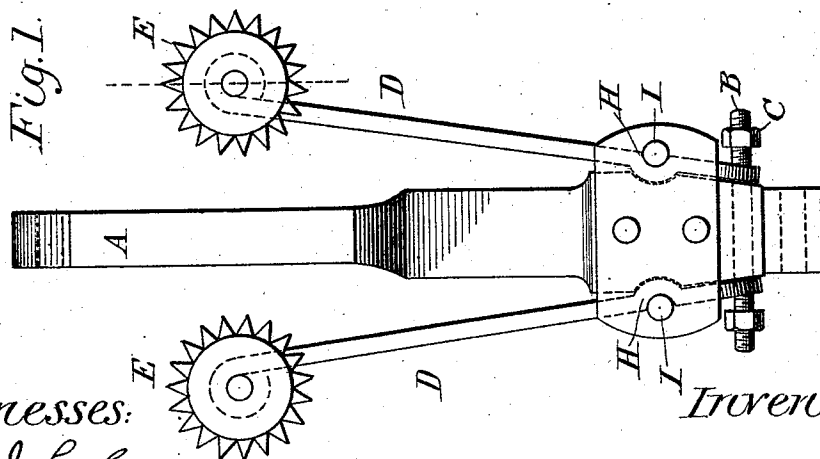
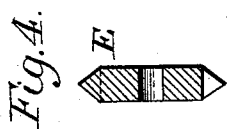
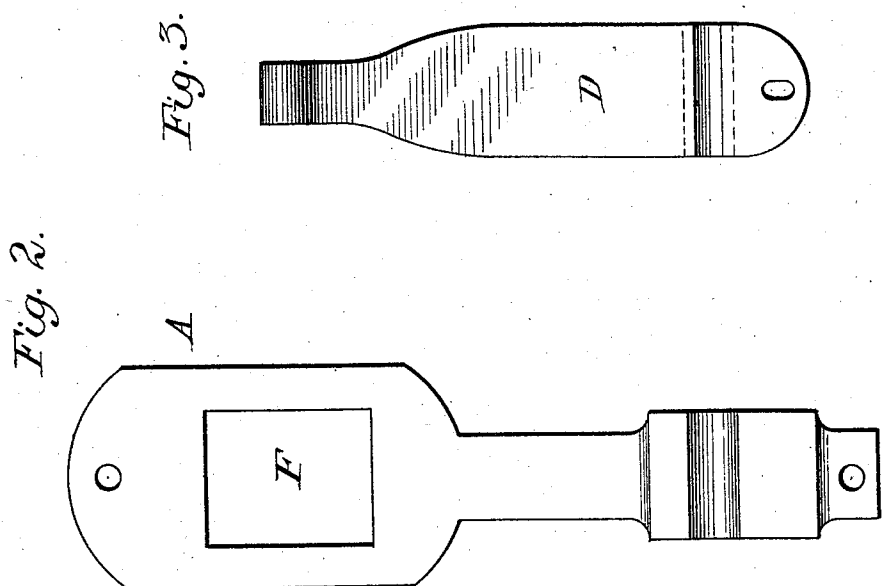


(No Model.)

F. HAIGHT.
TUBE CLEANER.

No. 572,359.

Patented Dec. 1, 1896.



Witnesses:

K. J. Lawlor
L. B. Sackett

Inventor:

Frederick Haight

UNITED STATES PATENT OFFICE.

FREDERICK HAIGHT, OF POUGHKEEPSIE, NEW YORK.

TUBE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 572,359, dated December 1, 1896.

Application filed April 28, 1896. Serial No. 589,471. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HAIGHT, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and useful Tube-Cleaner, of which the following is a specification.

My invention relates to improvements in tube-cleaners in which one or more rotary cutters are, by means of and in combination with one or more spring-levers, (where two are used set opposite each other,) sprung outwardly and are held firmly against the sides of the tube to be cleaned, while the tongue or center piece, to which the levers are bolted at one end, is operated by being drawn back and forth through the tube by means of chains or ropes attached to rings, which rings are passed through the holes in each end of the tongue or center piece. The revolving of the cutting-wheels and the friction caused by the pressure of the lever on the cutters cause the cutters to operate on the incrustations or sediment deposited on the sides of the tube.

The oblong hole in the center piece is only of use when the tube to be cleaned is small, the cutters working freely through the hole. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical view of the machine. Fig. 2 is a view of one of the levers detached. Fig. 3 shows the center piece with three holes. Fig. 4 shows one of the cutter-wheels divided through the center.

Similar letters refer to similar parts.

The solid center piece A, with holes at each end for rings to pass through to attach the operating chains or ropes with the bolt B and nut C, holds and adjusts the equidistant levers D D in place against the sides of the tube. On the free ends of the levers D D are journaled the cutters E E.

In oblong hole F in center piece A the cutters E E work freely when cleaning a small tube.

There are many ways of attaching the levers to center piece, but I prefer to use the bolt B and nut C in connection with an oval projection H on levers D D, operating in grooves in center piece and partly around the pin I.

My invention is intended to clean a straight or irregular-formed tube.

I am aware that prior to my invention tube-cleaners have been made with adjustable cutters. I therefore do not claim such a combination broadly; but

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

The combination in a tube-cleaner of a center piece A having oblong hole F, combined with adjustable bolt B and nut C with levers D D having projection H held and operating around the pin I having cutters E E journaled on their free ends all substantially as shown and described and set forth.

FREDERICK HAIGHT.

Witnesses:

ROBT. VELIE,
E. M. BARRETT.