

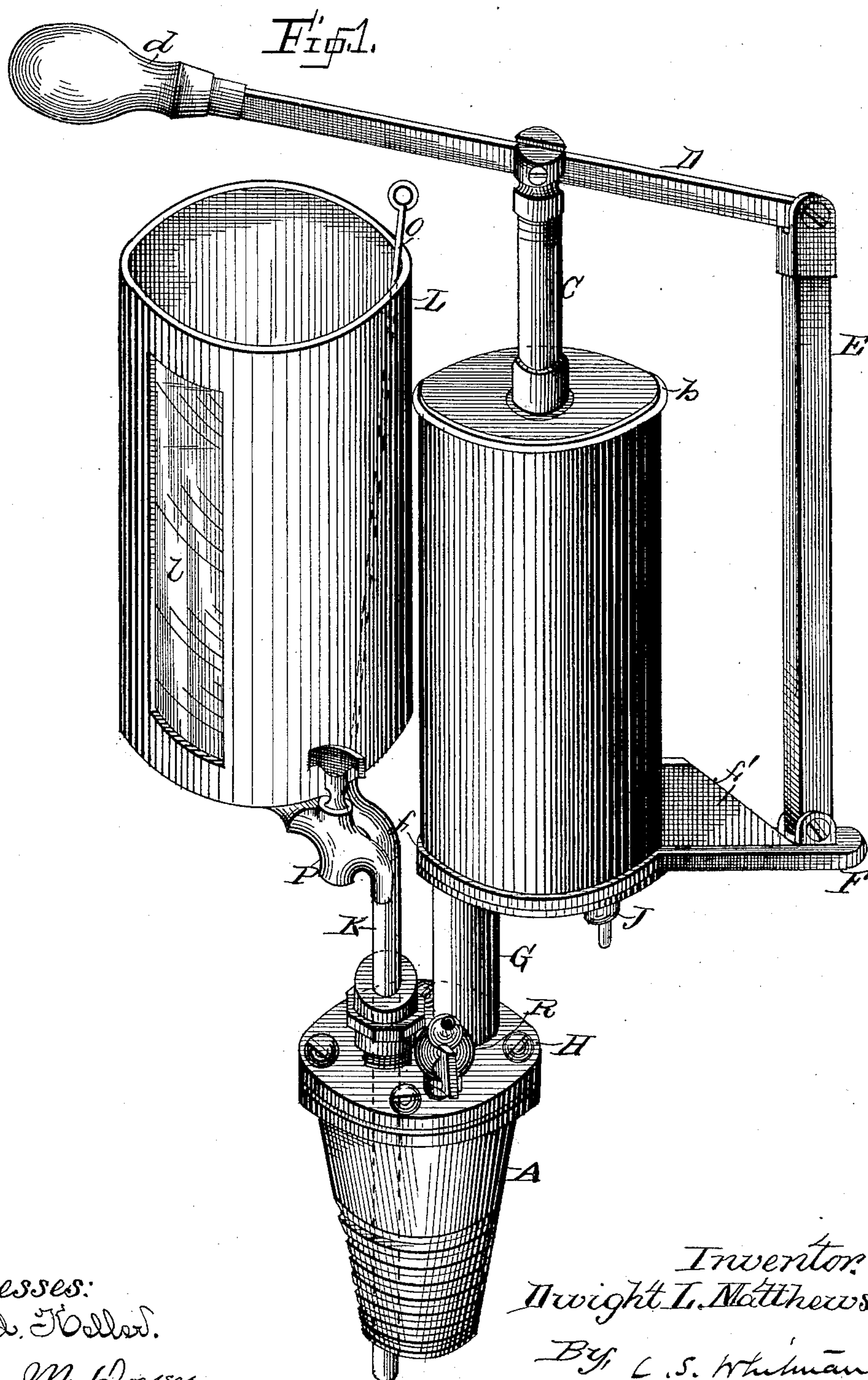
(No Model.)

2 Sheets—Sheet 1..

D. L. MATTHEWS.  
MEASURING PUMP.

No. 359,023.

Patented Mar. 8, 1887.



