

(No Model.)

S. R. DAWSON.
Force Pump.

No. 237,257.

Patented Feb. 1, 1881.

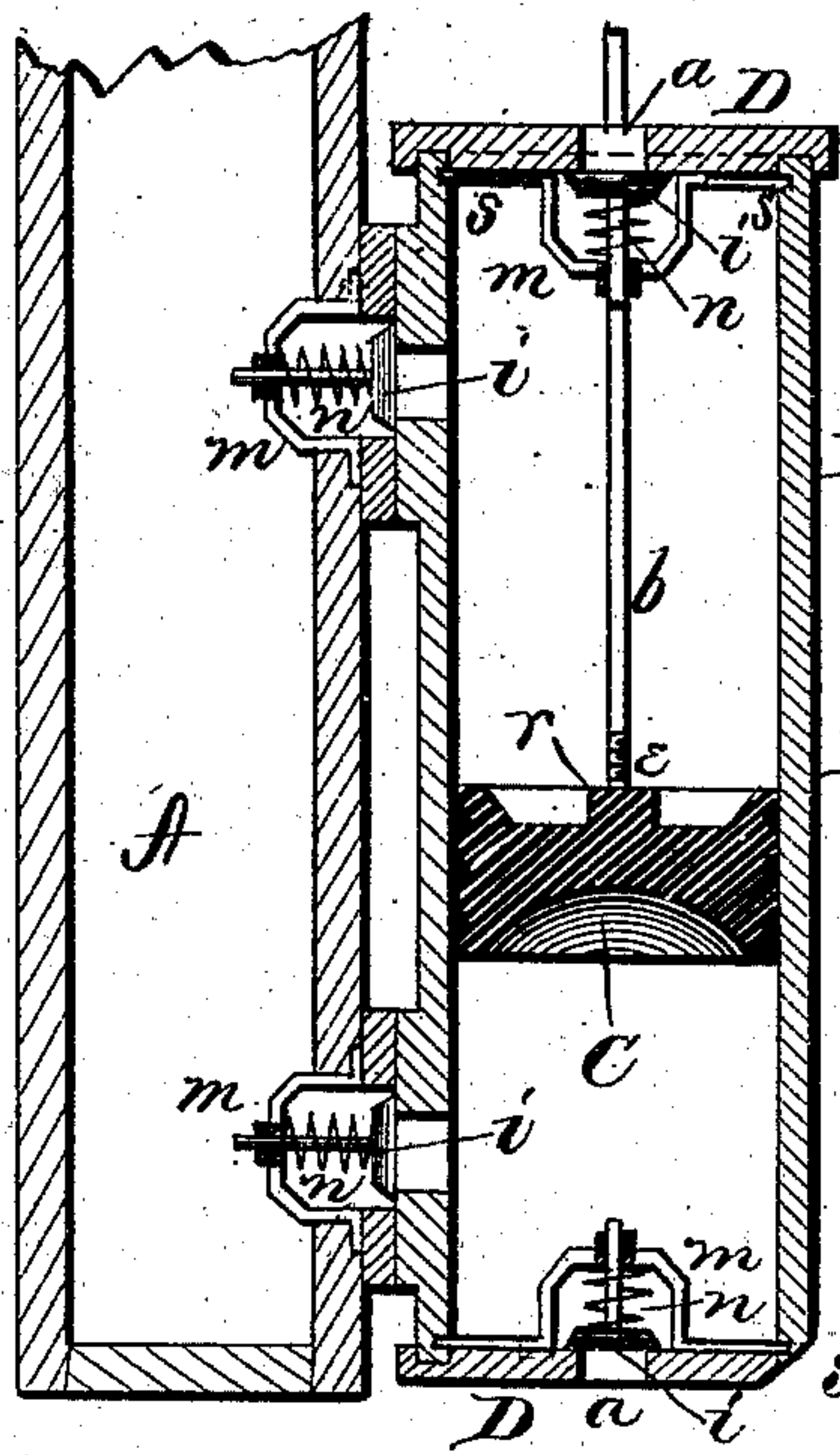


Fig. 2.

