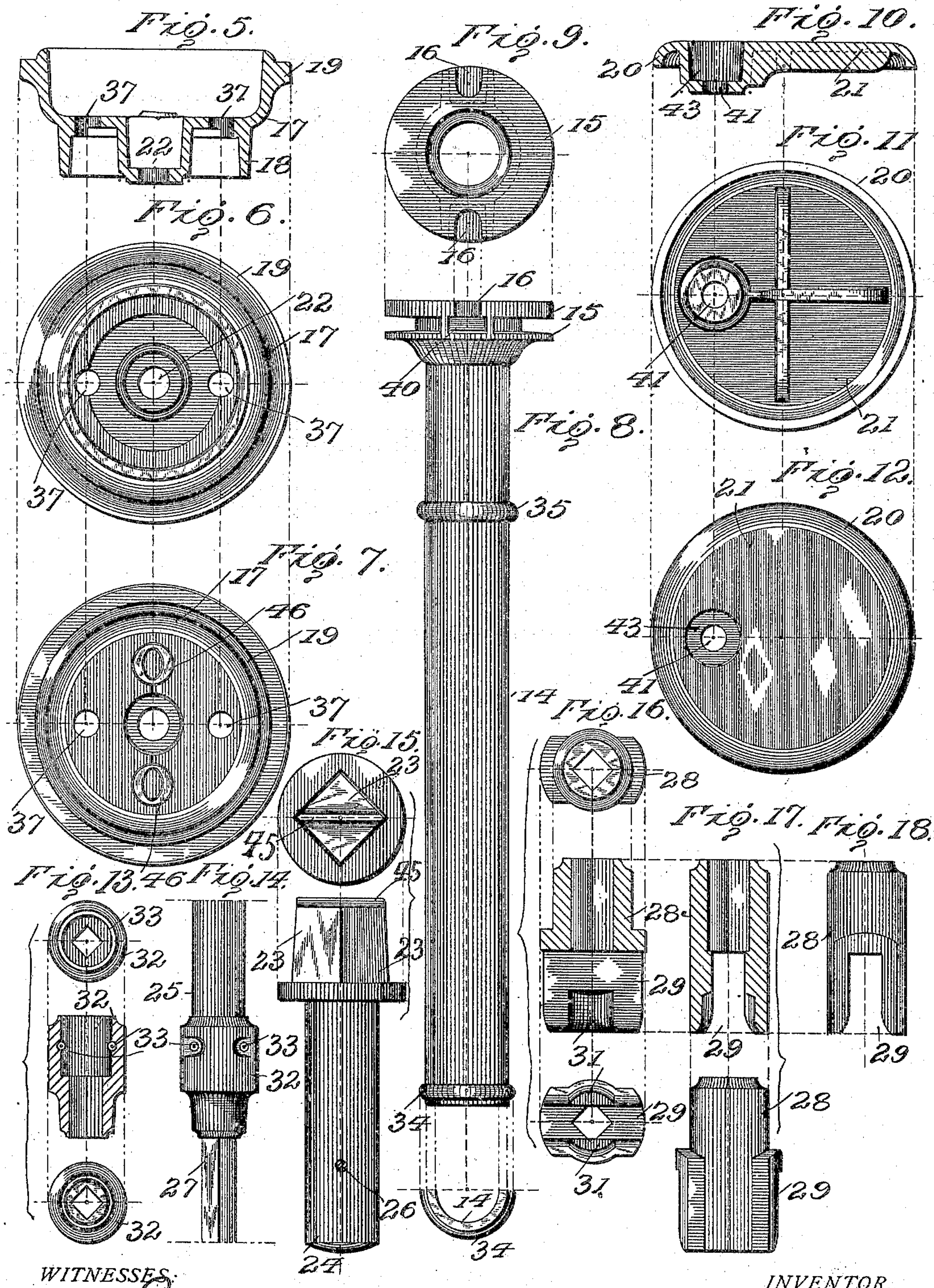

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UNITED STATES PATENT OFFICE.

AARON J. TYLER, OF ROCHESTER, NEW YORK.

CURB-BOX.

948,001. Specification of Letters Patent. Patented Feb. 1, 1910.

Application filed February 25, 1909. Serial No. 479,920.

To all whom it may concern:

Be it known that I, AARON J. TYLER, citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Curb-Boxes, of which the following is a specification.

