Sept. 20, 1932. C. B. SHANLEY 1,877,995

MANHOLE FRAME AND COVER

Filed Oct. 28, 1929

Fig. 1.

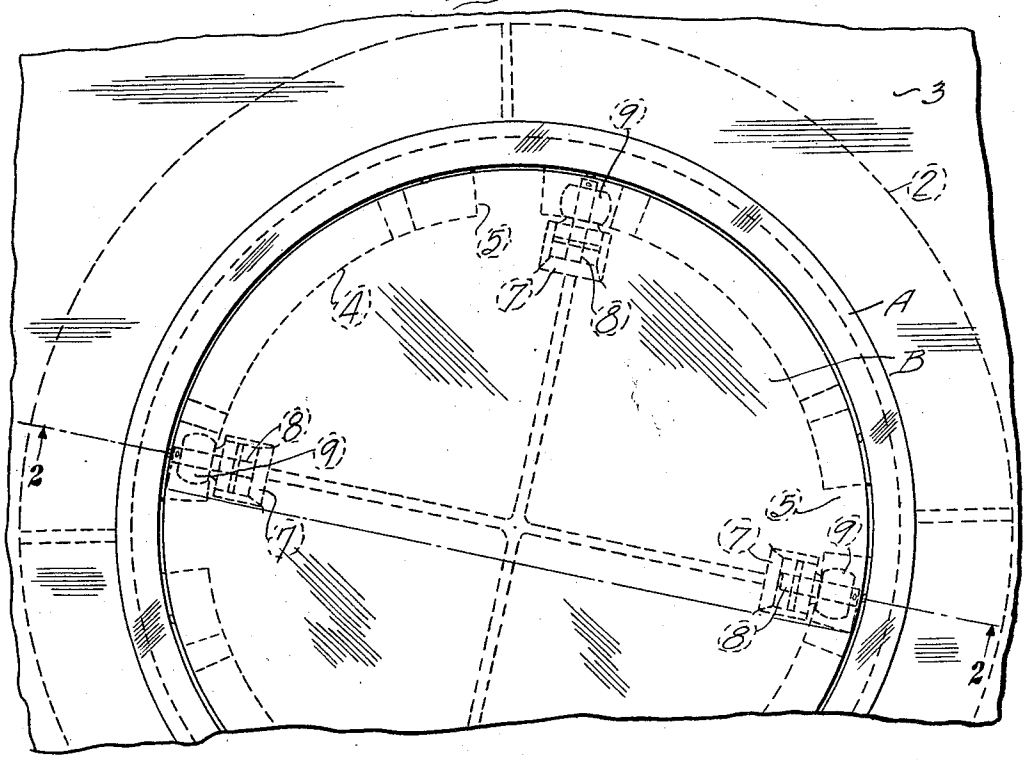
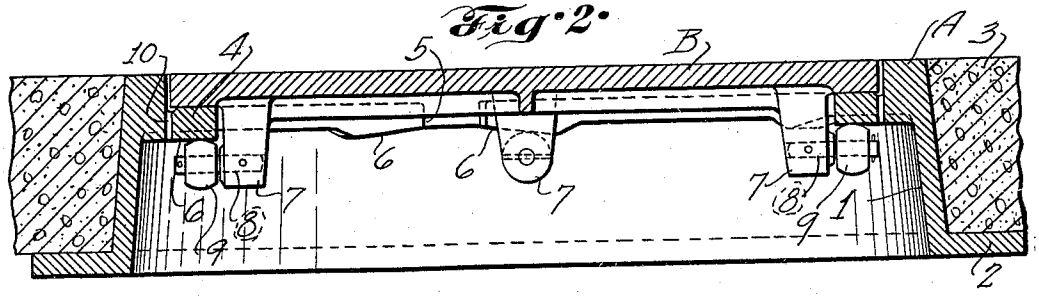


Fig. 2.



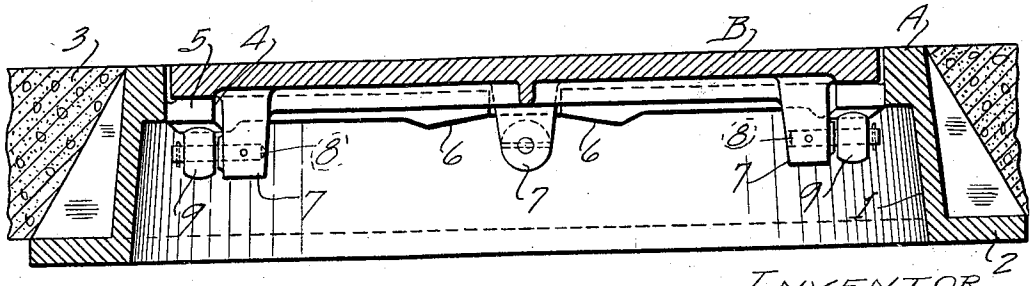


Fig. 3.

