Dec. 13, 1932. F. C. LE DUC 1,890,618

STOP BOX FOR THE CURB VALVES OF WATERMAINS

Filed Oct. 16, 1930

Fig. 1.

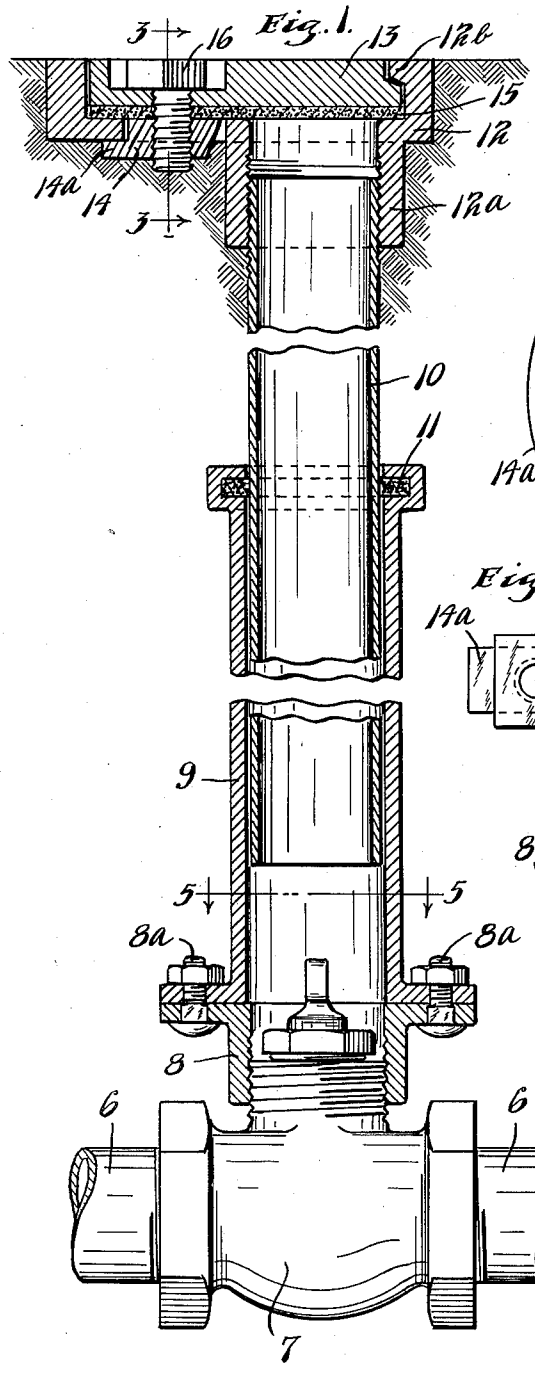


Fig. 2.

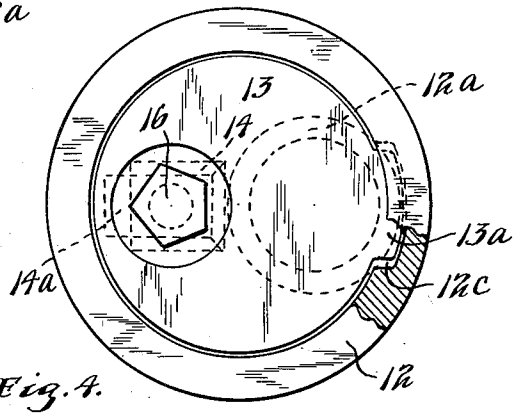


Fig. 4.

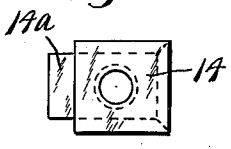


Fig. 5.

