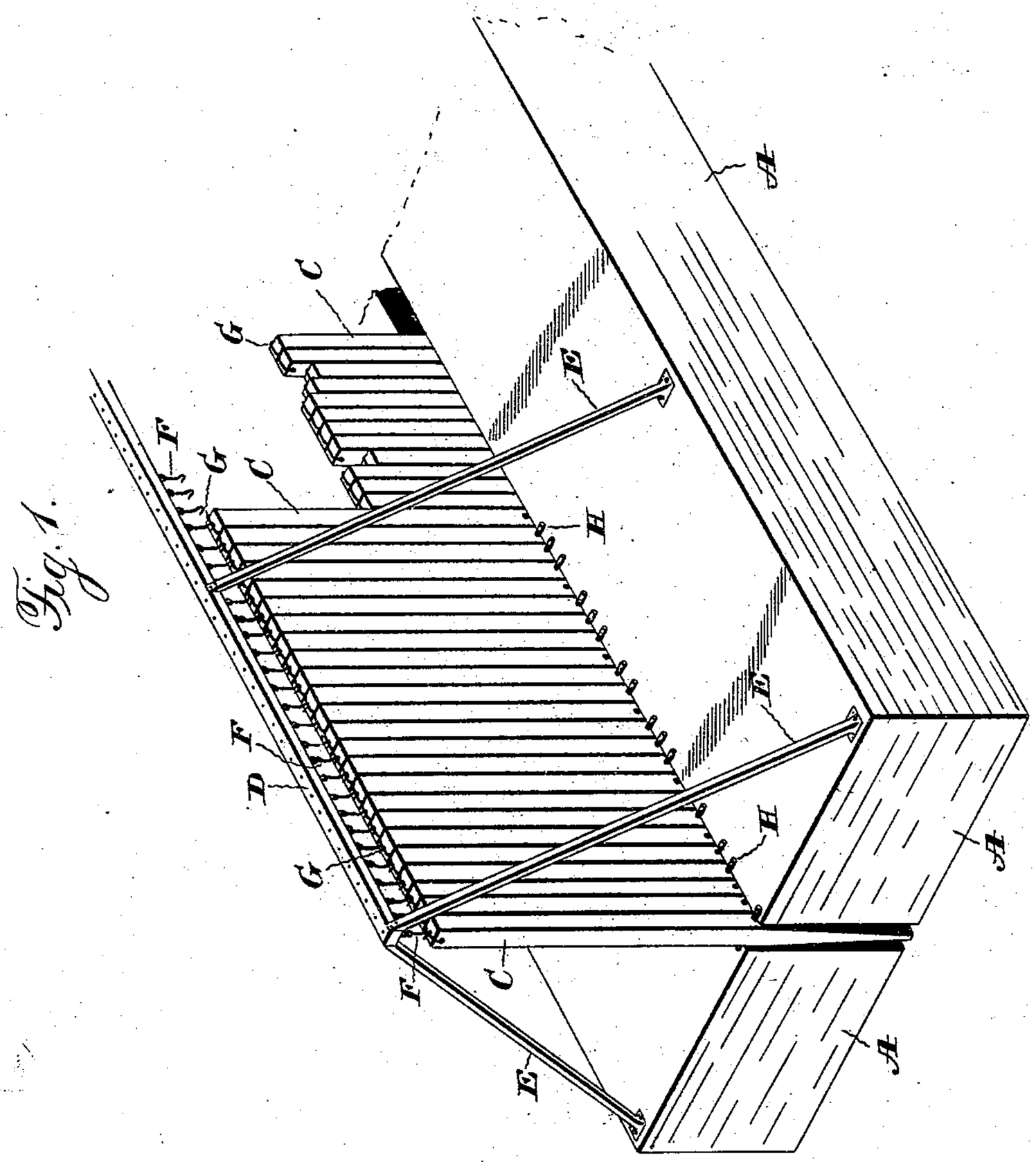
(No Model.) 3 Sheets—Sheet 1.

J. W. KING.

PORTABLE DIKE.

No. 551,641. Patented Dec. 17, 1895.



