W. A. Fry.

Double-Acting Pump.

No. 69,792. Patented Oct. 15, 1867.

Fig: 1

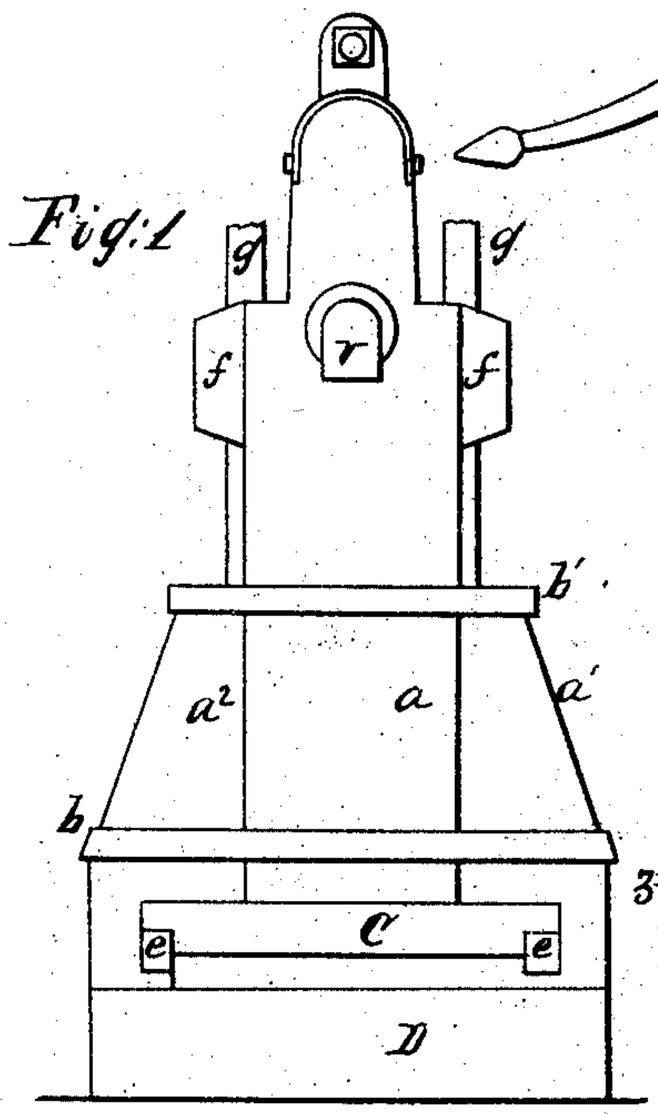


Fig: 2

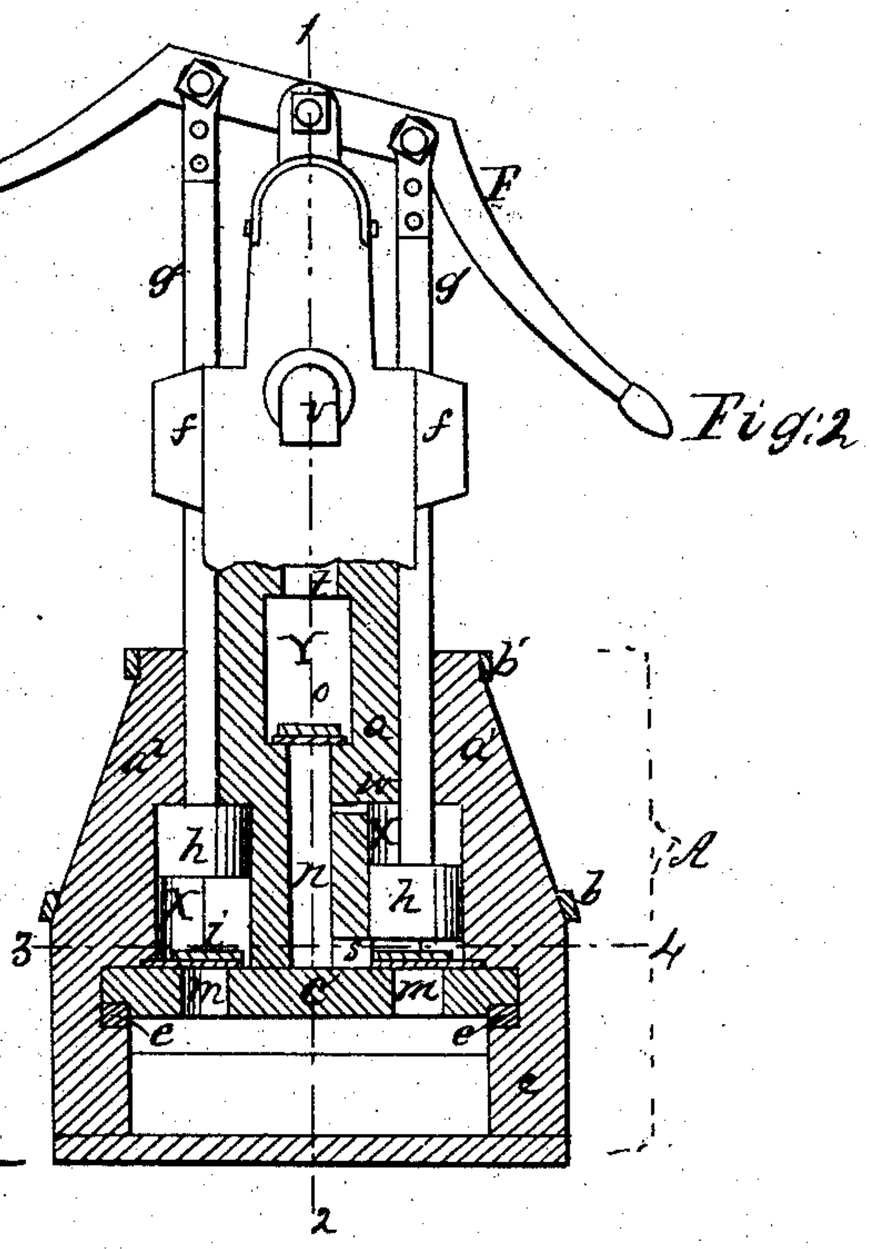


