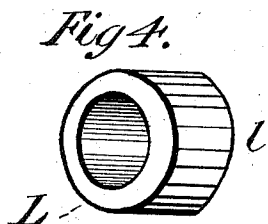
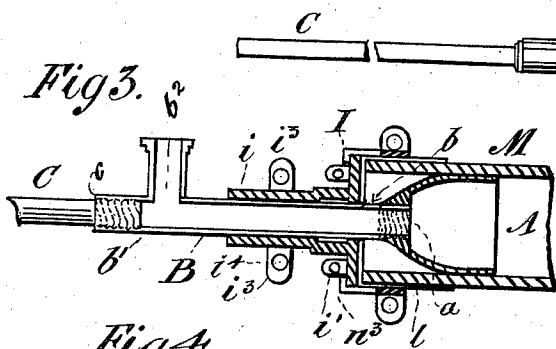
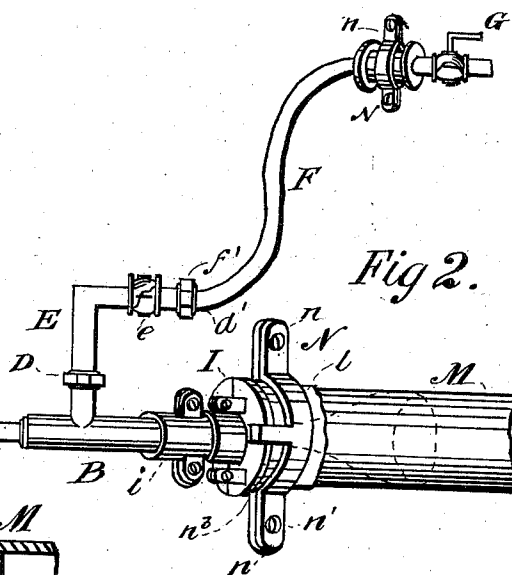
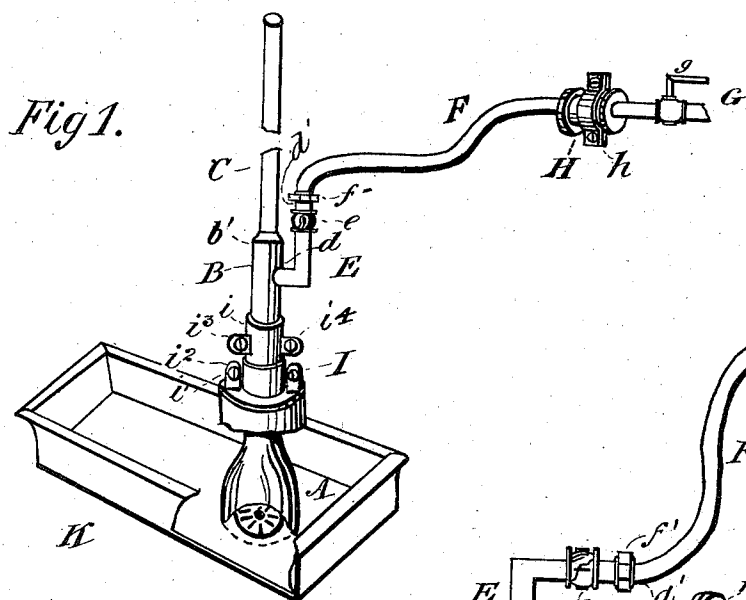


(No Model.)

W. A. McCLELLAND.
WASTE PIPE CLEANING APPARATUS.

No. 576,507.

Patented Feb. 2, 1897.



WITNESSES:

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WILLIAM A. MCCLELLAND, OF KANSAS CITY, MISSOURI.

WASTE-PIPE-CLEANING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 576,507, dated February 2, 1897.

Application filed January 10, 1896. Serial No. 575,042. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MCCLELLAND, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Waste-Pipe-Cleaning Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The objects of my invention are, first, to employ the hydraulic force of a stream of water under pressure in connection with the receiver for the cleaning of waste-pipes; second, to adapt the apparatus to waste-pipes varying in diameter.

My invention consists in the novel construction and combination of parts, such as will first be fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a view in perspective of my improved waste-pipe-cleaning apparatus with the water-supply pipe, also showing a sink, with a portion of the side of the sink removed, and the apparatus applied to the waste-pipe. Fig. 2 is a horizontal side view of the apparatus, shown connected with a street waste-pipe and with the apron clamped to the pipe. Fig. 3 is a vertical sectional view in detail, showing the elastic receiver within the waste-pipe, the apron and clamp, and the hollow handle connected with the receiver. Fig. 4 is a detail view of the apron.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, A represents the elastic receiver, which consists of an inverted cup made of rubber and conforming exteriorly to the figure of a cone. In the apex *a* of the receiver A is a threaded opening extending in the direction of the axis of the receiver, in which opening is fitted the screw-threaded end *b* of the hollow tubular handle B. The tube B is made short in length, and the other end *b'* of said tube is internally screw-threaded, and to said end is fitted the screw-thread end *c* of an extended portion of the handle C, which is made up of wood and closes the end *b'* of said pipe B. In the side of tube B near the end portion of the handle

C is an opening *b*². To the outer side of said tube, around said opening, is attached rigidly one end *d* of a water-conducting pipe E, which is bent at an angle in close position to the sides of the tubular handle B, and the other end of said pipe is extended in a vertical direction, and in said end is a back-pressure valve *e*. To said upper end *d'* of pipe E is attached by a union-coupling *f'* one end of a rubber or elastic hose F, the other end of which hose is connected with the water-supply pipe G of a street water-supply system.