Witnesses:
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Henry C. Hazard.

Inventor.
John W. King, by
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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

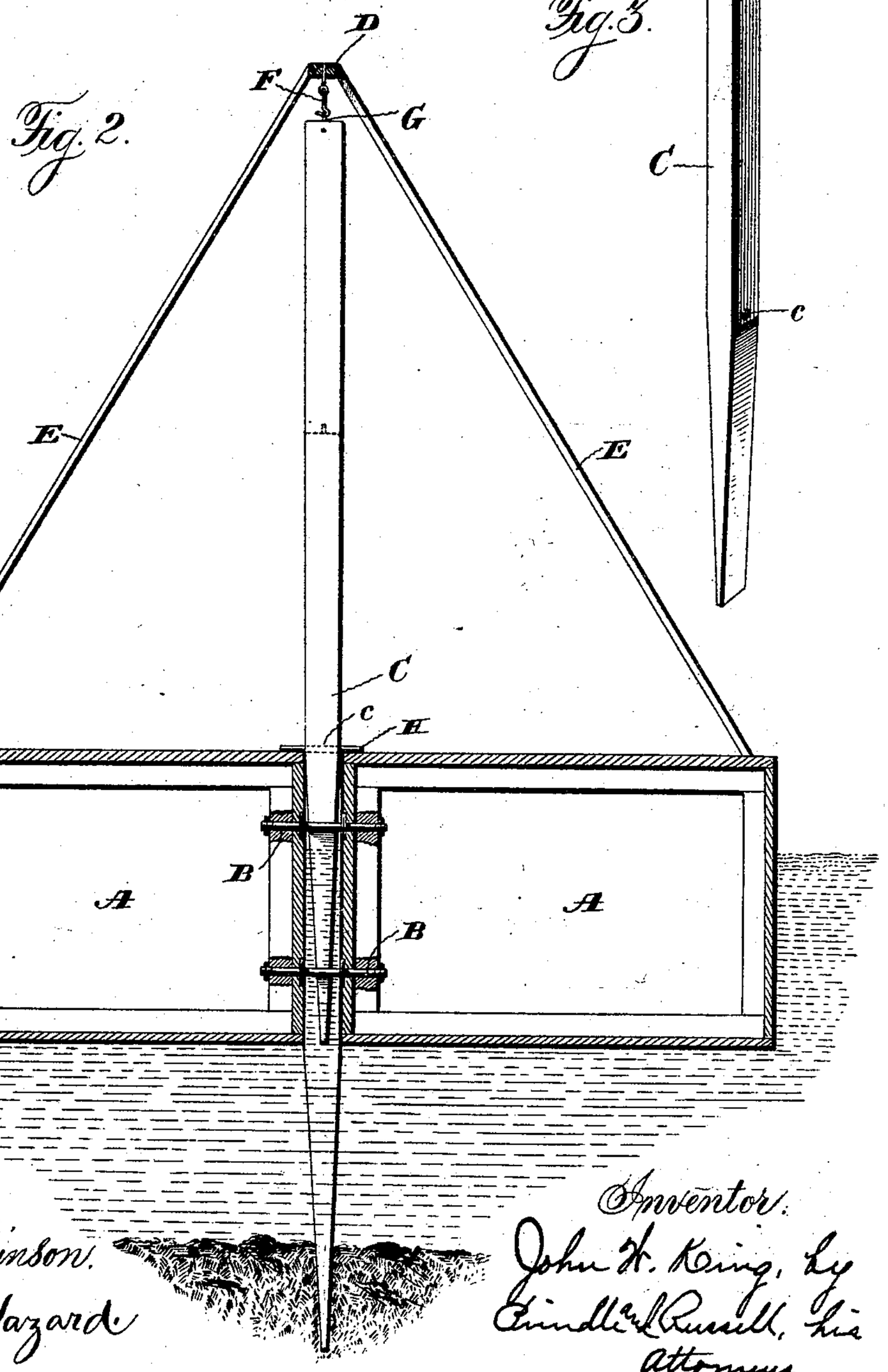

Fig. 3.