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MANHOLE FRAME AND COVER

Application filed October 28, 1929. Serial No. 402,944.

This invention relates to a certain new and useful improvement in man-hole frames and covers and has for its object the provision of a man-hole frame and cover so relatively and co-operatively constructed that the cover may with ease and convenience be efficiently removably secured to, and in hole-closing position upon, the frame.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts hereinafter described and pointed out in the claim.

In the accompanying drawing,—

Figure 1 is a fragmental plan view of a man-hole frame and cover embodying my invention;

Figure 2 is a transverse sectional view of the frame and cover on approximately the line 2—2, Figure 1, the cover being in secured or so-called locked hole-closing position; and

Figure 3 is a view similar to Figure 2, showing the cover in unlocked position ready for removal.

Referring now more in detail and by reference characters to the drawing, which illustrates a preferred embodiment of my invention, A designates the man-hole or cavity-topping frame, which includes an annular wall 1 formed therearound at its lower margin with an outwardly presented radial flange or extension 2 adapted to rest on the usual supporting masonry, not shown, and to receive thereabove the usual retaining or securing concrete or the like 3, substantially as shown. Adjacent its outer margin and upon its inner periphery, wall 1 is formed with an inwardly presented radial or annular cover-supporting rib 4, whose upper face is generally flat and suitably disposed below the plane of the outer marginal face of wall 1. At preferably diametrically opposite locations, the rib 4 is cut-away and thereby provided or formed with apertures, as at 5, the rib 4 upon opposite sides of each of said openings or apertures being oppositely beveled and thereby provided with opposed cam-faces 6, 6, all for purposes presently appearing.

B designates the man-hole or frame-closing cover, which is of disk-like formation and of dimensions to fit within the wall 1 and seat upon the rib 4 with its outer face approximately flush, as best seen in Figures 2 and 3, with the outer marginal face of the frame A. Preferably formed integrally with, and depending in an annular series from the under face of, cover B, are preferably diametrically opposite lugs 7 suitably spaced inwardly from the periphery of cover B so as to conveniently pass the rib 4 in the placing of the cover B in, or in removing the same from, frame-closing position.

Suitably fixed in each of the lugs 7, is a stub-shaft 8 radially presented with respect to, and disposed axially in approximate parallelism with the under face of, the cover B, and mounted for rotation upon each of the stub-shafts 8, is a roller 9 of likewise suitable dimensions relatively to the apertures 5 so as to pass conveniently therethrough when the cover B is placed in or removed from frame-closing positions, the rollers 8 being relatively located for wedging co-operation with the respective cam-faces 6 in removably securing the cover B in frame-closing position.

The frame A and cover B being so co-operatively constructed and the frame being mounted in topping position upon a sewer or other cavity or chamber, the cover B is manipulated to bring its several rollers 9 in registering or aligning relation with the respective apertures 5, and the cover B then lowered to rest or seat upon the rib 4. The cover B is then suitably rotarily shifted upon the rib 4 in one or the other direction, when the rollers 9 rollably engage camwise with the respective oblique faces 6 and thereby wedgingly secure the cover B removably in its frame-closing position. Removal of cover B may correspondingly be readily accomplished by reversal of the operations stated, and in such manner the cover B may with ease, facility, and convenience be removably secured to the frame A in hole-closing position.

I might add that the rib 4 is preferably provided with a plurality of additional suitable drain-openings 10 for well known pur-

poses, and it is to be understood that changes in the form, construction, arrangement, and combination of the several parts of the frame and its cover may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

In combination, a cavity-topping frame having an annular wall provided upon its inner periphery with inwardly presented annular rib formed with a series of circumferentially spaced transverse openings and upon its under surface with spaced pairs of cam-faces, a cover adapted to seat for rotatory movement within the frame upon the rib, and means including rollers carried for rotation by the cover for projection through said openings for co-operation with respective cam-faces in cover-securing wedging engagement with the rib, the cam-faces of each respective pair extending in opposed inclination from the opposed walls of a respective opening, whereby the cover may be rotatorily actuated in either direction for wedge-securing engagement between said rollers and respective cam-faces.

In testimony whereof, I have signed my name to this specification.

CONNOR B. SHANLEY.