

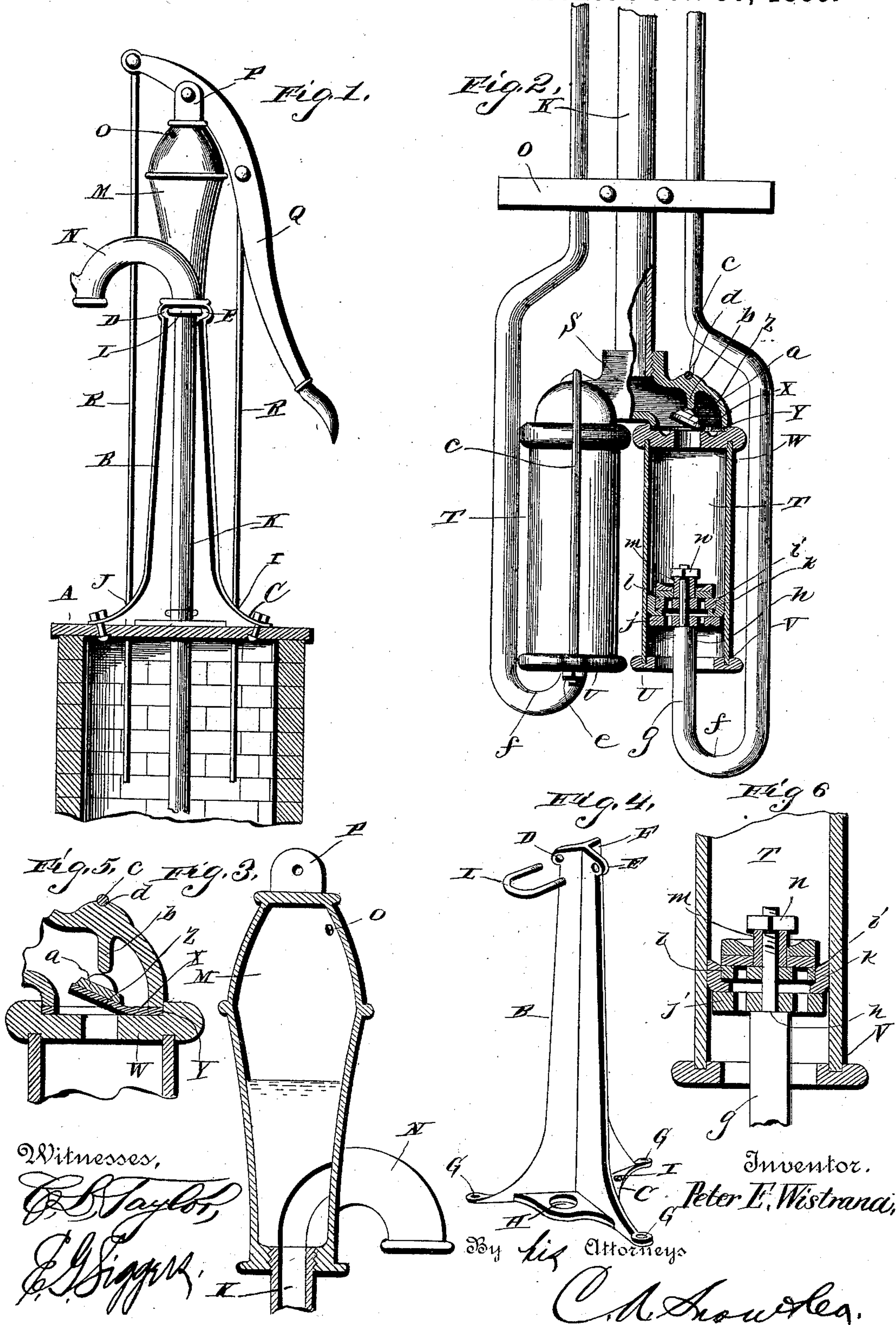
(No Model.)

P. E. WISTRAND.

PUMP.

No. 391,871.

Patented Oct. 30, 1888.



UNITED STATES PATENT OFFICE.

PETER E. WISTRAND, OF KEWANEE, ILLINOIS.

PUMP.

SPECIFICATION forming part of Letters Patent No. 391,871, dated October 30, 1888.

Application filed January 17, 1888. Serial No. 261,023. (No model.)

To all whom it may concern:

Be it known that I, PETER E. WISTRAND, a citizen of the United States, residing at Kewanee, in the county of Henry and State of Illinois, have invented a new and useful Improvement in Pumps, of which the following is a specification.

My invention relates to improvements in pumps; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view showing the upper portion of my pump, partly in side elevation and partly in vertical section. Fig. 2 is a similar view of the lower portion of the pump. Fig. 3 is a vertical section of the chamber at the upper end of the pump. Fig. 4 is a perspective view of the standard to which the upper part of the pump is clamped. Figs. 5 and 6 are detail views.

