

C. F. FRANCISCO.
 DEVICE FOR DAMMING AND REPAIRING BREAKS IN LEVEES.
 APPLICATION FILED JULY 28, 1910.

989,902.

Patented Apr. 18, 1911.

3 SHEETS—SHEET 1.

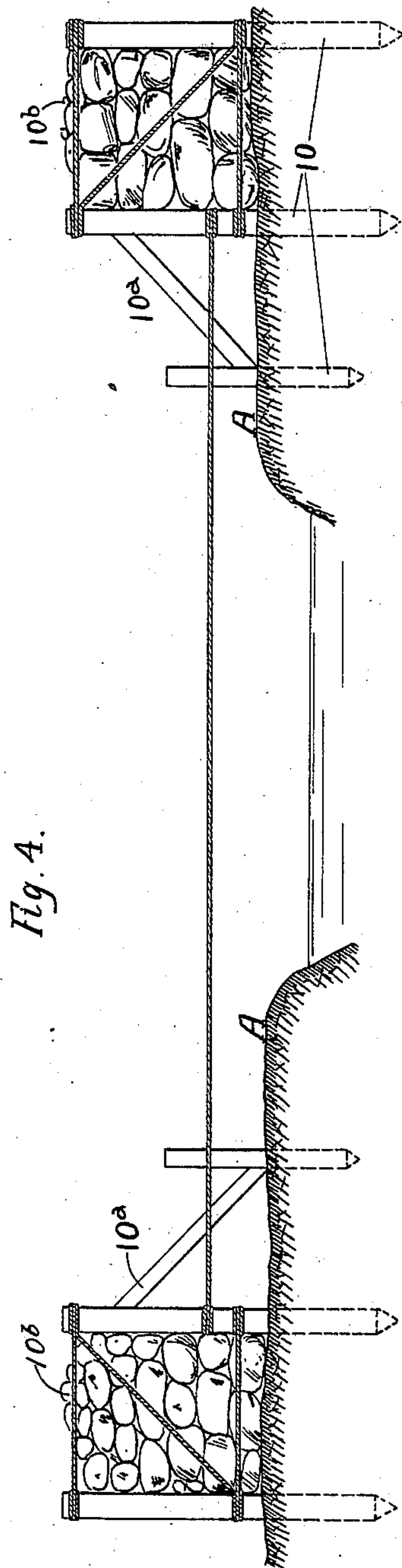


Fig. 4.

