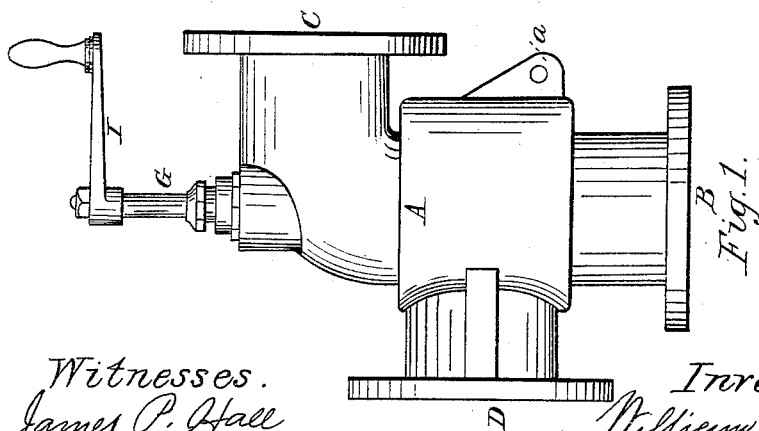
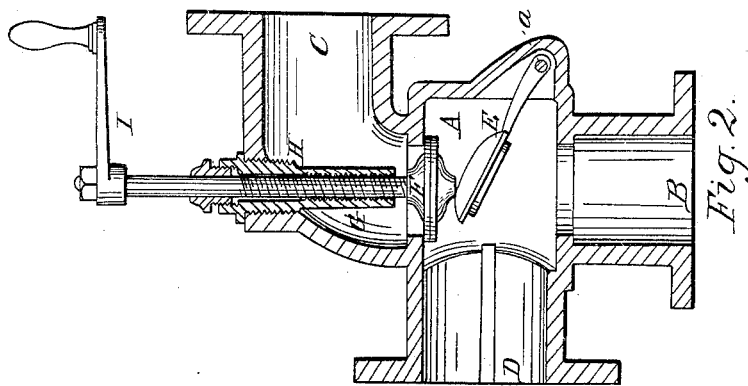


*Serrell & Cameron,*  
*Pump Valve,*  
*N<sup>o</sup> 45,644, Patented Dec. 27, 1864.*



*Witnesses.*  
*James P. Hall*  
*Thos. F. McElamala*

*Inventor:*  
*William Chinnell*  
*Adam S. Cameron.*

# UNITED STATES PATENT OFFICE.

WILLIAM SEWELL AND ADAM S. CAMERON, OF NEW YORK, N. Y.

## IMPROVEMENT IN VALVE ARRANGEMENT FOR PUMPS.

Specification forming part of Letters Patent No. 45,644, dated December 27, 1864.

*To all whom it may concern :*

Be it known that we, WILLIAM SEWELL and ADAM S. CAMERON, of the city, county, and State of New York, have invented a new and Improved Arrangement of Valves for Pumps; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an external view of the box in which our improvement is placed; Fig. 2, a vertical central section of the same.

Similar letters of reference indicate like parts.

On steamships, floating docks, and in similar situations, where steam and other pumps are employed, it is customary to furnish the latter with two sets of feed-pipes, one set connecting the pump with the sea, and the other set connecting the pump with the bilge-water, which requires to be removed from time to time. Each set of pipes has hitherto been provided with a cock or valve to admit of one set being disconnected while the pump is drawing fluid through the other. A serious objection, however, exists against this plan or arrangement, which our invention effectually removes. The difficulty is this: If at any time both cocks are left open, a communication is formed between the sea and the bilge of the vessel, and the latter will fill as rapidly as the size of the pipes will allow. This leaving of both sets of pipes open frequently occurs, and often in this way: For instance, if the pump has been drawing water through one set of pipes, and it is desired to draw water through the other, it often happens that the engineer or party in charge will open the cock which has been closed without closing the one which has been open, then as long as the pump is at work but little damage can occur; but the moment the pump is stopped the water will flow through the sea-pipes into the vessel, and vessels have been sunk by this means.

Our invention, which is extremely simple, is as follows:

A represents a valve chamber; B C D, the

three openings, B communicating with the bilge-pipe, C with the sea-pipe, and D with the suction-opening of the pump.

E represents a hinge-valve, which works freely on its pin, *a*, and over the opening B of the bilge-pipe, as shown clearly in Fig. 2.

F is a screw-valve, which is simply a circular disk at the lower end of a screw, G, which passes up through an internal screw in a socket, H, fitted in the top of the valve chamber, the upper end of the screw being provided with a crank, I, by which said valve F is raised or lowered and the passage C opened and closed.

The operation is as follows: When it is desired to draw water from the bilge of the vessel only, the valve F is screwed up to close the opening C, and the hinge-valve E allows free ingress of the fluid to the pump through the opening B. When it is desired to draw water from the sea only, the valve F is screwed down tightly on the valve E, the former keeping the latter firmly closed and allowing free ingress to the pump through the opening C. When it is desired to draw water through both openings B C simultaneously, the valve F is opened a short distance only, so as to allow the valve E to open also, allowing communication through both pipes to the pump; but the moment the pump is stopped the valve E closes by its own gravity, (or by a spring in situations requiring it,) and thus communication between the pipes B C is closed, and all danger of water flowing into the vessel through these channels completely avoided.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination of the two valves F and E, constructed and arranged in relation with each other and with the openings of the valve-chamber to operate in the manner substantially as and for the purpose herein set forth.

WILLIAM SEWELL.  
ADAM S. CAMERON.

Witnesses:

JAMES P. HALL,  
WM. F. McNAMARA.