

(No Model.)

A. N. WOODARD.
PUMP.

No. 483,034.

Patented Sept. 20, 1892.

Fig. 1

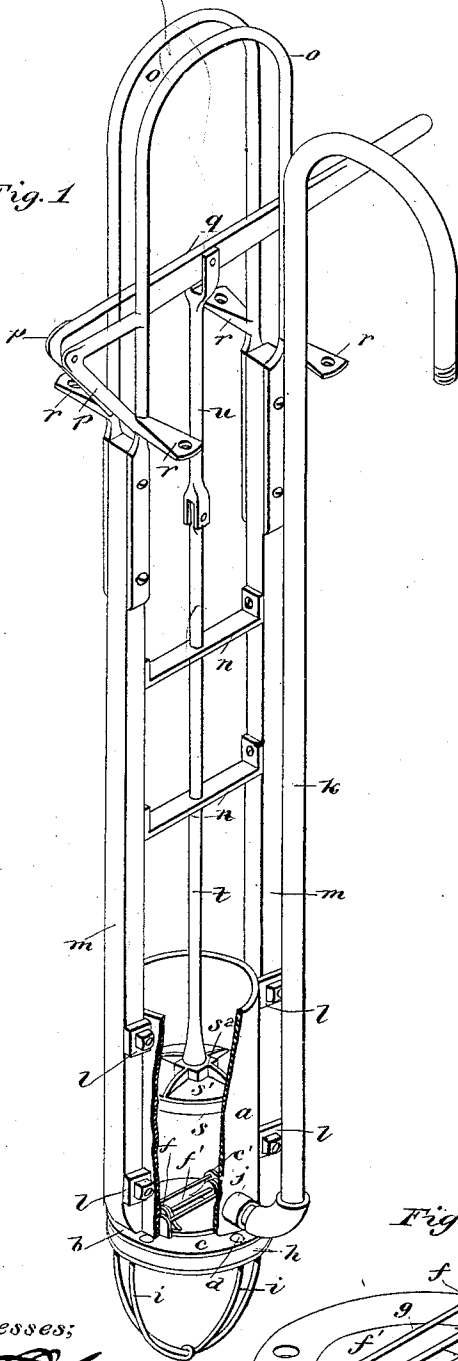


Fig. 2

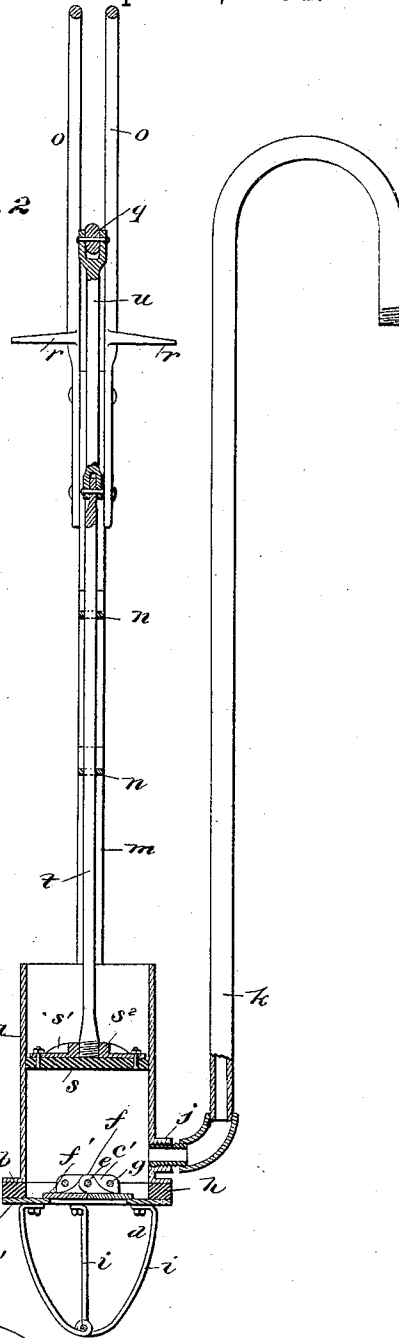
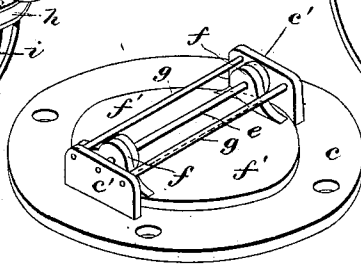


Fig. 3



Witnesses;

J. P. Coleman
Estimote

Inventor:

Alvin N. Woodard
by W. H. Finckel
his Atty.

