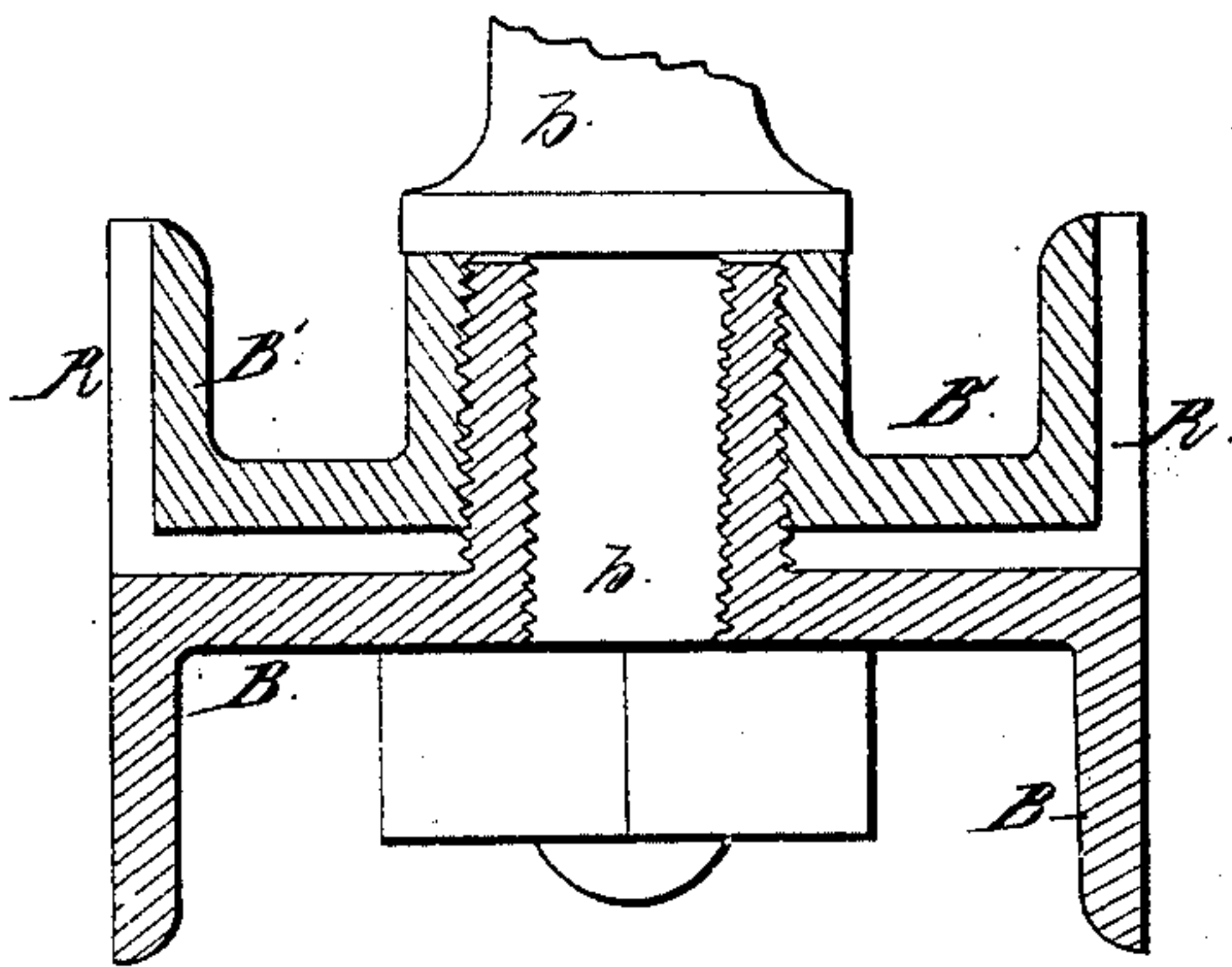
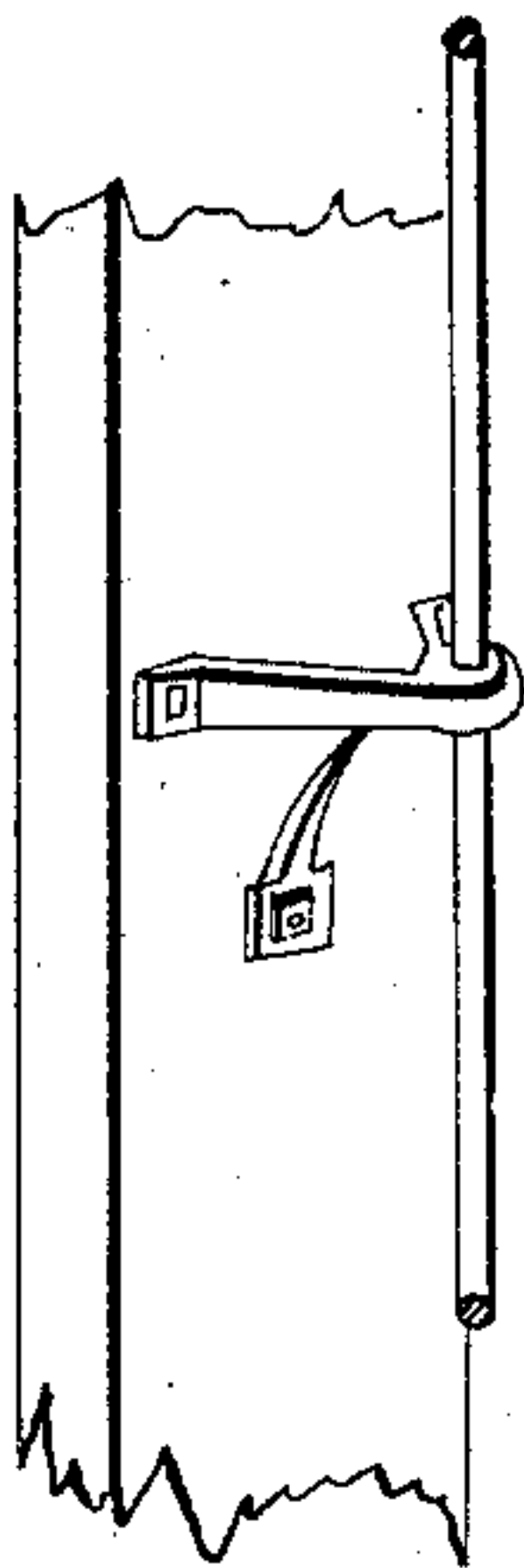


