C. F. Woodruff.

Water Elevator.

No. 88,428. Patented Mar. 30, 1869.

Fig. 1.

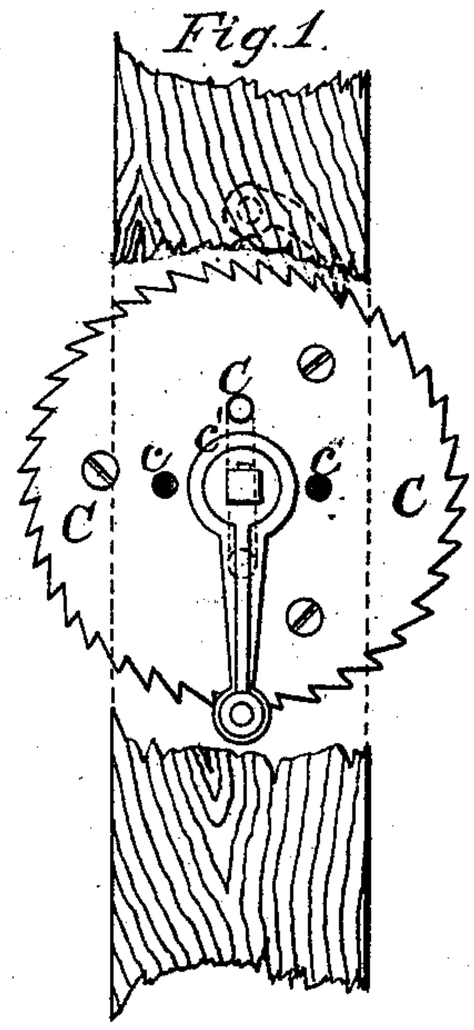
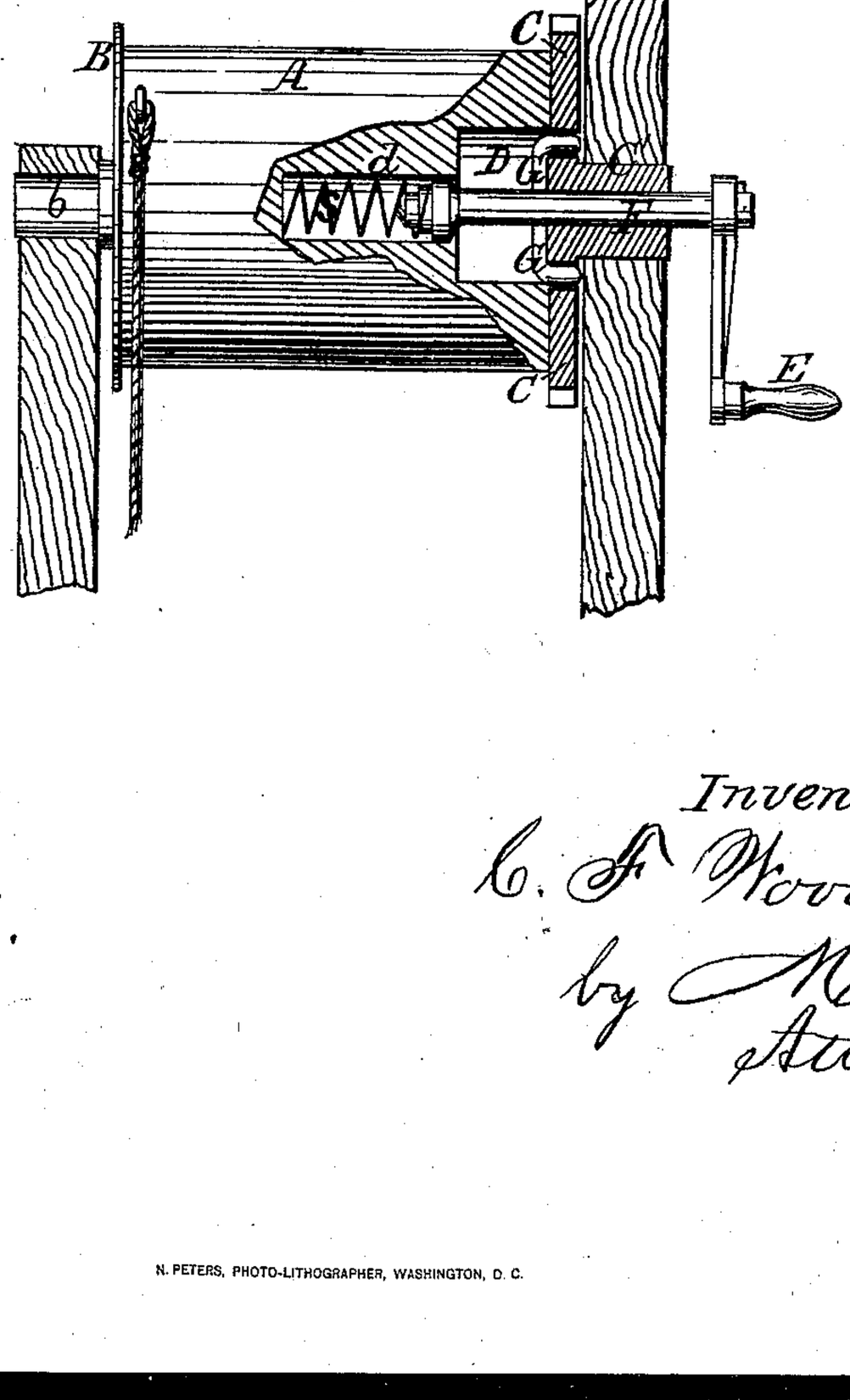