On the base F is an elastic collar or spool H, upon which is a clamp *h*, which clamps the end of the hose F to the water-supply pipe G near spigot *g*. On the tube B, a short distance above the point of attachment with the receiver A, is a disk *l*, upon the upper side of which disk is a sleeve *i*, which extends around pipe B. The said disk *l* and sleeve *i*, which are in one piece, are also for the purpose of removal cast in two parts in a vertical direction, and upon the said disk are lugs *i'*, opposite in position, which are provided with securing-bolts *i*². Upon the separate parts of sleeve *i'* are lugs *i*³, opposite in position, which are provided with securing-bolts *i*⁴.

For the purpose of cleaning waste-pipes, such as pipe M, leading to the sewer and larger drain-pipes, the connections are removed, so as to expose the upper open end of the pipe, over which is placed a rubber gasket L, to the outer edge portion of which is connected a circular apron *l*, the apron and gasket being made in one piece. The receiver A, which is nearly of the same diameter as the pipe M, is inserted within said pipe, the apron *l* extending around the outer side portion of said pipe. A clamp N, in two separate parts, is fitted over the apron *l* and around the said end portion of said pipe, which parts of said clamp are provided with lugs *n n* and secured by the bolts *n'*. Upon the separate parts of the clamp A are lugs *n*³, which extend over the edge of the disk *l* and hold the disk in position.

In the operation of the apparatus the receiver A is placed within the sink K and extending around the waste-pipe aperture. The operator seizes the handle C with both hands and bears downwardly with sufficient force to compress the receiver A, which con-

tains air, and the sides expand and drive the
 air forcibly through the waste-pipe. The
 pressure is then released from handle C and
 the elasticity of the receiver causes a re-
 verse movement. The spigot *g* is then turned
 so as to admit the flow of water from the
 sewage-pipe G under pressure, which flows
 through hose F, pipe D, into the tube B and
 receiver A, thence to the waste-pipe, the re-
 ceiver A filling rapidly and containing an ex-
 cess of water which is above the opening to
 the waste-pipe. Pressure is then applied to
 the handle C downwardly, and this action
 causes the receiver to yield and force the wa-
 ter within its sides through the waste-pipe
 with great force, the return of the water up
 the pipe B and *d* being checked by the back-
 pressure valve *e*. The pressure is then re-
 leased upon the handle C, and the receiver
 is expanded again with water and the move-
 ment upward and downward of the handle C
 continued alternately, forcing the water with
 great force through the waste-pipe and clean-
 ing the sides of the pipe thoroughly and ef-
 fectively, the water receiving an impetus simi-
 lar to that effected by the action of a hydraulic
 ram and carrying out of the pipes all waste
 obstructions.

In the cleaning of waste-pipes, as shown in
 Figs. 2 and 3, the handle is operated in the
 same manner, the surplus water in the pipes
 receiving the pressure of the water passing
 through the receiver under pressure.

Having fully described my invention, what
 I now claim as new, and desire to secure by Let-
 ters Patent, is—

1. In a waste-pipe-cleaning apparatus, con-
 sisting of an inverted elastic cup, and a han-
 dle connected with said cup, the combination
 of a pipe-closing cover extending around said
 handle, substantially as shown and described.

2. In a waste-pipe-cleaning apparatus, the
 combination with the waste-pipe of an in-
 verted elastic cup, a handle connected with
 said cup, a pipe-closing cover extending
 around said handle and a gasket between said
 cover and said waste-pipe having an apron
 extending around said pipe, substantially as
 and for the purpose described.

3. In a waste-pipe-cleaning apparatus, the
 combination with the waste-pipe of an in-
 verted elastic cup, a handle connected with
 said cup, a disk on said handle and a gasket
 between said disk and waste-pipe, having an
 apron extending around said pipe, and a
 clamping device for said apron, substantially
 as shown and described.

4. In a waste-pipe-cleaning apparatus, the
 combination with the waste-pipe of an in-
 verted elastic cup, a tubular handle con-
 nected with said cup at one end, and a flexi-
 ble liquid-conducting pipe connected with the
 other end of said pipe, having a back-pres-
 sure or check valve, a disk on said handle and
 a gasket between said disk and said waste-
 pipe, and means for securing said disk to the
 waste-pipe, substantially as and for the pur-
 pose described.

WILLIAM A. McCLELLAND.

Witnesses:

JOHN H. BARNES,
 H. R. TOMLINSON.