

J. M. HOLDAWAY.
SEWER CLEANER.
APPLICATION FILED JULY 1, 1910.

986,462.

Patented Mar. 14, 1911.

Fig. 1.

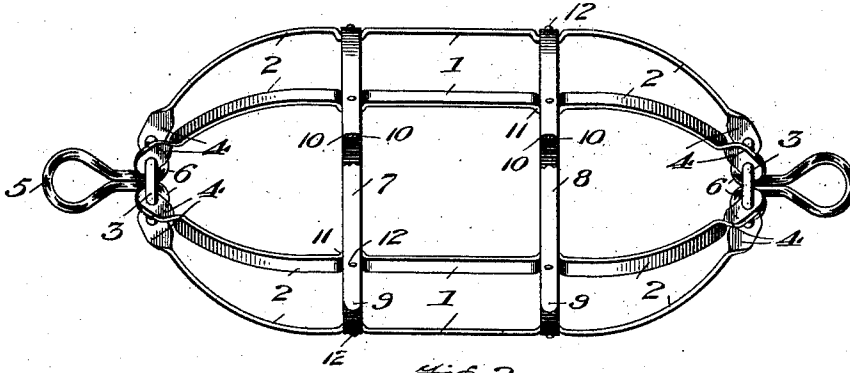


Fig. 2.

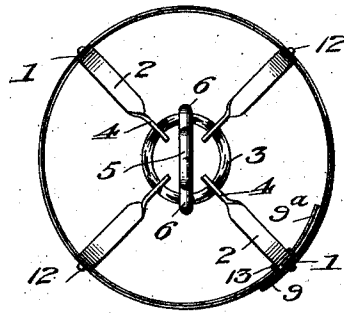


Fig. 3.

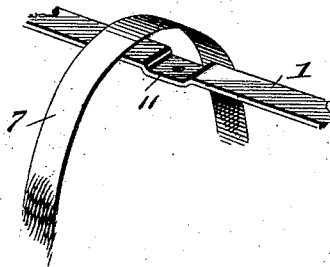
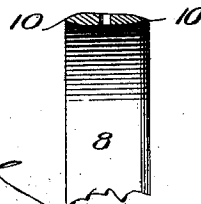


Fig. 4.



Witnesses.
[Signature]
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UNITED STATES PATENT OFFICE.

JOHN M. HOLDAWAY, OF PROVO, UTAH.

SEWER-CLEANER.

986,462.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed July 1, 1910. Serial No. 569,988.

To all whom it may concern:

Be it known that I, JOHN M. HOLDAWAY, a citizen of the United States, residing at Provo, county of Utah, and State of Utah, have invented certain new and useful Improvements in Sewer-Cleaners, of which the following is a specification.

My invention relates to sewer cleaners.

The present invention has for its object the provision of a light, inexpensive, strong, and durable sewer cleaner of few parts and novel construction which can be readily operated in either direction without reversal, adapted to readily pass permanent obstructions in the sewer without injury, and capable of rapidly and easily severing growing roots or other vegetation or other temporary obstructions which spring up or are found in the interior of sewers.

The invention is set forth fully hereinafter and its novel features are recited in the appended claims.

In the accompanying drawings:—Figure 1 is a side elevation; Fig. 2, an end view; Fig. 3, a detail showing the connection between the knives and the ribs; and Fig. 4, a cross sectional detail of one of the knives.

The cleaner has a plurality of longitudinally extending metal ribs 1 which are bowed or converged at their ends 2 and connected by the rings 3 passing through the bent or twisted ends 4 of said ribs. Eyes 5 which pass through and have hooked parts 6 engaging the rings, are for the purpose of attachment of a cable or other flexible connection to be used in drawing the device through the sewer.

There are two knives 7 and 8 of similar construction which are circular, as shown in Fig. 2, have overlapping ends 9 and which have double knife edges 10. When the cleaner is drawn in one direction the knife edges 10 of the knives serve to cut the roots or other growing vegetation in the sewer and when the device is pulled in the opposite direction, the opposite knife edges do the cutting and cleaning.

One of the ends at 9 is secured rigidly to one of the ribs 1, but the other end 9^a is

loose and free to slide circularly through a staple 13 and on the knife and hence the entire structure is capable of contracting to less than its normal diameter. Consequently when a permanent obstruction in the sewer is met, the contractible knives 7 and 8 simply contract and assume a smaller diameter and the entire rib frame work stretches out longitudinally to a more elongated form so that the obstruction is safely passed without danger. If, however, the obstruction is a root or other vegetation or temporary obstruction, the knife edge of the foremost knife quickly severs it. If for any reason the foremost knife should fail to cut it, the other one will do this.

A convenient connection between the knives and the ribs is that shown in Fig. 3 where the rib is provided with a depressed part 11 receiving the knife and the two are provided with holes for the reception of rivets or suitable fastenings 12 whereby the knives are sunk substantially flush with the exterior faces of the ribs and thus no projections of consequence are offered to the free passage of the device through the sewer.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a sewer cleaner, the combination with longitudinally extending ribs, of a contractible split circular knife secured thereto having a cutting edge disposed in the direction of the length of said cleaner.

2. In a sewer cleaner, the combination with longitudinally extending ribs, of contractible split circular knives connected thereto at different points, each having two sharpened edges and disposed toward the ends of the cleaner.

3. In a sewer cleaner, the combination with longitudinally extending ribs, of a continuous contractible split circular knife secured thereto whose ends are adapted to slide past each other circularly when the said knife is contracted, said knife having a cutting edge disposed toward the end of the cleaner.

4. A sewer cleaner having a frame-work of

longitudinally extending flexible ribs adapted for longitudinal extension with incident reduction in diameter of said frame-work, and a split circular contractible knife carried by said frame-work having a cutting edge disposed in the direction of the length of said cleaner.

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

JOHN M. HOLDAWAY.

Witnesses:

ALFRED L. BOOTH,
JOHN B. MILNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
