J. E. Walsh,

Coffer Dam.

No. 113,374. Patented Apr. 4. 1871.

Fig. 1.

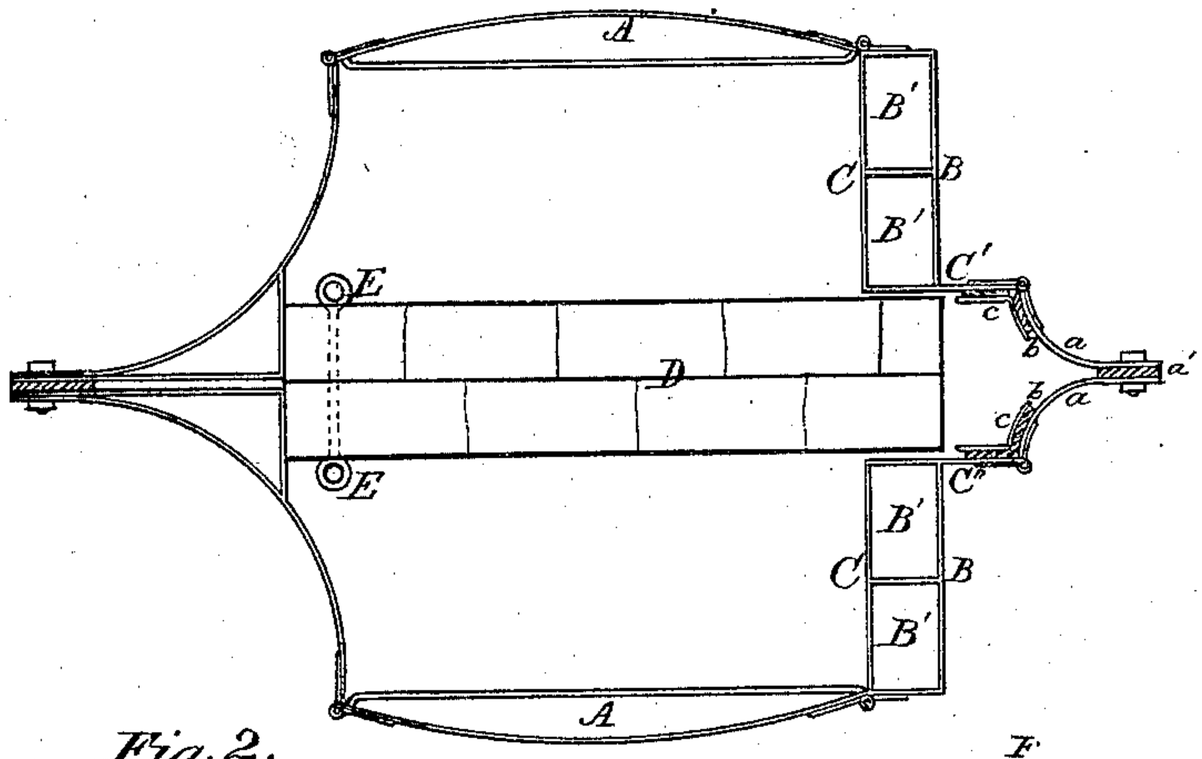


Fig. 2.