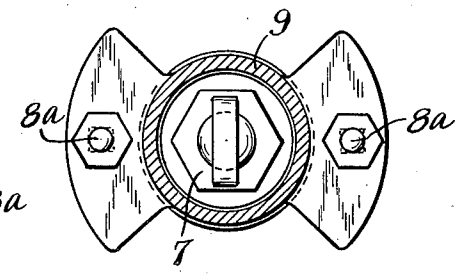
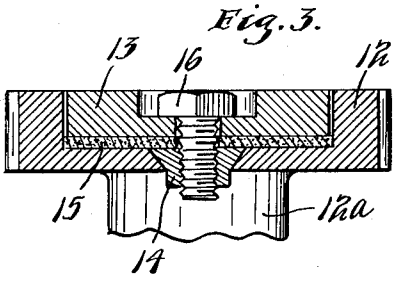


Fig. 3.



INVENTOR.
FRED C. LE DUC.
BY HIS ATTORNEYS
Williamson & Williamson

Patented Dec. 13, 1932

1,890,618

UNITED STATES PATENT OFFICE

FRED C. LEDUC, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CRANE CO., OF MINNESOTA

STOP BOX FOR THE CURB VALVES OF WATERMAINS

Application filed October 16, 1930. Serial No. 489,117.

My invention has for its object to provide an improved stop box for the curb stop valves of watermains; and to this end, my invention consists of the novel devices and combinations of devices hereinafter described and pointed out in the claims.

The accompanying drawing illustrates my invention in its preferred form; and therein, like notations refer to like parts throughout the several views.

Fig. 1 is a view chiefly in vertical section, but with some portions shown in elevation and others broken away, showing my improved devices in working position on a watermain;

Fig. 2 is a top plan view of the parts shown in Fig. 1;

Fig. 3 is a vertical cross section on the line 3—3 of Fig. 1;

Fig. 4 is a plan view of the lipped cover retainer detached; and

Fig. 5 is a horizontal section on the line 5—5 of Fig. 1.

The numerals 6 represent sections of the watermain and the numeral 7 represents a curb stop valve of standard construction connecting the main sections 6. The casing of this stop valve 7 is provided with an upwardly extended nipple which is screw-threaded on its exterior. The numeral 8 represents a flanged screw-threaded coupling sleeve which is adapted to have screw-threaded engagement with said nipple, as clearly shown in Fig. 1 of the drawing. The numerals 9 and 10 represent the sections of a telescoping stop valve box, the numeral 9 being applied to the lower or larger section, and the numeral 10 to the upper or smaller section. The said section 9 is flanged at its lower end and adapted to be bolted to the flange of the coupling sleeve 8 by carriage bolts 8*a*. The carriage bolts have square portions on their stems which engage with square holes in the flange to prevent the bolts from turning when the nuts are applied. At its upper end, said lower section 9 is provided with a grooved head in which is seated a cushion treated packing gland 11 for maintaining a tight joint between the said sections 9 and 10 at all times.

At the curb or ground level, the upper section of the extension stop box is provided with a suitable housing composed of several parts. The main or body portion of this housing is composed of a casting 12 of greater diameter than the diameter of the upper section 10 of the extension box; and this casting is provided with a downwardly extended screw-threaded sleeve-like section 12*a* which has screw-threaded engagement with the threaded upper end of said box section 10. This depending part 12*a* of said casting 12 is located eccentrically in respect to the center of the main casting 12; and because of this fact, there is a portion of the casting 12 which projects laterally beyond the upper end of the box section 10, as clearly shown in Fig. 1 of the drawing. The casting 12 is provided with an upwardly extended flange rim 12*b* which is undercut throughout a small arc to afford an undercut recess 12*c*, as best shown in Fig. 2, for a purpose which will presently appear. The numeral 13 represents a cover adapted to fit within the top recess of the casting 12 formed by its vertical flange 12*b*, and which cover 13 is provided, in one arc thereof with a laterally projecting flange 13*a* adapted to fit within recess 12*c* in the flange 12*b*, as shown in Figs. 1 and 2. The floor of the casting 12 is provided, at a point diametrically opposite the undercut recess 12*c*, with a hole having one flaring wall adapted to seat the head portion of a lipped nut 14 which has a corresponding flaring wall and the lip portion of which, marked 14*a*, is adapted to engage under the adjacent portion of the said casting 12 when the parts are in working position, as shown in Fig. 1 of the drawing. Between the cover 13 and the floor of casting 12 is located an asbestos treated gasket 15 provided with a hole adapted to pass the stem of a headed bolt 16, the stem of which can be made to engage with the nut 14, and by rotation of the bolt, the lip portion 14*a* of the nut 14 can be made to react like a clamping lug against the adjacent portion of the casting 12, and the cover thus be securely fastened to the said casting 12. Then, when it is desired to remove the cover 13 it is only necessary to unscrew the bolt 14,

