

(No Model.)

H. SEE.

APPARATUS FOR EJECTING ASHES FROM VESSELS.

No. 483,770.

Patented Oct. 4, 1892.

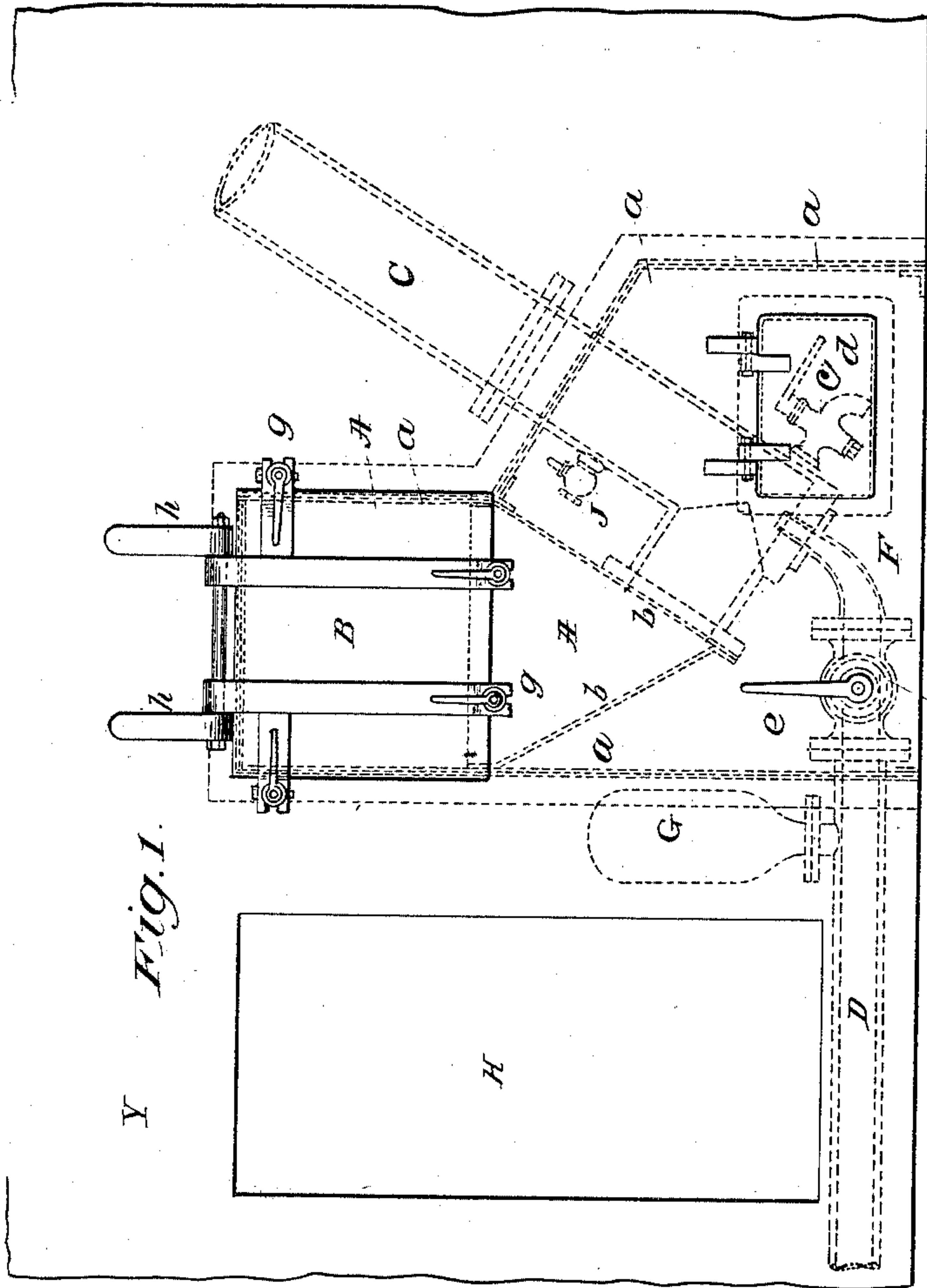


Fig. 1.

