April 23, 1929. N. FORNI 1,710,571

VALVE BOX

Filed July 9, 1925

Fig. 1.

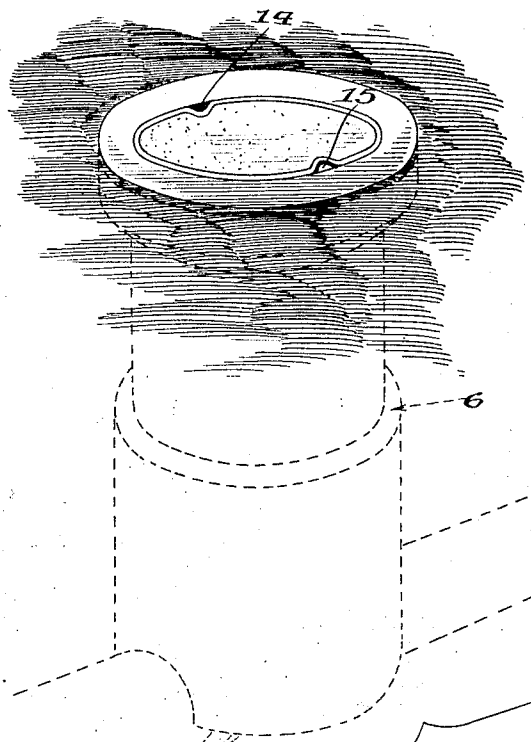
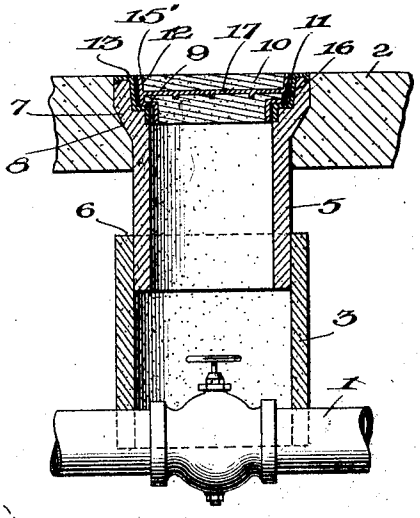


Fig. 2.



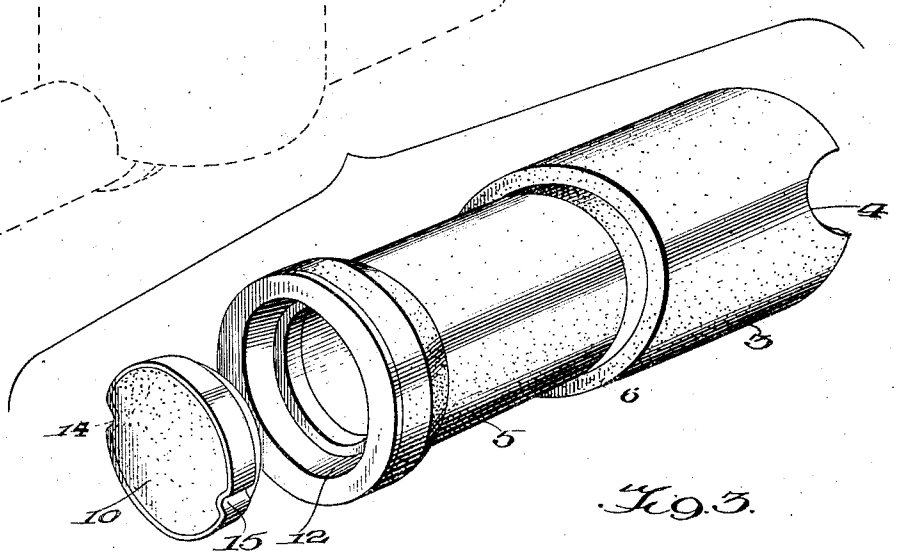


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

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VALVE BOX.

Application filed July 9, 1925. Serial No. 42,615.

This invention relates to concrete valve boxes and proposes the construction of a valve box of the telescopic sectional type, incorporating improved features by means of which the stability of its frictional anchorage to the ground is enhanced without impairing the freedom of relative longitudinal movement between the telescoping sections.

