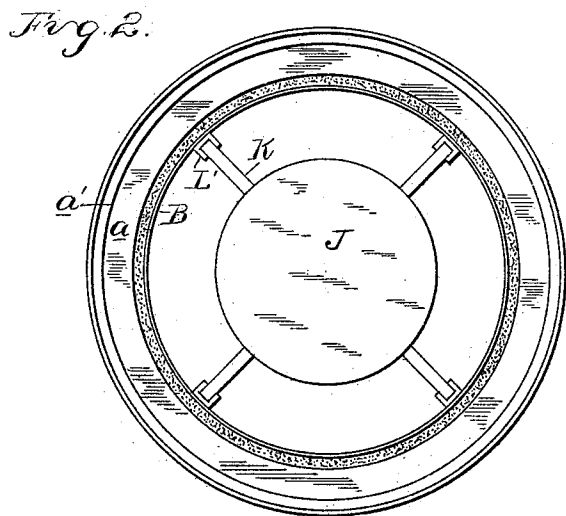
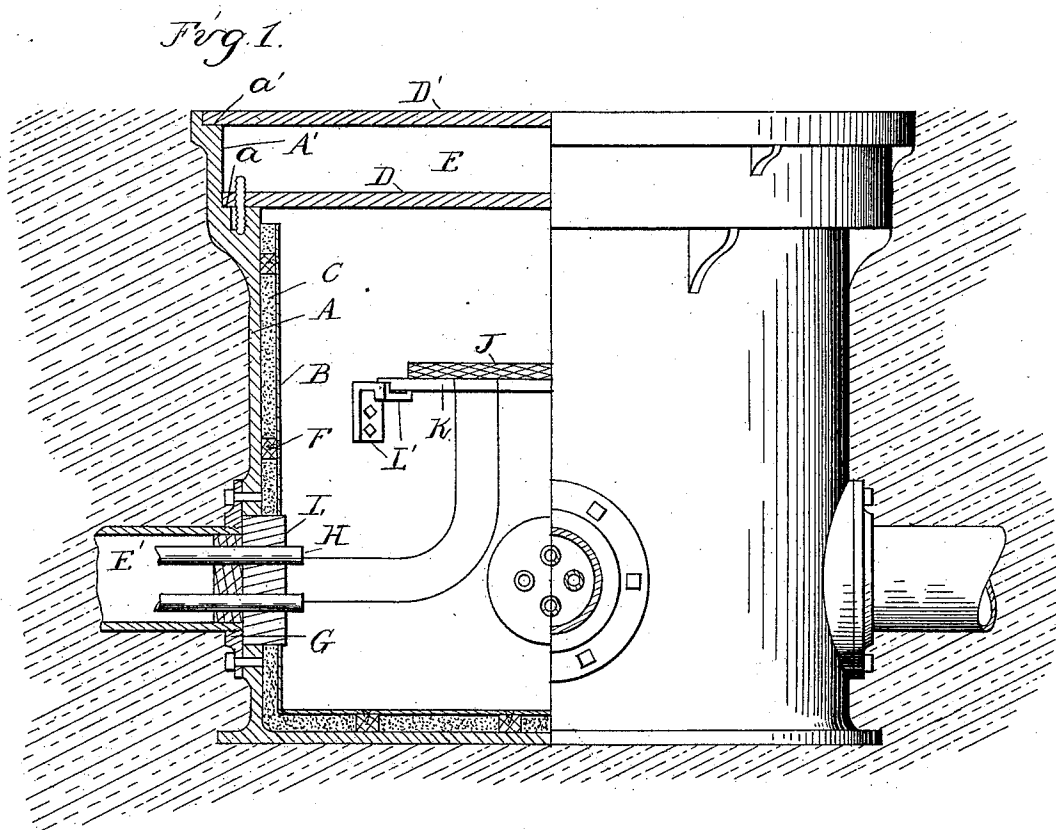


(No Model.)

J. F. CUMMINGS.
MANHOLE FOR UNDERGROUND CONDUITS.

No. 543,613.