UNITED STATES PATENT OFFICE.

ALVIN N. WOODARD, OF MANSFIELD, OHIO.

PUMP.

SPECIFICATION forming part of Letters Patent No. 483,034, dated September 20, 1892.

Application filed April 11, 1892. Serial No. 428,623. (No model.)

To all whom it may concern:

Be it known that I, ALVIN N. WOODARD, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented a certain new and useful Improvement in Pumps, of which the following is a full, clear, and exact description.

This invention relates to pumps for use in raising water from wells, cisterns, and the like.

As the invention consists in certain details of construction, I will describe first the principle of my invention and the best mode in which I have contemplated applying that principle and will then particularly point out and distinctly claim the part, improvement, or combination which I claim as my invention.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view with the barrel or cylinder broken out. Fig. 2 is a vertical section. Fig. 3 is a perspective of the valve detached.

In order to obtain a pump that will lift a considerable quantity of water at a single stroke of the piston, I make the barrel or cylinder *a* large. This barrel or cylinder is made as a tube, open at the top and having an outer bottom flange *b*. To this flange the bottom *c* is secured by bolts *d*. The bottom *c* is made as a ring, with upright lugs *c'*, which receive a shaft or pintle *e*, on which the ears *f* of flap-valves *f'* are pivoted. Rods *g* are secured in the lugs *c'* to limit the opening movement of the valves, the ears of the said valves coming into contact with said rods, and because of the stopping function of the rods *g* I call them "stop-rods." A water-tight packing *h*—such as a ring of leather—is placed between the flange *b* and the bottom *c*. A cage of crossed bars, wires, or rods *i* is suspended below the bottom of the cylinder from the bolts *d* to raise the valves above the bottom of the well and to assist in steadying the pump in the well. A nipple *j* is provided at one side of the cylinder above its bottom to receive the discharge-pipe *k*, which reaches up out of the well and may be adapted to receive hose. The cylinder is provided with laterally-projecting lugs *l*, and to them are bolted the uprights *m*. These uprights

extend up out of the well and are provided with rungs or rounds *n* to form a ladder by which access may be had to the well and to the cylinder when in the well. The tops of the uprights are connected by metallic yokes or stirrups *o*, and these yokes are supplied with brackets *p*, in which the handle or lever *q* is pivoted, said handle working up and down between the yokes and being guided and restrained from lateral motion by them. The brackets are employed in order to enable me to use a handle of sufficient leverage and length to raise at a single downstroke a very considerable quantity of water. The yokes are bolted or otherwise fastened to the tops of the uprights, and horizontal projections or feet *r* are formed on or applied to the yokes to rest and be secured upon the well's platform or cover or curb to support the working parts of the pump in position in the well. The plunger or piston has a flat disk of leather *s* or other such material, to fit the cylinder practically water-tight, and a metal head *s'*, to which the said disk is secured. The head *s'* is provided with a socket *s²* to receive the rod *t*, and this rod is stayed and guided by the rungs *n* and is secured to the handle *q* by the jointed connecting-rod *u*.

The cylinder is designed to be submerged above its nipple, and as the valves open automatically the cylinder will stand full of water to the level of the water in the well or to the piston if that be below such level. The upward stroke of the piston draws in more water, and its downward stroke closes the valves and forces the contents of the cylinder up through the discharge-pipe.

I have described in detail the construction of the valve, the cylinder, and the cage; but these details are not of the essence of the invention and may be varied at pleasure. So, also, instead of bolting the uprights *m m* to lugs on the cylinder they may be bolted directly to the cylinder. The pith of the invention is the rigid union of the uprights, cylinder, and yokes, the provision of the laterally-projecting feet for suspending the pump in the well, cistern, or tank, and the handle fulcrumed between the yokes and guided and restrained from lateral displacement by said yokes, whereby a pump is produced which is adapted to be handled easily, to be set and removed

with great readiness and expedition, and to be produced and marketed at small cost, and, moreover, such construction is very strong, very durable, and equally efficient.

5 What I claim is—

The pump-cylinder, the uprights *m m*, rigidly secured thereto, the piston, and the piston-rod, combined with the yokes *o*, rigidly secured to the tops of the uprights and uniting
10 and bracing or stiffening them and provided

with laterally-projecting feet *7* to support the pump in the well, and the handle pivotally connected to and between the yokes and guided by them, substantially as described.

In testimony whereof I have hereunto set
my hand this 2d day of April, A. D. 1892. 15

ALVIN N. WOODARD.

Witnesses:

W. L. SEWELL,

FLORA M. KERR.