Fig. 2.



Witnesses.
C. A. Pettit.
A. M. Tanner.

Inventor.
C. F. Woodruff
by Munn & Co.
Attys.

United States Patent Office.

CHARLES F. WOODRUFF, OF NEWBERN, TENNESSEE.

Letters Patent No. 88,428, *dated March* 30, 1869.

IMPROVEMENT IN WATER-ELEVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES F. WOODRUFF, of Newbern, in the county of Dyer, and State of Tennessee, have invented a new and improved Water-Elevator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an end view of the cylinder.

Figure 2 is a side view of the same, a portion being shown in section.

This invention is an improvement upon the devices patented by the same inventor, February 4 and September 15, 1868, and consists in a combination, in one machine, of the main features covered by said two patents, thereby producing a more simple and permanent, and less expensive water-elevator than either of the old ones.

In the drawings—

A represents the cylinder, which may be of wood, or any other material, and may be of any length desired.

To one end of this cylinder is attached, by screws, or otherwise, a circular metallic plate, B, having, at its centre, a journal, *b*, upon which the cylinder is supported at that end.

At the other end, and attached in a similar manner, is a circular ratchet-plate, C, provided with four (more or less) holes, *c c*, and a journal, *c′*, the latter being made tubular, and supporting that end of the cylinder.

In the end of the cylinder, inside of the plate C, is a large cylindrical chamber, D, and at the end of that, a smaller chamber, *d*, the axis of both being in line with that of the journals *b c′*.

In connection with the parts above described, I employ a crank, E, attached to a shaft, F, which extends, through the tubular journal *c′*, plate *c*, and chamber D, into chamber *d*, where its end lies in contact with a spring, *s*, that presses it outward.

From a suitable point on the sides of this shaft, within chamber D, two (more or less) arms, G G, branch outward, and then bend back horizontally toward plate C, in such a manner, that when the shaft is rotated by the crank, the ends of the arms will come in line with the holes *c c*, and, if the shaft be not pressed inward by hand, said arms will, by the pressure of spring *s*, be caused to enter the holes, and thereby engage shaft F and plate C firmly together, so that, if the shaft be further rotated, the plate and cylinder must rotate with it. By pressing the shaft inward, it is disengaged again, and the cylinder is free to rotate independently of it.

In drawing water with this simple device, it is only necessary to turn the crank. The arms will at once engage, and, by the rotation of the cylinder, the bucket will be elevated.

When the bucket is emptied, the pawl may be thrown out of the ratchet, and the shaft pressed inward. The bucket will, then, by its own weight, unwind the rope, and descend into the well.

It will be observed, that, besides the extreme simplicity of this apparatus, which renders it more durable and less expensive than the old ones, the nature of it is such, that with the same set of castings, a cylinder of any required length and size may be employed, and that, having the castings, anybody possessing the least mechanical skill can construct the whole device, and put it into operation.

I do not claim any of the parts herein described, separately considered. Neither do I claim in this application anything shown in either of my patents of February 4 and September 15, 1868; but, having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the plate B, having the journals *b*, the ratchet-plate C, having the holes *c c*, and the hollow journal *c′*, the chambered cylinder A′, the spring *s*, the crank E, and the sliding shaft F, having the arms G G, bent as described, the whole being constructed and arranged to operate together substantially in the manner and for the purpose specified.

CHS. F. WOODRUFF.

Witnesses:

I. H. WALTON,

S. S. COLE.