This invention relates to curb boxes and has for its object to provide strong, durable, and thoroughly efficient devices of this character, the construction and relative disposition of the several parts of which are such as to obviate the employment of the threaded connections for retaining the parts in assembled position, which threads soon rust when exposed to the elements and render it difficult if not impossible to obtain access to the interior of the box without mutilating or breaking the same.

A further object of the invention is to provide a curb box the cover of which is retained on the surface box in such a manner as to prevent an unauthorized person from removing the same with a view to surreptitiously controlling the flow of the water in the supply pipe.

A further object of the invention is to provide a curb box capable of being readily adjusted to any depth of trench and in which provision is made for limiting the longitudinal movement of the stand-pipe, thereby to prevent the withdrawal of said stand-pipe from the casing and also to prevent the stand-pipe from wedging against the stop cock or valve and interfering with the proper operation of the latter.

A further object of the invention is to so position the fastening devices and surface box, that the former are entirely housed within the latter, the bottom of said surface box forming a closure for the stand pipe so as to prevent children or other mischievous persons from filling the stand-pipe with sticks, dirt, or other foreign matter, should the cover be accidentally left off.

A further object of the invention is to generally improve the construction of the curb box so as to render it easy to manufacture and assemble and thus reduce the cost of manufacture to a minimum.

Further objects will appear in the following description, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a longitudinal sectional view of a curb box constructed in accordance with my invention; the surface box being turned a quarter way around from normal in order to more clearly show the construction of the same; Fig. 2 is an edge view of the curb box; Fig. 3 is a side elevation of the same; Fig. 4 is a transverse sectional view; Fig. 5 is a vertical sectional view of the body portion of the surface box; Fig. 6 is a bottom plan view of Fig. 5; Fig. 7 is a top plan view of the same; Fig. 8 is a side elevation of the stand-pipe detached; Fig. 9 is a top plan view of said stand pipe; Fig. 10 is a vertical sectional view of the cover of the surface box; Fig. 11 is a bottom plan view of the same; Fig. 12 is a top plan view of the cover; Fig. 13 designates a bottom plan, vertical sectional and top plan views of the socket member employed with the inner tubular member; Fig. 14 is a side elevation showing the tubular member, the socket, and angular valve actuating rod in assembled position; Fig. 15 is a top plan and side elevation of the pin detached; Fig. 16 represents top plan, vertical sectional, and bottom plan views of the key seat; Fig. 17 represents a vertical section and the front elevation of said key seat; and, Fig. 18 is a side elevation of the key seat.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

The improved curb box comprises a valve casing or housing adapted to be embedded in the ground and preferably formed in two sections 5 and 6, the longitudinal edges of one of which are formed with laterally extending beads or flanges 7 which overlap the adjacent longitudinal edges of the mating section and form a closure at the juncture of said sections.

The lower end of each casing section is provided with an inwardly projecting portion 8 which registers with the inwardly projecting portion of the mating section thereby to form a closure for the bottom of the casing and thus prevent the ingress of sand, dirt, or other foreign matter to the valve or stop cock 9.

Extending laterally from the casing sec-

tions are oppositely disposed perforated lugs 10 which receive bolts or similar fastening devices, there being transversely alined openings 12 formed in the casing sections beneath the valve 9 for the reception of a single bolt or fastening device 13, which in connection with the bolts 11 serves to hold the casing sections in assembled position.

Slidably mounted for vertical movement within the casing is a stand-pipe 14 having its upper end provided with laterally extending flanges 15 one of which is formed with slots 16 opening through the peripheral edge thereof, for the purpose hereinafter referred to.

Supported on the flanged end of the stand-pipe is the body portion of the surface box 17, said box being preferably cast or otherwise formed of metal and provided at its lower edge with a depending flange 18 which overlaps one of the flanges 15 of the stand-pipe when positioned thereon and forms a closure for the open ends of the slots 16. The upper portion of the surface box is provided with a laterally extending flange 19 adapted to receive and support the downwardly turned edge 20 of a removable cover 21.

The central portion of the member 17 is provided with a depression or socket 22 which receives the head 23 of a pin or key 24, the height of the head 23 being such that the upper portion thereof will normally lie in a plane below the horizontal plane of the member 17.

The lower end of the pin 24 projects within a tubular member 25 and is rigidly combined therewith by a pin or fastening device 26 so that rotary movement imparted to one will cause a corresponding movement of the other.

