

D. A. Dunham,

Shift Pump.

No. 113641.

Patented Apr. 11. 1871.

Fig. 1.

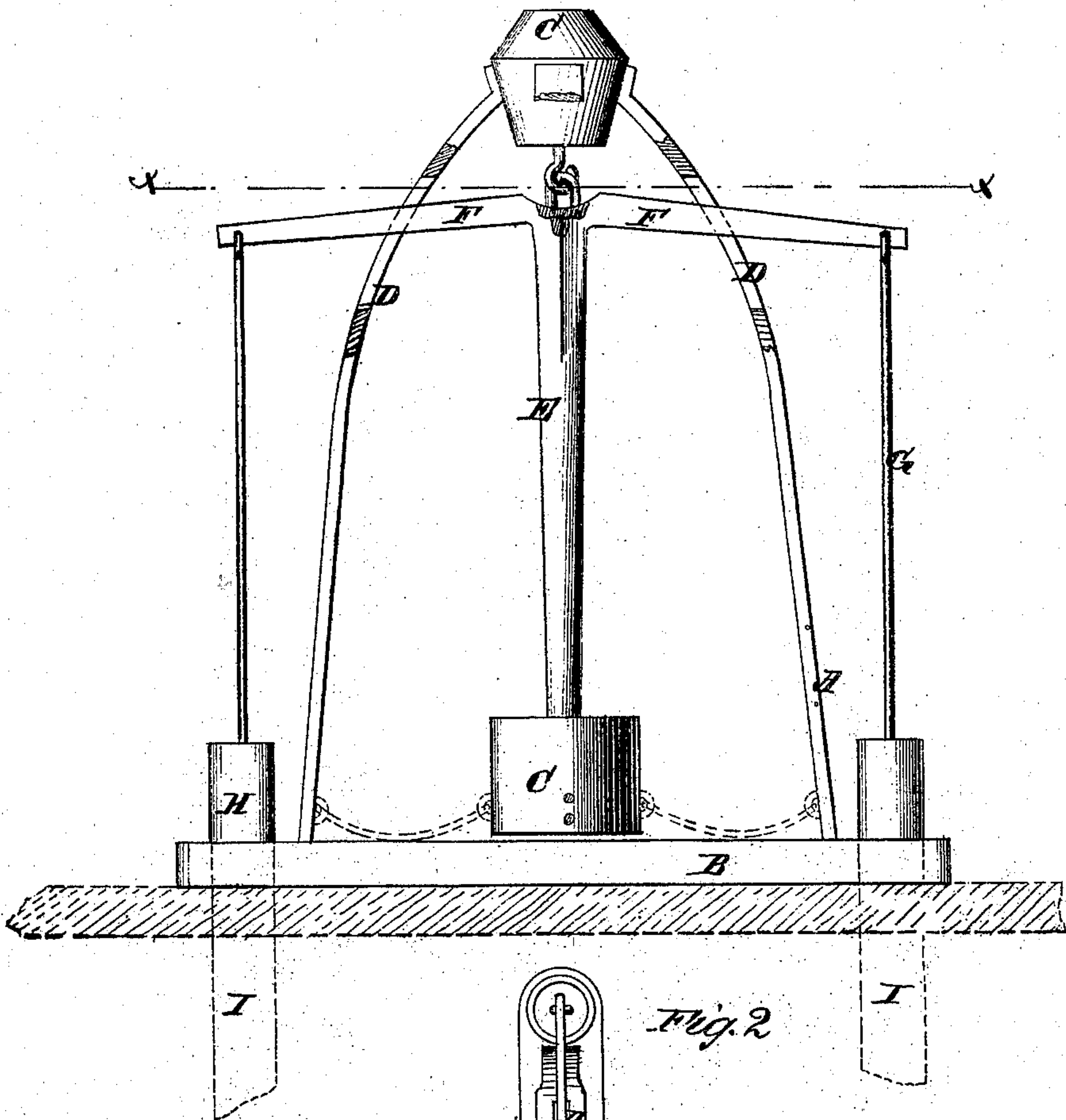
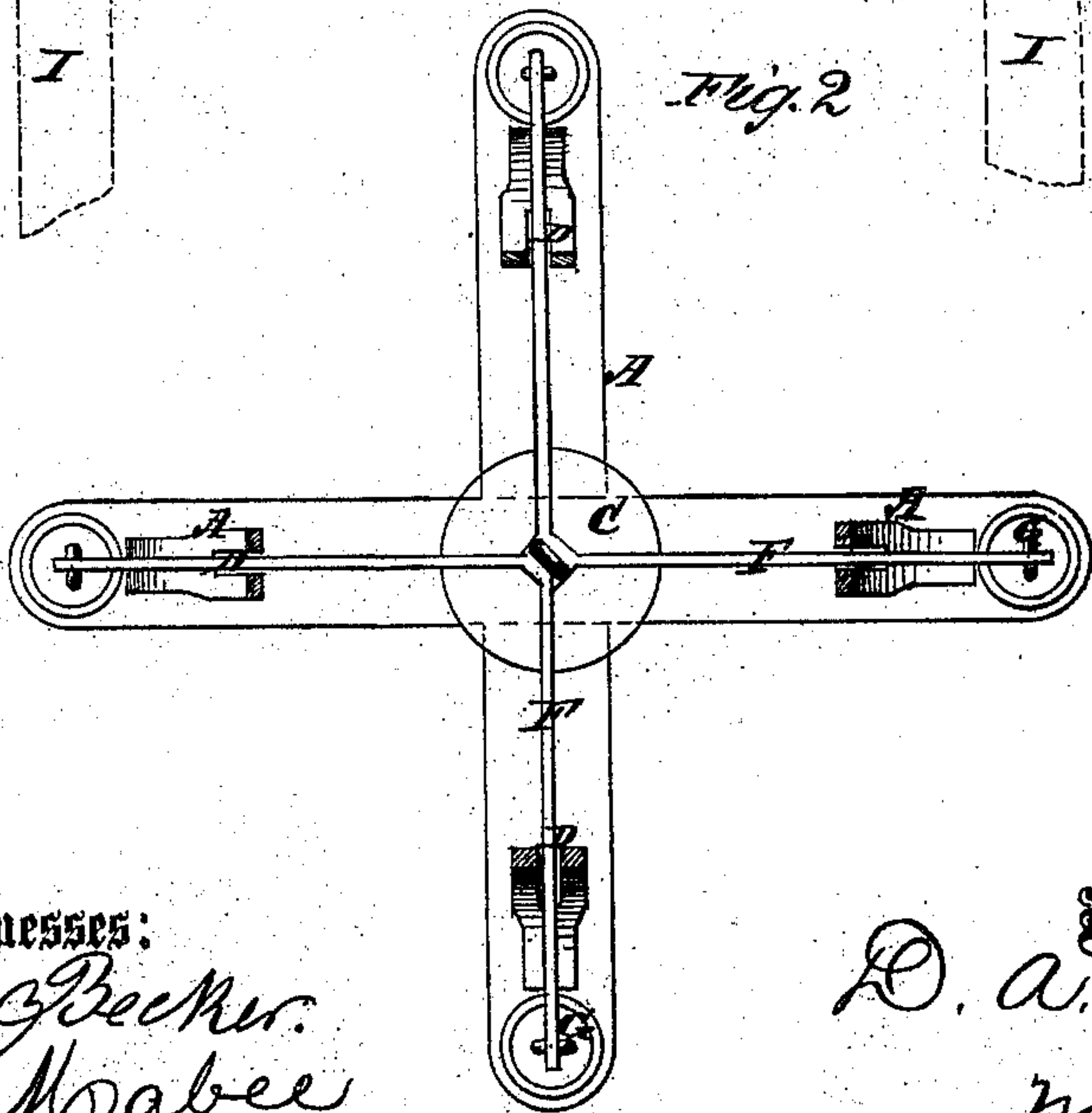