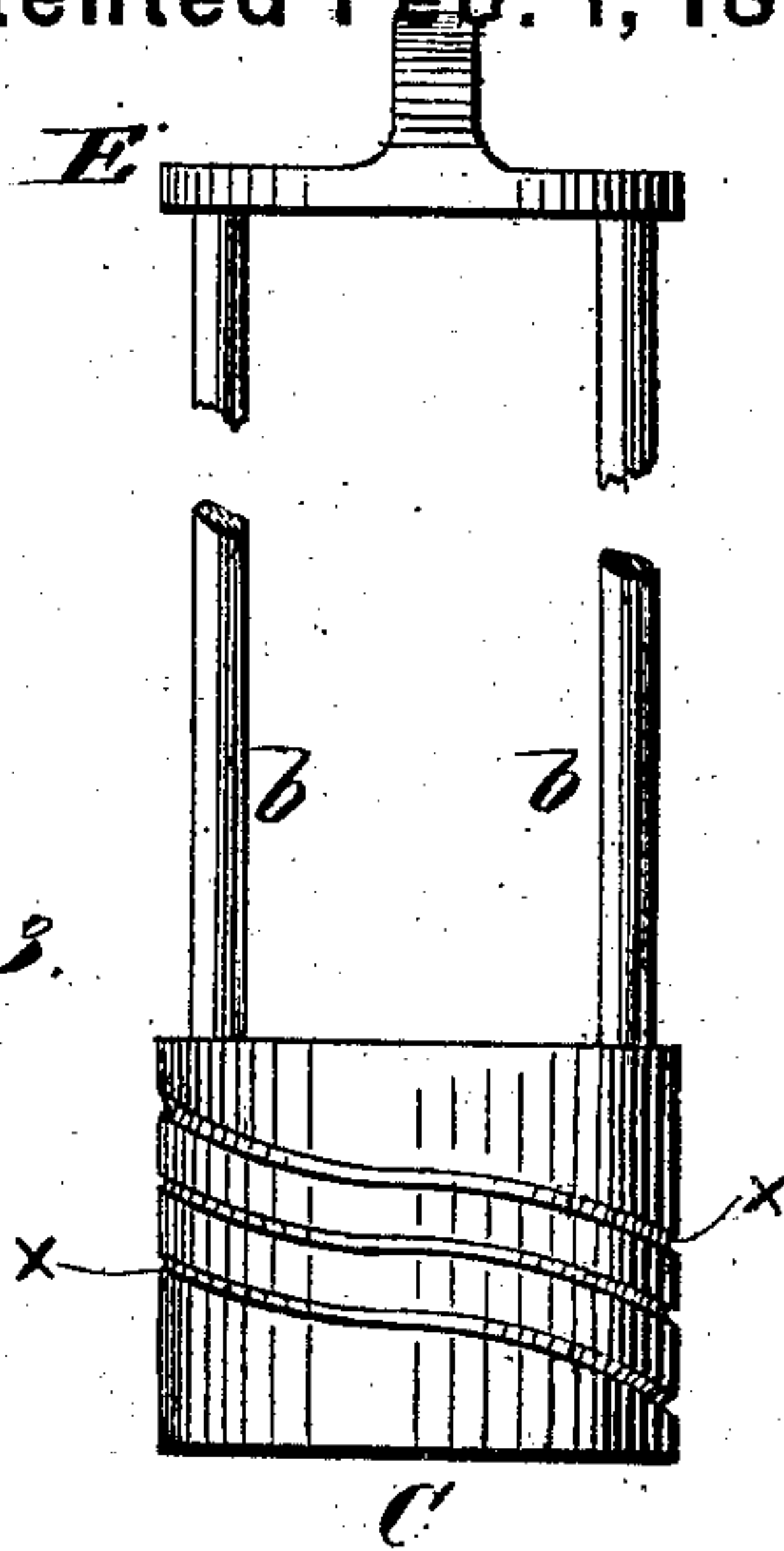


Fig. 3.

