(No Model.)

C. R. JENNE.

CISTERN CLEANER.

No. 477,760. Patented June 28, 1892.

FIG. 1.

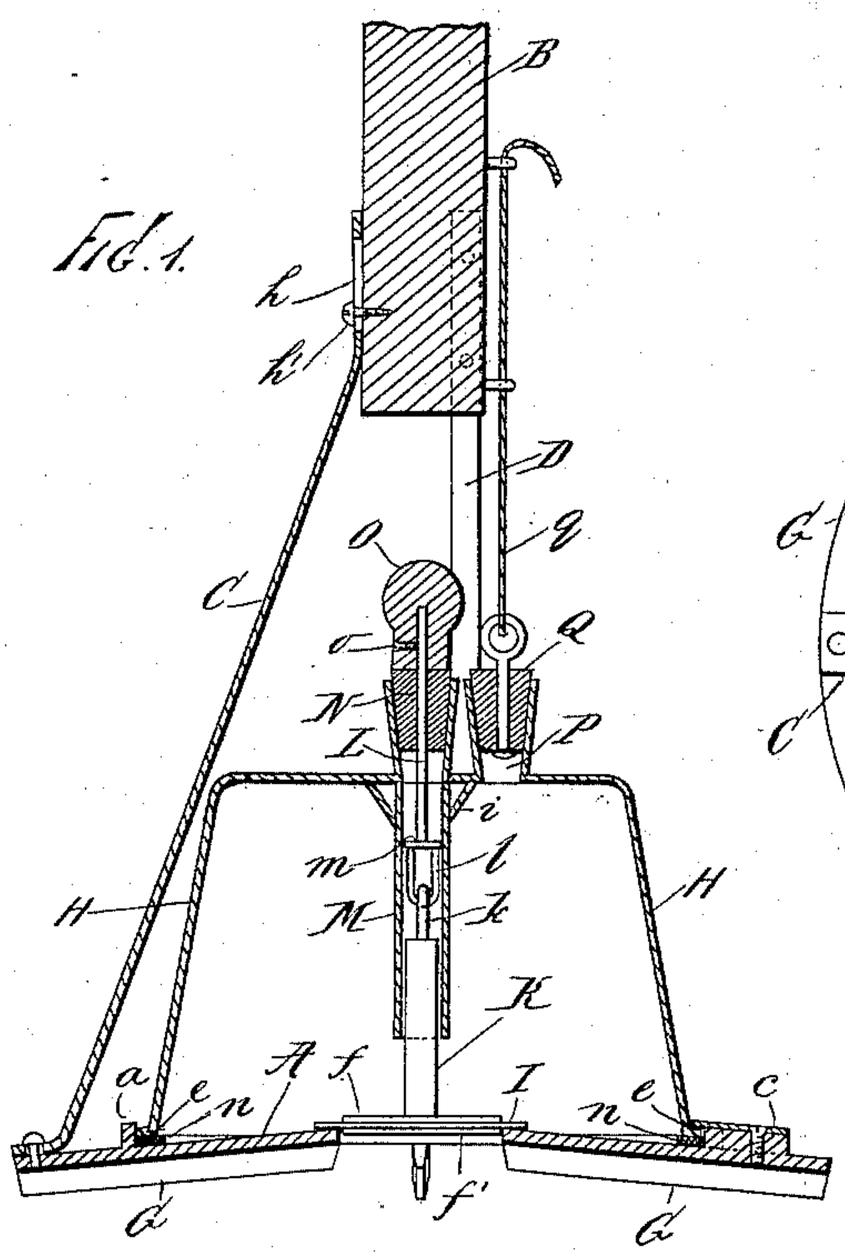


FIG. 2.

