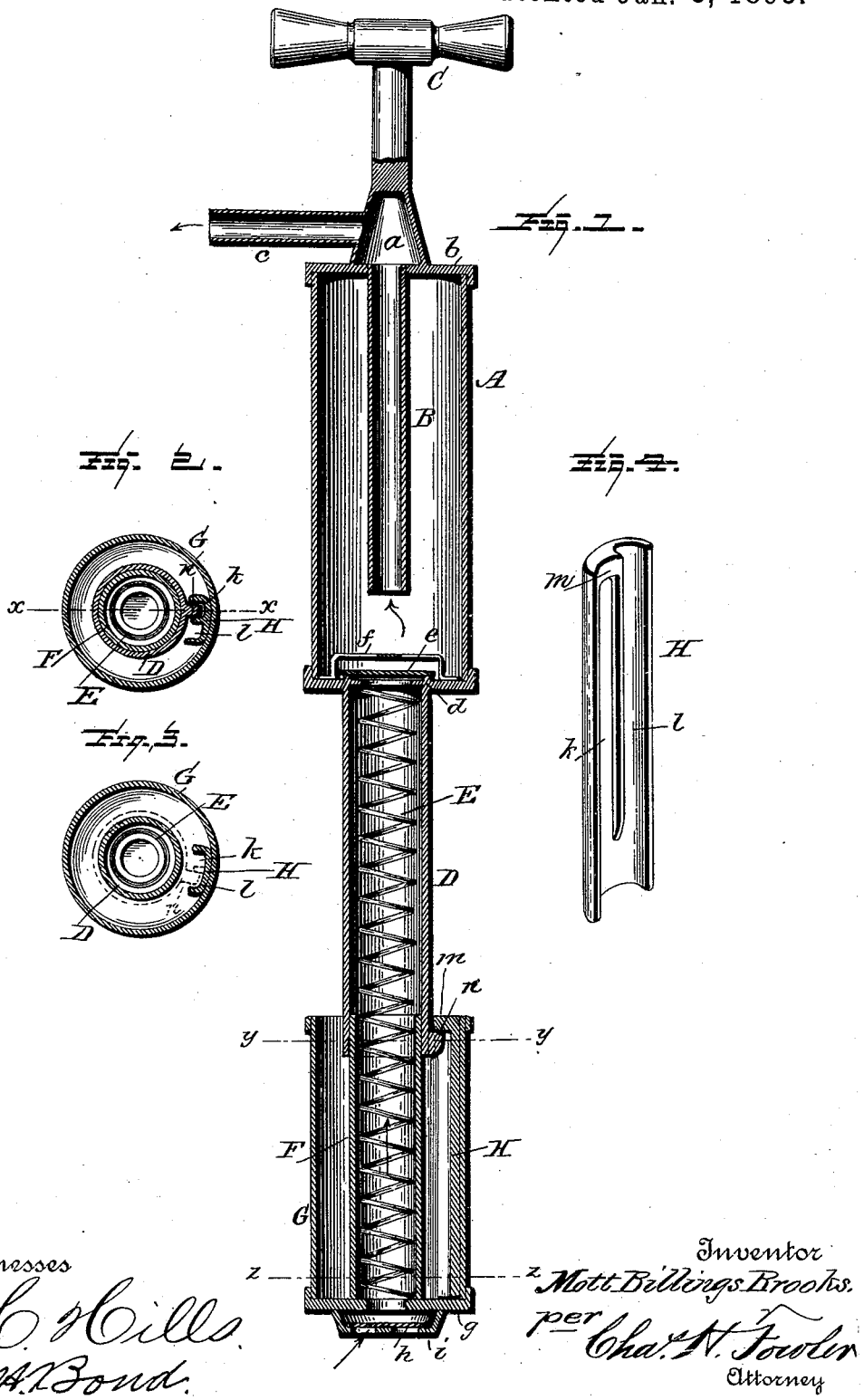
(No Model.)