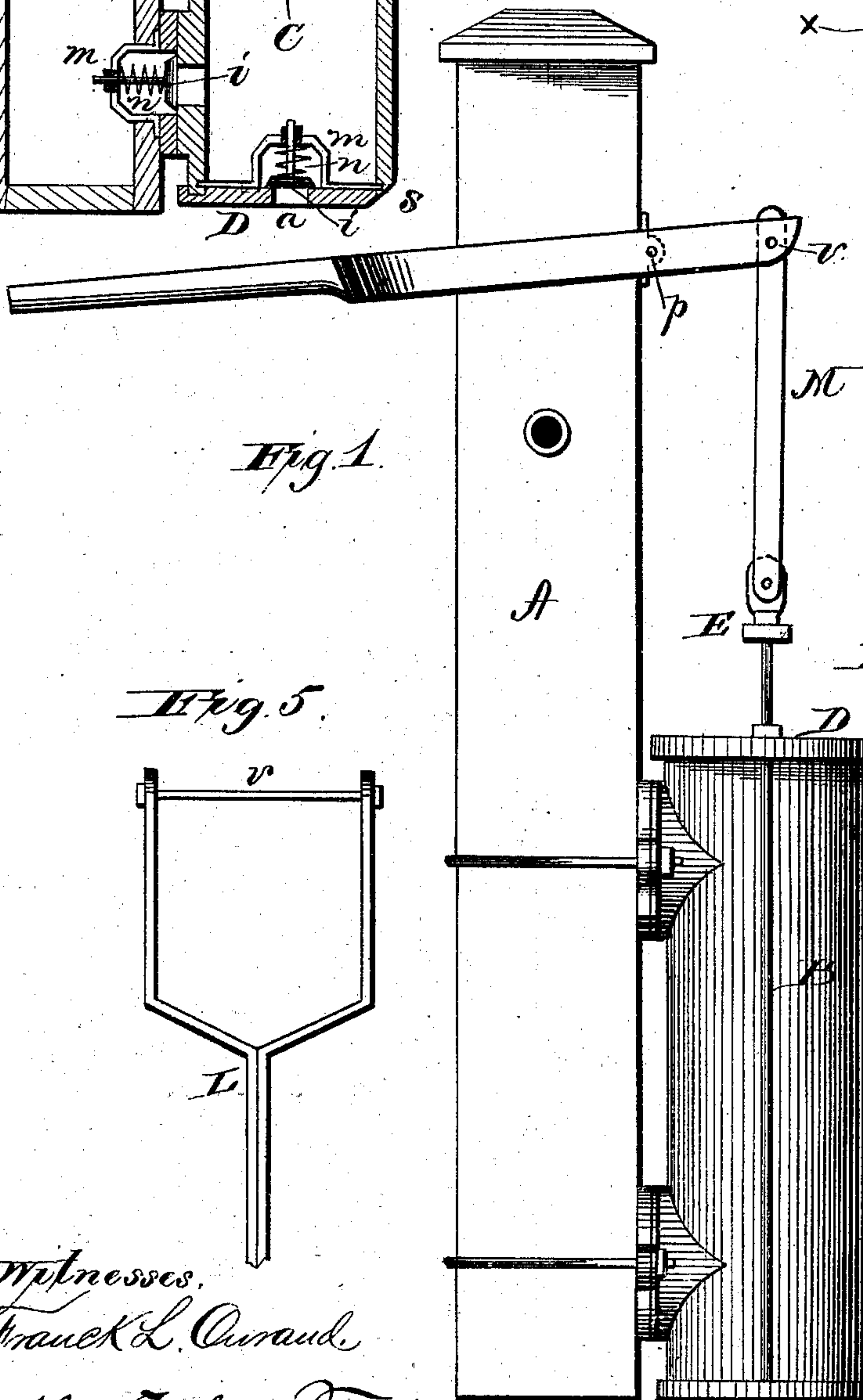


Fig. 1.

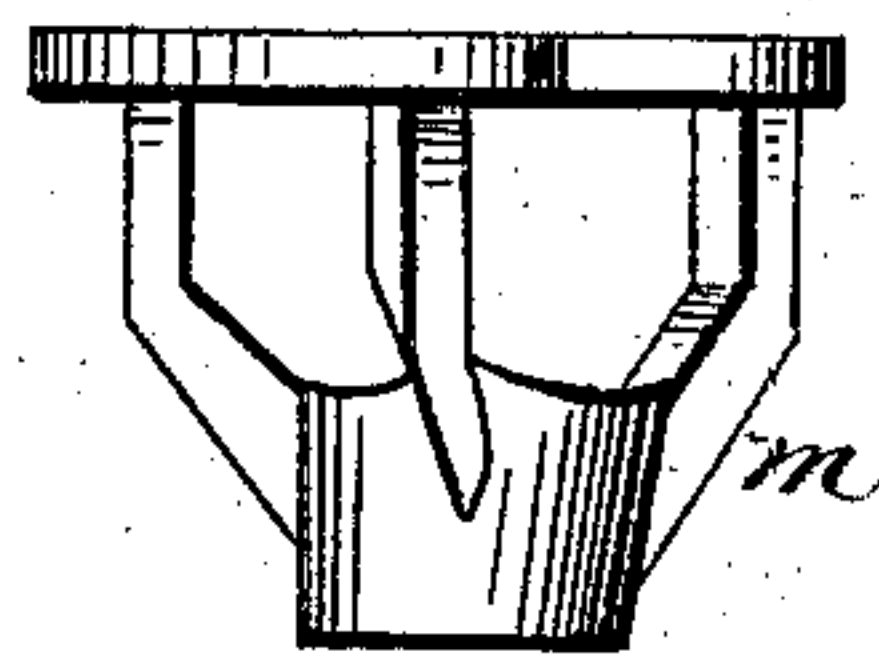


Fig. 4.

