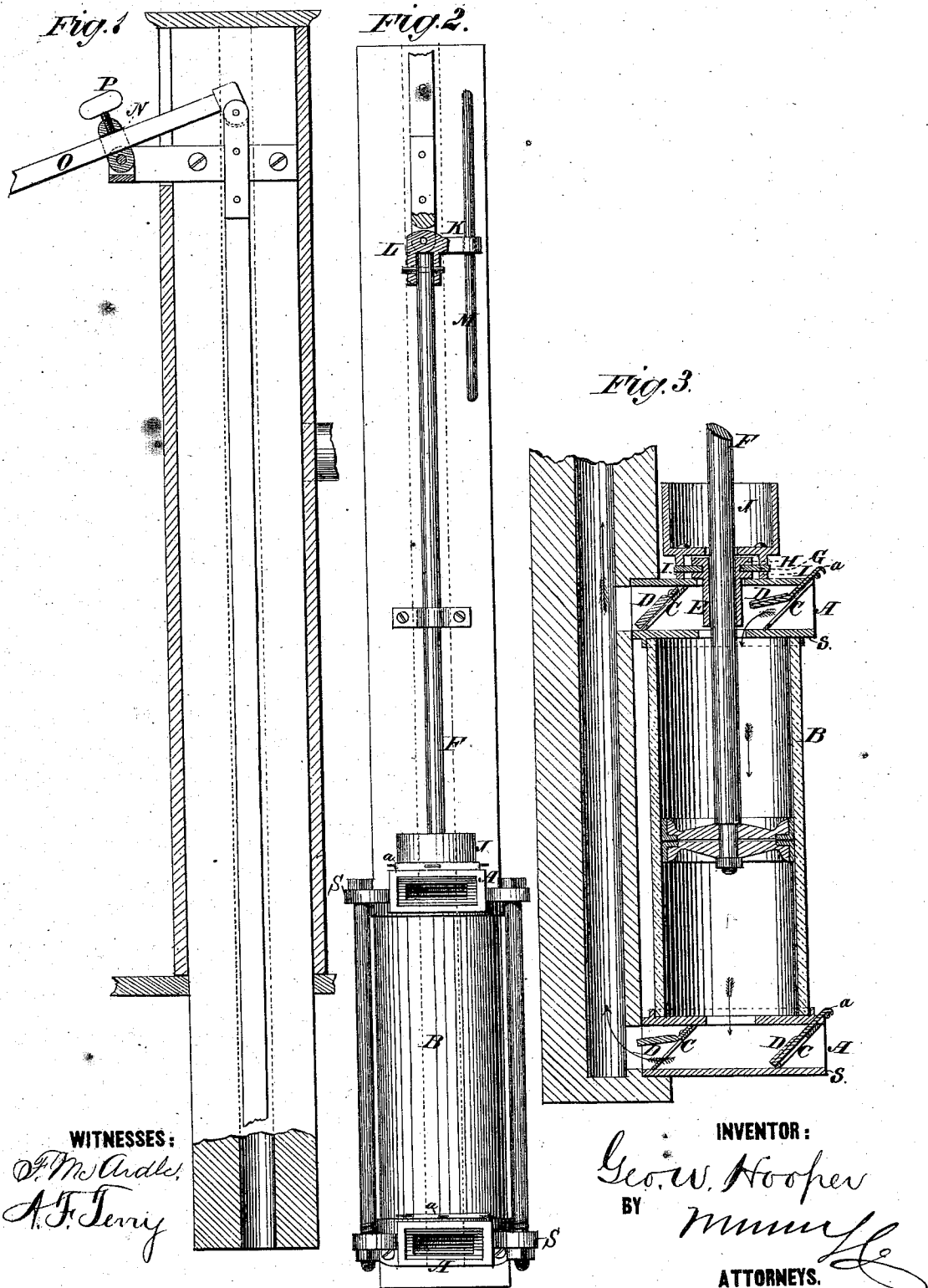


G. W. HOOPER. Pump.

No. 159,576.

Patented Feb. 9, 1875.



WITNESSES:
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INVENTOR:
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UNITED STATES PATENT OFFICE

GEORGE W. HOOPER, OF GREENE, MAINE.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **159,576**, dated February 9, 1875; application filed November 14, 1874.

To all whom it may concern:

Be it known that I, GEORGE WINFIELD HOOPER, of Greene, in the county of Androscoggin and State of Maine, have invented a new and Improved Pump, of which the following is a specification:

The invention consists of packing for the piston-rod, composed of a metal thimble fitted snugly to the rod, and held so as to accommodate it to the piston by a leather diaphragm secured at the margin, and having a hole in the center, in which the thimble is fixed so as to be movable a little to accommodate it to the piston, so as not to cramp and bind, as it would if held rigidly. The invention further consists in the peculiar construction of the end pieces of the cylinder which forms the cylinder-heads, ways, or conduits for the water, and seats for the valves, and in the means for fastening the valves to the said seats, by passing the flexible end of the elastic face of the valve through a slot in the top of the said end pieces. The invention also consists of the pump-handle, arranged in a pivot-block to shift forward and backward, to regulate the stroke to the depth of the well.

Figure 1 is a sectional elevation of a portion of the pump. Fig. 2 is a side elevation, with a part sectioned; and Fig. 3 is a sectional elevation.

Similar letters of reference indicate corresponding parts.

S represents symmetrical end pieces of the cylinder B, which are cast in one piece, and so constructed that while one side forms the cylinder-head, with an opening in the center, the other side forms, with the said head, the water ways or conduits A. Inside said conduits are contained the valves D, which rest upon the inclined valve-seats C, and are fastened therein by a leather facing, *a*, which extends up through a narrow slot in the piece S, and

is fastened by a pin or other suitable device. E represents the metal thimble for packing the piston-rod F. It is confined in the center of the flexible diaphragm G by its flanges H, between which the inner margin of the diaphragm is secured; and the outer margin of the diaphragm is secured between the rings I of the top of the cylinder and the bottom of the water-reservoir J, so that the thimble can shift about to conform to the requirements of the rod without binding. The reservoir J holds the water that may escape through the packing, so that it will prevent air from leaking into the pump when the pump is used above water. K is the arm of the joint-piece L at the end of the piston-rod, extending to, and working on, the parallel guide-rod M, to form the guide for the rod. N is a pivot-piece for the handle O, which is fitted to slide forward and backward in it, and has a binding-screw, P, to hold it at any point for regulating the stroke to the strength of the operator and the depth of the well.

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

1. The packing-thimble E, supported by a flexible diaphragm, G, substantially as specified.
2. The herein-described means for fastening the valves to the seats, consisting of the flexible facing *a*, of leather, in combination with the slotted end pieces, S, and a pin or other suitable devices for fastening the same therein, substantially as described.
3. The pump-handle O, arranged adjustably in the pivot N, and provided with a binding-screw, substantially as specified.

GEORGE W. HOOPER.

Witnesses:

JOHN B. MURRAY,
JOHN B. HOOPER.