

No. 638,574.

Patented Dec. 5, 1899.

T. P. GREGER.
MANHOLE FRAME AND COVER.

(Application filed Apr. 25, 1899.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.

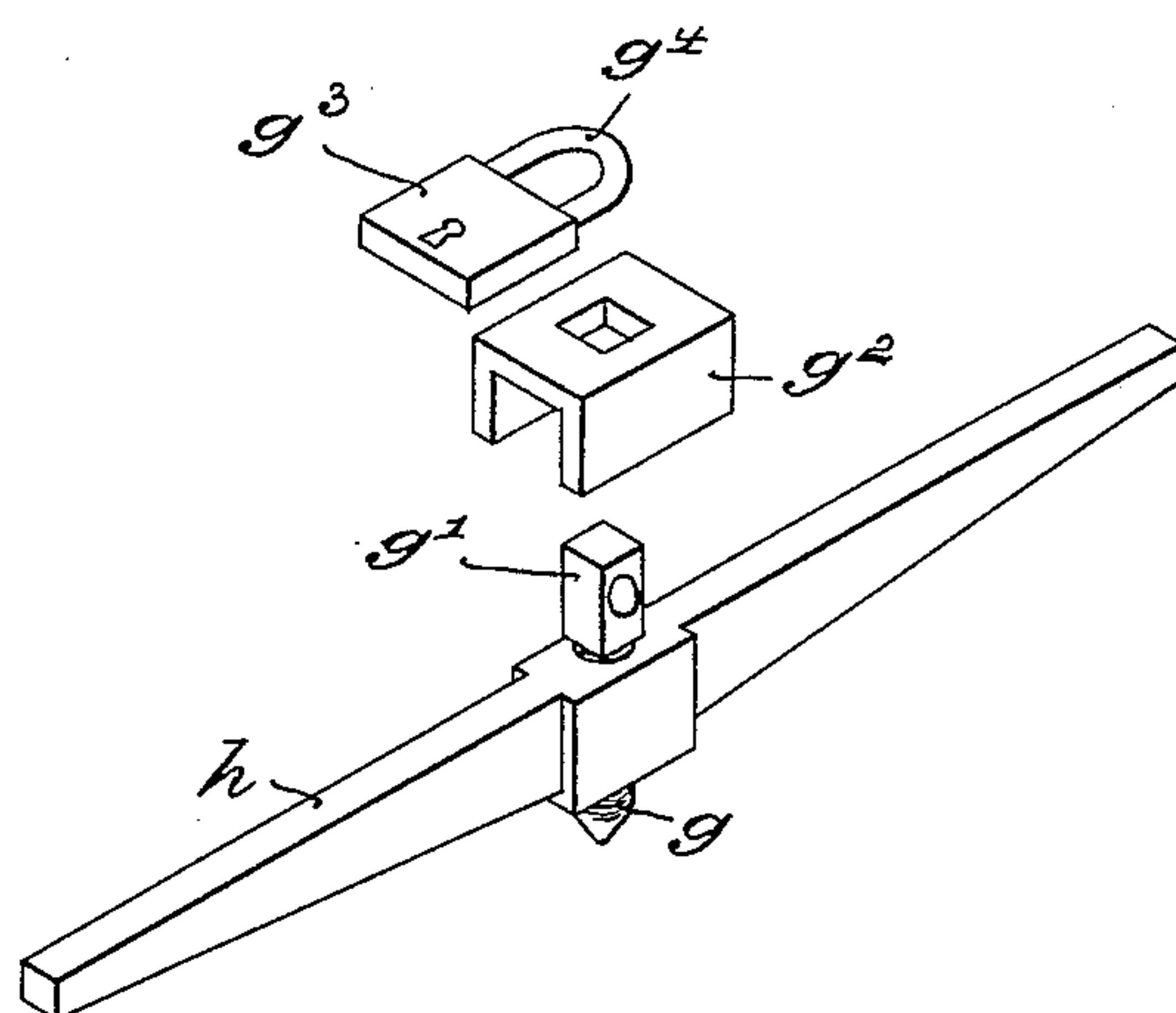


Fig. 4.

