May 31, 1927. 1,630,557

W. J. WOODROW

COVER FOR MANHOLES

Filed Oct. 29, 1926

Fig. 1.

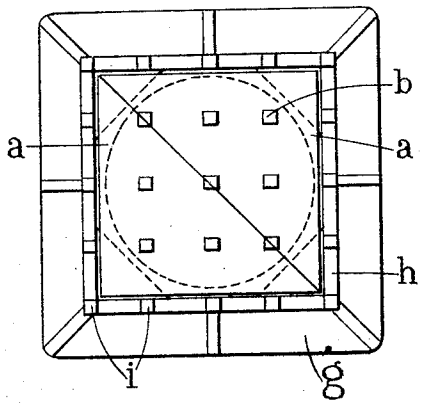


Fig. 4.

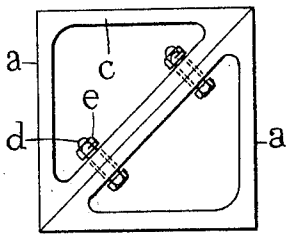


Fig. 2.

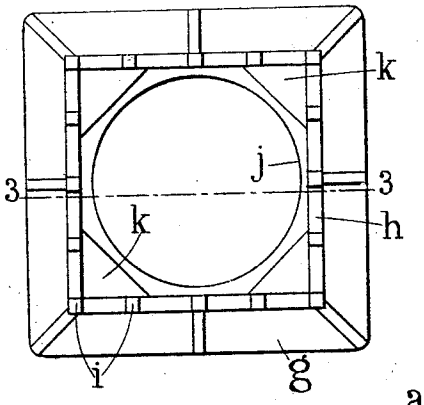


Fig. 5.

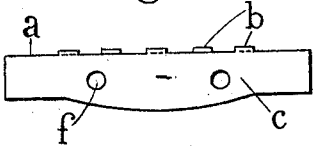


Fig. 6.

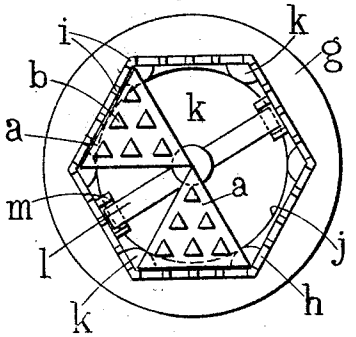
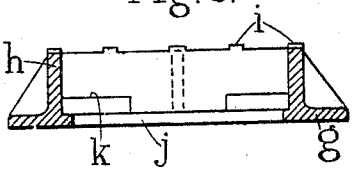


Fig. 3.



Inventor

Walter Joseph Woodrow

by Knight Bros attorneys

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UNITED STATES PATENT OFFICE.

WALTER JOSEPH WOODROW, OF LONDON, ENGLAND.

COVER FOR MANHOLES.

Application filed October 29, 1926, Serial No. 144,980, and in Great Britain December 19, 1925.

The invention relates to covers for manholes and has for its object to provide improved means for preventing the cover rocking upon its seating in the frame. In this specification the term "manhole" is intended to cover not only a chamber such as the entrance to a sewer into which a man may enter but also a smaller chamber such as is employed for making electrical connections, and a chamber into which drain pipes are led, and any chamber which is usually closed by an upper removable cover.

According to the present invention the cover is made of separate triangular sections which are loose with respect to each other and the frame is provided with seatings to support each of the triangular sections separately at each angle. The separate triangular sections are preferably but not necessarily connected loosely together, as by bolts and nuts merely, to prevent any one of the sections falling down through the hole in the frame should it be accidentally dropped. It will be understood that each triangular section seats itself separately upon its three seatings and cannot rock thereon.

Two methods of carrying the invention into effect are illustrated in the accompanying drawings in which:

Figure 1 is a plan of a rectangular frame with the square cover in position.

Figure 2 is a plan of the frame shown separately.

Figure 3 is a vertical section on the line 3—3 of Figure 2.

Figure 4 is an underside view of the square cover shown in Figure 1.

Figure 5 is an elevation of one section of the cover seen from its longest side,

Figure 6 is a plan of a frame and part of a cover of hexagonal form.

The cover is made of a plurality of separate triangular sections *a*, *a* which are loose with respect to each other, each having on the upper surface projections *b*, and having on its under face a downwardly projecting rim *c*.

The triangular sections of the cover may, if desired, be loosely connected together by any suitable means such as those shown in Figure 4 which consist of lock nuts *e* and bolts *d* passing through apertures *f* in the rim *c* which are of larger diameter than the bolts *d*. The two sections of the cover shown in Figures 1 and 4, being loosely connected together, are free to seat themselves at their angles upon the seatings made to receive the same, and the complete cover is larger in diameter than the hole in the frame.

The frame to receive the cover consists of a base *g* having the usual upstanding flange *h* which has projections *i* on its upper surface and a central aperture *j*. Seatings *k*, *k* to support the angles of the triangular sections of the cover are formed at all the interior angles of the flange *h*.

The cover shown in Figure 6 is hexagonal in plan and consists of six sections *a*, two of which are shown in position. The flange *h* is likewise hexagonal to fit the complete cover. Seatings *k* are formed at all the interior angles of the flange *h*.

In this construction a bar *l* forms part of the frame, passes across the aperture *j* and has a seating *k* at its center to receive the central points of the triangular sections *a*. This bar *l* is shown as supported at its ends in bearings *m*, thereby enabling it to be readily removed. These triangular sections may also be loosely connected together by any suitable means such as those shown in Figure 4.

The construction herein shown and described prevents downward pressure being applied to any part of the triangular cover outside a line connecting two of its angles and consequently prevents the cover being rocked.

What I claim as my invention is:—

1. A cover for a manhole comprising in combination a plurality of separate triangular sections which are loose with respect to each other and which together form the cover proper, and a frame having seatings to support each of the said separate triangular sections at their three angles, substantially as set forth.

2. A cover for a manhole comprising in combination a plurality of separate triangular sections which together form the cover proper, a frame having seatings to support each of the said separate triangular sections at their three angles, and means for connecting the separate triangular sections loosely together substantially as set forth.

3. A cover for a manhole comprising in combination a plurality of separate triangular sections which together form the cover proper, a perforated rim on the under side of each separate triangular section, bolts loosely fitting the apertures in said rim, nuts for loosely securing said bolts, and a

frame having seatings to support the said separate triagular sections at their three angles substantially as set forth.

4. A cover for a manliole comprising in combination a plurality of separate triangular sections which are loose with respect to each other and which together form the cover proper; a frame having straight sides and seatings located at all the interior angles of the frame to separately support the said separate triangular sections substantially as set forth.

5. A cover for a manhole comprising in combination a plurality of separate triangular sections which are loose with respect to each other and which together form the cover proper, a frame having straight sides, seatings located at all the interior angles of the frame to partly support the said separate triangular sections, a bar passing across an aperture in the frame and a seating at the centre of the bar to support the central points of the separate triangular sections substantially as set forth.

In witness whereof I have hereunto set my hand.

WALTER JOSEPH WOODROW.