No. 877,153. PATENTED JAN. 21, 1908.

R. WOLFREY.

TOOL.

APPLICATION FILED AUG. 7, 1907.

Fig. 1.

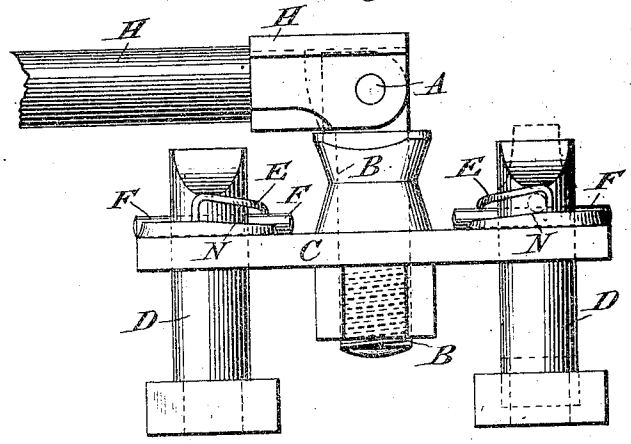


Fig. 3.

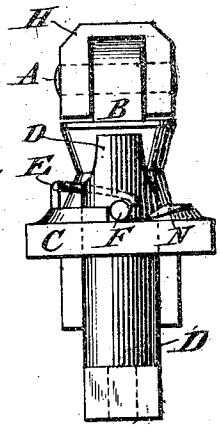


Fig. 2.

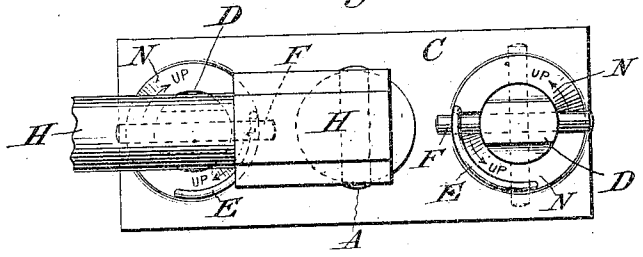
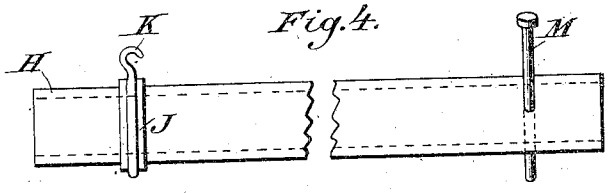


Fig. 4.



Witnesses:
W. W. Crouse
John F. Oberlin

Inventor
Reuben Wolfrey

UNITED STATES PATENT OFFICE.

REUBEN WOLFREY, OF WEST ALEXANDRIA, OHIO.

TOOL.

No. 877,153. Specification of Letters Patent. Patented Jan. 21, 1908.

Application filed August 7, 1907. Serial No. 387,564.

To all whom it may concern:

Be it known that I, REUBEN WOLFREY, a citizen of the United States, residing at West Alexandria, in the county of Preble and State of Ohio, have invented a new and useful Improvement in Tools, of which the following is a specification.

My invention relates to the construction, cleaning, and repairing of steam boilers, and the purpose thereof is to enable the manhole plate of a steam boiler to be removed, replaced, and adjusted more quickly and with more ease and accuracy without regard to the temperature of the boiler. I attain this object by means of the mechanism illustrated in the accompanying drawing, in which

Figure 1 is a side view or vertical section of the entire tool, except the handle. Fig. 2 is a top view of the tool. Fig. 3 is an end view of the same, and Fig. 4 shows the handle of the tool, which is detachable and consists of a piece of ordinary gas or water pipe of any desired length. The entire tool is essentially a clamp to be attached, at will, to the face of the manhole plate, and this is accomplished in the following manner,—

Through each end of the plate C. Figs. 1, 2, and 3, are inserted the bolts D D; on the lower end of which are T - shaped heads. These bolts are held in place by the pin F, Figs. 1, 2, and 3, which rest on the beveled washer N, Figs. 1, 2, and 3, and which permit the bolts D D to make one-fourth of a turn in the plate C, Fig. 1. The end play of these bolts D D is limited by the keepers E E, Figs. 1, 2, and 3 over one end of each of the pins F F, Figs. 1, 2, and 3. Through the center of the plate C, Fig. 1, is fixed the bolt B, Figs. 1 and 3, to the top of which is hinged the handle-lug H by the pin A, Figs. 1, 2, and 3. The handle H, Fig. 4, is fitted with a movable band J and hook K, Fig. 4, which may be fixed at any required distance from either end of the handle, and through the handle is inserted at a right angle thereto a rod M, Fig. 4, by which the handle and tool can be revolved to any desired position.

To attach the clamp or tool to the manhole plate for the removal of the same, the dogs and dog-bolts are removed from the plate and the T ends of the bolts D D inserted into the bolt slot in the manhole plate, each bolt is given one-fourth turn which, by means of the beveled washers N N, Figs. 1, 2, and 3, clamps the tool tightly to the plate. The hook K, Fig. 4, on the handle is then inserted into a link of a light chain suspended in front of the manhole when by means of the leverage obtained from the suspended handle the plate is lifted from its place and by the rod M, Fig. 4, through the handle, is turned to the position necessary to enable it to be withdrawn from the boiler.

To replace the plate, one dog-bolt is first inserted; the end of the plate with bolt inserted, is introduced into the manhole; the tool or clamp is then attached to the plate as for its removal, when the plate is swung into the boiler and drawn to its place without danger of displacing or injuring the gasket and securely held in place while the dogs and bolts are adjusted.

What I claim as my invention and desire to secure by Letters Patent is,—

A tool for removing and replacing manhole plates in steam boilers, consisting of a metal plate of any convenient size, through each end of which is inserted a movable and adjustable bolt with tee (T) shaped head, by means of which the tool may be clamped to the manhole plate by inserting the tee (T) ends of said bolts into the slot in the manhole plate and giving the bolts a one-quarter turn, and to the center of which plate, on the side opposite the tee (T) ends of said bolts, is hinged a jointed handle for bringing and retaining the manhole plate to any desired position, all substantially as set forth.

REUBEN WOLFREY.

Witnesses:
CHARLES D. GLAUDER,
WILLIAM W. CROUSE.