

UNITED STATES PATENT OFFICE.

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COMBINED MANHOLE AND JUNCTION-BOX.

SPECIFICATION forming part of Letters Patent No. 791,289, dated May 30, 1905.

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To all whom it may concern:

Be it known that we, LYMAN C. REED and ALEXANDER H. McCOMISKEY, citizens of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in a Combined Manhole and Junction - Box, of which the following is a specification.

This invention relates to what we shall term a "combined manhole and junction-box;" and the object of the invention is to provide a simple and effective device of this character wherein the junction-box chamber is readily interiorly accessible independently of the manhole, by reason of which a workman can reach the cables or other parts disposed within said chamber without entering the manhole, which is an important consideration when the latter is filled with water or obnoxious gases. We provide a construction wherein the manhole is of materially-reduced size compared with those now generally in use and in this way effect a saving in the cost of construction of the article.

In that adaptation of the invention which we have selected for convenience of illustration in the accompanying drawings, forming a part of this specification, the manhole and junction-box have independent covers, which may be of any desired shape, though they are represented as of circular form. These covers are independently removable, so that the junction-box cover can be lifted off to reach the interior of the chamber in which the cables are joined without lifting the manhole-cover. Both covers are readily reached from the street.

We desire to state at this point that we do not limit ourselves to the illustration made, for material variations may be adopted within the scope of our claims succeeding the following description of the illustration.

Referring to the drawings, Figure 1 is a cross-sectional elevation of a combined manhole and junction-box involving our invention. Fig. 2 is a plan view of the same with half of the manhole and junction-box covers removed.

Like characters refer to like parts throughout both views.

The device constituting the subject-matter of the present case may be formed in the main in any desirable way and of any suitable shape. Ordinarily the main portion thereof is made by casting.

The manhole-wall is designated by 5, and it is represented as being of annular form and of reduced diameter at its upper portion to provide an external circular ledge, as 6, upon which the inner edge of a water-tight cap for the junction-box chamber hereinafter described rests. The cover for the manhole, surrounded by the annular wall 5, is indicated by 7, it resting upon the upper edge of the wall 5 and having a depending flanged or beaded portion 8 to hold it in place. The flanged or beaded portion 8 fits snugly within the top of the wall 5, the rim of the cover resting on the upper edge of said wall. Concentric with the wall 5 is a second wall 9, the upper portion of which is of greater diameter than the lower to produce a ledge 6' complementary to the ledge 6, upon which the cap 10 for the junction-box chamber 11 is sustained, said cap 10 being removably held in place by two concentric annular series of studs, as 12, passing through correspondingly-situated perforations in the cap 10 and tapped into the lateral offset portions of the concentric walls 5 and 9.

From the outwardly extending or enlarged portion of the wall 10 a horizontal flange 13 projects, said flange presenting in the present case peripheral means on said wall for supporting the combined manhole and junction-box and being adapted in practice to rest upon the brickwork or equivalent structure, from which a well into which electric cables, wires, or the like lead is formed. The flange 13 is below the tops of the concentric walls 5 and 9, said tops being so situated that when the manhole and junction-box covers rest thereon the latter will be flush, or practically so, with the street. The presence of the two walls 5 and 9 produces the annular chamber 11, constituting the junction-box chamber, and this

chamber in turn may be subdivided by partitions 14 into a number of compartments in which the cables may be joined. Two diametrically opposite partitions, which we will designate as 14^a to distinguish them from the others, are represented as being higher than the remainder, their upper edges being coincident with the upper faces of the ledges 6 and 6', this being for the purpose of stiffening the box and dividing the chamber 11 into two parts. Any number of compartments can be made in a similar manner.

The bottoms of the walls 5 and 9 are joined by a web in which tapped perforations are formed to receive the upper externally-threaded ends of nipples 15 of suitable material. The cables are led through these nipples and are joined in the junction-chamber 11 or any desired auxiliary chambers or compartments thereof in any desirable way. When the device is installed, the lower ends of the nipples are covered by threaded caps, as 16, by removing which the cables drawn from conduits into the interior of the well or chamber covered by the manhole can be introduced into said nipples and projected upward into the cable-receiving portion of the junction-box chamber to be joined therein, as may be necessary. When the cables are passed through the nipples, they are held therein by a wiped joint between the same and the nipples or sleeves to prevent leakage.

The cover for the junction-box is denoted by 17, it resting on the upper edges of the walls 5 and 9. Said cover 17 is of annular form and has a depending flange of similar shape centrally of its width and held in place by the upstanding marginal flange 18 of the wall 9, the top of said flange 18 being flush or substantially flush with the covers 7 and 17.

