

No. 687,725.

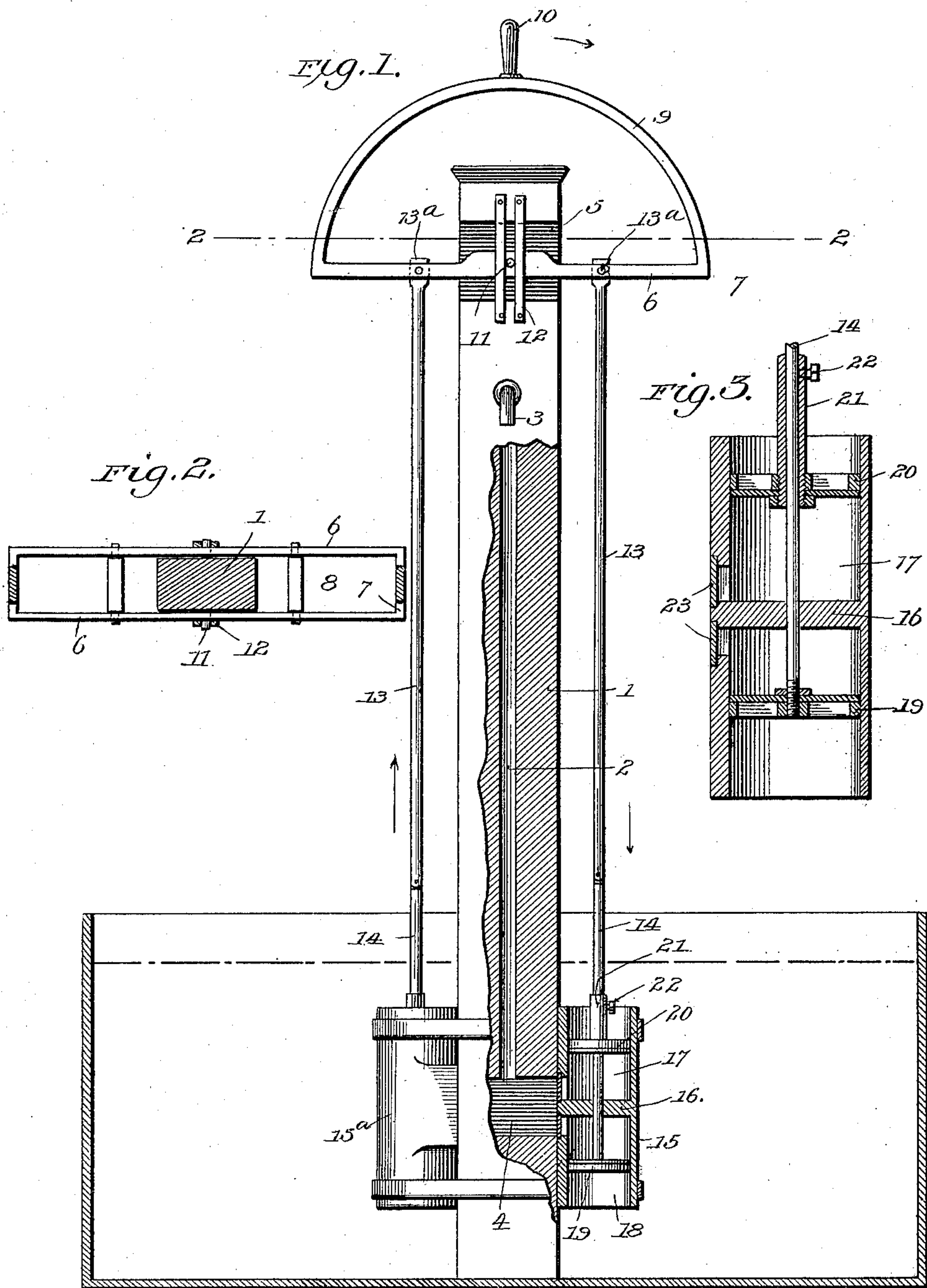
Patented Dec. 3, 1901.

A. L. CAMPBELL.

PUMP.

(Application filed Mar. 16, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

ALDEN L. CAMPBELL, OF MANCHESTER, VIRGINIA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 687,725, dated December 3, 1901.

Application filed March 16, 1900. Serial No. 8,924. (No model.)

To all whom it may concern:

Be it known that I, ALDEN L. CAMPBELL, a citizen of the United States, residing at Manchester, in the county of Chesterfield and State of Virginia, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

This invention relates to new and useful improvements in double-acting pumps; and its primary object is to provide a device of this character which is simple in construction and provided with novel means whereby the pump may be easily operated, producing a continuous flow of water.

