(No Model.)

W. EAMES.

PUMP.

No. 302,626. Patented July 29, 1884.

Fig. 1.

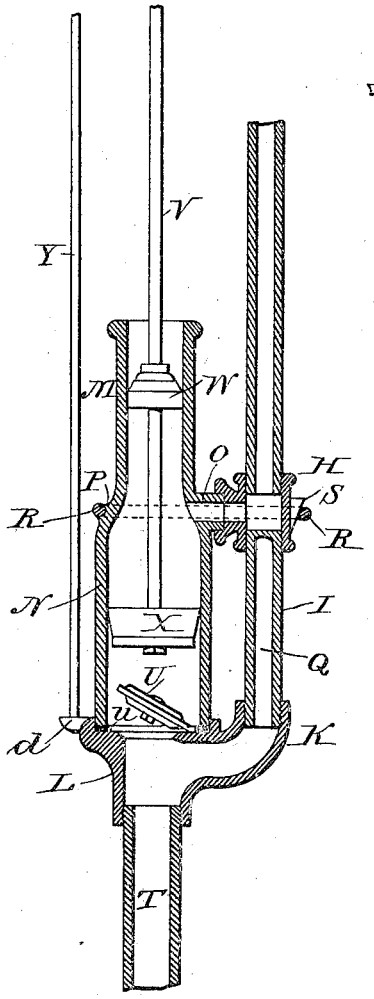
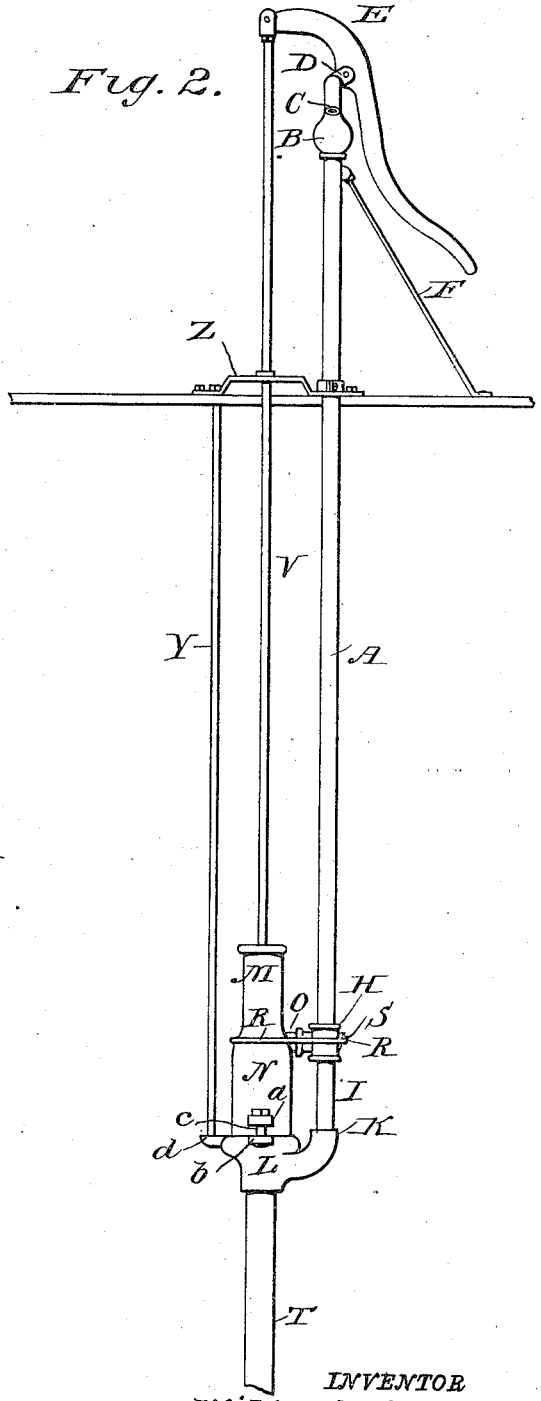


Fig. 2.



WITNESSES.

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WILFRED EAMES, OF EVANSVILLE, INDIANA, ASSIGNOR TO THE EVANSVILLE PUMP AND PIPE COMPANY, OF SAME PLACE.