Fig. 2.

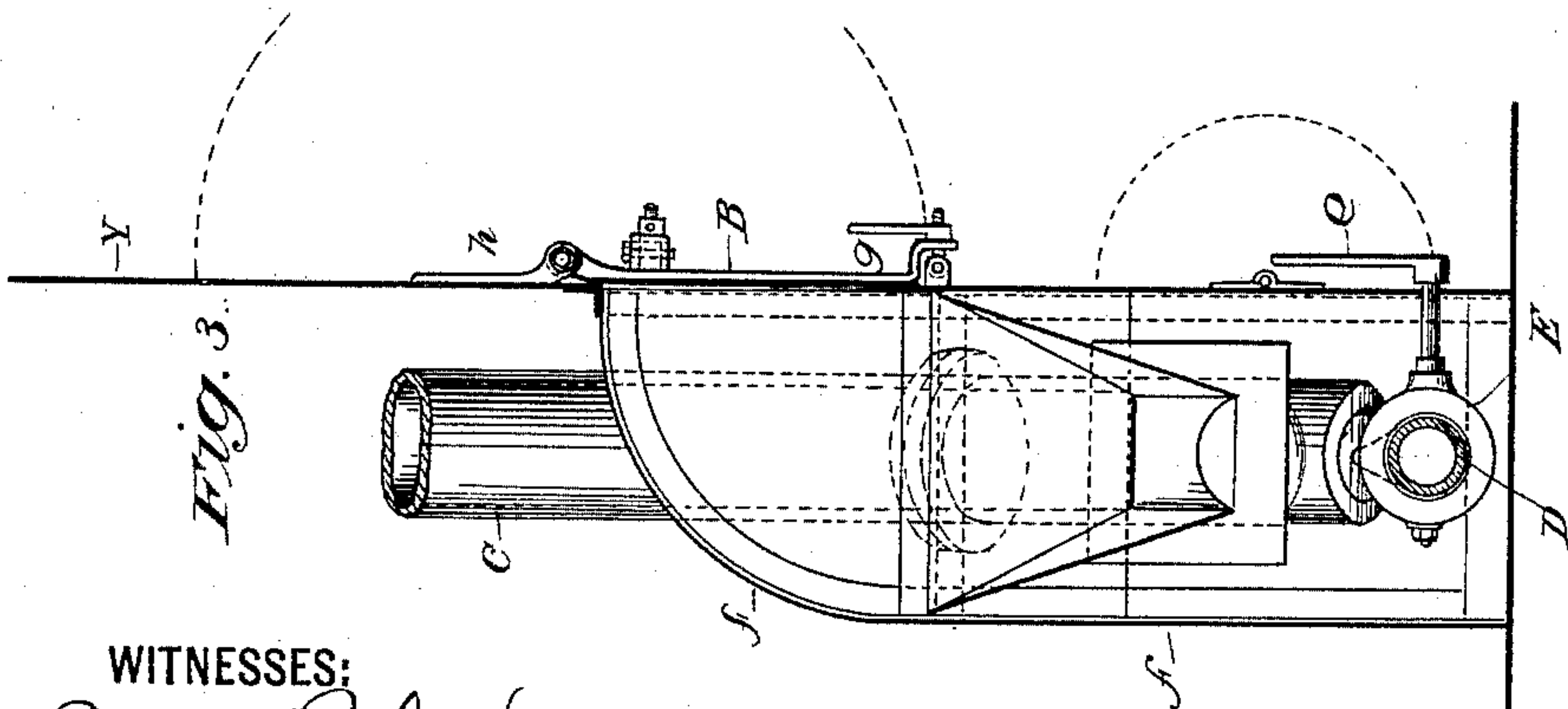
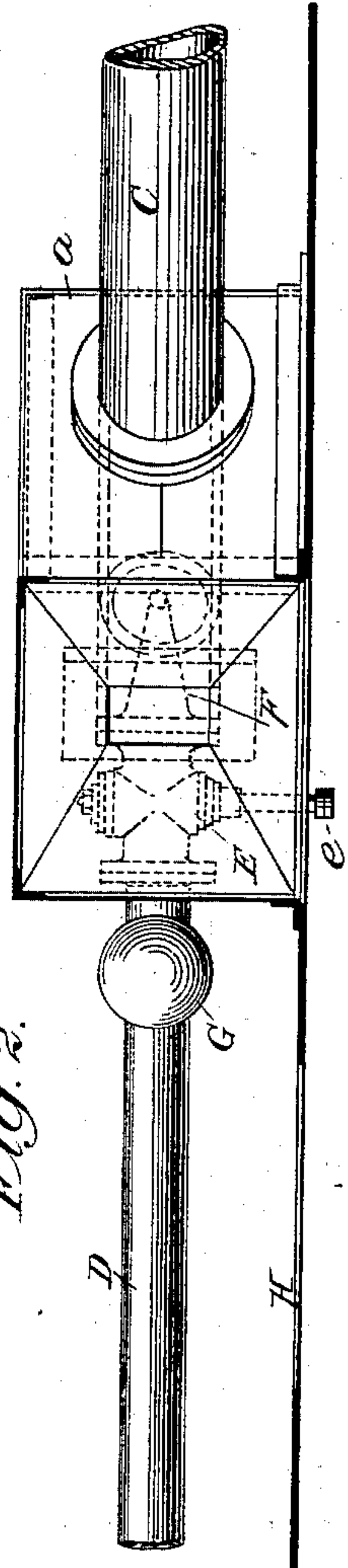


