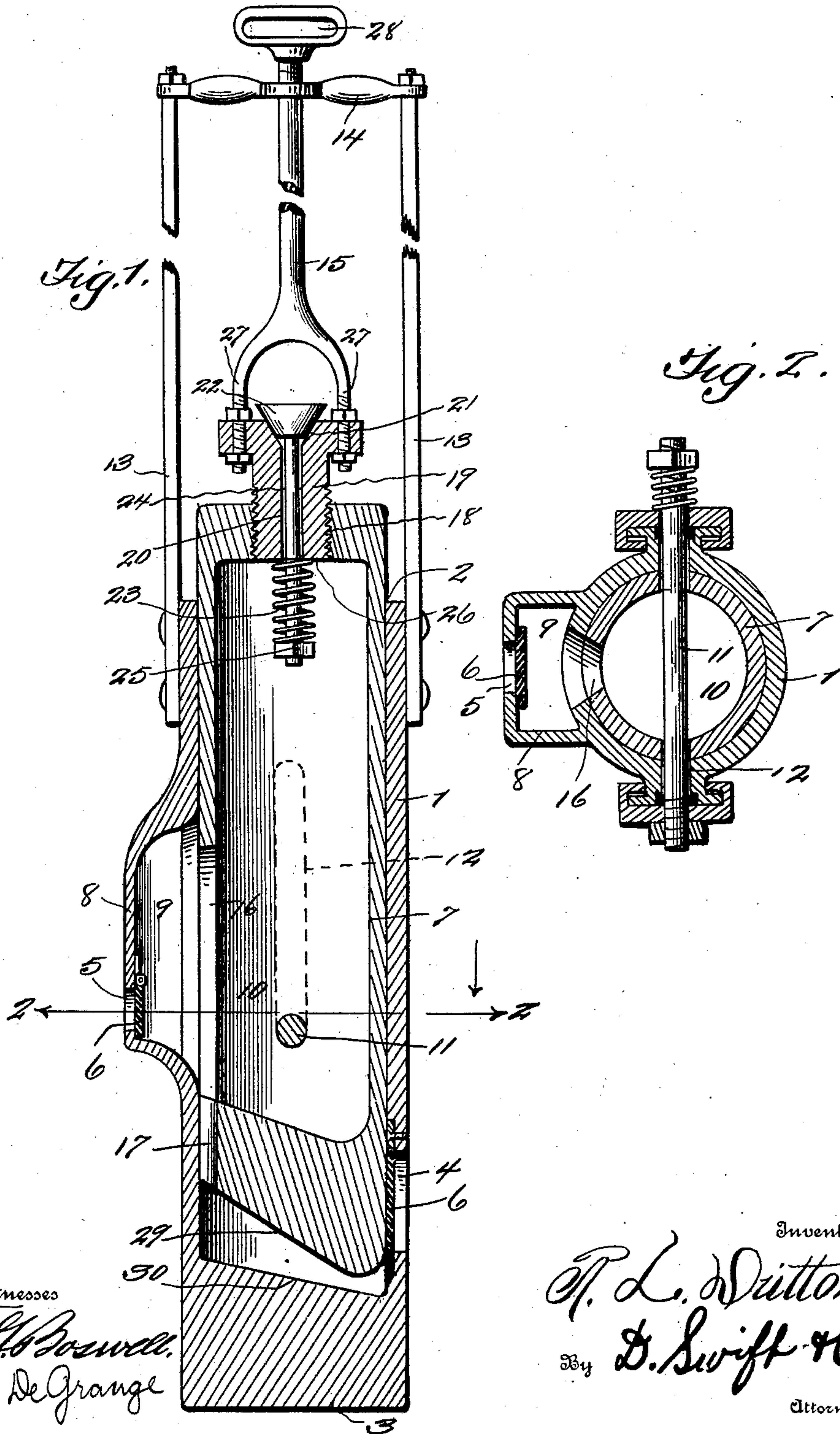


R. L. DUTTON.
CLEANING PUMP.
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910,516.

Patented Jan. 26, 1909.