M. B. BROOKS.

PORTABLE FORCE PUMP.

No. 489,367. Patented Jan. 3, 1893.



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MOTT BILLINGS BROOKS, OF OAK POINT, NEW YORK.

PORTABLE FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 489,367, dated January 3, 1893.

Application filed August 24, 1892. Serial No. 443,998. (No model.) Patented in Canada February 1, 1892, No. 38,184.

To all whom it may concern:

Be it known that I, MOTT BILLINGS BROOKS, a citizen of the United States, residing at Oak Point, in the county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Portable Force-Pumps, (for which I have obtained a patent in Canada, No. 38,184, dated February 1, 1892;) and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to that class of portable force pumps provided with means for attaching thereto a suitable hose, and the object thereof is to improve the construction whereby greater effectiveness is secured in the operation of the pump and enabling it to be used and operated with equal effect in any position when placed in a barrel, tank, pail, or wherever the base of the pump will rest unsupported by the person operating it. The construction of the pump will also remove the necessity of the employment of the usual rubber-valves and packing and plunger-rods and stuffing boxes, thus materially increasing the practicability of the pump and render its forcing action increased. These several objects above enumerated I attain by the construction substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings represents a vertical section taken on line *x x* of Fig. 2. Fig. 2 represents a horizontal section taken on line *y y* of Fig. 1. Fig. 3 a similar view taken on line *z z*. Fig. 4 represents a perspective view in detail of the guide plate.

In the accompanying drawings A represents the metal cylinder to which is centrally connected a downwardly extending tube B, said tube communicating at its lower end with the cylinder and at its upper end with a chamber *a* formed with the cap *b*. Projecting horizontally from the chamber *a* and communicating therewith, is a short tube or nozzle *c* to which may be attached a suitable hose for directing the liquid as it is forced up by the pump. The chamber *a* terminates at its upper end in a suitable handle C by which the pump is actuated.

To the lower end of the cylinder A is a depending tube D which is provided at its upper end with a suitable valve-seat *d*, valve *e*, and guard *f* to retain the valve in its working position. The tube D communicated with the cylinder A and contains a spiral spring E to give the necessary upward stroke to the pump, said spring extending down into a similar tube F within a cylinder G. The tube F is rigidly connected to the bottom *g* of the cylinder G, which bottom has an opening in line with the tube F for the passage of the liquid, and below this opening is a valve *h* and a valve seat *i* which may be of any suitable and well known construction. The cylinder G upon its interior has a guide-plate H formed with two vertical guide-ways *k l*, the former guide-way being closed at its upper end to form a stop *m* against which abuts the lug *n* upon the lower end of the tube D.

When the pump is in a working position as shown in Fig. 1, the lug *n* upon the end of the tube D will be in engagement with the guide-way *k* and the upward stroke is limited by the stop *m* with which the lug comes in contact, thus preventing the cylinder and tube from being disengaged with the lower cylinder G. Should it be found necessary however to remove the cylinder A with its tube E from operating connection with the lower cylinder and tube, the former mentioned tube and cylinder are pressed down until the lug *n* passes below the guide-way *k* and then by turning the cylinder and tube in the proper direction the lug will be brought in line with the guide-way *l* when the tube may be lifted up and out of the cylinder G and removed for repairs or cleaning.

When the cylinder F is submerged in the liquid a sufficient amount will enter the cylinder G to form a lubricant or packing and prevent air from being sucked in between the tubes D F, thus dispensing with the usual packing.

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

In a portable force-pump, the water-cylin-

der G having upon its interior the plate H formed with guide-ways *k l*, the former being closed at its upper end to present a stop *m*, and the central tube F within the cylinder, in combination with the tube D having lug *n* to engage with the guide-ways, the cylinder A provided with depending tube B, the spring E, and the valves in the bottom of the cylinders, substantially as and for the purpose specified.

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