

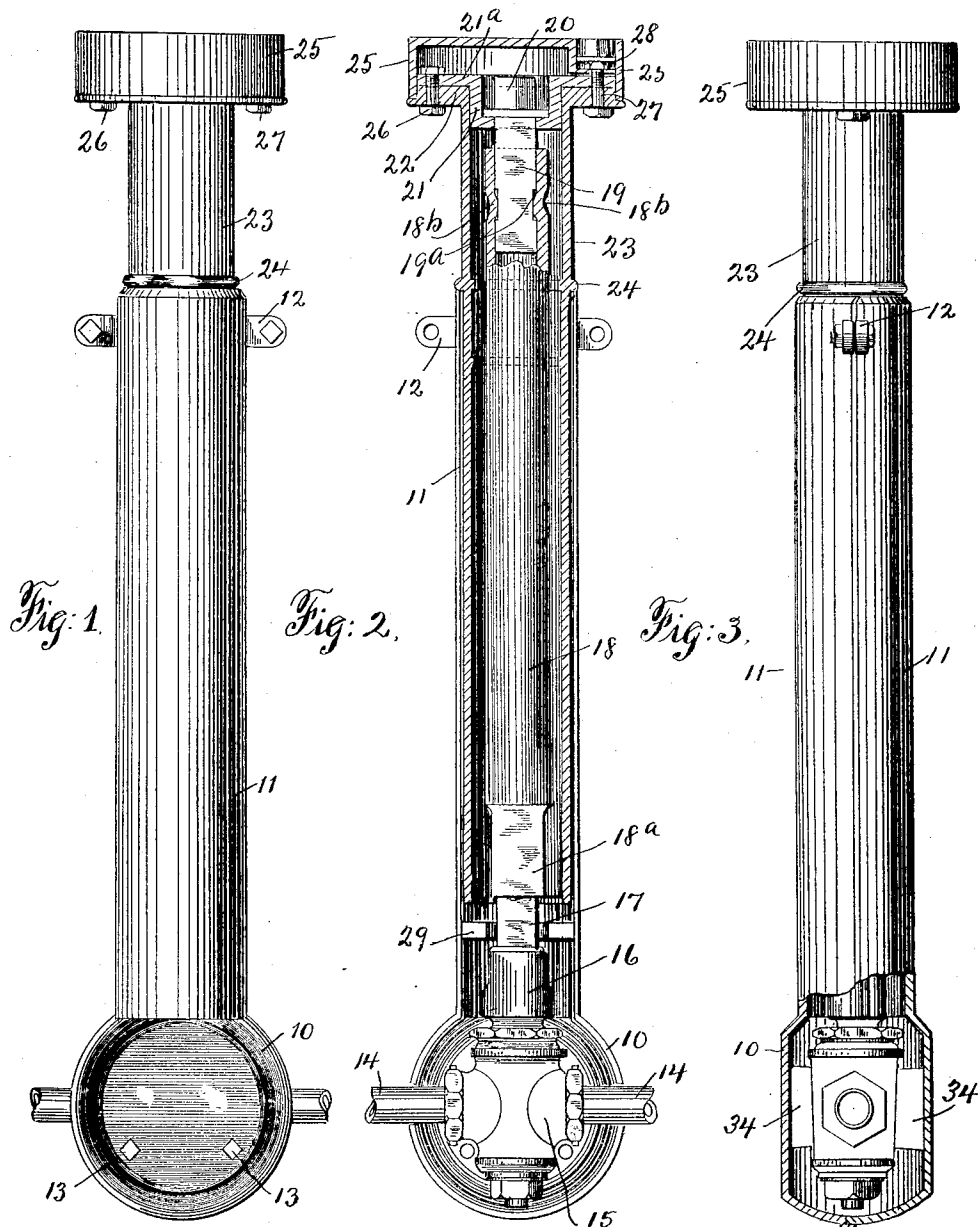
C. E. TYLER & E. D. EVERY.  
CURB BOX.

APPLICATION FILED FEB. 15, 1912

1,108,031.

Patented Aug. 18, 1914.

