(No Model)

J. S. HUGHES.

TOOL FOR CLEANING SEWERS.

No. 584,508. Patented June 15, 1897.

Fig. 1.

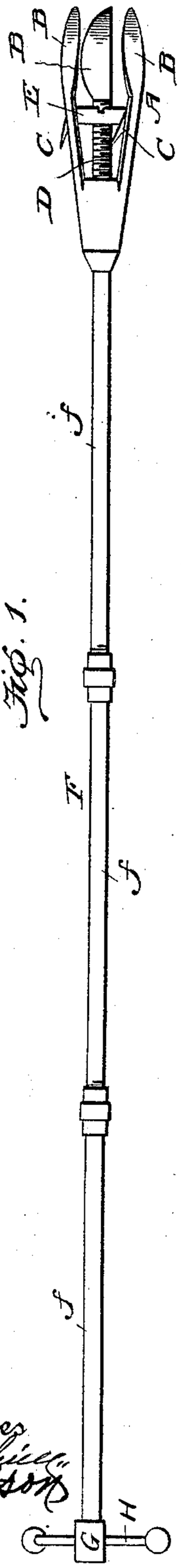


Fig. 2.

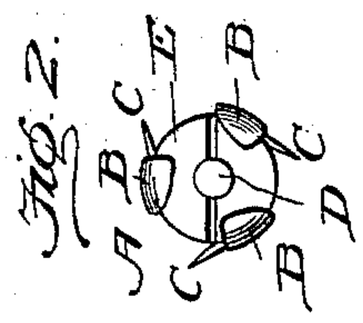
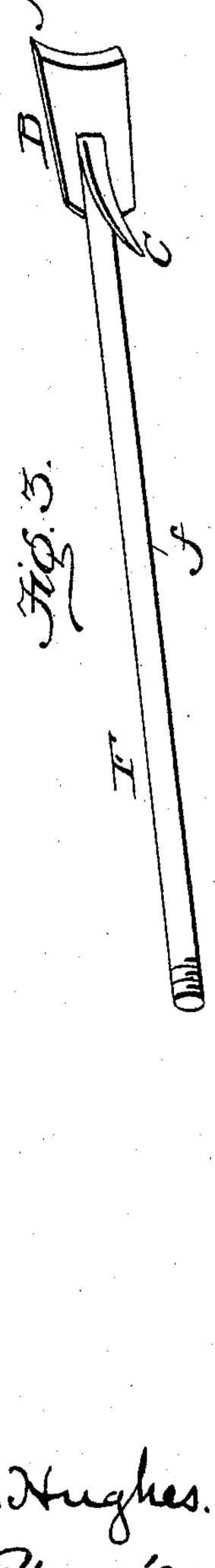


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES S. HUGHES, OF LEBANON, OREGON.

TOOL FOR CLEANING SEWERS.

SPECIFICATION forming part of Letters Patent No. 584,508, dated June 15, 1897.

Application filed February 19, 1897. Serial No. 624,218. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. HUGHES, a citizen of the United States, residing at Lebanon, in the county of Linn and State of Oregon, have invented certain new and useful Improvements in Tools for Cleaning Sewers; 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.

My invention relates to tools for cutting and removing roots from sewers.

The object of the invention is to provide a simple, strong, and inexpensive tool formed of removable sections and provided with knives for cutting the roots and with hooks for removing the roots after they have been cut free from the sewer.

With these objects in view the invention consists of certain features of construction and combination of parts, which will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of the improved tool. Fig. 2 is an end view of the cutter-head, and Fig. 3 is a perspective view of another form of the invention.

In the drawings, A denotes the cutter-head, from which project outwardly in a diverging manner a series of spring cutter-blades B, the free ends of which are curved toward each other to facilitate their insertion in a pipe or sewer. One of the longitudinal edges of each blade is sharpened, and projecting from the opposite edge of each blade in a rearward direction is a hook C.

D denotes a screw-stud which projects forwardly from the center of said head, and E denotes a nut adapted to be worked upon said screw to spread the spring-blades apart to make them fit and conform to the interior wall of the sewer or pipe.

F denotes a handle formed of sections *f f*, coupled together by any desired or well-known coupler, and G denotes the ratchet-head, which is secured to the rear end of the last handle-section. A lever or arm H is connected to the ratchet-head, and by rocking it back and forth the blades will cut the roots from the interior wall of the sewer. In withdrawing the tool the hooks will engage and remove the severed roots.

An important advantage is secured by curving the free ends of the blades toward each other—namely, the tool can more readily be inserted, and in pushing it forward it will freely pass by the joints of the pipe or sewer.

In Fig. 3 I have shown another form of my invention in which the tool has a rigid fixed blade, the forward end of which is sharpened. A hook similar to those hereinbefore described is secured to or formed integral with the blade. This form of tool is found very useful in cutting large thick roots and is operated by blows applied to the end of the handle.

Having thus fully described my invention, I claim—

1. A tool for the purpose described, consisting of a handle provided with a cutter-blade and a hook, substantially as set forth.

2. A tool for the purpose described, consisting of a handle provided with a series of cutter-blades and hooks, and means for expanding the blades, substantially as set forth.

3. A tool for the purpose described, consisting of a handle provided with a series of spring cutter-blades, and hooks secured to said blades the free ends of which are bent inwardly, and means for expanding said blades, substantially as set forth.

4. A tool for the purpose described, consisting of a handle provided with a series of spring cutter-blades and with rearwardly-extending hooks, and means for spreading the blades apart, substantially as set forth.

5. A tool for the purpose described, consisting of a handle, a cutter-head secured thereto, a screw-stud projecting forwardly from the cutter-head, spring-blades secured to the cutter-head and having their outer ends curved toward each other, hooks secured to said blades and projecting rearwardly and a nut adapted to work upon said stud and spread apart the blades, substantially as set forth.

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

JAMES S. HUGHES.

Witnesses:
F. S. PRICE,
S. H. MYERS.