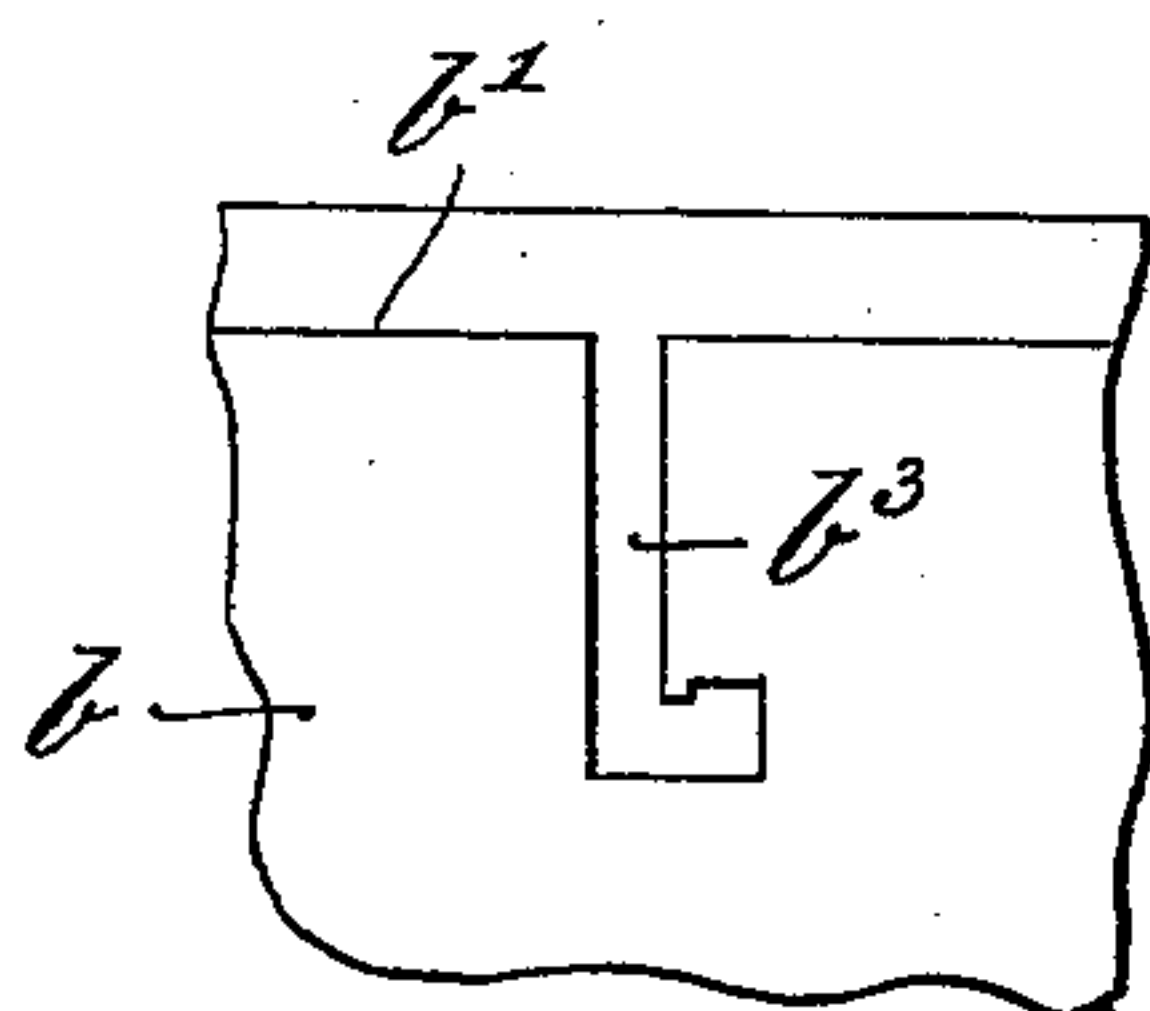
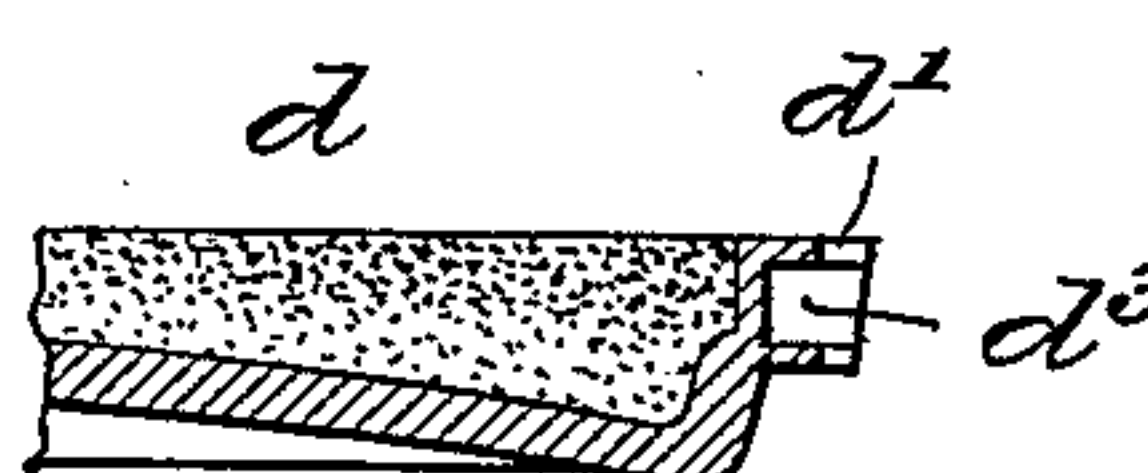


Fig. 5.



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UNITED STATES PATENT OFFICE.

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MANHOLE FRAME AND COVER.

SPECIFICATION forming part of Letters Patent No. 638,574, dated December 5, 1899.

Application filed April 25, 1899. Serial No. 714,376. (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 Frames and Covers, of which the following is a specification.

My invention has relation to a frame and cover for a manhole, and in such connection it relates particularly to the construction and arrangement of the same.