2 SHEETS—SHEET 1.



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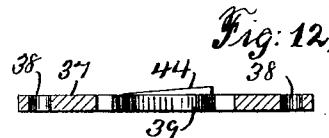
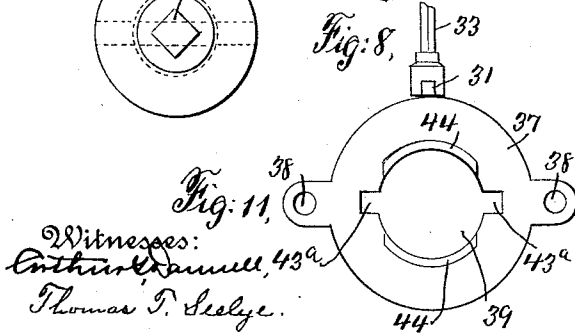
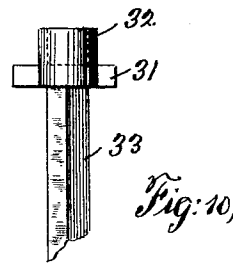
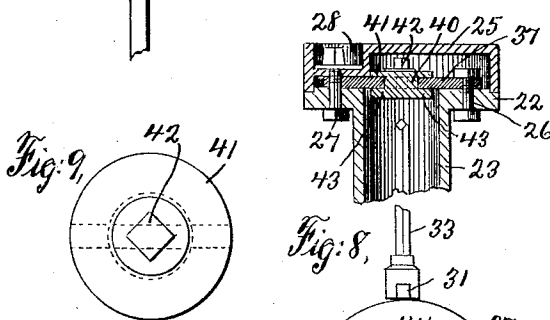
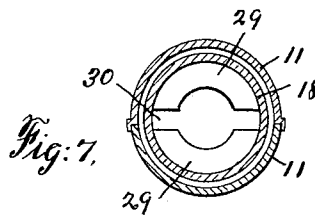
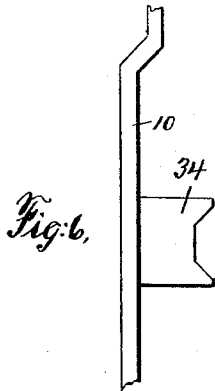
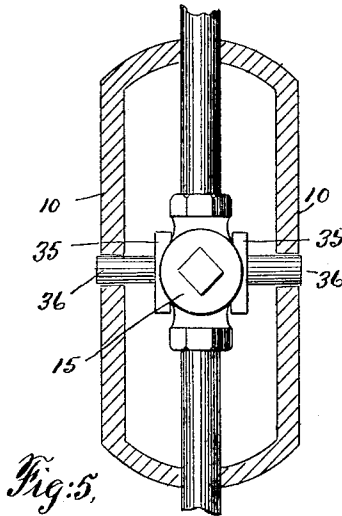
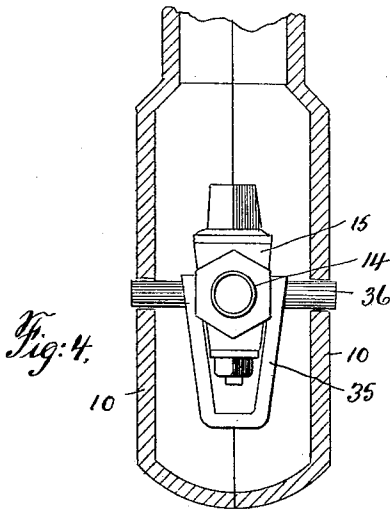
CURB BOX.

APPLICATION FILED FEB. 15, 1912.

1,108,031.

Patented Aug. 18, 1914.

2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## CURB-BOX.

1,108,031.

Specification of Letters Patent.

Patented Aug. 18, 1914.

Application filed February 15, 1912. Serial No. 677,858.

*To all whom it may concern:*

Be it known that we, CLARENCE E. TYLER, of Passaic, Passaic county, New Jersey, and ELMER D. EVERY, of Walton, Delaware county, New York, have invented a new and useful Improvement in Curb-Boxes, of which the following is a full, clear, and exact description.

