

(No Model.)

J. POULESSON.

TUBE SCRAPER AND CLEANER.

No. 399,346.

Patented Mar. 12, 1889.

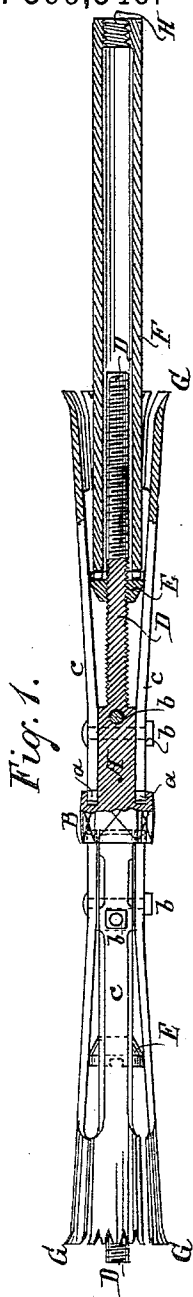
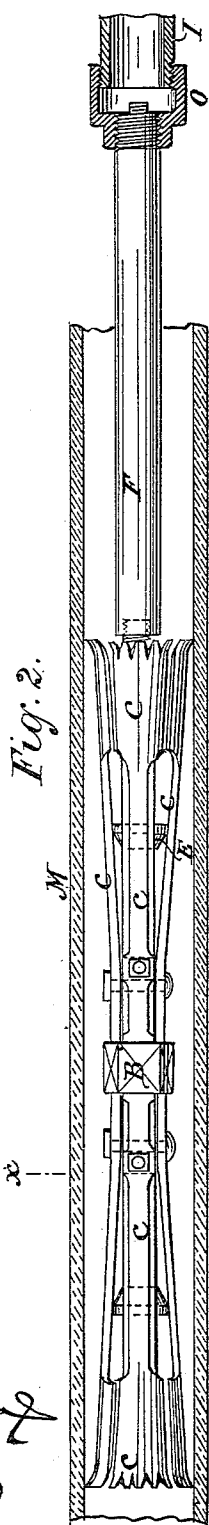
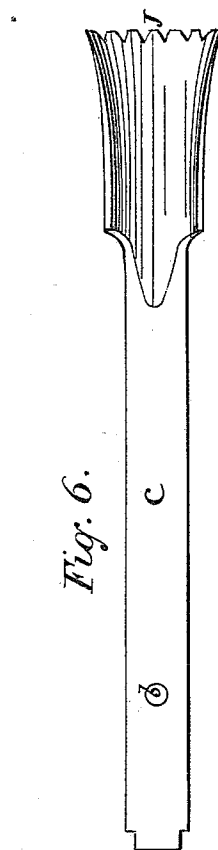
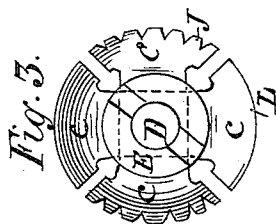
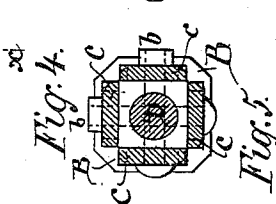
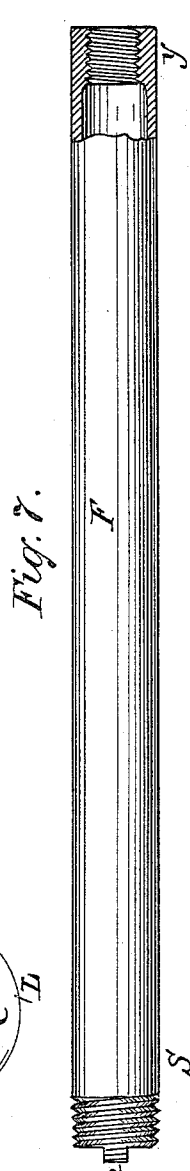


Fig. 7.

Witnesses.

*Amos Brown*  
*Moses M. Clark*

Inventor.

*Jared Poulesson*

# UNITED STATES PATENT OFFICE.

JARED POULESSON, OF PASSAIC, NEW JERSEY.

## TUBE SCRAPER AND CLEANER.

SPECIFICATION forming part of Letters Patent No. 399,346, dated March 12, 1889.

Application filed October 17, 1888. Serial No. 288,357. (No model.)

*To all whom it may concern:*

Be it known that I, JARED POULESSON, a citizen of the United States, residing in Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Tube-Cleaners, of which the following is a description in such full, clear, concise, and exact terms as will enable any one skilled in the art to which said invention appertains, or with which it is most nearly connected, to make and use the same, reference being had to the accompanying drawings, making part of this specification, and to the letters and figures of reference marked there-  
15 on.