Outlet-cocks, as 19, extend from the bottom of the chamber 11 and serve as a convenient means for drawing off the oil that may have been used in insulating the cables within the said chamber. The widened space above the cap 10, constituting part of the junction-box chamber and located above the cable-chamber 11, drains its moisture—for example, by way of one or more perforations, as 20, formed in the wall 5—into the manhole.

To provide absolutely for a water-tight joint between the cap 10 and the ledges 6 and 6', upon which the same rests, we interpose between the same packing-rings, as 21, adapted to be fitted in suitably-formed channels or seats in the adjacent faces of said parts. The cap 10 is provided at a suitable point with an air-vent, as 23, serving its customary function.

It will be apparent upon an inspection of the drawings, taken in connection with the foregoing description, that a workman does not have to enter the manhole to reach the cable-chamber 11 in order to make cable connections in the latter, which is one of the principal features of our invention and which is

advantageous, being especially so should the manhole be full of water or obnoxious gases. In such an event as the latter the workman could not reach the cables in the junction-box chamber in order to repair or join the same or for any other purpose.

We provide, as will be apparent, independent covers for the manhole and junction-box, while at the same time we prevent the access of moisture to the cables within the cable-chamber. Any water that may lodge in the space or chamber above the cable-chamber cap is led off therefrom and delivered into the manhole.

The device can be readily and inexpensively made.

The wires or cables leading into the junction-box may be of any kind, and they may be joined or united in any desirable way, these being immaterial matters.

It will be obvious from an inspection of the drawings that our invention is in the nature of an article of manufacture adapted to be placed over or upon a vault or other chambered structure; and it consists of a combined manhole and junction-box having a cable-receiving chamber interiorly accessible independently of the manhole, said manhole being bottomless to provide for ready access through the manhole to the interior of the vault or equivalent chamber. In the present instance we have secured the advantage in question by making the bottom of the inner chamber bounded by the inner wall 5, hereinbefore particularly described, open. In other words, the inner chamber is bottomless to provide for free and unobstructed passage entirely therethrough.

Having thus described our invention, what we claim is—

1. As an article of manufacture adapted to be placed over a vault, a combined manhole and junction-box having a cable-receiving chamber interiorly accessible independently of the manhole, said manhole being bottomless to provide access to the vault.

2. As an article of manufacture, a combined manhole and junction-box involving inner and outer walls, the space between which constitutes a cable-receiving chamber accessible independently of the space or chamber surrounded by the inner wall, the bottom of the inner chamber being open.

3. As an article of manufacture, a combined manhole and junction-box involving separately-accessible inner and outer chambers, the bottom of the inner chamber being open, and independent covers for said chambers.

4. As an article of manufacture, a combined manhole and junction-box involving inner and outer walls, the space between which constitutes a cable-receiving chamber, accessible independently of the space or chamber surrounded by the inner wall, the bottom of the inner chamber being open, and independent

covers supported on said walls, in a substantially common plane.

5. A device of the class described involving inner and outer walls, the space between the walls constituting a cable-receiving chamber, independent covers resting on the walls, and a cap for the cable-receiving chamber removably held in place below said covers.

6. A device of the class described involving inner and outer walls, separated to provide a cable-receiving chamber and having on their opposing faces ledges located below their upper edges, independent covers supported by said upper edges, and a cap removably associated with said ledges.

7. A device of the class described involving inner and outer walls, the outer wall being externally flanged and said walls being separated to provide a cable-receiving chamber, independent covers supported by said walls, and a cap removably mounted in place in the space between said walls, and closing said cable-receiving chamber.

8. As an article of manufacture, a combined manhole and junction-box comprising separated inner and outer chambers, the inner chamber being bottomless and the outer chamber being interiorly accessible independently of the inner chamber and provided with a bottom having openings through which cables may be led into the interior of said outer chamber.

9. A device of the class described involving inner and outer walls, the inner wall having

perforations to provide for the passage of moisture from the space between the walls, said space having a cable-receiving chamber, independent covers supported by the tops of the walls, and a cap for the cable-receiving chamber, removably mounted in the space between the walls and below said covers.

10. As an article of manufacture, a combined manhole and junction-box comprising separated inner and outer chambers, the inner chamber being bottomless and the outer chamber being interiorly accessible independently of the inner chamber and provided with a bottom having tapped perforations, and threaded nipples fitted into said perforations and arranged to removably receive caps at their lower ends.

11. A device of the class described involving inner and outer walls, the space between said walls constituting a cable-receiving chamber, and said chamber being accessible independently of the space contained within the inner wall, and the outer wall having a flange constituting a supporting means for the device.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

LYMAN C. REED.

ALEXANDER H. McCOMISKEY.

Witnesses:

WILLIE KROPP,

L. C. SPENCER.