May 7, 1929. L. GSCHWIND 1,712,267

MANHOLE, VALVE BOX, AND THE LIKE

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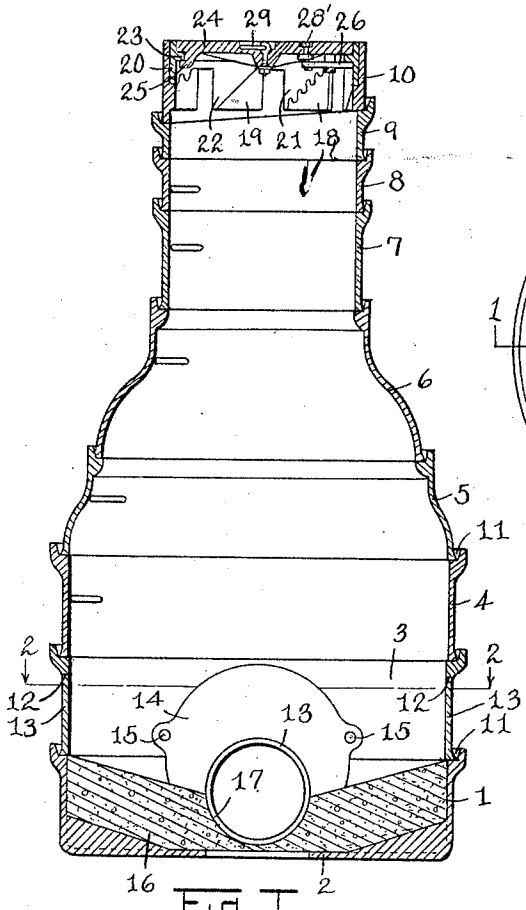


Fig. I.

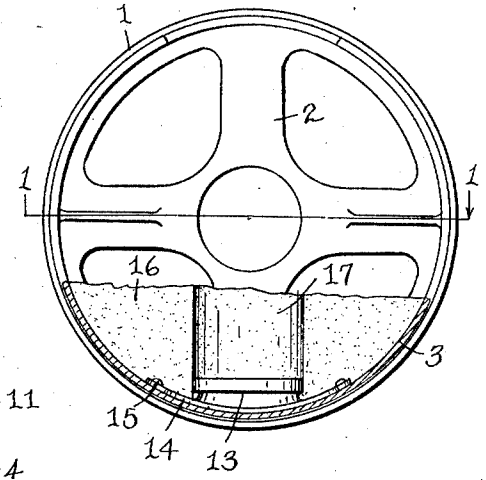
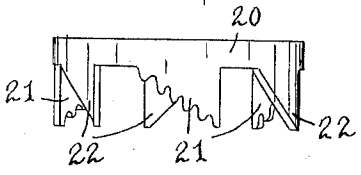


Fig. II.



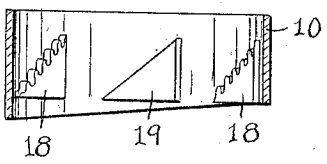


Fig. IV.

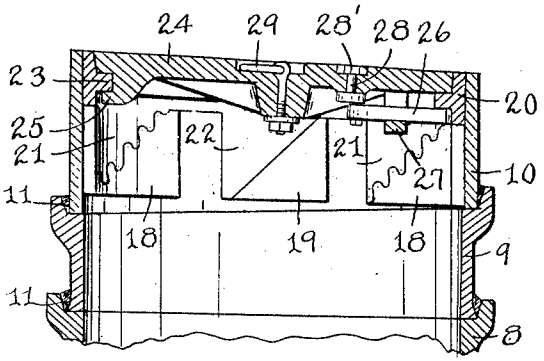


Fig. III.