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(No Model.)

3 Sheets—Sheet 3.

J. W. KING.

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Fig. 3.

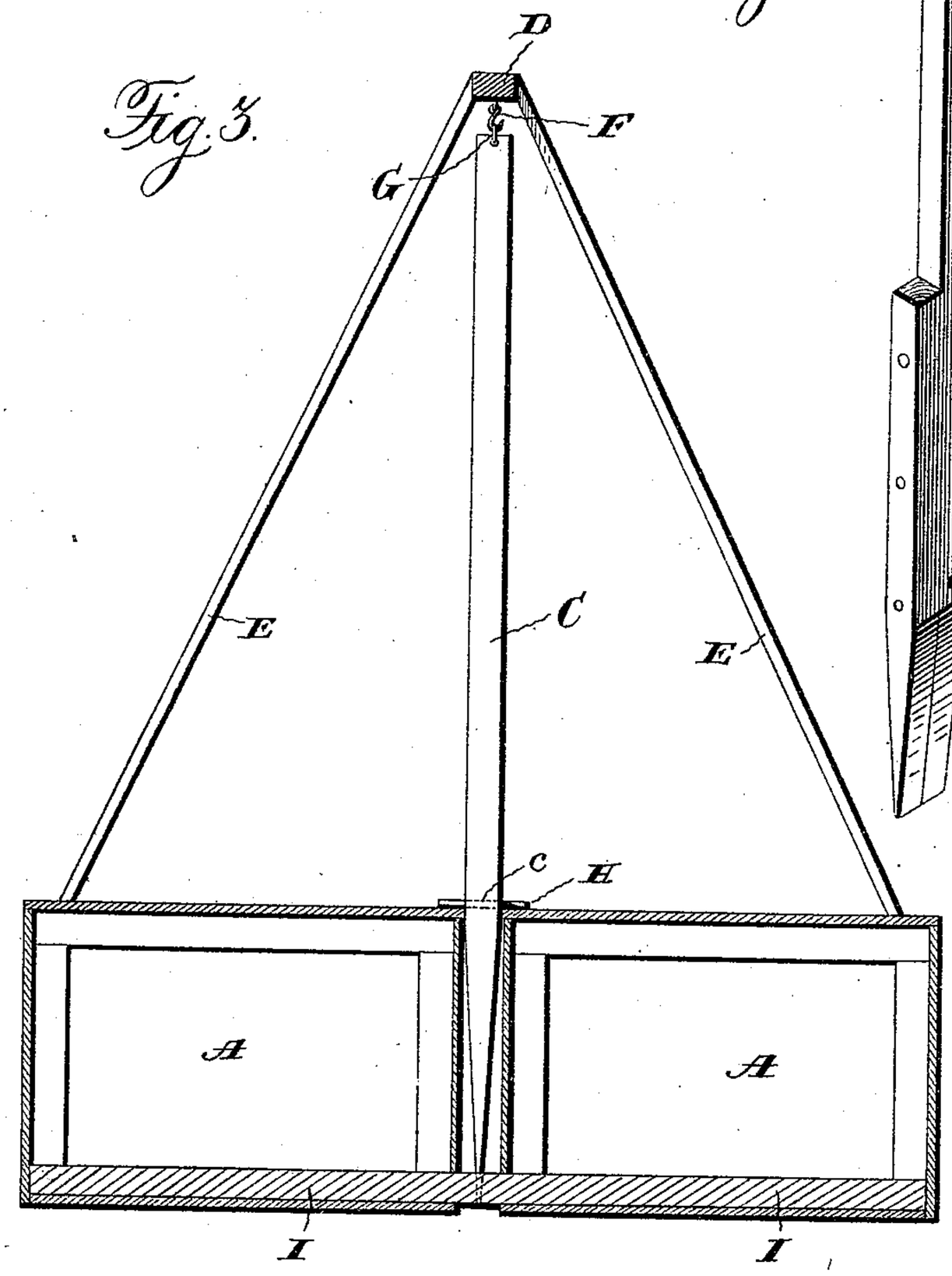
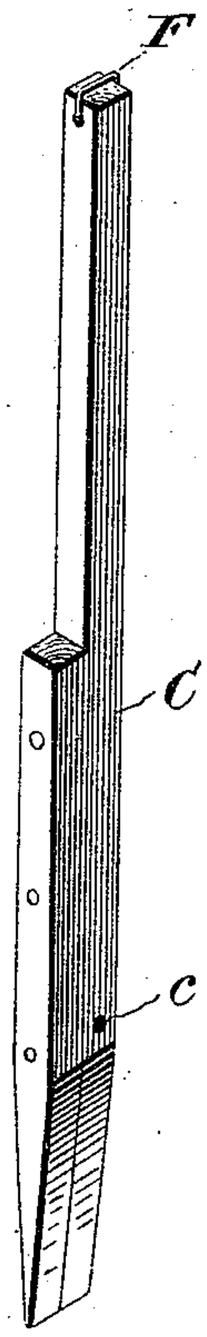


