

# UNITED STATES PATENT OFFICE.

THOMAS P. GREGER, OF PHILADELPHIA, PENNSYLVANIA.

## MANHOLE-COVER.

SPECIFICATION forming part of Letters Patent No. 525,101, dated August 28, 1894.

Application filed December 11, 1893. Serial No. 493,299. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS P. GREGER, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Manhole-Covers, of which the following is a specification.

The principal object of my present invention is to provide a neat, attractive and comparatively inexpensive man-hole cover the parts of which are firmly secured against displacement so they do not rattle or otherwise interfere with the continuity of the pavement, street or roadway, and to this end my invention consists in the improvements hereinafter fully described and pointed out in the claim.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof and in which—

Figures 1 and 3, are transverse central sections respectively illustrating a man-hole-cover embodying features of my invention in application to one type of man-hole, although other types of man-holes might have been used, for the purposes of illustration. Figs. 2 and 4, are respectively top or plan views of Figs. 1 and 3, and Fig. 5, is a detail view illustrating a modification of my invention.

In the drawings *a*, is one type of man-hole that may be employed in connection with a sewer, electric conduit, stop or valve of water or gas mains, coal-hole, vault or for any other purpose requiring an opening in the footway, street, or highway. This type of man-hole is illustrated for purposes of description, and I wish it to be distinctly understood that any other type of man-hole may be employed in connection with my invention.

*b*, is the paving of the foot-way, side-walk, street, roadway, or highway and may comprise bricks, stones, or Belgian blocks, as illustrated in Fig. 3, or asphalt, granolithic material, or other suitable or preferred substance, as illustrated in Fig. 1, the material with which the roadway is paved not being of the essence of the invention.

As illustrated in the drawings, *c*, is a rim, seat or support located at or near the mouth

or entrance of the man-hole, and having its exterior downwardly tapered for purposes to be hereinafter explained. However, the material, form or construction of the rim or seat is immaterial.

*d*, is my improved man-hole-cover recessed or hollowed out at its upper surface and filled with the paving or surfacing material *b*. This man-hole-cover *d*, may be round as shown in Figs. 1 and 2, or square as shown in Figs. 3 and 4, or of any other shape adapted to fit the rim or seat inserted in the mouth or entrance of the man-hole, as has been already described. Moreover the exterior of the man-hole cover is externally and downwardly tapered from its top to its bottom or in other words, is of the form of a frustum of a cone or pyramid, so that it may be fitted into the correspondingly tapered conical seat or rim *c*, and supported therein by its conical walls, thus insuring a tight joint that prevents the passage of water which is very important in electrical work and also preventing rattling.

In practice dust and the like works in at the top and between the tapered surfaces, thus constituting as it were a grouting between the same which insures peripheral support and tightness without interfering with the removal of the man-hole-cover. It may be remarked that this result is insured by the absence of a rim or the like projecting from the periphery of the cover, and the absence of such a rim is also advantageous because it permits of the presentation of a minimum of metal in the pavement as has been stated.

In Fig. 1, the peripheral edge of the man-hole-cover is provided with a bead or projection *d'*, extending inward toward the center thereof, the object being to insure the retention and protection of paving material, such for example as asphalt, or granolithic substance, however, the bead or projection *d'*, may be dispensed with as illustrated in Fig. 3, in which case the paving material shown is stone or brick.

For convenience in removing the man-hole-cover, I may provide a ring *e*, secured to place by means of an eye bolt *e'*, passing through the man-hole-cover and retained by means of a nut *e''*, or otherwise; and a recess as *e''*, may be provided for the accommodation of the ring *e*, in order to prevent the latter from pro-

jecting above the general level of the surface of the high-way or foot-way in which the man-hole is located.

In use the hereinabove described man-hole-  
 5 cover presents a minimum of metal upon the surface of the highway or footway and by filling its hollowed out or counter sunk face with material like that employed for the high-  
 way or footway, the continuity of the surface  
 10 or paving of the latter is practically uninterrupted. Moreover it will be readily understood that the paving material may be applied to the top of the marginal portions of the man-hole-cover, as illustrated in Fig. 5,  
 15 or if required the face of the man-hole-cover may be provided with more than one hollowed out portion for the reception of paving material, without departing from the true spirit of my invention. Moreover the exter-  
 20 nally and downwardly tapered portion of the upwardly projecting bearing, by reason of its inclination is snugly hugged by the surrounding or adjacent pavement and its foundation, Figs. 1 and 3, and whereby the adjacent pave-  
 25 ment is protected and whereby the rim or seat is as a whole held firmly and securely to place; and as has been already stated, the cover is firmly held to the rim or seat by reason of the form of these parts; consequently  
 30 it follows that all the parts of the device are firmly held to place whereby rattling is obvi-

ated and whereby the rim or seat is prevented from displacement, such as often occurs and such as causes the pavement to recede from the top edge of the rim or the top edge of the  
 35 rim to project above the surface of the pavement.

Having thus described the nature and characteristic features of my invention, what I claim as new, and desire to secure by Letters  
 40 Patent, is—

The combination in a highway or footway pavement of, a dished man-hole cover filled with paving material and having a smooth  
 and uniformly tapered peripheral surface,  
 45 and a rim or seat located at the entrance of the man-hole and provided with an upwardly projecting internally and externally tapered bearing which by reason of its form not only  
 retains the cover, but also snugly hugs the  
 50 adjacent pavement and its foundation whereby the rim or seat is firmly and securely held to place, and whereby the adjacent edge portion of the pavement is protected, substantially as described.  
 55

In witness whereof I have hereunto subscribed my name.

THOMAS P. GREGER.

