

G. C. RALSTON.
 APPARATUS FOR DISCHARGING ASHES, BALLAST WATER, BILGE WATER, AND OTHER MATERIALS
 FROM SHIPS AND OTHER PLACES.
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963.649.

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FIG. 2.

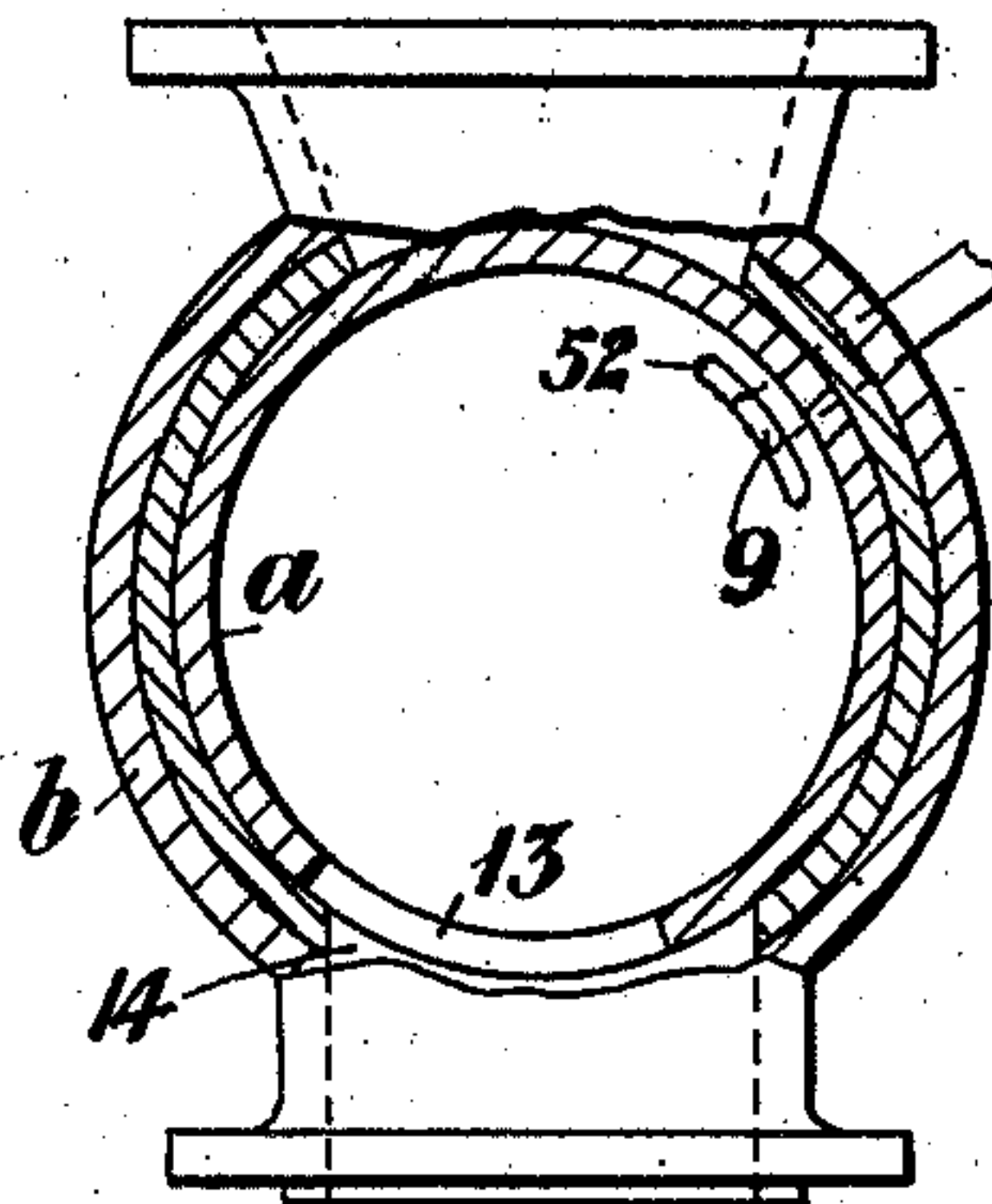
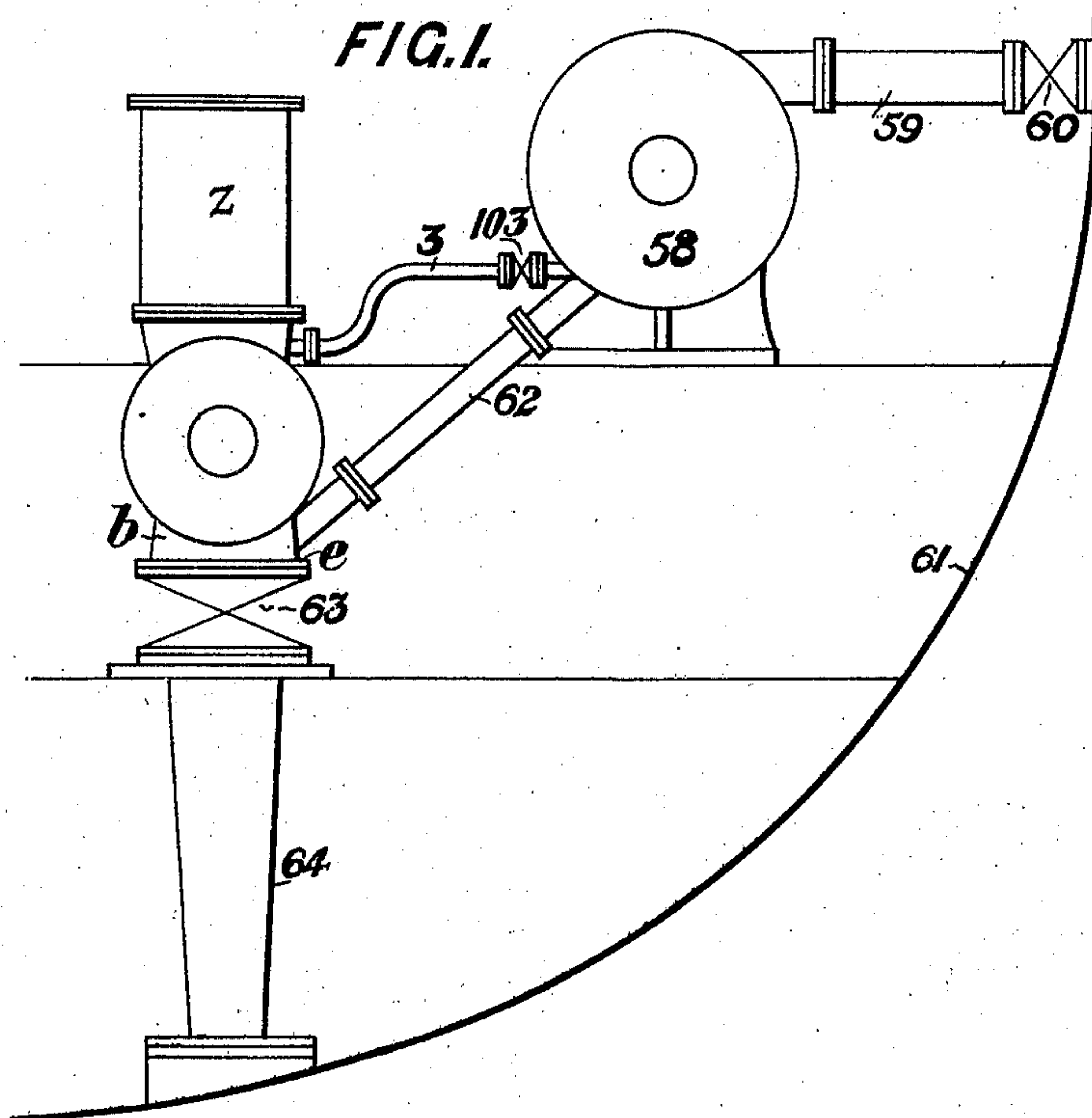