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN W. KING, OF CAIRO, ILLINOIS.

PORTABLE DIKE.

SPECIFICATION forming part of Letters Patent No. 551,641, dated December 17, 1895.

Application filed October 25, 1894. Serial No. 526,956. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. KING, of Cairo, in the county of Alexander, and in the State of Illinois, have invented certain new and useful Improvements in Portable Dikes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a floating dike constructed in accordance with my invention, some of the piles being shown as lowered in position for use and others raised. Fig. 2 is a cross-section thereof. Fig. 3 is a similar view of a different construction; Fig. 4, a detail perspective view of one of the piles, and Fig. 5 is a like view of another form of pile.

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

The object of my invention is to enable the direction of the currents of rivers, &c., to be controlled and the channels thereof deepened in an economical, but withal efficient manner; and to this end said invention consists of a portable float of suitable length which carries piles that may be lowered into the water to form a barrier to the flow of the same and lifted therefrom when it is desirable or necessary to change the place of operation, substantially as and for the purpose hereinafter specified.

In the carrying of my invention into practice, I employ a float that consists of two similar hulls A and A, that are united by flanged bolts B, so as to leave between their adjacent sides a space, as shown, said bolts being located at suitable distances apart throughout the length of the vessel.

Within the space between the hulls throughout the length thereof are placed vertical posts or piles C and C of such length as to enable their lower ends to reach and penetrate the river-bottom, while their upper ends remain above the upper side of the float. Said piles being arranged side by side in contact form a continuous wall or barrier from end to end of the float, and hence will operate when lowered to divert or deflect the water in such direction as may be desired.

Preferably the piles are rectangular in cross-section, with flat sides, as conducive to strength and efficient contact, and to facilitate the entrance of the lower ends into the river-bottom said ends are sharpened by beveling them off on the two sides which are not designed for abutment against adjacent piles. Such sharpening is also of value as reducing the bulk of the submerged portion of the pile, and hence facilitates the lowering of the same to the river-bottom.

If desired, the lower end of the pile may be covered with metal, both for its protection and to increase its weight.

To support the piles when they are lifted from the bottom and it is desired to change the place of work, I place above the same a beam or bar D, that runs the length of the float, and support said beam by means of posts or rods E and E, that rise from near the outer edge of each hull and incline inward and are bolted at their upper ends to said beam D at the sides thereof. It will be observed that this mode of supporting the beam D enables the entire space between the hulls from end to end of the float to be filled with piles.

Suspended from the beam D is a hook F for each pile, with which is adapted to engage a stirrup G that is bolted to the upper end of the pile. As a precautionary expedient to prevent the dropping of the piles by accidental displacement of the hooks or stirrups, I provide each pile with a horizontal opening *c*, that, when the pile is lifted to the proper distance for the engagement of the hook and stirrups, will be on a level with the deck or top of the float, so as to enable a bar or rod H to be passed through the same with its projecting ends resting upon the float.

To facilitate the lifting of the piles, suitable tackle consisting of ropes and pulleys is employed.