My invention consists of certain improvements in double-ended scrapers for cleaning the inside surface of tubes or flues, and are applicable more especially to that class of tube-cleaners consisting of two trumpet-mouthed ends made in section longitudinally and united upon a solid central stock, the two tubes having their expanding mouths pointing in opposite directions and set, both of them, upon the same longitudinal plane around a screw-stem projecting both ways from the central stock, said screw-stems being provided with an adjustable expanding-nut and tubular wrench, by which the sections composing the cleaning-  
20 tubes are expanded around a common center and enlarged or contracted to fit tubes of different sizes.

Reference being had to the drawings, Figure 1 is a longitudinal section through one end of the cleaner, the central stock and screw-stem, the tubular wrench and handle, together with the expanding-nut. The other end of this same figure is a longitudinal view of the same parts, omitting the tubular wrench and handle. Fig. 2 is a longitudinal view of the scraper inclosed in a tube, shown in section. Fig. 3 is an end view of the scraper. Fig. 4 is a cross-section taken on the line *x*. Fig. 5 is an end view of the tubular wrench and handle. Fig. 6 is a longitudinal view of one section of the trumpet-mouthed tubes, and Fig. 7 is a longitudinal view of the tubular wrench and handle by which the scraper is worked.

Like letters represent corresponding parts in all the figures.

The central stock is represented by A. On

the center of this stock an enlargement or boss, B, is made, having an overhanging shoulder, *a*, on each end. Against this shoulder the inner ends of the sections *c* are butted, said inner ends of said section *c* being bolted to the central stock, as shown by *b b*, thus making a conical tube whose wall is made of steel in longitudinal sections, each section being in the nature of a spring. The springs are forced back from around the screw-stem D by means of an expanding-nut, E, screwed to and fro on the stem by means of the tube F. Upon one end of this tube *a* a projection, *e*, is made to match into a groove, *f*, cut in the top side of the conical expanding-nut E.

It must be observed that the conical form of the scraper is not due to the expanding-nut, that being used merely for the purpose of adjusting the size of the mouth of the scraper; but the conical form and the expanding and contracting quality of the scraper is obtained by making it in sections of steel and setting each section back off of a right line at the point of its junction with the central stock by the bolts *b*. The normal form of the scraper is thus made conical, and by the elastic nature of the sections its external size is adjusted by means of the conical screws on the stem D.

In the drawings accompanying this specification the scraper is made of four sections; but it may be made of more or less, though I prefer to make it of four sections. The scraping end of each section may be made plane or serrated, as may be best adapted to do the work required. In the drawings some of the cleaning-edges are plane and some serrated; but they may, of course, be all serrated, as at J, or all plane, as at L. The end S of the tube F is plane inside and large enough to slip over the screw-stem D and operate the nut E to expand or contract the scraper; but that being done the end S is taken out of the scraper and the end Y is screwed on the end of the stem D and becomes the handle or rod for working the scraper, and may be lengthened indefinitely by means of a coupling, *o*, and tube I, as shown by the drawings.

This tube scraper and cleaner, it will be observed, is double-ended, one end being a duplicate of the other, so that it maintains itself

always in a line with the axis of the tube, and may be worked from both ends of the tube with power applied to each end at the same time. It will also be observed that it possesses great firmness and self-sustaining power, and is very effectual in cutting scales and rust from the inside of the tube, its cutting-edges striking the scales from both sides directly in the line of the surface of the tube with such firmness and force as to insure a quick and thorough removal of the adhering scales.

In making this scraper it will be noted that the steel sections forming the two ends of the scraper are made separate—that is, in two half-sections, one end of each half-section being drawn down and expanded to form a thin elastic cutting or scraping edge in the form of a longitudinal section of a tube, the several side edges of which meet at the end to complete the tubular form of the sections as a whole. The other end of each half-section is made thick and stocky, and is bolted to the central stock, A, against the overhanging shoulder *a* on the boss B. By making the scraping-sections of the two ends of the tool in this way, one section may be taken out of either end without molesting the correspond-

ing section in the opposite end, in case of breakage, and, moreover, the scraper as a whole is very much more firm and solid as well as more effective in its action, the strength of the spring in the several sections being much greater than if made of spring or sheet steel of even thickness from butt to scraping end. This method, therefore, of making the scraping-sections and of uniting them to the stock A, in combination with the stem D, is what constitutes my improvement, and is the novel feature of the tube-cleaner herein described.

What I claim, therefore, as my invention is—

A tube-cleaner composed of several full longitudinal sections of steel, each full section being composed of two half-sections, one end of each half-section being drawn or tapered down, broadened, and curved to fit the size of tube to be cleaned, the whole being combined together and with the central stock, A, and screw-stem D, substantially as described.

JARED POULESSON.

Witnesses:

AMOS BROADNAX,  
MOSES M. CLARK.