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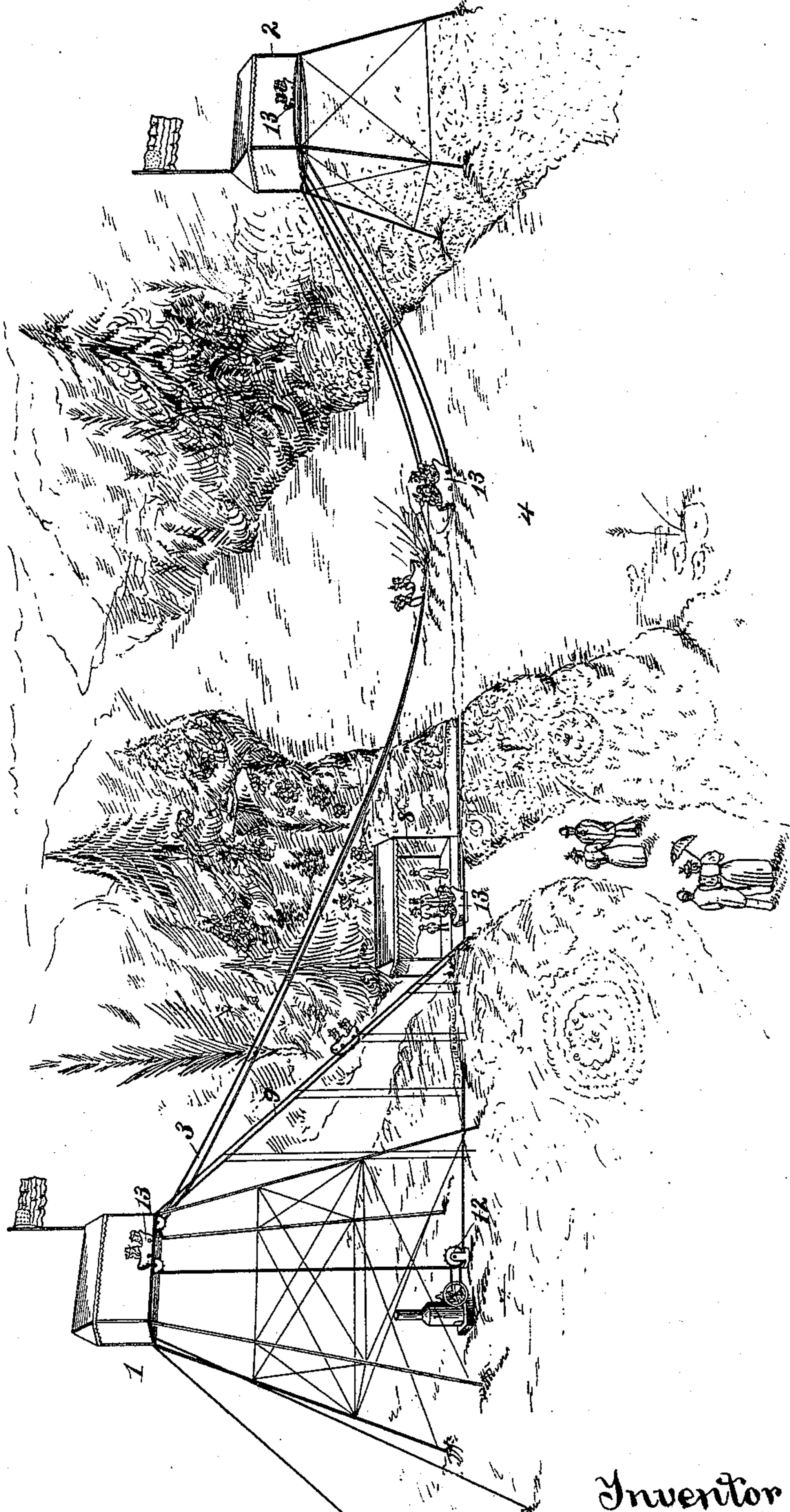
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D. M. HARMAN.
AMUSEMENT APPARATUS.

