(No Model.)

G. S. BARTLETT.

Pump.

No. 232,666. Patented Sept. 28, 1880.

FIG. 1.

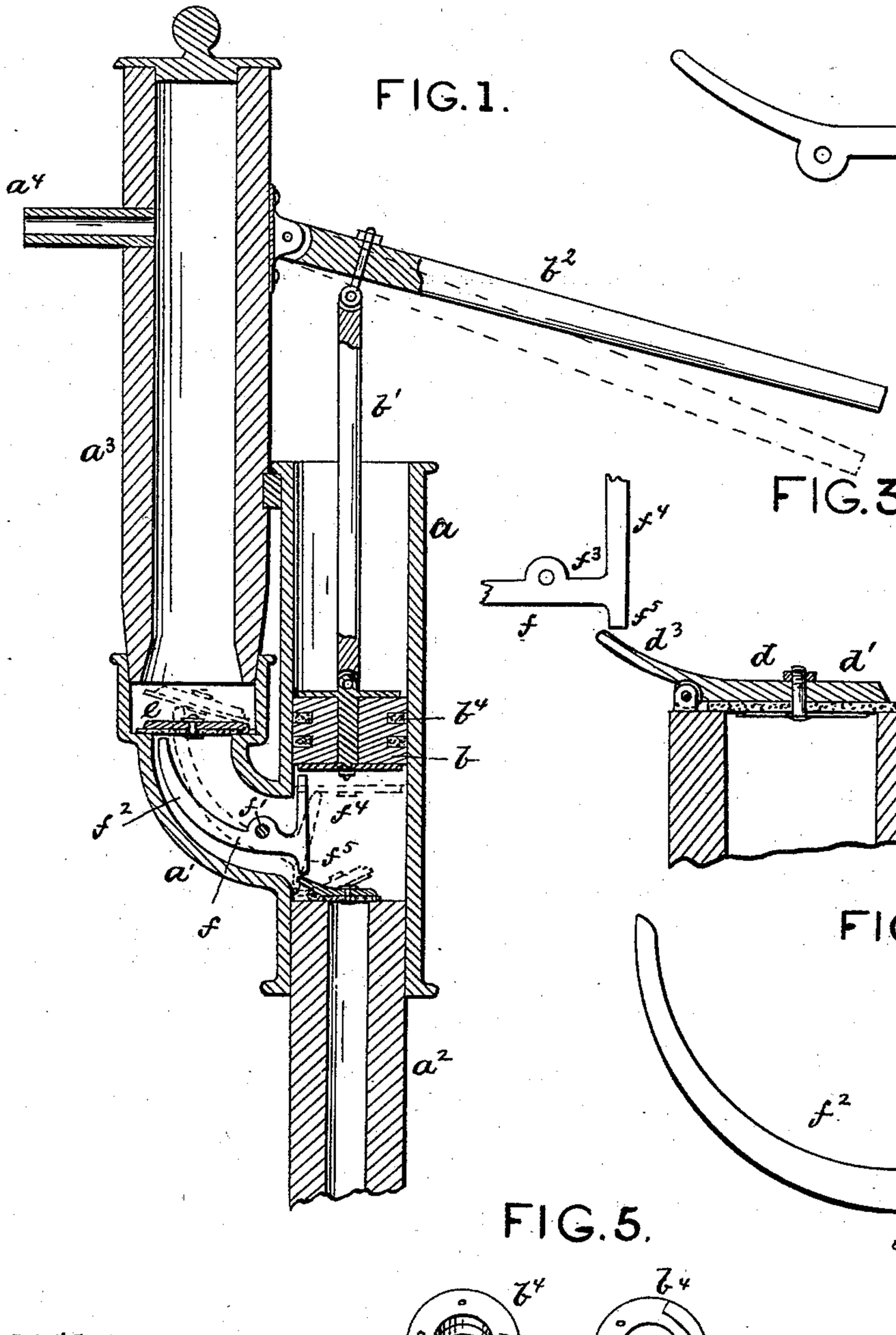
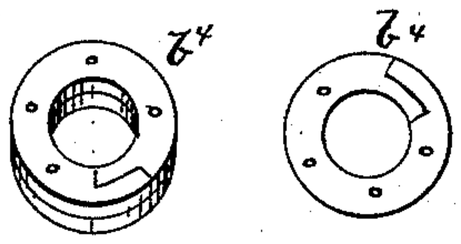


FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.