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UNITED STATES PATENT OFFICE.

ROBERT L. DUTTON, OF WAUNETA, KANSAS.

CLEANING-PUMP.

No. 910,516.

Specification of Letters Patent.

Patented Jan. 26, 1909.

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To all whom it may concern:

Be it known that I, ROBERT L. DUTTON, a citizen of the United States, residing at Wauneta, in the county of Chautauqua and State of Kansas, have invented a new and useful Cleaning-Pump; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention about to be set forth and claimed pertains to a new and useful cistern or well cleaner or pump, and the invention in its fundamental characteristics aims for its primary object to provide a device which is simple, cheap, and durable and efficient in construction, and which may be utilized for removing the sediment and refuse matter from wells or cisterns, as will be clearly manifested.

The invention directs as a further object to provide such a device having two cylinders or barrels, one movable in the other, so that, when the sediment or refuse matter is drawn in the lower end of one, on the upward stroke of the other, the lower end of one of the cylinders or barrels will contain the sediment or refuse matter until the other cylinder or barrel is beginning its downward stroke, after which the sediment or refuse is forced upward into the hollow portion of the movable cylinder or barrel, and when the two are filled the device is drawn from the cistern or well and cleansed.

This invention comprises further objects and combinations of elements, which will be hereinafter more fully described, shown in the accompanying drawings, and the novel features thereof will be pointed out by the appended claims.

The features, elements and the arrangement thereof, which constitute the above entitled invention, may be changed and varied, that is to say, in an actual reduction to practice with the understanding that the changes and variations accruing from said reduction to practice are limited to the scope of the appended claims.

To obtain a full and correct understanding of the details of construction, combinations of features, elements and advantages, reference is to be had to the hereinafter set forth description and the accompanying drawings in connection therewith, wherein—

Figure 1 is a sectional view through the device, showing the inner movable cylinder

in a position to be drawn upward, so as to cause the intake of the sediment or refuse matter. Fig. 2 is a sectional view on line 2—2 of Fig. 1.

In regard to the drawings, wherein similar reference characters indicate corresponding parts in the several illustrations, by figures, 1 designates a cylinder or barrel, having its upper end open while its lower or bottom end is closed, as at 2 and 3; this cylinder or barrel has ports 4 and 5, which are provided with check valves 6, which are open upon the upward stroke of the inner movable cylinder 7, and closed upon its downward stroke.

The port 5 specifically speaking is formed in an inclosure or casing 8 which forms a chamber 9, into which the sediment or refuse matter, as the inner movable cylinder is moving downward, is forced, and from which the sediment or refuse matter enters the hollow portion 10 of the inner movable cylinder, as is clearly evident.

Extending through transversely of the inner movable cylinder is a rod 11, the outer ends of which move in vertical slots 12 of the outer cylinder, the extremities of the ends having means for holding packing, of any desired suitable material, around or adjacent the said slots, so as to cause a close joint.

Extending upwardly of the outer cylinder are side bars 13, the upper ends of which are connected by a transverse bar 14, and which is provided as a guide for the operating rod 15, and as handles for steadying the outer cylinder when the device is in operation. The inner movable cylinder is provided with a port 16 in its circumference and adjacent to its lower portion, and which is communicated with by a recess 17, through which the sediment or refuse matter, as the inner cylinder is forced downward, passes, as is clearly evident.

The inner movable cylinder is provided in its upper portion with a threaded bore 18, into which a threaded plug 19 is positioned, through which threaded plug a bore 20 extends, the upper portion of which diverges into a valve seat 21, with which the valve 22 coöperates, as will be clearly observed. The valve 22 is normally seated through the medium of the spring 23, which surrounds the valve rod 24, and is disposed between a nut 25 carried by the rod and the lower face 26 of the plug, as will be clearly understood. The valve 22 is further held to its seat, that

is to say, upon the upward stroke of the inner movable cylinder, by the act of causing a vacuum at the lower portion of the cylinder 1.

Secured to the plug are the forked ends 27 of the operating rod 15, which is guided by the transverse rod 14, and is formed upon its upper end with a handle or grip 28, by which the inner movable cylinder is manipulated.

