

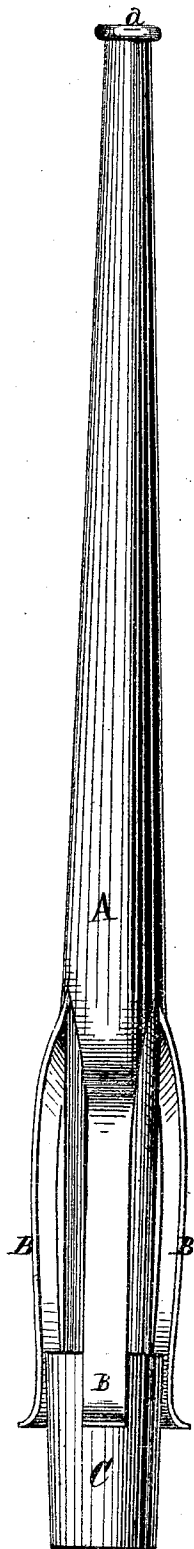
[66.]

JAMES RITCHIE.

Improvement in Plugging Leaky Boiler-Tubes.

No. 118,818.

Patented Sep. 12, 1871.



ATTEST:

H. F. Eberle
Wm. F. Church

INVENTOR:

James Ritchie
per Attorney
Wm. S. Sprague

UNITED STATES PATENT OFFICE.

JAMES RITCHIE, OF DETROIT, MICHIGAN, ASSIGNOR TO HIMSELF AND WILLIAM J. WALSH, OF SAME PLACE.

IMPROVEMENT IN TOOLS FOR PLUGGING LEAKY BOILER-TUBES.

Specification forming part of Letters Patent No. 118,818, dated September 12, 1871.

To all whom it may concern:

Be it known that I, JAMES RITCHIE, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in a Tool for Plugging Leaky Boiler-Tubes; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which my improvement is shown in elevation.

The object of this invention is to provide a tool by means of which a leaking tube in a steam-boiler may be safely plugged without hauling the fire or blowing off the water; and it consists in a metallic bar of sufficient length to reach across the fire-box of a locomotive-boiler, and provided at one end with two or more spring-clamps projecting beyond the bar to receive a flue-plug and hold it while being driven into the tube by hammering at the other end of the bar.

In the drawing, A represents an iron bar, tapered, on the larger end of which are forged or otherwise secured spring-clamps B, their free ends projecting beyond the base of the bar to grasp and hold the base of a flue-plug, shown at C. For use by locomotive-engineers the bar should be long enough to reach from the fire-door, across the fire-box, to the tube-sheet, so that when a tube splits, or from any cause leaks, a plug may be steadily held in the mouth of the tube against the pressure of the escaping water, while an assistant, by a few blows from a ham-

mer on the other end of the bar, firmly sets the plug, when the bar may be withdrawn. In like manner the other end of the tube may be plugged, and the train proceed with but a very short detention. For locomotive-engineers another bar should be provided having a bend near the base, like that of a carpenter's brace, to enable the engineer to plug a leaky flue at the front end, which may be in rear of either steam-pipe.

Although more especially designed for use in locomotive-boilers, the tool can be used to the same advantage in other boilers.

I am well aware that tongs have been used for holding the plug while being driven, but some one had to get into the fire-box to drive it, necessitating the loss of considerable time in cooling down and lowering the water-level in the boiler before the flue could be plugged, and afterward in raising steam again.

As the thimbles or ferrules of boiler-tubes frequently get loose and leak, I make the other end of the bar broad enough to cover the end of the thimble, by upsetting it, as shown at *a*, when a few light blows on the thimble sets it tight again.

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

The bar A, provided with two or more spring-clamps, B, for holding a flue-plug while being driven, substantially as shown and described.

JAMES RITCHIE.

Witnesses:

MYRON H. CHURCH,
H. F. EBERTS.