O. B. KENDALL.
Boiler-Flue Cleaners.

No. 199,650. Patented Jan. 29, 1878.

Figure 1,

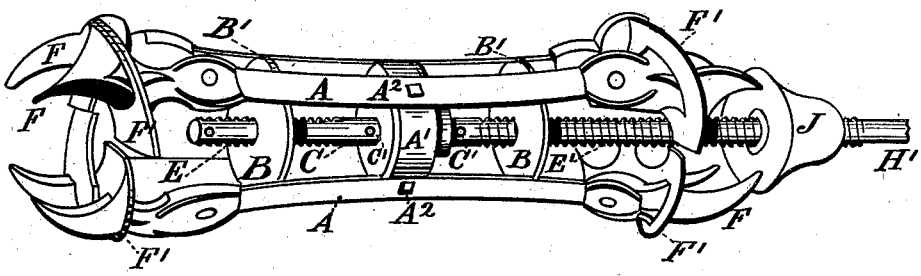


Figure 2,

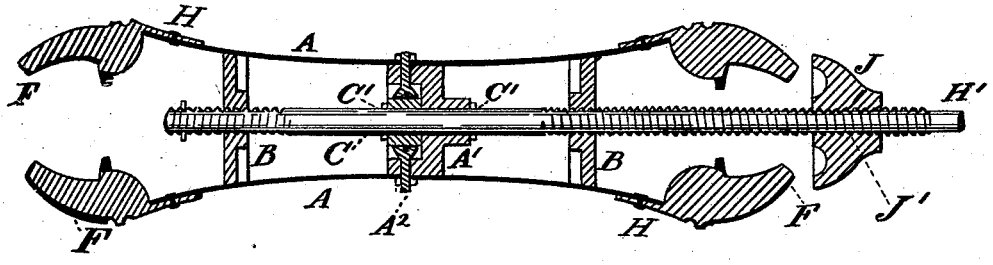
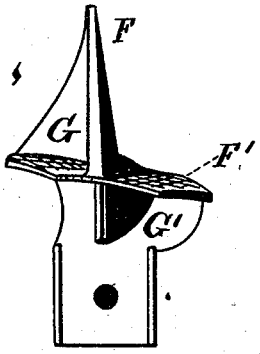


Figure 3,



Witnesses,
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UNITED STATES PATENT OFFICE.

ORSON B. KENDALL, OF BUFFALO, NEW YORK.

IMPROVEMENT IN BOILER-FLUE CLEANERS.

Specification forming part of Letters Patent No. **199,650**, dated January 29, 1878; application filed June 29, 1877.

To all whom it may concern:

Be it known that I, ORSON B. KENDALL, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Flue-Cleaners, which improvements are fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a perspective view; and Fig. 2, a vertical longitudinal section through the center of two of the springs, the expanding disks, center piece, and coupling device. Fig. 3 represents a front view of one of the scrapers or tips.

The object of my invention is to produce a flue-cleaner that will readily accommodate itself to any variations within the tubes, and can be set up to fit tightly, or constructed so as to pass over any uneven surface, by turning the handle or rod to which it is attached; and it consists of a number of flat curved springs, rigidly fastened at the middle to a center piece, and each provided at both ends with a scraper or tip having a circular edge, in combination with two expanding disks, provided with slots or depressions on the periphery of each, into which the springs fit, so as to prevent them from turning, and at the same time permit a free longitudinal movement, and a right-and-left-hand screw, which operates through the center of each and through the center piece, so that when expanding or contracting the scrapers or tips the disks are moved simultaneously to or from each other by turning the rod having the right-and-left-hand screw, the said center piece being so arranged that while it allows the rod to turn easily it prevents any lateral or longitudinal movement, as will be more clearly understood by reference to the drawing, in which—

A represents the curved flat springs. A^1 is the center piece, to which the springs are fastened by the bolts A^2. B B represent the expanding disks. They are provided with the slots or depressions B′, into which the springs A are fitted, as shown, so as to permit said disks to move lengthwise of the same.

C represents the center rod. It passes through the center of A^1, and is prevented from moving lengthwise by means of the pins C′, or their equivalents in the form of nuts, but is allowed to turn easily. It also passes through the disks B B, and moves them to or from each other simultaneously by means of the right-and-left-hand screws E E′, without causing them to turn.

F represents the tips, which are formed so as to incline in toward the center, as shown, and thereby prevent the device from catching either way through the tube. They are provided with scraping-rims F′ and braces G G′, to strengthen them. These tips are riveted to the springs A, one at each end, as shown in Fig. 2, by means of the rivets H.

The handle, a portion of which is shown at H′, is held securely to the device by means of the guard-nut J. The end of the handle and end of the center rod C come together at J′, Fig. 2, and are thereby held securely, and easily released when required.

I claim as my invention—

The curved springs A, provided with tips or scrapers at each end, as specified, in combination with the center piece A^1, longitudinally-movable expanding disks B B, and rod C, provided with a right-and-left-hand screw, as and for the purposes described.

ORSON B. KENDALL.

Witnesses:

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