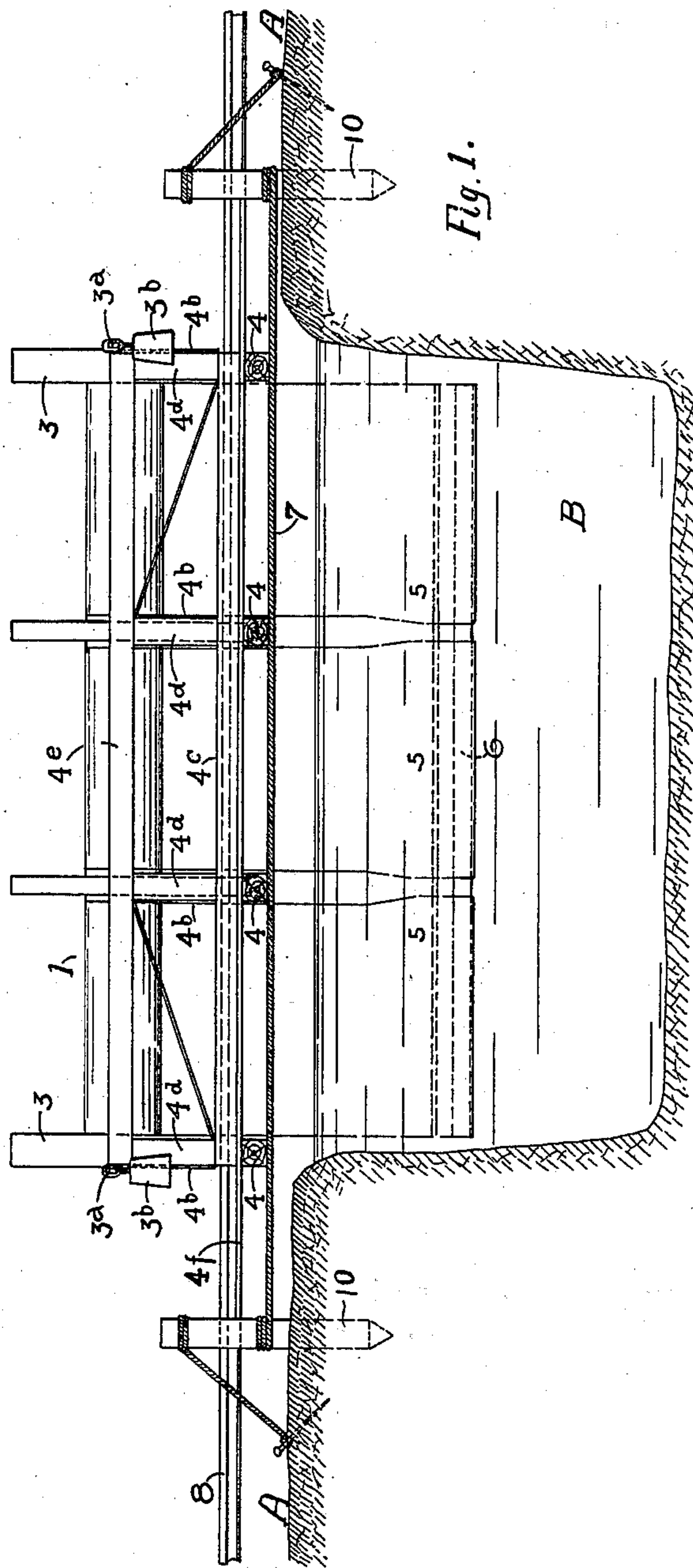


Fig. 1.