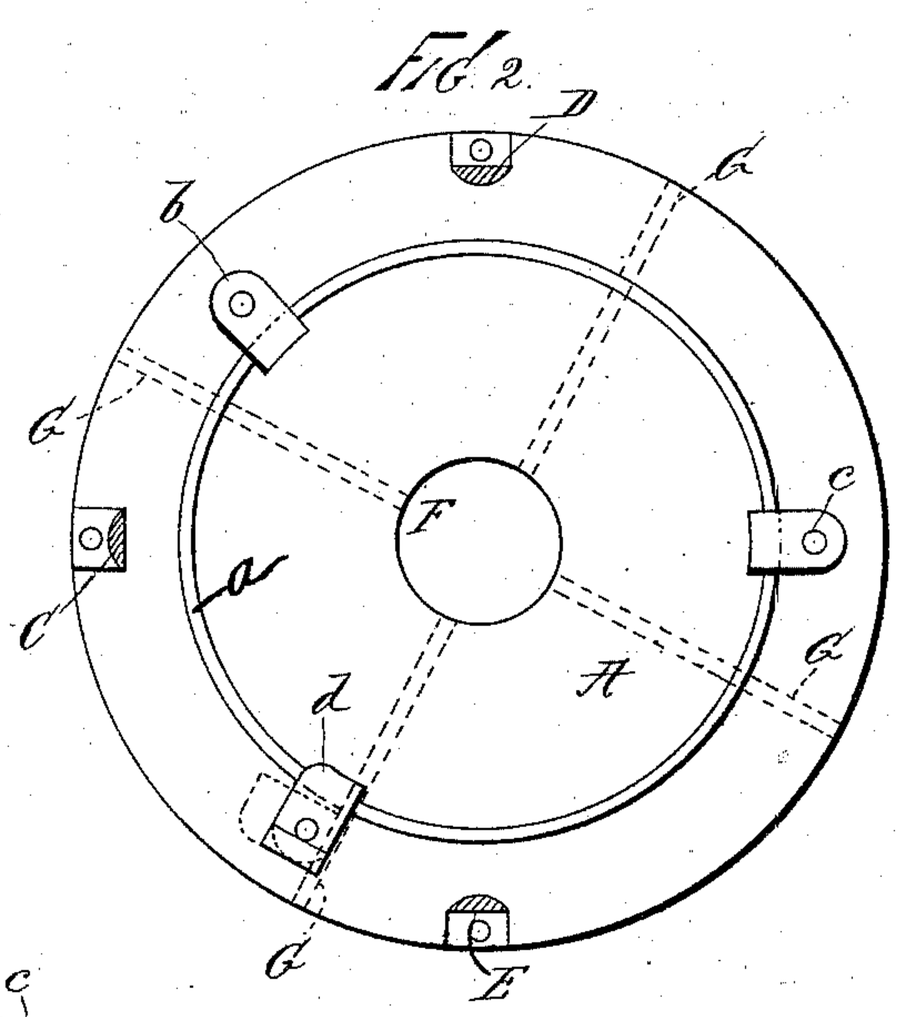


FIG. 3

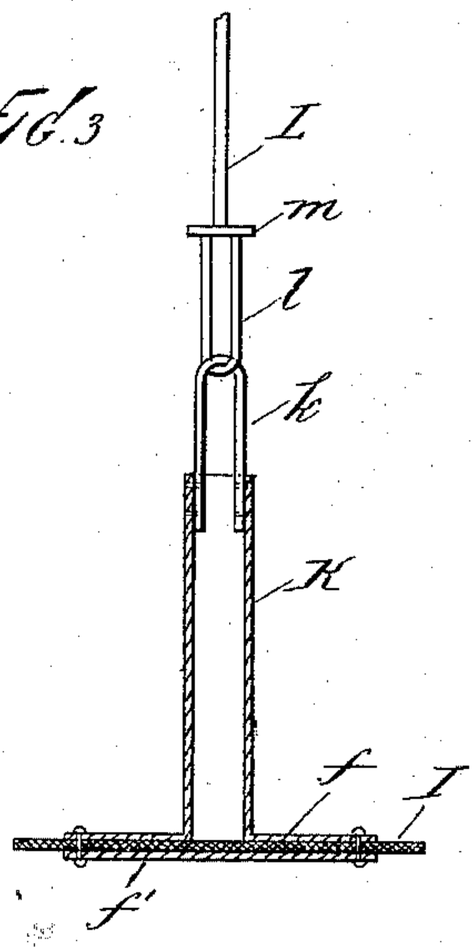
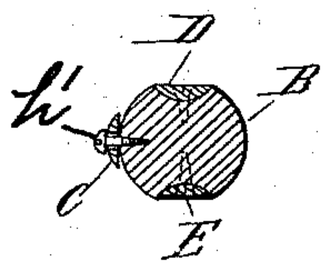


FIG. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHANCY R. JENNE, OF FORT WAYNE, INDIANA.

CISTERN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 477,760, dated June 28, 1892.

Application filed August 7, 1891. Serial No. 402,047. (No model.)

To all whom it may concern:

Be it known that I, CHANCY R. JENNE, of Fort Wayne, county of Allen, and State of Indiana, have invented certain new and useful Improvements in Devices for Cleaning Wells and Cisterns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to devices for cleaning wells and cisterns and removing the accumulations of sediment and foreign substances from the bottom thereof without the necessity of pumping out or otherwise discharging the water.

The object of my invention is to provide a simple, cheap, and effective apparatus for the purpose named which may be easily and effectively operated, which will accomplish the work thoroughly, and which will not be liable to get out of order. To accomplish all of this and to secure other and further advantages in the matters of construction, operation, and use my improvements involve certain new and useful arrangements or combinations of parts and peculiar features of construction, as will be herein first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a vertical view, partly in section and partly in elevation, showing my improved apparatus complete and ready to be lowered into the well or cistern, the handle or staff being broken away for convenience of illustration. Fig. 2 is a plan view of the base-piece detached, showing the means employed for locking the bucket in place. Fig. 3 is a view in section and elevation showing the construction and arrangement of the bottom valve and its sectional stem. Fig. 4 is a cross-section through the staff or handle and the braces, showing the manner of applying the latter to the former.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

A represents the base or bottom plate, upon which a handle or staff B (of any length) is braced by straps or stays, as C D E. The plate A is slightly concaved upward from its outer margin to the margin of its central opening F and has four or more radial flanges, as G, on its under side, adding strength to the plate, keeping it clear of the bottom of the well or cistern, and dividing the currents and directing them toward the central opening when the device is in use. This plate is preferably of cast and galvanized metal, or it may be made of sheet metal, if desired, in which case the outer margin should be suitably stiffened.

