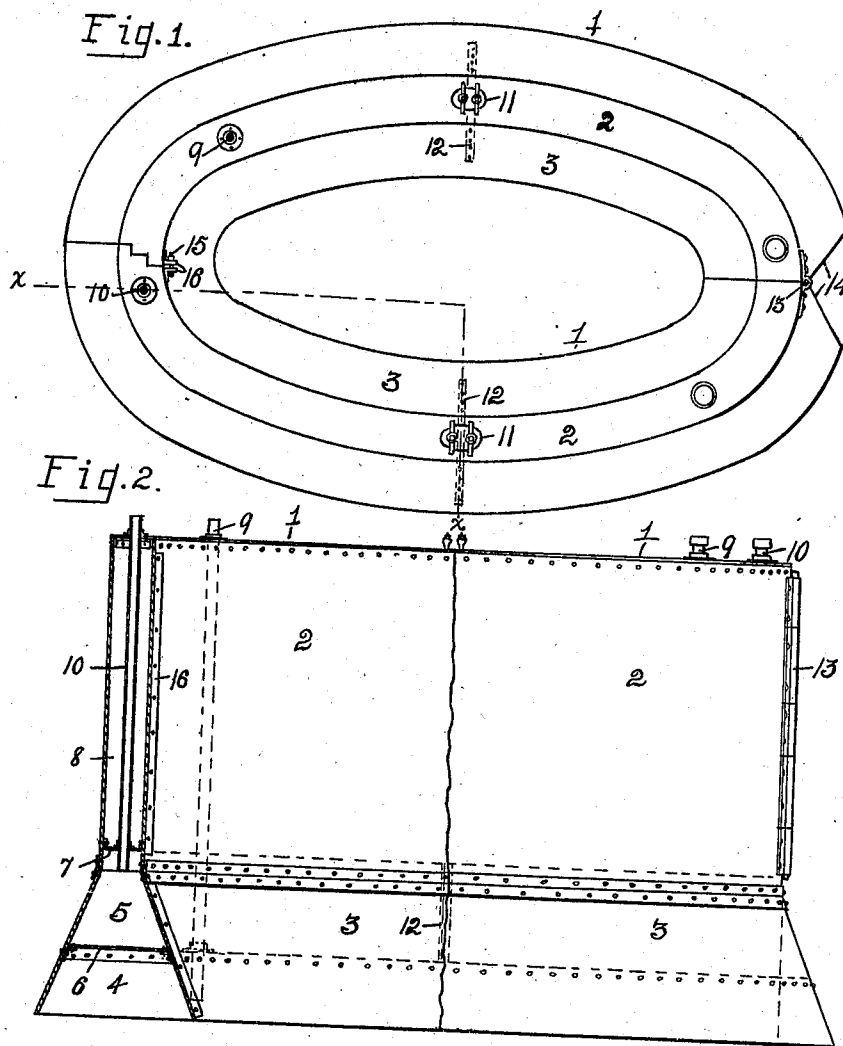


924,362.

A. C. LEOW.
COFFER DAM.
APPLICATION FILED JULY 24, 1908.

Patented June 8, 1909.



WITNESSES:
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UNITED STATES PATENT OFFICE.

AUGUST C. LEOW, OF PORT CLINTON, OHIO.

COFFER-DAM.

No. 924,362.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed July 24, 1908. Serial No. 445,115.

To all whom it may concern:

Be it known that I, AUGUST C. LEOW, a citizen of the United States, and a resident of Port Clinton, in the county of Ottawa and State of Ohio, have invented a certain new and useful Coffe-Dam; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to the class of apparatus employed in submarine work, and particularly to coffer dams of the floating type adapted to inclose bridges, piers, docks, or other articles, or portions of the same for the purpose of excluding water therefrom to facilitate the building or repairing thereof, and also to be floated from place to place as required for use on different work.

