

W. A. PIERCE.
SEWER CLEANING APPARATUS.
APPLICATION FILED OCT. 3, 1908.

917,892.

Patented Apr. 13, 1909.

Fig. 1.

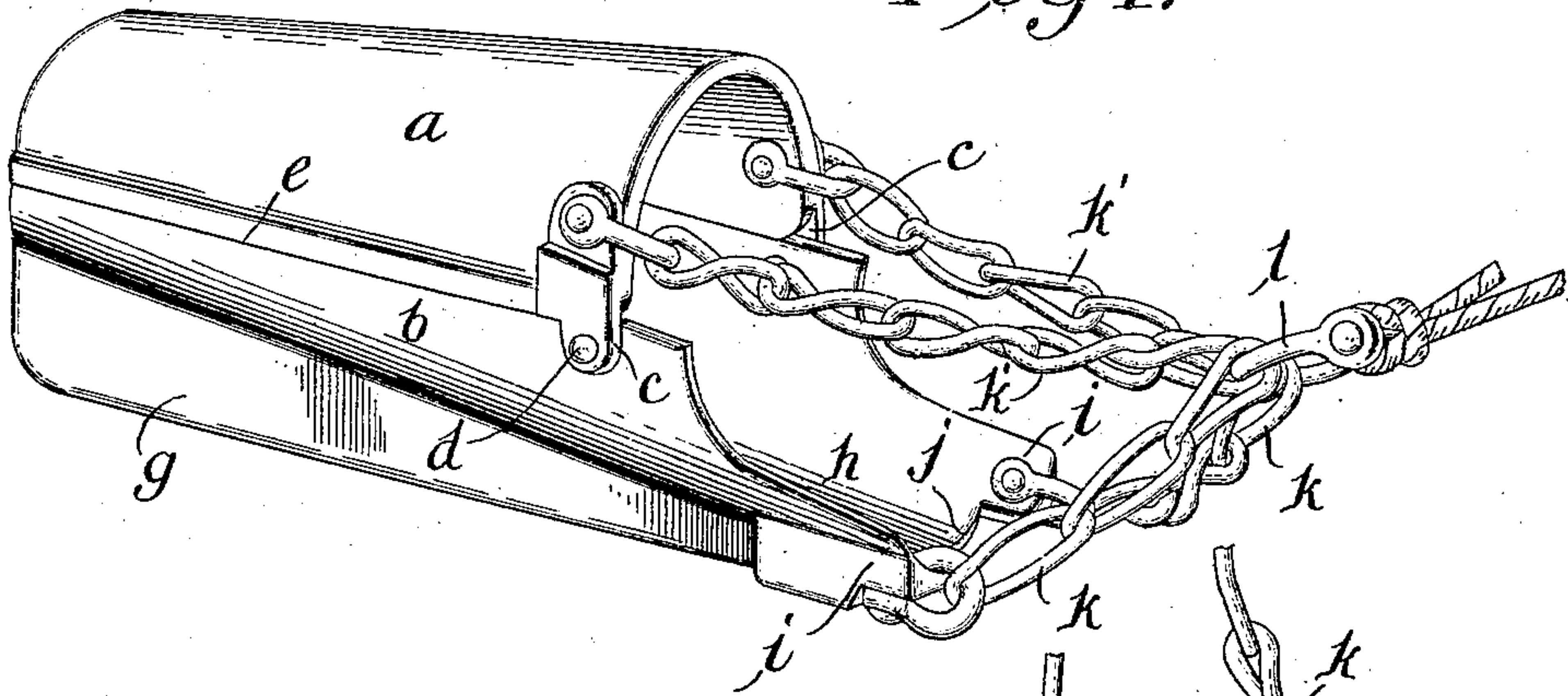


Fig. 2.