Fig. 2.



Witnesses:

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DAVID A. DUNHAM, OF PILATKA, FLORIDA.

IMPROVEMENT IN SHIP-PUMPS.

Specification forming part of Letters Patent No. **113,641**, dated April 11, 1871.

To all whom it may concern:

Be it known that I, DAVID A. DUNHAM, of Pilatka, in the county of Putnam and State of Florida, have invented a new and Improved Self-Acting Ship's 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 drawing, forming part of this specification.

This invention relates to improvements in the construction and arrangement of ships' pumps actuated by a weighted pendulum, suspended so as to maintain a vertical line while the ship rolls and swings the pump relatively to the pendulum; and it consists in a pendulum provided near the point of suspension with rigid radial arms, preferably four in number, from the outer ends of which vertical rods, connected with pump-pistons below, are suspended, the said pendulum being suspended on a portable frame of peculiar construction, all as hereinafter described.

Figure 1 is a side elevation of my improved pump; and Fig. 2 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts.

A represents four posts rising up from a base, B, and curving toward a common center over the center of the base B, where a strong block, C, is placed to receive the upper ends, which are bolted or otherwise fastened to said block. Each post has a long slot, D, near the top. E is the weighted pendulum, suspended from the blocks by links,

which will admit of a universal movement of the one relatively to the other. F represents the rigid arms radiating from the upper ends of the pendulum. They pass through slots D, and have the pump-rods G suspended from the outer ends, which rods are connected to the plungers of their respective pumps H, attached to the platform, and having suitable suction-pipes I and discharge-pipes attached to them. These suction-pipes may either be independent of each other, or they may extend along the platform to the center and unite in one, extending below to the bilge of the vessel.

It will be seen that the oscillating of the vessel and consequent vertical movement of the pumps will cause the cylinders to work on the pistons, which will be held stationary, or nearly so, by the tendency of the weighted pendulum to maintain a vertical line.

The arms F will be prevented from lateral oscillation around the point of suspension by passing through slotted posts.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The improved self-acting pump consisting of the weighted pendulum E, rigid arms A, pump-rods G, and pumps H, the pendulum being suspended from the block C, which is supported above the platform B by the slotted posts A, through which the arms F work, all substantially as specified.

DAVID A. DUNHAM.

Witnesses:

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