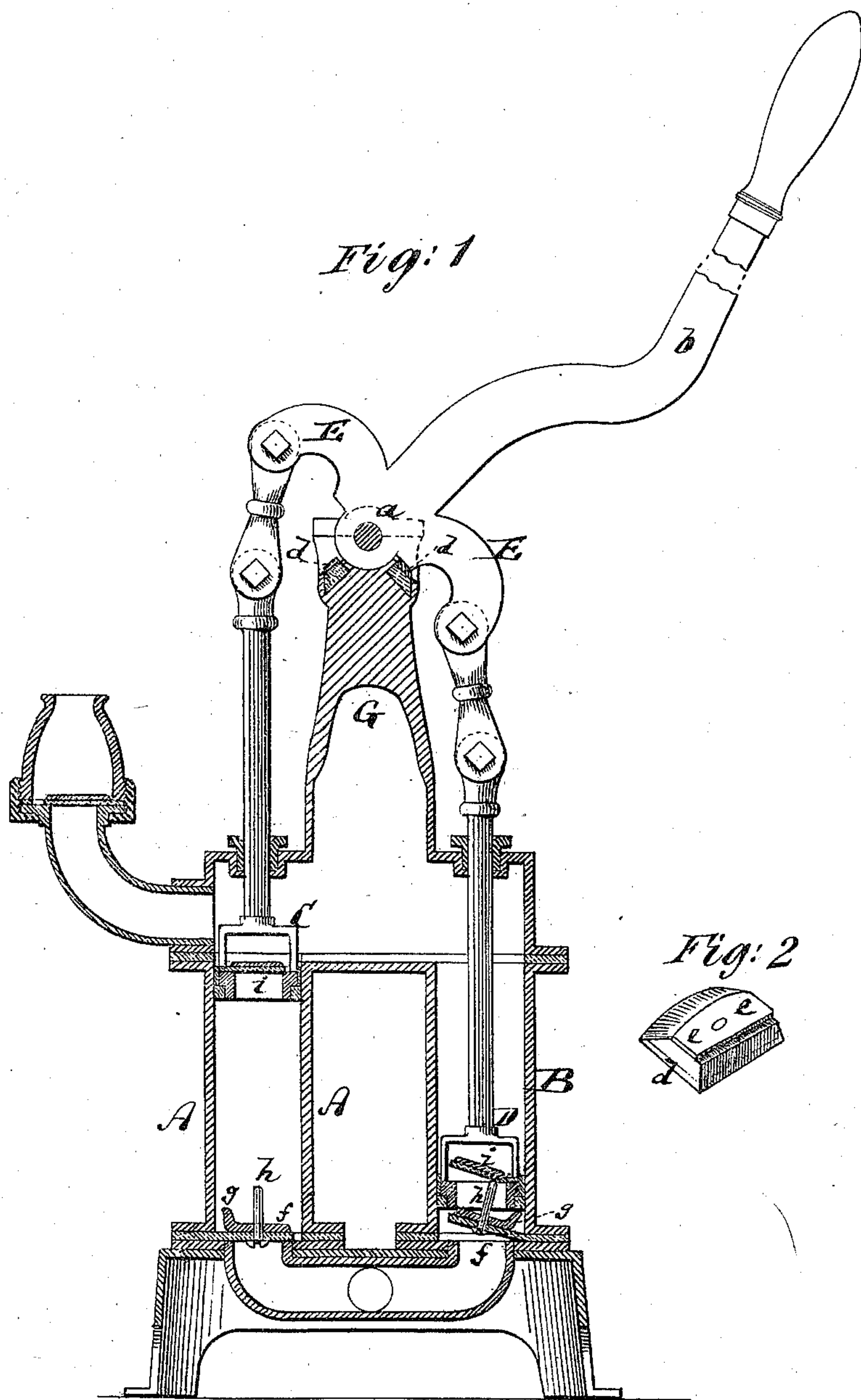


H. T. COLEMAN.

Pumps.

No. 140,016.

Patented June 17, 1873.



Witnesses:
Michael Ryan
Fred Haynes

H. T. Coleman
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

HIRAM T. COLEMAN, OF WILLIAMSBURG, NEW YORK.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 140,016, dated June 17, 1873; application filed May 15, 1873.

To all whom it may concern:

Be it known that I, HIRAM T. COLEMAN, of Williamsburg, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Pumps, of which the following is a specification:

Figure 1 is a sectional elevation of my improved pump; Fig. 2, a detail perspective view of the cushion used thereon beneath the beam.

Similar letters of reference indicate corresponding parts.

This invention has for its object to so construct a double-acting pump whose pistons are connected with the ends of a vibrating beam that such beam, at the ends of its respective motions, may not strike a rigid substance, and thereby strain, jar, and injure the parts of the pump, but that it may strike a cushion which will protect the parts from injury by shocks, otherwise received, and which will also prevent a more extended motion in either direction whenever, by special application of power to the beam or handle, it is desired to open the plunger and supply-valves to let out the water contained in the pump. My invention consists in placing rubber cushions, which are properly lined with metal at their upper sides, beneath the beam that connects with the pump-plungers, so that such cushions may be struck by the beam at the ends of its motions, and thereby avoid the injurious concussion, which at present is generally to be noticed in pumps. The cushions, moreover, by extra power applied to the lever or handle, permit the plungers to be so far lowered that the water-supply valves may be opened for the downward discharge of the water contained within the pump.

In the accompanying drawing, the letters A B represent the pump-cylinders; C D, their plungers, which are connected with the ends of a beam, E, as shown. The beam is, at or near its center, pivoted, by a pin, *a*, to the frame of the pump, and is connected with a handle, *b*, or otherwise prepared for opera-

tion. *d d* are rubber cushions inserted in recesses that are provided for their reception in the supporting-frame G of the pump, and so placed that the beam will strike them, respectively, at the ends of its strokes. They will, therefore, cushion the beam and prevent all injurious concussion. I prefer to shape these cushions *d* in the manner indicated in Fig. 2, and line their outer surface with metal plates *e* to prevent the beam from injuring the rubber by contact. The valves *f* that close the lower ends of the cylinders A B are constructed with projecting heels *g* and center-pins *h* in the customary manner, so that when the plungers that contain the valves *i* are lowered to the fullest extent they will strike the heels *g*, thereby open the valves *f*, and by so opening cause the pins *h* of such valves to also open the valves *i* of the plungers, all of which is indicated on the right-hand side of Fig. 1.

During the ordinary operations of the pump the cushions *d* will prevent the valves from being so far lowered as to produce such opening of the valves *f* and *i*; but when during cold weather it is desired, after the pump has been in operation, to discharge from it all the water contained within its cylinders, it is only necessary to apply additional power to the handle *b*, and compress to greater extent one of the cushions *d*, and then the other, so that thereby the plungers will be entirely lowered and the valves *f i* opened and the water entirely discharged from the cylinders.

What is hereby claimed, and desired to be secured by Letters Patent, is—

The cushions *d* placed on the pump stock or frame beneath the beam E, that connects with the plungers for the purpose of preventing concussion and allowing an extra degree of motion to the beam, substantially as specified.

H. T. COLEMAN.

Witnesses:

MICHAEL RYAN,
FRED. HAYNES.