



T. C. FAWCETT.

FORCE PUMP.

(No Model.)

No. 362,263.

UNITED STATES PATENT OFFICE.

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FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 362,263, dated May 3, 1887.

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To all whom it may concern:

Be it known that I, THOMAS C. FAWCETT, a citizen of the United States, residing at St. Clairsville, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Force-Pumps; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to pumps; and it consists in the novel features, more fully hereinafter set forth and claimed.

In the drawings, Figure 1 is a side elevation, and Fig. 2 is a vertical central longitudinal section.

The device comprises the tubular parts A and C. The part C is smaller in diameter than the part A and telescopes therein. The upper end is provided with a packing confined between two annular shoulders or rings, forming a piston-head, D, which is adapted to fit within the part A. The lower end has a series of perforations through its sides, through which the fluid passes when the end is resting upon the bottom of the vessel. A valve, I, of ordinary construction, is located within the part C, preferably near the lower end; but this is immaterial. By having it near the lower end repairing is facilitated, as it can be readily reached. A stop, G, consisting of an annular shoulder, is located at a distance from the head D, and is designed to strike against a stop or shoulder, b, within the part A, preferably formed by bending the lower edge inward. By having the stop G thus arranged at a distance from the head and snugly fitting the interior of the part B a long bearing is provided, and the tubular part C or plunger is guided in its movements without any binding. It is further guided by the shoulder or stop b, which fits close against it, as shown.

The part A may be of any desired length and composed of one or more sections, two being preferred, united by a coupler or sleeve, b'. The sections A' and B are preferably of the same diameter. The upper section, A', is provided with a valve, E, near its lower end,

and a coil-spring, F, interposed between the valve-seat and the head of the plunger C, normally holds the same at its lowest position relative to the part A, which is when the stop G rests upon the stop b. The upper end of the section A' is closed by a knob, H, which forms an air-chamber, k, between it and the valve. A tube or pipe, J, located within this chamber, has its lower end terminate a short distance from the valve and its upper end extended through the side of the section, just below the end of the knob H, to receive the end of the hose K.

By having the part A made in two sections, and the valve E located near the end of the upper section and the spring F seated within the upper end of the lower section, access may be readily had to each for repairing or cleaning.

In practice, after the device is primed, which may be accomplished by filling it with water from either end, or holding the lower end in the water and alternately pressing upon and removing the pressure from off the knob, a continuous stream can be thrown by continuing the operation just described. When the knob is pressed upon, the lower valve, I, is closed, the upper valve opened, and the part A moved over the lower part, C. During this operation the capacity between the two valves is reduced and the excess of fluid forced above the valve E into the chamber k, compressing the air therein, which reacting forces the fluid through the pipe J. As the part A is pressed down the spring F is compressed, and when the pressure is removed the part A rises by reason of the reaction of the spring. At and during this movement the upper valve closes and the lower valve opens and a fresh supply is taken in. The air is sufficiently compressed in the chamber k by the previous downstroke that during the upward movement of the part A a continuous discharge takes place.

The pump may be used simply for lifting, if so desired, without departing from the nature of my invention.

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

The herein shown and described force-pump, consisting of the following elements: the upper and lower telescoping parts, the upper part comprising two sections, A and A', the coupler b', uniting them, the valve E, located near

the inner end of the section A', the plug H, closing its outer end, the tube J, located within the space between the plug and valve and having its lower end extended close to the
5 valve and its upper end projecting beyond the side of the section and adapted to receive the hose K, the annular stop b, projecting inward from the lower end of the section A, the piston-head D, formed exteriorly on the inner
10 end of the lower part, the spring F, located within the upper part and interposed between

the valve E and the end of the lower part, the annular stop G, to limit the outward movement of the part C, and the valve I, located within the lower end of the lower part.

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

THOMAS C. FAWCETT.

Witnesses:

WM. A. McMECHAN,
ALBERT LAWRENCE.