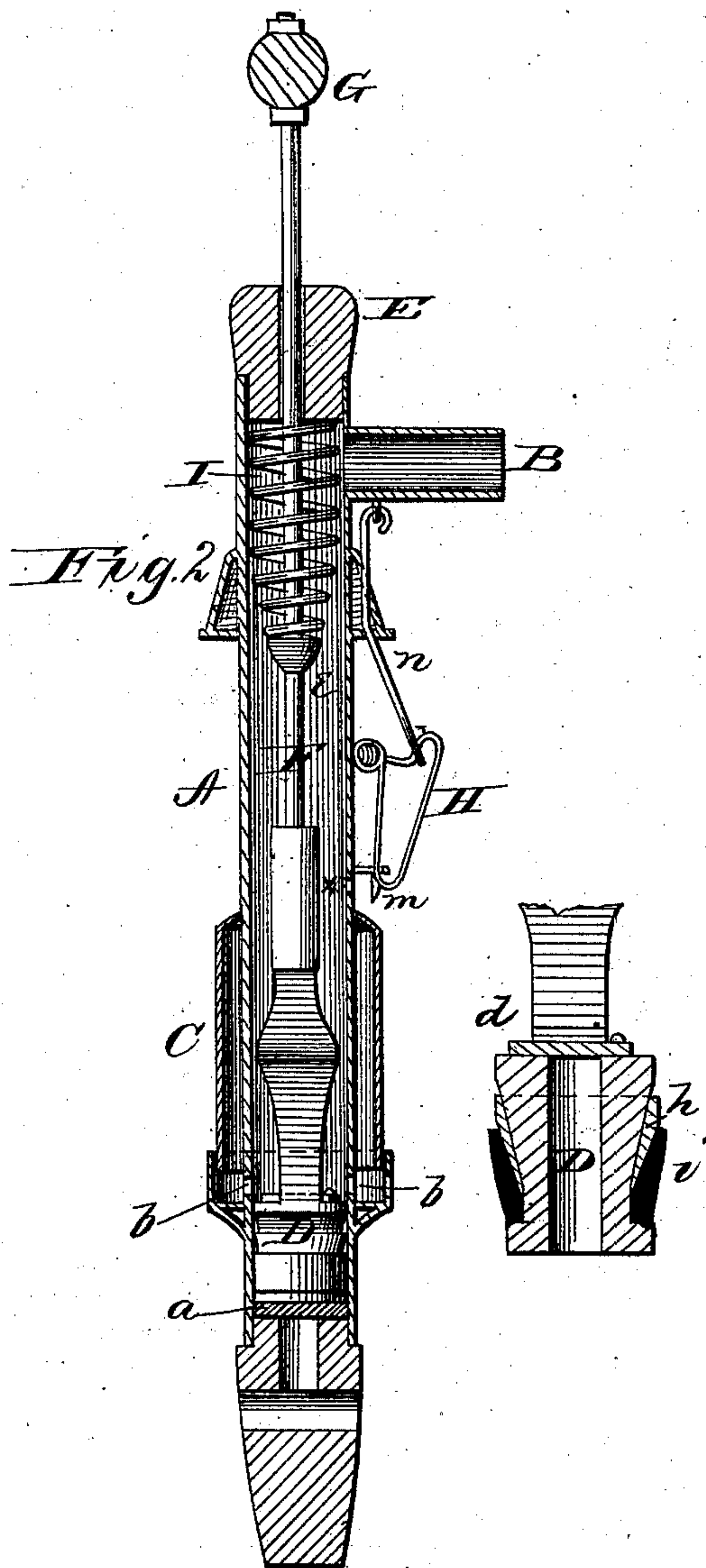
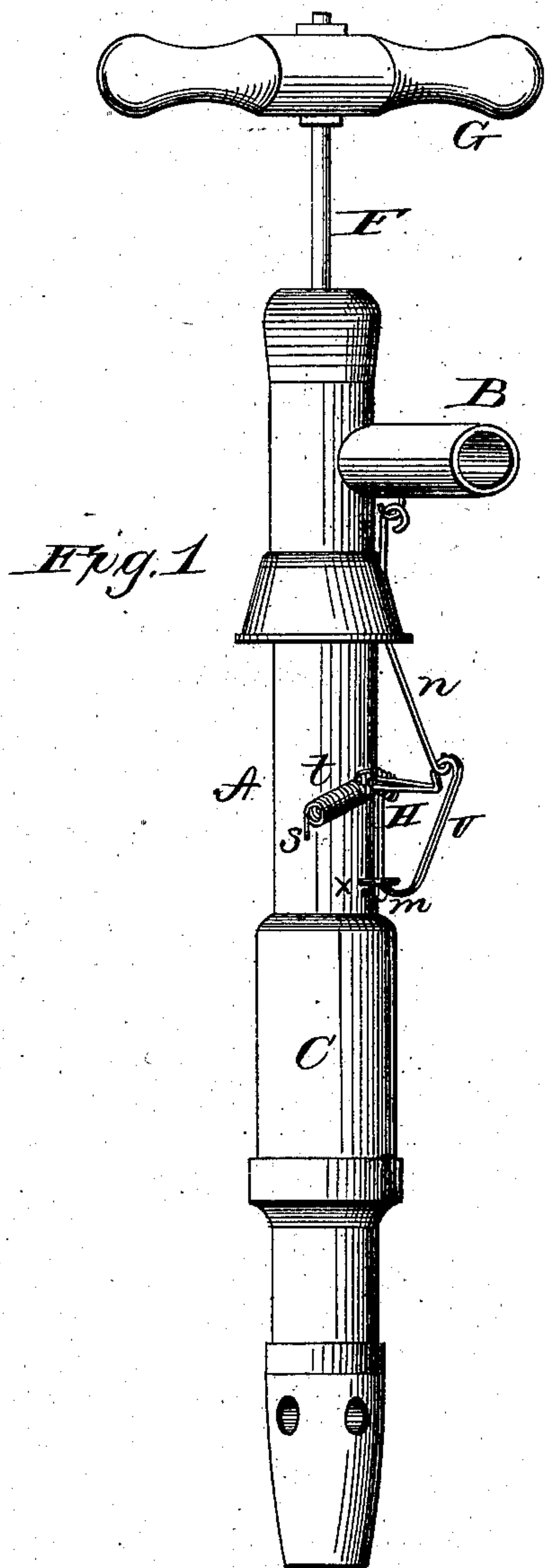


