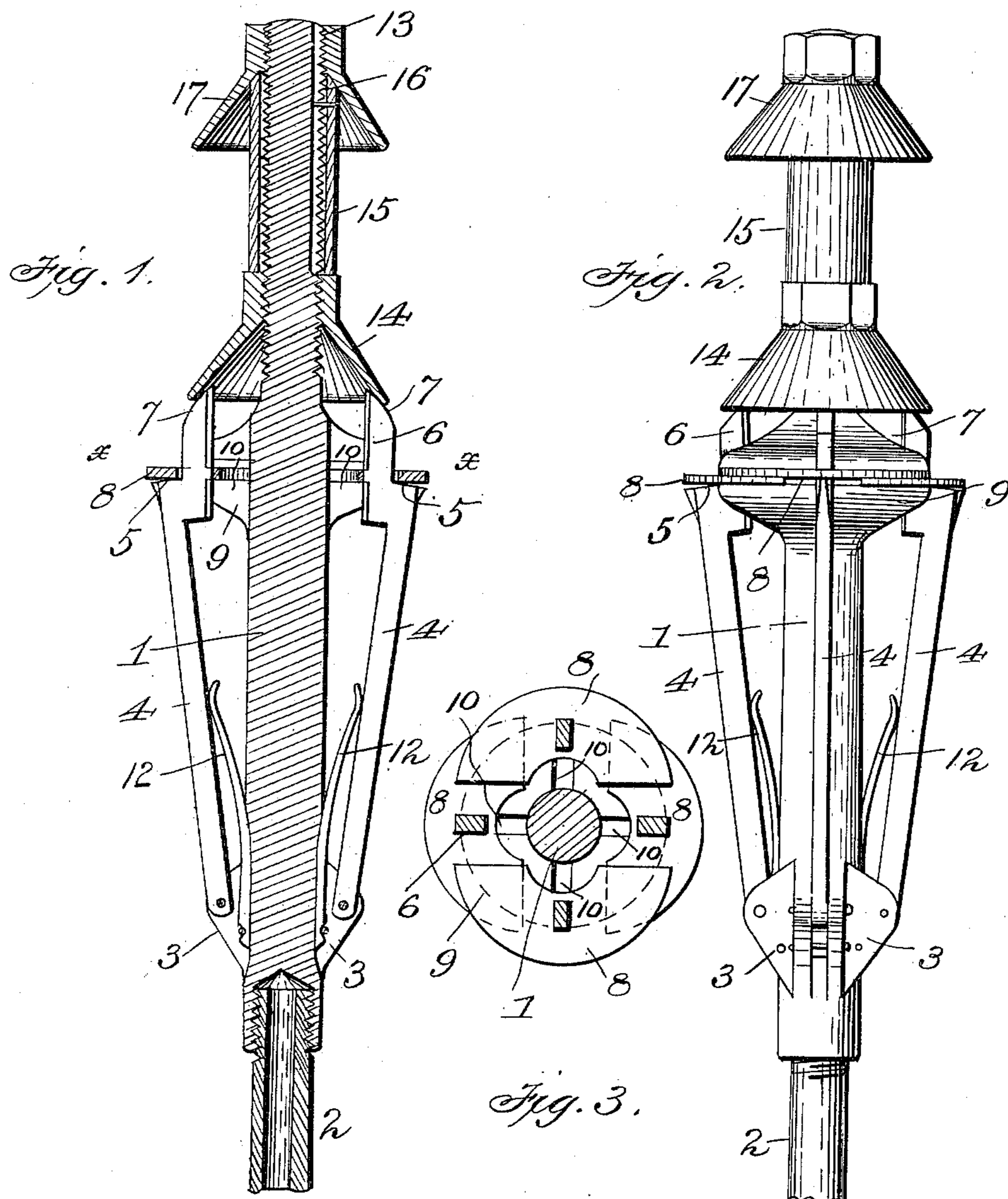


(No Model.)

A. A. HULL.
STEAM BOILER FLUE CLEANER.

No. 600,286.

Patented Mar. 8, 1898.



Witnesses
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ALFRED A. HULL, OF KNOXVILLE, TENNESSEE.

STEAM-BOILER FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 600,286, dated March 8, 1898.

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To all whom it may concern:

Be it known that I, ALFRED A. HULL, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented certain new and useful Improvements in Steam-Boiler Flue-Cleaners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to steam-boiler flue-cleaners of that class or description in which there is provided a rod or stem having pivoted spring-actuated scraper-plates, which are reciprocated back and forth in the flue and by their action remove the soot, scale, and other obstructions therefrom.

The object of the present invention is to provide an improved construction of flue-cleaner by means of which the scraper-plates may be readily adjusted to accommodate the device to varying sizes of flues; and it consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a steam-boiler flue-cleaner constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal section on the line *x x* of Fig. 1.

In the said drawings the reference-numeral 1 designates a rod formed at one end with a screw-threaded socket to receive the correspondingly-threaded end of an operating rod or handle 2. At this end the rod is formed with a number of radial lugs 3, arranged in pairs. Four pairs of these lugs are shown in the present instance, although more or less may be employed, as may be found convenient or desirable. Pivotally connected with each pair of said lugs is an arm 4, formed at the upper end with a shoulder 5 and a lug 6, the end of which latter is beveled at 7. These lugs 6 pass through segmental scraper-plates 8, which are located between collars 9, formed

on said stem or rod 1 near the upper end, which collars are formed with slots 10, in which the arms 4 and lugs 6 work. The shoulders 5 support the scraper-plates and limit their movement. The said scraper-plates are arranged in pairs located one above the other.

The numeral 12 designates springs bearing against the arms 4, and their tendency is to force said arms outward, so as to bring the scraper-plates connected therewith into contact with the interior of the flues.

The upper end of the rod 1 is screw-threaded and is also formed with a vertical groove 13 for a purpose hereinafter described. Fitting on said screw-threaded upper end of the rod 1 is a hollow conical nut 14, which is adapted to engage with the beveled ends of the lugs 6 and contract the same and the scraper-plates or allow them to expand or be pressed outward by the springs, according to the direction in which the nut is turned. Located above said nut is a sleeve 15, through which the rod 1 loosely passes. This sleeve is provided with an interior pin 16, which engages with the groove 13 in the rod 1 to prevent rotation of the sleeve, yet permits it to move up and down on said rod. A nut 17, engaging with said rod 1, is located above the sleeve 15.

The operation will be readily understood. The scraper-plates are adjusted to the diameter of the flue to be cleaned by moving the nut 14 up or down, as the case may be, and is held in such adjusted position by the sleeve 15 and nut 16, which serve to lock the nut 14 and prevent backward turning of the same. By now reciprocating the device in a flue the soot and scale will be scraped from the flue and removed.

Having thus fully described my invention, what I claim is—

In a steam-boiler flue-cleaner, the combination with the rod having a screw-threaded socket at one end and screw-threaded exteriorly at the opposite end and formed with a longitudinal groove, the lugs arranged in pairs, the arms pivoted to said lugs and formed at the free ends with beveled lugs and shoulders, the segmental scraper-plates connected therewith, the slotted collars between

which said plates are located, and the springs
bearing against said arms, of the hollow
conical nut engaging with said beveled lugs,
the slidable sleeve having an interior pin en-
5 gaging with said groove and the nut bear-
ing against said sleeve, substantially as de-
scribed.

In testimony whereof I affix my signature
in presence of two witnesses.

ALFRED A. HULL.

Witnesses:

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