Disposed within the tubular member 25 is a longitudinally disposed rod 27 of angular cross sectional formation, to the lower end of which is rigidly secured a cap piece 28. The cap piece 28 is provided with a key seat 29 for the reception of the T-head 30 of the valve 9, there being suitable recesses or depressions 31 formed in the opposite side walls of the key seat to accommodate the stem of the stop cock or valve when the key seat is positioned thereon thereby preventing the twisting or turning of one member relatively to the other and thus insure positive actuation of the valve when the key member 23 is operated.

As a means for permitting simultaneous movement of the rod 27 and the tubular member 25, there is provided a socket 32 in one end of which is seated the adjacent end of the tubular member 25, the opposite end of the socket 32 being formed with a longitudinal recess the walls of which conform to the annular formation of the rod 27 as best shown in Figs. 11 and 13 of the drawings.

The socket member 32 is rigidly combined with the tubular member 25 preferably by forming the socket member and tubular member with registering recesses, and subsequently driving a pin or similar fastening device 33 therethrough. Thus it will be seen that the tubular member 25 is free to move vertically of the rod 27 to permit the stand-pipe to be positioned in ditches of different depths, while the stand-pipe 14 is slidably mounted for vertical movement in the casing or housing 5 and carries to surface box, the stand-pipe and its associated parts being locked in adjusted position by manipulating the clamping bolts 11. If desired, however, any other suitable means may be employed for clamping the parts together in fixed position after the adjustment of the same has been effected.

Secured to or formed integral with the lower end of the stand-pipe 14 is a laterally extending shoulder 34 which coacts with suitable projections on the adjacent casing sections and serves to prevent the withdrawal of the stand-pipe from the casing, there being a similar shoulder 35 formed on the upper portion of said stand-pipe and arranged to bear against the adjacent portion of the valve casing for limiting the downward movement of the stand pipe, and thus prevent said stand pipe from coming in contact with and wedging or otherwise impairing the operation of the valve 9.

One of the important features of the present invention is the means employed for retaining the surface box in position on the stand-pipe, and for preventing an unauthorized person from removing the cover of the surface box with a view to surreptitiously operating the key 24, thus to cut off the flow of water in the supply pipe 36. Such a result is accomplished by forming the body portion 17 of the surface box with openings 37 for the reception of threaded bolts 38 the shanks of which are extended through the openings 16 for engagement with clamping nuts 39, the heads of the bolts being set in sockets or recesses 40 formed in the stand-pipe for the reception of the same, as best shown in Fig. 1 of the drawings.

One of the fastening devices or bolts 38 is extended through an opening 41 in the cover 21 for engagement with a clamping nut 42, the latter being seated in a recess 43 in said cover so that the upper portion of the nut will be disposed substantially flush with or slightly below the horizontal plane of the cover 21, and thus present a smooth surface at ground line.

Attention is here called to the fact that the fastening devices 38 are entirely housed by the cover 21 so that the said fastening devices are protected from the elements and thus prevented from rusting. It will also be noted that the flange 44 of the nut 42

forms in effect a closure for the opening 41 in the cover so as to prevent the entrance of moisture or water to the interior of the surface box.

The head 23 of the pin 24 is preferably inclined or tapered for engagement with a specially constructed key, the top of the head 23 being provided with a transverse rib 45 adapted to register with suitable index characters 46, in the present instance, the letter O so that the operator upon removing the cover 21 may readily ascertain whether the flow of water is turned off or on. By securing the cover of the surface box on the stand-pipe in the manner described, the employment of threads which have a tendency to rust is obviated, and at the same time the cost of manufacture is reduced to a minimum. It will also be noted, that by making the opposite ends of the casing 5 at the valve 9 relatively thin and substantially parallel with each other, a flattened surface 46 is presented for lettering or for displaying any advertisements thereon.

Having thus described the invention, what is claimed as new is:—

1. In a curb box, a valve casing, a stand-pipe covered by the casing, telescoping members normally housed within the stand pipe one of which is provided with means for engagement with the valve, a key engaging the other member, a surface box supported by the stand-pipe, fastening devices for securing the surface box to the stand-pipe, and a cover for the surface box, said cover forming a housing for the fastening devices and key.

2. In a curb box, a valve casing, a stand-pipe carried by the casing, telescoping members disposed within the stand-pipe, one of which is provided with means for engagement with the valve, a surface box supported by the stand-pipe, fastening devices for securing the surface box to the stand-pipe, and a cover forming a housing for the fastening devices, one of said fastening devices serving to lock the cover in position on the surface box.