remove the cover and the gasket, and then make the threaded stem of the bolt re-engage the nut 14 and use the bolt head as a handle to lift the nut 14 outward and upward with a slightly tilting action.

Thus, by an extremely simple device, I am able to get a completely waterproof and reliable cover for the upper end of the upper section 10 of the telescoping extension stop box.

Having regard to the flanged coupling sleeve 8, it is obvious that it can be left permanently on the nipple of the casing of the stop valve 7, and, nevertheless, the extension stop box be removed, at will, by simply taking out the headed bolts which connect the coupling sleeve with the lower section of the box. The bolts used should be made of bronze to avoid injury by rust. Hitherto, so far as I know, the lower end of the lower sections of extension stop boxes were usually screw-threaded on their interior and made to engage the screw-threaded nipple of the valve casing; and, in practice, these parts would become so tight under the effect of rust that it was almost impossible to separate the same without breakage.

The efficiency of my improvements has been demonstrated by actual commercial usage thereof. A large number have already been put into successful use.

It will, of course, be understood, that more or less of the details and the form and proportions of the parts may be varied without departing from the spirit of my invention herein disclosed and claimed.

What I claim is:

1. The combination with a stop valve box, of a housing for the upper end of said box, comprising an upwardly flanged head engageable with the top portion of said box, the upwardly extending flange of said head having an undercut recess therein, a cover fitting said head and provided with a lug disposed within the recess of said flange, a lipped nut, the floor of said head having an opening therethrough within which said nut is received, the walls of said floor adjacent said opening supporting said nut, the upper surface of the lip of said nut bearing against a portion of said head and a headed bolt extending through said cover and having screw threaded engagement with said nut for holding said cover in its closed position.

2. The structure defined in claim 1, the lip of said nut being diametrically oppositely disposed from the lug of said cover.

3. The combination with a stop valve box, of a housing for the upper end of said box, comprising an upwardly flanged head engageable with the top portion of said box, the upwardly extending flange of said head having an undercut recess therein, a cover fitting said head and provided with a lug disposed within said recess of said flange, a lipped nut having upwardly and outwardly flaring walls, the floor of said head having an opening therethrough within which said nut is received, the walls of said floor adjacent said opening being shaped to contact the walls of said nut to support the same, the upper surface of the lip of said nut being adapted to bear against a portion of said head and a headed bolt extending through said cover and having screw threaded engagement with said nut for holding said cover in its closed position.

4. The combination with a stop valve box, of a housing for the upper end of said box, comprising an upwardly flanged head of greater diameter than said box and having a depending portion engageable with the top portion of said box, the flange of said head having an undercut recess therein, a cover fitting within said head and having a lug received within said recess, an under lipped nut having upwardly and outwardly flaring walls, the floor of said head having an opening therethrough shaped to receive and support said nut, the lip of said nut being adapted to engage the floor of said head below the same, and a headed bolt projecting through said cover and having screw threaded engagement with said under lipped nut for holding said cover in its closed position, the lip of said nut being diametrically oppositely disposed from the lug of said cover.

In testimony whereof I affix my signature.

FRED C. LEDUC.