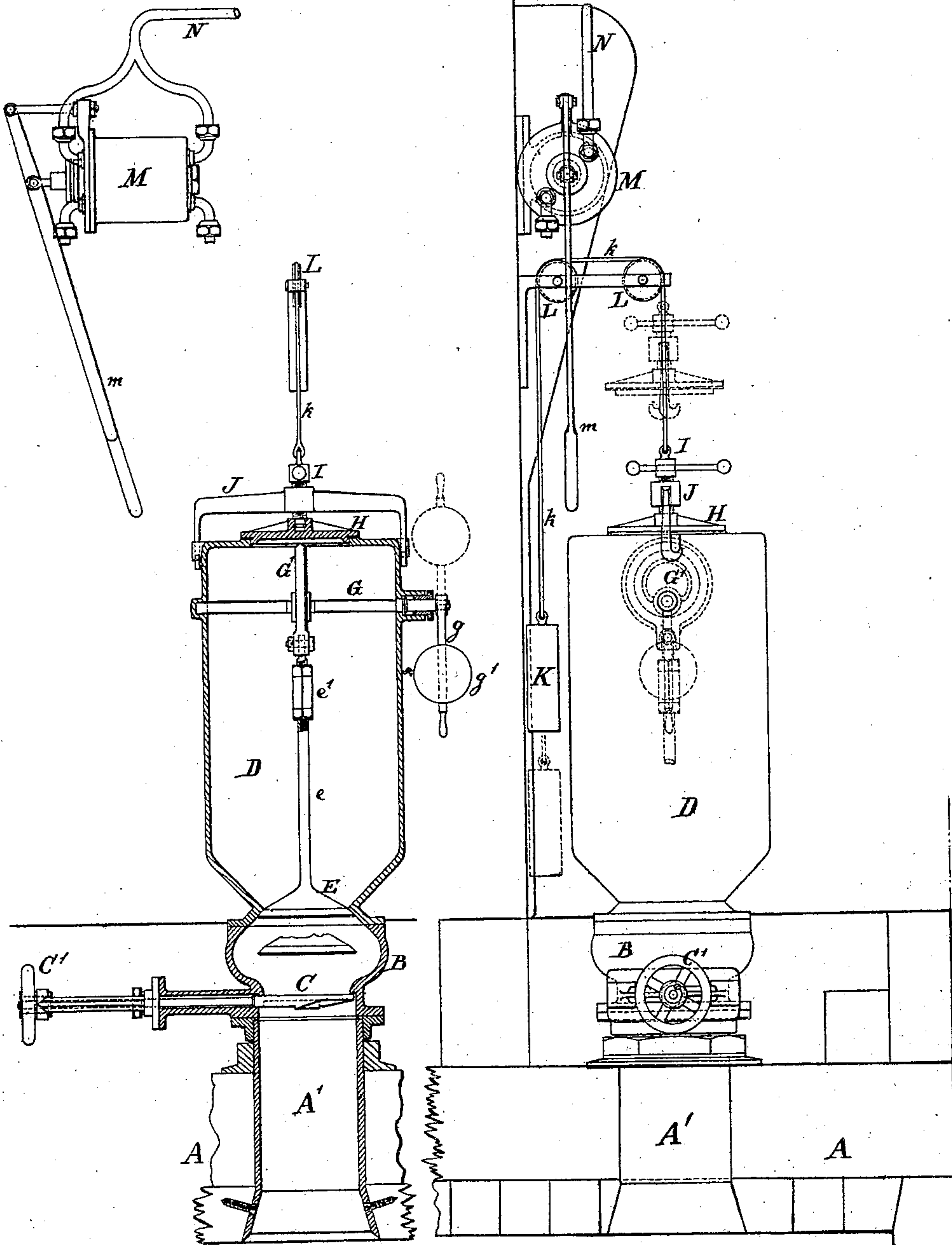


No. 133,535.

G. P. HUNT.

## Ashes Ejector for Steam Vessels.

Fig. 2.



Inventor:

Geo P Hunt  
by his attorney, T. D. S.

By his attorney, J. L. Wilson



# UNITED STATES PATENT OFFICE.

GEORGE P. HUNT, OF UNITED STATES NAVY.

## IMPROVEMENT IN ASHES-EJECTORS FOR STEAM-VESSELS.

Specification forming part of Letters Patent No. 133,535, dated December 3, 1872.

*To all whom it may concern:*

Be it known that I, GEORGE P. HUNT, assistant engineer in the United States Navy, domiciled with Mr. Moss, 380 Pearl street, New York city, have invented a certain invention relating to Ashes-Ejectors, of which the following is a specification:

The invention provides reliable means for discharging ashes at intervals through the bottom of the vessel into the sea, and avoids many of the difficulties which have attended previous efforts to attain this end.

