(No Model.)

J. MENGE.

PUMP.

No. 421,415. Patented Feb. 18, 1890.

Fig. 1.

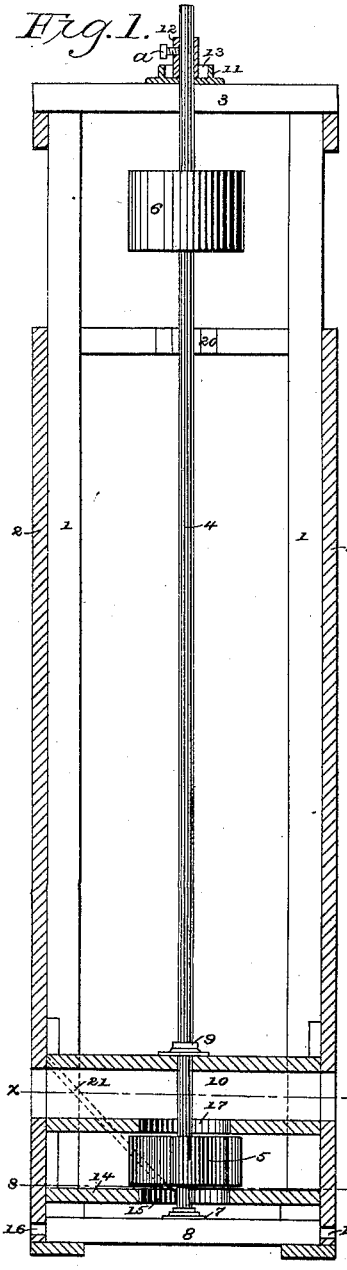


Fig. 2.

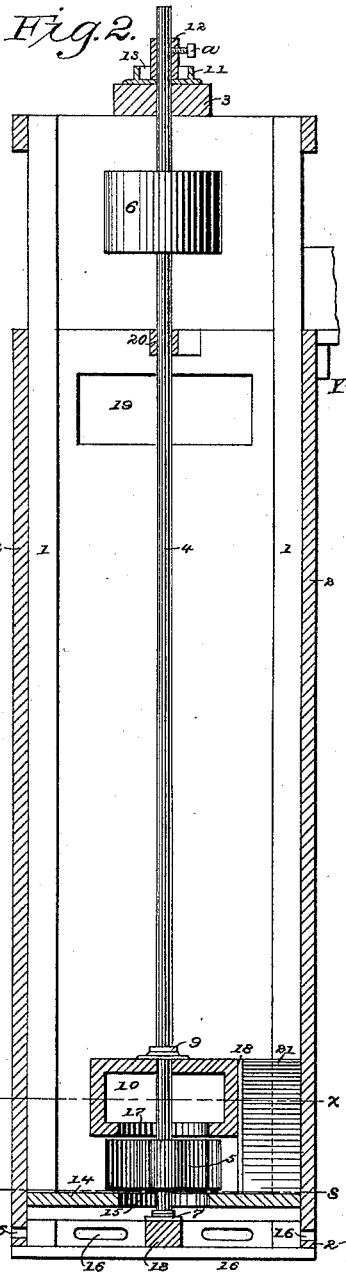


Fig. 5.

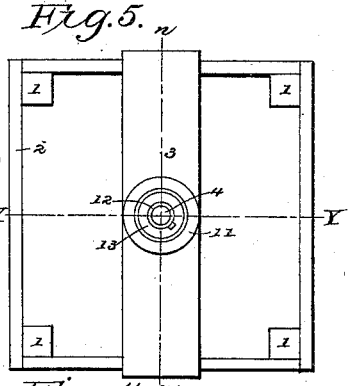


Fig. 4.

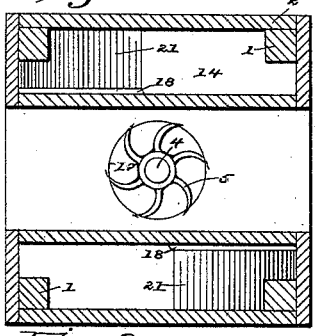
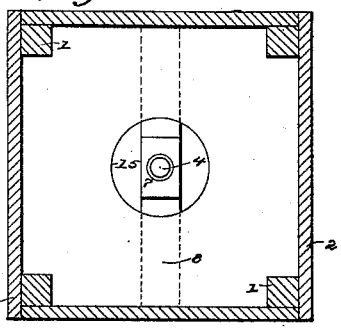


Fig. 3.



