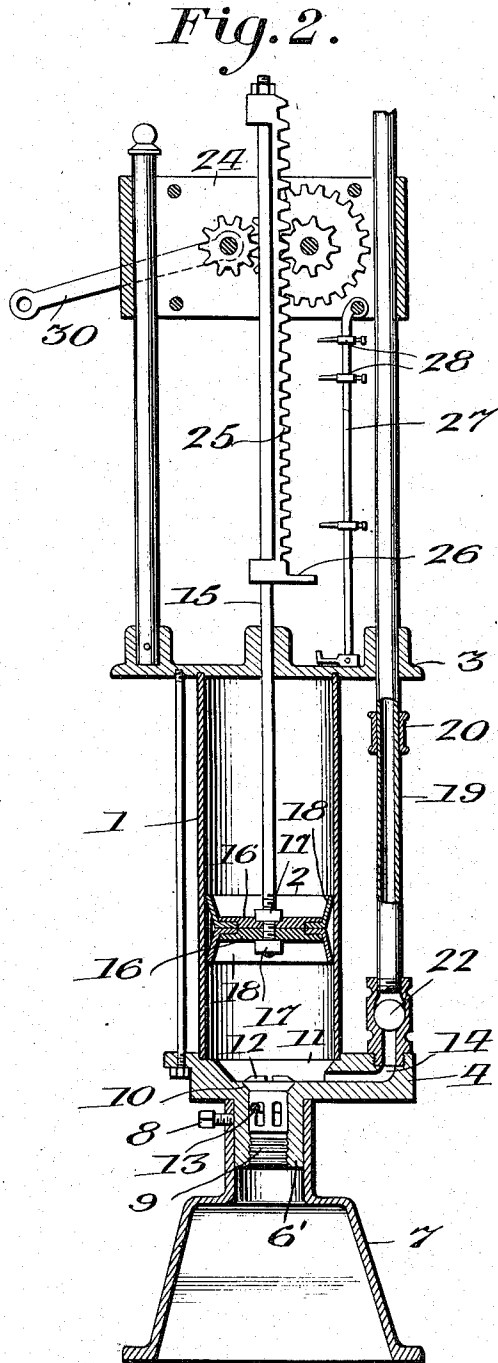
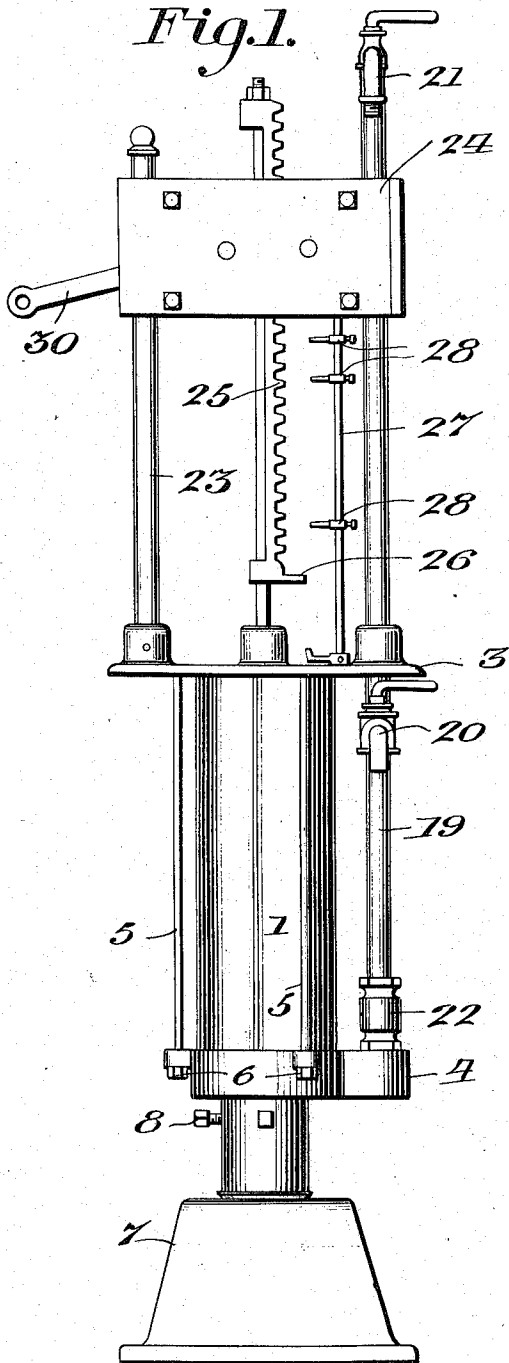


A. HANSON.
MEASURING PUMP.
APPLICATION FILED JUNE 21, 1913.

1,122,111.

Patented Dec. 22, 1914.



WITNESSES

Philip E. Barnes
E. T. Sheeley.

INVENTOR

Andrew Hanson
by James P. Sheehy & Co., Attorneys.

UNITED STATES PATENT OFFICE.

ANDREW HANSON, OF ALPENA, MICHIGAN.

MEASURING-PUMP.

1,122,111.

Specification of Letters Patent. Patented Dec. 22, 1914.

