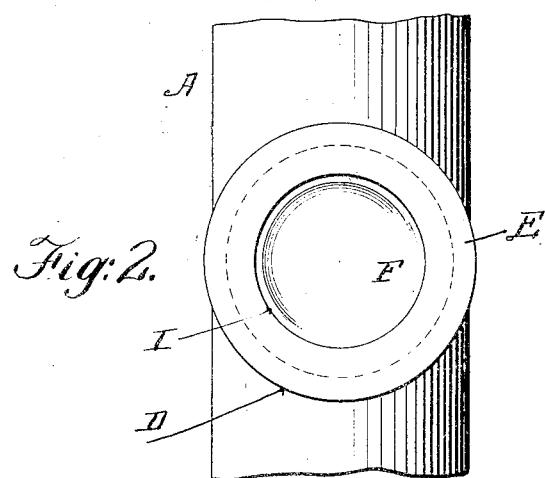
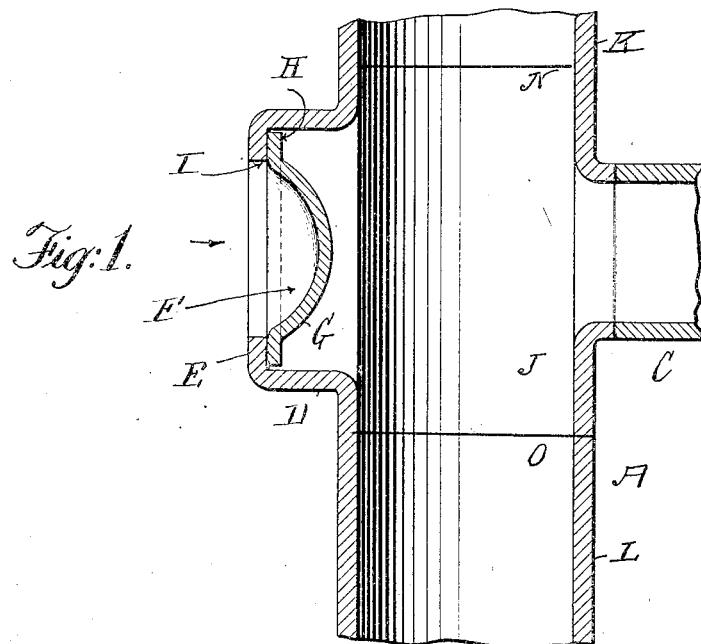


T. E. MURRAY.
CLOSURE FOR OPENINGS IN BOILER HEADERS.
APPLICATION FILED DEC. 16, 1919.

1,350,832.

Patented Aug. 24, 1920.



Inventor
Thomas E. Murray
By his Attorney
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UNITED STATES PATENT OFFICE.

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CLOSURE FOR OPENINGS IN BOILER-HEADERS.

1,350,832.

Specification of Letters Patent. Patented Aug. 24, 1920.

Application filed December 16, 1919. Serial No. 345,171.

To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State 5 of New York, have invented a certain new and useful Improvement in Closures for Openings in Boiler-Headers, of which the following is a specification.

The invention is a closure for openings 10 in a boiler header, which can be made from sheet metal, easily applied and easily removed when access is desired to the interior of the header. The invention consists in the construction more particularly set 15 forth in the claims.

In the accompanying drawing—

Figure 1 is a longitudinal section of a 20 boiler header, showing my closure in place. Fig. 2 is a front elevation taken in the direction of the arrow in Fig. 1.

Similar letters of reference indicate like parts.

A is a tubular header for a water tube boiler, to which one of the circulation tubes 25 C is here shown butt-welded. On the front side of the header is integrally formed a tubular projection D having on its outer edge an inwardly turned flange E. To close the opening surrounded by said flange E, 30 I provide a circular plate F, here having its central portion G concavo-convex surrounded by a flat rim H. Said plate is preferably struck up from sheet metal, and placed in projection D with its rim H in contact with 35 the inner side of flange E, to which it is electrically sealed. Said seal is conveniently made from the outside by an arc pencil carried around the outer edge I of the joint between said rib and said flange.

40 The plate F is placed with its convexity in-

ward, as shown, and is introduced into the header before the ends thereof are closed; or into a header section, as J, when the header is built up of a series of said sections, as K, J, L, welded together in succession at joints indicated at N, O.

When it is desired to obtain access to the interior of the header, the seal can be easily broken and the plate driven inward by a hammer blow delivered upon it from the 50 outside. The plate will then fall to the bottom of the header, wherefrom it can be removed. To close the opening again, a new plate F may be inserted and sealed to the flange E in the manner already described. 55

The object of making the plate F concavo-convex and placing it with its convexity inward is to increase its strength to resist the internal pressure in the header.

I claim:

1. A header for steam boilers having a lateral tubular projection with an inwardly turned flange on its outer edge, and a closure within said projection electrically sealed to said flange. 60

2. A tubular header for steam boilers having a lateral tubular projection with an inwardly turned flange on its outer edge, and a closure plate within said projection, the said plate having a concavo-convex central portion and an encircling flat rim, the said rim being electrically sealed to the inner surface of said flange. 65

70 In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS E. MURRAY.

Witnesses:

GERTRUDE T. PORTER,
MAY T. McGARRY.