Our invention relates to improvements in curb boxes such as are set in the ground to afford a convenient below-frost connection with the pipe or main carrying water, gas, or other material, and the invention relates particularly to the class of curb boxes shown in Letters Patent of the United States No. 948,001, dated February 1st, 1910 and No. 961,178, dated June 14th, 1910. The boxes shown in the patents referred to are open to some objections, the chief of which is that the mechanism is rather complicated, and the construction of such a nature as to render the curb boxes too expensive for wide use. Moreover, the mechanism shown in the patents referred to is of such a nature that the valve which is held in the lower part of the curb box may be turned so that its stem will be out of registry with the wrench used to operate it, or if it is perpendicular to the pipe and a separate wrench is used and dropped through the curb box to the valve, there is nothing to check the downfall of the wrench, and this is likely to strike with injurious effect on the stem of the valve. In our invention we have obviated these several difficulties, and further, have produced a curb box which is very easy to make, easy to assemble, and is consequently cheap, and which has the advantage of being readily adjusted to various conditions, which holds the valve in the lower part of the curb box always in the exact position required, and which has means to prevent any injury to the valve by the dropping of a wrench through the stand pipe or its extension. In carrying out these ideas, we have preserved the arrangement at the top of the box which prevents the box being opened and the valve actuated by an unauthorized person, and have improved the cover which is adapted for use where a detachable wrench is employed.

Reference is to be had to the accompany-

ing drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views. 55

Figure 1 is an outside elevation of the complete device. Fig. 2 is a longitudinal section of the same. Fig. 3 is an edge view with the lower part or curb box in section, and the section taken at right angles to that shown in Fig. 2. Fig. 4 is a detail sectional view of the curb box showing a modified means of holding the valve. Fig. 5 is a sectional plan of the structure shown in Fig. 4. Fig. 6 is a detail showing a preferred form of valve holding lug on the wall of the box. Fig. 7 is a cross section through the stand pipe and extension, showing the abutment to receive the blow of the wrench dropped through the pipe. Fig. 8 is a detail sectional view showing a type of cover used where a detachable wrench is employed. Fig. 9 is a detail plan of the plug used in connection with the aforesaid cover. Fig. 10 is a view of a suitable form of detachable wrench. Fig. 11 is a detail inverted plan of the top plate shown in Fig. 8, and Fig. 12 is a cross section of the plate shown in Fig. 11. 60 65 70 75

The curb box is composed of two similar sections 10 merging into a sectional or longitudinally separable stand pipe 11 having meeting flanges 12 which are bolted together, and the parts 10 being secured by bolts 13 passing through them all substantially as shown in the prior patents above referred to. The pipe 14 in which flows the fluid or liquid to be regulated, passes through the curb box as usual, and is provided with a valve 15 which can be of any customary or preferred type, and the stem of which is engaged by the socketed head 16 of the wrench, and as illustrated in Fig. 2, this wrench is extensible to correspond with the extensible nature of the curb box and stand pipe, the wrench having a shank 17 on which slides a sleeve 18, the latter having its lower end squared by simply pressing its four sides inward while the sleeve is heated, thereby preventing the sleeve and shank 17 from turning in relation to each other. The square end of the sleeve 18 receives a square plug 19 which is provided with sockets 19<sup>a</sup>, and the sleeve while heated, is pressed in 80 85 90 95 100

opposite these sockets as shown at 18<sup>b</sup>, forming lugs which grip the sockets and hold the upper end of the sleeve firmly to the plug 19, thus securing an engagement which is positive, and at the same time exceedingly cheap. The upper end of the plug 19 which forms a part of the wrench shown, terminates in a squared head 20 which lies in a socket 21 on the plate 21<sup>a</sup>, and this rests on the flange 22 of the extension pipe 23, this latter sliding in the stand pipe 11, and having an exterior flange 24 to limit its movement in the stand pipe, although of course other equivalent means can be employed for this purpose. The top of the extension pipe 23 is cased in by a cover 25 as shown in the prior patents, and the covers are held in place by bolts 26 and 27, the former passing through the flange 22 and plate 21<sup>a</sup>, while the latter passes through the plate and flange, and the head rests in the socket 28 in the box cover. It will thus be seen that by removing the cover 25, the squared end 20 of the extensible wrench may be reached, and with the special wrench adapted to engage this squared head the valve 15 may be operated.