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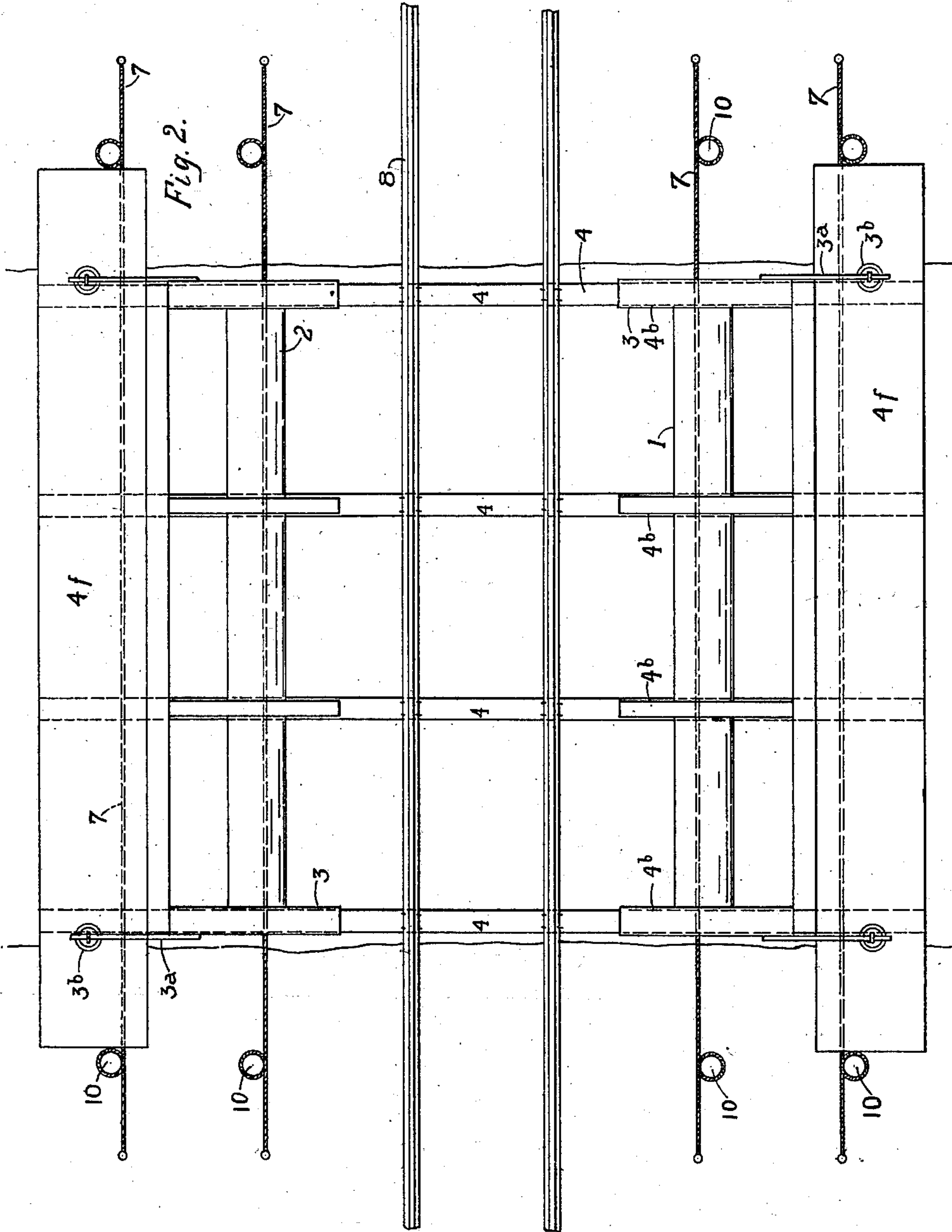
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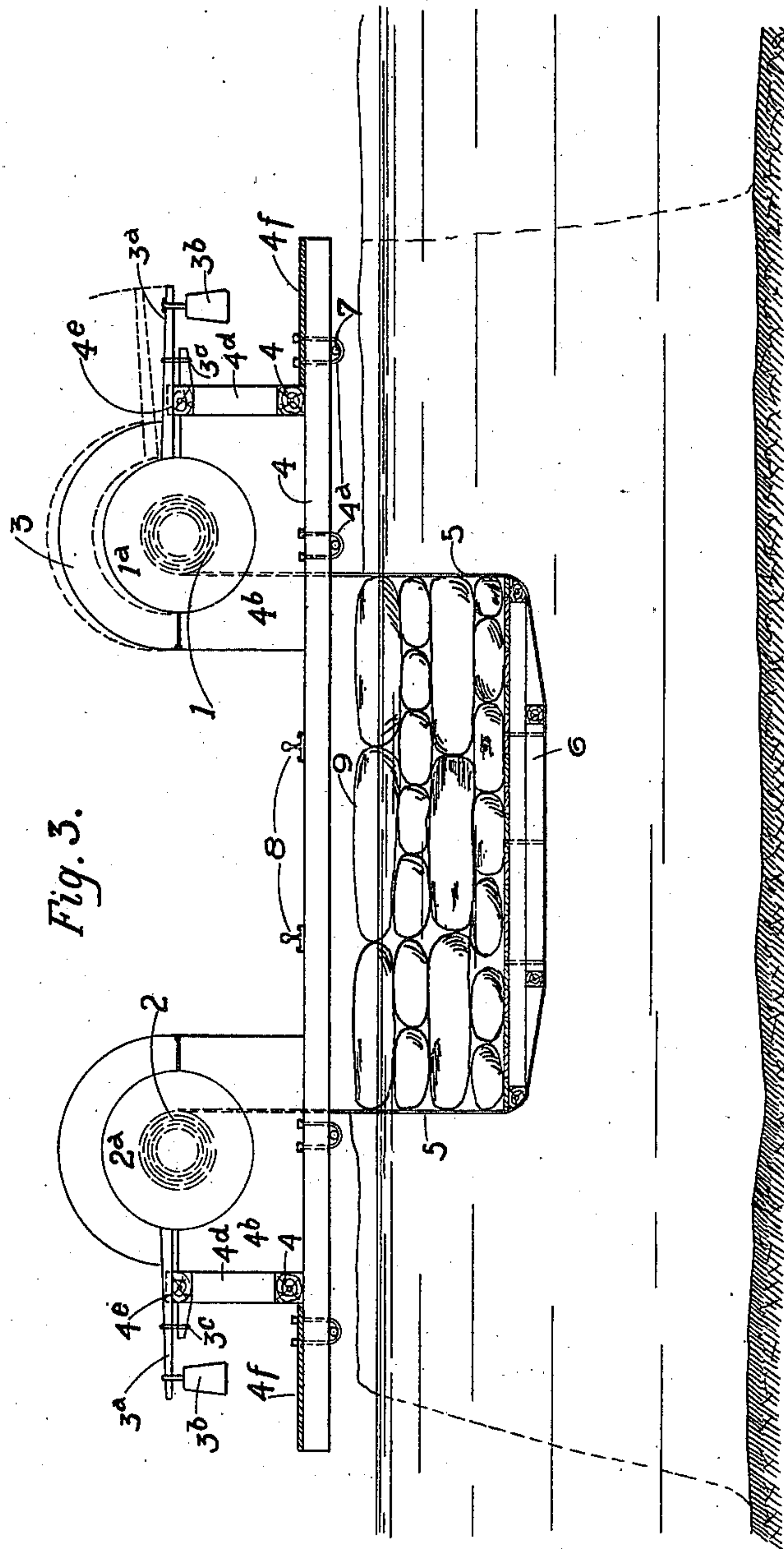


Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES F. FRANCISCO, OF SAN DIEGO, CALIFORNIA.

DEVICE FOR DAMMING AND REPAIRING BREAKS IN LEVEES.

989,902.

Specification of Letters Patent.

Patented Apr. 18, 1911.

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To all whom it may concern:

Be it known that I, CHARLES F. FRANCISCO, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented a certain new and useful Device for Damming and Repairing Breaks in Levees, of which the following is a specification.

My invention relates to a device for making dams in streams or closing breaks or crevasses and more particularly for closing breaks or crevasses in levees on riverbanks and the objects are, first to provide means for facilitating the building of dams or revetments, second to provide substantial means for checking the flow while said dam is being constructed and third to provide a device that may be used where the bank or levee is of soft or alluvial material.

With these and other objects in view as will appear in the detail description hereinafter, my invention consists of certain novel features of construction and combination of parts as hereinafter described, and particularly set forth in the appended claims, reference being had to the accompanying drawings in which:—

Figure 1 is a side elevational view showing my device partially lowered in a break in the levee, Fig. 2 is a plan view thereof, Fig. 3 is an end elevational view of the same and Fig. 4 is a detail side elevational view showing a more substantial method of anchoring the cables.

Similar characters of reference refer to similar parts throughout the several views.

The device as illustrated shows three units but there may be more or less as may be required by the condition of the break.

In the drawings A represents the levee in which there is a break, B represents said break. The drums 1 and 2, brake 3, girders 4, wire netting 5, rack 6, cables 7, track 8, levee filling 9 and piling 10, constitute the principal parts of my invention. The piles 10 are driven down into the banks or levee A, a substantial distance back from the break therein and said piles are substantially braced by means of other braces 10^a from piles, and in case the condition of the levee requires it the piles are more substantially braced as shown best in Fig. 4, in which case a plurality of piles are driven along the bank or levee and are connected by means of braces 10^a from near the ground line toward the top of the next pile and the piles are sub-

stantially tied together by means of cables used as braces, and weighted down by means of stones 10^b or other suitable material. To these piles on opposite sides of the break in the levee are substantially attached a plurality of cables 7. In this case I have shown four. Upon these cables 7 is mounted a plurality of girders which are substantially attached thereto by means of U bolts 4^a. In this case I have shown four girders, but there may be more or less as may be required. Upon these girders 4 and near each end thereof are provided supports 4^b which support the drums 1 and 2. Just outside of these supports on said girders are mounted tie beams 4^c, upon which are mounted vertical supports 4^d on the top end of which are provided tie beams 4^e. Just outside of tie beams 4^e on the extended ends of girders 4 are provided walks 4^f running full length of said device. The drums 1 and 2 are spool shaped provided with annular flanges 1^a and 2^a on each end of said drums. These flanges 1^a and 2^a rest in semi-circular recesses in supports 4^b, the contact surfaces thereof providing constant friction on the drums. To the cylinder portions of said drums 1 and 2 are substantially attached the opposite ends of a section of woven wire netting 5 of sufficient length to extend to the bottom of the break in the levee and across rack 6. This wire netting is of suitable strength and mesh and is wound equally from each end on drums 1 and 2 respectively, so as to leave the wire netting fill the space between said drums. On this wire netting between and below drums 1 and 2 is provided rack 6 which holds the wire netting a certain distance apart as shown best in Fig. 3. Immediately over this rack between the drum supports 4^b and mounted on girders 4 is track 8, adapted to support a car to be operated thereon. On the upper side of said supports 4^b are provided hinged segments 3, on the outer side of which are provided levers 3^a, on the outer end of which are mounted weights 3^b. These levers are also provided with hooks 3^c for fastening them down when desired. Upon the rack 6 are loaded bags of sand 9 mixed with cement or other material for closing the break. In case it is desired the units may be connected together by means of long bags filled with sand and cement or other suitable material, extending across several of the units.