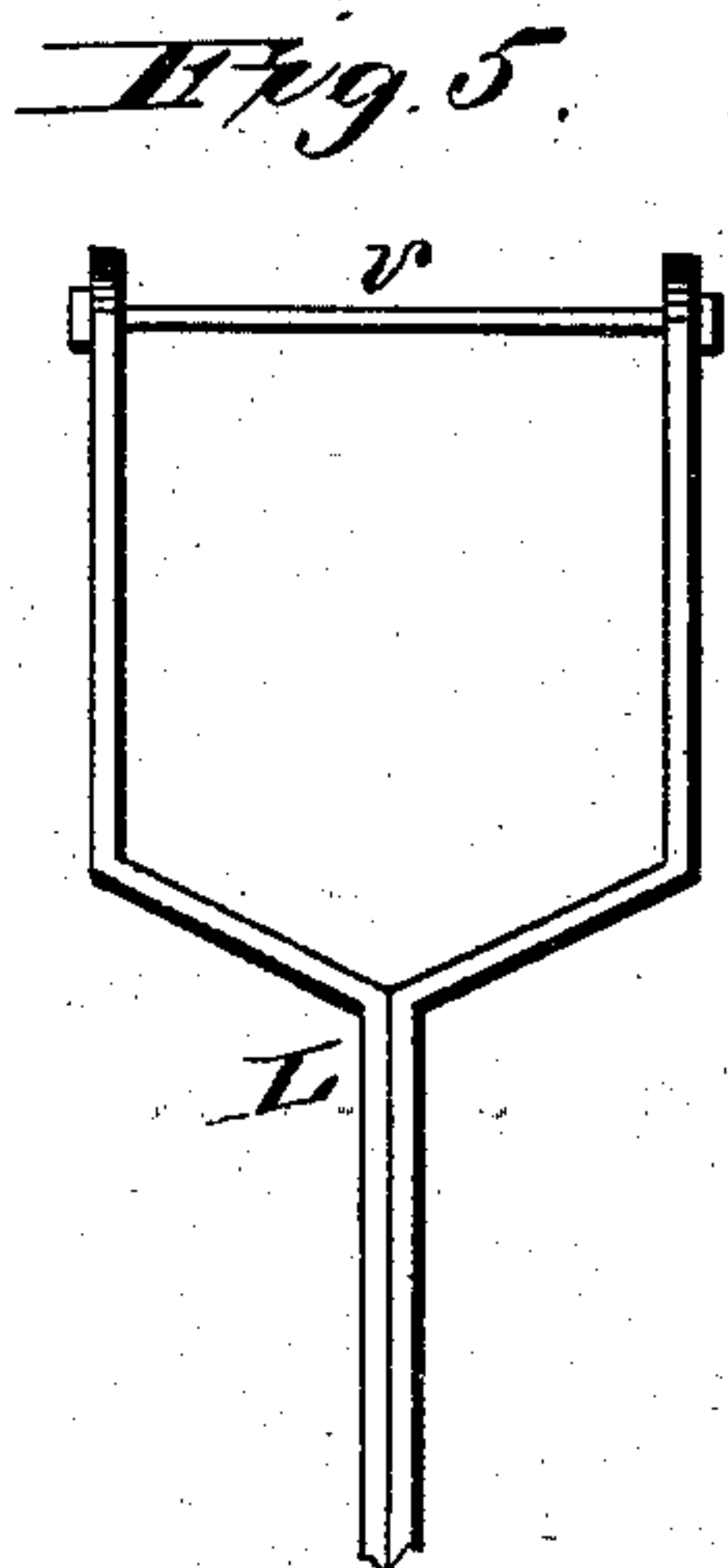
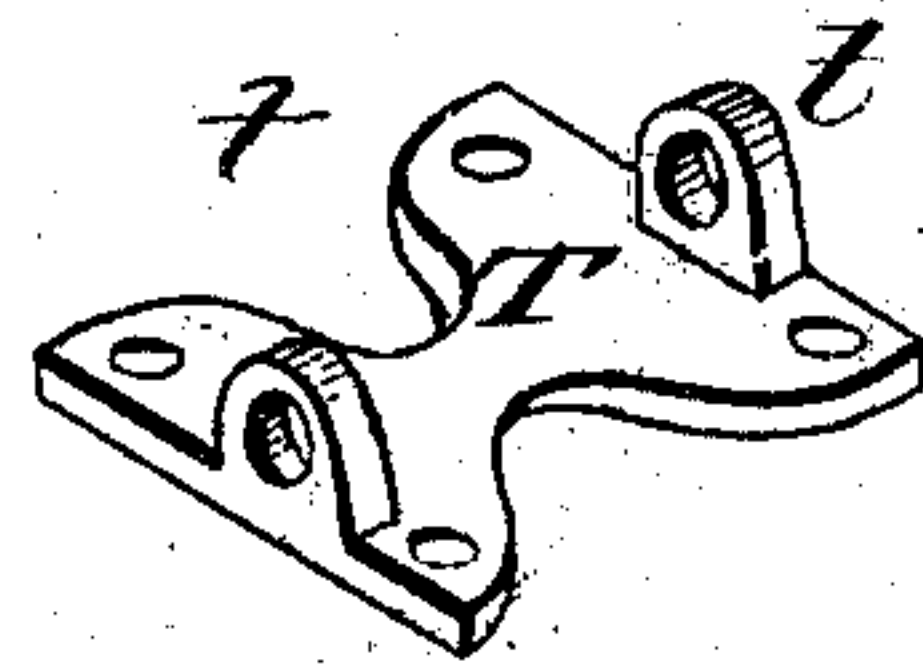


