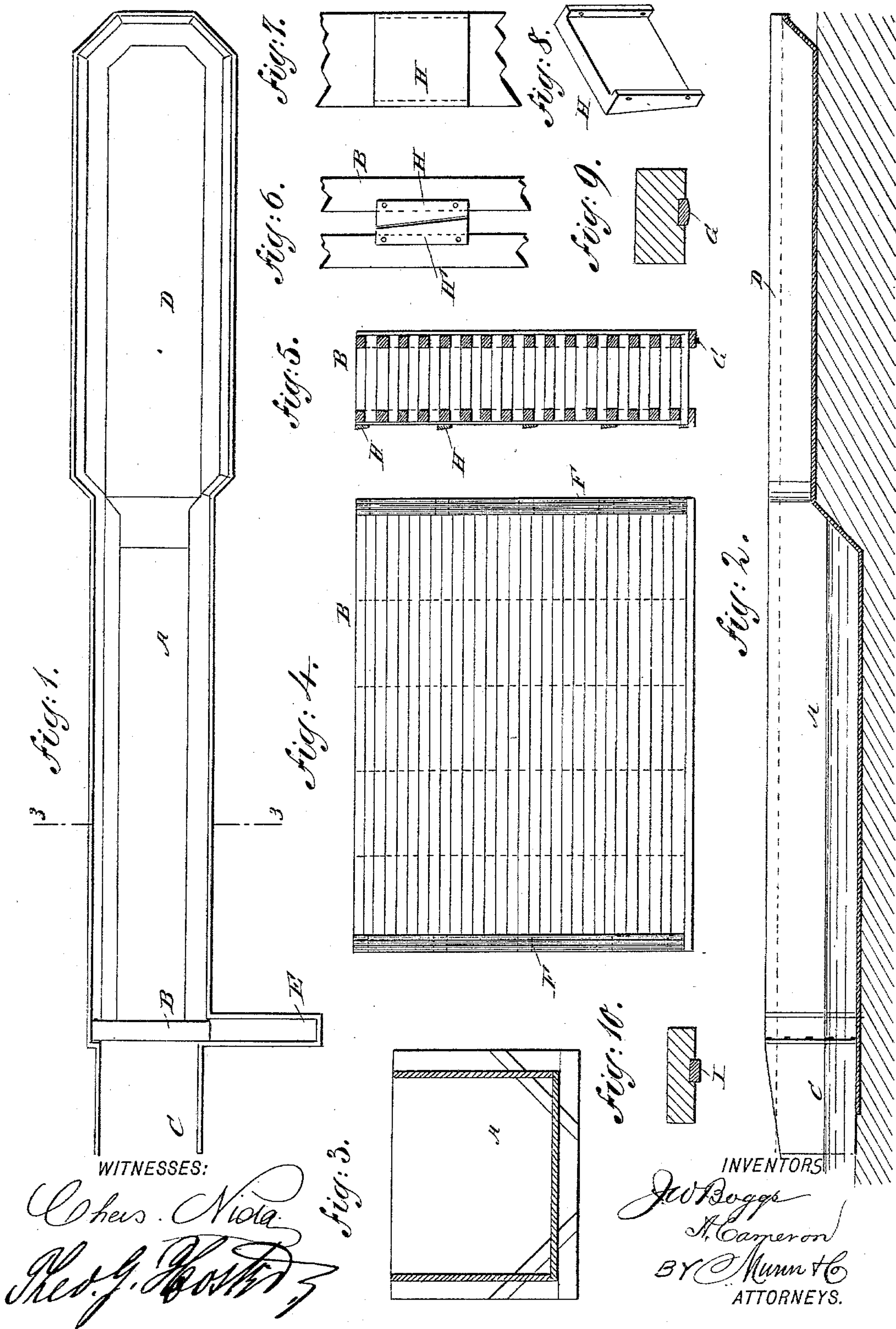


(No Model.)

J. W. BOGGS & A. CAMERON.  
DRY DOCK.

No. 566,734.

Patented Sept. 1, 1896.





# UNITED STATES PATENT OFFICE.

JOHN W. BOGGS AND ARCHIBALD CAMERON, OF PORTLAND, OREGON;  
SAID BOGGS ASSIGNOR TO SAID CAMERON.

## DRY-DOCK.

SPECIFICATION forming part of Letters Patent No. 566,734, dated September 1, 1896.

Application filed February 21, 1895. Serial No. 539,243. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN W. BOGGS and ARCHIBALD CAMERON, of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Dry-Dock, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved dry-dock which is comparatively simple and durable in construction and arranged to readily move a ship into or out of the dock, at the same time permitting light-draft vessels in the dock-chamber after the main vessel is docked.

The invention consists principally of a dock-chamber having at one end a sliding gate for opening and closing the inlet to the chamber, the latter being connected at its rear end with the dry-dock proper located at a higher level.

