E. I. DODDS.

STEAM BOILER.

APPLICATION FILED OCT. 31, 1919.

1,424,559. Patented Aug. 1, 1922.

Fig. 1.

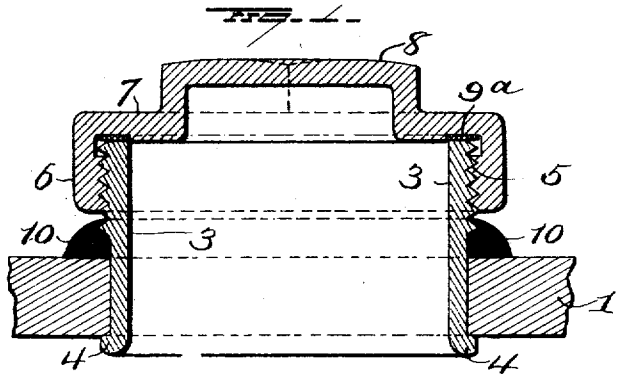


Fig. 2.

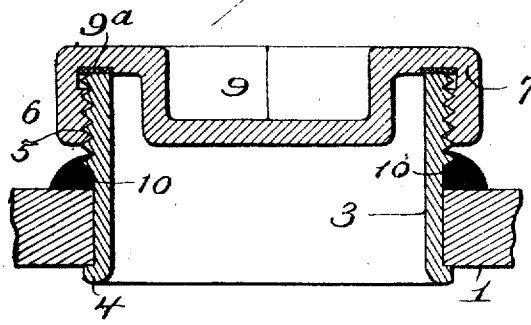


Fig. 3.

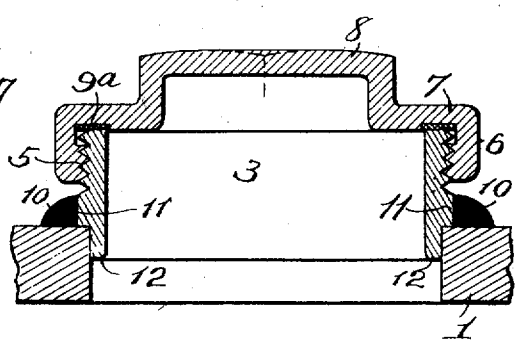


Fig. 5.

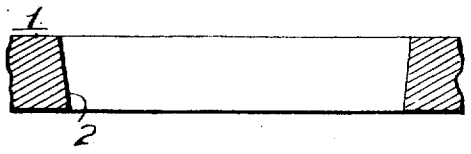


Fig. 6.

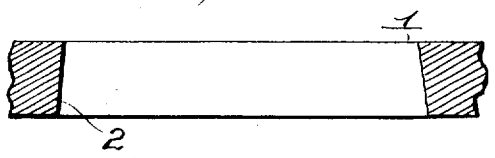
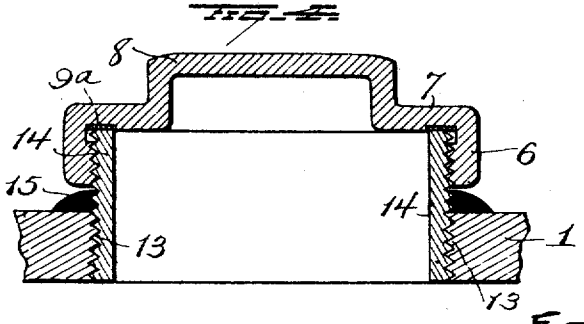


Fig. 4.



INVENTOR

E. I. Dodds

By Seymour & Bright Attorneys

UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO FLANNERY BOLT COMPANY, OF PITTSBURGH, PENNSYLVANIA.

STEAM BOILER.

1,424,559. Specification of Letters Patent. Patented Aug. 1, 1922.

Application filed October 31, 1919. Serial No. 334,779.

To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Steam Boilers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvement in steam boilers and more particularly to a closure for the cleaning-out opening,—the object of the invention being to so close the cleaning-out opening of a boiler that no calking such as heretofore employed where threaded plugs have been used for closing such opening, will be necessary, and so that danger of marring threads heretofore used to receive such threaded plugs will be obviated.

With this and other objects in view, the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings; Figure 1 is a sectional view illustrating my improvements, and Figures 2, 3, 4, 5 and 6 are views showing modifications.

1 represents a boiler sheet having an opening 2 for the accommodation of a sleeve 3. The opening 2 may be cylindrical as shown in Figures 1 and 2 or it may be made tapering as shown in Figures 5 and 6.

The sleeve may be made with a plain or unthreaded exterior surface where it passes through the opening 2 and its inner end may be provided with an annular flange or shoulder 4 which projects laterally beyond the wall of the opening, while the portion of said sleeve which projects outwardly beyond the boiler sheet is threaded exteriorly, as at 5, to receive the interiorly threaded flange 6 of a cap or closure 7. The cap or closure 7 may be made with an angular head 8 to receive a wrench as shown in Figure 1, or it may be formed with an angular wrench-receiving socket 9 as shown in Figure 2, and a gasket 9^a is located between the cap or closure and the end of the sleeve.

The sleeve and its cap constitute a closure for the cleaning-out opening in the boiler and when said sleeve shall have been placed in position, it will be secured to the boiler sheet by a weld 10 which surrounds said sleeve and integrally unites the same to the boiler sheet, said weld being preferably united to a portion of the threaded part of the sleeve. The sleeve may, however, be made with a plain portion 11 as shown in Figure 3 and the weld may be located between this plain portion and the boiler sheet. In the embodiment of the invention shown in Figure 3, the sleeve passes only partly through the opening in the boiler sheet, as indicated at 12.

When the closure is to be applied to a boiler having a cleaning-out opening from which a threaded plug has been removed, leaving the wall of the opening threaded, as at 13, a sleeve 14 having its exterior threaded from end to end, may be employed, as shown in Figure 4, and this exteriorly threaded sleeve will be united to the boiler sheet by a weld 15.

With the use of my improvements, the cleaning-out opening will be tightly closed without necessity for the use of calking and may be opened by merely removing the cap. The cleaning-out device may be passed through the sleeve, (the interior of which is smooth) and there are no threads which can be marred or broken by the cleaning-out device.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. The combination with a boiler having a cleaning-out opening, of a nipple, said nipple being exteriorly threaded at one end and having a water-tight connection with said cleaning-out opening.

2. The combination with a boiler having a cleaning-out opening, of a nipple entering said opening, said nipple being exteriorly threaded at one end and having an unthreaded interior, and means effecting a water-tight connection of said nipple with the boiler.

3. The combination with a boiler sheet having a cleaning-out opening, of a sleeve passing through said opening and having a lateral flange or shoulder at its inner end and having an outwardly projecting exteriorly-threaded portion, a closure for said sleeve having an interiorly threaded flange

engaging the exteriorly threaded portion of the sleeve, and a weld uniting said sleeve to the boiler sheet.

4. The combination with a boiler sheet having a cleaning-out opening, said opening having an unthreaded wall, of a sleeve having an unthreaded portion entering said opening and having an exteriorly threaded portion projecting beyond the boiler sheet, a weld uniting said sleeve to the boiler sheet, and a removable closure engaging the exteriorly threaded portion of the sleeve.

In testimony whereof I have signed this specification.

ETHAN I. DODDS.