The object of my invention is the provision of an improved and highly efficient apparatus of this class, which is provided with air and water compartments to enable it to be sunk or floated as desired, and so constructed as to enable it to completely surround objects such as piers, abutments, vessels, or the like or to only partially inclose an object to adapt it for use in connection with the building or repairing of wharves, or the like.

The operation, construction and arrangement of the parts of the invention are fully described in the following specification, and illustrated in the accompanying drawings, in which,—

Figure 1 is a top plan view of a coffer-dam embodying the features of my invention, and Fig. 2 is a side elevation thereof with a part in section along the dotted line *xx* in Fig. 1.

The apparatus comprises a plurality of sections 1, preferably two, which are hinged or otherwise suitably secured together, and is preferably of elliptical shape, as shown, to adapt it for use around vessels, along abutments, or the like, and also to better adapt it, when opened, to inclose a portion of a wharf or other object. It is apparent, however, that the apparatus may be of circular or other desired form.

The sections 1 are made of wood, steel, or other suitable material, and each comprises

the upper hollow wall portion 2 and the hollow base portion 3, the walls of which latter diverge from each other from the lower end of the wall 2 downwardly, as shown. The base 3 is divided into the lower and upper compartments 4 and 5, respectively, by the partition 6, the lower of said compartments having its bottom open, as shown, and the hollow of the wall 2 is divided from the base compartment 5 by the partition 7, thus providing the compartment 8 therein. In order to permit the filling of said compartments with air or water, as it may be desired to float or sink the dam, communication is had with the base chamber 4 through one or more pipes 9, with the base chamber 5 through one or more pipes 10, and with the chamber 8 through one or more openings 11 in its top, each of such pipes or openings being provided with a suitable closure or stopper member. It is apparent that each of the compartments or chambers 4, 5 and 8, if desired, may be subdivided into a plurality of compartments, as is shown at 12 by dotted lines in connection with the compartment 5.

The sections 1 are shown as being hinged together, as at 13, and to enable an opening movement thereof have the hinged ends of their base portions 3 cutaway, as at 14, to a desired degree. The opposite ends of the sections, when in abutment, are secured together in any suitable manner, as by clamping-bolts 15 passing through flanges 16 at such ends. The meeting ends of the two sections are shown as being shaped to form a zig-zag joint to better exclude the water from interior of the dam.

In practice, the apparatus is floated to the place where it is desired to be used, by drawing the water from the chambers 5 and 8 by means of a suitable pump and filling them with air. When the apparatus has been moved to the place where the work is to be performed it is sunk by filling the chambers 5 and 8 with water. As the lower ends of the tapered walls of the base-portions 3 of the section sink into the mud or sand, water is compressed within the contracted upper end of the base chamber 4, and is drawn therefrom through the pipes 9 to permit a sufficient sinking of the dam to form a watertight joint between its base and the bed of the water body.

It is apparent that the dam may be posi-

tioned to completely surround the work, or be opened and have the free ends of its sections abutting against the work at the sides of the place where the work is to be performed, and also that when the dam is removed from the work no timbers or projecting parts are left, as is commonly the case with the coffer-dams now in use.

I wish it understood that I do not desire to be restricted to the exact details of construction and arrangement of the parts of the invention shown and described, as obvious modifications will occur to persons skilled in the art.

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

1. In a structure of the class described, an inclosing wall which is formed around its base portion with downwardly diverging legs, substantially as described.

2. In a structure of the class described, an inclosing wall, the base portion of which is formed with diverging legs to provide an open bottom compartment around the wall

base, and means of access to such compartment, substantially as described.

3. A coffer-dam having a hollow upper wall portion and a hollow base portion having downwardly diverging walls, said upper and base portions being divided to provide a plurality of compartments for holding air or water, and means for providing access to each compartment.

4. A coffer-dam having a hollow upper wall portion forming an air or water chamber, and a hollow flaring base portion having a horizontal partition intermediate its upper and lower ends, which divides the base into an upper closed compartment and lower open-bottom compartment, and means of access to each compartment.

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

AUGUST C. LEOW.

Witnesses:

C. W. OWEN,
HAZEL B. Hiett.