J. K. LEEDY.
Lift-Pump.

No. 224,931.

Patented Feb. 24, 1880.



Witnesses:
H. L. Curand
H. Aubrey Touchard

Inventor:
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Alexander Mason

UNITED STATES PATENT OFFICE.

JOHN K. LEEDY, OF MAURERTOWN, VIRGINIA.

LIFT-PUMP.

SPECIFICATION forming part of Letters Patent No. 224,931, dated February 24, 1880.

Application filed December 29, 1879

To all whom it may concern:

Be it known that I, JOHN K. LEEDY, of Maurertown, in the county of Shenandoah, and in the State of Virginia, have invented certain new and useful Improvements in Lift-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 pump, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a side elevation of my improved pump. Fig. 2 is a longitudinal section of the same.

A represents the pump-stock, provided with spout or outlet B, and having at its lower end the check-valve *a*.

At a suitable point an air-tight drum, C, surrounds the stock A, said drum communicating, at its lower end, through apertures *b*, with the interior of the stock.

D is the plunger, provided with the valve *d*, and attached to the rod F, which passes up through the head E of the pump-stock.

On the rod F, within the pump-stock, is a collar, *e*, to which one end of a spiral spring, I, is attached, said spiral spring surrounding the rod and having its upper end attached to the head E, as shown.

The upper end of the rod F is provided with a handle, G. By pressing down on this handle the plunger is forced down, at the same time expanding the spring I. This spring, then, will throw the plunger up again, or, at least, assist in moving the plunger up.

The plunger and valves are all working below the air-drum, so that when the water is drawn by the plunger, instead of lifting all the weight of the water at once, it will escape through the holes *b* under the compression of the air, which will immediately force the water back through said holes and up the stock, making a flowing stream.

On the plunger is a metallic swaged band, *h*. This band is molded on the plunger and then turned down to a feather-edge, so that when the leather *i* is sewed on the plunger it

may extend partially upon the band, making it fit the stock; but after the pump has been used for some time the leather will wear and become too loose to fill the stock. Then, by a slight movement of the band *h* downward, it will swage out the leather so as to make it fit again, and this can be repeated time and again until the leather is nearly all worn out.

The plunger-rod F and spring I are so arranged that when the spring is closed the handle G will stand about a foot or fourteen inches above the head, so that, in pumping, the operator will pump downward, while the spring will make the upward stroke, making the operation of pumping entirely easy, especially in connection with the air-chamber.

Below the platform of the well, at a suitable point, is a vent-hole, *x*, to allow the escape of water to prevent freezing. This vent is closed by a valve, *m*, attached to a spring, H, and operated by a rod or wire, *n*, from above the platform.

The spring H is made of a single piece of wire bent and twisted to form the arms *s*, which are soldered or otherwise fastened to the pump-stock, and then the coils *t t*, the center of the wire forming the double eye and lever *v*, to which the rod or wire *n* is connected and the valve *m* attached.

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

1. The wire spring H, constructed to form the arms *s*, coils *t*, and lever *v*, in combination with the stock A, having vent *x*, the valve *m*, and rod or wire *n*, substantially as and for the purposes herein set forth.

2. As an entirety, a lift-pump consisting of the stock A, having a uniform internal diameter, air-chamber C, surrounding a portion of the same, piston D, constructed as described, rod F, and spring I, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of December, 1879.

JOHN K. LEEDY.

Witnesses:

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