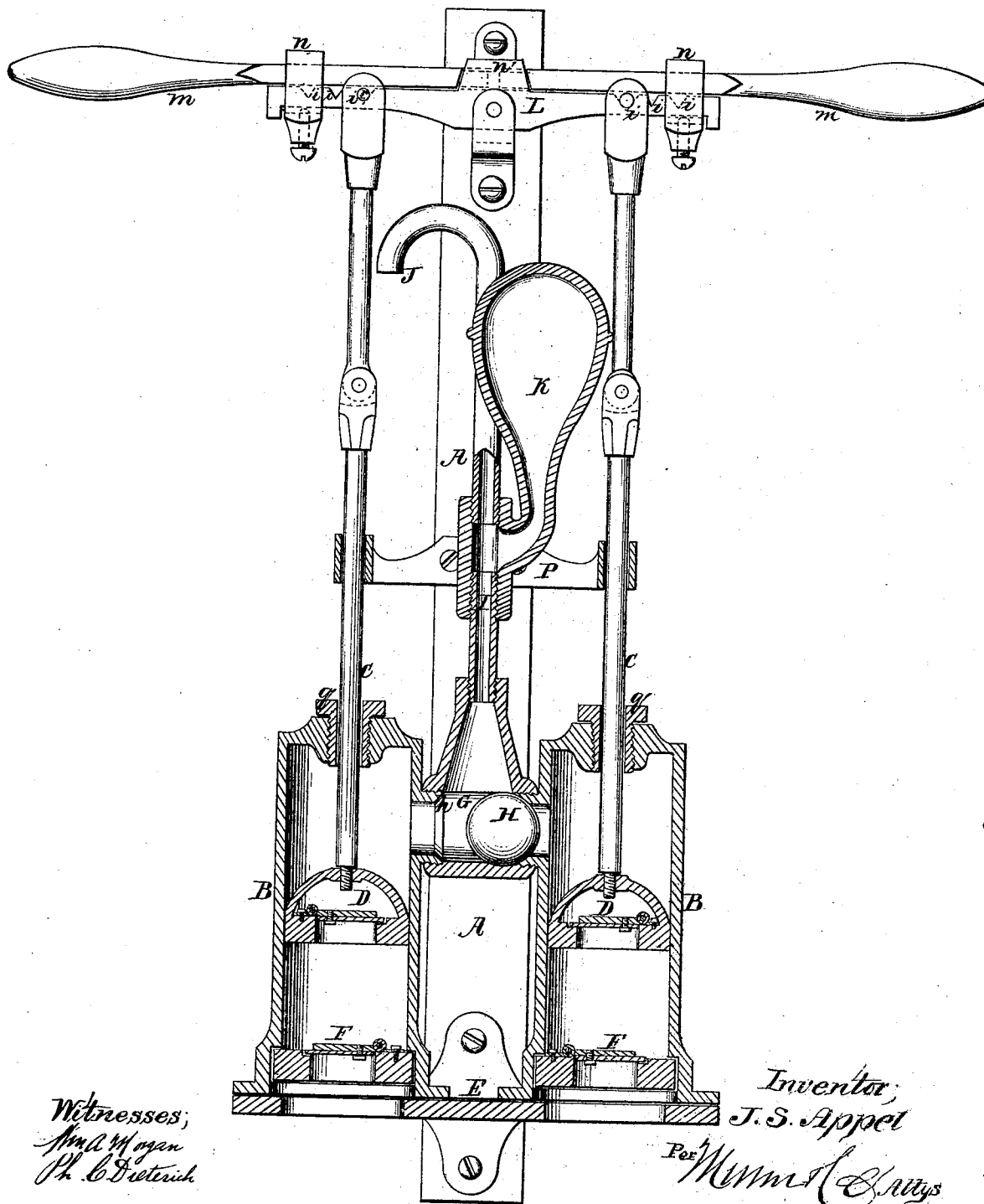


J. S. Appel.
Pump Lever.

N^o 90,718.

Patented Jan. 1, 1869.



Witnesses;
Amos Morgan
Ph. C. Dietrich

Inventor;
J. S. Appel
Per *Wm. A. G. G. G.*

United States Patent Office.

JOHN S. APPEL, OF KULPSVILLE, PENNSYLVANIA.

Letters Patent No. 90,718, dated June 1, 1869.

IMPROVEMENT IN PUMPING-LEVERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN S. APPEL, of Kulpsville, in the county of Montgomery, 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 thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an improvement in pumps for raising water and other liquids; and

It consists in the arrangement and combination of parts, as hereinafter described.

The drawing represents a vertical section of the pump, showing the different parts in their proper positions.

A is a wooden standard, to which the pump is attached.

B B represent the pump-cylinders.

C C are the piston-rods.

D D represent the pistons or valve-boxes, which are attached to the ends of the rods C C.

E is the foundation-plate, to which the cylinders B are secured.

F F represent the foot-valves in the bottom of the cylinders. These valves, as well as those in the boxes D D, operate on hinges, as seen in the drawing.

G is a valve-chamber, and

H is a ball-valve therein.

This chamber G is screwed on to the cylinders, and the ball-valve has a seat at each end, and plays back and forth from one seat to the other when the pump is operated.

I represents one of the seats.

J is the water-pipe, and the water is discharged at J.

K is the air-chamber.

The rods C C extend up and are attached to the brake-beam L, as seen in the drawing.

On this beam the rods C C are adjustable, so that the length of stroke may be increased or diminished.

The notches marked *i*, between the beam and the levers, allow the loops on the ends of the rods to be changed from one to the other.

m represents the levers, which are secured to the brake-beam by the clips and set-screws *n* and the loops *n'*, at the centre, as seen, so that the levers may be readily detached when it is desired to alter the stroke.

The rods C C may be made of metal entirely, or of metal and wood. I prefer to introduce a section of wood.

The rods C C are passed through a stationary guide, P, for the purpose of keeping them steady, and where they enter the cylinders they work in stuffing-boxes *q* in the usual manner.

By this arrangement, a constant stream of water is discharged from the pipe I with a velocity proportioned to the force or power applied to the levers.

The advantages are that the pump may be worked by two men at once when it is necessary to throw a large quantity of water.

It may also be worked by a single person from either side, while the construction is such that the pump is not liable to get out of order.

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

The arrangement of the adjustable clips *n*, the removable levers *m*, the notched brake-beam L, and the looped rods C, as herein described for the purpose specified.

Witnesses:

J. C. BOORSE,
P. B. CASSEL.

JOHN S. APPEL.