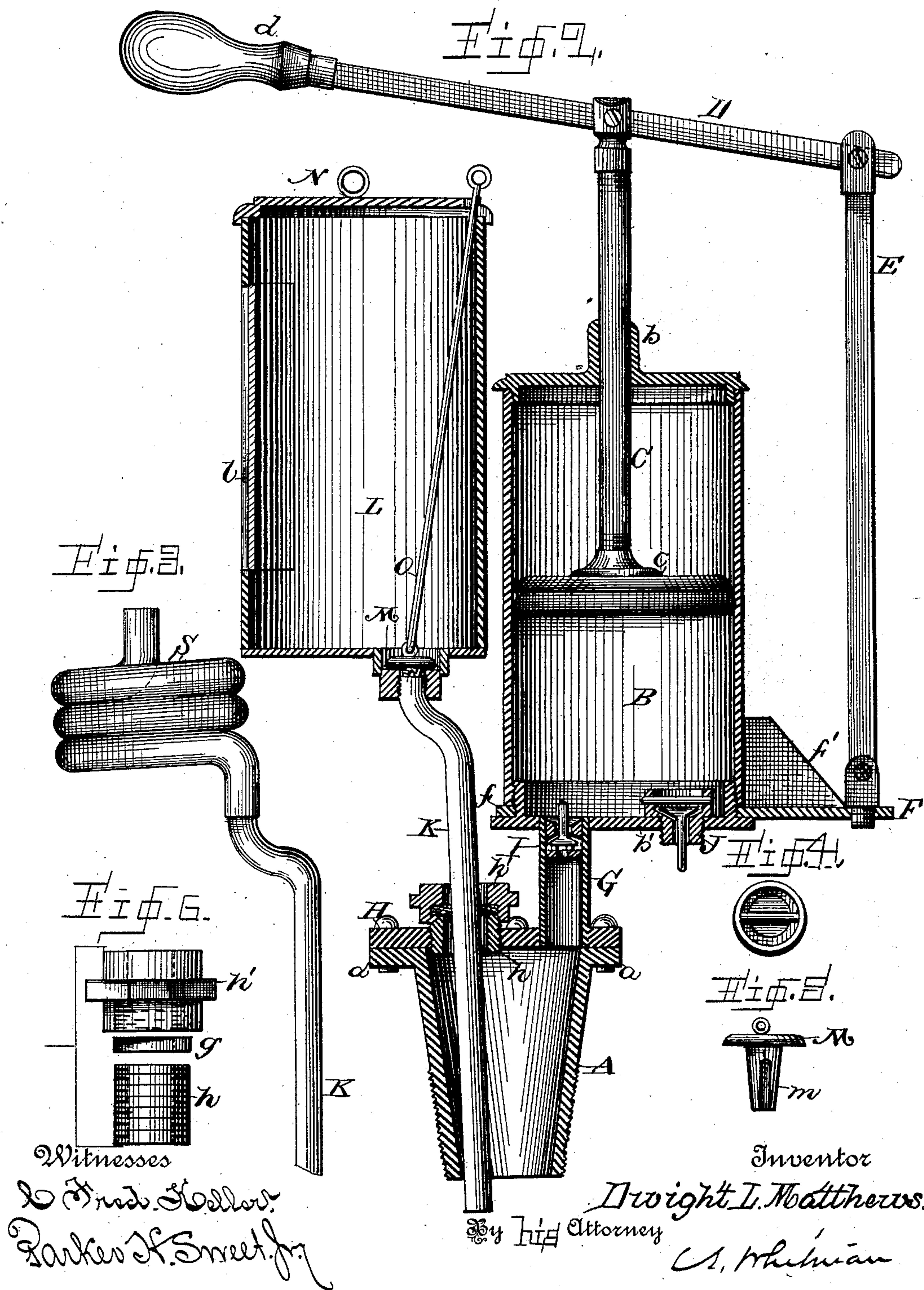
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2 Sheets—Sheet 2..

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# UNITED STATES PATENT OFFICE.

DWIGHT L. MATTHEWS, OF TOLEDO, OHIO.

## MEASURING-PUMP.

SPECIFICATION forming part of Letters Patent No. 359,023, dated March 8, 1887.

Application filed June 9, 1886. Serial No. 204,664. (No model.)

*To all whom it may concern:*

Be it known that I, DWIGHT L. MATTHEWS, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Measuring-Pumps; 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

10 appertains to make and use the same.  
My invention relates to apparatus made use of for drawing off and measuring liquids; and the nature thereof consists in certain novel combinations of parts thereof, hereinafter de-

15 described and claimed.  
In the accompanying drawings, in which corresponding parts are designated by similar letters, Figure 1 is a perspective view of my invention. Fig. 2 is a vertical section thereof. 20 Fig. 3 represents the adjustable pipe used in connection with a coil of hose. Fig. 4 is a top view of the air-valve. Fig. 5 is a side view of the plug. Fig. 6 represents the device for holding the packing detached in which the 25 adjustable pipe is inserted.

Referring to the accompanying drawings, A represents the funnel-shaped pipe provided at its smallest end with screw-threads for se- 30 curing it to the barrel or other receptacle containing the liquid, and at its largest end with a shoulder, *a*, by means of which the covering or cap H, containing holes for the reception of pipes, is firmly secured by bolts.

