

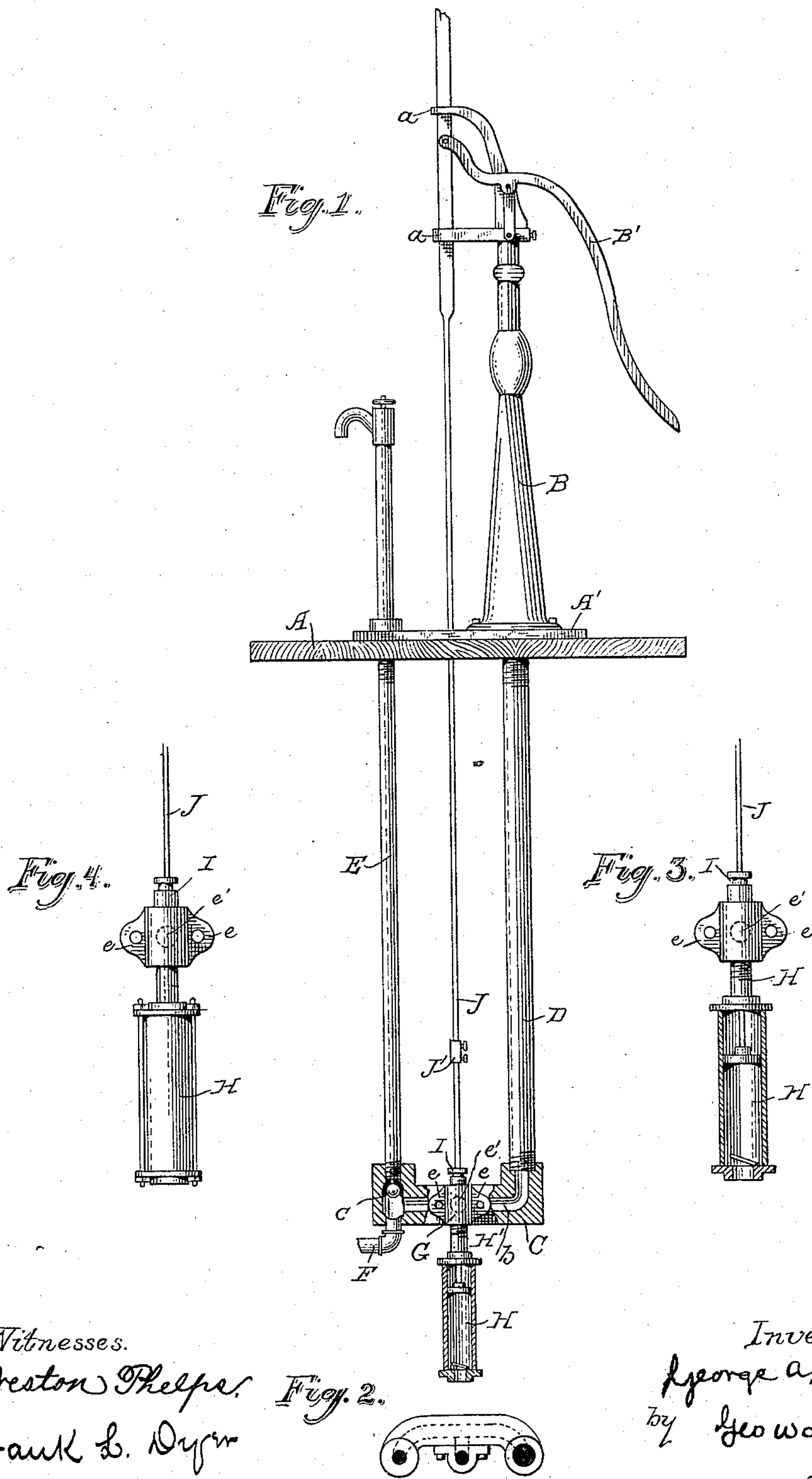
(No Model.)

G. A. CARTER.

FORCE PUMP.

No. 383,703.

Patented May 29, 1888.



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# UNITED STATES PATENT OFFICE.

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## FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 383,703, dated May 29, 1888.

Application filed May 11, 1887. Serial No. 237,859. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. CARTER, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Force-Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of force-pumps known as the "underground" or "distributing" force-pump, and embodies an improved attachment of the pump proper to its main supporting-frame for the purpose of removal or adjustment without disturbing the other parts. The usual way is objectionable, for the reason that it requires the whole structure to be taken up in case of repairs needed in the pump proper, or for any other cause; and as an improvement upon this or any other attachment I propose to bracket the stuffing-box and the casting which receives the pipe from the pump-cylinder to the side of the distributing-base in such a way that these parts, which, together with the pump-rod, comprise the pump proper, can be readily removed, and without disturbing the main supporting-frame or the heavy parts which rest upon and are attached to the platform. In this feature lies the principal novelty of my invention, all as will be more fully hereinafter described and claimed.

