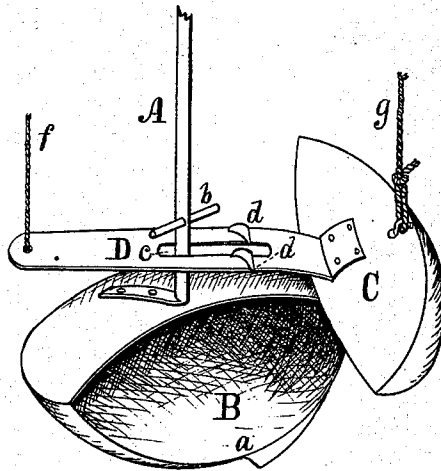


A. W. RICHARDS.
Well-Cleaners.

No. 146,475.

Patented Jan. 13, 1874.



Witnesses.
R. L. Orwig.
H. H. Bertnet.

Arthur W. Richards,
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UNITED STATES PATENT OFFICE.

ARTHUR W. RICHARDS, OF INDIANOLA, IOWA.

IMPROVEMENT IN WELL-CLEANERS.

Specification forming part of Letters Patent No. **146,475**, dated January 13, 1874; application filed July 7, 1873.

To all whom it may concern:

Be it known that I, ARTHUR W. RICHARDS, of Indianola, in the county of Warren and State of Iowa, have invented a Well-Cleaner, of which the following is a specification:

The object of my invention is to provide a simple means of gathering and removing dirt and all kinds of foreign matter from the bottom of a well without descending into the well. It consists in a chambered auger of conoidal form divided into two parts, and coupled with a shaft in such a manner that one-half can be revolved with the shaft while the other half is suspended out of the way, but so as to descend and form a closed chamber in the act of elevating the auger, all as hereinafter fully set forth.

My drawing is a perspective view, illustrating the construction and operation of my invention.

A represents a shaft for operating the auger. It may be formed in sections, and coupled together in any suitable manner. B is the half of a chamber, of conoidal or semi-spheroidal form, rigidly attached to the bottom of the shaft A. It may be cast complete in one piece, or the top and bottom may be formed separately and joined together in any suitable way. *a* is a lip projecting from the bottom of the half-chamber B, designed to have a cutting-edge, and to act similarly to the cutters of an auger. It may be formed solid with the part B, or may be movable, and attached in any suitable manner. A perpendicular screw-point may also be connected with the lip *a*, when desired, to aid in holding and operating the auger at any special spot to bore or sink it deeper. Ordinarily, it is designed to move it about in the bottom of the well to collect the loose dirt only. *b* is a bar attached to the shaft A to form a fulcrum upon which to operate the suspended part of the chamber. C is the suspended part of the chamber corresponding in size and form with the part B. It has a handle rigidly attached at its top and center.

D is the handle. *c* is a longitudinal slot in the center of the handle. *d d* are suitable bearings on the sides of the slot designed to engage the bar or fulcrum *b*. These bearings are in the form of hooks, and so shaped and located that when they strike the fulcrum *b* they will direct the suspended part C to the proper point to unite with the part B and form a complete closed chamber. *f* is a rope or chain attached to the end of the handle D, and to the drum of a windlass at the top of the well. *g* is a rope or chain attached, in a direct line with the slot *c*, to the outside edge of the part C, and to a separate drum on the windlass at the top of the well.

To operate my invention, connect the parts B and C by passing the shaft A through the slot *c* in the handle D. Lower the apparatus to the bottom of the well. Suspend and balance the part C in the manner illustrated by the ropes *f* and *g*. Revolve the shaft A and chambered auger B by means of a handle attached at the top, or by any suitable mechanism and motive-power that can be applied. When the chamber in B has filled, wind the rope *f* upon the windlass by means of a crank and gearing, or in any other practical manner, and thereby close the part C upon the part B, and elevate the entire apparatus, together with the dirt, stones, or whatever may have been gathered and retained in and between the parts B and C. By repeating the operation, and by shifting the apparatus to make it scrape all parts of the well bottom, a well may be readily and completely cleaned out without descending into it.

I claim as my invention—

A well-cleaner composed of the parts A B C D and *a, b, c, d d, f,* and *g*, substantially as described.

ARTHUR W. RICHARDS.

Witnesses:

P. P. HENDERSON,
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