PUMP.

SPECIFICATION forming part of Letters Patent No. 302,626, dated July 29, 1884.

Application filed March 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILFRED EAMES, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Combined Lift and Force Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to lift or force pumps; and the object is to construct a simple and inexpensive form of pumps adapted for general use for wells and cisterns, that will be easily operated, and at the same time very durable; and to these ends the novelty consists in the construction, arrangement, and combination of parts, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings similar letters of reference indicate the same parts of the invention.

Figure 1 is a sectional elevation of the cylinders and their connections, and Fig. 2 is a side elevation of my improved pump as it appears set in position and ready for operation.

A is the standard, and it is provided at its top with the usual form of goose-neck, B, having discharge-spout C.

D is the bracket-support, in which the handle E is mounted.

F is a brace secured to the platform G, so as to support the upper part of the standard in a rigid manner.

To the lower end of the standard A is secured a T-fitting, H, and I is a short pipe extending from the bottom of the T-fitting H to the hollow arm K of the pump-base L. This short pipe I is closed at its upper end, and there is no connection between it and the standard A.

M is the upper and N the lower pump-cylinders, and they are cast in one piece with the side outlet-connection, O.

a a are lugs cast, one on each side of the lower cylinder, N, near its base, and *b b* are similar lugs on the base L, through which pass bolts *c*, firmly securing the double cylinders to said pump-base.

P is a groove on the outside of the cylinders, in which set the stirrups or link R, extending around said cylinders and the T-fitting H, and when the taper key or wedge S is inserted and driven home the cylinders and fitting are firmly bound together, and a tight joint made between said fitting and the cylinder outlet-connection O.

The pump-base L is cast in one piece with hollow arm K and lug *d*, and to the bottom of this base is secured the suction-pipe T.

U is the foot-valve, cut from a single piece of leather or rubber, and its periphery forms the packing-ring *u*, while the valve itself seats upon the face of the base L.

V is the piston-rod, its upper end secured to the handle in the usual manner, and its lower end is provided with pistons W X, working in the cylinders M and N.

Y is a supporting-rod extending from the lug *d* on the pump-base L to the platform-plate Z, and this rod Y and standard A serve to support the pump-cylinders in a vertical position at any depth in the well.

The short pipe I being closed at its top and open at its lower end, so as to be in connection with the hollow arm K, its interior forms a vacuum-chamber, Q, which, being filled with air when the pump is first started, is exhausted by the first few strokes of the pistons, and as the water raises in the suction-pipe and through the pump-base and hollow arm, so as to fill said chamber, the pump is now ready for use.

I have shown the short pipe I closed at the top to form the vacuum-chamber; but I do not wish to be understood as limiting myself to this exact construction, as it is obvious that the same result will be attained if there be a partition cast in the T-fitting H just above the end of said pipe I.

By removing the bolts *c* and key S the cylinders M N may be removed and access had to the various working parts of the pump without interfering with the standard A, suction-pipe T, base L, or supporting-rod Y; and it will thus be seen that it is only a few moments' work to repair the valves or pump when occasion requires, and the operation is so simple that skilled labor is dispensed with and any person may perform it.

Having thus fully described my invention,

what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the cylinders M N and T-fitting H, of the stirrup R and taper key S, as and for the purpose set forth.

2. The combination, with the cylinders M N, having groove P, and the T-fitting H, of the stirrup R and key S, as set forth.

3. The combination, with the cylinders M N, groove P, and outlet O, all constructed of one piece, as described, of the T-fitting H, stirrup R, and key S, as set forth.

4. The combination, with the cylinders M N, having lugs *a*, the base L, having lugs *b d*, and hollow arm K, of the supporting-rod Y, piston-rod V, and vacuum-chamber I, as and for the purpose set forth.

5. The combination, with the cylinders M N, base L, having lug *d*, and hollow arm K, of the supporting-rod Y and standard A, fitting H, and vacuum-chamber I, arranged in a vertical line, as and for the purpose set forth.

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

WILFRED EAMES.

Witnesses:
H. J. ENNIS,
H. C. PENYPACKER.