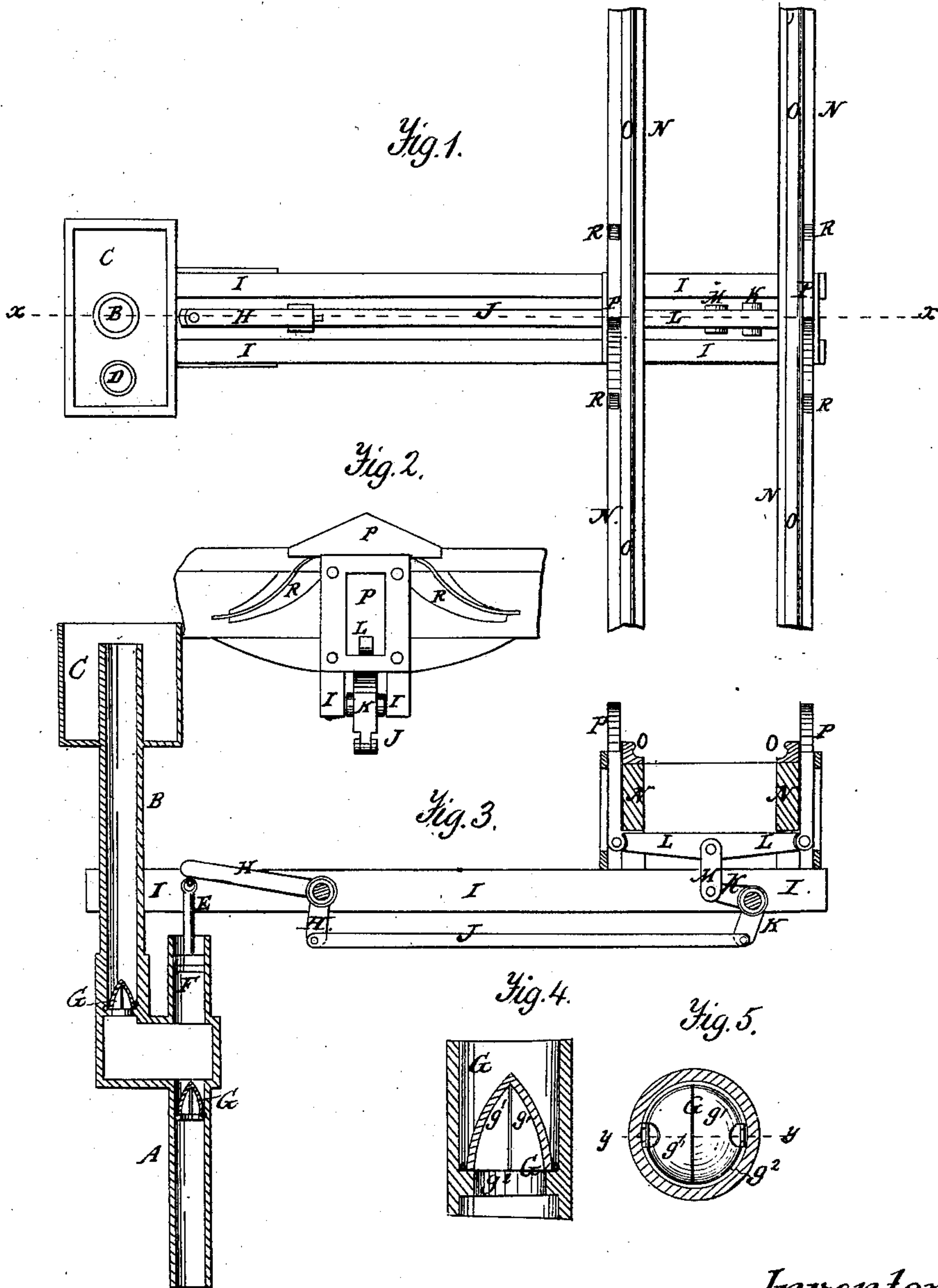


M. S. Collar,

Railroad-Tank Feeder,

N^o 69,631,

Patented Oct. 8, 1867.



Witnesses.

Theo. Fische
Wm. Frewin.

