

W. Kennish.
Pneumatic Propeller.
No. 22,736. *Patented Jan. 25, 1859.*

Fig. 2.

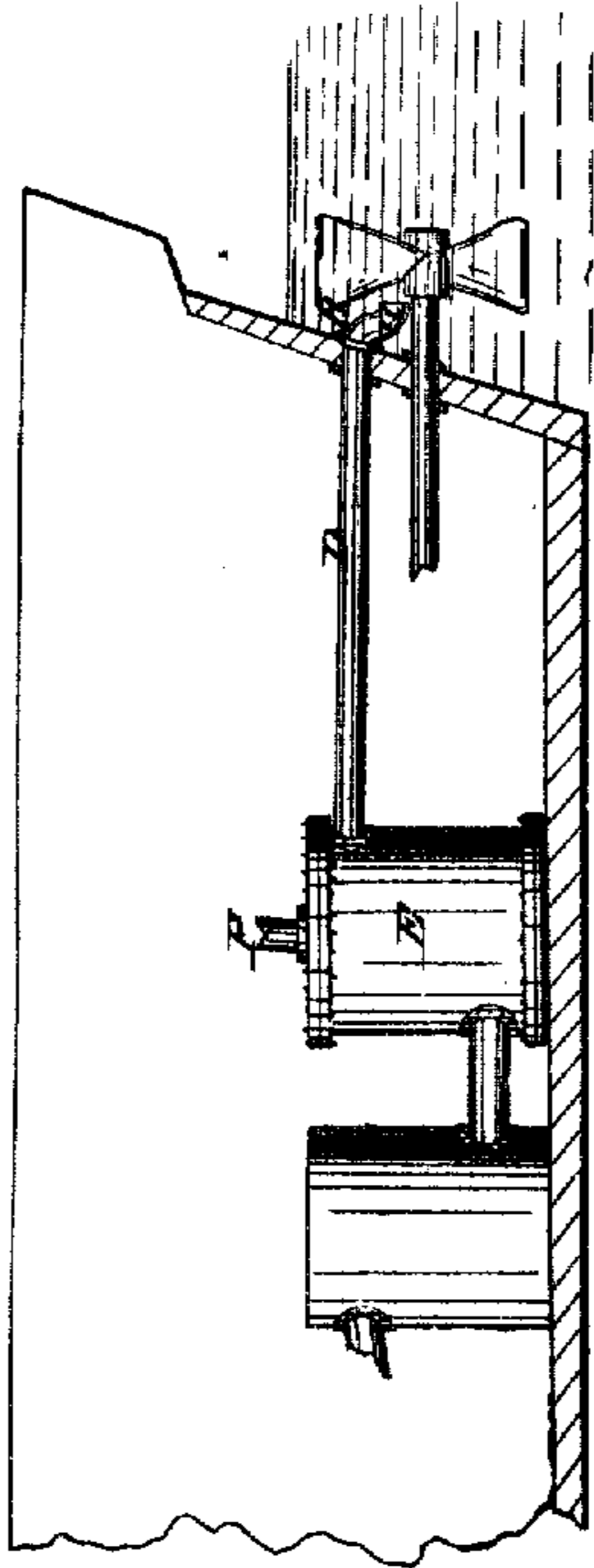
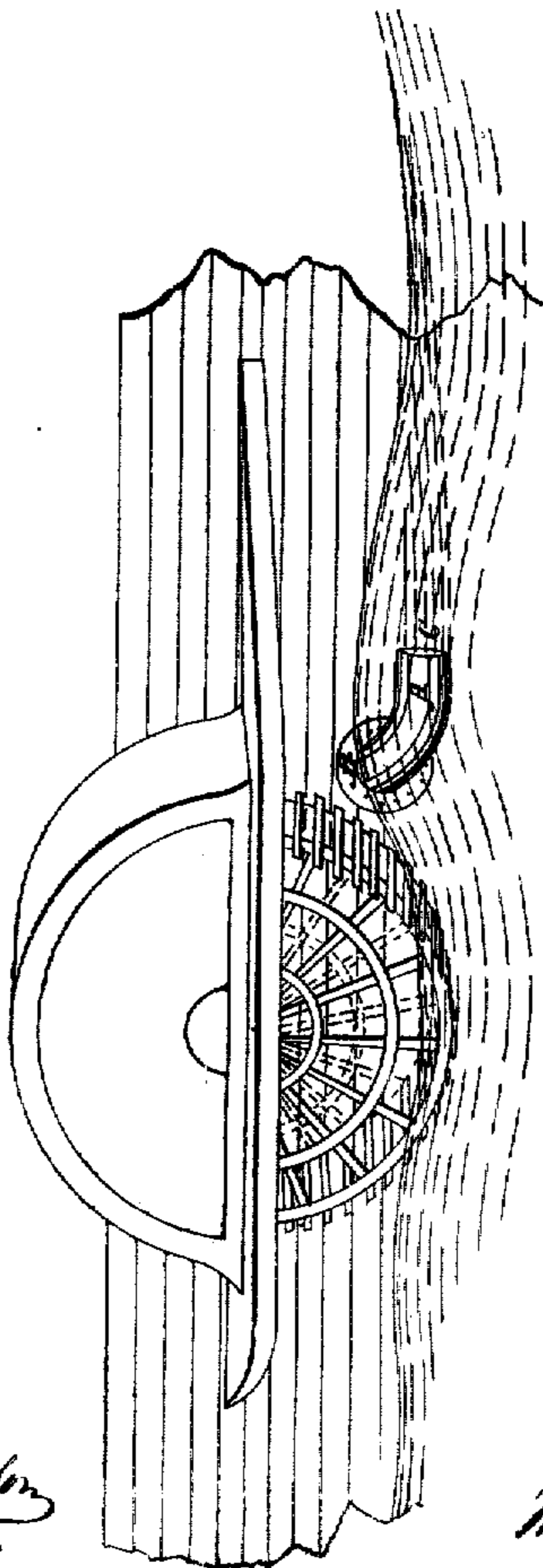