The following is a description of the invention, the accompanying drawing forming a part of this specification.

Figure 1 is a vertical section, and Fig. 2 a side elevation viewed in a plane at right angles to Fig. 1.

Similar letters of reference indicate like parts in the drawing.

A is the bottom of a wooden ship, a portion of the keel and keelson being represented on the right in Fig. 2. A' is a pipe, of cast-iron or other suitable material, which is strongly and tightly fitted to form a communication through the bottom. B is a chamber, bolted immediately above and communicating with the pipe A', when the sliding valve C is drawn back by means of a screw and hand-wheel, C'. This valve is ordinarily open. Its use is to close the communication through the bottom of the vessel whenever it is desired to examine or repair the work above. D is a capacious upright chamber, which I call the receiver. It is bolted on the vessel B, and contains the mechanism for operating a conical valve, E, which is adapted to open downward from a tightly-fitted seat, as will be obvious. Fig. 1 gives an outline of a portion of the valve in the open as well as in the closed position. The valve E is operated by means of an eccentric, G', shown in dotted lines in Fig. 2, and which is operated by means of a shaft, G, which extends out through a stuffing-box, and is operated by a lever, g, carrying a weight, g'. The rod e, which connects the valve E with a strap which encircles the eccentric G', is provided with a socket and jam-nut, e', by means of which the rod e may be lengthened or shortened at will. I prefer to so adjust the mechanism that the valve E is tightly closed only when the eccentric G' is in its highest position.

This adjustment allows the firemen, who are often unskilled and injudicious, to move the lever too far without overstraining any part. The only effect of turning the lever g too far is to commence to open the valve again after it has been tightly closed. The weight g' may be a little more than sufficient to balance the weight of the eccentric G' and the connected parts. It is easy to instruct firemen to leave this weighted lever always hanging in a position perpendicular to the deck. H is a tight-fitting cover, and I is a screw, tapped through a yoke, J, adapted to be applied and removed with facility. The weight of the cover and its connections is balanced by means of a weight, K, connected through the medium of a chain, k, running over pulleys L L, as represented. In Fig. 2, the position of the cover when in use is represented in strong lines; and its position when elevated to allow ashes to be introduced is shown in dotted lines. M is the barrel of an air-pump, operated by means of a hand-lever, m, and provided with suitable valves for receiving and discharging air. The air compressed by this pump is delivered through branch pipes into a pipe, N, which leads to a convenient point in the upper portion of the receiver D.

### *Operation.*

Nearly fill the receiver D with ashes. Secure the cover or bonnet H. Raise the lever g to the position shown in dotted lines in Fig. 1. Give about fifteen double strokes to the lever m. Depress the lever g so as to restore the valve E again to its closed position, and remove the bonnet for another operation. There may be a small cock on the upper portion of the vessel D, properly guarded by strainers against being clogged with ashes, through which to discharge the surplus air previous to removing the bonnet. It may be useful to open this cock and allow the remaining air to escape immediately after the valve E is depressed, in order to better allow the sea-water to enter and mingle with the ashes in the receiver. The disk or guard-valve C is kept tight on its seat by being forced on two beveled pieces on the sides of the chamber B.

I attach some importance to the form of the conical valve E and of the seat and the adjacent surfaces. The angle of the bearing por-



tion and of the seat should be about forty-five degrees with the axis, while that of the surface above may be about sixty degrees, as represented. The interior of the chamber B may continue with the same inclination as the seat, as shown, or preferably the diameter may be enlarged more rapidly immediately below the seat, so as to give an increased freedom to the water-way. Encumbering material may prevent the tight closing of the valve E in many instances. An approximate closing is all that is necessary when the apparatus is being actively employed. A considerable flow of water upward past the valve E will be only sufficient to wet the ashes as they are put in.

I claim as my invention—

1. The air-pump M, with its connecting-passage N, in combination with the receiver D, cover H, and with the valve E and its op-

erating means, as and for the purposes herein specified.

2. In combination with the receiver D, cover H, valve E, shaft G, eccentric or crank G', and operating hand-lever *g*, the adjusting means *e'* in the valve-stem *e*, arranged as shown, so as to allow the lever *g* to be moved beyond its proper position without injury, as specified.

In testimony whereof I have hereunto set my hand this 31st day of July, 1872, in the presence of two subscribing witnesses.

GEORGE P. HUNT,

*First Assistant Engineer, U. S. N.*

Witnesses:

JAMES BUTTERWORTH,

*First Assistant Engineer, U. S. N.*

BENJAMIN ROACH,

*Foreman Pattern-Maker,*

*U. S. N. Yard, Boston.*