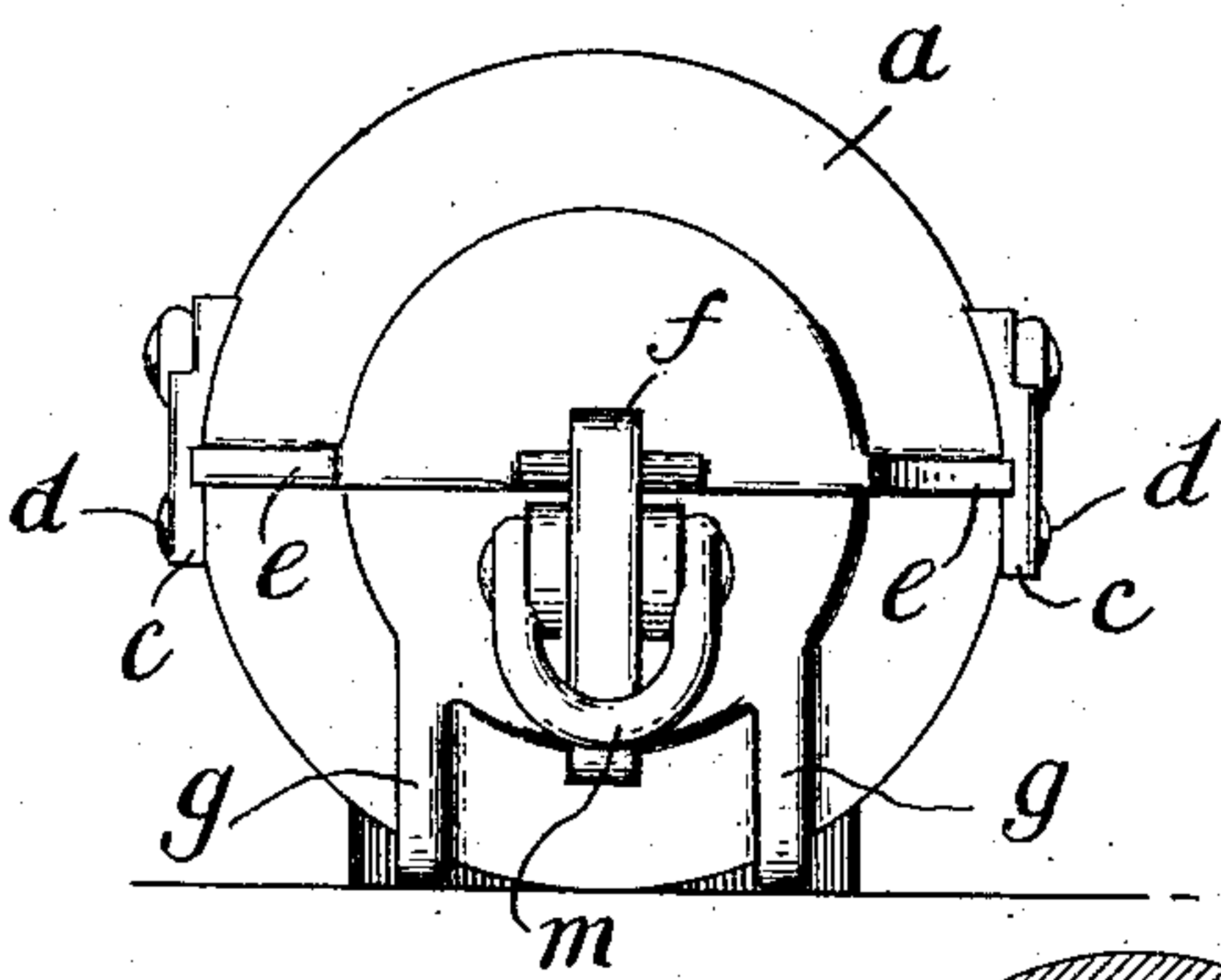


Fig. 3.

