R. A. McCAULEY.
Pump.

No. 212,858. Patented Mar. 4, 1879.

FIG. I.

FIG. IV.

FIG. III.

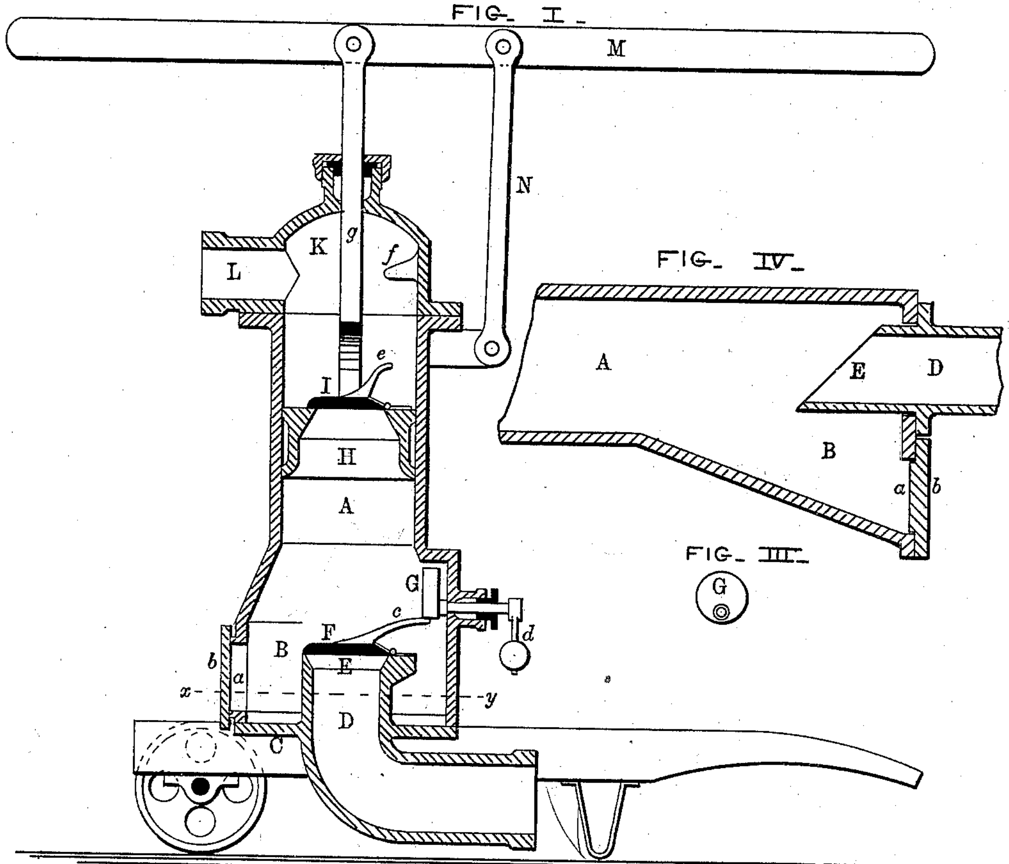
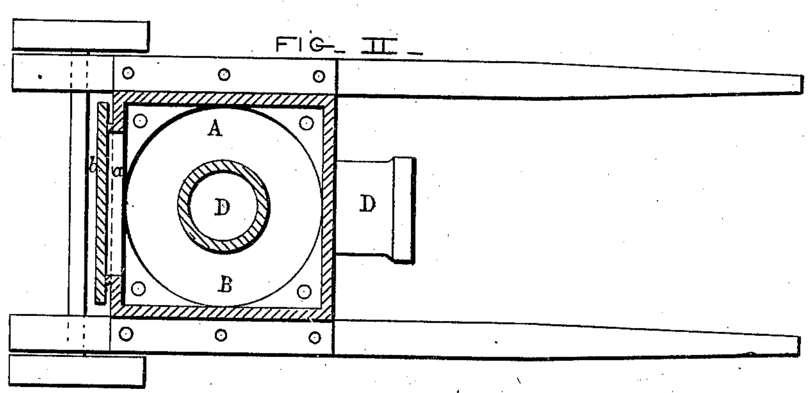


FIG. II.



