(No Model.)

W. P. POWERS.

WELL PUMP.

No. 313,521. Patented Mar. 10, 1885.

Fig. 1.

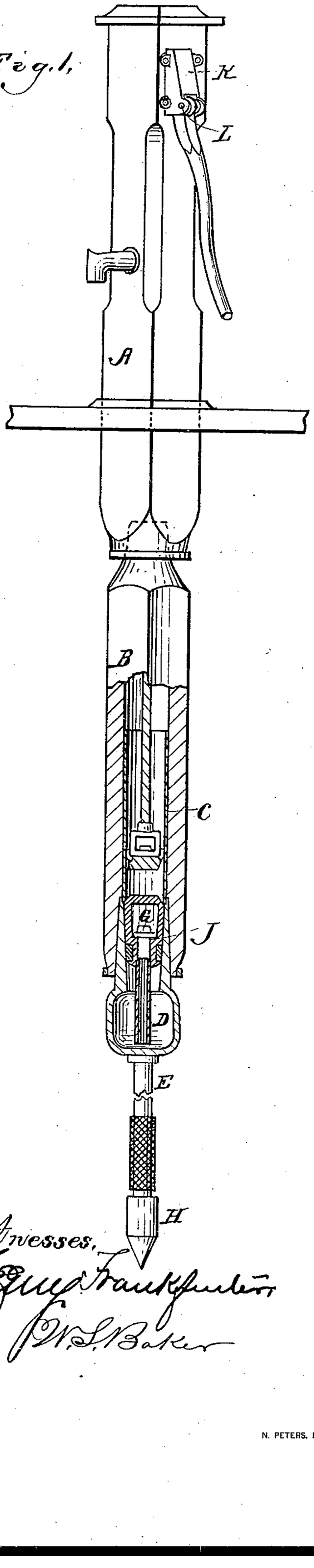
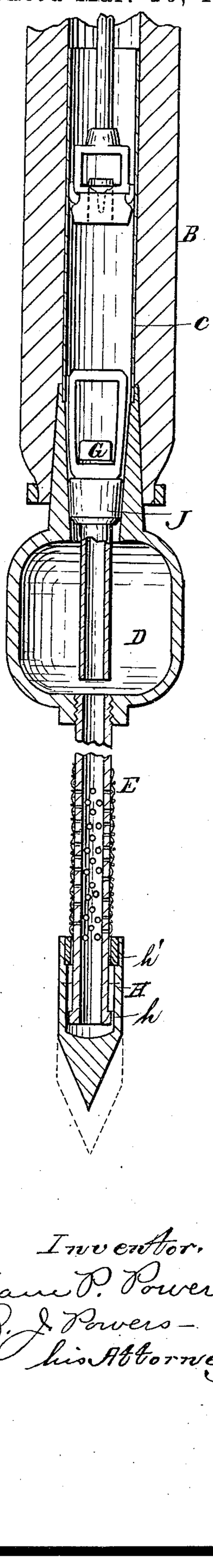


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM P. POWERS, OF LA CROSSE, WISCONSIN.

WELL-PUMP.

SPECIFICATION forming part of Letters Patent No. 313,521, dated March 10, 1885.

Application filed March 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. POWERS, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Putting Down Drive-Wells, of which the following is a specification.

My invention relates to an improvement in putting down the suction-pipe of a drive-well; and it consists in the adaptation of the driving-point at the lower end of the well-tube, so that it can slip thereon, as and for the purpose hereinafter set forth.

I am aware that the points of well-tubes have been made movable, so that while the tube is being driven into the ground the water-inlets at the bottom end of the tube have been covered by said point to prevent the entrance of dirt, and that when the water strata has been reached said inlets have been uncovered by withdrawing the tube a short distance. The points have sometimes been attached to the tubes by means of a slot and pin, and therefore capable of a limited movement; and sometimes they have been entirely detached. It is occasionally necessary, however, to withdraw the tube altogether, and for that reason the movable point has generally been secured with slot and pin.

I am aware, also, that a secondary tube or a rod has been inserted in the principal tube to strengthen and relieve said principal tube of a part of the strain incident to the driving of the point into the earth; but in all cases, so far as I am aware, the principal tube and its point have been coincidently and simultaneously driven into the earth, and the blows delivered were therefore required to overcome the entire resistance to the progress of both point and tube. My invention differs from these in separating the driving of the point from the driving of the tube, and in thereby decreasing the power required, or in rendering the same power more efficient, the force of the blow upon the point being undiminished by surface friction between the tube and soil. The tube can therefore be sunk where it would be impossible to sink it by the methods heretofore used.

Figure 1 of the drawings shows the pump complete. Fig. 2 shows an enlarged view of the lower part of the pump, and also the adaptation of the slipping point to the suction-pipe.

Similar letters indicate similar parts in the drawings and specification.

In practice I usually use a wooden pump, A, and wood tubing B, down to and including the cylinder C, and below that an air-chamber, D, and suction-pipe E, upon the lower end of which I secure the point H, with a tight collar, *h*, at the end of the pipe, and a similar collar, *h'*, upon the inner top of the opening in the point, all so adapted that the point can freely slide up and down upon the pipe between the limit of the collars from three to six inches, (more or less,) but unable to slip off from the pipe on account of the tight collar *h*.

J is the removable lower box with its valve G.

Having thus described the parts and their arrangement, I will now explain my process of putting down my well.

I first bore with an earth-auger down to within safe suction distance of the water. Then I introduce my suction-pipe and wood pipe with its cylinder and air-chamber, omitting the valve. I then introduce a rod of iron or an iron pipe, passing down and resting upon the inner bottom of the point H, and extending upward above the wood tubing a sufficient distance to enable the operator to raise it and let it fall with a blow upon the point H, which readily settles into the earth at each successive blow, being unincumbered by the pipe, upon which it slips freely, and is readily followed by the pipe as each blow of the driving-rod settles the point. The point being free from the inertia of the pipes is found to drive much more easily than when connected solidly with the pipe and having to move with it, and very much easier than when the blows are applied to the top of the wooden pipe in the hitherto usual manner of setting or driving such pipes.

Having thus described my improved device and my manner of using it, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. The point H, provided with a cylindrical extension, and the interior shoulder, *h'*, therein, combined with a drive-well pipe, E, provided with the exterior shouldered flange, *h*, substantially as set forth, whereby a driving-rod may be inserted to drive the point independently of and without movement on the part of the pipe while the point is moving, as set forth.

2. The mode of sinking well-tubes herein described, which consists in driving the point and tube separately and alternately, substantially as set forth.

WILLIAM P. POWERS.

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