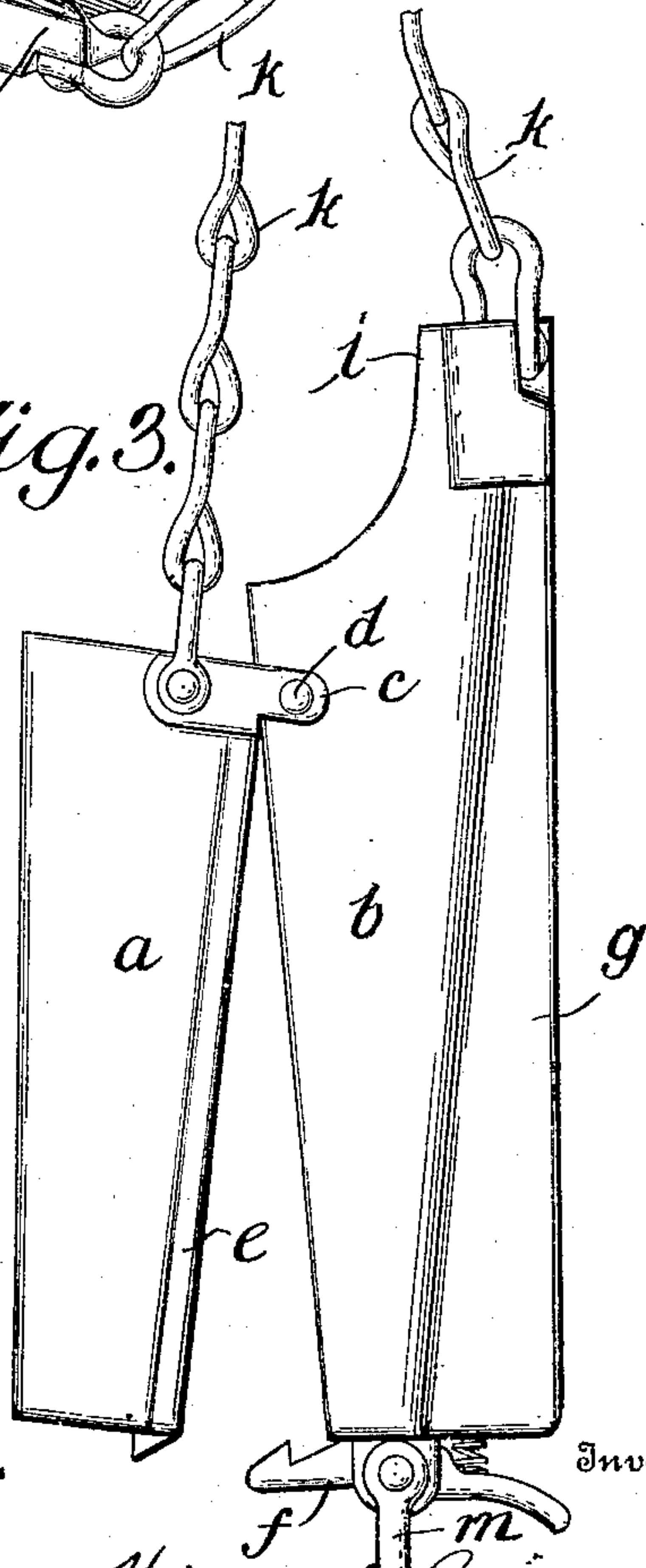
