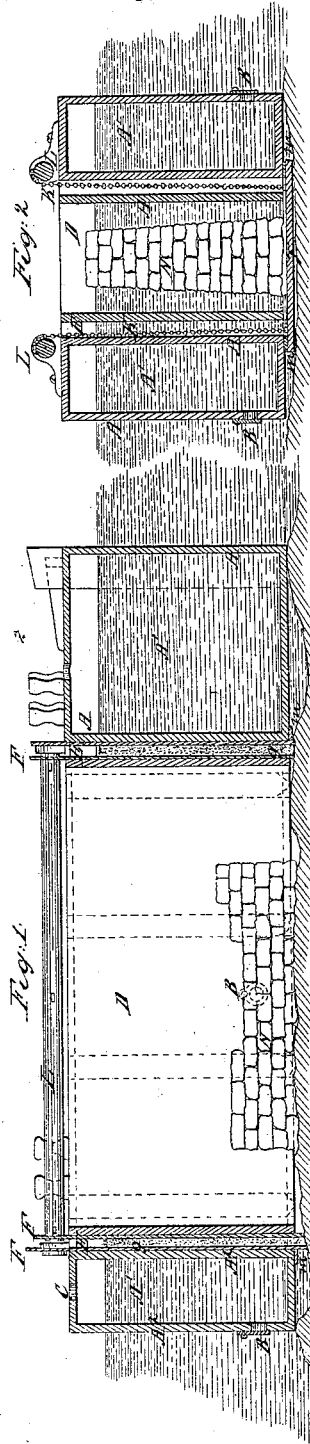
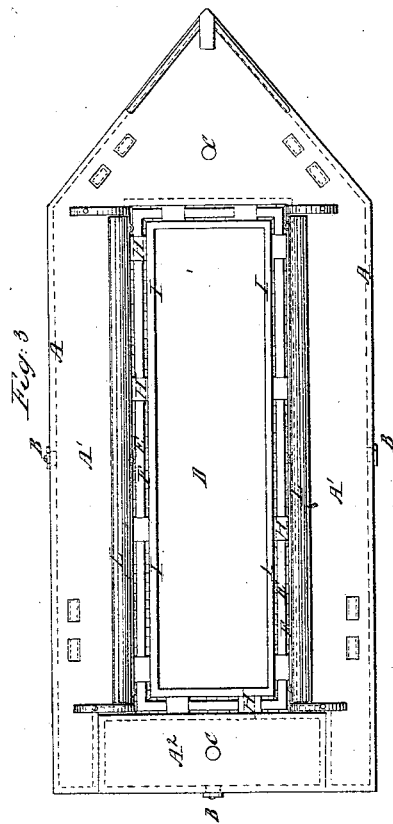


A. Gilmore.

Caisson.

No 33,919.

Patented Apr. 10, 1866.



Witnesses
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UNITED STATES PATENT OFFICE.

AARON GILMORE, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF, B. H. AUSTIN, JR., AND DOLPHUS S. AUSTIN, OF SAME PLACE.

IMPROVEMENT IN COFFER-DAMS.

Specification forming part of Letters Patent No. 53,919, dated April 10, 1866.

To all whom it may concern:

Be it known that I, AARON GILMORE, of the city of Buffalo, county of Erie, and State of New York, (assignor to myself, BENJAMIN H. AUSTIN, Jr., and DOLPHUS S. AUSTIN, of the city of Buffalo aforesaid,) have invented a new and Improved Portable Coffe-Dam; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is a longitudinal section. Fig. II is a transverse section. Fig. III is a top plan.

Letters of like name and kind in the drawings refer to like parts in each of the figures.

The nature of this invention relates to making a coffer-dam which may be floated from place to place upon the water and filled with water and sunk at any place desired, and a free dry space obtained within for the erection of an abutment or pier, and the water therein then discharged by pumps, and the dam will again float and clear the abutment or pier and be in a condition to be again used at another place.

To carry out and realize the purpose of my invention, I make a structure which, in its exterior outlines, somewhat resembles a flat-bottomed boat with an oblong open area in the center within which to construct an abutment or pier when it is placed in the bed of the stream for use. This structure is represented at A in the drawings. It is made with double walls and hollow or with bulk-heads or water spaces within its walls, as shown at A', which spaces may be filled with water for the purpose of sinking the structure onto the bed of the stream where the pier is to be built. Valves are provided for admitting water into these spaces, which are shown at B. These valves are to be opened to admit water and closed when the water-spaces are filled, so as to prevent the ingress of water when the water is pumped out. The rear end of this structure is made adjustable, so that it may be opened and shut like a lock-gate, or so that it may be raised up or removed to allow the structure to be floated away after the pier or abutment is built without contact with the abutment. This movable end piece is shown at A². Its particular construction and adjustment is not im-

portant, so that the main idea of raising or opening it sufficiently to clear the abutment is observed. In some cases the rear end could be made stationary, like the side walls; but such stationary end would render the structure less convenient in practice, for the reason that it would be necessary to lift it over the abutment when built in order to be floated away without striking the abutment.

The front end of the structure is made tapering, like the bow of a boat, and in case a gate is used for the rear end it may also be made slightly tapering. Holes are made through the deck, as shown at C, for the insertion of pumps for pumping the water out when the abutment is completed.

Figs. I and III represent the structure as sunk and standing upon the bed of the stream. It will be noticed that between the abutment-space D and the inner walls of the structure there is formed a space, E. This is for the purpose of driving plank into the bed of the stream, in case the bottom of the same is sand or gravel, to facilitate packing the structure to the bottom of the stream, and in case there is rock bottom then they are to be fitted thereto. These planks are shown at F.

Clay or water cement or other suitable composition is put in between the planks, as shown at g, and tamped down, so as to form a watertight packing as between the bottom of the structure and the bed of the stream, and thereby prevent water from flowing into the abutment-space.

H represents studs or posts made fast to the inner wall of the structure for the purpose of supporting the boards or planking I of the abutment space. The thickness of these studs forms a sufficient space to receive the planks and cement for packing. The studs are tapered or shortened at the bottom, so that the cement will form a continuous layer around the abutment-space.

In Fig. II is represented a false bottom, J, made of timbers and plank, to cover the abutment-space D. This will be found serviceable in many cases as a foundation for the abutment to stand upon where the bed of the stream is sand or gravel. This bottom is held in place by the chains K and windlass-drums L. A rubber packing, m, is used between the

overlapping part and the bottom of the structure in order to make the connection watertight.

The pier or abutment N is shown as standing upon the false bottom in Fig. II. A portion of it may be built before it is placed on the bottom of the stream. When the abutment is completed the chains are unhooked or disconnected from the false bottom, so that the structure may be floated away, leaving the pier standing in place. The pier or abutment N, Fig. I, is shown as standing upon the bed of the stream.

Considerable variation may be made in the

detail of a portable or floating coffer-dam without departing from the principle of my invention. This structure may also be used to advantage in many cases as a dry-dock.

What I claim as my invention, and desire to secure by Letters Patent, is—

A portable coffer-dam, A, with or without a movable end piece, A², for the purpose and substantially as described.

AARON GILMORE.

Witnesses:

B. H. MUEHLE,
W. H. FORBUSH.