B represents the cylinder in which the air 35 is compressed, provided with the ordinary cylinder-head, *b'*, through which the piston-rod C, carrying the piston *c* within, extends. This piston-rod is hinged or pivoted to the lever D at or near its center, one end of which lever 40 is provided with a handle, *d*, while the other is hinged to the bar E, which extends downward and has its bearing in the bracket F. The bracket F is composed of a collar or band, *f*, having formed on its edge a projection or 45 arm to which the bar E is secured, and upon the projection a triangular piece, *f'*, which bears against the cylinder B, thereby giving it strength. The collar is inserted or placed over the head *b'* of the cylinder B and rests 50 upon the shoulder, the collar or band *f* of the bracket being interposed between them, there-

by acting as a packing, and also holding the bracket F firmly in position.

In the cylinder-head *b'* is screwed a pipe, G, which extends to the covering H of the funnel- 55 shaped cylinder A, forming a communicating passage. Within this pipe is placed or secured an air-valve, I, which allows the air to flow downward when the piston *c* is descending. The head *b'* is also provided with an- 60 other air-valve, J, which is reverse to that placed in the pipe G, so that when the piston is ascending the valve J opens and admits the air into the cylinder B, to be forced by the piston through valve I in the pipe G. In the 65 opposite side of the covering H is another hole cut for the reception of a screw-threaded collar or pipe, *h*, upon which packing is placed, and upon the packing *g* a cap, *h'*, is screwed to hold it firmly in position upon the collar *h*, 70 and between the two. Through the packing an adjustable pipe, K, is inserted, carrying at its upper or curved end a measuring-tank, L, which can be removed from the pipe K. The tank L is also provided with an opening, which 75 extends nearly the height of the tank, and is covered with glass or other transparent substance, *l*, upon which the marks for indicating the quantity of liquid to be drawn off are placed or marked. 80

The opening of the pipe that leads to the tank L is provided with a plug, M, having recesses or grooves *m*, as shown in Fig. 5, to allow the liquid to pass up into the tank L, and prevent it from flowing back until 85 the rod O, which extends through the covering N, is raised. The tank is also provided with a stop-cock, P, by means of which the liquid is drawn off after being measured. The covering H is also provided with a stop-cock, 90 R, as shown in Fig. 1, so that if too much liquid is forced into the tank L by lifting the wire O, secured to the plug M, and at the same time opening the stop-cock R, allowing the compressed air to escape, the liquid will 95 flow freely from the tank back into the barrel.

In drawing liquid from one barrel I employ an ordinary coil of rubber pipe, S, as shown in Fig. 3, to be inserted, in place of the tank, over the end of the removable and adjustable 100 pipe K, and by inserting the free end of the pipe into the barrel to be filled.



In carrying out my invention it will be observed that the air is drawn in the cylinder B by the up-and-down motion of the lever D through the valve J, and forced down through the pipe G and valve I into the barrel containing the liquid, and by the pressure of the air upon it forces it through the adjustable pipe K into the measuring-tank L, where it is drawn off.

10 Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a measuring-pump, the compressed-air cylinder B, provided with the inlet and outlet valves J and I, the collar *f*, interposed  
15 between the cylinder and cylinder-head and provided with a bracket, F, the bar E, secured thereto leading upward and hinged to the lever D, secured to the piston-rod, the pipe G, the funnel-shaped pipe A, and the adjustable  
20 pipe K, carrying the coiled pipe S upon its upper end, as and for the purpose described.

2. In a measuring-pump, the combination of the compressed-air cylinder B, provided with inlet and outlet valves J and I, the pipe  
25 G, the funnel-shaped pipe A, provided with the collar *h*, the packing *g*, and the cap *h'*, through which the adjustable pipe K extends, the measuring-tank L, the plug M, provided with grooves  
30 *m*, the rod O, connected to the same, and the stop-cock R, for releasing the compressed air and allowing the liquid to flow from the measuring-tank, as herein shown and described.

3. In a measuring-pump, the combination

of the compressed-air cylinder B, provided with the inlet and outlet valves J and I, pipe  
35 G, funnel-shaped pipe A, provided with the adjustable pipe K, and carrying upon its upper end the measuring-tank L, the plug M, provided with grooves *m*, the rod O, connected with the same and extending through a slot in  
40 the cover N, the stop-cock R, for releasing the compressed air and allowing the liquid to flow from the measuring-tank, as herein shown and described.

4. In a measuring-pump, the combination  
45 of the compressed-air cylinder B, provided with a piston, *c*, the piston-rod C, the collar *f* of the bracket F, interposed between the cylinder and cylinder-head and having secured thereto the triangular piece *f'*, the bar E, the  
50 lever D, provided with the handle *d*, the pipe G, the inlet and outlet valves J and I, the funnel-shaped pipe A, through which the adjustable pipe K extends, the measuring-tank L, provided with a glass, *l*, the plug M, provided with  
55 grooves *m*, the rod O, secured to the same and extending through a slot in the cover N, and the stop-cock R, secured to the cover of the funnel-shaped pipe, as and for the purpose described.  
60

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

DWIGHT L. MATTHEWS.

Witnesses:

L. C. EDGAR,

G. W. HILL.