The principal object of the invention is to provide a device of the class described, and vertically interposable between the surface of a street and subterranean pipe line, so constructed that the top thereof will go down with the street, as the latter becomes depressed under the pounding of traffic, so as to remain flush with the street surface, while at the same time, the bottom thereof will remain immovable, so as to avoid imposing injurious stress upon the pipe line, the construction being such as constantly to maintain or increase the frictional grip of the paved layer of the street and the earth strata immediately beneath it, against the sides of the top section of the valve box as the depression of the street progresses, so that the street, along with the sub-adjacent ground layer and the upper section of the valve box are depressed unitarily, without relative longitudinal movement between the sides of the valve box and said street and sub-adjacent ground layers, so that no point is opened between the valve box and contacting surface, into which surface water may seep, undermining said sub-adjacent ground layer and causing breaking of the concrete around the top of the valve box under the stresses of traffic.

Other objects of the invention will appear as the description of and illustrative embodiment thereof proceeds.

In the drawings,

Figure 1 is a perspective view of my improved valve box.

Figure 2 is a vertical section in a diametrical plane.

Figure 3 is a perspective view showing the parts in separated relation.

Referring now in detail to the several figures, the numeral 1 represents a pipe line, 2 being the surface layer of a street. The valve box consists of a lower section or sleeve 3, preferably formed on opposite sides with arcuate cut outs 4 adapted to fit over the pipe line so as to bring the lower end of the valve box about to the level of the axis of the pipe. The upper section 5 telescopes within the lower section, the upper end of the latter forming an annular shoulder 6 surrounding the upper section. The length of the sleeve 3 is preferably such that the shoulder 6 terminates some distance below the paved surface layer of the street.

The upper section 5 is formed at its upper end with a lateral annular flange 7, adapted to be embedded in the material with which the street is surfaced. The under side of the flange 7 forms an annular shoulder 8 which cooperates with the shoulder 6 when the street and upper section of the valve box are depressed under the pressure of traffic, to squeeze together or densify the layer of earth adjacent the sides of said upper section thereby preventing the opening of a point between said earth and the sides of the valve box due to the relative movement of said valve box, into which surface water might seep, undermining the earth and causing the surrounding portion of the street surface to break away or cave in, due to lack of support.

The shoulder 8 is preferably tapered forming a valve joint with the material in which it is embedded, which still further prevents the seepage of surface water along the sides of the valve box. The relatively great overhang of the flange 7 provides ample footing for the upper section of the valve box in the surface material so that it will not be forced below the street level by the weight of traffic. The upper section is formed with an internal annular shoulder 9 upon which the lid 10 rests, said lid being provided with a cooperating external shoulder 11. The coaxial faces 12 and 13 of the upper section and lid respectively, above said shoulders are preferably slightly flared in an outward direction to facilitate removal of the lid, even though the joint between said flared faces may be calked with road dirt. Notches 14 and 15 give access to a prying tool.

The confronting faces of the lid and upper section of the valve box, including the shoulders 9 and 11 are reinforced with iron facings 15 and 16, the latter extending over the exposed surface of the upper end of the section 5. Said facings are suitably embedded in the concrete and not only strengthen those parts of the valve box which are subject to the direct blows of traffic, but they afford a substantially dust and water proof joint between the shoulders 9 and 11. The

lid may be provided with suitable metallic reinforcement such as the cross bar 17.

While I have illustrated and described what I know to be a practical embodiment of my invention, it is to be understood variations may be made in the structure and arrangement of the parts without departing from the scope of the invention as defined in the appended claim.

I claim:

A valve box vertically interposable between the surface of a street and a subterranean pipe line, comprising a lower section in the form of a sleeve having cutouts at one end to straddle a pipe in connection with which it is to be used, an upper section telescoping within the lower section and having a head at its upper end to be embedded in the street surface, said head having a straight up and down outer face for a portion of its length merging at its lower end into a downwardly inclined shoulder to cooperate with the upper edge of the lower section to form an earth densifying packer between the said shoulder and edge when the pressure of traffic is exerted on the head thereby preventing openings in the earth at the sides of the valve box, said inclined shoulder also being adapted to form a joint in the material in which it is embedded.

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