

J. Bean, Pump Lift.

N^o 45,467.

Patented Dec. 20, 1864.

Fig: 1.

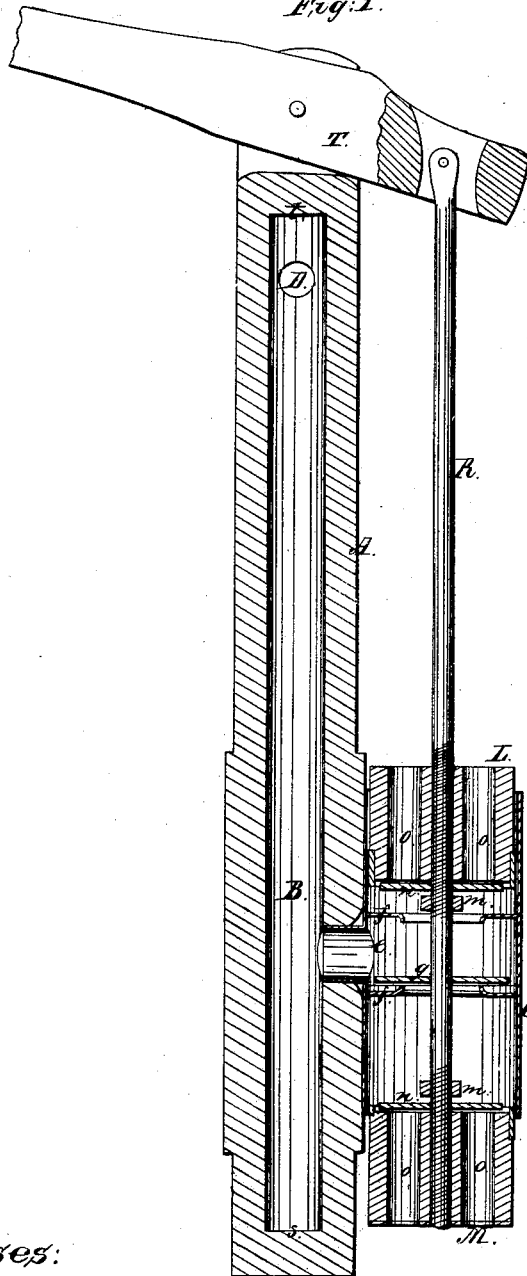
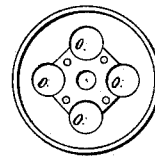


Fig: 2.



Witnesses:

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Inventor:

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JOHN BEAN, OF HUDSON, MICHIGAN.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 45,467, dated December 20, 1864.

To all whom it may concern:

Be it known that I, JOHN BEAN, of Hudson, in the State of Michigan, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a true and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the use of certain mechanical devices to produce an unremitted discharge of water from a pump when in operation.

Figure 1 in the annexed drawings represents a vertical section of my pump. Fig. 2 exhibits a plan view of the plungers.

The letter A in Fig. 1 represents the pump-stock with the bore B extending through it from the point *s*, near the bottom of the stock, to the point *t*, near the top.

C designates a cylinder, with a bore of sufficient size to receive the plungers M and L. The cylinder C is fastened to the side of the pump-stock with iron straps, and has an opening or hole, *e*, from its interior to the bore in the pump-stock for the free passage of water into it from the cylinder.

R represents the piston-rod, the upper end of which is pivoted to the short arm of lever T, the lower end passing through the center of the plungers M and L. As the plungers work on screws cut in the piston-rod they can be adjusted to suit the operator. In the chamber between the plungers M and L are the two metal disks *f f*. These disks have a sufficient opening at their centers to admit the water when under the forcing action of the plungers M and L.

g represents a valve, which plays between the two disks *f*, for the purpose hereinafter described.

n n designate two valves designed to act on the holes *o* in the plungers, (see Fig. 2,) and it will be observed that they will either rise or fall, according as the pressure of water may be against their upper or lower sides.

m m represent two india-rubber wheels, fastened securely on the piston-rod R, their object being to confine the action of the two valves *n*.

The operation of my pump is as follows: When the piston-rod is made to descend by elevating the long arm of lever T, the water enters plunger M through the holes *o*, raises the valves *n* and *g*, and enters the pump-stock at *e*. When the rod R is raised, the water enters the plunger L, forces the valve *n* down to wheel *m*, and the valve *g* from the upper disk *f* to the lower disk *f*, allowing the water to enter the opening at *e*.

It will be seen that as the water is forced into the pump-stock, both by the ascending and descending motion of the rod R, a continuous stream will flow from the spout D.

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

The combination of the plungers M and L with the center valve, *g*, and the two valves *n*, the whole constructed and operated substantially as and for the purpose herein described.

JOHN BEAN.

Witnesses:

L. R. PEIRSON,
E. D. KIDDER.