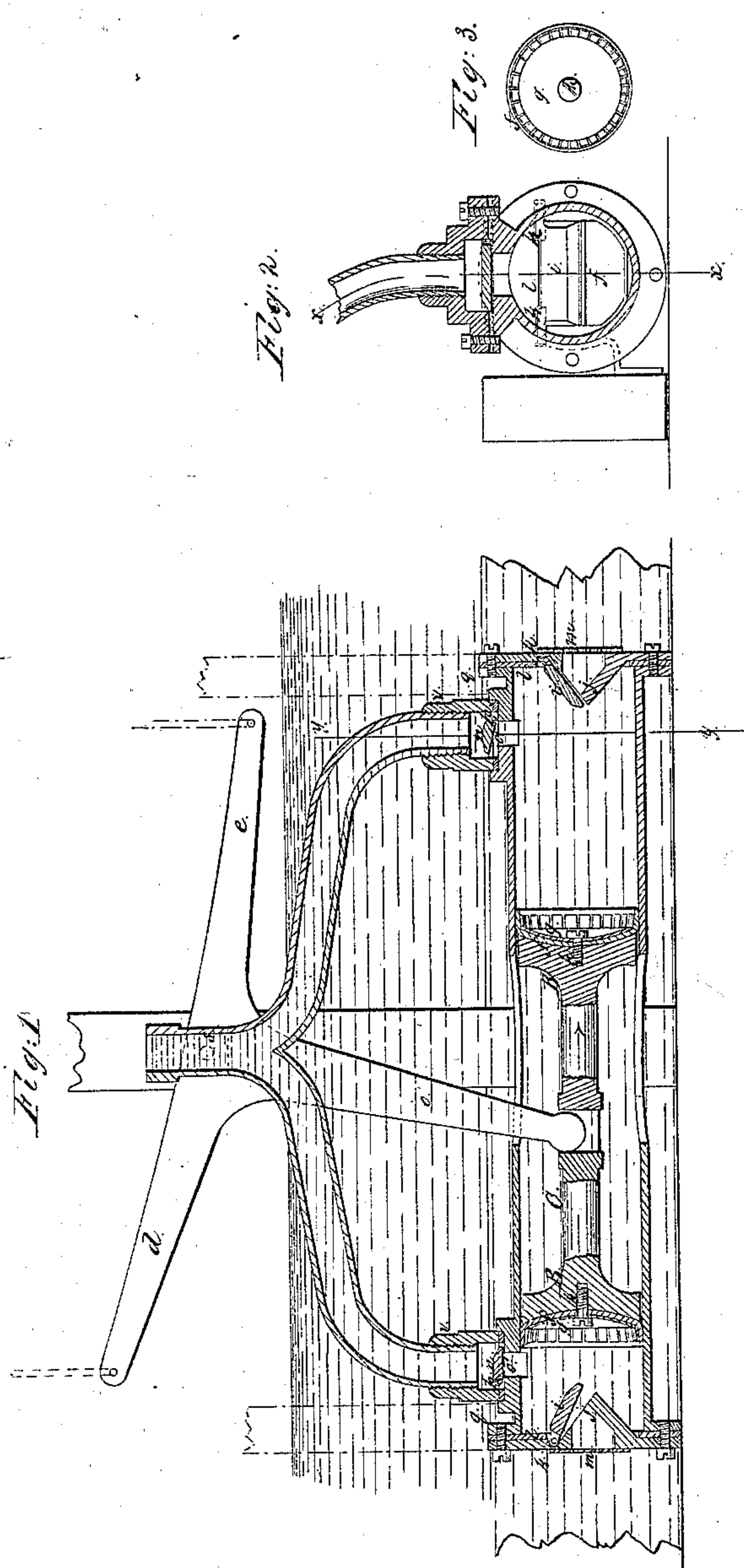


# *L. Drescher, Double-Acting Pump.*

*N<sup>o</sup> 58,360.*

*Patented Sep. 25, 1866.*



*Witnesses:  
M. M. Livingston,  
C. L. Topliff.*

*Inventor,  
L. Drescher,  
By Munn & Co.  
attys.*



# UNITED STATES PATENT OFFICE.

LOUIS DRESCHER, OF MATANZAS, CUBA, ASSIGNOR TO GUSTAVUS MEYER,  
OF SAME PLACE.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 58,360, dated September 25, 1866.