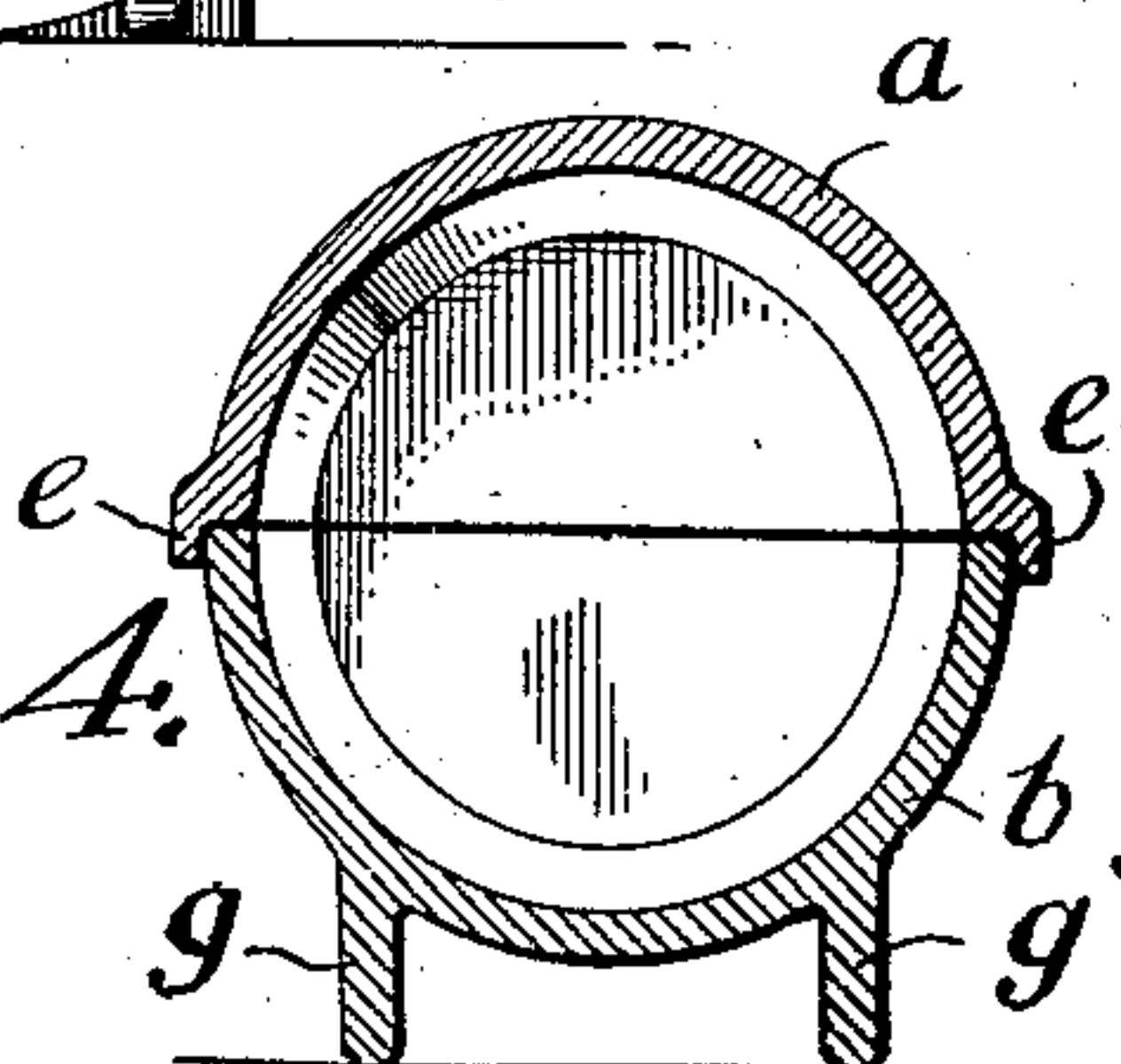