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MANHOLE, VALVE BOX, AND THE LIKE

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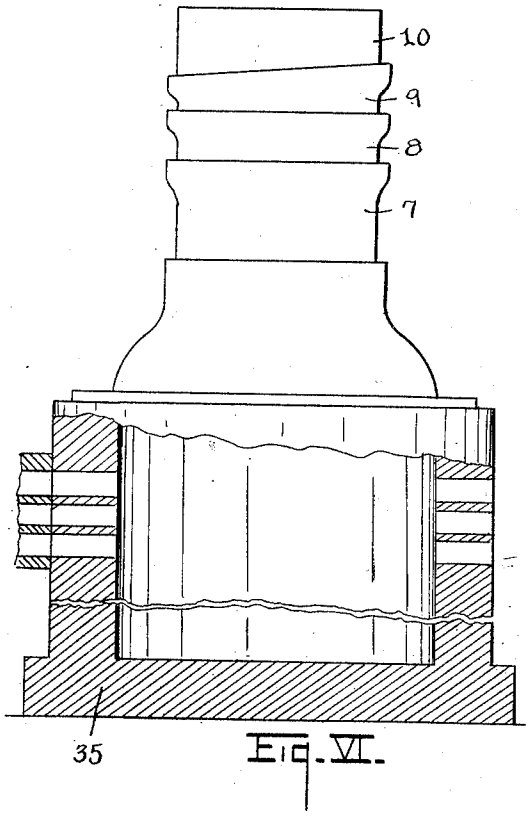


Fig. VI.

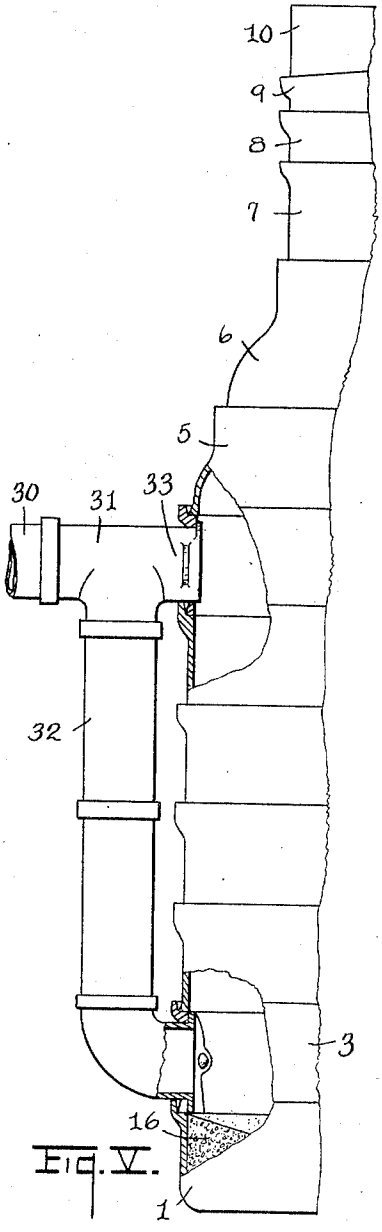


Fig. V.

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Patented May 7, 1929. 1,712,267

UNITED STATES PATENT OFFICE.

LEON GSCHWIND, OF YOUNGSTOWN, OHIO.

MANHOLE, VALVE BOX, AND THE LIKE.

Application filed October 9, 1924. Serial No. 742,646.

This invention relates to improvements in manholes, valve boxes and the like.

The main objects of this invention are:

First, to provide an improved manhole or valve box in which the cover may be easily adjusted to variations in the pavement or the surface in which it is set to secure proper level for the cover or to incline the cover to correspond with the pavement or surface.

Second, to provide an improved manhole or valve box which is easily set or positioned.

Objects pertaining to details and economies of my invention will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing forming a part of this application, in which:

Fig. I is a vertical central section on a line corresponding to line 1—1 of Fig. II of a manhole embodying the features of my invention.

Fig. II is a detail view partially in horizontal section on a line corresponding to line 2—2 of Fig. I.

Fig. III is an enlarged detail view corresponding to that of Fig. I with the parts adjusted to incline the cover.

Fig. IV is a detail view of the top manhole section and the top supporting member disassembled, the top manhole section being shown in vertical section.

Fig. V is a fragmentary view partially in section showing the connections for a conduit discharging to the manhole.

Fig. VI is a side elevation, partially in vertical section, of my improvements as embodied in a valve box.

In the drawing the sectional views are taken looking in the direction of the little arrows at the ends of the section lines and similar numerals of reference indicate similar parts throughout the several views.

Referring to the drawing, the manhole illustrated in Fig. I comprises a base section 1 having a skeleton or spider-like bottom 2 on which is superimposed a pair of cylindrical sections 3 and 4 and reducing sections 5 and 6 having a general upward taper.

