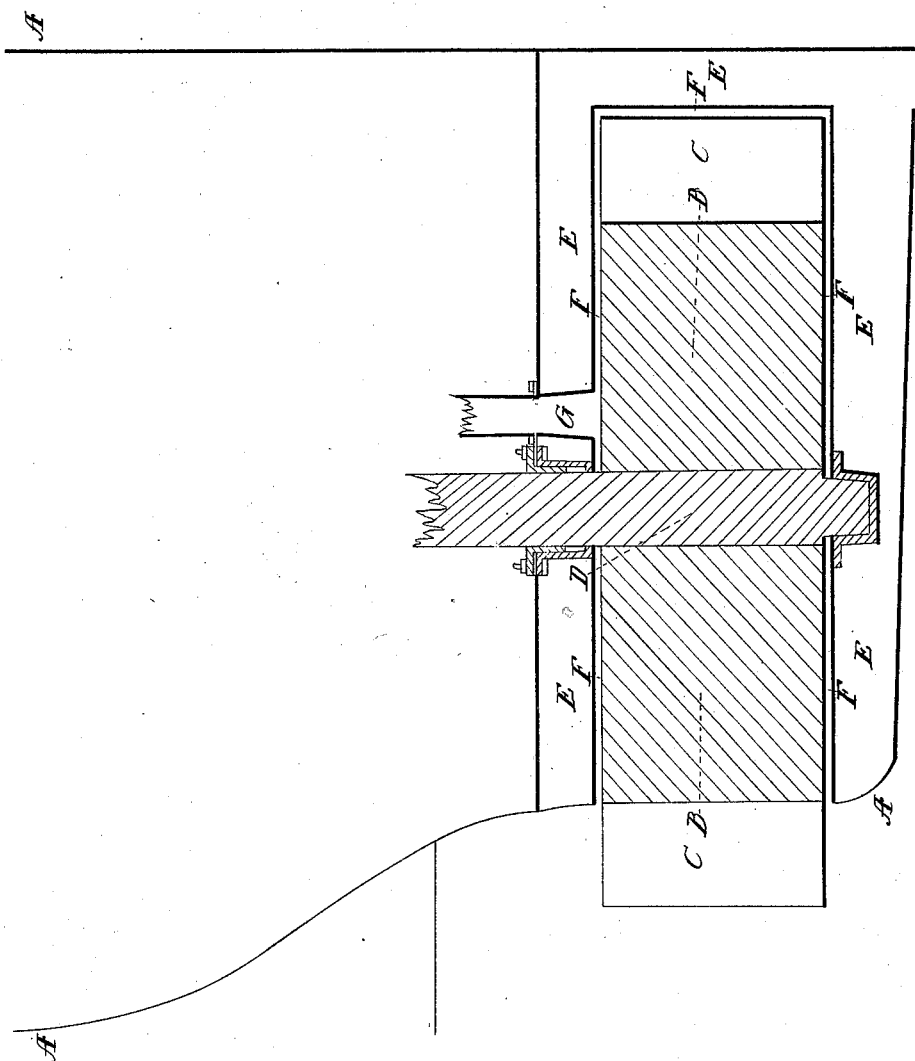


W. W. Hunter,
Exhaust Mechanism for Locomotives.
No 2,487. Patented Mar. 12, 1842



UNITED STATES PATENT OFFICE.

W. W. HUNTER, OF THE UNITED STATES NAVY.

STEAM NAVIGATION BY WHICH A SUBMERGED PROPELLER IS MADE TO OPERATE AS
AN AIR-PUMP AND CONDENSER.

Specification of Letters Patent No. 2,487, dated March 12, 1842.

To all whom it may concern:

Be it known that I, WM. W. HUNTER, a lieutenant in the United States Navy, have invented a new and Improved mode of using the steam engine for the propulsion of vessels by which the submerged paddle wheel is made to serve as an air-pump, and the water contained within the case in which it revolves, as a condenser, thereby conferring all the advantages of a condensing engine, with the lightness and simplicity of the high-pressure steam-engine, with also the noiseless action of the former; and I do hereby declare that the following is a full and exact description:

The nature of my invention consists in causing a communication by a pipe or tube, from the escape opening or pipe of the cylinder, to the center of the upper part of the case encompassing the submerged paddle-wheels, so that the escape steam be conducted within said case by the vacuum in part, or in whole, formed by the centrifugal action of the paddle-wheel; so that the water contained within said paddle wheel case is made to condense said escape steam.

To enable others skilled in the art to make use of my invention, I will proceed to describe its construction, and operation, and in so doing, refer to the duplicate draw-

ings in your office, where one half of the middle section of a vessel with one paddle-wheel, and condensing pipe is represented.

A A A A one half of the middle section of a vessel; B B, the hollow hub of the paddle-wheel; C C, the paddles; D, the paddle-wheel shaft; E E E E E, the case in which the paddle-wheel revolves; F F F F F, the space between paddle-wheel and case; G, the condensing pipe.

The escape steam is made to exhaust about the axis of the paddle-wheel shaft D, by means of the pipe G, and the centrifugal action of the paddle-wheel causes in part, or in whole, a vacuum within the cylinder of the steam engine, and the water contained within the case; E E E E E, condenses the escape steam conducted to it through the pipe G.

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

The application of the submerged paddle-wheel for the purpose of an air-pump, to the steam engine, and the case in which the paddle-wheel revolves as a condenser to the steam engine.

WM. W. HUNTER.

Witnesses:

MYER MYERS,
THOS. B. CAMP.