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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SEWER-CLEANING APPARATUS.

No. 917,892.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed October 3, 1908. Serial No. 456,043.

To all whom it may concern:

Be it known that I, WILLIAM A. PIERCE, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sewer-Cleaning Apparatus, of which the following is a full and clear specification, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of my invention; Fig. 2 is a rear elevation thereof; Fig. 3 is a side elevation showing the bucket in a vertical position and opened to empty it; and, Fig. 4 is a transverse section of the bucket closed.

This invention has for its object the production of a simple and efficient apparatus for removing silt and other matters accumulated on the bottoms of sewers or drains, as more fully hereinafter set forth.

The apparatus is a bucket-like scoop open at its front end and closed at its rear end and being substantially cylindrical in shape and tapering toward its rear end. The bucket is divided longitudinally into two sections *a* and *b* semi-circular in cross-section and hinged together at their forward ends by horizontal pivots *d* passing through depending ears on the upper section *a* and the adjacent wall of the lower section. The edges of the upper section are provided with a depending flange *e* which overlaps the exterior of the adjacent edge of the lower section and breaks the joint between the two sections, thus preventing solid matters in the bucket escaping but permitting the liquid to run out.

One of the sections, at its rear end, is provided with a latch *f* adapted to detachably lock the two sections closed. The lower section is provided with a pair of integral runners *g* depending from its under side and lying parallel with each other and running the full length of the bucket. These runners are separated from each other a distance equal to about one-third of the circumference of the lower section, and owing to the taper of the bucket and the fact that the lower edges of the runners are parallel with the longitudinal axis of the bucket the runners are deeper at their rear ends than at their forward ends.

The front end of the lower section projects a considerable distance beyond the front edge of the upper section to form a forwardly-projecting scoop or lip *h*, and the front edge *j* of this lip, at either side, is provided with a forwardly projecting lug *i*, and to each of these lugs is attached the rear end of a short chain *k* connected together at their forward ends by a link *l* to which the hauling-cable is attached. A similar pair of chains *k'* connect the front edge of the upper section at either side with said link *l*. A bail or link *m* is pivotally attached to the rear end of the lower section for attachment with the pull-back cable.

This apparatus is adapted to be pulled alternately forwardly and backwardly on the bottom of the sewer by means of suitable cables and tackle. On the forward movement the silt is gathered up and directed into the bucket by means of the scoop-like formation of the front edge of the lower section, the rearwardly-tapering shape of the bucket, together with the weight thereof, causing the scoop to dig into the silt and effectually scrape the bottom of the sewer. The runners *g* serve to guide the bucket in its back-and-forth movements and to prevent it turning over on its side. The rearwardly tapering shape of the bucket facilitates the pulling back of the bucket, this tapering shape insuring the bucket riding on top of the collected silt. The arrangement of the hauling-chains *k* and *k'* tend not only to keep the bucket moving straight ahead but also to distribute the hauling strain directly to both sections and thus relieve the pivots *d* of strain.

The bucket is emptied by bringing it to a vertical position and unlatching the catch *f*, whereupon the weight of the material in the bucket will automatically swing the sections apart and permit the contents to run out. The tapering of the bucket toward its rear or lower end also facilitates this automatic separation of the bucket sections when the bucket is held in a vertical position, as shown in Fig. 3, as likewise does the manner of connecting the hauling-chains to the front or upper edges of the bucket sections.

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

1. A dredging bucket of the character set forth, consisting of a bucket open at its front end and closed at its rear end and divided longitudinally to form an upper and a lower section, horizontal pivots pivoting

the two sections together at their forward ends and a latch detachably connecting their rear ends, and hauling and suspending chains connected to the front edges of both sections at opposite sides of said pivots, the front of the lower section being extended forwardly to form a scoop-like projection, and the body of the bucket being tapered rearwardly and being provided with a pair of spaced runners on its under side extending the full length of the bucket and the scoop-like projection, the lower edge of the runners being horizontal.

2. A dredging bucket of the character set forth, consisting of a bucket open at its front end and closed at its rear end and divided longitudinally to form an upper and a lower section, horizontal pivots pivoting

the two sections together at their forward ends and a latch detachably connecting their rear ends, and hauling and suspending chains connected to the front edges of both sections at opposite sides of said pivots, the body portion of the bucket being tapered rearwardly and being provided with a pair of longitudinal depending runners whose lower edges are parallel with the longitudinal axis of the bucket.

In testimony whereof I hereunto affix my signature in the presence of two witnesses this first day of October, 1908.

WILLIAM A. PIERCE.

Witnesses:

IRVING L. JAMESON,
T. H. MULLEN.