

W. C. BAKER.
FLUE CLEANER FOR BOILERS.

No. 84,079.

Patented Nov. 17, 1868.

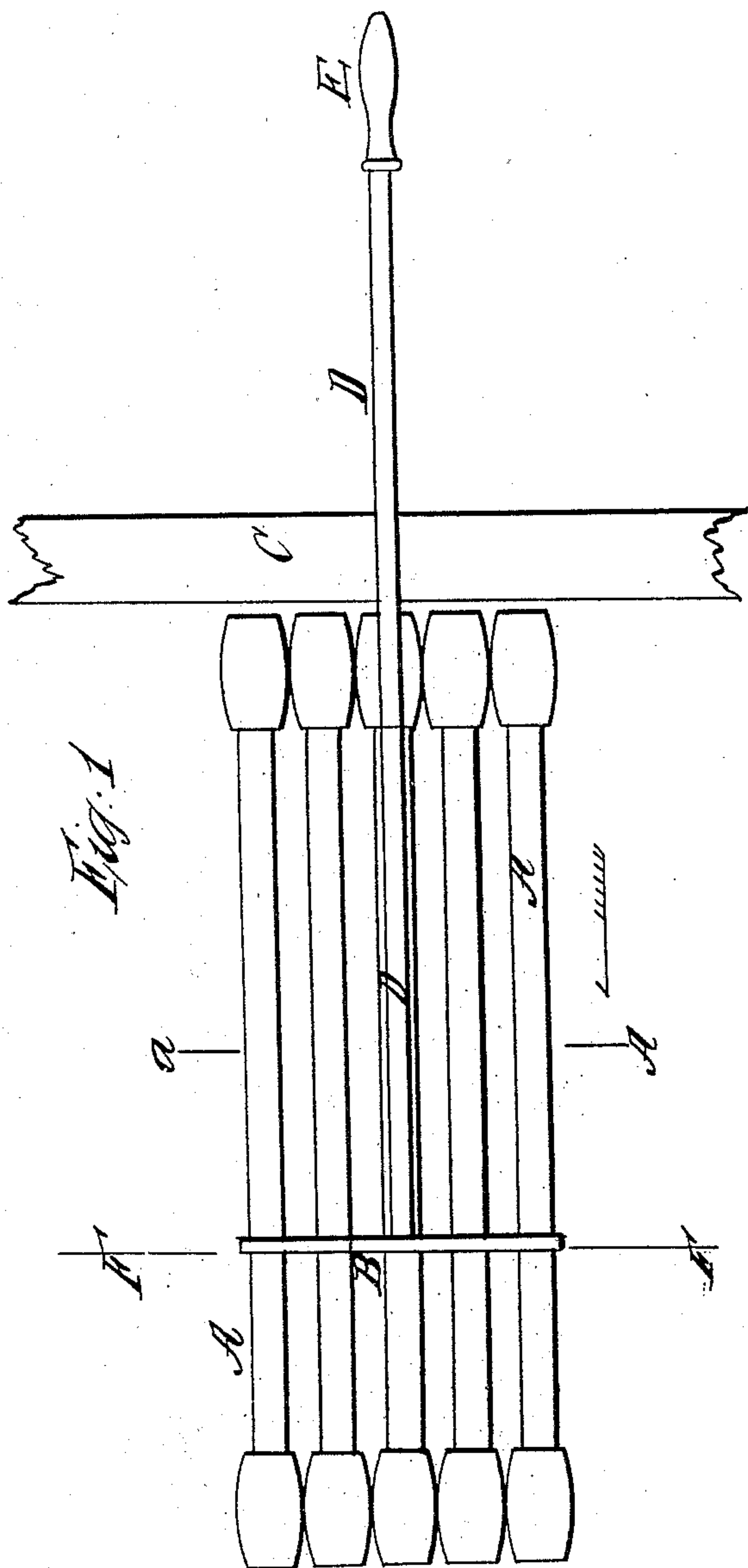
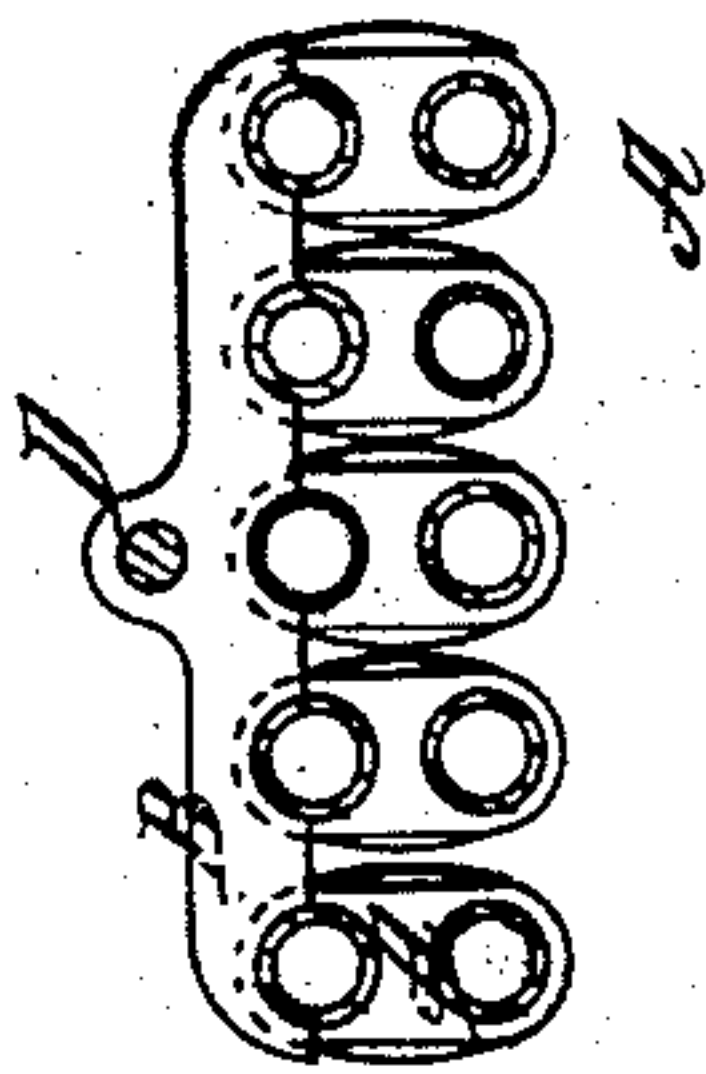


