

A. J. & L. G. YOGGERST.
PIPE CLEANER.
APPLICATION FILED MAR. 12, 1912.

1,047,726.

Patented Dec. 17, 1912.

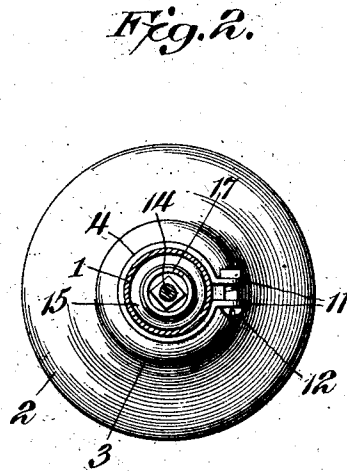
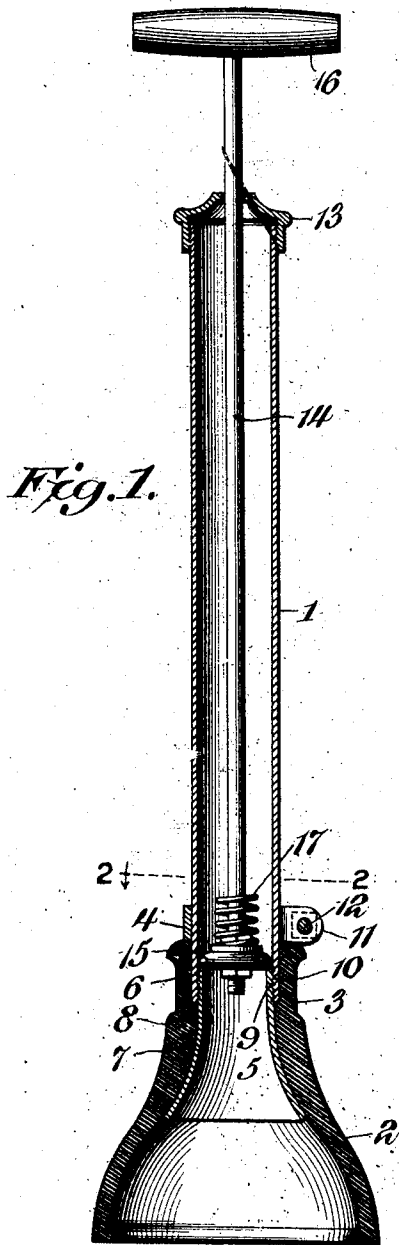
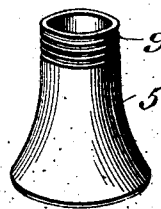


Fig. 3.



WITNESSES

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PIPE-CLEANER.

1,047,726.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed March 12, 1912. Serial No. 683,296.

To all whom it may concern:

Be it known that we, ANTHONY J. YOGGERST and LAWRENCE G. YOGGERST, citizens of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Pipe-Cleaner, of which the following is a specification.

The invention relates to improvements in pipe cleaners.

The object of the present invention is to improve the construction of pipe cleaners, and to provide a simple, efficient and inexpensive device, designed for removing obstructions from sewer pipes, closets, sinks, drain, water and other pipes, and equipped with the ordinary rubber cup of such devices, and capable of readily removing obstructions in a pipe without breaking the rubber cup or splashing water over the person using the pipe cleaner.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a vertical longitudinal sectional view of a pipe cleaner, constructed in accordance with this invention. Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1. Fig. 3 is a detail perspective view of the tapered tube.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, the pipe cleaner comprises in its construction an air pump equipped at the lower end of its cylinder 1 with a tapered rubber cup 2, similar in construction to that usually employed on an ordinary sewer plunger, and having an upwardly tapered tubular neck 3, fitted on the lower end of the pump cylinder and held between an adjustable exterior clamping collar 4 and an interior tapered tube 5. The interior of the upper portion 6 of the neck of the cup is of slightly greater diameter than the intermediate portion 7 to form a shoulder 8,

which fits against the lower end of the pump cylinder, and the tube 5, which has an exteriorly threaded upper end 9 to engage interior screw threads 10 of the lower end of the pump cylinder, is tapered upwardly and it presents a smooth curved outer face to the curved inner face of the intermediate portion 7 of the cup, and it fits snugly against and conforms to the configuration of the same, so as to support the neck portion of the cup and provide an air tight connection between the same and the cylinder.