It is sometimes desirable to have a wrench which is detachable, and in such case the wrench is removed, and the cover reapplied to the box; but as these curb boxes are sometimes quite long, and the wrenches are necessarily heavy having a long shank, when the operator drops the wrench through the stand pipe to reach the valve stem, it will strike the stem with such force as to drive in the stem or break it, or distort or injure the valve. Furthermore, it is difficult to bring the wrench and stem in proper relation. To provide for this we arrange opposed flanges 29 on the inner side and lower end of the pipe 11, although if a single pipe having no extension is used, the flanges may be arranged at a little distance above the valve case on the pipe, and the flanges are spaced apart as shown at 30 so that the wings 31 with which the head 32 of the wrench 33 may be provided, must be brought into registry with the openings 30 before the wrench will drop through and engage the stem of the valve. Thus the wrench is prevented from dropping with too great force, and at the same time it is necessary to bring the parts 30 and 31 into registry, which serves the purpose of centering the wrench above the valve stem.

We have shown and described the peculiar flanges 29 and the winged head of the wrench to pass through, but it will of course be evident that the flanges 29 and the corresponding wrench head may be given any other shapes, without departing from the invention, the essential thing being to have the flanges serve the purpose of abutments and make it necessary to bring the wrench

head into proper registry, before it will drop through to the valve stem.

In the former invention referred to, and in other forms of curb boxes, it has been found that the valve 15 or its equivalent valve or cock, would become turned or tilted or disturbed through the action of the soil or other influence on the pipe 14, thus making it difficult to bring a wrench into registry with the valve stem. To provide against this we have holders in the curb boxes which will engage the valve and hold it in a permanent position with relation to the box. We prefer to use lugs 34 which can be cast directly on the inner walls of the box as shown in Figs. 3 and 6, and the inner surfaces of which can be shaped to engage the valve. It will be seen that these surfaces may be given any configuration so as to engage any preferred type of valve.

Instead of making the valve holding devices permanent and in the form of lugs, a saddle 35 can be used as shown in Figs. 4 and 5, which saddle is adapted to fit the valve in a way to prevent it from turning, and is provided with trunnions or supports 36 which are carried by the walls of the curb box, and which serve the purpose of holding the valve in the right relation to the curb box.

It will be noticed that our curb box is closed at the bottom so that mud, water, or other matter cannot enter the box, and under the action of frost disturb the pipe 14 and disarrange the valve 15, and it follows that the valve centering and holding devices carried directly by the box, always serve their intended purpose.

Where a detachable wrench is used, and removed from the stand pipe after the valve is operated, the type of cover shown in Figs. 8 to 12 may be used to advantage. As here illustrated, the plate 37 is adapted to cover the top of the pipe 23 or its equivalent, and the plate is provided with bolt holes 38 to receive the bolts 26 and 27 above referred to, and with the central opening 39 to receive the plug 40, the latter having a flange 41 which rests on the plate 37, and a squared head 42 by which it may be turned. The plug has at its lower end lateral wings 43 which are adapted to drop through the slots 43<sup>a</sup> in the plate 37, after which the plug may be turned and the wings 43 will slide upon the inclined cam surfaces 44 which are arranged on opposite sides of the opening 39, and are of opposite pitch so that by this arrangement the plug is locked securely in place. When the cover 25 is removed, it is not necessary to remove the plate 37, and the plug 40 can be removed and the wrench 32-33 dropped through the opening 39.

From the foregoing description it will be seen that we have improved the type of curb

box referred to, and that the device which we show is of such construction that the parts can be all cast and cheaply made.

We claim:—

- 5 A curb box comprising a stand pipe having an enlarged portion, a valve in the enlarged portion, said valve having a stem extending above the plane of the upper portion of the enlarged portion, opposed  
10 flanges secured to the inner wall of the stand pipe above the plane of the top of

the stem, and spaced from each other, said flanges forming a stop for a wrench dropped into the stand pipe, and a wrench having projections adapted to pass through the 15 spaces referred to.

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