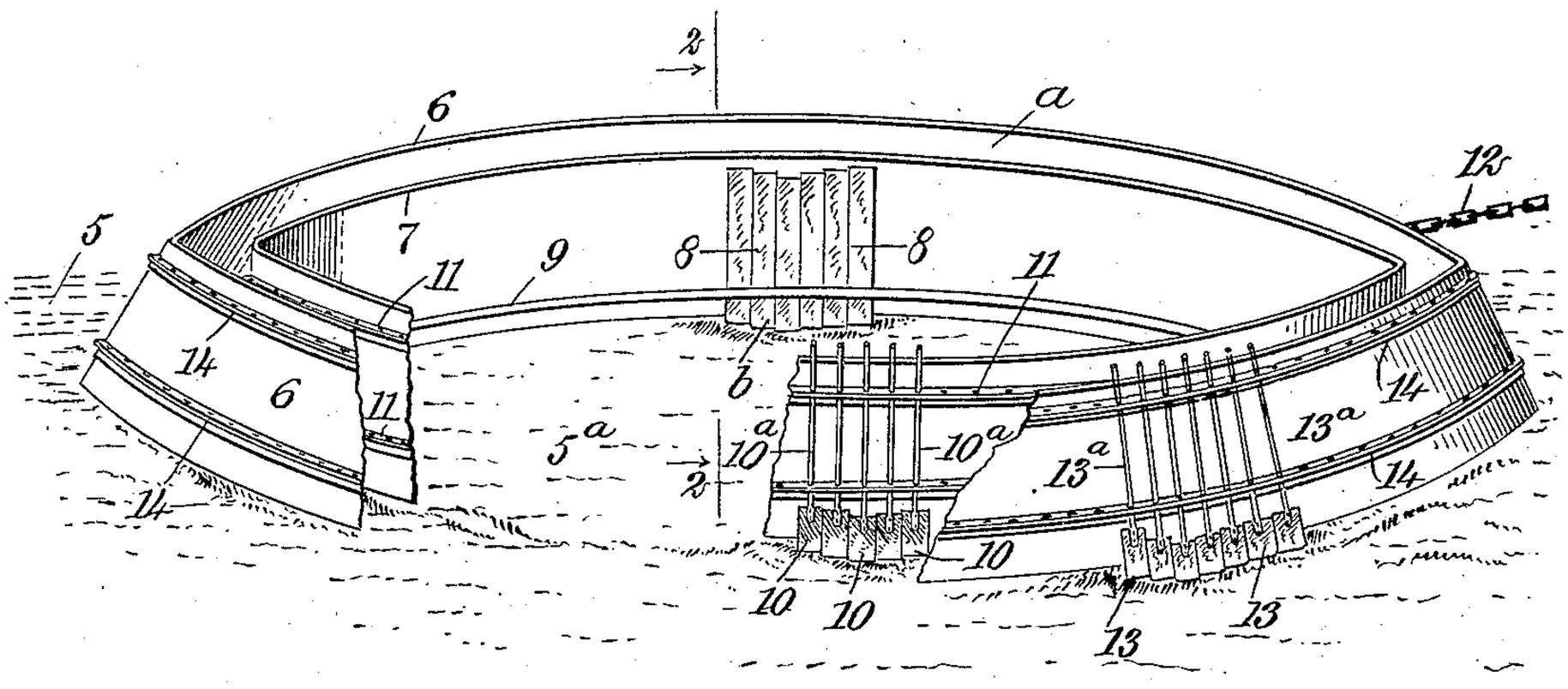
L. F. GILMAN.

COFFER DAM FOR PLACER MINING AND PIER BUILDING.

APPLICATION FILED JAN. 20, 1909.

946,841. Patented Jan. 18, 1910.

Fig. 1.