3. In a curb box, a valve casing, a stand-pipe mounted for longitudinal movement within the casing, telescoping members one of which is provided with means for engagement with the valve, means for limiting the longitudinal movement of the stand-pipe, a surface box supported by said stand-pipe and having a depression formed therein, a key seated in the depression and rigidly secured to one of the telescoping members, fastening devices for securing the surface box to the stand-pipe, and a cover forming a housing for the fastening devices, one of said fastening devices serving as a means for locking the cover in closed position.

4. In a curb box, a valve casing, a vertically adjustable stand-pipe disposed within the casing and provided at its upper end with a laterally extending perforated flange, telescoping members slidably mounted within the stand-pipe one of which is provided with means for engagement with the valve, a key secured to and movable with one of the telescoping members, a surface box supported by the stand-pipe and provided with a depending flange surrounding the perforated flange of said stand-pipe, fastening devices extending through the perforations in the flange for securing the surface box to said stand-pipe, and a cover forming a housing for the fastening devices and key.

5. In a curb box, a valve casing, a vertically movable stand-pipe slidably mounted within the valve casing and provided with stop shoulders for limiting the longitudinal movement thereof, telescoping members disposed within the stand-pipe, one of which is provided with means for engagement with the valve, spaced flanges extending laterally from the upper end of the stand-pipe one of which is provided with sockets opening through the peripheral edge thereof, a surface box supported on the flanged end of the stand-pipe, bolts carried by the surface box and extending through the openings in the flanges with their heads seated in the sockets of said flange, clamping nuts engaging the threaded ends of the bolts and bearing against the surface box, a cover forming a housing for the fastening devices, and a key secured to one of the telescoping members and provided with a head seated in a depression in the bottom of the surface box.

6. In a curb box, a valve casing, a vertically disposed stand-pipe within the casing, telescoping members arranged within the stand-pipe, one of which is tubular and the other of angular cross section formation, a cap piece carried by the angular member and arranged to embrace the key of the valve stem, a socket member forming a connection between the tubular and angular members, a surface box supported by the stand-pipe and provided with a depression, a key rigidly secured to one of said telescoping members and having an angular head seated in the depression in the bottom of the surface box, fastening devices for securing the surface box to the stand-pipe, and a cover forming a housing for the fastening devices, one of said fastening devices also serving to secure the cover in closed position.

7. In a curb box, a valve casing, a stand pipe disposed within the valve casing and provided with a perforated flange, telescoping members one of which is provided with means for engagement with the valve, a surface box supported by the stand-pipe and having a central depression formed therein and provided with a depending flange surrounding the perforated flange of said

stand-pipe, there being indicating devices formed on the bottom of the surface box, a pin rigidly secured to one of the telescoping members and provided with an angular head having a rib formed thereon adapted to register with one of the indicating devices, fastening devices extending through the perforations in the flange for securing the surface box to the stand-pipe, and a cover forming a housing for the fastening devices of the surface box.

8. In a curb box, a sectional valve casing, a stand-pipe disposed within the valve casing and provided with a perforated flange, telescoping members one of which is provided with means for engagement with the valve, means carried by a casing section for locking the stand-pipe in adjusted position, a surface box supported by the stand-pipe and provided with a depending flange surrounding the perforated flange of said stand-pipe, fastening devices extending through the perforations in the flange for securing the surface box to the stand-pipe, a key carried by the surface box and engaging one of the telescoping members, a cover forming a housing for said fastening devices, and means for locking said cover in closed position.

9. In a curb box, a valve casing formed of mating sections, having their adjacent longitudinal edges overlapped, a stand-pipe slidably mounted for vertical movement within the casing, telescoping members disposed within the stand-pipe one of which is provided with means for engagement with the valve, a socket carried by one of said members and slidably mounted on the mating member, a surface box supported by the stand-pipe, a key having a tapered head seated in a recess in the surface box, and rigidly combined with one of the telescoping members, and a cover forming a closure for the surface box.

10. In a curb box, a valve casing formed of mating sections, the lower portions of which are substantially semi-circular in shape and provided with flat side faces, a stand-pipe extending within the casing and adjustable vertically to the depth of a trench, telescopic members, one of which is provided with means for engagement with the valve, means carried by the casing sections and engaging the stand-pipe for locking the latter in adjusted position, fastening devices for securing the surface box to the stand-pipe, a key carried by the surface box and rigidly secured to one of the telescopic members, a cover forming a housing for said fastening devices, and means for locking said cover in closed position.

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

AARON J. TYLER. [L. S.]

Witnesses:

GEO. W. THOMAS,

HERBERT B. THOMAS.