WITNESSES:

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R. E. Grant

INVENTOR:

Reuben A. McCauley,
by G. H. W. T. Howard
attys.

UNITED STATES PATENT OFFICE.

REUBEN A. McCAULEY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **212,858**, dated March 4, 1879; application filed October 5, 1878.

To all whom it may concern:

Be it known that I, REUBEN A. McCAULEY, of the city of Baltimore and State of Maryland, have invented certain Improvements in Pumps, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being made to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in a pump specially adapted for pumping semi-liquid bodies and liquids having therein solids held in suspension, such as the contents of tan-pits and the bilge-water of vessels.

The said invention, briefly stated, consists, first, in enlarging the lower end of the pump-cylinder and placing therein an elevated valve-seat for the induction-valve, thereby forming a chamber for the reception of solid bodies carried to the interior of the pump; and in providing means for cleaning the said chamber when the same shall become thoroughly packed with extraneous matter.

The said invention consists, secondly, in means for opening or tripping the valves when it is desired to allow the contents of the pump and suction hose or pipe to pass to the tank or vessel from which it has been pumped, as will hereinafter fully appear.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional side view of the improved pump. Fig. 2 is a sectional plan of the same on the dotted line *x y*. Fig. 3 is a view of a part of the invention, and Fig. 4 a view of a part of a pump-barrel, slightly modified in construction.

Similar letters of reference indicate similar parts in all the views.

A is the barrel of the pump, having its lower end enlarged so as to form the chamber B. C is the lower plate of the pump, bolted to the chamber B, carrying the induction-nozzle D and elevated induction valve-seat E. The chamber B is provided with a cleaning-hole, *a*, covered by a cap, *b*, and is adapted to be either bolted to a solid foundation or to a wheeled truck, as shown in the drawings.

The induction-valve F is hinged to the valve-seat E and provided with a lever, *c*, for tripping it, which lever is operated through the medium of an eccentric, G, from the exterior of the chamber B. The eccentric is retained in an elevated position when not in use by means of a weighted arm, *d*, and the stem of the eccentric passes through a packing-box in the side of the chamber in order to prevent leakage.

The piston H carries the eduction-valve I, hinged thereto, and the said valve is fitted with a lever, *e*, which, in an extreme upward movement of the piston, is brought into contact with a projection, *f*, in the cap K and opens the valve. In the ordinary working of the pump the lever *e* is not elevated sufficiently to strike the projection *f*. The eduction-nozzle is represented by L. The piston-rod *g* has an ordinary stirrup or yoke, which connects it to the piston, and is operated by means of a lever, M, pivoted to a vibratory rod, N.

Chips, bark, and such matter entering the pump and not carried with the liquid through the piston and eduction-nozzle fall to the chamber B around the valve-seat E, whence they may be at any time removed upon opening the cleaning-hole *a*. When it is desired to clear the pump and induction-pipe of their contents, the piston is raised until the eduction-valve I is opened by its lever *e* striking the projection *f*, and the induction-valve unseated by means of the eccentric G.

I do not claim a valve having the ordinary vertical movement, effected by means of the raising of a lever, when combined with an eccentric to raise said lever for the purpose of lifting the valve. Neither do I claim a raised valve-seat placed contiguously to a clearing-opening; but,

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. The pump-barrel A, having its lower end enlarged to form the chamber B, combined with the removable plate C, carrying the induction-nozzle D and the elevated induction valve-seat E, all arranged substantially as specified.

2. In combination with the hinged induction-valve F, having the lever *c*, forming a part thereof and projecting therefrom, an eccentric adapted, when thrown down, to depress the

outer end of the said lever and unseat or open the said valve, substantially as and for the purpose herein described.

3. In combination with the barrel A of the pump or the cap for the same, a projection located within the said barrel or cap, adapted, when the piston is excessively elevated, to come into contact with the lever of the piston-valve and thereby unseat or open the said valve, substantially as and for the purpose herein specified.

In testimony whereof I have hereunto subscribed my name this 21st day of September, A. D. 1878.

REUBEN A. McCAULEY.

Witnesses:

WM. T. HOWARD,

CHARLES S. MORAN.