*To all whom it may concern:*

Be it known that I, LOUIS DRESCHER, of Matanzas, Cuba, have invented a new and Improved Pump; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents longitudinal vertical central section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a transverse vertical section of the same, the plane of section being indicated by the line *y y*, Fig. 1. Fig. 3 is a detached face view of one of its flanges.

Similar letters of reference indicate like parts.

The object of this invention is to construct a pump which can be used in very deep wells, and which is so arranged that it is not liable to burst from the high pressure to which it may be exposed, and that it does not become choked by stones or other material dropping down on it. It is also so constructed that it can readily be raised out of the well, and that every access can be had to its valves.

A represents a double cylinder, which is fitted with two pistons, B, and these pistons are secured to a common piston-rod, C. Between the pistons, in the middle of the length of the cylinder, is cut a large aperture, *a b*, so as to admit the arm *o* of the three-armed lever *o d e*, by which the pump is operated, and also large enough to let stones or other material which may drop down in the well pass clear through on the sides of the piston-rod without shocking the pump or interrupting its operation.

The cylinder is secured to a horizontal piece of timber, from the middle of which rises an upright, which forms the bearing for the three-armed lever *o d e*, and two other uprights rise from its ends, which are intended to lower the pump in the well or raise it therefrom whenever it shall be desirable. These uprights ought to be high enough to reach above the high-water line of the well.

The ends or heads of the pistons B are concave or cup-shaped, and the packing is produced by a disk, *f*, of leather or other suitable material, which is held in place by circular spring-disk *g*, of metal. A central screw, *h*, secures the spring and the packing-disk.

The spring is made of a plain disk of sheet metal with radial incisions, so that it exerts a yielding pressure on the packing, and the latter is prevented from breaking in the corner. The sharpness of this corner is also reduced by the concave shape of the piston, as clearly shown in Fig. 1.

The suction-valves *i* are placed on the inner sides of the cylinder-heads. Said heads are cast with inclined seats *j* and with recesses *k*, to receive the gudgeons of the valves. A packing-plate, *l*, interposed between the end of the cylinder and its head, holds the gudgeons in their sockets, and the valve plays freely.

A wire screen, *m*, protects the valves from impurities, and if one of them should require to be taken out, easy access can be had to the same simply by unscrewing the cylinder-head. The valve can easily be removed from its sockets, ground down on its seat, and replaced in a short time and without requiring much skill or labor.

The ascension-valves *n* are constructed in a similar manner. Their seats *o'* are near the ends of the cylinders, and the valves are provided with gudgeons *p*, which fit into recesses *q* in the covers of the valve-chests. By removing these covers easy access can be had to the valves and to their seats.

From the valve-chest covers rise two sockets, *v*, each to receive the end of a branch of the ascension-pipe *s*, which is secured to the central upright timber, and rises to the surface above the well in the usual manner.

This pump is very simple in its construction. It is particularly adapted for deep wells in places where no machinist or pump-maker can be had, and where the proprietor of the pump is compelled to rely on his own skill. It is not liable to get out of order, and it can easily be made strong and thick enough to resist the heaviest pressure to which it may be subjected.

I claim as new and desire to secure by Letters Patent—

The cup-shaped pistons B, with packing-disks *f*, in combination with spring-disks *g*, applied and operating substantially as and for the purpose set forth.

LOUIS DRESCHER.

Witnesses:

M. M. LIVINGSTON,  
JAMES P. HALL.