(No Model.)

J. T. CULLEN.

MANHOLE AND COVER.

No. 588,402. Patented Aug. 17, 1897.

Fig. 1.

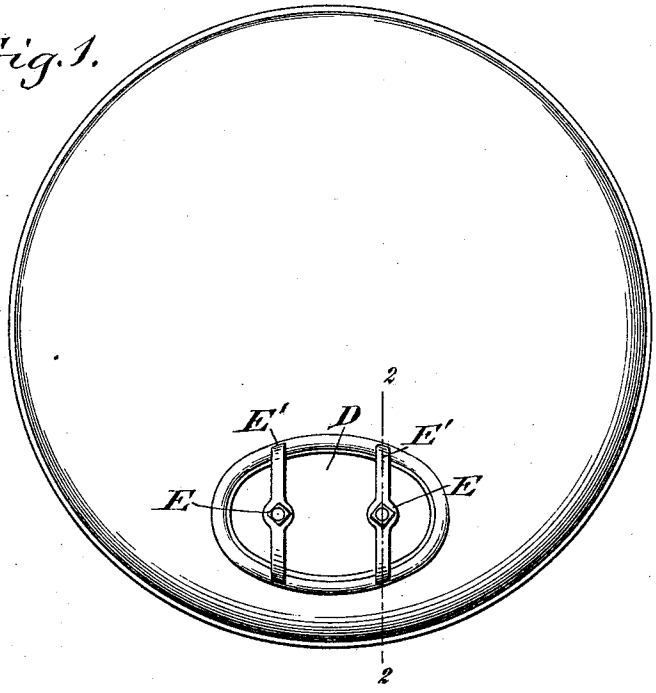


Fig. 2.

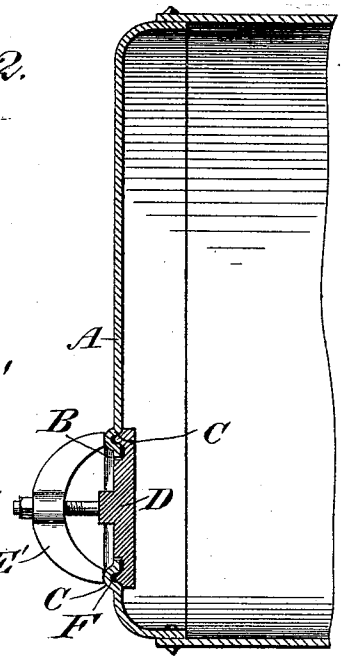
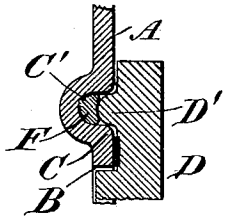


Fig. 3.



WITNESSES:

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JOHN T. CULLEN, OF CLINTON, IOWA.

MANHOLE AND COVER.

SPECIFICATION forming part of Letters Patent No. 588,402, dated August 17, 1897.

Application filed November 3, 1896. Serial No. 610,911. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. CULLEN, of Clinton, in the county of Clinton and State of Iowa, have invented a new and Improved Manhole and Cover for Boilers, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved manhole and cover for boilers, whereby the strength of the boiler-head is increased and leakage is prevented by forming a steam-tight joint, the cover being constructed to permit of conveniently punching all the holes in the head-flange and riveting the said head in place.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the improvement as applied. Fig. 2 is a sectional side elevation of the same on the line 2 2 of Fig. 1, and Fig. 3 is an enlarged sectional side elevation of part of the improvement.

In the head A of the boiler is formed a manhole B, surrounded at the inner face of the head by a bearing C, flush with the inner face of the said head, as plainly indicated in the drawings. The bearing C is adapted to receive the manhole-cover D, connected by the usual bolts E with the yokes E′, resting with their ends on the outer face of the boiler-head A.

In the bearing C is formed an annular recess C′, adapted to receive the gasket F, of soft metal or other suitable material, and adapted to be engaged by an annular projection or ridge D′, formed on the outer face of the cover D. Similar gaskets are also placed at the edge of the manhole B and intervene said manhole and its cover D. (See Figs. 2 and 3.) Now it will be seen that by the arrangement described the recess C′, formed in the bearing, makes an annular ridge on the outer face of the head A, and on this ridge abut the ends of the yokes E′. It will further be seen that this ridge formed by the recess strengthens the boiler-head and forms a suitable pocket for the gasket, so that a steam-tight joint is insured at the manhole-opening, especially as the ridge or projection D′ can readily embed itself in the soft material constituting the gasket F.

It will further be seen that as the bearing C is flush with the inner face of the head A there is absolutely no projection whatever, so that proper punching of the flange of the head is permitted without requiring drilling of some of the rivet-holes, as is necessary for some boiler-heads as now constructed.

It will further be seen that in riveting the flange-head to the shell of the boiler the operator is enabled to properly hold the anvil against the rivet-head to insure a proper riveting without any hindrance whatever from projections around the inside of the manhole.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a boiler provided with a manhole and having an annular recess on its inner face a short distance from the edge of the manhole, of a cover provided with an annular ridge on its outer face a short distance from its margin to enter the said recess, whereby the cover will have bearing on each side of the recess, substantially as described.

2. The combination with a boiler provided with a manhole and having the material of which it is formed bent outward a short distance from the manhole to form an external annular bead and an internal annular recess around the manhole, of a cover provided with an annular projection on its outer face a short distance from its margin to enter the said recess, substantially as described.

3. The combination with a boiler provided with an external annular bead around its manhole, said bead forming an annular internal recess around the manhole, of a cover having an annular ridge to enter the said recess, bolts secured to the cover, and yokes in which the bolts work, said yokes having their ends resting upon the bead of the boiler, substantially as described.

JOHN T. CULLEN.

Witnesses:
L. F. SUTTON,
J. C. THOMSEN.