Patented July 30, 1895.



Witnesses
C. J. Whittemore
A. C. Hobby

Inventor
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By *M. S. Maguire* Atty.

UNITED STATES PATENT OFFICE.

JAMES F. CUMMINGS, OF DETROIT, MICHIGAN, ASSIGNOR TO THE CUMMINGS & ENGELMAN CONDUIT COMPANY, OF SAME PLACE.

MANHOLE FOR UNDERGROUND CONDUITS.

SPECIFICATION forming part of Letters Patent No. 543,613, dated July 30, 1895.

Application filed November 6, 1894. Serial No. 528,028. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. CUMMINGS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Manholes for Underground Conduits, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The principal object of the invention is to construct a manhole so that the connections of the different wires on the switchboard can be made with greater safety and convenience than heretofore, all as more fully hereinafter described, and specifically pointed out in the claim.

In the drawings, Figure 1 is a vertical central section of the manhole. Fig. 2 is a plan thereof with the covers removed.

20 The manhole comprises two cylindrical flat-bottomed boxes A B, placed one within the other and separated from each other by a space C, which is filled with an insulating compound of tar, asphaltum, or other like material, which may be poured into the space in a liquefied condition and hardens on cooling. The outer box A is of cast-iron and is provided with an enlarged top section A', which extends above the inner box and forms two annular seats a a' for two covers D D' to seat on, with an air-space E between them. The cover D is secured in place by bolts and is adapted to be secured with a water-tight joint. The upper cover may be secured in the usual manner of securing street-covers. The outer and inner boxes are also provided with corresponding circular openings at the places where the conduits E' connect with the manhole.

40 The inner box B may be made of steel plate, with insulating spacing-lugs F secured to it in any suitable manner, so that in building the manhole the outer box may first be put into the ground and then the inner box placed into it and the compound run into the space between.

50 The preferable way of joining the conduits with the manhole is by securing to the end of the conduit E' (which is here represented in its most common form as of tubular shape) a flange G, which is formed to fit the outer box,

and then bolt the flange to it, the box being constructed of increased thickness around the aperture, so as to permit the use of tap-screws from the outside.

55 The wires are entered into the manholes in any suitable manner which will insure a water and air tight joint. In the drawings, wherein the conduit E' contains a series of small tubes H, which are secured by an insulating compound in the tube E' and separately inclose the individual wires, a large plug L of insulating material or of wood saturated with oil is inserted into the apertures of the two boxes, so as to tightly plug it up, and the individual tubes H are left to project through holes in the plug.

70 J represents the switchboard, on which the connections are made in the usual manner. The switchboard is preferably made of circular shape and supported, with a clear space around the outer edge, on the spider-frame K free of the box. The spider-frame K is in turn supported upon brackets I', secured in any suitable manner to the inner wall of the box B. The wires are freely suspended between the switchboard and between the ends of the individual tubes of the conduit. By this construction it will be seen that a gas, air, and moisture proof box is obtained in a very simple and substantial manner, while at the same time any inconvenience of working at the switchbox and the connections is done away with, as it will be seen that by removing the two covers the switchboard is exposed to the fullest daylight. It may be even lifted to the top of the box, provided sufficient slack is given in the wires, so that the best facility is given to work at full daylight without resorting, as heretofore, to artificial light, which, for obvious reasons, is dangerous in such manholes. Furthermore, the linemen are guaranteed absolute safety, as the inner box with its switchboards is absolutely separated from any connection with the ground and with ample facility to examine and make connections, testing the wires, &c.

* What I claim is—

100 In a man-hole for electric conduits, the combination of the cylindrical outer box A provided with the enlarged top A', formed with a plurality of seating flanges the covers D D'

supported by said flanges, the inner box B supported by insulating studs F within the outer box, the insulating material C contained between the walls of the boxes and the removable switchboard freely supported from the walls of the inner box centrally near its top, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES F. CUMMINGS.

Witnesses:

M. B. O'DOHERTY,
L. J. WHITEMORE.