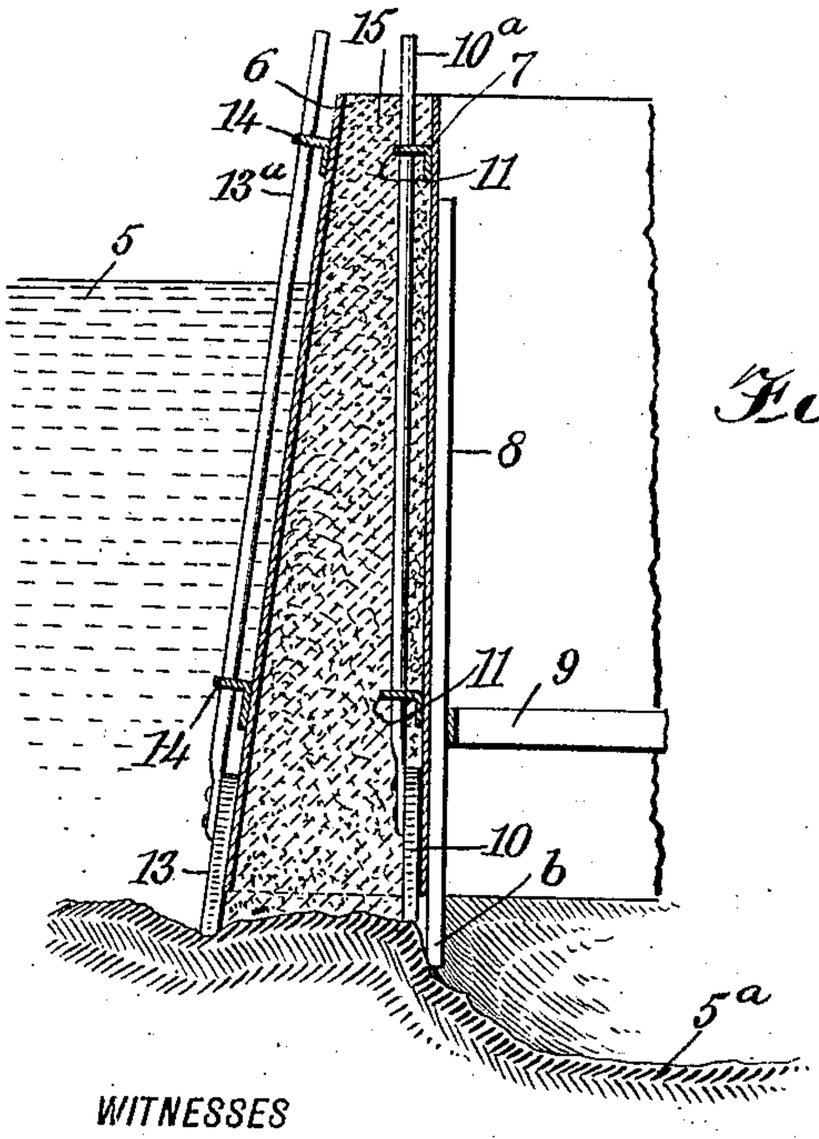


Fig. 2.

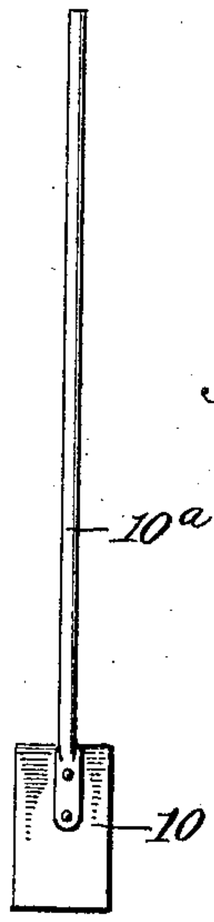


Fig. 3.

WITNESSES

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COFFER-DAM FOR PLACER-MINING AND PIER-BUILDING.

946,841. Specification of Letters Patent. Patented Jan. 18, 1910.

Application filed January 20, 1909. Serial No. 473,212.

To all whom it may concern:

Be it known that I, LEANDER F. GILMAN, a citizen of the United States, and a resident of Spokane, in the county of Spokane and State of Washington, have invented a new and Improved Coffer-Dam for Placer-Mining and Pier-Building, of which the following is a full, clear, and exact description.

This invention relates to placer mining for gold, but which may also be employed in pier building and has for its object to provide novel details of construction for a coffer dam, which is adapted for erection at a selected point in a stream of water, and incloses an area of the bottom thereof, any suitable means for the removal of water from the dam being employed, to permit an excavation to be made in the soil thus exposed.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improved coffer dam, broken away at one side for exposure of the details of construction; Fig. 2 is an enlarged transverse sectional view, substantially on the line 2—2 in Fig. 1; and Fig. 3 is a detached side view of one of a plurality of sealing planks, that are novel details of the invention.

In the drawings, 5 represents a body of water, that may be still water, or a flowing stream, from the bed 5^a of which gold bearing earth or sand is to be removed.

Frequently the bottom of a gold bearing stream is nearly level, and it is in a stream of such a character that the improvement is best adapted for successful operation.

The improved coffer dam is preferably oval in contour, and comprises two walls 6, 7, formed of plate metal, planking or other available material. The walls 6, 7 are embedded in the body of water at a selected point, the wall 7, that is of less diameter than the wall 6, being disposed concentric with the latter, thus providing an annular channel *a*, therebetween of a proper width. The walls 6, 7 are of such a height as will dispose their top edges above the surface of the body of water 5, and to afford the stability necessary for resisting the lateral pressure of the body of water, the walls 6, 7 are inclined inward and upward. Upon the inner surface of the inner wall 7, a reinforcing wall is secured, said wall consisting of a number of planks of wood or plates 8 of metal.

