

PHILIP FARLEY.

TUBE CLEANER.

116823

PATENTED JUL 11 1871

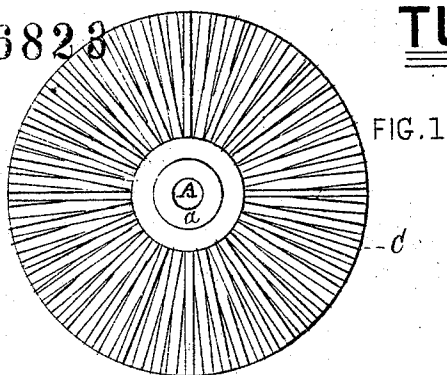


FIG. 1

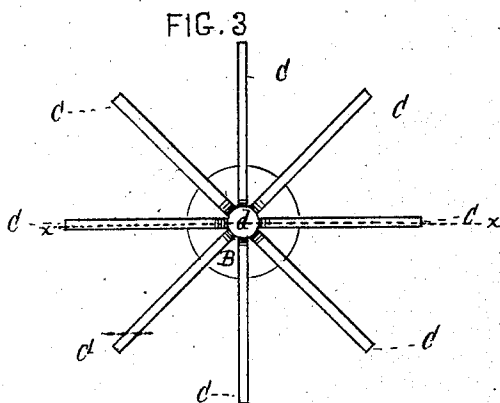


FIG. 3

FIG. 2

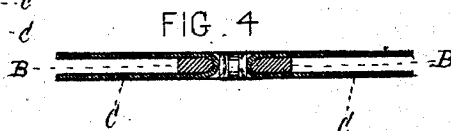
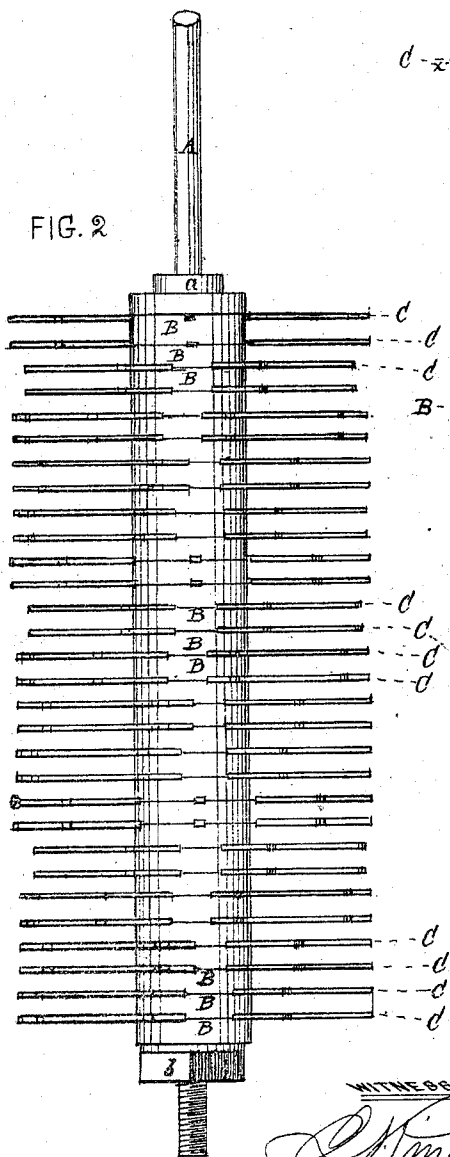


FIG. 4

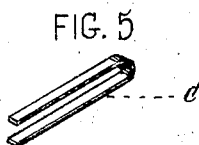
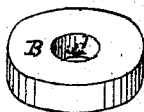


FIG. 5

FIG. 6



WITNESSES.

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INVENTOR.

Philip Farley
 By his Attorney
Stephen. Ustick

UNITED STATES PATENT OFFICE.

PHILIP FARLEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TUBE-CLEANERS.

Specification forming part of Letters Patent No. 116,823, dated July 11, 1871.

To all whom it may concern:

Be it known that I, PHILIP FARLEY, of the city of Philadelphia and State of Pennsylvania, have invented certain Improvements in Tube-Cleaners, of which the following is a specification:

The nature of the invention consists in the combination of spring-scrapers formed of pieces of wire bent double so that the two parts shall run parallel, or nearly so, to each other, with leather or other elastic or yielding washers, and with a central rod, which is passed through eyes of the washer in such a manner that a series of said scrapers placed through the eyes of the washers shall have their bent portions sunk into the same. The washers thus provided with the scrapers are confined against a stationary collar of the rod, and are drawn together by means of a screw-nut on the latter. The scrapers are prevented being drawn out by the edges of the eyes of the washers and of being pushed inward by their bent ends coming against the central rod, as hereinafter described. Any convenient number of the scrapers are connected with each washer, and are so arranged as to be distributed around so as to leave no portion of the circle formed by their outer ends blank, so that, as the cleaner is pushed backward and forward through the tubes, a thorough cleaning will be effected. I usually make the scrapers of flat wire, yet round wire will answer the purpose.

In the accompanying drawing which makes a part of this specification, Figure 1 is an end view of the cleaner. Fig. 2 is a side view of the same. Fig. 3 is a side view of one of the washers B and a series of scrapers, C. Fig. 4 is a cross-section at the line *x x* of Fig. 3. Fig. 5 is

an isometrical view of one of the scrapers C. Fig. 6 is a like view of one of the washers B.

Like letters in all the figures indicate the same parts.

A is a central rod, having a collar, *a*, and an adjustable nut, *b*. On the said rod I place a number of washers, B, which are provided with flexible scrapers C. One of the latter is represented detached in Fig. 5, and one of the former in Fig. 6. The scrapers I usually construct of flat steel wire as most suitable for the purpose, and the washers of leather; yet lead or other yielding material will answer the purpose for the latter. The scrapers are placed through the eyes *d* of the washer, as represented in Figs. 3 and 4, leaving the eye of the washers large enough for the insertion of the central rod A. When the washers are drawn tightly together by means of the nut *b* the scrapers C are sunk into them, as represented in Figs. 2, 3, and 4, whereby the elasticity of the scrapers C is much increased. The size of the wire out of which the scrapers C are formed should be varied to suit the size of the tubes or flues to be cleaned.

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

The bifurcated scrapers C, constructed substantially as described, in combination with the washers B and rod A, in the manner and for the purpose above set forth.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal this 13th day of May, 1871.

PHILIP FARLEY. [L. S.]

Witnesses:

STEPHEN USTICK,
THOMAS J. BEWLEY.