No. 784,934. PATENTED MAR. 14, 1905.

T. V. FREEBURY.

PROSSERING AND FLUE BEADING TOOL.

APPLICATION FILED JUNE 21, 1904.

Fig. 1.

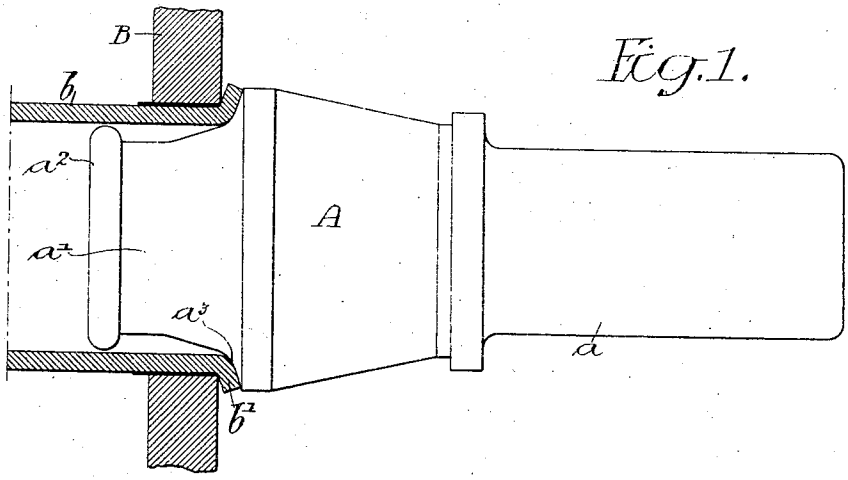


Fig. 2.

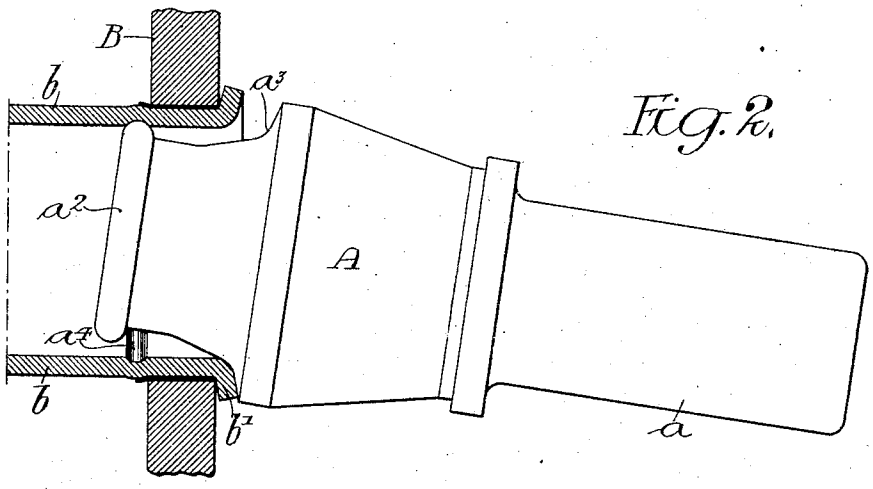
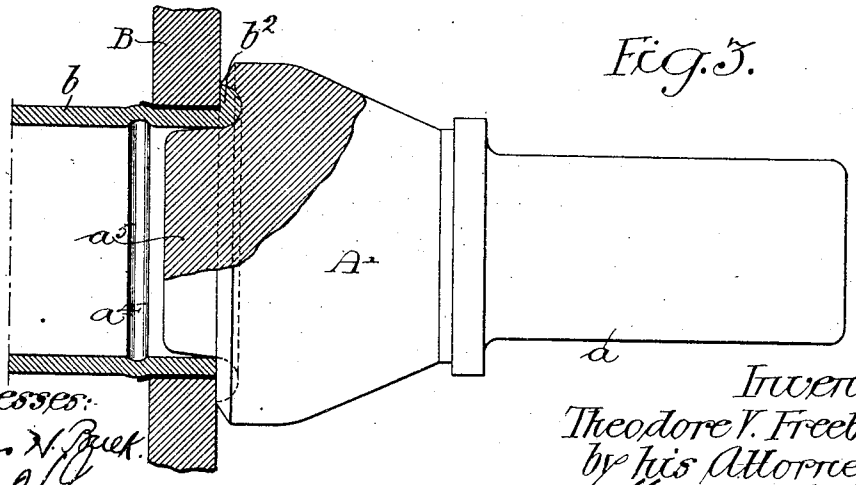


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

THEODORE V. FREEBURY, OF PUEBLO, COLORADO, ASSIGNOR OF ONE-HALF TO H. A. DEUEL, OF PUEBLO, COLORADO.