Fig. 3.

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APPARATUS FOR EJECTING ASHES FROM VESSELS.

SPECIFICATION forming part of Letters Patent No. 483,770, dated October 4, 1892.

Application filed March 29, 1892. Serial No. 426,913. (No model.)

To all whom it may concern:

Be it known that I, HORACE SEE, of the city and county of New York, in the State of New York, have invented certain new and useful
5 Improvements in Apparatus for Ejecting Ashes and other Refuse from the Holds of Ships, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

10 The object of this invention is to render more efficient and certain the operation of ashes-ejecting apparatus of the forms heretofore in use and to still further increase the usefulness of and convenience in using the
15 same by inclosing the main operative parts thereof within a close case or box, which may be provided with suitable doors for opening and closing certain parts of said box or casing.

20 In the accompanying drawings, Figure 1 gives a general side view of the apparatus, mostly in dotted lines, the parts thereby indicated being located behind a bulk-head or partition, part of which forms one side of the
25 box or casing containing the ejecting apparatus. Fig. 2 shows the parts of Fig. 1 in plan. Fig. 3 is an end view of Fig. 1, looking to the right.

In the figures the several parts are indicated
30 by reference-letters, as follows:

The letter A indicates an ashes receptacle or hopper, bounded by the dotted lines *a a b b*, Fig. 1, provided with a hinged cover B. Said cover is provided with hinges *h* and
35 screw-bolts *g* for securing the same upon a true or water-tight joint.

The dotted lines *a a f f* show the shape of the casing, of which the hopper A forms a part. The lower part of said hopper is connected to the lower part of the discharge-pipe C, and to the base of said pipe is connected the ejector-nozzle F of the ejector-pipe D, provided with a cock or valve E near said nozzle. Said pipe D is also provided with an air-ves-
40 sel G near the cock E, which is provided with a handle *e*. The drain-cock *c* is attached to the discharge-pipe C, so as to drain both it and the hopper A, when required, of any water that may remain therein after the appa-
50 ratus has ceased to operate. The valve J is a reverse or vacuum valve attached to the

discharge-pipe C to admit air and prevent the formation of a vacuum in said pipe, which would impair the operation of the apparatus as an ejector. The air-chamber G assists
55 the ejector-pipe D in performing its office while the ejector-pump (not shown) attached to the pipe D is in operation.