Referring to the drawings by letter, A designates the cover of the well, which also forms a base or rest for the three armed standard B. This standard consists of a base-plate, C, substantially triangular in shape, and the arms D E F rising therefrom. The base-plate is provided at its corners with openings G, through which securing screws are passed into the base or rest A. The base-plate C is further provided with the openings H I J between the arms D and E, E and F, and F and D, respectively, the opening H being for the passage of the pump-stock and the other openings for the passage of the plunger-rods. The pump-stock K extends through the opening H and down into the well to a suitable depth, and its upper portion is clamped to the standard B by a U-shaped bolt, L, which is passed around the pump-stock and through the arms D E, and then tightened by suitable nuts, as will be readily understood.

Upon the upper extremity of the pump-stock I secure an enlarged hollow body, M, from which the discharge-spout N projects. This body M is provided with an air-hole, O, in its upper portion, and forms an air-chamber when said hole is closed and a water-reservoir when it is open. On top of the body I provide the ears or lugs P, between which I fulcrum the lever or pump-handle Q. The plunger-rods R are pivoted at their upper ends to this lever on opposite sides of its fulcrum, and ex-

tend down through the openings I J in the base-plate C into the well.

To the lower extremities of the pump-stock I secure a T-coupling, S, to the outer ends of which the cylinders T are secured. The outer ends of this T-coupling are open, as shown, and register with the open upper ends of the cylinders. The cylinders are formed of sheet metal, and are secured between a collar, U, having an annular groove, V, for the reception of the lower edge of the cylinder, and a valve-seat, W, which is arranged between the upper end of the cylinder and the end of the T-coupling S. This valve-seat extends nearly across the top of the cylinder and has a central opening for the passage of the water. Between the valve-seat and the end of the T-coupling is secured a leather packing, X, having an integral extension, Y, to the upper side of which I secure a valve, Z, and on its upper side directly on top the valve I secure a weight, a. I thus provide a very simple and positively-operating valve, the packing serving as a hinge, and the weight serving to bring it to its seat after the water has passed. Just above the valve on the top of the T-coupling I form a teat or boss, b, which projects into the path of the valve and prevents its being thrown back so far as not to return to its seat. The collar U is provided with two perforated lugs at diametrically-opposite points, through which are passed the extremities of a U-shaped bolt, c, which fits at its upper central portion in a groove or depression, d, in the upper surface of the T-coupling. On the lower extremities of this U-shaped bolt are fitted nuts e, which are turned home against the collar U, and thereby firmly secure the cylinders to the T-coupling, as will be readily understood.

The lower ends of the plunger-rods are bent to one side of the cylinders, and at their lower extremities are bent, as at f, thereby forming the vertical arm g, which passes up into the cylinder and carries the plunger. The upper end of the arm g is reduced, as shown, thereby forming the shoulder h, on which the plunger i rests. This plunger consists of a strainer, j, a packing, k, on the upper side of the strainer, a valve-seat, l, resting on said packing and having a central vertical thimble, m, a weighted sliding valve fitted on said thimble, and a

nut, *n*, on the extremity of the arm *g*, serving to secure the several parts in place and to limit the play of the valve.

Above the T-coupling *S*, I secure to the pump-stock a guide, *o*, which projects to each side thereof and engages the plunger-rods, causing them to work smoothly and in a true vertical line.

In operation the pump handle is reciprocated, thereby operating the plungers to force the water into the pump-stock from the different cylinders alternately, thus maintaining a constant flow from the discharge-spout. On the downstroke of the plunger the valve therein will be open, allowing water to enter the cylinder, and on the upstroke of the plunger said valve will be closed and the valve in the upper end of the cylinder will be opened, the water in the cylinder being driven into the pump-stock, as will be readily understood.

From the foregoing it will be seen that I have provided a very simple and efficient pump, the parts of which can be readily disconnected for the purposes of cleaning, repairing, storing, or transporting. Special stress is laid on the construction of the cylinder and the lower end of the piston or plunger rod, as by it I am enabled to repair or clean either the plunger or the cylinder by simply removing two nuts, when the parts will be disconnected.

Although I have shown and described two cylinders, it will be seen at once that a single cylinder may be employed, a simple elbow being substituted for the T-coupling. In this case, however, the discharge of water will be intermittent instead of constant.

My device is very simple in its construction, and is free of all intricate and complicated ar-

rangements. It can be manufactured at a slight cost, and its advantages are thought to be obvious.

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

1. The combination of the standard composed of the vertical radial arms *D E F*, the base *C*, having the openings *H I J*, the said arms and base being integrally connected, the pump stock passing through the opening *H* and between the arms *D E*, the clamp *L*, passed around the pump-stock and through the standard, the lever fulcrumed above the standard, and the plunger-rods pivoted to the lever and passing through the openings *I J* and between the arms *E* and *F* and *F* and *D*, substantially as set forth.

2. The combination of the cylinder having an open lower end, the plunger-rod inserted vertically upward in the cylinder through said lower open end, the upper extremity of the rod being reduced, thereby providing the shoulder *h*, and the plunger mounted on said reduced extremity and consisting of the strainer *j*, resting upon the shoulder *h*, the packing *k* above the strainer, the perforated valve-seat *l*, resting on the packing and provided with a thimble, *m*, the weighted valve playing on the thimble, and the nut *n* above the same to limit the play of the valve, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

PETER E. WISTRAND.

Witnesses:

C. C. WILSON,
M. C. QUINN.