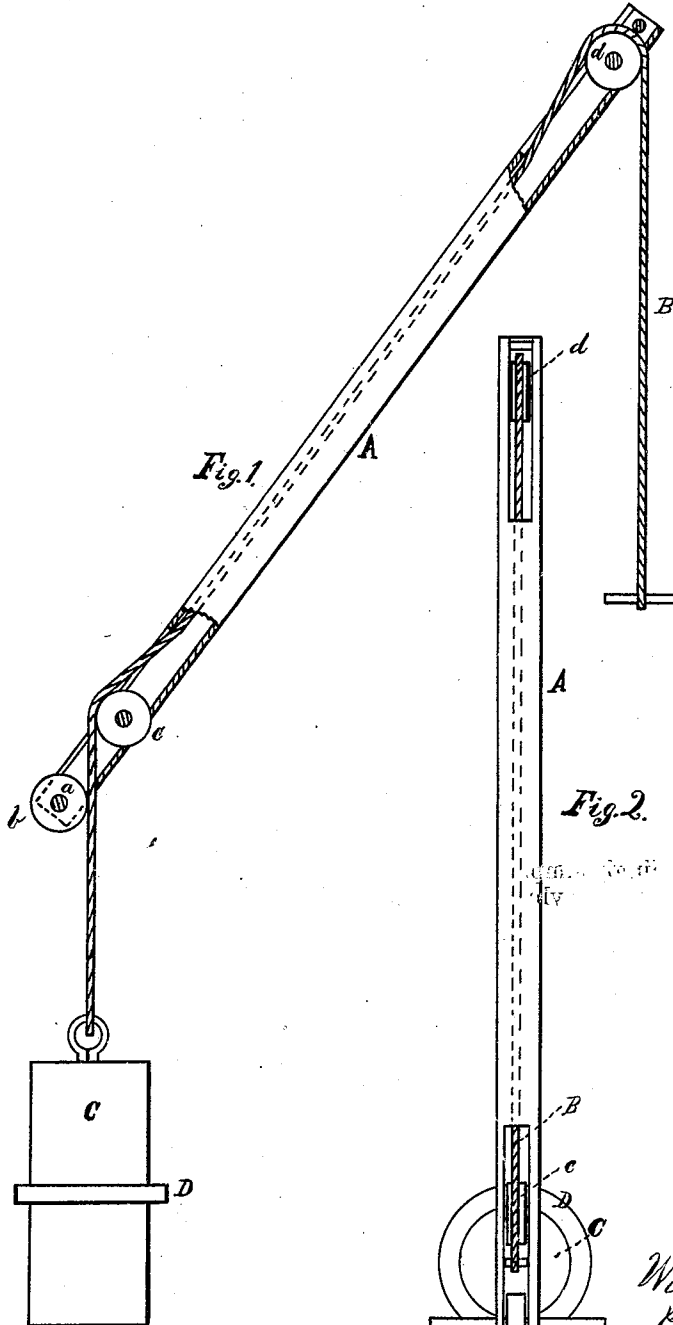


W. H. WALDRON.

Devices for Cleansing Boiler-Tubes.

No. 150,205.

Patented April 28, 1874.



Witnesses:
Frank H. Jordan,
Charles E. Clifford

Inventor:
William H. Waldron
per
Wm. Henry Clifford
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM H. WALDRON, OF PORTLAND, MAINE.

IMPROVEMENT IN DEVICES FOR CLEANSING BOILER-TUBES.

Specification forming part of Letters Patent No. **150,205**, dated April 23, 1874; application filed April 7, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. WALDRON, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Devices for Cleansing Boiler-Tubes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the accompanying drawings forming part of this specification, and to the letters of reference marked thereon.

Figure 1 is a side elevation; Fig. 2, a top plan.

Same letters show like parts.

The object of my invention is to produce an implement or device for the removal of soot and other accretions in the tubes of vertical tubular boilers.

It is known to the users of such boilers that considerable difficulty is experienced in removing such accumulations, whose removal becomes absolutely necessary when they have increased to such extent as to impede the proper draft and operation of the boiler.

The construction is exceedingly simple, and consists in the combination of a cylindrical tube of proper length, a cord, a weight, and a brush or cleanser, the latter being made of rubber, or of some other convenient and elastic substance.

The cylindrical tube is inserted at a convenient aperture over the flues or tubes of the boiler. The lower end of the tube is placed within the upper end or mouth of one of the tubes, and the other end projects through the aperture, so as to be convenient to the hand of the user. Through the tube which is held in the hand of the user passes a cord, to the lower end of which is attached the weight and the brush or cleanser, before named.

When the cleanser is first to be placed in one of the flues, the weight is drawn up by the cord close to the lower end of the tube through which the cord passes. This enables the user to easily direct the weight and the cleanser to the top aperture of any particular flue he may desire. When the weight and cleanser have been placed in a particular flue, the cord is allowed to slip through the directing-tube, thus allowing the weight and the cleanser to slip down through the flue.

The cleanser is made sufficiently large to fill the aperture of the flue. The cord is made sufficiently long to allow the weight and cleanser to drop to the bottom end of the flues.

The deposit within the flues is removed by drawing the weight and cleanser up, and permitting them to drop down by their own weight until the obstructions in the flue have been rubbed off, the said obstructions, when loosened, falling down through the flue. The weight is sufficiently great to carry the cleanser down through the flue.

The device is used as follows: One person holds the directing-tube in the aperture in the top of the boiler or in the smoke-stack, and thus directs the weight and cleanser to the top apertures of the flues, successively. Another person, standing below, holds the cord, and by it pulls the weight and cleanser up to the top of a flue, and there allows it to drop to the bottom until the flue is cleansed.

A shows the directing-tube; B, the cord; C, the weight, and D the cleanser.

I would specify that the cleanser can be conveniently made of a disk or other form of rubber, with proper surface of contact with the flue. The elasticity of the rubber enables it to work to good effect.

I do not claim circular brushes set upon wires or rods, such as have been used to sweep out horizontal boilers.

a shows a cross-bar at the lower end of the directing-tube, to extend across the mouth of the flue, and so support it in position while the flue is being cleansed by the weighted brush: b, c, and d show pulleys pivoted in the directing-tube, for the purpose of diminishing friction and wear upon the cord as the same is drawn backward and forward through the tube.

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

The combination of the cord B, weight C, and cleanser D with the directing-tube A, when operated as herein described, and for the purposes set forth.

WM. H. WALDRON.

Witnesses:

WM. HENRY CLIFFORD,
FRANK H. JORDAN.