Fig: 3.

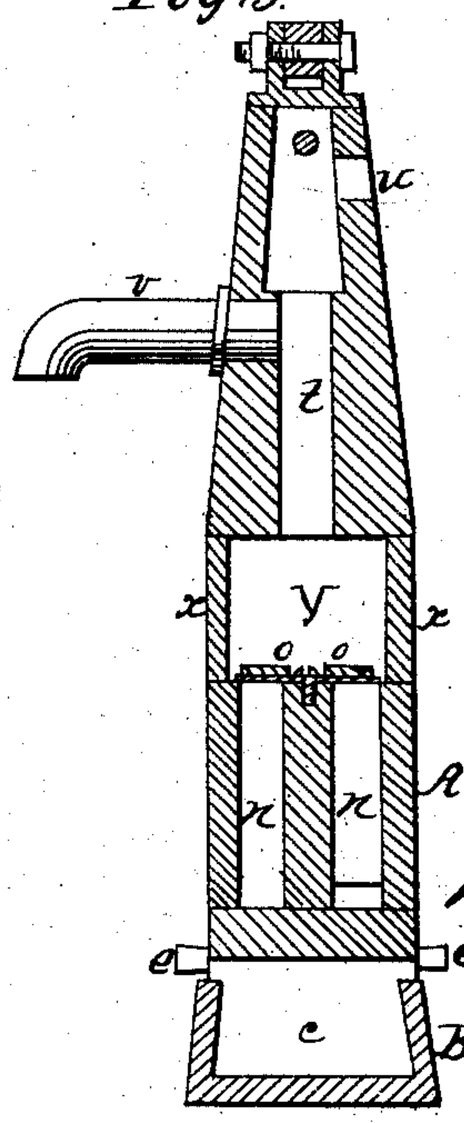
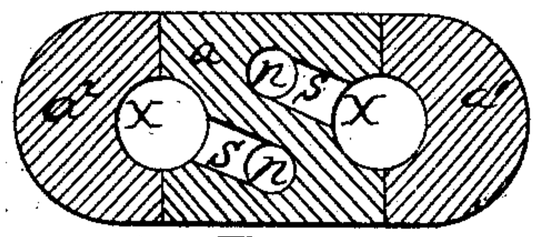


Fig: 4



Witnesses

Wm Albert Steel

John Parker.

