J. Goodyear,

Pump Lift.

No. 53,810. Patented Apr. 10, 1866.

Fig: 1.

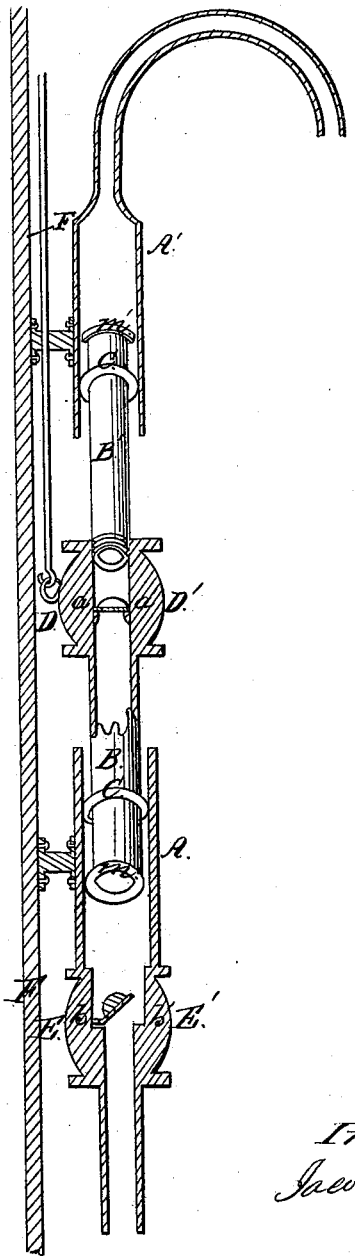
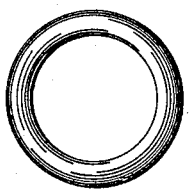


Fig: 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JACOB GOODYEAR, OF CARLISLE BOROUGH, PENNSYLVANIA.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **53,810**, dated April 10, 1866.

To all whom it may concern:

Be it known that I, JACOB GOODYEAR, of the borough of Carlisle, county of Cumberland, and State of Pennsylvania, have invented a new and useful Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the pump, and Fig. 2 a view of the ring used as packing.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

To the side of the well or an upright, F F′, I fasten two hollow cylinders, A and A′, at a perpendicular distance from each other proportioned to the depth of the well or the height to which the water is to be raised. The diameter of the cylinder A is twice as large as the diameter of the cylinder A′.

The perpendicular space between A and A′ is occupied by two hollow cylinders, B and B′, jointed at D D′. The diameter of B and B′ bear the same proportion to each other as the diameters of A and A′; but the diameters of the cylinders B and B′ are so much less than the diameters of the cylinders A and A′ as to permit the cylinders B and B′ to be inserted in the cylinders A and A′, with a space of an inch or more remaining between the outside of B and B′ and the inside of A and A′. These two spaces are filled with the india-rubber rings C and C′.

At *m m′* are rims to obviate the possibility of the rings C and C′ passing over the ends of the cylinders B and B′.

At *a a′* and *b b′* are two valves opening upward.

The plunger, composed of the two cylinders B and B′, jointed at D D′, is elevated and lowered by the ordinary hand pump-lever, or by any other power to the same end which may be desired.

The pump thus constructed will throw a continuous stream and require less power than the pumps in use, because the rings C and C′ change the ordinary sliding friction into rolling friction. The manner in which a continuous stream is thrown is at once apparent without going into any demonstration of it.

What I claim as my invention, and for which I desire to secure Letters Patent of the United States, is—

The combination and arrangement of the cylinders A and A′, B and B′, the valves *a* and *a′*, the rims *m* and *m′*, and the india-rubber rings C and C′, as and for the purposes set forth and described.

JACOB GOODYEAR.

Witnesses:

A. DE HUFF,

ANDREW MARTIN.