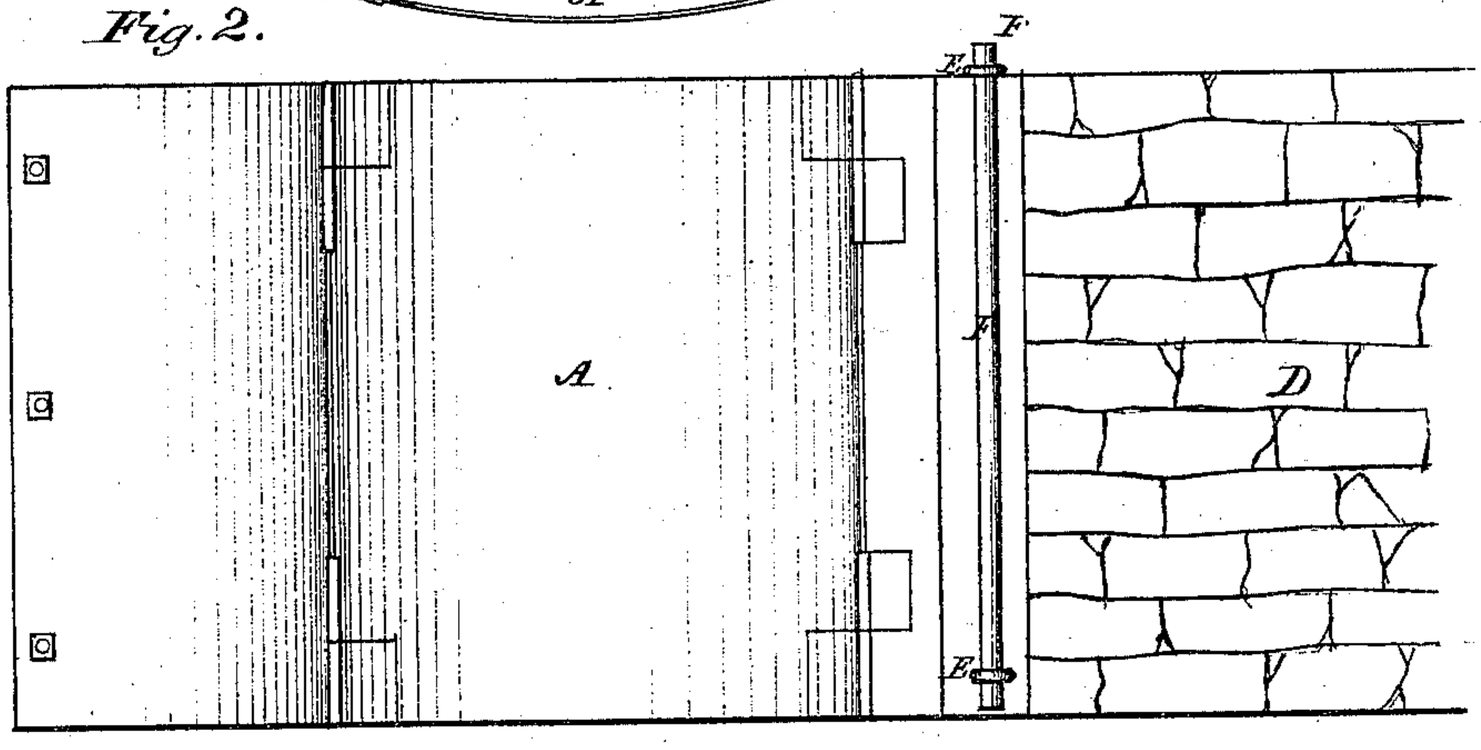
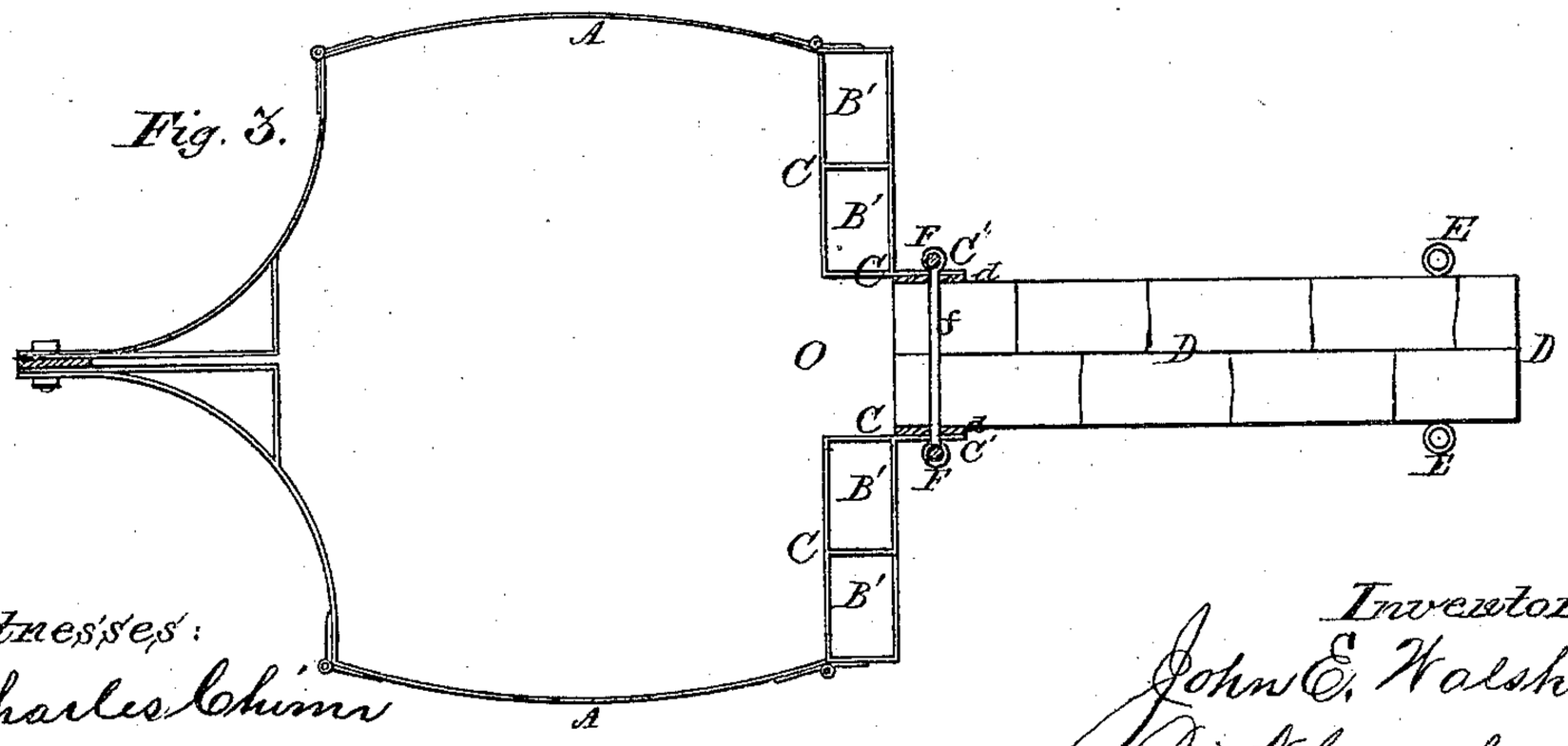


Fig. 3.



