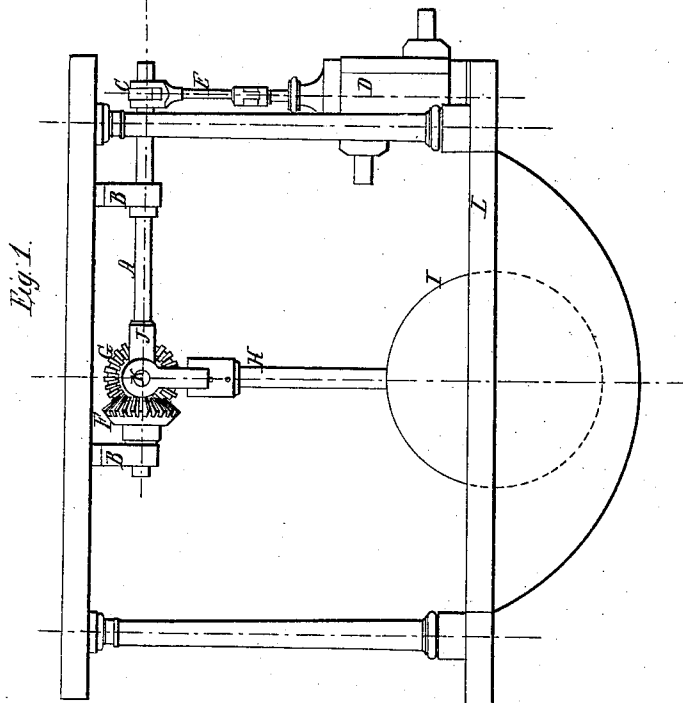
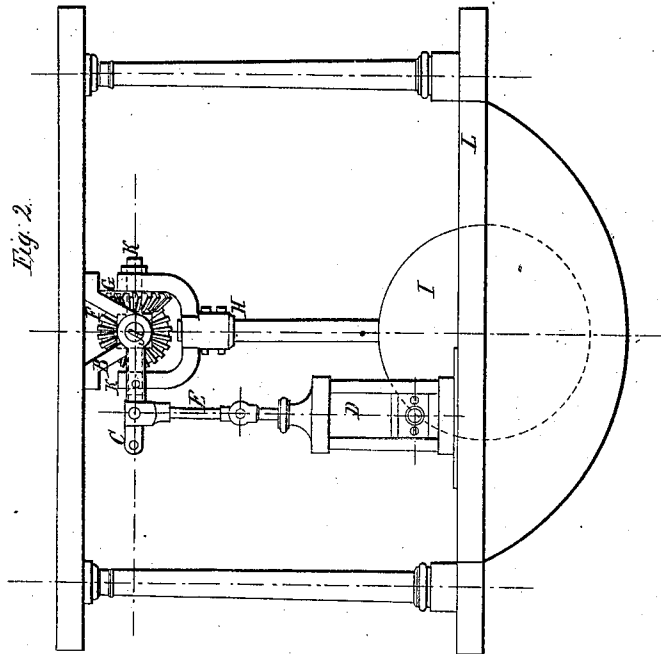


*Coates & Perry,  
Ship Pump.*

*N<sup>o</sup> 18,192.*

*Patented Sept. 15, 1857*



# UNITED STATES PATENT OFFICE.

ABRAHAM COATES, OF NEW YORK, AND SAMUEL M. PERRY, OF BROOKLYN, NEW YORK.

## SHIP'S PUMP.

Specification of Letters Patent No. 18,192, dated September 15, 1857.

*To all whom it may concern:*

Be it known that we, ABRAHAM COATES, of the city and State of New York; and SAMUEL M. PERRY, of the city of Brooklyn, State of New York, have invented certain new and useful Improvements in Ships' Pumps, whereby we are enabled to make the rocking and rolling of the vessel communicate power to the pumps to work the same; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation showing the general arrangement of the pump and its apparatus. Fig. 2 is an end elevation of the same.

Like letters in the different figures referring to like parts, A is a shaft hung to the underside of the deck by the hangers B. To one end of this shaft is an arm C, connected to the pump D by the connecting rod E. This shaft is turned back and forth by the gear (or section of gear) F, and the gear G, which is firmly attached to the lever and weight H, I, at its upper end. The cross J, in which the shaft turns back and forth connects it with the lever and weight by the loose bearings K, on which the same swings back and forth horizontally to the shaft.

L, is a ring firmly fastened to the lower deck (or in its stead a chain fastened to the deck and the center of the ball) to prevent the pendulum swaying too much on an angle with the vessel.

All of this apparatus is attached between and to the decks of the vessel or to a frame.

The operation is as follows, supposing the position of the apparatus to be so that the shaft is hung lengthwise of the vessel (it

being understood the lever and weight always remain nearly plumb) when the end of the vessel rises, the end of the shaft rises also. It will be seen that the shaft is partially turned as its end rises by the gear (or section of gear) attached to it meshing into the stationary gear which is firmly affixed to the lever. As the end of the vessel lowers, the operation is repeated and the shaft turned back, thus giving a reciprocating motion for the end rocking of the vessel. In the side rocking of the vessel the operation is different, the shaft not turning but being held firmly by the gearing to the lever which is kept plumb by means of the weight. However the pump moving up with the side of the vessel, the pump piston remaining stationary, the same reciprocating operation is obtained as in the other case. Thus it will be seen that a reciprocating motion is obtained between the pump and piston for each rocking of the vessel either end or side-wise by the one mechanism.

We claim—

The peculiar mechanism by which we obtain reciprocating motion, between the pump and piston, from each move of a lever having a combined horizontal and longitudinal motion the same consisting of the shaft, the cross through which it passes, the universally moving lever attached by journals to the cross at right angles to the shaft, and the two bevel gears or section of gears, the one attached to the lever the other to the shaft, or any other arrangement substantially the same and for the purpose specified.

ABM. COATES. [L. s.]  
SAML. M. PERRY. [L. s.]

Witnesses:

C. A. DURGIN,  
WM. VAN BEUREN.