Upon the upper face of plate A is a narrow ledge *a*, within which the lower margin of the bucket H is seated, the bucket being held in place by buttons, as *b c d*, one of which, as *d*, is movable, and all fitted over a rim *e* upon the bucket to hold it. The valve is composed of a rubber or other suitable disk I, arranged to cover the opening F, and to stiffen this and afford a secure means for connecting the valve and its rod or stem I employ metal plates, as *f f'*, at top and bottom, riveting them together through the valve-disk. The rod connected with the valve is made in two parts K L, linked together, as at *k l*, one part movable upon the other within the limits allowed by the length of the links. This rod passes up through a tube M, in which the lower and larger part of the rod is loosely guided as it rises and falls. The upper part of the rod projects through a plug N and moves snugly or air-tight therein, and the top of it is supplied with a handle O, secured thereon by a single set-screw, as *o*. The air-opening P is controlled by a plug Q, to which is attached a cord or wire *q*, leading up along staff B through suitable staples or guides provided for it.

The operation of the device is as follows: The bucket being in place on its base and locked thereon, the air-opening P being closed, it is forced by the staff to the bottom of the well or cistern, the air confined within the bucket preventing the entrance of water upon principles well understood. When in place upon the bottom, the plug Q is withdrawn by pulling the cord or wire attached to it, and this admits of the escape of the air, followed by a rush of water, which carries the sediment with it up through the opening F and into the bucket, the valve automatically rising from its seat to permit the inrushing of the current. When the bucket is full, it is

lifted out by the staff, the valve then by its weight and the weight of the contents of the bucket above it dropping to its seat and preventing any outflow. The bucket is then carried to the place of discharge, the valve is raised by the handle O, and the contents of the bucket allowed to flow out, its discharge being facilitated by shaking it from side to side. The air-plug is then replaced and the operation may be repeated. The bucket is detachable from its seat that the interior may be cleaned when desired.

To facilitate the application of the cleaning device to all parts of the bottom of the place to be cleansed (which is frequently irregular or uneven) and to reach the corners and well up along the sides, it is desirable that the base be so mounted that it may be inclined upon the handle or staff. To accomplish this, I make one of the straps or braces, as C, a little longer than the others and slot it, as at *h*, securing it to the handle by a screw, as *h'*. To set the base square across the staff, the straps are secured so that they project down equally; but when it is desired to incline the base the strap C is loosened by unturning screw *h'*, and then the cleaning device may be adjusted or allowed to adjust itself. The straps D and E are let into the handle, as shown in Fig. 4, thus making a firm union at that point. They are loosely secured to the plate, so that the latter may move as required. The strap C may be detached at the top, if desired, to greatly incline the plate. The base-plate extends beyond the margin of the bucket all around, thus enabling one to clean at one dip an area much greater than that of the bottom of the bucket. The inclined or concaved base operates to render the current of inflowing material of velocity at the center equal to that at the circumference, so that the inflow will be rapid and unchecked by clogging, and therefore the scouring of the bottom more thorough and effective than could otherwise result.

The tube M is firmly anchored by a cone *i*, secured to it and to the top of the bucket. The section K of the valve-stem fits the lower end of tube M, so as to prevent the entrance of foreign matters, which might interfere with the free play of the valve, and the upper section is made to run true by a disk *m*, applied to it to insure the proper operation of the link. A packing-gasket *n* is applied beneath the margin of the bucket to insure a tight joint with the bottom plate.

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

1. In a device for cleaning wells, &c., the combination, with the removable bucket, of a perforated base-plate extending beyond the lower margin of the bucket, a staff or handle, and braces for connecting the base-plate with said staff, substantially as and for the purposes set forth.

2. In combination with the staff and bucket, the base-plate, concaved as explained, having an opening therein, ribs on its lower surface, and buttons on its upper surface, substantially as and for the purposes set forth.

3. In a device for cleaning wells, &c., the combination, with the base-plate supporting a removable bucket and the staff or handle, of the straps for securing the base-plate and handle together, one of said straps being slotted, as explained, and adjustably mounted on the staff, for the purposes and objects named.

4. In a device for cleaning wells, &c., including a staff, base-plate screwed thereto, and removable bucket, the combination, with the removable bucket, of the valve for covering the opening in the base-plate, said valve being mounted upon an adjustable stem in two parts linked together, substantially as set forth.

5. In a device for cleaning wells, &c., including a staff, base-plate secured thereto, and a removable bucket, the combination, with the bucket, of the valve, the two-part valve-stem, and the tube inclosing said stem, the latter being braced to the top of the bucket, substantially as set forth.

6. The herein-described device for cleaning wells, &c., the same comprising the removable bucket having an air-opening therein and a plug for closing the same, a perforated and concaved base-plate, means for securing the bucket thereon, the automatically-operating valve, the staff, and straps for uniting the base-plate and staff, all combined and arranged substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

CHANCY R. JENNE.

Witnesses:
ELMER LEONARD,
FRED V. GRAHAM.