There is a sufficient number of the plates 8 provided for contact with the entire surface of the wall 7 and these plates are all jointed together edgewise, a hoop or band 9 that encircles their exposed surfaces serving to hold the assembled wall plates 8 in position, free to permit either reinforcing plate to be driven down into the soil, as shown at *b* in Fig. 2, and thus close any gaps at the bottom of the inner wall 7, due to an inequality in the surface of the bed of the water.

There is a series of sealing plates 10 provided for coöperation with the reinforcing plates 8, and as shown, said sealing plates each consist of a flat rectangular blade, preferably formed of metal, and having a handle bar 10^a secured by one of its ends upon an end of a respective plate.

Upon the outer face of the inner wall 7, two angle iron rings 11 are secured, these rings being respectively disposed near the upper and lower edges of the wall to which they are attached.

At suitable intervals perforations are formed in the projected members of the angle iron rings 11, these perforations being formed opposite each other in pairs in said rings, and each pair receives a handle bar 10^a, whereby the sealing plate 10 thereon is supported on the coffer dam wall 7, having its lower edge seated upon the bed of the water body.

The width of the members of the series of sealing plates 10 is such, that when said plates are all in position, the side edge of one plate will have contact with a corresponding side edge of an adjacent sealing plate.

It will be seen that when the coffer dam is in position for service, it may be anchored by providing one or more mooring chains or ropes 12, said cables extending to some stationary point, such as a barge, not shown, that may be securely anchored in the stream, or heavy anchors may be used that are attached to extended ends of the chains or cables 12.

A series of sealing plates 13, similar to the sealing plates 10, is provided for slidable connection with the outer side of the outer wall 6 of the coffer dam, and for retention

of the sealing plates 13 in contact with the outer wall mentioned, each sealing plate is furnished with a handle bar 13ª, having sufficient length to permit the extension of said bars above the upper edge of the wall 6, when in position thereat.

Two angle iron rings 14 are secured on the exterior of the coffer dam wall 6, respectively near the upper and lower edges thereof, and in the projecting members of these rings, perforations in duplicate series are formed, that are disposed at equal intervals vertically in pairs.

Each vertically disposed pair of perforations in the rings 14 receives a handle bar 13ª, that fits therein loosely, and thus retains the attached sealing plate 13 vertical and in contact with the outer surface of the wall 6, at or near the point where said wall is seated upon the soil.

Assuming that the coffer dam is positioned at a desired point in the water course, the sealing plates 10 and 13 are driven down into the bed of the body of water by the impact of blows on the upper ends of the handle bars 10ª and 13ª, which will compact the soil, and by a downward driven projection therein serve to render the coffer dam walls at their lower ends water tight in the bottom of the water in which the coffer dam is placed.

The coffer dam is further rendered stationary and water tight where it engages the bottom of the water course 5, by filling into the channel between the walls 6, 7 a puddling of clay, cement or other suitable material, as represented at 15 in Fig. 2.

Any preferred means for removing the water contained in the coffer dam may be employed, that may be a pump, or if there is a water current surrounding the coffer dam, the apparatus for which I made application for Letters Patent on October 31st, 1907, Serial No. 400,300, may be utilized.

Having described my invention, I claim as new, and desire to secure by Letters Patent:

1. A coffer dam comprising spaced walls inclined inward and upward, a reinforce wall formed of a series of plates or the like and a continuous band securing the reinforce members in edgewise relation and upon the inner surface of the inner wall, said plates being slidable on the said wall.

2. A coffer dam, comprising two oval continuous walls, spaced apart and inclined inward and upward, two spaced angle-iron rings secured on the outer surface of the inner oval wall, and a continuous series of sealing plates, each plate having a handle bar extended from one end thereof, and the angle-iron rings each having spaced perforations therein for the reception of the handle bars, whereby the sealing plates are supported vertically having their side edges engaged with each other.

3. A coffer dam, comprising two oval continuous walls, spaced apart, and equally inclined inward and upward, two spaced angle-iron rings secured on the outer surface of each continuous wall, said rings in each wall having spaced perforations therein disposed oppositely in pairs, two continuous series of sealing plates, each series of said plates having a handle bar extended from one end of each sealing plate, said handle bars having slidable engagement with a pair of perforations, whereby the plates are slidably supported on respective outer surfaces of the continuous walls and thus adapted for driven insertion into soil whereon the coffer dam is seated.

4. A cofferdam comprising concentric walls spaced apart from each other, each of said walls having on the outer face thereof an annular series of vertically slidable sealing plates, said plates being arranged with the edges abutting.

5. A cofferdam comprising a continuous wall, and an annular series of sealing plates slidable vertically on the wall, the edges of the plates abutting.

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

LEANDER F. GILMAN.

Witnesses:
C. C. MATLOCK,
GEO. W. FISH.