

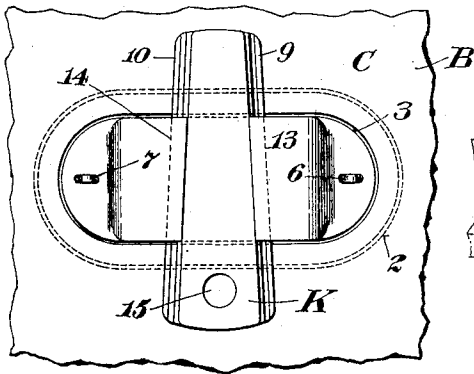
(No Model.)

A. HEWENS.  
MANHOLE COVER.

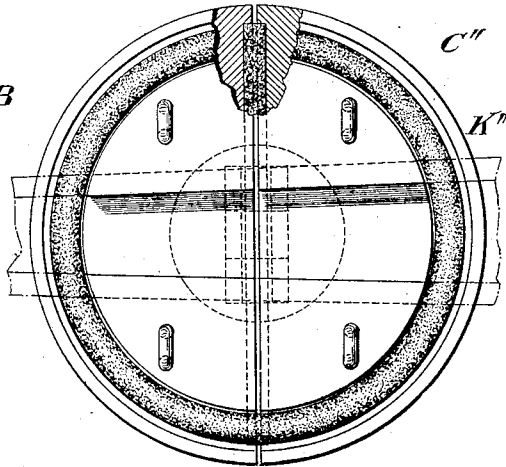
No. 601,040.

Patented Mar. 22, 1898.

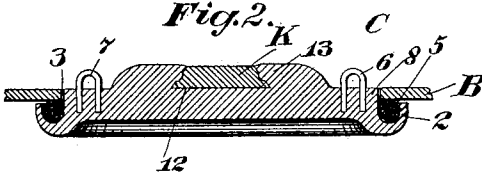
*Fig. 1.*



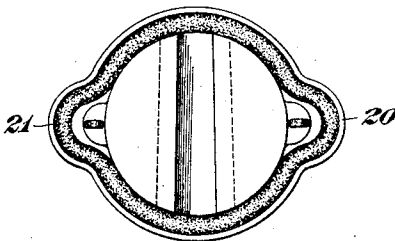
*Fig. 4.*



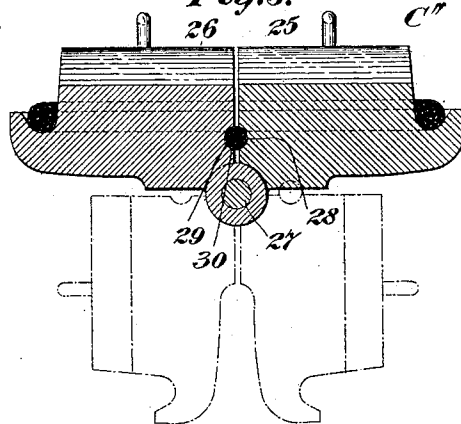
*Fig. 2.*



*Fig. 3.*



*Fig. 5.*



*Witnesses:*

*G. B. Rowley.*

*Fred. J. Dale.*

*Inventor:*

*Alfred Hewens.*

*By his Attorney.*

*F. H. Richards.*

# UNITED STATES PATENT OFFICE.

ALFRED HEWENS, OF LONDON, ENGLAND.

## MANHOLE-COVER.

SPECIFICATION forming part of Letters Patent No. 601,040, dated March 22, 1898.

Application filed December 28, 1897. Serial No. 663,840. (No model.) Patented in England June 9, 1897, No. 12,955.

### *To all whom it may concern:*

Be it known that I, ALFRED HEWENS, a subject of the Queen of England, residing in High Road, Hayes, London, in the county of Middlesex, England, have invented certain new and useful Improvements in Manhole-Covers, (for which I have obtained a patent in England, dated, provisional, June 9, and, complete, November 16, 1897, No. 12,955,) of which the following is a specification.

This invention relates to manhole-covers; and the object of the invention is to provide a simple device of this character having means for fixing the same securely in place to form a tight joint and without the necessity of employing bolts or screws for this purpose.

In the drawings accompanying and forming part of this specification, Figure 1 is a plan of the improved cover in connection with a boiler. Fig. 2 is a transverse central section of the same. Fig. 3 is a plan view of a modified form of the cover. Fig. 4 is a plan view of another modification with a portion broken away; and Fig. 5 is a transverse central section of the same, showing by dotted lines the two sections of the cover drawn together to be raised through the manhole.