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JOHN E. WALSH, OF NEW YORK, N. Y.

Letters Patent No. 113,374, dated April 4, 1871.

IMPROVEMENT IN COFFER-DAMS.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN E. WALSH, of the city, county, and State of New York, have invented certain Improvements in Coffer-Dams, of which the following is a specification.

As coffer-dams are generally constructed they are only intended to be used as a means of protecting workmen and their work from the presence of water or mud in building piers or abutments of masonry, and wholly surrounding the masonry to be built within them.

The object of this invention is to so construct a coffer-dam as that a continuous wall of masonry may be built, and the coffer-dam moved along in advance of the wall as it is built, and afford all the necessary or needed protection that the ordinary coffer-dam could while masonry is being built within it; and

It consists in the construction of the walls of the dam so that after one section of what is to be a continuous wall is built within the coffer-dam, the dam can then be moved forward in the line at which the wall is to be built, and by devices be clamped fast to the wall that is completed so that another section of wall of the length of the inside of the dam can be built and joined upon that first constructed.

In the drawing—

Figure 1 is a top view of the coffer-dam with a section of a wall built inside of it;

Figure 2 is a side view of the dam; and

Figure 3 is a top view of the dam and section of a wall after the dam has been advanced for building a second section of the wall.

In the construction of the coffer-dam the side walls and forward end, and the devices for holding the dam in its position, are the same as shown in a patent granted to me, numbered 111,157; and the improvements to be described relate to the construction of the rear wall of the dam, and its adaptability to be attached to the wall when built.

A represents the curved side walls of the dam, which may be of any required length or height.

B is the rear or back end wall, extending from each side toward the center, of the width of the dam, but leaving a space, O, in the center a little wider than the wall to be built is thick, and, for the purpose of greater strength, is made double and with compartments B′.

At the inner sides of the two inner compartments the inner wall-plate C, on each side of the center, turns a right angle and forms the inside walls to the two interior compartments next the open space O, and extends back and in the rear of the wall B so as to form a flange, C′, of sufficient width to be clamped against the wall when necessary.

To the extreme back edge of flanges C′ are hinged curved doors *a*, and at the junction of the doors with the flanges, and attached to the doors, are angle-plates *c*, with packing *d* interposed between the plate and door and between the plate and flange-plate C′, so that, when the doors are closed against the packing *a*′ between them, at their extreme rear ends, and bolted together, as seen in fig. 1, all the joints will be water-tight.

The rear or double wall B is hinged to the side walls A, and the joints where so hinged are made water-tight in the same manner by angle-plates and packing.

The compartments B′ may or may not have bottoms, as fancy or want may dictate.

The doors *a*, at the rear end of the dam, are hinged in such way that they can be raised off of their hinges and be detached from the flanges C′.

The operation of building a wall by the use of this coffer-dam is as follows:

The coffer-dam, as seen in fig. 1, is taken to the precise spot where the wall is to be built, sunk, and secured in its position in the usual way, the water pumped out and the foundation prepared; then the wall D is built, as seen in said fig. 1, the entire length of the inside of the dam; this done, the doors *a* are removed from the flanges C′. The coffer-dam is then moved forward and planted, as seen in fig. 3, with the forward end of the wall between the flanges C′.

As the wall D is being built there are anchored and built in the wall metal eyes or staples E, and extending the proper distance from each side of the wall and at a suitable distance from the forward end of said wall, as seen in fig. 1, to receive the bottom ends of the clamp-piles F.

Between the flanges C′ and the wall D is placed a thick packing-sheet, *d*, when the clamp-piles F are forced at their bottom or lower ends into the eyes or staples E, brought toward each other at their top ends, and bearing hard against the flanges C′ their entire length, when the clamp *f*, having the two eyes, is placed around them, and securely holds the coffer-dam water-tight upon the wall, when the water is again taken out of the dam and the wall can be extended the length of the inside of the dam, and so continue the successive changes until the desired length of wall is completed. Curved, or walls with angles, can be built with this construction of dam as well as straight ones.

The double walls B being hinged to the side walls, they can be, when necessary, opened, which will allow of the successful turning of the dam where angles or curves are built in the wall, and may facilitate the handling and moving the dam at other times.

Such construction of coffer-dam has long been needed, and will be a valuable acquisition wherever sea or continuous walls are to be built.

Having described my invention,

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

1. The coffer-dam herein described, having a double wall, B, at its rear end, with opening O, flanges C′, and removable doors *a*, constructed and arranged in the manner and for the purpose set forth.

2. The flanges C′ of the coffer-dam herein described, in combination with the interposed packing *d*, metal eyes or staples E, clamp-piles F, and clamp *f*, constructed and arranged in the manner and for the purpose described.

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Witnesses:

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