

No. 651,337.

Patented June 12, 1900.

F. C. BROOKSBANK.

SHIP'S CAISSON.

(Application filed Nov. 12, 1898.)

(No Model.)

FIG. 1.

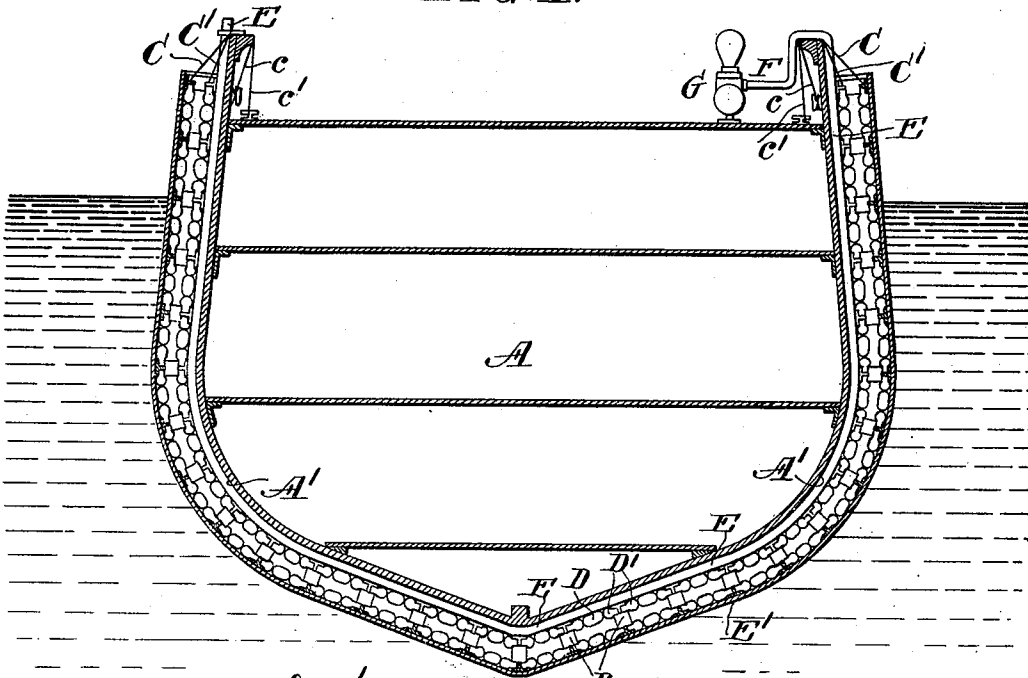


FIG. 2.

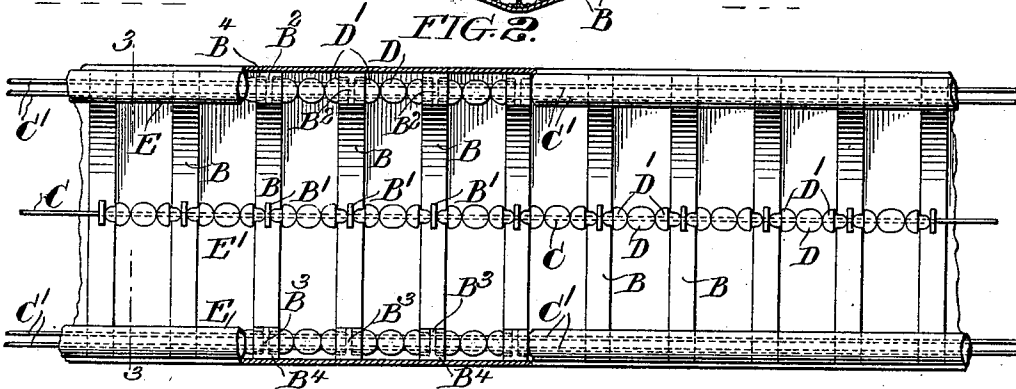


FIG. 3.

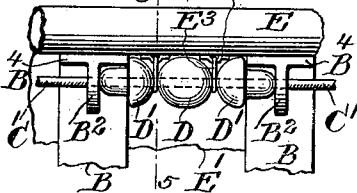


FIG. 4.

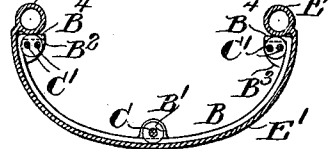


FIG. 5.

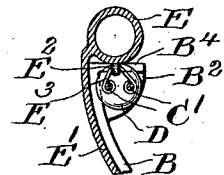
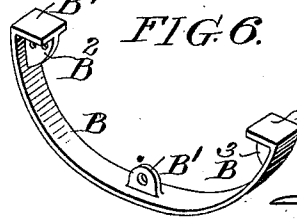


FIG. 6.