WITNESSES

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JOSEPH MENGE, OF NEW ORLEANS, LOUISIANA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 421,415, dated February 18, 1890.

Application filed March 5, 1889. Serial No. 301,987. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MENGE, a citizen of the United States, residing in the city of New Orleans, parish of Orleans, State of Louisiana, have invented a new and useful Single-Piston Rotary Pump, of which the following is a specification.

My invention relates to improvements in single-piston rotary pumps, in which a rotary piston is placed at the bottom of a pump-box, and the revolving of same forming a suction draws in the water and forces same up into the pump-box to the discharge-opening; and the objects of my invention are, first, to provide means by which the rotary piston is provided with a suction in both sides, thus placing the rotary piston in equilibrium; second, to provide means by which the driving-shaft and rotary piston can be adjusted from top of pump-box. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of pump on plane N N, Fig. 5. Fig. 2 is a vertical section of pump on plane V V, Fig. 5. Fig. 3 is a horizontal section on plane S S, Figs. 1 and 2. Fig. 4 is a horizontal section on plane X X, Figs. 1 and 2. Fig. 5 is a plan view of top of my pump.

Similar figures refer to similar parts throughout the several views.

The pump-box may be constructed of either wood or iron. If of the former, the construction consists of four corner-posts, to which the box sides 2 are secured, which sides are of tongued-and-grooved flooring. These sides 2 extend from the bottom up to and above the discharge-opening 19. The posts 1 extend above the sides 2 to receive the timbers 3 for the support of upper end of driving-shaft 4. The driving-shaft 4, to which is secured the rotary piston 5 and driving-pulley 6, rests in step 7, secured to the timber 8, placed in bottom of pump-box. This driving-shaft 4 extends the whole length of box, and is guided by the journal-boxes 9, 11, and 20. The bearing 11 is formed with a central recess 13, to serve as an oil-well, and the floor of which serves as a bearing for the lower end of the adjustable collar 12 on the driving-shaft, secured thereto by means of a set-screw *a*. By moving the collar on the shaft and securing it at the required line the shaft may be used in boxes of different heights, or the variances of wear compensated for.

Near the bottom of the pump-box is placed a tight floor 14, in which is cut a circular opening 15, directly under the rotary piston 5, which forms the bottom suction. The water reaches this suction from the bottom of box and through the openings 16.

On top of the rotary piston and running across the pump-box is placed a tight box or suction 10, with a circular hole 17 in the bottom of box, directly over the rotary piston 5, as shown. This box or suction 10 is cut through the sides of pump-box and receives the water to form the top suction. A vertically-arranged plank 18, provided with a beveled edge, is placed and secured in diagonally-opposite corners of pump-box and at the bottom of box. A flooring 21 is placed on an incline between this plank 18 and sides of pump-box, as shown in Fig. 4 and in dotted lines in Fig. 1. The plank 18 cuts the rotary motion imparted to the water by the turbine 5, and the momentum caused by thus breaking the rotary motion assists to elevate the water up the inclined flooring 21 to the upper part of pump-box.

The operation of the pump is as follows: The pump-box, fitted up as described and shown, is set into the water to a depth to cover the openings into the upper suction-box 10, when the box is thoroughly braced and connected to motor by belt running on the pulley 6, which revolves the rotary piston 5, which produces a vacuum, and the water rushes into the rotary piston through the circular suction-openings 15 and 17, and the water is forced up into the pump-box until it reaches the discharge-opening 19, where it is conducted to point desired by pipe or flume.

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

1. In a single-piston rotary pump, the combination, with the pump-casing having a circular opening in the bottom, of the rotary piston mounted on a vertical shaft over the said opening in the casing, a suction-box arranged over the rotary piston and having a circular opening in its bottom, inclined floorings arranged in diagonally-opposite corners of the pump-box, and vertically-arranged deflecting-

planks secured to the inner sides of the inclined floorings, substantially as described.

2. In a single-piston rotary pump, the combination, with the pump-casing provided with a bottom 14, having a central water-opening 15, of the rotary piston mounted on a vertical shaft over the said opening, a suction-box 10, arranged over the piston, having an opening in its bottom and its ends opening through the sides of the pump-casing, and inclined water-ways arranged in diagonally-opposite corners of the pump-box and extending from the bottom of the pump-casing to the top of the suction-box, substantially as described.

JOSEPH MENGE.

Witnesses:
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J. E. WILLIAMS.