It will be readily seen that with this con-

struction and the material used, that a good and substantial suspension bridge may be placed across the break in the levee and with a plurality of units sufficient to cover the full length of the break, supported on girders as described, and with the drums supported thereon, that the racks 6 loaded with suitable filling material will begin to descend into the break. The hinged segments 3 and supports 4^b act in conjunction to hold the load as described, the brake being adjustable by means of weight 3^b. The loading of the rack 6 is facilitated by means of a car on track 8 and as the rack 6 is loaded it is allowed to descend, under the control of the brake. The water may pass through the mesh in the netting, it offering little resistance thereto, and the load descends directly to the bottom of the break and provides a good and sufficient dam across the break in the levee.

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

25 1. A device for repairing breaks in levees, comprising a plurality of suspension cables, a frame mounted thereon, revoluble drums mounted on said frame and wire netting connected to said drums, all substantially as set forth.

30 2. A device for repairing breaks in levees comprising a plurality of suspension cables, a frame mounted thereon, revoluble drums mounted on said frame, a section of wire netting with its opposite ends attached to said drums and wound equally thereon and a rack mounted in said wire netting, all substantially as set forth.

40 3. A device for repairing breaks in levees, comprising a plurality of suspension cables, a frame mounted thereon, revoluble drums mounted on said frame, a section of wire netting with the opposite ends attached to said drums and wound equally thereon, a rack mounted in said wire netting, and break filling material on said rack, all substantially as set forth.

50 4. A device for repairing breaks in levees, comprising a plurality of piles substantially driven into the levee, a plurality of cables substantially attached to said piles, a frame consisting of girders, drum supports mounted on said frame, revoluble drums on said supports, wire netting rolled on said drums, brakes for holding said drums when desired, a rack mounted in said wire netting, and a track mounted on said frame, all substantially as set forth.

55 5. A device for damming and repairing

breaks in levees, comprising a plurality of anchored piles braced against and in connection with each other, a plurality of cables substantially attached to said piles, a plurality of girders mounted on said cables, a track mounted centrally on said girders, a plurality of pairs of revoluble drums mounted on said girders, means for controlling said drums, a section of wire netting attached to and wound on each pair of said drums, a rack mounted in said wire netting between said drums, bags of material loaded on said rack adapted to be lowered into a break in a levee, all substantially as set forth.

75 6. A device for damming and repairing breaks in levees, comprising a plurality of piles, means of anchoring said piles, a plurality of cables substantially attached to said piles, a plurality of girders mounted on said cables and attached thereto by means of U bolts, a track mounted centrally on said girders, walks on each outer end of said girders, tie beams connecting said girders, a pair of revoluble drum supports mounted on each girder, pairs of drums mounted on said supports, brake means for controlling said drums, wire netting attached to and wound on each pair of said drums, a rack mounted in said wire netting between said drums, and filling material loaded on said rack adapted to be lowered into the break in a levee, all substantially as set forth.

95 7. A device of the character described comprising cables substantially anchored on each side of a break in a levee, means mounted on said cables for supporting revoluble drums, said revoluble drums, adjustable means for controlling and stopping the rotation of said drums, sections of wire netting mounted on said revoluble drums, means mounted on said wire netting for holding the lower end of said wire netting apart, bags of sand mixed with cement mounted in said wire netting, adapted to be lowered into a break in a levee, a track centrally located over said wire netting adapted for cars to facilitate the handling of said bags, and walks provided on each side to facilitate the handling of the brakes, all substantially as set forth.

110 In testimony whereof, I have hereunto subscribed my name in the presence of two subscribing witnesses.

CHARLES F. FRANCISCO.

Witnesses:

MILTON H. MCCLURE,
CLAUD T. DAVENPORT.