No. 692,231. Patented Feb. 4, 1902.

C. F. BINGHAM.

MANHOLE CASING.

(Application filed May 28, 1901.)

(No Model.)

Fig. 1.

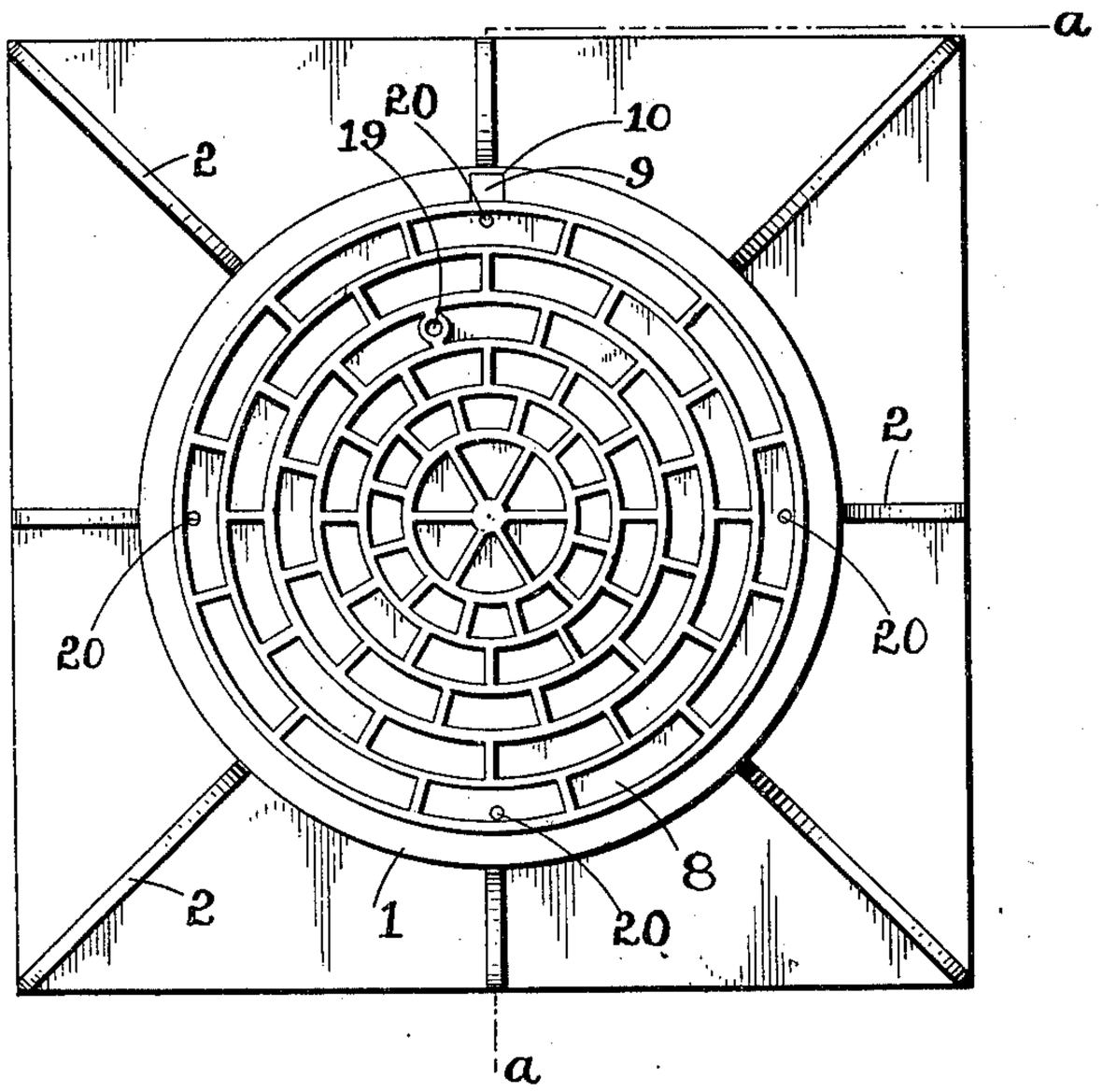


Fig. 2.