The invention also consists in certain parts and details and combinations of the same, as will be hereinafter more fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement. Fig. 2 is a sectional side elevation of the same. Fig. 3 is an enlarged cross-section of the same on the line 3 3 of Fig. 1. Fig. 4 is an enlarged face view of the gate. Fig. 5 is a transverse section of the same. Fig. 6 is an enlarged side elevation of the sheer-blocks on the gate and posts. Fig. 7 is a face view of the sheer-block. Fig. 8 is a perspective view of the same. Fig. 9 is an enlarged cross-section of the bottom gate-rail, and Fig. 10 is a sectional plan view of the facing-timber on the end of the gate.

The improved dry-dock is provided with a dock-chamber A of suitable dimensions and adapted to be closed or opened at its lower end by a gate B, mounted to slide transversely, as hereinafter more fully explained. This lower end of the chamber A is adapted to open into the inlet C, forming part of a river, lake, or other water highway. The other end of the chamber A is connected with a dry-dock D proper, located, however, at a higher level

than the chamber A, with the top edge in horizontal alinement with the top edge of the chamber A and gate B when the latter is closed. Now when the gate is open water can pass through the inlet C into the chamber A to fill the latter to within a suitable distance from the bottom of the dry-dock D, as indicated in Fig. 2. The vessel is then moved into this chamber A, and then the gate B is closed, after which water is pumped into the chamber A by suitable pumping machinery connected with a suitable water supply. By filling the chamber A to a high-water level (indicated in dotted lines in Fig. 2) the dock D is likewise filled, and the vessel can be floated from the chamber A into the dock D. The gate B is then opened to permit the surplus water to run out of the dock D and chamber A, at the same time permitting vessels of light draft to pass into the chamber A.

The gate B is preferably constructed as illustrated in detail in Figs. 4 to 10, the gate being built up of suitable timber, and is fitted to slide into a chamber E, forming an extension on one side of the chamber A, as indicated in Fig. 1. The inner face of the gate B at the ends thereof is lined with vertical strips F, of rubber, adapted to abut against corresponding posts of the chamber A to form a water-tight joint. The bottom rail of the gate B is likewise provided with a longitudinally extending and projecting rubber strip G to form a water-tight joint with the bottom of the chamber A. (See Fig. 9.)

In order to press the strips F and G in position to form the water-tight joints described, we provide a series of sheer-blocks H, secured on the outer faces of the end beams of the gate B, the said sheer-blocks being adapted to be pressed in contact with corresponding sheer-blocks H', held on the posts at the gate-opening of the chamber A.

As the contacting faces of the sheer-blocks H and H' are inclined, as indicated in Fig. 6, the gate B by being pressed downward is also moved inward to cause the strips F and G to form water-tight joints with their corresponding fixed parts. By this arrangement water is not liable to leak through the gate B when the latter is closed, and hence the chamber A and dock D can be readily filled



with water by the pumping machinery, as previously described.

The gate is provided with valves in its bottom (not shown) for the purpose of admitting water to the interior of the gate to force the gate downward. When the water is removed from the gate by suitable pumping machinery, the buoyancy of the gate will keep it afloat or raised above the bottom of the chamber A and the gate-chamber E, and the gate can then be readily moved by any well-known means either into the gate-chamber E or across the lower end of the chamber A. When the gate is moved into the closed position or across the inlet to the chamber A, the valves in the bottom of the gate are opened to admit water to the interior of the gate and the gate will be forced down into position.

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

1. A dry-dock, comprising a dock-chamber, a sliding gate at one end of the said chamber and leading to an inlet, a dry-dock proper connected with the other end of the said chamber and located at a higher level, packing-strips for forming water-tight joints between the said gate, its posts, and the bottom surface of the said dock-chamber, and devices carried by the said gate and its posts for compressing said strips when the gate is closed, substantially as described.

2. A dry-dock, comprising a dock-chamber, a transversely-sliding gate at one end of said chamber and leading to an inlet, a gate-chamber forming an extension on one side of the dock-chamber and into which the gate is fitted to slide, a dry-dock proper connected with the other end of the said dock-chamber and located at a higher level, vertically-disposed packing-strips on the face of the said gate, a longitudinal packing-strip on the bottom sill of the gate, and registering sheer-blocks on the gate and guide posts, substantially as shown and described.

3. A dry-dock, comprising a dock-chamber, a gate at one end of the said chamber and leading to an inlet, a dry-dock proper connected with the other end of the said chamber and located at a higher level, rubber strips on the inner face of the said gate and disposed vertically, a longitudinal rubber strip on the bottom sill of the gate, to be pressed in contact with the bottom of the chamber A, and registering sheer-blocks on the gate and guide posts to force the gate downward and inward, to press the said rubber strips in firm contact with the posts and bottom of the chamber, substantially as shown and described.

JOHN W. BOGGS.

ARCHIBALD CAMERON.

Witnesses:

THAD. S. POTTER,

J. A. JOHNSTON.