

D. H. PRIEST, J. B. JOHNSON & H. WHITTEMORE.

Flue-Cleaners for Boilers.

No. 152,766.

Patented, July 7, 1874.

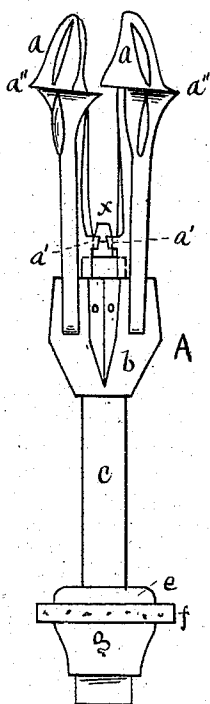


Fig. 1



Fig. 3

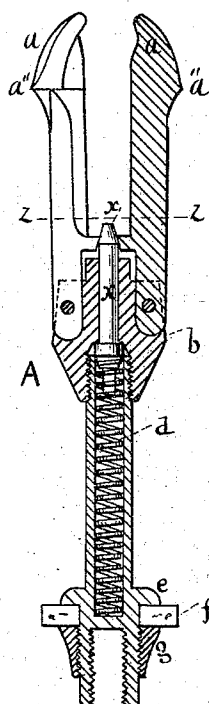


Fig. 2



Fig. 4

Witnesses

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DAVID H. PRIEST, OF WATERTOWN, AND JOHN B. JOHNSON AND HARRISON WHITTEMORE, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN FLUE-CLEANERS FOR BOILERS.

Specification forming part of Letters Patent No. **152,766**, dated July 7, 1874; application filed January 3, 1874.

To all whom it may concern:

Be it known that we, DAVID H. PRIEST, of Watertown, and JOHN B. JOHNSON and HARRISON WHITTEMORE, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a Flue-Cleaner for Boilers and like purposes, of which the following is a specification:

The invention relates to a cleaner for boiler-flues, or other cylinders which require cleaning. It consists of four or any convenient number of scrapers hinged to a socket. Within the socket is an expander, actuated at its lower end by a spring, and having its upper end conical or beveled. Upon the inside of each scraper and near the hinge is a shoulder, and these shoulders touch, or nearly touch, each other when hinged and not moved by any force. The expander, actuated by the spring, pushes against these shoulders, and, by its conical part, spreads the scrapers apart. Each scraper has a rim at its most bulging part to perform the scraping, and together they form substantially a continuous rim. As the cleaner is pushed into the flue the pressure upon the upper end of the scrapers causes the shoulders upon the scrapers to act upon the conical expander, which, in turn, pushes against the spring, but the spring keeps, by its constant pressure upon the expander, the scrapers up to their work. There is also upon the lower part of the cleaner, near the handle, a duster or brush, which assists in more thoroughly cleaning the flue.

Figure 1 is a perspective view of the flue-cleaner. Fig. 2 is a vertical section of the same. Fig. 3 is an end view of the scrapers closed. Fig. 4 is a cross-section of Fig. 2 in line $z z$.

The letter A represents the flue-cleaner; $a a a$, the scrapers, having shoulders $a^1 a^1 a^1$ and rims $a^2 a^2 a^2$; b , the socket, to which the scrapers are hinged; c , the socket of b , continued and containing the spring d ; e , a shoulder upon the lower end of c ; f , a duster or brush; g , a nut, keeping the duster in place against the shoulder e ; and x , the expander.

The figures and letters are made parts of the specification.

Great difficulty has been experienced in cleaning the flues of boilers which have become foul, and various devices have been used for cleansing them. The chief difficulty has been to keep the scrapers expanded, so as to perform their work. The springs that have been used for this purpose have been so exposed to the heat of the flue that in a short time they would become useless. In this invention the spring acting upon scrapers by means of the expander entirely obviates the difficulty, as, being inclosed, no heat can have the least effect upon the spring.

The drawings, Figs. 1 and 2 show the full arrangement of all the parts of the invention.

Within the continuous socket of b and c is a spring, d , its lower end resting upon e , its upper end pushing upward the expander x , and this expander, in turn, at its conical or beveled part, operates upon the shoulders $a^1 a^1$, &c., of the scrapers.

The conical part of the expander being made of the most durable metal, and the spring moving it being protected from heat, the machine becomes a durable machine.

There is also a scraper, of softer material, f , placed near the handle of the cleaner, as a follower to the scrapers $a a$, &c., to dust and more thoroughly clean the flue. f may be made of any suitable dusting material, as leather, bristles, sponge, &c., and arranged as shown in the drawings.

What we claim as our invention, and desire to secure by Letters Patent, is—

In a flue-cleaner, A, the combination and arrangement of the series of pivoted scrapers, $a a a$, the expander x , and the spring d , when said spring is inclosed in a tube, c , all operating together as shown and described.

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