The principal object of my invention is to provide a frame and cover for manholes, such as are provided for sewers, electric conduits, vaults, or the like, the frame and cover being of simple construction and adapted to efficiently seal the manhole against unwarranted entrance or tampering with that which is located beneath the manhole-frame without destroying the sealing means of the appliance and also to prevent leakage of water into or the escape of gases from the manhole.

My invention, stated in general terms, consists of a manhole frame and cover constructed and arranged in substantially the manner hereinafter described and claimed.

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

Figure 1 is a top or plan view of a manhole frame and cover embodying main features of my invention, portions thereof being broken away to more clearly illustrate the construction and arrangement of the same. Fig. 2 is a vertical sectional view of Fig. 1. Fig. 3 is a perspective view of the device for locking the inner cover-plate of the concrete or asphalt filled manhole-cover down upon its seat. Fig. 4 is a front elevational view of the bayonet-slot formed in the manhole-frame and adapted to receive one end of the locking-bar illustrated in Fig. 3; and Fig. 5 is a cross-sectional view of the concrete or asphalt filled manhole-top cover, taken on the line $x x$ of Fig. 1.

Referring to the drawings, a represents the base of the manhole-frame, having the central opening a' surrounded by an upwardly-curved rim a^2 . From the base a extends the

circular wall b , having at its upper edge or rim a seat b' for the reception of the upper or exterior concrete or asphalt material filled cover d of the appliance. The wall b is reinforced by a series of triangular ribs b^2 , extending from the base a to approximately the upper edge of the wall. Between the rim a^2 and the wall b is formed an annular channel e , and from this channel e at appropriate points of the frame extend the openings e' , leading to the exterior of the frame. The exterior cover d is adapted to be filled with concrete, asphalt, granolithic, or similar material, as hereinbefore explained. The curved rim a^2 forms a seat for the inner cover-plate f , which has on its under surface a rubber gasket f' , fitting down upon the rim a^2 . The under surface of the cover-plate f is also provided with an annular rib f^2 , closely fitting the central opening formed by the rim a^2 . Upon the upper surface of the cover-plate f are formed ears f^3 , in which are pivoted the lifting-rings f^4 . The inner cover-plate f is also provided on its upper surface with a central lug or projection f^5 , having a central recess or depression f^6 , into which the end of a screw-bolt g is adapted to enter, for a purpose to be presently explained.

In the wall b of the frame is provided a bayonet-slot b^3 , as illustrated in Figs. 2 and 4, and diametrically opposite the slot is provided a recess b^4 , as illustrated in Fig. 2. When the upper or exterior filled cover d is removed from its seat, a locking-bar h is adapted to be inserted into the interior of the frame in the following manner: One end of the bar h is first inserted into the recess b^4 , and the other end is then slid into the bayonet-slot b^3 and the bar locked in its lowermost position. The bar h , midway of its length, is provided with a screw-bolt g , which when advanced is adapted to bear at its point upon the projection f^5 of the cover-plate f to thereby tightly clamp the cover f upon its seat. The bolt g has a square head g' , over which is adapted to be fitted a saddle or block g^2 to prevent the bolt from being turned. The block g^2 , when in position, is locked to the bar h by means of a padlock g^3 , the staple g^4 of which passes through a suitable aperture provided in the head g' of the bolt, and thus to effectually prevent unwarranted ac-

cess beneath the manhole unless the lock is broken or removed. The upper or exterior filled cover d has its periphery or edge cut out, as at d' and d^2 , and the semicircular openings thus formed lead into the recesses d^2 , provided in the edge of the said cover, as clearly illustrated in Fig. 5 of the drawings.

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

1. In a manhole frame and cover, a base having a central opening surrounded by an upwardly-curved rim, a wall projecting upward from said base and having a seat formed on its upper edge, an outer cover adapted to engage the seat of said wall, an inner cover-plate adapted to rest upon the curved rim of the base of said frame and a locking device for the inner cover-plate consisting of a locking-bar, a bayonet-slot and recess formed in the interior wall of said frame and in which the ends of said bar are adapted to be guided and held, a bolt traversing said bar and adapted to clamp the inner cover-plate down upon the curved rim of the base of said frame, and means for locking said bolt against turning, substantially as and for the purposes described.

2. In a manhole frame and cover, a base

having a central opening surrounded by an upwardly-curved rim, a wall projecting upward from said base and having a seat formed on its upper edge, an outer cover adapted to engage the seat of said wall, an inner cover-plate adapted to rest upon the curved rim of the base of said frame and a locking device for the inner cover-plate consisting of a locking-bar, a bayonet-slot and recess formed in the interior wall of said frame and in which the ends of said bar are adapted to be guided and held, a bolt provided with a square-shaped perforated upper end traversing said bar and adapted to clamp the inner cover-plate down upon the curved rim of the base of said frame, a saddle or block spanning said bar and square portion of said bolt and locking means engaging the perforation of said bolt and preventing turning thereof while spanned by said saddle or block, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

THOMAS P. GREGER.

Witnesses:

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