To this end the invention consists, primarily, of a beam having a vertically movable or working fulcrum and connected in a suitable manner to pistons movable within double cylinders secured to a discharge-pipe or similar device at points below the level of the water within the well or tank, &c. Suitable valves are arranged between the cylinders and the discharge-pipe, whereby water may be discharged from the chambers of each cylinder alternately.

The invention also consists in the further novel constructions and combinations of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a front elevation of my improved device broken away and shown partly in section. Fig. 2 is a section on line 2 2, Fig. 1. Fig. 3 is an enlarged central vertical section through a cylinder and pistons therein.

Referring to said figures by numerals of reference, 1 is a pump-standard, having a passage 2 extending longitudinally there-through and terminating at its upper end in a spout 3 or in other suitable outlet. The lower end of said passage opens into a transverse passage 4. (Shown in Fig. 1.) Near its upper end the pump-standard is recessed on opposite sides, as at 5, and within these recesses are fitted parallel arms 6, connected at their ends by cross-strips 7 and forming a beam 8, said ends 7 being connected by an arc-shaped brace 9, preferably extending over the top of the standard 1 and provided with

a handle 10. The beam 8 is provided at the center of the arms 6 with trunnions 11, vertically movable between parallel guides 12, secured to the standard 1 and extending over the recesses 5.

Hung between the arms 6 at a point 13^a at each side of the trunnions 11 are rods 13, which extend downward and are jointed to piston-rods 14. Each of said rods 14 projects downward into and to a point near the bottom of a cylinder (designated, respectively, by the numerals 15 and 15^a) which is open at both ends and provided with a central head of partition 16, thereby forming an upper and a lower chamber therein, (numbered 17 and 18, respectively.)

To the lower end of rod 14 is secured a valved piston 19, movable within the chamber 18 of the cylinder. A valved piston 20 is adapted to work within the upper chamber 17 of the cylinder, and this is provided with a sleeve 21, which fits over the rod 14 and may be secured thereto in any suitable manner, as by means of a set-screw 22.

The cylinders 15 and 15^a are secured one to each side of the standard 1 at the outlets of the transverse passage 4, and valves 23 are provided between each chamber of the cylinders and said passage. These valves are each adapted to open when its piston moves toward the same. It will be understood that the cylinders 15 15^a are similar in construction and operation and that the same should be arranged below the level of the water at all times.

The pistons 20 normally rest in the positions shown in Figs. 1 and 3, the stop 24 between the guides 12 serving to support the parts. When the handle 10 is swung in the direction of the arrow shown in Fig. 1, the pistons in the cylinders 15 and 15^a are moved in opposite directions, compressing water against the partition 16 and forcing the same under pressure out into the passage 2. Upon rocking the beam 8 in the opposite direction the operation above described will be repeated, and it will thus be seen that all power employed is applied directly upon the water.

While I have shown and described my invention adapted for use with wells, it will be

understood that the same is not limited to such use, as the cylinders may, if desired, be suitably connected with a hydrant, &c.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. A pump comprising a hollow standard having an outlet near its upper end, a transverse passage near its lower end, and parallel transverse recesses adjacent to its upper end; parallel arms extending through said recesses, and connected at their ends by a swinging handle; trunnions projecting centrally from said arms; vertical guides spanning the transverse recesses within which the trunnions extend and are loosely guided; cylinders open at their ends secured at opposite sides of the standard and communicating with the passage therein; partitions within said cylinders; piston-rods extending within said

cylinders and carrying valved pistons; and rod connections between said piston-rods and parallel arms. 30

2. A pump comprising a hollow standard having an outlet near its upper end, a transverse water-passage near its lower end, and parallel recesses near its upper end, parallel arms extending through said recesses; parallel vertically-disposed guides extending across said parallel recesses; a brace connecting the ends of said arms and extending between said guides; trunnions projecting centrally from the outer sides of said arms; rods pivotally suspended between said arms; piston-rods pivotally connected to the lower ends of said suspended rods; cylinders into which the piston-rods extend secured to opposite sides of the standard and communicating with the water-passage therein by valved openings; central horizontal portions within said cylinders; and valved pistons on said piston-rods above and below said partitions. 40 45 50

In testimony whereof I affix my signature in presence of two witnesses.

ALDEN L. CAMPBELL.

Witnesses:

A. C. AUKISSON,
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