Fig. 5.



Witnesses,
Frank L. Curand.
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By
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att'y

UNITED STATES PATENT OFFICE.

SAMUEL R. DAWSON, OF DES MOINES, IOWA.

FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 237,257, dated February 1, 1881.

Application filed July 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. DAWSON, of Des Moines, in the county of Polk, and in the State of Iowa, have invented certain new and useful Improvements in Force-Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a force-pump and pump-levers, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of my pump. Fig. 2 is a vertical section of the pump-cylinder and lower end of pump-stock. Fig. 3 is a side view of the pump-plunger. Fig. 4 is a side view of one of the valve-cages. Fig. 5 shows a part of the operating-lever. Fig. 6 shows a casting for attaching the lever.

A represents the pump-stock, and B the cylinder, which is of any suitable size, and bored out to receive the plunger C. The cylinder B is provided with a cap or head, D, at each end, having a central aperture, *a*, for the admission of water into the cylinder. In the top cap or head, D, there are two smaller holes to allow the plunger-rods *b b* to pass through. The lower ends of the rods *b b* are secured in the plunger C by being tapped or screwed in, as shown at *e*. The plunger C has a fillet or top bar, *r*, across the top, to give an easy means of obtaining correct measurement for setting the plunger-rods. In the outside of the plunger is cut a spiral or screw groove, *f*, which passes around the same three times, but does not extend through the edge at the top and bottom, by which arrangement better packing is secured, as the water in the groove is movable and rushes to the end of the groove.

The rods *b b* being screwed into the plunger, and by a left-hand thread also tapped into a cross-bar, E, there is no possibility of their becoming loose, either in the plunger or in the cross-bar, by which arrangement the entire construction of the inside of the cylinder will

be accurate, thereby securing perfect construction of the pump and causing the same to work perfect in all positions, whether set plumb or not, as the rods constitute braces to each other and to the plunger.

The caps or heads D are secured to the cylinder B by means of bolts or rods passing through suitable lugs and secured by means of nuts. In each cap or head is a valve, *i*, with a pin to pass through the valve-cage *m*, and two similar valves are in the side of the cylinder, one at each end, the said valves being in round form and made of metal. Each valve is held in position by a spiral spring, *n*, which is held in place by the valve-cage *m*. There is also a valve-cage, *m*, over each side valve, held in place by the gripes or bolts that secure the cylinder to the pump-stock. The valve-cages at the ends of the cylinder are let into said ends by means of a groove, *s*, being cast or cut in the ends of the cylinder B, so as to allow the valve-cages to come to an even face with the ends of the cylinder, by which means a perfect joint is secured by the head resting on the smooth surface of the end of the cylinder. The cylinder B is secured to the pump-stock by gripes, as shown, or by any other suitable means.

L represents the operating-lever, secured to the pump-stock by means of a bolt or pin, *p*, passing through lugs *t* on the plate T, which plate is attached to the pump-stock by four bolts or screws. The lever L is connected with the head E by a rod, M, the upper end of which is pivoted between the two prongs of the lever by a pin or bolt, *v*.

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

The combination, with the cylinder, grooved at the ends, as described, of the valve-cages, constructed as set forth, having their peripheries seated in said grooves, and the cylinder-heads, as shown, and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of June, 1879.

SAMUEL R. DAWSON.

Witnesses:

J. A. DAWSON,
F. A. BUNKER.