In removing the sediment or refuse matter from a cistern or well, the device is first inserted into the well or cistern with the inner movable cylinder positioned as shown in Fig. 1, after which this inner movable cylinder is drawn upward, and upon its upward stroke the sediment or refuse is drawn within the lower portion of the outer cylinder and beneath the inner movable cylinder, as will be clearly manifest. Upon the downward stroke of the inner movable cylinder, the sediment or refuse matter is forced through the recess 17, into the hollow portion 10 of the inner movable cylinder and the chamber 9, until the two are entirely filled. This is accomplished by an upward and downward stroke of the inner movable cylinder, and when the chamber 9 and the hollow portion 10 of the inner movable cylinder are filled, the inner movable cylinder is given one more upward stroke, which would cause the lower portion of the outer cylinder to fill beneath the inner movable cylinder, as will be apparent. The inclination 29 of the lower face of the inner movable cylinder and the inclination 30 of the inner face of the bottom of the outer cylinder are such as to cause a ready forcing of the sediment or refuse matter through the said recess 17.

From the foregoing, the essential features, elements and the operation of the device, together with the simplicity thereof, will be clearly apparent.

Having thus fully described the invention, what is claimed as new and useful, by the protection of Letters Patent, is:—

1. In a device as set forth, an outer open ended hollow cylinder having ports provided with check valves and a pair of oppositely disposed slots, an inner movable valve controlled hollow cylinder having a port and provided with a transverse rod to be guided by said slots, said inner movable cylinder having a passageway connecting the hollow portions of the cylinders and means to manipulate the inner movable cylinder.

2. In a device as set forth, an outer open ended hollow cylinder having ports provided with check valves and a pair of oppositely disposed slots, an inner movable valve controlled hollow cylinder having a port and provided with a transverse rod to be guided by said slots, said inner movable cylinder having a passageway connecting the hollow portions of the cylinders means to manipulate the inner movable cylinder, the inner cylinder having its bottom face so formed as

to cause the sediment and refuse matter to enter the inner movable cylinder.

3. In a device as set forth, an outer open ended hollow cylinder having ports provided with check valves and a pair of oppositely disposed slots, an inner movable valve controlled hollow cylinder having a port and provided with a transverse rod to be guided by said slots, said inner movable cylinder having a passageway connecting the hollow portions of the cylinders means to manipulate the inner movable cylinder, both cylinders having their bottom cooperating faces so formed as to cause the sediment or refuse matter to enter the hollow portion of the inner cylinder.

4. In a device as set forth, an outer open ended hollow cylinder having ports provided with check valves and a pair of oppositely disposed slots, an inner movable hollow cylinder having a port and provided with a transverse rod to be guided by said slots, said inner movable cylinder having a passageway connecting the hollow portions of the cylinders said inner movable cylinder having its upper end plugged, said plug having a spring controlled valve and a valve seat to cooperate with the valve, means carried by the plug to manipulate the inner movable cylinder, both cylinders having their bottom cooperating faces so formed as to cause the sediment or refuse matter to enter the hollow portion of the inner cylinder.

5. In a sand bailer, the combination with a cylinder open at its top and closed at its bottom and having an inwardly opening check valve, of a reciprocable plunger provided with a pocket in its body and a passageway connecting said pocket with the space in the cylinder below the plunger, said pocket being closed at its upper end except for a vent passage, and an outwardly opening valve governing said passage.

6. In a sand bailer, the combination with a cylinder open at its top and closed at its bottom and having an inwardly opening check valve, of a reciprocable plunger provided with a pocket in its body and a passageway connecting said pocket with the space in the cylinder below the plunger, said pocket being closed at its upper end except for a vent passage, an outwardly opening valve governing said passage, said plunger having a port adjacent to the first-named passage, said cylinder having an auxiliary chamber provided with a vent and a check valve to cooperate with said vent and with which the pocket is in communication through the port whether the plunger is in an upper or lower position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT L. DUTTON.

Witnesses:

D. G. HAHN,
W. J. KIRBY.