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 2, 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. 3 and 4, are respectively top or plan views of Figs. 1 and 2, 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 e. 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 corresponding conical seat or rim f, and supported thereby 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 g, 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 g, may be dispensed with as illustrated in Fig. 2, 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 h, passing through the man-hole-cover and retained by means of a nut i, or otherwise; and a recess as j, 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-
cover presents a minimum of metal upon the
surface of the high-way or foot-way and by fill-
ing its hollowed out or counter sunk face
with material like that employed for the high-
way or foot-way, the continuity of the surface
or paving of the latter is practically uninter-
rupted. Moreover it will be readily under-
stood that the paving material may be ap-
plied to the top of the marginal portions of
the man-hole-cover, as illustrated in Fig. 5,
or if required the face of the man-hole-cover
may be provided with more than one hol-
lowed out portion for the reception of paving
material, without departing from the true
spirit of my invention. Moreover the exter-

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nally and downwardly tapered portion of the
upwardly projecting bearing, by reason of its
inclination is snugly hugged by the surround-
ing or adjacent pavement and its foundation,
Figs. 1 and 3, and whereby the adjacent pave-
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 rea-
son of the form of these parts; consequently
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
rim to project above the surface of the pave-
ment.
Having thus described the nature and char-
acteristic features of my invention, what I
claim as new, and desire to secure by Letters
Patent, is—
The combination in a high-way or foot-way
pavement of, a dished man-hole cover filled
with paving material and having a smooth
and uniformly tapered peripheral surface,
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
adjacent pavement and its foundation where-
by the rim or seat is firmly and securely held
to place, and whereby the adjacent edge por-
tion of the pavement is protected, substan-
tially as described.
In witness whereof I have hereunto sub-
scribed my name.

THOMAS P. GREGER.

In presence of—

K. M. GILLIGAN,

A. B. STOUGHTON.