Nov. 5, 1929. J. PRENTICE 1,734,343

HANDHOLE FITTING

Filed Nov. 17, 1926

Fig. 1

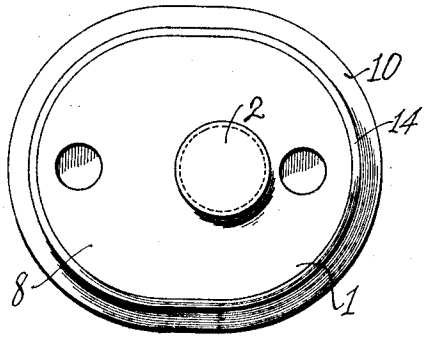


Fig. 4

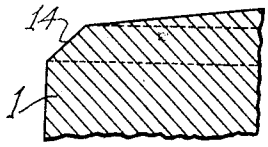


Fig. 2

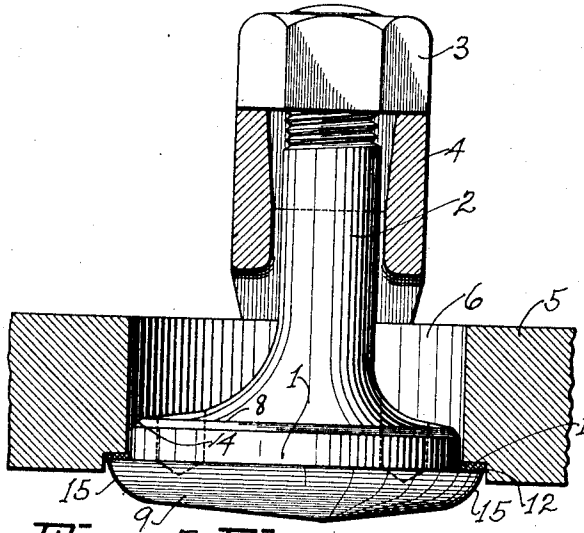


Fig. 3

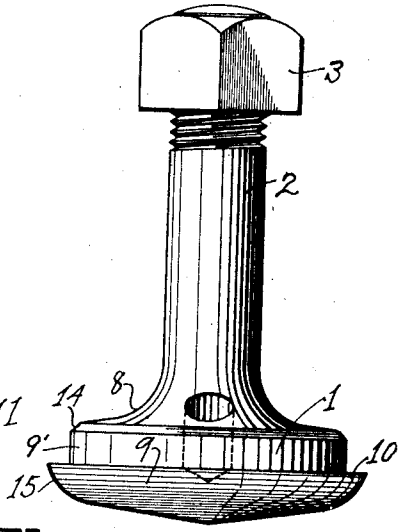


Fig. 5 Fig. 6 Fig. 7 Fig. 8 Fig. 9

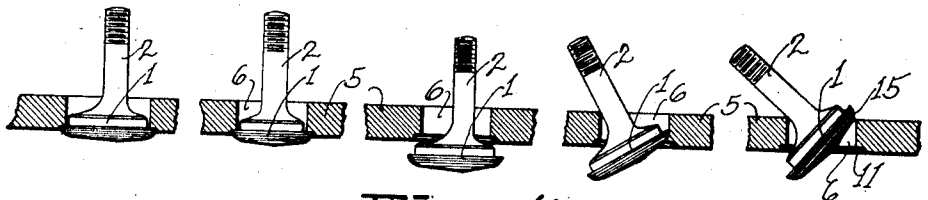
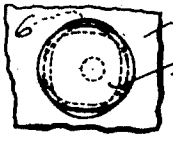


Fig. 10



John Prentice INVENTOR

BY

Gifford & Scull ATTORNEYS

Patented Nov. 5, 1929

1,734,343

UNITED STATES PATENT OFFICE

JOHN PRENTICE, OF BAYONNE, NEW JERSEY, ASSIGNOR TO THE BABCOCK & WILCOX COMPANY, OF BAYONNE, NEW JERSEY, A CORPORATION OF NEW JERSEY

HANDHOLE FITTING

Application filed November 17, 1926. Serial No. 148,799.

This invention relates to a handhole fitting or manhole cover for drums or boilers or the like and will be understood from the description in connection with the accompanying drawings, in which Fig. 1 is a plan view of the device; Fig. 2 is a side view of the same, showing it in place with cooperating parts that are in section; Fig. 3 is an edge view in elevation; Fig. 4 is a section on an enlarged scale partly broken away showing one of the details; Figs. 5 to 9 inclusive are views in elevation showing how the fitting can be removed from a hole and Fig. 10 is a view from the underside partly broken away corresponding to Fig. 7.