Fig. 1

Fig. 2. A. a



Witnesses:
W. J. A. Fuller,
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United States Patent Office.

WILLIAM C. BAKER, OF NEW YORK, N. Y.

Letters Patent No. 84,079, dated November 17, 1868.

IMPROVEMENT IN FLUE-CLEANERS FOR BOILERS.

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

To all whom it may concern :

Be it known that I, WILLIAM C. BAKER, of the city, county, and State, of New York, have invented certain new and useful Improvements in Boiler-Tube Cleaners; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 represents a plan view of a section of boiler-tubes with my improvement applied.

Figure 2 represents a cross-section at A *a* of fig. 1.

A is a portion of the tubes forming the steam-generator.

B is a scraper on the tubes, for cleaning the same.

C is the wall or enclosure of the generator.

D is a rod, attached to the scraper, and extending outside of the enclosure.

E is a handle, on the rod attached to the scraper, by which the scraper is operated, at pleasure, from the outside of the enclosure of the generator.

The lines F represent the point on the tubes of the generator at which the scraper may remain, when not otherwise employed, in lieu of a "bridge-wall" or partition for the generator, as hereafter more fully described.

The process of cleaning the tubes is self-evident. By taking hold of the handle E, outside of the casing or enclosure of the generator, at any time, whether the fire be burning or not, the scraper is moved back and forth lengthwise of the tubes, on or in close proximity to them, and the soot, or whatever may lodge on the outer surfaces of the tubes to impair the effect of the fire on the same, is most effectively removed, falling down so as to be removed through the ash-pit, or pit back of the "bridge-wall" partition.

In my patent for an improvement on my steam-generator, (No. 60,459, dated December 18, 1866,) I describe a stationary partition placed around the tubes, at about two-thirds of the distance of the length of the generator from the fire-end. This partition is for the purpose of directing the current of heat from the fire, and compelling it to be distributed over the entire surface of the tubes of the generator, instead of passing off nearly directly into the chimney, and thus wasting the greater amount of the heat, as it would were the partition not there.

My present invention, therefore, consists in the ar-

rangement of the scraper, so that it performs the double duty of a tube-scraper and a movable partition, that may remain at any desired point when not otherwise employed. Thus, I am enabled to enlarge or diminish, at pleasure, the space occupied by the portion of the generator over the fire, as well as the space for the descent of the smoke to the chimney, back of the partition, so that more or less of the fire-surfaces, as may be desired, shall come within the direct influence of the fire, while, at the same time, the space for the smoke, back of the partition, is proportionably enlarged or diminished.

This adjustment of the spaces for the fire and the smoke of the generator is very desirable to meet the requirements of chimneys of different degrees of draught and capacity for carrying off the smoke.

By employing this device in the double capacity of cleaner and partition, I am enabled to dispense with the set of cleaners which would be required for cleaning the tubes of the generator, back of the partition, were the partition stationary.

The scraper should be so constructed as to fit or nearly or quite come in contact with the upper half of each of the tubes of the generator, the portion on which the soot and ashes most lodge. The scraper should not bear against the under half circle of the tubes, nor should it impinge on any part so hard as to interfere with an easy movement over or on the tubes. It is best constructed of cast or wrought-iron, although any suitable metal may be used. It may be in one piece, so that every tube of the generator may be cleaned at the same time. Usually I prefer, especially for large-sized generators, to have the scraper made in two or more parts, with two or more rods and handles attached, so that the whole may be operated easily, and not be liable to clog and bind while being operated, either in parts or otherwise, with one or both hands.

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

The tube-scraper, constructed and arranged as specified, so as to form a partition for directing the products of combustion, except during the operation of scraping the tubes, as specified.

WM. C. BAKER.

Witnesses:

W. J. A. FULLER,
FRED. N. DODGE.