

FRANKLIN MILLER.

Improvement in Hydraulic Rams.

No. 120,761.

Patented Nov. 7, 1871.

Fig. 1.

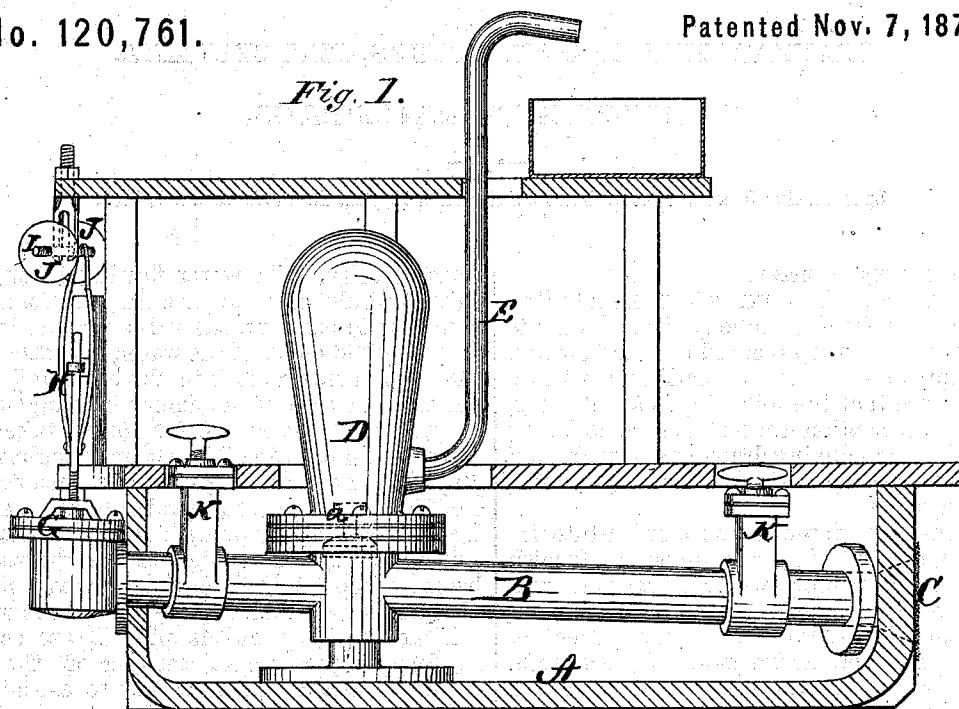
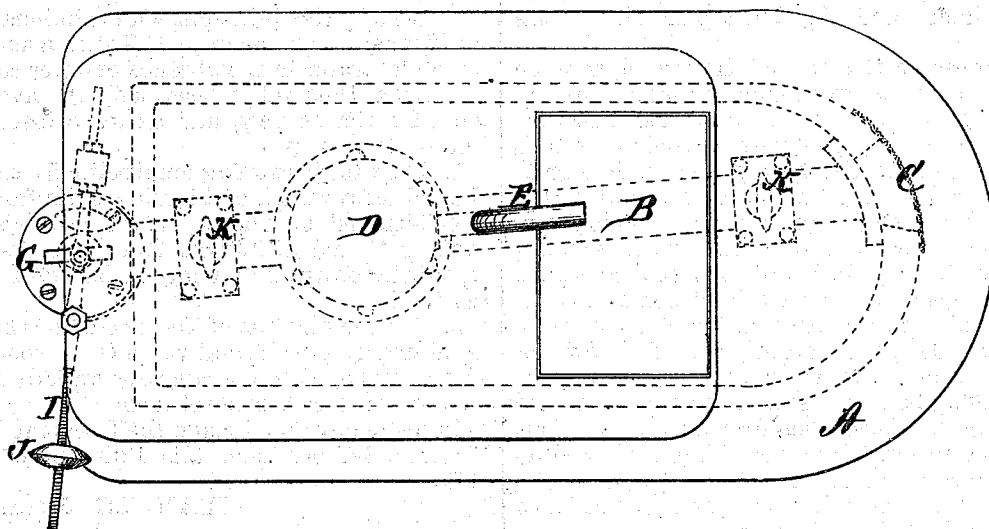


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANKLIN MILLER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN WATER-RAMS.

Specification forming part of Letters Patent No. 120,761, dated November 7, 1871.

To all whom it may concern:

Be it known that I, FRANKLIN MILLER, of Pittsburg, in the county of Allegheny and in the State of Pennsylvania, have invented certain new and useful Improvements in Water-Ram; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

My invention is intended as a substitute for forcing-pumps, and has for its object to furnish steam or other vessels while in motion with water for all purposes required; and it consists in the construction and arrangement of parts, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of the hull of a vessel, showing my apparatus within the same; and Fig. 2 is a plan view of the same.

A represents the hull of the vessel, through which, below the water-line, passes a tube, B, of the same length, in a horizontal direction. This tube is provided with a conical or bell-shaped mouth at the bow, as shown in Fig. 2, and covered on the outside of the hull with a screen, C, made of wire or other suitable material. Near the extremity of the tube B is an air-chamber, D, furnished with a discharging-pipe, E, which leads to a reservoir placed at any desired point. At the termination of the tube B, which can be made water-tight at the bow and stern by some contrivance or device analogous to a stuffing-box, is a spindle-valve, G, capable of closing its orifice when drawn upward. This valve is connected by a rod, H, to a pivoted lever, I, having movable weights J J, and the valve is rendered self-acting by adjusting it to any desired speed of the vessel.

The operation is as follows: Suppose the valve G in the end of the pipe open and adjusted to the speed of the vessel, which is going at a uni-

form velocity. The water flowing through the tube B would soon acquire an additional force sufficient to carry up the valve against its seat, when, by the recoil of the water, a portion would rush with great force into the air-chamber D, a valve, *a*, in said air-chamber opening upward preventing its return. After this has taken place the water in the pipe B has been brought to rest, and as in that state its pressure is insufficient to sustain the weight of the valve G at its extremity, it opens by dropping down, and the water again being put in motion closes the valve, as before, when another portion is driven into the air-chamber and to the place where it is wanted.

Near the ends of the pipe B are cocks K K, for the purpose of turning off the water in case it should be necessary to examine the valve in the air-chamber. The stern-end of the pipe B may be on the water-line, and below at the bow, in which case the valve G will not be covered with water when the vessel is unloaded, and can then be easily got at for repairs when required.

Vessels by this principle, while stationary in a rapid river, might be furnished with a sufficient supply of water in the absence of other sources.

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

1. The tube B running longitudinally through the hull of a vessel, and having at its front end a bell-shaped or conical mouth, covered by a grating, C, and at its rear end a spindle-valve, G, substantially as and for the purposes herein set forth.

2. The combination of the tube B, air-chamber D, discharge-pipe E, and valve G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of July, 1871.

FRANKLIN MILLER.

Witnesses:

JOHN B. GEYSER,
W. GARTSIDE.

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