For the better understanding of my improvement in details of construction and arrangement attention is invited to the accompanying drawings, in which like letters of reference denote corresponding parts, and wherein—

Figure 1 is an elevation of my improved pump, showing parts of it in section; Fig. 2, a top plan view of the distributing-base; Fig. 3, a detail, partly in section, of the parts composing the pump proper; and Fig. 4, another detail of these parts in modification.

A denotes the platform of the well, and A' a casting secured to the top of the same. To this casting A' is bolted the ordinary cast-iron standard, B, which is provided with the usual pump-rod guides, *a a*, and with the pump-handle B', fulcrumed in the usual manner.

Below the platform A, some distance down

in the well, is the distributing-base C, which is supported from the platform by the tubular air-chamber D and the discharge-tube E. The air-chamber D, at its lower end, is screwed into one end of the distributing-base, and at its upper end is screwed into the casting A' on the platform, while the discharge-tube E, which at its lower end is screwed into the other end of the distributing-base, passes up through said platform and casting above the ground, and is provided at or near its upper end with a discharge-spout, E'.

The distributing-base C, preferably of the general curved form in section indicated in Fig. 2 of the drawings, with projecting ends, and a recessed portion between the ends, may be hollow throughout, or it may have a horizontal channel, *b*, communicating with its chambered ends, and this base, together with its supporting-tubes D and E, constitutes the supporting-frame below the platform for the parts comprising the pump proper, presently to be described.

Leading into the bottom of the distributing-base C at a point below where the discharge-tube E is connected is an underground discharge tube or pipe, F, which may lead to a tank above the ground when this pump is used in connection with a windmill. The supply of water through either of these discharge-tubes is controlled by any suitable cut-off valve, *c*, located in the distributing-base between the inlets of the two tubes, and operated by a rod (not shown) passing up through the discharge-tube E.

G is a bracket, which is removably secured by bolts and nuts or screws to the recessed portion of the side of the distributing-base C, and which supports the pump-cylinder H, and thus by reason of the curved form of the distributing-base, its projecting ends, and recessed portion between the ends, and the arrangement of the cylinders D G H and the bracket C, all of these parts are substantially in line and all danger of torsion is avoided. This bracket is cylindrical, with two side flanges, *e e*, by which it is bolted to the base, and has an opening, *e'*, in its back, leading into the base, for the inlet of the water that is pumped up through the pump-cylinder H. The pipe H' from this pump-cylinder is screwed into the bracket from below, and in



the upper end of this bracket is screwed the stuffing-box I for the pump-rod J, which passes down through these parts into the pump-cylinder, where it is connected to a  
 5 suitable piston, K. It will be understood, however, that my invention in this particular is not to be confined to the bracket with the stuffing-box and the pipe from the pump-cylinder screwed therein, for this bracket, together with the stuffing-box and the upper  
 10 cap of the pump-cylinder, may be cast in one piece, and the pump-cylinder may be supported and held in place by bolts, as shown in Fig. 4.

15 The pump-rod J is made, preferably, in two parts and connected by a coupling, J', at some point between the distributing-base and the platform of the well.

The pump proper comprises the pump-cylinder H, bracket G, stuffing-box I, and pump-rod J, and by attaching it to the distributing-base, as above described, it will be seen that the same can be readily detached and taken up without disturbing any part of the  
 20 main supporting-frame by separating the pump-rod at the coupling and unscrewing the stuffing-box, and, if need be, the cylinder H, without removing the bracket, or by raising the parts named all together. In this way it  
 25 will be seen there will be no necessity for a man-hole through the casting on the platform, or for the disturbance of the heavier portions resting on the platform.

It must also be understood that my inven-

tion is not limited to any particular form of pump, but that it can be applied to any and all pumps using a distributing-base or its equivalent.

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

1. In a force-pump, the combination, with a hollow distributing-base, of a hollow bracket removably secured to the same, and the main cylinder screwed into and suspended entirely  
 45 below said bracket and easily removable from the same and the distributing-base, substantially as and for the purposes set forth.

2. In a force-pump, the combination of the hollow distributing-base C, the hollow bracket  
 50 G, removably attached to said distributing-base, the pump-cylinder H, screwed into said bracket, and the pump-rod J, passing through said bracket, substantially as set forth.

3. In a force-pump, the combination, with a  
 55 hollow bracket, G, supporting the removable pump-cylinder H and provided at its upper end with a stuffing-box, I, through which the jointed pump-rod J passes, of the distributing-base C, air-chamber D, and discharge-pipe  
 60 E, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. CARTER.

Witnesses:

A. P. CHAMBERS,  
 H. PRITCHARD.