Force Pump.

Patented May 13, 1862



Thomas S Skelton
D W Skelton

Inventor:
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UNITED STATES PATENT OFFICE.

LEVI P. DODGE, OF NEWBURG, NEW YORK.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 35,222, dated May 13, 1862.

To all whom it may concern:

Be it known that I, LEVI P. DODGE, of Newburg, in the county of Orange and State of New York, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved pump attached to a plank in the manner I usually employ it in wells, and Fig. 2 is a perspective view of one of the brackets by which the rod is steadied when the pump is placed in a very deep well.

To enable others skilled in the art to make and use my improved pump, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

A is the barrel of the pump, provided with a piston, B, operated by a rod, *b*, passing through a stuffing-box, *a*, in the ordinary manner. Passages C and D admit the water to each end of the barrel, and each passage is provided with a ball-valve, *c d*, the valve-chambers being so arranged that they are both accessible when the barrel A is removed from the casting E, containing the seats for the said valves, the advantages of which will be obvious. Discharge-passages F G extend from each end of the barrel to the air-chamber H, each terminating in a valve-seat, *f g*, in the same plane with the top of the barrel, as represented. The lower portion of the air-chamber H is divided by a partition, I, into two valve-chambers, K L, for the reception of the valves M N, a cross-bar, O, cast therewith, serving both to steady the partition and as a check upon the valves. The partition I, the bar O, and the central pipe, P, are all cast in one piece with the air-chamber, by which means I secure a tight air-vessel, and the lower end of P may be flared, as represented, to receive the water with little friction or change of motion, and the bar O steadies the end of P, so that it does not spring out of place, which latter fault frequently occurs with a pipe soldered in in the ordinary manner. It will be seen that both valves M and N may be removed and replaced by simply

opening, technically termed "breaking," the joint between the pump and air-chamber, while the valve-seats, being directly upon the surface, are very readily fitted or repaired.

The piston is made in two parts, B and B', one of these parts being fitted nicely to the interior diameter of the barrel A, and the other, B', being turned enough smaller to allow of packing R being placed upon it.

By my arrangement of the valves and valve-seats and passages and of the valve-chambers and air-vessel I secure several important advantages in cheapening the manufacture and diminishing the trouble of repairing of my pump. By reason of the arrangement of the passages F G in the casting with the cylinder and of the valve-chambers for the valves M N in the base of the air-vessel compressed together in the manner shown I avoid making more than one joint, and am able to make that a very small and easily-adjusted one. By reason of making the base of the air-chamber in the same plane with the end of the cylinder, I am able to plane and properly finish both at a single operation; and by reason of making the valve-seats *f g* directly upon the surface of the casting, as shown, they are very easily accessible for any repairs by the removal of the air-vessel.

The diagram on the sheet of drawings shows the piston on a larger scale than the figures and in the position which I prefer.

Having now fully described my invention, what I claim as new, and as of my improvement in pumps, is as follows:

1. The arrangement of the valves M N in the valve-chambers K L in the base of the air-vessel H, and arranging the seats *f g* near the joint between the parts, so that there is but a single joint of small area connecting the passages F G with the air-chamber, all as herein set forth, and for the purpose specified.

2. In combination with the foregoing, arranging the joint connecting the air-chamber and the cylinder-casting in the same plane, so that both may be finished at one operation, as herein set forth.

LEVI P. DODGE.

Witnesses:

THOMAS D. STETSON,
D. W. STETSON.