The use of my apparatus is as follows: The float, with all of the piles suspended from the beam F, is towed or otherwise transported to the place where it is desired to conduct operations, and then either all or any number of the piles are disengaged and permitted to drop, which they will do by reason of their weight, so that their lower sharpened ends will settle into the bottom of the stream. A barrier to the flow of water will thus be provided and the desired direction given to the current, with the result that the depth of the stream

will be increased by the washing away of the bottom thereof, a new channel or course thus being formed and the limits of the river narrowed. The desired effect having been produced at one point, the piles may be easily and quickly raised and the float conveyed to another point. Should a dike or barrier longer than that afforded by one float be necessary, then several floats placed end to end in a continuous line may be employed, and in view of the desirability of such an arrangement as this I preferably build the hulls with straight vertical ends, so that the floats may mutually support each other and conduce to the steadiness thereof. Should the current be too strong for a float to withstand it, then another float may be placed alongside.

My invention is entirely as effective in its work as a permanent dike or jetty, and hence, in view of its portability, is an extremely economical substitute. It is especially applicable for effective and valuable use in rivers having the characteristics of the Mississippi, since a barrier can be instantly placed at the necessary point as soon as any diversion in the course of the river is noted.

The dike or jetty can be located along shore or at any point in the stream and may be used to cause the permanent formation of bars, islands, &c., in midstream by being so arranged as to divert the current to both sides and thus cause the deposit and accumulation of sediment immediately below it, and at the same time deepen and narrow the channel upon each side by the washing of the river-bottom by the force of the flowing water, which of course will have its speed accelerated by reason of the partial obstruction.

While the main purpose of my invention is to enable the same piling to be used over and over again at different points, I nevertheless contemplate, where necessary, the detachment of the piles from the float, so that they may be driven and left for permanent use. In this connection it is desirable to unite the hulls where such form the float, so as to enable them to be readily separated, and with this end in view the bolt connection shown in Fig. 2 is quite desirable. I, however, do not limit myself to a detachable connection of the hulls, as I may employ a framing, such as is shown in Fig. 3, for uniting the hulls where beams or timbers I and I are used. As the presence of the beams I and I at intervals would cause gaps in the line of piling, I attach by bolts or otherwise to either of the piles adjacent to the beam a short piece of piling, as shown in Fig. 5, which will fill the space below the beam I and thus form a continuous barrier or obstruction from end to end of the float.

I prefer to employ piles that are rectangular or flat-sided in cross-section; but I do not limit myself thereto, nor do I confine myself only to the use of pointed piles, since unsharpened ones can also be employed, and by piles or piling I mean any form of obstruction whether consisting of what are strictly known as "piles" or "planks" or "boards," &c., which latter may be used alone or in conjunction with the log form of piles to close up any spaces between the same.

While I prefer a float made of double united hulls, it is nevertheless possible to employ a single hull with a suitable framing at one or both sides to guide and support a row of piles; nor do I limit myself to any particular construction of hull, as the same may be varied at will, and, of course, instead of constructing each pile of a single post several posts may be bolted or otherwise united to form a pile.

Having thus described my invention, what I claim is—

1. As an improvement in dikes, &c., the combination of a float composed of two hulls separated by a space, and piling in such space that is engaged and supported by the adjacent sides of the hulls, substantially as and for the purpose shown.

2. As an improvement in dikes, &c., the combination of a float composed of two hulls separated by a space that is adapted to receive and guide piles, and means for detachably connecting said hulls, substantially as and for the purpose described.

3. As an improvement in dikes, &c., the combination of two united hulls having between them a guideway for piles that is wholly above the bottoms of the hulls, substantially as and for the purpose specified.

4. As an improvement in dikes, the combination of a portable float having a pile receiving space, vertically movable piles placed alongside of each other therein, and a support for the piles to which they may be detachably connected, substantially as and for the purpose set forth.

5. As an improvement in dikes, the combination of a float having a pile receiving space, piles placed alongside of each other therein, a beam for supporting said piles, and supports for the beam that are attached to the sides thereof, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of October, 1894.

JOHN W. KING.

Witnesses:
JOHN M. RENMI,
B. B. BRADLEY.