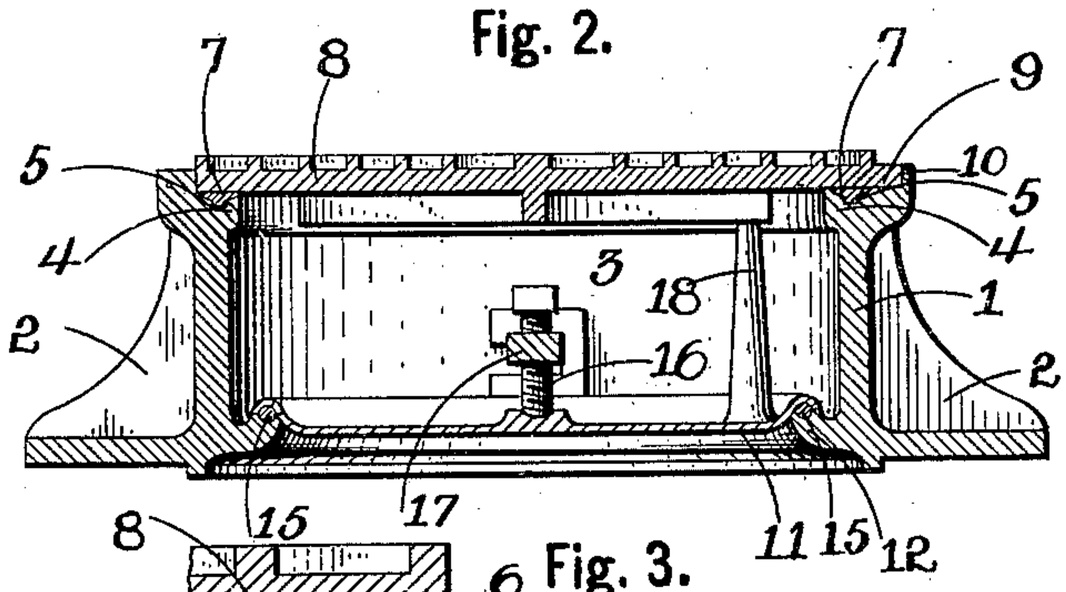
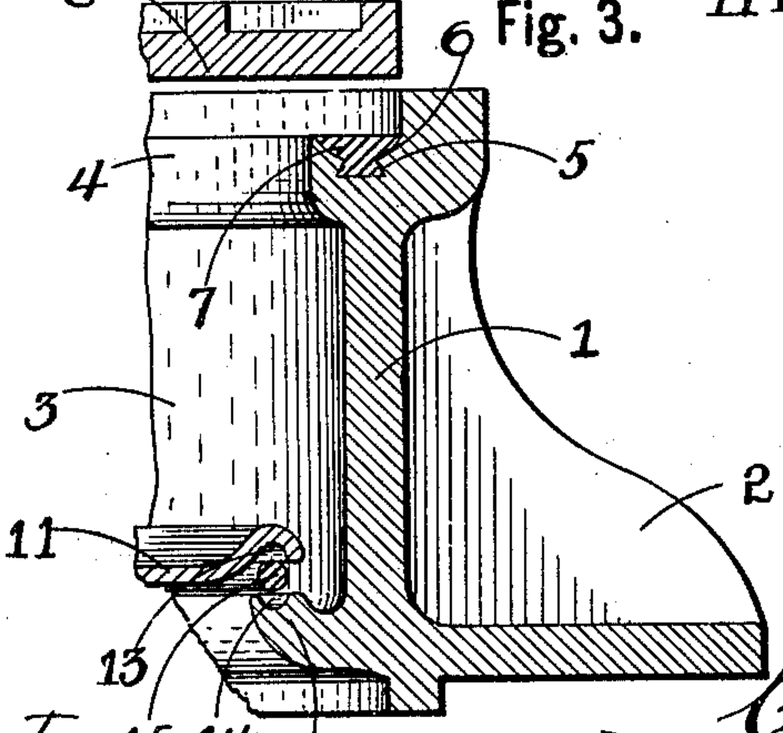


Fig. 3.



Witnesses.

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MANHOLE-CASING.

SPECIFICATION forming part of Letters Patent No. 692,231, dated February 4, 1902.

Application filed May 28, 1901. Serial No. 62,251. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. BINGHAM, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Manhole-Casings, of which the following is a specification.

