G. W. B. Gedney,

Double-Acting Pump,

No. 16,366. Patented Jan. 6, 1857.

Fig. 1

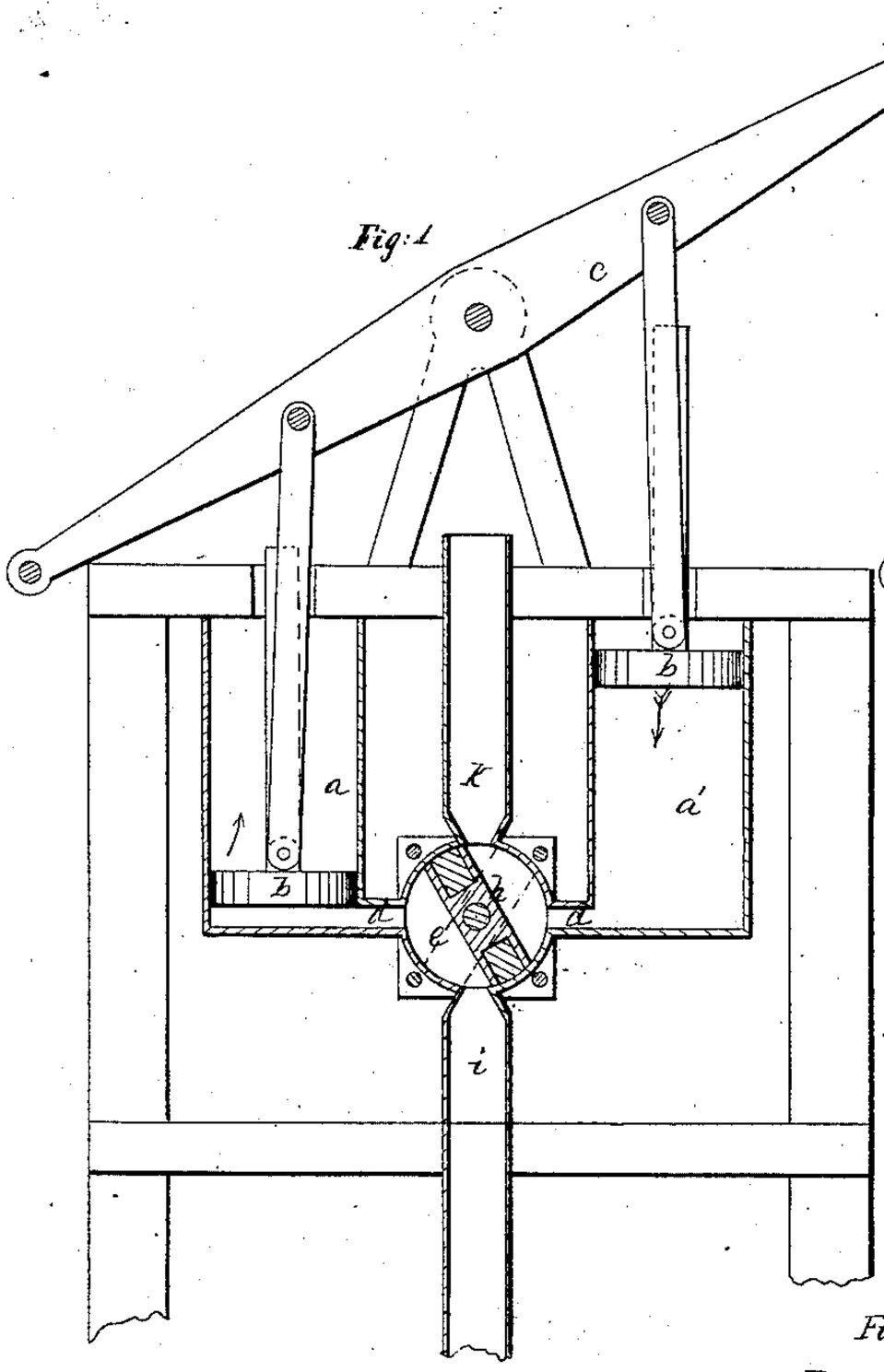


Fig. 2.