Fig. 1.



Witnesses,
Chas. S. Menden
E. P. Butler

Inventor,
W. Kennish Jr.

UNITED STATES PATENT OFFICE.

WM. KENNISH, JR., OF NEW YORK, N. Y.

MARINE STEAM-ENGINE.

Specification of Letters Patent No. 22,736, dated January 25, 1859.

To all whom it may concern:

Be it known that I, WILLIAM KENNISH, Jr., of New York, in the county of New York, in the State of New York, have invented a new and Improved Mode of Relieving the Marine Steam-Engine of the Pressure of the Atmosphere Against Which it has at Present to Contend; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked therein.

The nature of my invention consists in placing an elbowed pipe in the race caused by a vessel's progress through the water. In a side-wheel steamer this pipe is placed immediately behind the paddle, in order that the race rushing over the middle of the pipe "A Fig. 1" will be increased by the back water of the wheel. In a screw propeller the pipe is placed on the stern of the vessel in front of the screw in order to increase the race past the pipe "d Fig. 2" by the draft water of the propeller. This accumulated speed from the paddle wheel over "A Fig. 1" or from the screw over "d Fig. 2" is sufficient to form a vacuum in the auxiliary pipes A or a Fig. 1 or 2, which being connected with the present discharge pipe of the engine transfers the vacuum to the neutral side of the air pump of the low pressure steam engine, thus relieving it of the pressure of the atmosphere. In a high pressure engine the discharge pipe leading directly from the stern is connected with the auxiliary pipe represented in Fig. 2.

To enable others skilled in the arts to make and use my invention I will proceed to describe its construction and operation.

I construct my pipe of sheet copper or other metal in an elbow form and attach it to the ship over the mouth of the present discharge pipe by a flange at "B" Figs. 1 and 2 with its mouth C Fig. 1 pointing toward the stern. In a side wheel vessel the

auxiliary pipe as A Fig. 1 is placed immediately behind the paddle wheel in a line with the center of the lower bucket in order that the full force of the back water may pass over the bell mouth of the pipe, which in a vessel whose paddle wheel is thirty feet in diameter, making eighteen revolutions per minute would be twenty-eight feet per second; this added to the rate of the vessel's progress through the water (say ten miles per hour) would be forty two feet per second. This speed is sufficient to form a vacuum in the auxiliary pipe "A" Fig. 1 which being connected with the present discharge pipe "D Fig. 2" at "B Fig. 2" draws the water from the upper side of the piston of the air pump E Fig. 2 through pipe D Fig. 2, thus relieving the engine of the pressure of the atmosphere on the upper side of the piston P Fig. 2 in addition to the column of water it has to lift when discharging at the mouth of the pipe D at B Fig. 2 without the aid of the auxiliary pipe d Fig. 2, which all engines do at present.

In a screw propeller the auxiliary pipe is attached to the stern over the mouth of the present discharge pipe and directly in front of the screw in order that the race of water the screw drags forward to supply itself will in addition to the speed of the vessel through the water be sufficient to form a vacuum in the auxiliary pipe d Fig. 2, in a similar manner to that at A Fig. 1. In a low pressure propeller the discharge pipe of the air pump is led to the stern at B Fig. 2 to where the pipe d is attached.

What I claim as my invention and desire to secure by Letters Patent is—

The application of an auxiliary pipe to the present discharge pipe of a marine steam-engine in the manner and for the purpose described in the specification.

WM. KENNISH JR. [L. S.]

Witnesses:

J. G. BLACKWELL,
L. R. SPILMAN.