

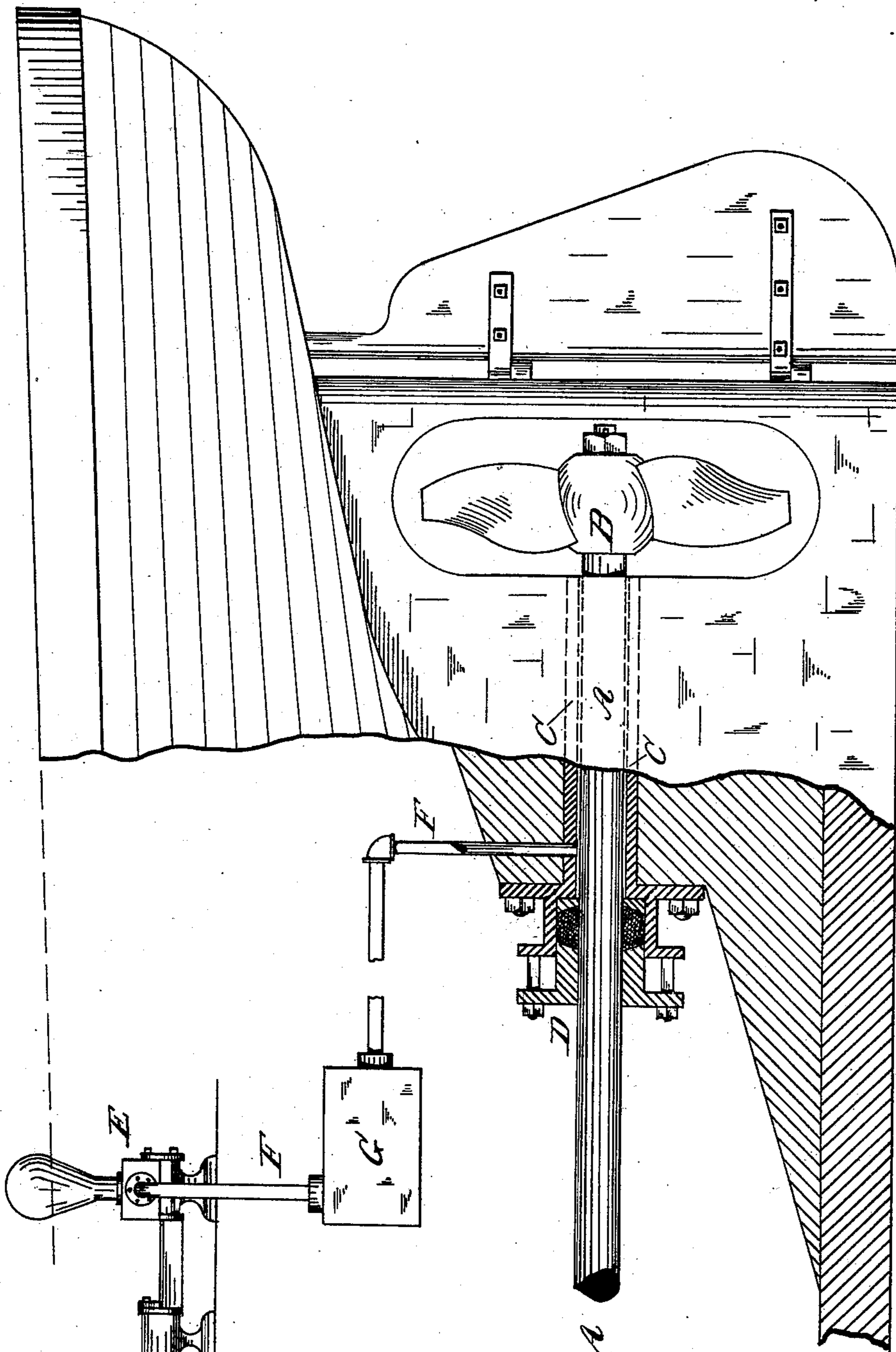
(No Model.)

J. J. TOWNSEND.

STERN BEARING FOR PROPELLER SHAFTS.