Witnesses:
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Inventor:
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By R.S. & A.P. Lacey Attys.

UNITED STATES PATENT OFFICE.

GEORGE S. BARTLETT, OF LEON, IOWA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO H. THOMAS, OF SAME PLACE.

PUMP.

SPECIFICATION forming part of Letters Patent No. 232,666, dated September 28, 1880.

Application filed August 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. BARTLETT, a citizen of the United States, resident at Leon, in the county of Decatur and State of Iowa, have invented certain new and useful Improvements in 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish an improved pump in which there is an anti-freezing lever employed to open both valves, and in which there are other improvements, all of which will be fully hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a vertical section of a pump constructed according to my invention. Fig. 2 is the plate which forms, with the necessary packing, the lower check-valve. Fig. 3 is a section of tubing, showing the check-valve fixed thereon. Fig. 4 is the tripping-lever, and Fig. 5 shows the packing-rings for the piston.

a is the cylinder, which is provided with the side pipe or vent, a'. In the lower end of the cylinder the end of the stock or tube a^2 is fixed, with its upper part flush, or nearly flush, with the lower side of the side pipe, a'; and in the upper end of the pipe a' is fixed the lower end of the stand-pipe a^3, through which the water is forced to the discharge-spout a^4.

Within the upper end of the cylinder there is placed the piston *b*, fixed to the lower end of the piston-rod b', which has its upper end attached to the hand-lever b^2. The hand-lever is pivoted on a fulcrum fixed on the side of the stand-pipe a^3. The piston *b* has formed in its periphery a series of grooves or channels, in which are placed packing-rings b^4. The rings b^4 are open at one side, and are so formed that their ends overlap, and when put into the channels in the piston pack the latter perfectly in the cylinder.

d is the lower check-valve, placed on the upper end of the tube a^2. It is composed of the plate d' and a suitable packing, d^2. It is pivoted to the tube a^2, as shown, and is extended beyond the pivotal connection, so as to provide a short arm, d^3. The pivotal connection of the valve is arranged on the same side of the cylinder with the pipe a', and so that the arm d^3 will be about on the central line of said pipe.

e is the upper check-valve, placed in the upper end of the pipe a', just below the lower end of the stand-pipe a^3, as shown. It prevents the water from falling back when the piston *b* is raised. It is of ordinary construction and operation.

f is a tripping-valve, which is arranged to turn on a pivotal center, f', fixed in the pipe a'. Its end f^2 is curved to correspond to the curvature of the pipe a', and is carried just to the under side of, but not so that it touches the swinging or free end of, the valve *e*. Its inner end, f^3, extends just into the cylinder, and is provided with the upper arm, f^4, and the lower arm, f^5. The upper arm extends upward in the cylinder to a point where it will be struck by the piston when the latter is thrust down a little lower than it is ordinarily pushed in the process of pumping. The lower arm, f^5, is made to reach to, and so that it will strike, the end d^3 of valve *d*, as shown in Figs. 1 and 3.

By depressing the piston a little more than required for pumping it will strike the upper end of the arm f^4 and cause the lever *f* to turn on its pivot f', which movement brings the end f^5 against the arm d^3 and opens the valve *d*, and at the same instant the end f^2 strikes, raises, and opens the valve *e*, as indicated in Fig. 1. Both valves being open the water will run down out of the stand-pipe into the well.

It will be seen that the water can be lowered in the stand-pipe to any desired point, or it may all be drawn out, as may be desired.

As soon as the pressure by the piston on the lever *f* is removed the valves will drop into their seats and close the pipes.

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

1. In a force-pump, the tripping-lever, ar-

ranged within the discharge pipe and cylinder, so that it will be engaged by the piston and open both check-valves, substantially as set forth.

2. In a pump, the combination, with the cylinder having a side pipe, the piston, the upper check-valve, and the lower check-valve having a rear arm projecting from its pivotal end, of a tripping-lever pivoted in the discharge-pipe, and having one end extended to the upper check-valve and its opposite end extended into the cylinder, and furnished with upper and lower arms arranged to engage the piston and the arm on the lower check-valve, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

GEORGE S. BARTLETT. [L. S.]

Witnesses:

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WILLIAM T. ROBINSON.