A. W. ABRAMS.

Flue-Cleaner.

No. 163,129. Patented May 11, 1875.

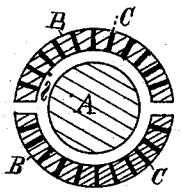

Fig. 3.

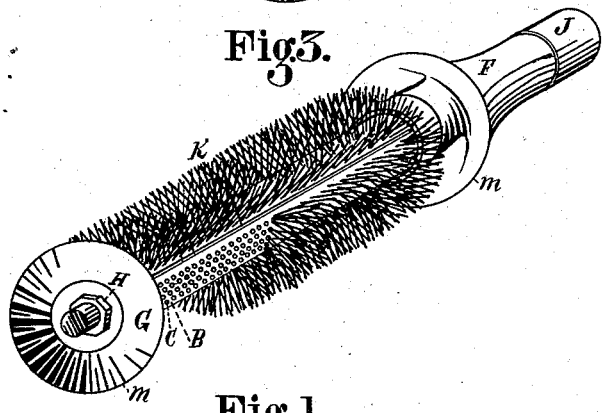

Fig. 1

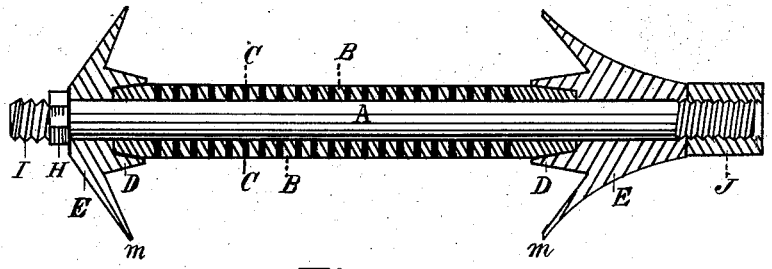

Fig. 2.

Witnesses;
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UNITED STATES PATENT OFFICE.

ADDISON W. ABRAMS, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN FLUE-CLEANERS.

Specification forming part of Letters Patent No. **163,129**, dated May 11, 1875; application filed April 10, 1875.

To all whom it may concern:

Be it known that I, ADDISON W. ABRAMS, of Springfield, in the county of Hampden, State of Massachusetts, have invented a certain new and useful Improvement in Tube-Brushes, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view; Fig. 2, a longitudinal vertical section, and Fig. 3 a lateral vertical section.

Like letters of reference indicate corresponding parts in the different figures of the drawing.

My invention relates to that class of brushes which are usually provided with metallic bristles, and employed for cleaning the flues or pipes of boilers, &c.; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more effective device of this character is produced than is now in ordinary use.

It is well known that in ordinary brushes of this nature the bristles soon become worn and broken down to such an extent as to cause the brush to work very imperfectly.

My invention is designed to obviate this difficulty; and to that end I make use of means which will be readily understood by all conversant with such matters from the following description:

In the drawing, A is a rod or shaft, threaded at each of its ends to receive the nuts J H. The body of the brush consists of two elongated concaved disks, B B, which are tapered at the ends and arranged around the shaft A, as shown, the disks being perforated at C to receive the bristles K. Disposed between the nuts J H and body B are two cones, E E, fitted to slide freely on the rod A, and provided with tapering countersinks D D, corresponding with the tapering ends of the body B, which extend into the same. These cones are also provided with annular disks *m m*, inclined toward the body, as shown in Fig. 2. These disks are designed to act as scrapers for clearing the pipe or flue, and also to support the brush and prevent any undue pressure on the bristles, and should correspond in diameter with the flue to be cleaned.

The space *i* between the disks or body of the brush and the rod A is designed to be packed in any convenient manner to throw the sections of the body outwardly, and maintain the bristles in the same relative position with respect to the disks *m m*, and thus compensate for the wear of the bristles.

It will be obvious that when the nuts J H are turned onto the rod the cones E E will be forced over the tapering ends of the body and all of the parts firmly secured.

It will also be obvious that in the construction of the brush two or more disks may be used to form the body without departing from the spirit of my invention; which having thus explained,

What I claim is—

The improved brush described, consisting of the rod A, nuts J H, disks B B, and cones E E, constructed and arranged to operate substantially as and for the purpose specified.

ADDISON W. ABRAMS. [L. S.]

Witnesses:

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