

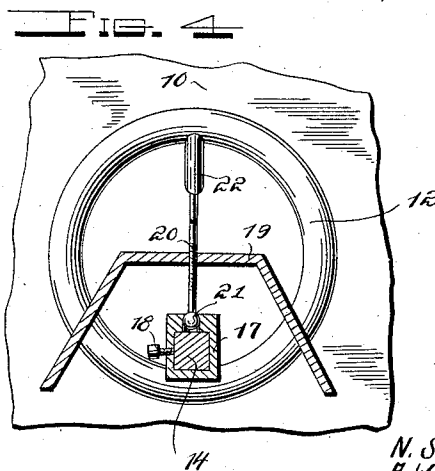
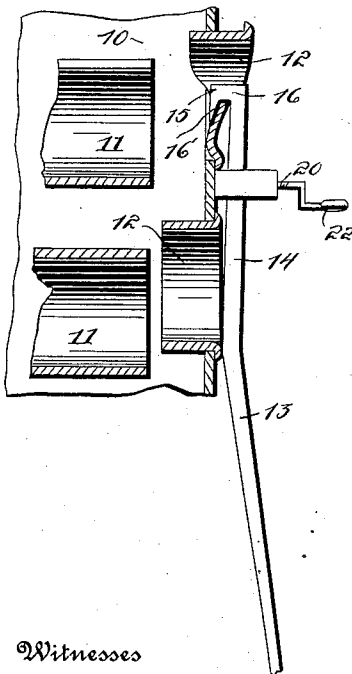
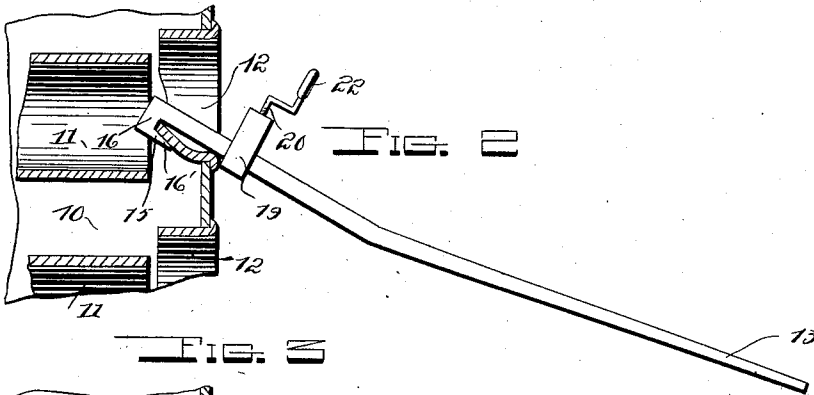
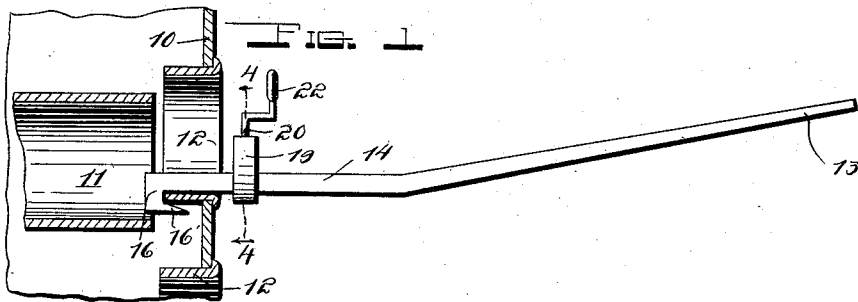
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FLUE REMOVING TOOL.

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1,047,832.

Patented Dec. 17, 1912.



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UNITED STATES PATENT OFFICE.

NED S. PETERSON AND AUGUST W. MOHRMAN, OF DELL RAPIDS, SOUTH DAKOTA.

FLUE-REMOVING TOOL.

1,047,832.

Specification of Letters Patent.

Patented Dec. 17, 1912.

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To all whom it may concern:

Be it known that we, NED S. PETERSON and AUGUST W. MOHRMAN, citizens of the United States, residing at Dell Rapids, in the county of Minnehaha, State of South Dakota, have invented certain new and useful Improvements in Flue-Removing Tools; and we 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 tools for removing flue tips from the flue sheets of boilers after the flues have been severed.

An object of the invention is to provide a tool which will be composed of a small number of simple parts that will not easily get out of order, the tool being applied quickly and easily to operative position and serving to remove the flue tip in minimum time and with minimum manipulation.

With the above objects in view the invention consists of certain novel details of construction and combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claim.

In the accompanying drawing forming part of this specification:—Figure 1 is a longitudinal sectional view through a flue and flue sheet with my improved tool applied to one of the flues. Fig. 2 is a view similar to Fig. 1 showing the tool in an intermediate step of the flue removing operation. Fig. 3 is a similar view to Figs. 1 and 2 and showing the tool in the final step of the flue removing operation. Fig. 4 is a cross sectional view taken on the line 4—4 Fig. 1.

Referring now to the drawing in which like characters of reference designate similar parts, 10 designates a flue sheet, 11 a flue severed from the sheet as is customary prior to the flue removing operation, and 12 designates the flue tip in normal position in the flue sheet.

The tool comprising the subject-matter of this invention consists of a substantially straight handle 13 having an end portion formed square in cross section as shown at 14 and offset at a slight angle from the handle. The offset portion 14 terminates in a hook 15 the bight 16 of which is positioned

at a right angle to the offset portion and the bill 16 of which is substantially parallel with the offset portion.

Slidably fitted on the offset portion 14 is a collar 17 having a square bore, the collar furthermore being adjustably secured at any desired position longitudinally upon the said portion 14 through the instrumentality of a set screw 18. A yoke 19 straddles the collar and a feed screw 20 is threaded through the yoke and is provided with a swivel head 21 which is attached to the collar as shown. The feed screw is provided with a turning crank 22.

In operation the hook of the tool is passed into the flue tip and hooked over the inner edge of the flue tip as shown in Fig. 1. The operator now bears down upon the tool handle, whereupon the tip is distorted as shown in Fig. 2 with a resultant diminishing of the vertical diameter of the tip. The tip is thus loosened and may often times be entirely withdrawn by further pressure upon the tool handle. To insure the withdrawal of the tip when it cannot be withdrawn by continued pressure upon the tool handle, the branches of the yoke are brought to bear against the outer face of the flue sheet. The handle of the feed screw is now rotated to draw the offset portion and consequently the hook of the tool outwardly into the yoke with a resultant movement bodily outward of the flue tip as shown in Fig. 3.

From the above description it will be seen that an extremely inexpensive and durable tool has been provided which may be quickly applied to operative position and will effectively remove flue tips in minimum time and with minimum manual labor.

What is claimed, is:—

A tool including a handle having an offset portion terminating in a hook, a collar adjustably mounted on said offset portion, a yoke straddling said collar and said offset portion, and a feed screw threaded through an opening in said yoke and terminally secured by a swivel connection to said collar.

In testimony whereof, we affix our signatures, in presence of two witnesses.

NED S. PETERSON.

AUGUST W. MOHRMAN.

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