The letter H indicates a door leading through the bulk-head *y* of a coal-bunker, and *d* a door
60 opening into the case *a a* for access to the drain-cock *c* and other parts within said casing. If preferred, the casing *a a f f* may inclose, also, the air-vessel G, which is shown in Figs. 1 and 2 outside of said casing.
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In Fig. 3 the air-vessel G is omitted for the sake of more clearly illustrating other parts of the apparatus.

The casing inclosing this apparatus may be independent of any partition or bulk-head; 70 but I prefer, in embodying the apparatus on shipboard, to cut an opening in a fire-room bulk-head separating it from a coal-bunker at some convenient height from the floor and of sufficient size for shoveling therein the ashes. 75 The hopper proper may then be built and secured to the bulk-head on the coal-bunker side thereof, the door covering the opening to the hopper being secured and operated from the fire-room and the handle of the ejector-
80 cock being projected through the bulk-head forming one side of the casing into the fire-room.

Instead of an entire casing, if desired, a recess may be formed in the bulk-head, which
85 recess may be open only to the fire-room and the hopper placed within said recess, the discharge-pipe leading, as before described, to and through the side of the vessel. It is preferable to lead the ejector-pipe D from the
90 force-pump to a point or level above the hopper, and from such elevation then lead said pipe down to and connect it with the ejector-cock E and ejector-nozzle F.

The operation of the apparatus as a whole 95 is as follows: The door or cover B of the hopper A being closed, the drain-cock *c* is opened and any water that may be in the discharge-pipe C is drawn off. This cock being again closed and the cock E in the ejector-pipe D
100 also closed, the force-pump (not shown) connected to said ejector-pipe is started and an

initial head or pressure of water accumulated sufficient to force the ashes up and overboard through the pipe C. When sufficient pressure has been thus obtained, the ejector-cock 5 E is opened, when the cover B may be raised and the ashes thrown into the hopper A in suitable quantities successively. As the ashes fall to the bottom of the hopper and into the base of the discharge-pipe C they encounter 10 the current or jet of water from the ejector-nozzle F, and by the force of said jet, assisted by the rush of air into the hopper, are carried with the water up the pipe C, and thence by and through it are discharged through the 15 side of the ship overboard, the point of discharge being either nearer to or, preferably and more properly, a few feet above the surface of the water-line, depending upon the draft of water and service—whether river or 20 ocean service—of the vessel. Should any of the ashes fail to reach the hopper, they will fall upon the fire-room floor, whence they can be re-collected and thrown into the hopper or otherwise disposed of until the apparatus is again 25 put in operation. The arrangement, location, and form of the hopper and its door are convenient for the rapid and ready deposit of the ashes therein by means of the ordinary shovels used in the fire-room for shoveling coal. When 30 the ashes are all discharged, the door or cover B is again closed and secured before the ejector-pump is stopped. This will prevent any backflow of water out of the hopper due to the head of water which may remain in the 35 pipe C when the ejector-pump is stopped. In providing the hopper A with its water-tight door B, I obviate the necessity of providing, and therefore may dispense with, any valve

in the discharge-pipe C at the side of the ship, for no water can get into the hopper 40 down the pipe C while the ejector-pump is in operation, and when it is stopped, if any water should wash into and down the pipe C the water-tight cover B will prevent such water from entering into the hold or bilge of the 45 ship or into any compartment thereof.

Having thus fully described my invention, I claim—

1. An ashes-ejector consisting of a box having its upper portion formed into an ash receptacle or hopper provided with a close-fitting door for opening and closing and its 50 lower portion forming a case inclosing ejecting and discharging connections for said ash-receptacle. 55

2. An ashes-ejector consisting of a box having its upper portion formed into an ash receptacle or hopper and its lower portion forming a case inclosing discharging devices for 60 said hopper, one side of said box being formed by a wall, partition, or bulk-head provided with one or more doors opening into the box, as and for the purposes set forth.

3. In an ashes-ejector, the combination of the following-named elements: an ash receptacle 65 or hopper, a discharge-pipe therefrom, and an ejector-pipe provided with a cock or valve located in close proximity to the jet end of said pipe for opening and closing communication between said pipes and with an air-vessel in 70 close proximity to said cock or valve, as and for the purposes set forth.

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Witnesses:

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