

S. JANICKI.

Improvement in Floating Docks.

No. 123,402.

Fig. 1.

Patented Feb. 6, 1872.

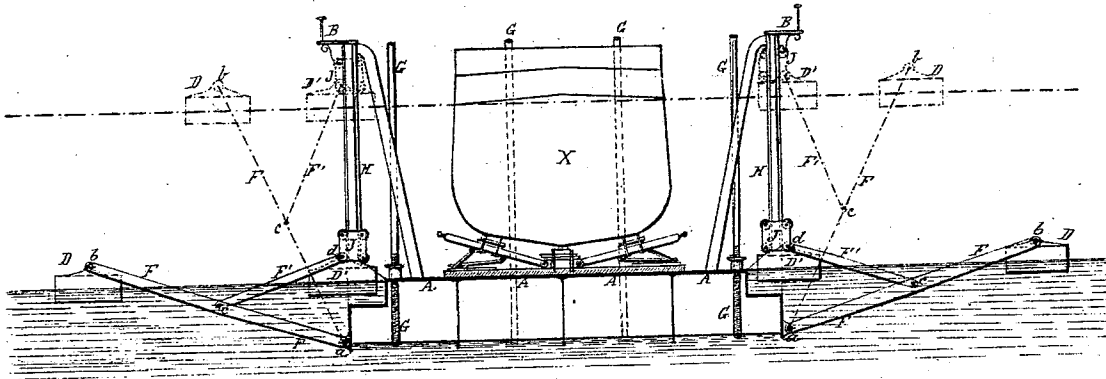
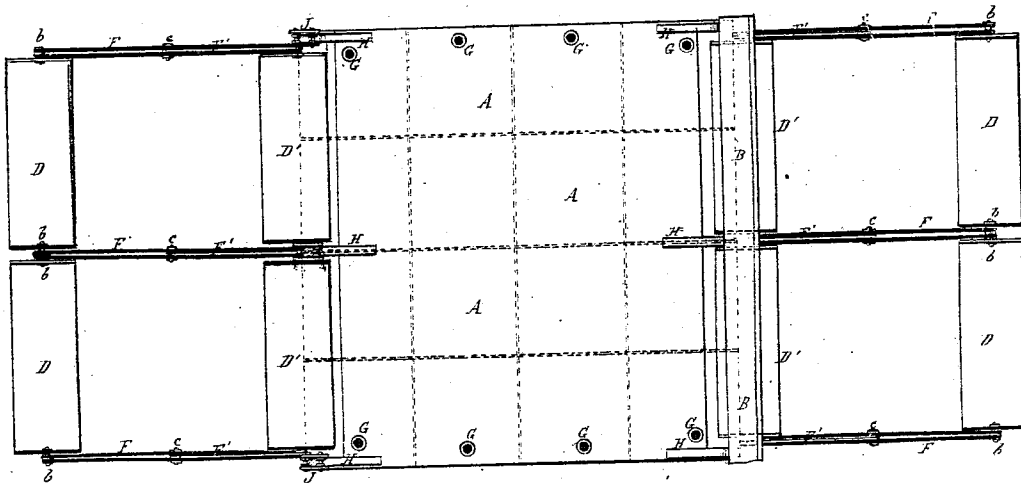


Fig. 2.



Witnesses.
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IMPROVEMENT IN FLOATING DOCKS.

Specification forming part of Letters Patent No. 123,402, dated February 6, 1872.

Specification of an Improved Floating Dock, by STANISLAS JANICKI, engineer, of St. Petersburg, Russia.

The object of this invention is to make an improved floating dock, to be afterwards used as a dry-dock for ships when their sheathing, keels, propellers, or other parts require to be repaired or cleaned, the dock being raised by compressed air and kept steady by means of external floats.

On the accompanying sheet of drawing, Figure 1 is an end view, and Fig. 2 a plan of one of my improved floating docks.

The dock consists of one or more metal caissons, A, of several compartments, for forming the bridge or platform on which the ship is to rest, the caissons being without bottoms, but held together at the sides and tops by rods and bars in any required manner. At the longitudinal sides of the caissons there are upright standards or frames H, surmounted with foot-paths and railings, B, and to each outer side of the dock are jointed two series of connecting-rods and floats. One series of connecting-rods, marked F, are jointed at one end, as at *a*, to the bottom of the single or compound caissons, and at their other ends to floats D, and the other series of connecting-rods, marked F', are connected at one end to the rods F, and at their other ends to sliding carriages or frames J, attached to floats D', which keep the jointed parts *d* invariably above the surface of the water. Below the bridge or platform A there are pipes and taps communicating with pumps for forcing air, when required, into the several compartments between the platform and the water, there being open safety-pipes G let into the caissons by screws to allow air to escape when the compressed air is in excess, and there are also let-off valves to form an equilibrium when the dock has to be sunk by its own gravity for the ingress and egress of the ship or vessel. When the dock is in its lowest position the float D, at each side, is near the float D', the connecting-rods F F' approaching vertical positions, as shown by the dotted lines, Fig. 1, and when the two

floats are near each other they are sufficiently immersed to sustain the dock, of which the greater part of the weight is compensated or counteracted by a quantity of compressed air shut up in the caissons.

To raise the dock and vessel the compressed air is pumped under the platform into the caissons by means of one or several air-pumps, which are placed, by preference, in a separate vessel or barge, the air circulating and increasing in all the compartments of the caissons until they and the ship are raised to the required height; but the outer sides of the caissons are immersed in the water, as seen in Fig. 1, thereby keeping in the compressed air.

As the dock rises the part *a* at each side rises with it, and the part *d* not being able to rise, the connecting-rod F' pushes the connecting-rod F and float D more and more outward, so as to give complete stability to the dock, the movements taking place automatically.

Thus during and after the raising of the dock the stability of all the parts is assured by these lateral floats—that is, the external floats D, jointed to connecting-rods attached to the sides of the dock, and the internal floats D' counterpoising the sliding carriages J, connected by the rods F' to the rods F. If the dock by any external force is caused to incline it soon recovers itself, as the floats D are connected to it by inflexible rods, and bring back the platform or bridge to its horizontal position.

The floats *d'* used for keeping the point *d* always above the surface of the water, act not only as supports for the carriages J but also prevent them from rising when not required; and it follows that all the parts should be properly balanced.

As before said, the dock or caisson is composed of one or several sections, according to the requirements, but not closed at the bottom. It is a simple rigid diaphragm provided with the necessary pipes and taps to enable the compressed air to circulate between the several partitions.

Having now described the nature and particulars of my said invention, and the manner in which the same is to be performed, I desire it to be understood that I claim—

1. In combination with a floating dock, constructed substantially as described, I claim the counterpoise or floats D D', operating as and for the purpose specified.

2. In combination with the compartments of a caisson of a floating dock, I claim the safe-

ty-pipes G, arranged as and for the purpose specified.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

STANISLAS JANICKI.

Witnesses:

C. LAFOND,

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