Inventor

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By his Atty

H. Howson.

United States Patent Office.

WILLIAM A. FRY, OF WORCESTER, PENNSYLVANIA.

Letters Patent No. 69,792, *dated October* 15, 1867.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM A. FRY, of Worcester, Montgomery county, Pennsylvania, have invented an Improvement in the Construction of Pumps; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of the body of a pump composed of three detachable sections connected together and enclosing certain passages and chambers, all substantially as described hereafter, so that it may be constructed by any mechanic of ordinary skill, and so that ready access may be had to the chambers and valves.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a side elevation of my improved pump.

Figure 2, a sectional elevation.

Figure 3, a section on the line 1–2, fig. 1; and

Figure 4 a sectional plan on the line 3–4, fig. 3.

The body A of the pump is of wood, and consists of three sections *a a' a''*, the centre portion extending above the others, to which it is secured firmly by metal bands *b b'*. At the lower end of each section *a' a''* is a dove-tailed projection, *c*, which fits into one end of a trough, B; and in each projection is a recess for the reception of one end of a detachable valve-seat, C, which is maintained in contact with the lower ends of the sections *a' a''* by wedges *e*. In a projection, *f*, at each side of the section *a* slides a piston-rod, *g*, a piston, *h*, at the lower end of which slides in a chamber, X, one-half of each chamber being in the section *a*, and the other half in the adjacent section a^1 or a^2; and in the seat C, directly below each opening X, is an opening, *m*, covered by a flap-valve, *i*, opening upwards. In the section *a* is a chamber, Y, which is made by cutting an opening transversely through the section, and then fitting in the said opening, at each side of the section, a block, *x*, as shown in fig. 3. With the chamber Y communicate two passages *n n*, the upper end of each of which is covered by a flap-valve, *o*, opening upwards; and in the lower end of the section *a* are recesses *s s*, each of which extends from one of the passages *n* to one of the chambers X, and, when the plate C is in its proper position, forms a communication between the said passage and chamber. With the upper end of the chamber Y communicates a passage, *t*, which extends to the upper end of the section *a*, and communicates with an opening, *u*, in one side of the pump, and with a spout, *v*, at the other. From the upper end of each chamber X to the adjacent passage *n* extends an opening, *w*. To the upper end of the section *a* is hung a lever, F, to which are jointed the upper ends of the piston-rods *g*.

Water can gain access to the trough *c*, and to the openings *m m* in the seat C, so that on moving the lever F, by which one piston will be raised and the other lowered, the water will be drawn into one chamber, from above the piston, through the passage *n* and opening *w*, and into the other chamber, from below the piston, through the opening *m*, the water previously contained in the chambers being discharged from the same, through the passages *s* or *w*, into the passages *n* and chamber Y, and from the latter, through the opening *t*, to the spout *v*, from whence a continuous stream must flow as the lever vibrates.

It will be seen that the above-described pump is composed principally of wood, and that, owing to the peculiar manner in which it is constructed, and in which the different parts are fitted together, it may be made by a mechanic of ordinary ability, and with such tools as can be readily procured.

It will also be seen that, by removing the bands *b b'*, the three sections *a a' a''* may be detached from each other, and consequently that ready access may be had to the chambers and passages; also that the plate C may, after withdrawing the wedges *e*, be removed in order to inspect or, if necessary, to repair the valves.

I do not claim two pumps confluent through a single chamber and port; nor do I claim simply making in sections what has heretofore been formed in one piece, my invention embracing the idea, as shown, of a peculiar and facile means of access to the interior parts of the pump by the most economical means. Therefore I claim as my invention, and desire to secure by Letters Patent—

The within-described body of a pump, composed of the three detachable sections *a*, a^1, and a^2, connected together, and enclosing passages and chambers, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. A. FRY.

Witnesses:

C. E. FOSTER,

W. J. R. DELANY.