

*Blake & Tyrrel,
Steam-Boiler Cleaner.*

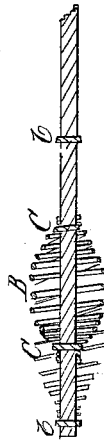
N^o 63,695

Patented Apr. 9, 1867.

Fig. 1



Fig. 2



Witnesses:

*Thos. H. Dodge
D. S. Miller.*

Inventor:

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United States Patent Office.

F. A. BLAKE AND H. A. TYRREL, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 63,695, dated April 9, 1867.

IMPROVEMENT IN FLUE-SCRAPERS.

The Schedule referred to in these Letters Patent and making part of the same.

KNOW ALL MEN BY THESE PRESENTS:

That we, F. A. BLAKE and H. A. TYRREL, both of the city and county of Worcester, and Commonwealth of Massachusetts, have made certain new and useful Improvements in Flue-Scrapers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a perspective view of a section of a flue with our scraper applied thereto, a portion of the flue being shown broken away, to show the scraper more fully; and

Figure 2 represents a longitudinal central section of spring B and a part of the rod A to which it is attached.

In the drawings, A represents a metallic rod, upon which is placed the coiled spring B, made in this instance in the form of a double cone, each end, C, of spring B being so coiled as to fit closely the rod A. A small pin, *a*, is passed through rod A, just inside of each end of the coiled spring B, and two other pins, *b b*, are inserted in rod A upon the outside of spring B, as fully shown in the drawings. Spring B is coiled so that when it is not in use the centre part is a little larger than the flue to be scraped.

The operation is as follows: The operator takes hold of the end D of rod A, and inserts the other end with the coiled spring B into the flue E. When the spring is inserted it is contracted somewhat, so that when it is moved back and forth in the flue it presses against the inner surface of the flue and conforms freely to the inequalities thereof, and thus effectually removes all dirt, ashes, and scales from the inside of the flues, and that, too, without injuring the metal of the flue, as is the case with many of the flue-scrappers now in use. By the use of pins *a a* and *b b*, spring B is allowed to elongate in either direction to a certain extent, but not so much as to injure the spring. This is illustrated in red lines, fig. 2, which shows the position which spring B assumes when being withdrawn from flue E, fig. 1. It will be seen that the first pin *a* holds the front of spring B from sliding back, while the rear pin *b* stops the further elongation of the spring B. When the spring is being forced into the flue, the action of the spring B is reversed, and the rear of the spring is held by the rear pin *a*, and the first pin *b* arrests the further elongation of spring B.

Spring B might be used when confined to rod A in a different manner, although we regard the mode above described as the best.

Instead of a metal rod to support the spring, one made of any other suitable material may be employed, and a coiled spring made of any shaped wire may also be used. The spring, too, may be made in different shape from that shown in the drawings.

Having described our improved flue-scraper, what we claim as new and of our invention, and desire to secure by Letters Patent, is—

1. The combination with rod A of the spiral spring, substantially as and for the purposes stated.
2. The combination of spring B with rod A and pins *a a* and *b b*, substantially as and for the purposes set forth.

F. A. BLAKE,
H. A. TYRREL.

Witnesses:

THOS. H. DODGE,
D. L. MILLER.