No. 359,298.

Patented Mar. 15, 1887.



Witnesses

Edw. L. Yewell.

A. W. Bacon,

Inventor

John F. Townsend

By his Attorneys

Whitney & Wright.

UNITED STATES PATENT OFFICE.

JOHN J. TOWNSEND, OF PORTSMOUTH, VIRGINIA.

STERN-BEARING FOR PROPELLER-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 359,298, dated March 15, 1887.

Application filed July 28, 1886. Serial No. 209,313. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. TOWNSEND, a citizen of the United States, residing at Portsmouth, in the county of Norfolk and State of Virginia, have invented a new and useful Improvement in Stern-Bearings of Propeller-Boats, of which the following is a full, clear, and exact description, such as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

My invention relates to marine engineering, and its object is to provide means for removing from the stern-tube of a screw-steamer any sand, grit, or other foreign substance, which, if permitted to remain, would cause the shaft and tube to cut and heat.

As usually constructed, the propeller-shaft, where it passes through the dead-wood and stern-post of the vessel, is incased in a sleeve or pipe, at the inner end of which is the stuffing-box, which prevents the entrance of water into the hold. This pipe or stern-tube fits the shaft easily, so that the water enters it and surrounds the shaft. In muddy water, or in shoal water where the bottom is likely to be stirred up by the screw, the mud and sand work into the stern-tube around the shaft, producing excessive friction and undue wear of these parts. My invention is designed to remove all such foreign substances from the stern-tube whenever it becomes necessary.

To this end my invention consists in suitable means for forcing water connected with the forward part of the stern-tube, in order that a stream of water may be driven through the tube to wash out the mud, sand, or other objectionable substance which may have lodged there.

My invention further consists in certain combinations and arrangements of parts, which will be hereinafter described, and fully pointed out in the claims.

The accompanying drawing clearly illustrates the manner of constructing and using my invention.

The propeller-shaft A, carrying the screw B, revolves easily in the stern-tube C, which constitutes the after bearing for the shaft. At the forward end of the stern-tube is the stuffing-box D, of any desired construction. In the engine-room or at any convenient place is located a pump, E, which is preferably an ordinary steam-pump, though any apparatus for forcing water may be employed, and, if de-

sired, a pipe may be run direct from the boiler to the stern-tube C, in order that live steam may be used instead of water when thought best. This pipe, which is shown as connected with the pump E, opens into the stern-tube just abaft the stuffing-box D. If preferred, it may encircle the tube C, and be provided with several openings around the tube, in order to give the current of water access to all sides of the shaft. If necessary, this pipe, which is lettered F in the drawing, can be used to convey a lubricant to the bearing C. A strainer, G, is preferably employed to remove all impurities from the water, so that none but clean water may be forced into the stern-tube.

The operation of these parts may be readily gathered from the foregoing description, and is so obvious that an extended explanation of it is deemed unnecessary.

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

1. The combination, with the shaft of a screw-steamer, of a stern-tube surrounding the shaft, a pump connected with the forward part of said stern-tube, for the purpose of driving a stream of water through said tube to remove sand, grit, and other foreign substances, substantially as shown and described.

2. The combination, with the shaft of a screw-steamer, of a stern-tube surrounding said shaft, and having a stuffing-box at its forward end, but open at its rear end, a pipe connected with said stern-tube near the forward end thereof, and suitable means for forcing a considerable quantity of fluid through said pipe and tube, for the purpose of washing out foreign substances and preventing further entrance of the same, substantially as shown and described.

3. The combination, with the shaft of a screw-steamer, of a stern-tube surrounding the shaft, a pump connected with said stern-tube, and a strainer located between said pump and said stern-tube, substantially as and for the purpose set forth.

4. The combination, with the shaft A and screw B, of the stern-tube C, surrounding the shaft, stuffing-box D, pump E, pipe F, and strainer G, substantially as and for the purpose set forth.

JOHN J. TOWNSEND.

Witnesses:

H. S. VAUGHAN,
HARRY BUTT.