H. M. Stoker,

Submerged Pump,

No. 48,220, Patented June 13, 1865.

Fig. 1.

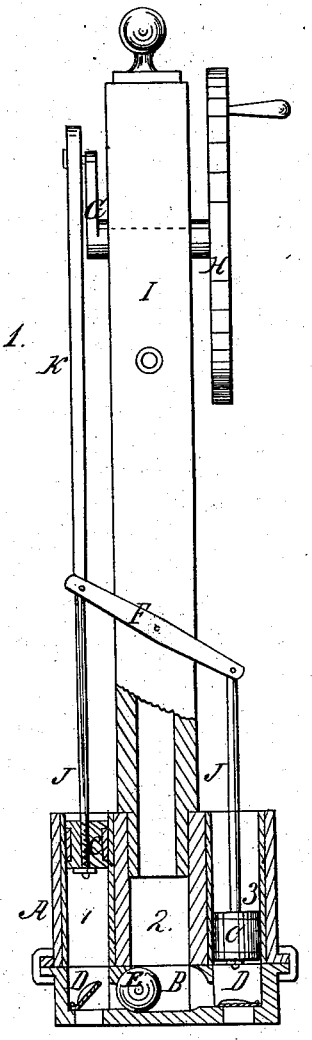
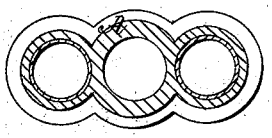


Fig. 2.



Witnesses;
Thos Lusk
Wm Steurn

Inventor;
H. M. Stoker
By Munn & Co
Attys

UNITED STATES PATENT OFFICE.

H. M. STOKER, OF WATSON, ILLINOIS.

IMPROVEMENT IN SUBMERGED PUMPS.

Specification forming part of Letters Patent No. **48,220**, dated June 13, 1865.

To all whom it may concern:

Be it known that I, H. M. STOKER, of Watson, Sangamon county, State of Illinois, have invented a new and useful Improvement in Double-Acting Submerged Force-Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a pump made according to my invention, the cylinder being shown in section. Fig. 2 is a horizontal section of the cylinder.

Similar letters of reference indicate like parts.

This invention relates to that class of submerged pumps the upper ends of whose cylinders are open, so that the water rests always upon the upper heads of the pistons.

A is the pump-cylinder and water-chamber, made of potter's ware, molded in one piece, with a flange around its whole lower part, for the purpose of connecting it to the metallic valve-chamber B, which has a like flange on its upper part. The cylinder has two piston-chambers, 1 3, and a central chamber, 2, the latter being connected with the pump-stock I. The pump-stock carries near its highest part a crank wheel and shaft, H, and crank G, which operate the pump through a pitman, K, and walking-beam F.

J J are piston-rods, carrying each a piston, C, the ends of the piston-rods being pivoted to the ends of the walking-beam.

The valve-chamber is of the same diameter and shape as the cylinder A, and it has valve-openings through its bottom beneath the piston-chambers 1 3, to which are fitted valves D, opening inward. The central portion of the valve-chamber is divided from the side portions by narrow openings, which are closed in alternation by a ball check-valve, E, made of rubber. The piston-chambers may be lined with metal, as here shown, if it is desired to strengthen the cylinder.

The operation of the pump is as follows: When the walking-beam is oscillated one of the piston-rods J will be moved upward, and its chamber will be thereby filled with water, the check-valve being also caused to roll toward that one of its seats which is nearest the ascending piston. When the same piston is forced downward the valve D below it will be shut and the water in that piston-chamber will press against the check-valve and roll it against its opposite seat, and thereby allow the water to reach the central chamber, 2. During this last movement the other piston has ascended and its chamber has been filled with water. When the last-mentioned piston descends the water in its chamber is in like manner forced into the central chamber, 2. The continuation of these operations will fill the pump-stock, so that the water will be discharged from its spout in the usual manner. A pump made in this way answers the conditions of cheapness, simplicity, immunity from the attacks of frost, and it never requires priming in order to make its pistons work effectively.

I claim as new and desire to secure by Letters Patent—

In double-acting submerged pumps with uncovered piston-chambers, making the body or shell of the cylinder of potter's ware, molded in one piece, combined with a valve-chamber, B, of metal, constructed and arranged substantially as described.

H. M. STOKER.

Witnesses:
JOHN T. CARMAN,
JOSIAH T. SMITH.