The clamping collar 4 has outturned terminals 11, perforated for the reception of a bolt 12, which adjustably clamps the collar on the pump cylinder. The collar forms a stop for the neck of the cup and prevents the latter from moving upwardly or inwardly on the pump cylinder. In assembling the parts, the clamping collar is arranged on the pump cylinder, and the neck of the cup is applied to the lower end of the latter, after which the collar is firmly clamped on the pump cylinder contiguous to the neck in proper position to form a stop for the same. The tapered tube is then screwed into the lower threaded end of the pump cylinder and the rubber cup is firmly held in position on the cylinder and the tapered tube, and the flared lower portion of the latter prevents any downward or outward movement of the cup while the clamping collar holds the cup against upward or inward movement.

Any desired construction of air pump may be employed, and in the accompanying drawing is shown an air pump similar to the ordinary foot bicycle pump with the base or lower portion removed. The upper end of the pump cylinder is equipped with a removable cap 13, through which passes a piston rod 14, carrying a piston 15 at its lower end and provided at its upper end with a handle 16. The piston 15, which is of the ordinary construction, is limited in its downward or inward movement by the upper end of the tapered tube 5, which constitutes a valve seat. The piston rod also preferably carries a coiled spring 17 for cushioning the device at the end of the upward or outward movement of the piston.

To operate the device the cup is placed over the pipe in which there is a stoppage, and sufficient water is supplied to enable the rubber cup to make an air tight fit, if there be not sufficient water in, or around the pipe.

The pump is then operated and it will force all the obstruction or accumulation through the pipe without producing any splash and without subjecting the rubber cup to the injuring wear incident to the use of a cup on a plunger.

What is claimed is:—

1. A pipe cleaner including a pump cylinder, an upwardly tapered rubber cup having a tubular neck fitted on the pump cylinder, a tube secured to the pump cylinder and having a flaring or tapered lower portion fitting closely against and bracing the interior of the tapered rubber cup, the tubular neck of the latter being extended upwardly beyond the said tube and spanning the joint between the latter and the cylinder, and an air-compressing piston operating in the cylinder.
2. A pipe cleaner including a pump cylinder, an upwardly tapered rubber cup having a tubular neck fitted on the pump cylinder, means arranged exteriorly of the pump cylinder for holding the cup against inward movement on the same, a tube secured to the pump cylinder and having a flaring or tapered lower portion conforming to the configuration of and fitting against the inner face of the cup and holding the same against outward movement in a direction longitudinally of the pipe cleaner, and an air compressing piston operating within the pump cylinder and adapted to seat itself at its inward movement upon the end of the tube.

3. A pipe cleaner including a pump cylinder having an interiorly threaded lower end, an outwardly tapered or flaring tube having a threaded cylindrical upper portion fitting within and engaging the screw threads of the pump cylinder, a stop arranged on the exterior of the pump cylinder in spaced relation with the flared portion of the tube, a tapered rubber cup having a tubular neck fitted on the lower end of the pump cylinder and abutting against the stop and held against inward movement by the same, said cup having an intermediate tapered or flaring portion arranged on and closely fitting the outer face of the flaring tube, the latter being drawn upwardly into tight engagement with the cup through its threaded connection with the cylinder and forming an internal support for the cup and adapted to stiffen the cup beyond the cylinder and serving as a stop for holding the cup against outward movement in a direction longitudinally of the pipe cleaner, and an air compressing piston operating within the pump cylinder and having its inward movement limited by the upper end of the tube, which forms a valve seat for the piston.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ANTHONY J. YOGGERST.
LAWRENCE G. YOGGERST.

Witnesses:

J. J. SCANLAN,
J. L. HALL.