In presence of—

K. M. GILLIGAN,  
 A. B. STOUGHTON.

T. P. GREGER.  
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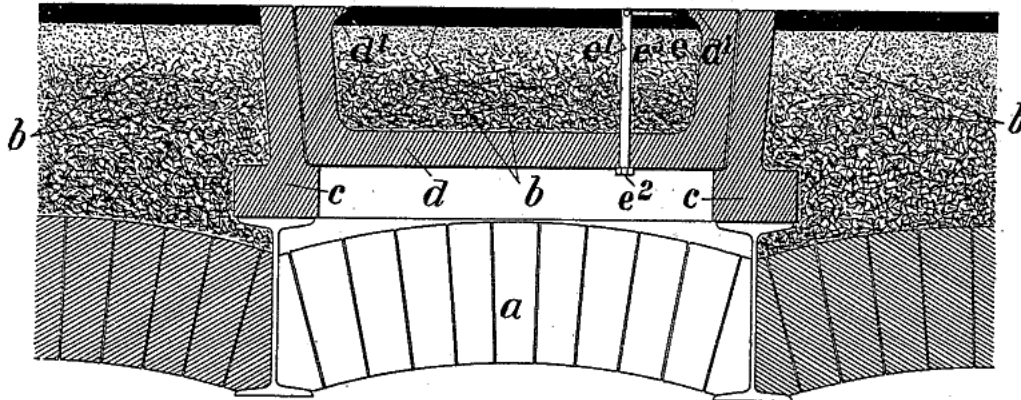


Fig. 1

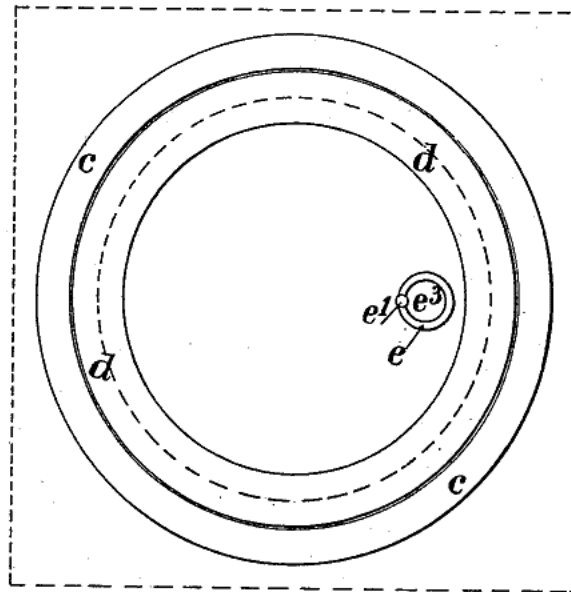


Fig. 2

WITNESSES :

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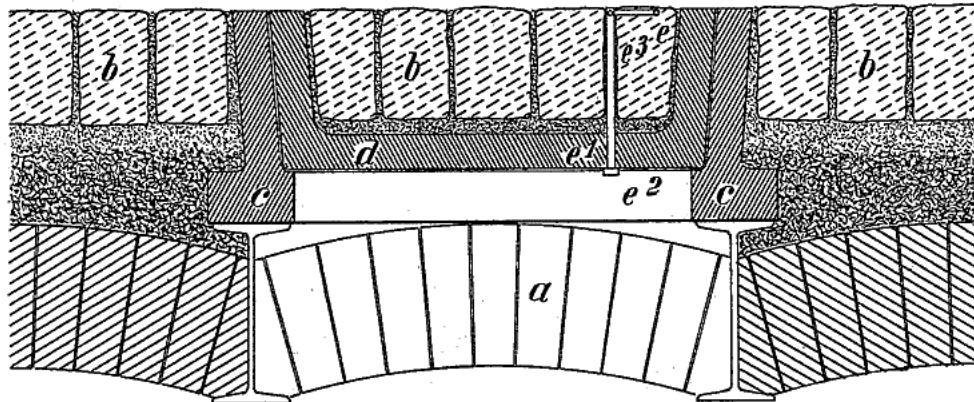


Fig. 3

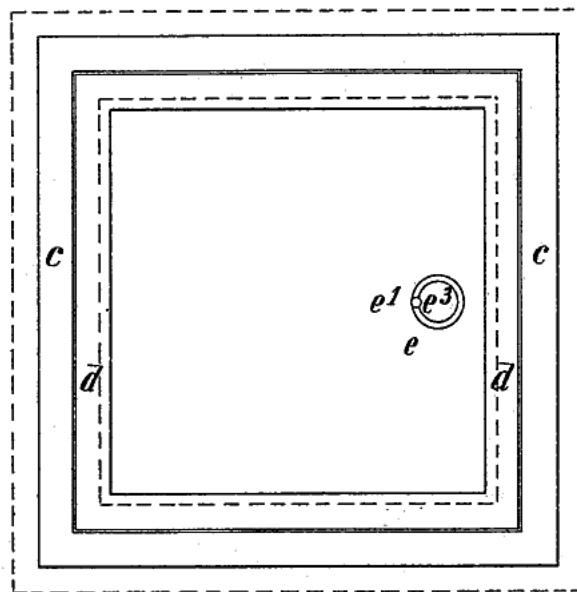


Fig. 4

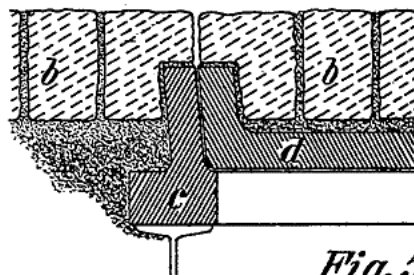


Fig. 5

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