Similar characters designate like parts in all the figures of the drawings.

The cover is preferably formed of a shape substantially conforming to that of the opening in the boiler, tank, or other vessel to be closed, and it has, preferably along its outer edge, a flange or rim, in which a groove or channel is formed to contain packing adapted to fit against the inside of the vessel and to be drawn tightly against the same by the application of a key or wedge.

In Figs. 1 and 2 my improved device is designated by C and the circumferential flange or rim thereof by 2, and said cover is of an oval contour to cover the correspondingly-shaped opening 3 in the boiler B or other vessel.

The circumferential flange or rim 2 has a groove or channel 4, adapted to receive the packing 5, which fits against the inside face of the boiler B and is forced tightly against its seat by the application of a key or wedge, which serves also to lock the cover in place.

In applying the cover C it is passed, one end foremost, through the opening 3 in the boiler until it is wholly within the same, after

which it is turned and drawn forward until the packing 5 in the flange 2 abuts against the inside face of the boiler, the flange 2 then overlapping the edge of the hole or opening 3.

To assist in the ready manipulation of the cover and to prevent its being dropped into the inside of the boiler, the outer face of said cover has one or more loops or eyes, as 6 and 7, through which a cord or wire can be passed by the workman to hold the cover until locked in place.

When the cover has been properly set, with the body portion 8 thereof within the area of the opening 3 and the packing 5 fitting against the inside face of the boiler B, said cover will be locked in place by a key, such as K, which consists of a wedge having the oppositely-beveled faces 9 and 10, fitting against the correspondingly-shaped inside faces of a keyway 12, formed by the ribs 13 and 14 upon the outside of the body portion 8 of the device.

When the manhole-cover has been set, it is held by the workman in the manner before specified and the narrow end of the key is entered into the keyway 12 on the outside face of the body portion 8 and said key is driven home to lock the cover in place tightly and form a close joint.

The packing 5 may be of rubber or other suitable elastic material or may be of some other form than a ring, as illustrated, and the eyes or loops 6 and 7 on the outer face of the cover may consist of staples in said cover. To facilitate the removal of the key or wedge K, it has at its larger end an opening 15 to receive a suitable tool by which said key can be readily withdrawn without damage thereto.

In Fig. 3 a modification of the device is shown, the cover illustrated being intended to close a circular opening, in which case the opening has lateral recesses (not shown) in order that the cover may be passed through said opening from the outside to the inside of the boiler, and said cover is provided with lateral ears or offsets 20 and 21, adapted to close the recesses extending from the manhole. With this exception the cover illustrated in Fig. 3 is the same as that shown in Figs. 1 and 2.

In Figs. 4 and 5 is shown another modification of the device constructed to close a plain

round hole, said modified form of cover being designated by C'', and it consists of two hinged sections 25 and 26, respectively, connected together, as at 27.

5 When the cover C'' is to be passed through an opening in the boiler, the sections thereof are folded, as indicated by the dotted lines in Fig. 5, so that the cover can be readily passed through the manhole, and to preserve the  
10 tight joint in the hinged structure the two sections 25 and 26 thereof are provided along their inside or adjacent faces with the grooves 28 and 29, adapted to receive the packing 30. When the key K'' is introduced after the de-  
15 vice is placed in the opening, said key serves to bind the cover firmly against its seat.

Having described my invention, I claim—

20 1. A manhole-cover having a circumferential, grooved channel adapted to receive a packing and provided on one face with a keyway adapted to receive a key.

2. A manhole-cover having a circumferential, grooved channel adapted to receive a  
25 packing and provided on one face with ribs the adjacent faces of which are oblique, said ribs forming a keyway, in combination with

a wedge-shaped key adapted to be driven in said keyway.

3. A manhole-cover having a grooved, circumferential flange adapted to receive a pack- 30 ing and provided on its outer face with an eye or eyes, and also having on said outer face two ribs the adjacent faces of which are oblique, in combination with a wedge-shaped key adapted to be driven in the space between 35 said ribs.

4. A manhole-cover consisting of two hinged sections and constructed to receive a packing, in combination with a key for said sections.

5. A manhole-cover consisting of two hinged 40 sections and having a circumferential flange adapted to receive a packing, and also provided with ribs the adjacent faces of which are oblique, and said two sections having on their adjacent faces grooves to receive a pack- 45 ing, in combination with a key adapted to be driven into the space between said ribs.

ALFRED HEWENS.

Witnesses:

ALBERT BERTRAM WEASER,  
WALTER HENRY BRADBERRY.