Application filed June 21, 1913. Serial No. 774,973.

To all whom it may concern:

Be it known that I, ANDREW HANSON, citizen of the United States, residing at Alpena, in the county of Alpena and State of Michigan, have invented new and useful Improvements in Measuring-Pumps, of which the following is a specification.

My present invention pertains to measuring pumps, and consists in the simple, durable and reliable construction hereinafter described and definitely claimed.

In the drawings accompanying and forming part of this specification: Figure 1 is an elevation of my novel measuring pump. Fig. 2 is a view, partly in elevation and partly in vertical section of the same.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

In common with measuring pumps extant, my novel pump comprises a cylinder, non-return valves for controlling the induction and eduction ports of the cylinder, a piston, and gearing for transmitting motion from a crank or other handle to the piston.

The cylinder 1 of my pump is of peculiar and advantageous construction as is also the piston 2. By reference to Fig. 2, it will be understood that the cylinder 1 comprises a barrel, a cap 3 having a groove in its under side receiving the upper end of the barrel, a base 4 having a groove in its upper side receiving the lower end of the barrel, and rods 5 connecting the cap 3 and base 4 and equipped with nuts 6, as shown. The cylinder base 4 is provided with a reduced depending portion 6 arranged in the tubular upper portion of a stand 7 and secured by a set screw 8. In the said reduced and depending portion 6 of base 4 is a vertical port 9 the lower end of which is threaded for the connection of a pipe (not shown) leading from a suitable source of liquid supply. At its upper end said port 9 merges into a beveled valve-seat 10 which, in turn, extends upwardly to the floor of a chamber 11, formed in the upper side of the base 4. The side wall of the said chamber 11 is inclined outward from the floor of the chamber to the upper side of the base 4, at which latter point the chamber corresponds in diameter with the interior of the cylinder barrel, for an important purpose hereinafter described. The port 9 is controlled by a beveled valve 12 having a depending stem 13 guided and suitably

retained in the port 9. By virtue of the valve 12 being arranged in the lower portion of the chamber 11 in position to occupy the seat 10, the valve is not liable to be struck or otherwise affected by the piston when the latter reaches the extremity of its downward traverse. It will also be observed in this connection that the flaring of the chamber 11 due to the upward and outward inclination of the side wall thereof, effectually prevents the disposition of the valve below the piston chamber from lessening the inflow of liquid incidental to the upward stroke of the piston. It will further be observed that the cylinder base 4 is a heavy casting, and that it is provided with a port 14 that extends outwardly from the chamber 11 and then upwardly.

As will be observed by reference to Fig. 2 the piston is provided with a threaded rod 15, and comprises in addition to said rod, lower and upper plates 16, preferably of metal, lower and upper clamping nuts 17, and annular washers 18, the latter being preferably formed of leather. The inner portion of the washers 18 are clamped and strongly held between the plates 16, and hence it will be manifest that the outer portion of the upper washer 18 is directed upwardly while the outer portion of the lower washer 18 is directed downwardly. By virtue of this specific construction it will be observed that the liability of air escaping past the piston is reduced to a minimum, and hence the efficiency of the pump as a whole is increased.

Connected to and extending upwardly from the port 14 is an upright conduit 19 having, by preference, lower and upper faucets 20 and 21, and arranged at 22 in said conduit is a non-return valve. It will also be noted that the conduit 19 extends through and is braced and held by the cap 3.

23 is an upright fixed to and rising from the cylinder cap 3.

24 is a housing secured on and supported by the conduit 19 and upright 23.

25 is a rack bar fixed to the piston rod 15 and having a finger 26, and 27 is a rod interposed between and secured to the cap 3 and housing 24, and having pointers 28 designed to be fixed at predetermined points to indicate the quantities of liquid drawn into the cylinder on the upward stroke of the piston.

The piston may be actuated in any preferred manner without involving departure

from the scope of my invention. I prefer, however, to employ for the purpose the mentioned rack bar 25, a crank 30, and gearing such as shown in Fig. 2 intermediate the crank and the rack bar.

Having described my invention, what I claim and desire to secure by Letters-Patent is:

The herein described pump, comprising a stand having an upwardly extending tubular portion, a barrel, a thick base opposed to the lower end of the barrel and having a chamber in its upper side and also having a valve-seat extending downwardly from the floor of the chamber and merging into a downwardly extending port, said port being formed in a reduced depending portion that is secured in the tubular portion of the stand, and further having a port extending laterally outward from the chamber and then upwardly, a non-return valve arranged to occupy said seat in the base, a cap opposed to the upper end of the barrel and

connected with the base and having a vertically disposed aperture at one side of the barrel and a central aperture and also having a seat at one side of the barrel, a rod secured in the seat of the cap and extending upwardly therefrom, a pipe connected with the base and communicating with the lateral port therein and extending upwardly through the aperture in the cap and equipped with a cock, a non-return valve in said pipe, a housing secured on the rod and pipe, a piston movable in the barrel and having a rod on which is a rack that extends through the housing, and means mounted in the housing and connected with the rack for actuating the piston.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ANDREW HANSON.

Witnesses:

FRED H. ORCUTT,
D. N. MACALPEN.