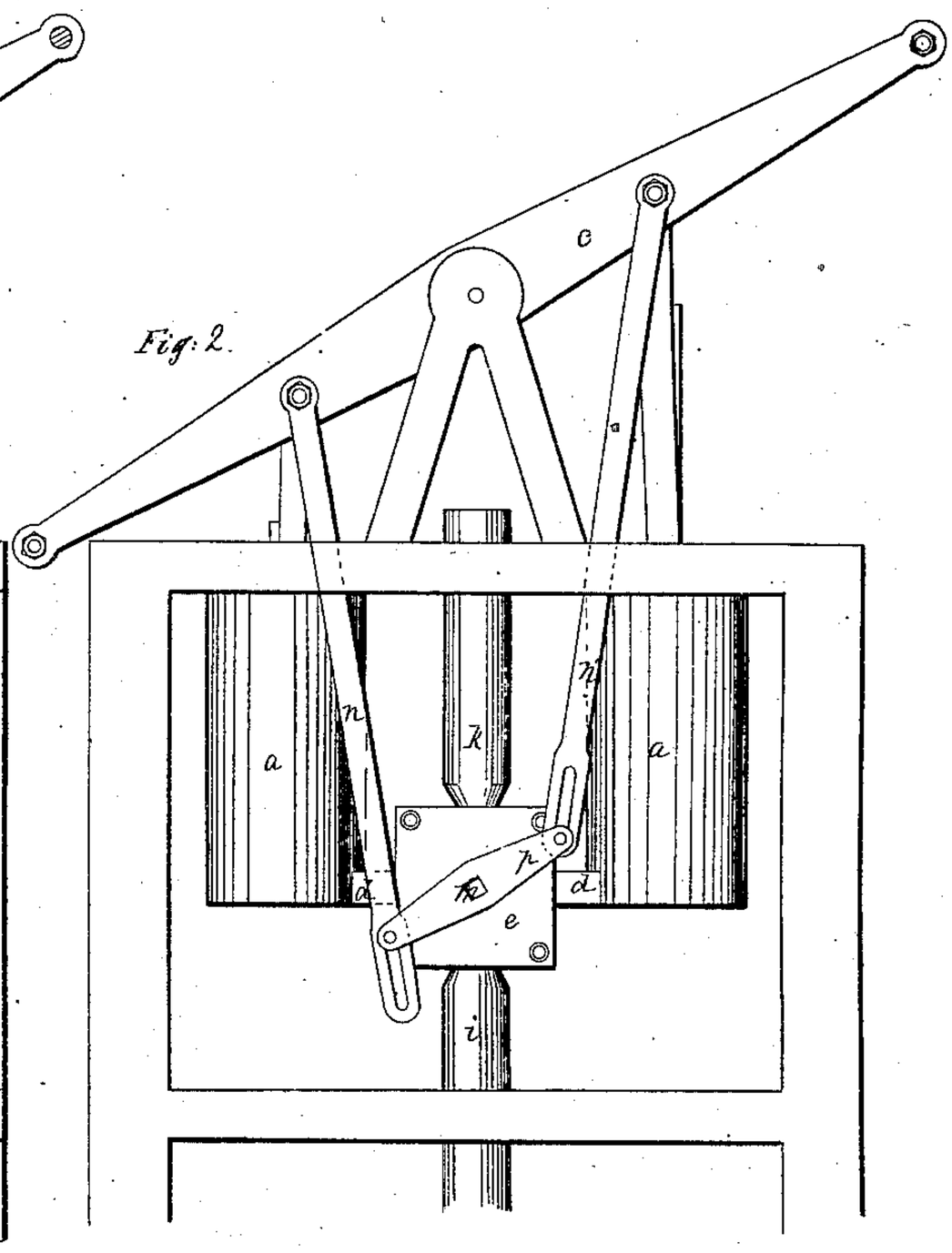
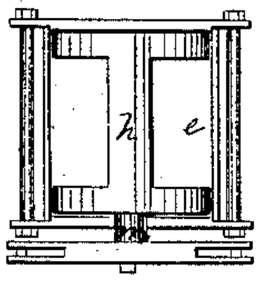


Fig. 3.



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UNITED STATES PATENT OFFICE.

G. W. B. GEDNEY, OF NEW YORK, N. Y.

PUMP.

Specification of Letters Patent No. 16,366, dated January 6, 1857.

To all whom it may concern:

Be it known that I, G. W. B. GEDNEY, of the city, county, and State of New York, have invented certain new and useful Improvements in Pumps; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1, is a vertical section. Fig. 2, is an elevation of the pump. Fig. 3 plan of the cock.

My improvements in pumps are for the purpose of preventing its clogging so that grain or other articles such as sand, fine coal, &c., can be pumped through it without choking, rendering it important in all situations where such accidents are liable to occur. I use no hinged valve in my pump but instead thereof a large plate four way cock operated independent of the current or flow through the pump by an outside apparatus.

The following is a description of the parts of my pump: I form two cylinders *a* with solid pistons *b* working therein all made like solid single acting plunger pumps. These two cylinders *a* are placed parallel with each other at a proper distance apart to be conveniently worked by one double acting brake *c* which has its fulcrum between them as clearly represented in the drawing the whole being supported by any sufficient frame of fixture. At the bottom of each of the cylinders there is an opening connected by a short pipe *d* with a horizontal short cylindrical chamber *e* in which there is a four-way-cock *h* by the position of which the current is determined in direction either from the induction pipe *i*, into the cylinder, or from the cylinder into the discharge pipe *k*. The four way cock I make in form of a flat plate or double plate properly packed as seen in section Fig. 1, and having two circular ends to it that are also packed as represented in Fig. 3. The center axis or bearing on which the cock *h* turns projects through the end of the chamber at *m* and there has an attachment connected with it by which it is moved.

This device may be made in several different ways that will turn the cock from the position it is now in as seen in Fig. 1, into the position shown by the red lines same figure. The cock remains at rest while the plungers move the whole length of the cylinders when the position of the cock is suddenly reversed and the reversed motion of the plungers commences in the cylinders. Thus it will be seen that the motion of the cock is entirely independent of the motion of the current through the chamber it is not made by it but controls and directs it. Opening alternately a communication between one cylinder and pipe *i*, and the other cylinder and pipe *k*, and then reversing. This is done in the plan in the drawing by the slotted rods *n* attached to the brake *o* and connected with the arm *p*.

I do not claim a double action pump with a slide valve and independent valve motion as that is not new, but is found in the patent granted to J. H. Webster Feb. 12th, 1845, but

What I do claim and desire to secure by Letters Patent, is,

The rotating leaf valve or four way cock constructed as herein specified and arranged with respect to the two cylinders and solid pistons so as to give more direct and unobstructed course to the water than is obtained in the slide valve pump patented by Webster in the manner and for the purposes set forth.

G. W. B. GEDNEY.

Witnesses:

R. A. DOWNING,

N. THOMPSON.