My invention relates to an improved manhole-casing, which is provided with a soft metal portion upon which the cover rests; and the object of the invention is to provide a comparatively soft and noiseless seat for the cover when in place, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved casing. Fig. 2 is a section on line *a a*, Fig. 1. Fig. 3 is an enlarged fragmentary section showing the way in which the lead packing is embedded in the surface of the iron.

In referring to the drawings for the details of construction like numerals designate like parts.

The casing 1 is preferably formed or cast of iron and has a plurality of peripheral webs or projections 2 and a central circular opening 3. This opening enlarges at the top to form a cover-seat, and the horizontally-extending annular shoulder 4, formed by the enlarging of the opening, is provided with an annular groove 5, which is of dovetailed formation in cross-section. (See Fig. 3.) The upper surface of the shoulder 4 above the groove is cut out to form a shallow annular channel 6 of semicircular cross-section above the annular groove 5 of substantially the same width as the shoulder, the walls of which curve upwardly from the upper extreme of the dovetail groove and diverge from each other to the opposite side extremes of the shoulder. The annular groove 5 and the channel 6 are filled with a packing 7 of comparatively soft metal, such as lead, substantially as shown in the drawings, upon which the cover 8 is fitted. The cover is provided with a radial integral horizontal outwardly-extending lug 9, which fits in a depression 10 to prevent the cover turning in its seat. The depression 10 is formed in the top surface of the casing exterior to the shoulder 4, with its bottom surface substantially on a level or the same horizontal plane with the top surface of the packing. (See Fig. 2.) The object in using a packing of soft metal is to provide a comparatively soft yielding surface upon which the cover 8 can be easily fitted, so as to seat snugly. A lower cover 11 is also provided, which fits in the lower portion of the casing against an annular flange or shoulder 12, and the lower surface of this cover 11 and the upper surface of the flange 12 are provided with annular channels or grooves 13 and 14, which when the cover is seated upon the flange form an annular opening in which a packing-ring 15 is placed. The lower cover is forced into its place by screw-pressure by means of a screw 16, screwing into a supporting-arm 17 and engaging the surface of the lower cover. The lower cover is also provided with a tubular portion 18, which forms an air-vent and extends vertically upward to the opening 19 in the top cover. (See Fig. 1.)

In constructing this casing the dovetail groove and shallow channel are cast in the casing, and the soft metal, such as lead, is melted and then poured into said groove and channel after the cover is in place through the openings 20. By this means a perfect seat conforming exactly to the surface of the cover is obtained, which practically forms a watertight joint. The lug 9 always insures the placing of the cover upon the exact part of the seat to which it is fitted, so that any inequality in the cover will seat on a correspondingly-formed seat portion, owing to the peculiar manner in which the seat is cast.

I claim as my invention—

1. An improved manhole device comprising a casing having an annular shoulder provided with an annular groove of dovetailed cross-section, a packing of lead cast in said groove, and a cover adapted to seat upon said lead packing; there being holes in said cover through which the packing of lead is run when the cover is in place, whereby it conforms exactly to the surface of the cover, substantially as set forth.

2. An improved manhole device comprising a casing having an annular shoulder provided with a lower central annular groove of dovetailed cross-section and an upper channel above the groove of substantially the same width as the shoulder, a filling of lead in said

groove and channel having a top surface of substantially the same width as the shoulder and a cover adapted to seat upon the surface of said lead, substantially as set forth.

3. An improved manhole device comprising a casing having a central circular opening which enlarges at the top to form an annular shoulder having a grooved-out top surface and having a depression exterior to the shoulder, a cover adapted to seat on the shoulder and having a lug fitting in the depression and a packing of soft metal in the groove in the shoulder conforming perfectly to the cover, substantially as set forth.

4. An improved manhole device comprising a casing having a shoulder provided with a groove, a cover adapted to seat on said shoulder, and a packing of soft metal cast in said groove; the device being provided with holes through which the soft metal is run when the cover is in place as and for the purposes specified.

5. In a manhole device, a casing, a circular opening, an interior annular shoulder near the top of said opening and a depression in the casing-top exterior to the shoulder having a bottom surface on substantially the same plane as the shoulder, in combination with a cover adapted to seat upon the shoulder and having an integral horizontal-extending lug adapted to fit in the depression, substantially as set forth.

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