Above the sections 6 are sections 7, 8, 9 and 10, these sections having joint flanges 11 at their upper edges adapted to receive the lower edge of the superimposed section.

The section 3 has openings 12 therein provided with closure plates 13, these closure plates being connected to the inner sides of the sections by joints that are easily fractured so that the workman may open the openings 12 by breaking away the closure plates. As many of the sections 4, 7 and 8 are employed as desired to secure a manhole of the required depth.

On the inside of the bottom section I provide a conduit coupling 13, this coupling having a flange 14 of substantial width overlapping the section 3 and secured thereto as by the rivets 15. The concrete bottom 16 is molded into the bottom section and has a channel 17 molded therein forming a lead passage to the coupling 13 to which the discharge conduit is connected.

By forming the bottom of the bottom section as a spider or skeleton the section is greatly reduced in weight for handling and may be easily set, the concrete being molded therein providing a suitable bottom.

The coacting edges of the superimposed sections 9 and 10 are inclined relative to the axis thereof so that by rotating the top section the cover carried thereby may be inclined as indicated in Fig. III, thus adapting the same to the pavement or surface in which the manhole is set.

To accurately adjust the height of the cover relative to the pavement or surface, I provide the top section 10 with a plurality of rests 18 and 19, these rests having inclined upper surfaces and the upper surface of the rests 18 being toothed or notched. The cover supporting member 20 is rotatable within this top section 10 and has inclined surfaces 21 and 22 coacting with the surfaces 18 and 19, respectively, the surface 21 being toothed to correspond to the teeth of the rests 18 so that the cover supporting member is retained in its adjusted positions and may be raised according to the surface of the pavement or other surface in which the manhole is set.

In Figs. I and III the supporting member 20 is shown in its lowest position. The cover supporting member 20 is provided with an internal rib or ledge 23 for the cover 24. This cover has a lug 25 at one side adapted to en-

gage under the ledge when the cover is in closed position.

Opposed to this lug is the locking bolt 26. This bolt is supported by the depending loop 27 on the under side of the cover and the crank 28 which is disposed through the cover and provided with a non-circular head 28′ adapted to receive a wrench so that the bolt can be manipulated from the outside of the cover. The cover is provided with a ring 29 adapted to collapse into a recess in the cover as shown in the drawings.

With this arrangement of parts the cover is effectively secured and at the same time may be released by one having the proper tool. By providing the sections 9 and 10 with inclined coacting edges the cover may be supported in a horizontal position or properly inclined to correspond with the inclination of the pavement or surface in which the manhole is set. By providing the adjustable cover supporting member, the cover may be quickly adjusted to grade.

In Fig. V, I show the inlet conduit 30 connected by the T coupling 31 to the delivery pipe 32 which discharges into the main or adjacent the bottom thereof, the arm 33 of the T coupling opposite the conduit 30 being disposed through one of the conduit sections so that a direct opening is provided to the conduit for the purpose of cleaning.

In Fig. VI, I show my improvements adapted as a valve box, the base 35 having openings therein adapted to receive a plurality of pipes, the pipes not being shown in the drawing. This illustrates the adaptation of the sections 9 and 10 to structures other than manholes, as that term is generally understood. Structures embodying the features of my invention are well adapted for use as manholes or as valve boxes and the same may be readily installed in connection with drain or sanitary sewers or water distribution systems.

I have illustrated and described my improvements in embodiments or adaptations thereof which I have found very practical. I have not attempted to illustrate or describe certain other embodiments or adaptations as I believe the disclosure made will enable those skilled in the art to embody or adapt the same as may be desired.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A structure of the class described, comprising a base section having a flanged seat at its upper edge and a skeleton bottom, said base section having a conduit opening in the side thereof, a superimposed section disposed in said seat, a conduit coupling member disposed within said base section to register with said conduit opening, said coupling having a flange overlapping and secured to the inner side of the superimposed section, and a concrete bottom molded within said base section and having a channel therein into which said coupling member projects.

2. A structure of the class described, comprising a base section having a flanged seat at its upper edge and a skeleton bottom, said base section having a conduit opening in the side thereof, a conduit coupling member disposed within said base section to register with said conduit opening, and a concrete bottom molded within said base section and having a channel therein into which said coupling member projects.

In witness whereof I have hereunto set my hand.

LEON GSCHWIND.