Inventor.

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United States Patent Office.

MARTIN S. COLLAR, OF MARQUETTE, WISCONSIN.

Letters Patent No. 69,631, dated October 8, 1867.

IMPROVED RAILWAY WATER-ELEVATOR.

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, MARTIN S. COLLAR, of Marquette, in the county of Green Lake, and State of Wisconsin, have invented a new and useful Improvement in 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 part of this specification, in which—

Figure 1 is a top or plan view of my improved pump, showing its connection with the railroad track.

Figure 2 is a detail view of one of the irons acted upon by the car-wheels.

Figure 3 is a vertical longitudinal section taken through the line $x x$, fig. 1.

Figure 4 is a vertical section of my improved pump-valve, taken through the line $y y$, fig. 5.

Figure 5 is a top view of the same.

Similar letters of reference indicate like parts.

My invention has for its object to so construct and arrange a pump, in connection with a railroad track, that the passage of a train of cars will raise the water into a reservoir; and it consists in the combination and arrangement of parts by means of which the pump is operated by the wheels of the passing cars, and in the construction of the pump-valve.

A is the pump-barrel or pipe leading down into the well. B is a pipe leading from the pump to the reservoir C. D is a pipe conducting the surplus water back into the well. E is the piston-rod, and F is the piston of the pump, by the action of which the water is raised through the pipe A, and forced through the pipe B into the reservoir C. G are the valves, one of which is placed in the pipe A, to prevent the water from flowing back into the well, and another of which is placed in the pipe B, to prevent the water from flowing back through the said pipe. The valve G is made in the form of a hollow cone, divided into two halves or leaves g^1 , as shown in the drawings. These halves or leaves g^1 are hinged to the valve-seat g^2 in such a way that the water, as it rises through the pipes, will force the said leaves back against the sides of the pipes, so as to allow a large stream of water to pass through the pipe. The upper end of the piston-rod E is pivoted to the end of the long arm of the bent lever H, which is pivoted between the timbers I, leading from the pump to the railroad track. To the lower end of the short arm of the bent lever H is pivoted the end of the connecting-rod or bar J, the other end of which is pivoted to one arm of the equal-armed bent lever K, the other end of which is connected to the middle point of the cross-bar L by the connecting-bar M. The bar L crosses the track of the road passing under the sills N, upon which the rails O are laid, and at its ends is pivoted to the lower ends of the irons P. The irons P pass up through slots or notches in the outer side flanges of the rail O, so as to be in a position to be acted upon by the tread or rims of the passing car-wheels. The upper ends or heads of the irons P are made in the shape of a double-inclined plane, as shown in fig. 2, so that the car-wheels can easily pass upon and over them in either direction. R are springs, one end of which is attached to the sills N, and their other ends rest against the under side of the heads of the irons P, so as to raise them when released from the downward pressure of the passing wheels. If desired, the springs R may be replaced by weights, so arranged as to raise the irons P when released from the passing wheels. By this construction, as each pair of wheels passes upon the irons P, the said irons are forced down, causing the piston F to descend, forcing the water that may be beneath it up through the pipe B into the reservoir C, and as the said wheels pass off the irons P, the said irons again rise, raising the piston F, and forming a vacuum in the pump, which is immediately filled by the water forced up by the pressure of the atmosphere upon the water in the well. Thus the passage of each pair of wheels pumps one stroke of the pump. If more water is raised than required for use, the surplus water is conducted back into the well by the pipe D, and the reservoir is thus kept from overflowing.

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

1. The combination and arrangement of the irons P, springs R, cross-bar L, bar M, bent lever K, connecting-bar J, bent lever H, and piston-rod E, operating as described, for the purpose specified.

2. In combination with the above, the conical valve G, constructed as described, consisting of the leaves g^1 , hinged to opposite sides of the seat g^2 , in such a manner that the water, as it rises through the pipe, will force the leaves back against the sides of the tube, said leaves re-closing by their own gravity, substantially as described, for the purpose specified.

The above specification of my invention signed by me this 12th day of March, 1867.

MARTIN S. COLLAR.

Witnesses:

D. R. DAVIS,

J. H. PALMER.