PROSSERING AND FLUE-BEADING TOOL.

SPECIFICATION forming part of Letters Patent No. 784,934, dated March 14, 1905.

Application filed June 21, 1904. Serial No. 213,550.

To all whom it may concern:

Be it known that I, THEODORE V. FREEBURY, a citizen of the United States, residing in Pueblo, Colorado, have invented certain Improvements in Prossering and Flue-Beading Tools, of which the following is a specification.

The object of my invention is to provide a tool particularly designed for use in connection with a pneumatic hammer by which the time and labor necessary in beading and prossering the tubes of a steam-boiler or similar structure will be materially reduced. This object I attain as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved tool, showing it as employed in beading a tube. Fig. 2 is an elevation similar to that in Fig. 1, illustrating my tool as employed in prossering a tube; and Fig. 3 is a side elevation, partly in section, of a special form of my improved tool employed for finishing the beading of a boiler or other tube.

In Figs. 1 and 2 of the above drawings, a is the shank of the tool, which is adapted to be entered in any desired form of pneumatic or other automatically-acting tool, there being at the opposite end of said tool a head A, provided with an extension a', which terminates in a projecting bead or flange a^2. The extension a' is connected to the head of the tool by a filleted portion a^3, this latter being employed, as shown in Fig. 1, to turn over the end of the tube b, so as to hold it rigidly and permanently in a tube-sheet B.

Under operating conditions the extended portion a' of the tool is entered in the tube b, and the hammer to which said tool is attached being set in operation the end of the tube is turned over, as shown. Thereafter by slightly inclining the tool to the line of the tube, as indicated in Fig. 2, the beaded portion of said tool is brought into engagement with the side of the tube, and by rotating the tool the flue is hammered out into the prosser, as indicated at a^4. In order to turn down and complete the turned-over edge of the tube, a tool having a head A′ is employed, there being in said head an annular recess which fits over the portion b' of the tube and under the action of the hammer causes it to assume the shape indicated at b^2 in Fig. 3. This latter tool has an extended portion a^5, which enters the end of the tube sufficiently to properly guide the annular recess in the head over the flanged edge of the tube.

I claim as my invention—

1. A prossering-tool made in a single piece and having a shank for attachment to a motor, a continuous bead at the end thereof opposite said shank, and means for limiting the distance said tool is entered in a tube, the distance between said bead and the limiting means bearing a definite relation to the distance between the end of a tube operated upon and the prosser thereof, said tool being so constructed that when it is inclined to the line of a tube said bead and limiting means engage opposite sides of said tube, substantially as described.

2. A tool made in a single piece and having a portion for attachment to a motor, a continuous bead extending around one end of the tool, and a head adjacent to the end and provided with a filleted portion for engagement with the end of a tube, said filleted portion being at a definite distance from said bead depending upon the distance from the end of a tube to the prosser to be formed therein, and the bead being of such a diameter that when the tool is inclined to the line of the tube said bead and the filleted portion engage opposite sides of said tube, substantially as described.

3. A tool consisting of a metal piece having a head, a shank for attachment to a fluid-operated motor, there being a portion of said tool of a diameter less than the head and extending beyond the same, with a relatively narrow bead on said extension, the dimensions of said tool being such that when said tool is inclined to the line of the tube a portion of its head and the bead respectively engage opposite sides of the tube, substantially as described.

4. A tool having a portion for attachment to a motor, a head of a greater diameter than the internal diameter of a tube to be operated

on, an integral extension beyond said head of less diameter than the same, and a continuous rounded flange at the end of said extension, the dimensions of said tool being so proportioned that when in operative position portions of the head and of said flange respectively engage opposite sides of the tube, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODORE V. FREEBURY.

Witnesses:
TONY FISHER,
WARREN POND.