FIG. 1.



Witnesses:
B. Rommers
May Ellis

Inventor
Gavin Carlyle Ralston
 By *Henry Orth* atty

UNITED STATES PATENT OFFICE.

GAVIN CARLYLE RALSTON, OF LEE, ENGLAND, ASSIGNOR TO J. STONE & COMPANY LIMITED, OF DEPTFORD, ENGLAND.

APPARATUS FOR DISCHARGING ASHES, BALLAST-WATER, BILGE-WATER, AND OTHER MATERIALS FROM SHIPS AND OTHER PLACES.

963,649.

Specification of Letters Patent.

Patented July 5, 1910.

Original application filed December 5, 1908, Serial No. 466,097. Divided and this application filed November 8, 1909. Serial No. 526,818.

To all whom it may concern:

Be it known that I, GAVIN CARLYLE RALSTON, a subject of the King of Great Britain, residing at "Cleveland," Leyland Road, Lee, in the county of Kent, England, have invented new and useful Improvements in Apparatus for Discharging Ashes, Ballast-Water, Bilge-Water, and other Materials from Ships and other Places, and is a division of my United States application, Serial No. 466,097, filed December 5, 1908.

This invention relates to improvements in apparatus for expelling or discharging ashes, ballast water, bilge water and other materials from ships and other places of the type in which the ashes and clinker are crushed and then passed into the interior space of a mechanically driven cock or valve or into the space or port in a piston reciprocating in a cylinder from which they are discharged into the sea by fluid pressure.

Now the present invention has for its object to arrange for the discharge of ashes and clinker from the mechanically driven valvular device by hydraulic means and to this end a pump, preferably a centrifugal pump is connected between the said valvular device and the sea as will be hereinafter described and particularly pointed out in the claims.

In the drawings, Figure 1 is a more or less diagrammatic end elevation of a hydraulic ashes expeller according to the present invention and Fig. 2 is a transverse section of a revoluble hollow cock or plug adapted to be alternately filled with ashes from the hopper and to be emptied by the action of the pump.

In Fig. 1 an engine (not shown) drives a centrifugal pump 58 for discharging the ashes and cinders by means of water. In this arrangement the centrifugal pump 58 is connected by a suction pipe 59 and sluice valve, indicated diagrammatically at 60, to the sea through the ship's side 61. The centrifugal pump 58 is provided with two delivery pipes, the one marked 3 fitted with a valve 103 admitting water under pressure to the inlet port 9 Fig. 2 in the casing *b* of the hollow revoluble cock *a*, which latter has a port 52 adapted to register once in each revolution with the port 9. A second and larger delivery pipe 62 from the pump

admits water to the underside of the casing *b* just above the sluice or gate valve 63 and the water passing through this second delivery pipe drives the charge of ashes into the sea through the valve 63 and discharge pipe 64 after the water under pressure through the delivery pipe 3 has emptied the contents of the plug in the casing *b*. It is evident that if desired an ordinary reciprocating or other suitable pump may be employed, in lieu of a centrifugal pump, to supply water at the necessary pressure to force the ashes or the like down the discharge pipe 64. The centrifugal pump is driven from a suitable source of power and the plug *a* and any suitable crusher contained in the casing *z* are conveniently driven by chain and sprocket wheels from the same source.

Referring to Fig. 2 it will be seen that every time the port 52 comes opposite the port 9, the large discharge port 13 is opposite the discharge opening 14. If therefore the cock 103 be opened the ashes will be wetted and dislodged by the water delivered by the pipe 3. It is evident however that the valve 103 need not of necessity be opened. The ashes falling from the plug *a* are sucked downward by the strong flow from the pipe 62 and are conveyed thereby and discharged into the sea.

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

1. Apparatus for discharging ashes and other matters from ships and other places comprising in combination, a receptacle, a discharge duct, a hollow movable body between said receptacle and said duct and operative to alternately receive matter from said receptacle and transfer it to said discharge duct, and a liquid impeller connected upon one side with the sea and on the other side with said discharge connection.

2. Apparatus for discharging ashes and other matter from ships and other places comprising in combination, a receptacle, a discharge duct, a hollow revoluble body between said receptacle and said duct and operative to alternately receive matter from said receptacle and transfer it to said discharge duct, and a centrifugal pump connected upon one side with the sea and on the other side with said discharge duct.

3. Apparatus for discharging ashes and

other matter from ships and other places comprising in combination, a receptacle, a discharge duct, a hollow revoluble body between said receptacle and said duct and
5 operative to alternately receive matter from said receptacle and transfer it to said discharge duct, a centrifugal pump connected upon one side with the sea and on the other side with said discharge duct, and a delivery
10 pipe from said pump connected with an inlet port in the casing of said hollow body, the last named having a port adapted to register with said inlet port in the discharging position of said hollow body, substantially as set forth.
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4. Apparatus for discharging ashes and other matter from ships and other places comprising in combination, a receptacle, a discharge duct, a hollow revoluble body between said receptacle and said duct and
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operative to alternately receive matter from said receptacle and transfer it to said discharge duct, a centrifugal pump connected upon one side with the sea and on the other side with said discharge duct, a delivery
25 pipe from said pump connected with an inlet port in the casing of said hollow body, the last named having a port adapted to register with said inlet port in the discharging position of said hollow body, and a valve
30 on said delivery pipe, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GAVIN CARLYLE RALSTON.

Witnesses:

H. D. JAMESSEN,
W. MORBEY.