Witnesses:
Harry Doring
H. H. H. H.

Inventor:
F. C. Brooksbank
by his atty
Frank T. Chamber

UNITED STATES PATENT OFFICE.

FREDERICK C. BROOKSBANK, OF RIVERTON, NEW JERSEY.

SHIP'S CAISSON.

SPECIFICATION forming part of Letters Patent No. 651,337, dated June 12, 1900.

Application filed November 12, 1898. Serial No. 696,214. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. BROOKSBANK, a citizen of the United States of America, residing in Riverton, in the county of Burlington, in the State of New Jersey, have invented a certain new and useful Improvement in Ships' Caissons, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of a ship's caisson which can be readily applied to sections of a ship's bottom and easily and conveniently carried on board ship, my object being to provide a caisson which can be used in case of emergency to give access to sections of the ship's bottom for cleaning or repairing.

The nature of my improvements will be best understood as described in connection with the drawings, in which they are illustrated, and in which—

Figure 1 is a cross-section of a hull, showing my caisson applied to it. Fig. 2 is a view, on an enlarged scale, of a section of my caisson viewed from the inside. Fig. 3 is a cross-sectional view taken as on the line 3 3 of Fig. 2. Fig. 4 is a view, on an enlarged scale, of a section of the edge of my caisson. Fig. 5 is a cross-section on the line 5 5 of Fig. 4, and Fig. 6 is a perspective view of one of the outwardly-arched ribs employed in my construction.

A is the hull of the ship, the outer skin of which is indicated at A'.

B B, &c., are outwardly-arched metal ribs made both strong and light.

B' B² B³ indicate inwardly-extending lugs formed with perforations to give passage to a rope, chain, or other convenient rope-like connection. As shown, the lugs B² and B³ have two perforations.

B⁴ B⁴ indicate inwardly-extending flattened ends at the ends of the arched braces B.

C and C' indicate rope-like connections upon which the ribs B are strung and by means of which they are connected and supported on the upper deck of the ship, as indicated in Fig. 1. D and D' indicate spacing-pieces also strung upon the connections C and C' and by means of which the arched ribs or braces are properly spaced. These

spacing-pieces are preferably of bead-like conformation, and, as shown, the pieces D' are given a somewhat pear-shaped conformation, their narrowed parts extending under the ribs B and abutting against the lugs B', &c.

E E are packing-pieces extending along the inner ends of the ribs in a position to intervene between them and the skin of the ship when the caisson is in place. These packing-strips must be elastic in order to enable them to conform to inequalities in the skin of the ship and make a tight joint therewith. Preferably I make them, as shown, of compressible tubes carried up above the water-level and kept full of fluid under pressure, preferably compressed air, by a connection with a pump, as indicated at G, F indicating the delivery-pipe of the pump, connecting with the packing-tubes E.

E' indicates a layer of flexible impervious material connecting with the packing-pieces E E on each side of the casing and extending over the ribs B, so as to cover the ribs, which in turn support the impervious material.

In use the flexible caisson is drawn under a ship by means of its rope connections and brought up into close contact with the outer skin of the ship. The water between the caisson and the ship is then pumped out of it, whereupon the pressure of the external water will act to hold the caisson closely against the skin and prevent the entry of water from outside. Operatives can then descend through the tunnel-like caisson and reach any part of the bottom of the ship which lies within it. When the repairs or cleaning of the ship are completed, water is again admitted to the caisson, which can then be readily drawn up and stored on shipboard.

It is important that the caisson should open above the water-level on both sides of the ship's hull, as the pressure on the caisson is thus balanced and a free ventilation made easy.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A ship's caisson adapted to extend beneath a ship's bottom and to open above the surface of the water at both ends, made up of a series of transverse outwardly-arched ribs secured together by flexible connections and

supported and covered by a layer of flexible
impervious material having its lateral edges
merging into lines of compressible packing
situated under the end of the arched ribs in
5 position to intervene between them and the
skin of a ship's bottom.

2. A ship's caisson having in combination
a series of outwardly-arched ribs, a number
of flexible rope-like connections upon which
10 said ribs are secured, spacing-blocks strung

on said connections between adjacent ribs,
compressible packing-strips secured along the
inner ends of the ribs, and a layer of flexible
impervious material connecting said packing-
strips and extending over the arched ribs. 15

F. C. BROOKSBANK.

Witnesses:

CHAS. F. MYERS,
D. STEWART.