In the drawings reference character 1 indicates an oval-shaped cover or fitting for a handhole of similar form or manhole in a drum or boiler or the like. The stem 2 of the cover extends at right angles to the main body of the same and is disposed substantially on the longer axis thereof and is offset from the center for a purpose to be explained below. The stem 2 is provided at its outer end with the usual screw threaded portion for the nut 3 which clamps the cover in place by cooperating with the saddle 4 that straddles the hole in the usual well known manner. A plate or wall 5 is shown with the hole 6 therethrough that is to be closed on the inside of the drum or boiler by the cover or fitting.

The cover or fitting is provided with an upper face portion 8 with which the stem 2 is integral, and a seat or lower portion 9 comprising a flange 10 between which flange and the seat 11 in the plate 5 a gasket 12 is placed. The portions 8 and 9 are joined by a shoulder 9′.

The edge of the face portion 8 of the cover is beveled, or rearwardly and inwardly inclined, as shown at 14, and the lower edges of the flange 10 of the seat portion 9 are rounded as shown at 15 so as to enable the cover or fitting to be inserted in and removed from a smaller hole than would otherwise be possible. The offset position of the stem 2 on the cover also aids in the insertion and removal of the cover or fitting as will be clear from Figs. 5 to 9 inclusive. In Figs. 5 and 6 the fitting is shown in place on its seat, these two views being at right angles to each other. Fig. 7 shows the fitting moved parallel to the stem 2 and away from its seat and turned at right angles to the position shown in Fig. 6 with respect to the hole 6, so as to place the long axis of the cover or fitting at right angles to the long axis of the hole 6 as more clearly shown in Fig. 10. Fig. 8 shows the stem turned somewhat to the side and also how the cover is moved from the hole 6 with the rounded portion 15 moving along one side of the hole 6, while the opposite side of the stem 2 is in contact with the other side of the hole. Fig. 9 shows further progress in the removal of the fitting, in which one edge of the flange has passed beyond the upper edge of the hole, so that the fitting can be easily taken out of the hole from this position. It will be observed that the beveled edge 14 on the face portion 8 enables the fitting to be inserted into and removed through a smaller hole than would be possible if this beveled portion were not provided. At the same time this beveled portion does not weaken the fitting or interfere in any way with its normal function. The offset position of the stem 2 with respect to the fitting, the beveled portion 14 of the upper part 8 of the fitting and the rounded portion 15 of the lower part 9 of the fitting all cooperate to decrease the requisite size of the hole through which the fitting is to be inserted and removed.

Heretofore in providing fittings for handholes or manholes of given sizes, it has been found to be necessary, when walls of greater thickness were to be used, to increase the size of the holes in order to insert the fittings. By the present invention it is possible to provide a fitting of a certain size that can be inserted through a hole in walls of greater thickness than is possible with other sorts of fittings, without increasing the size of the hole through which the fitting is to be inserted. Also, by making the outside perimeter of the face portion 8 of the present fitting fit very closely the inside walls of the hole, the danger of the gasket 12 being blown out even with very high pressures is eliminated.

The fitting above described is especially useful in high pressure boilers, both because the gasket is rendered safe and also because the drum wall is not unduly weakened by the necessity of increasing the size of the hole through which the fitting is inserted.

I claim:

1. In combination, a wall having an oval-shaped hole therein, a fitting having an oval-shaped portion adapted to completely close said hole by engagement with one side of said wall, and a stem on said fitting and extending through said hole when the hole is covered, said stem being disposed eccentrically with respect to said hole and substantially on the longer axis of said oval-shaped portion.

2. In combination, a wall having an oval-shaped hole therein, a fitting having an oval-shaped portion adapted to completely close said hole by engagement with one side of said wall, a stem on said fitting and extending through said hole when the hole is covered, said stem being disposed eccentrically with respect to said hole and substantially on the longer axis of said oval-shaped portion, and means disposed entirely on the opposite side of said wall and engaging said opposite side and said stem to hold the fitting in place.

3. In combination, a wall having an oval-shaped hole therein, a fitting having an oval-shaped portion adapted to completely close said hole by engagement with one side of said wall, a stem on said fitting and extending through said hole when the hole is covered, said stem being disposed eccentrically with respect to said hole and substantially on the longer axis of said oval-shaped portion, and a shoulder on said fitting extending from said oval-shaped portion within the hole and in close proximity to the wall thereof when the hole is covered.

JOHN PRENTICE.