No. 570,016.

Patented Oct. 27, 1896.

Fig. 1.



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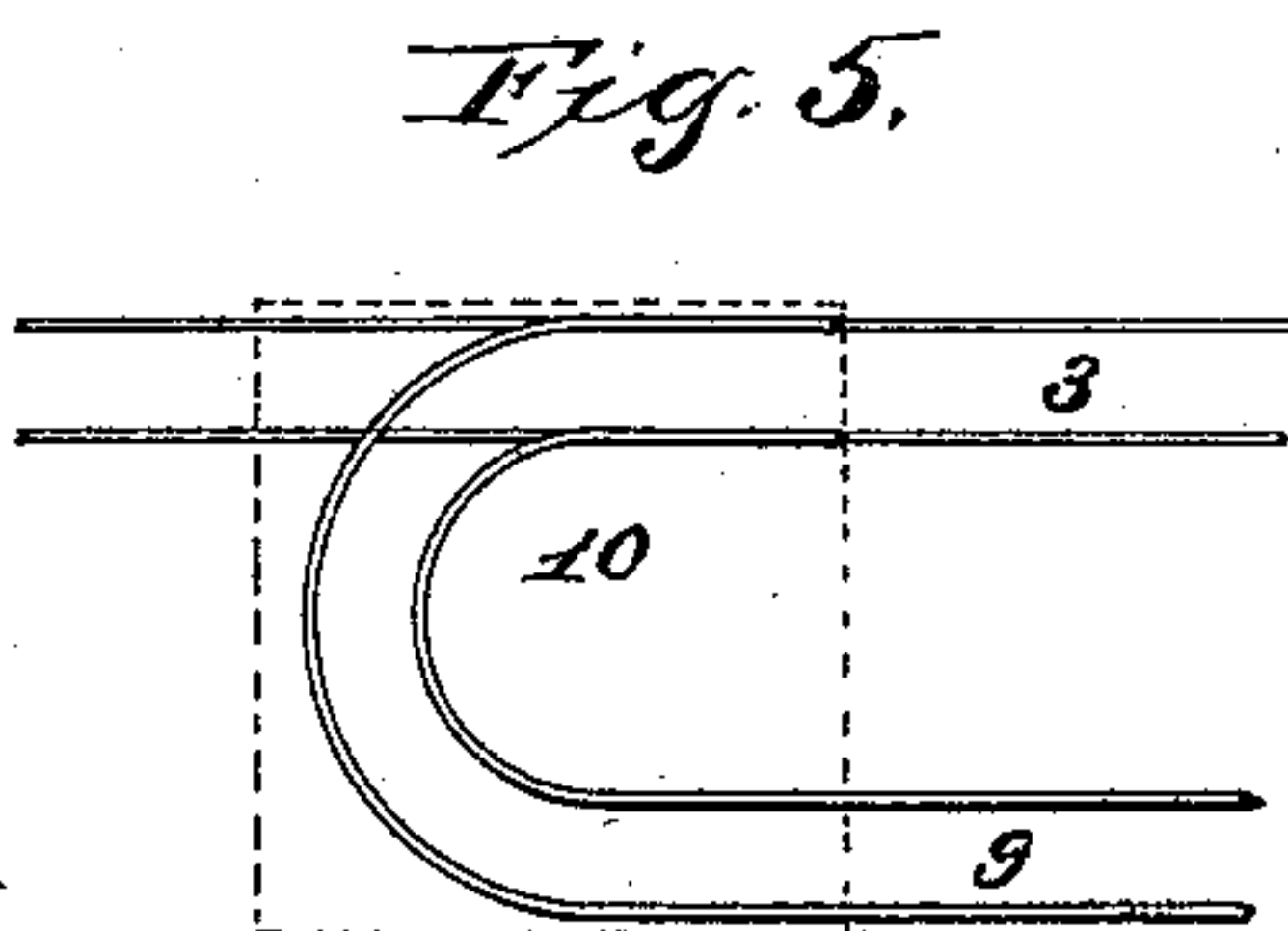
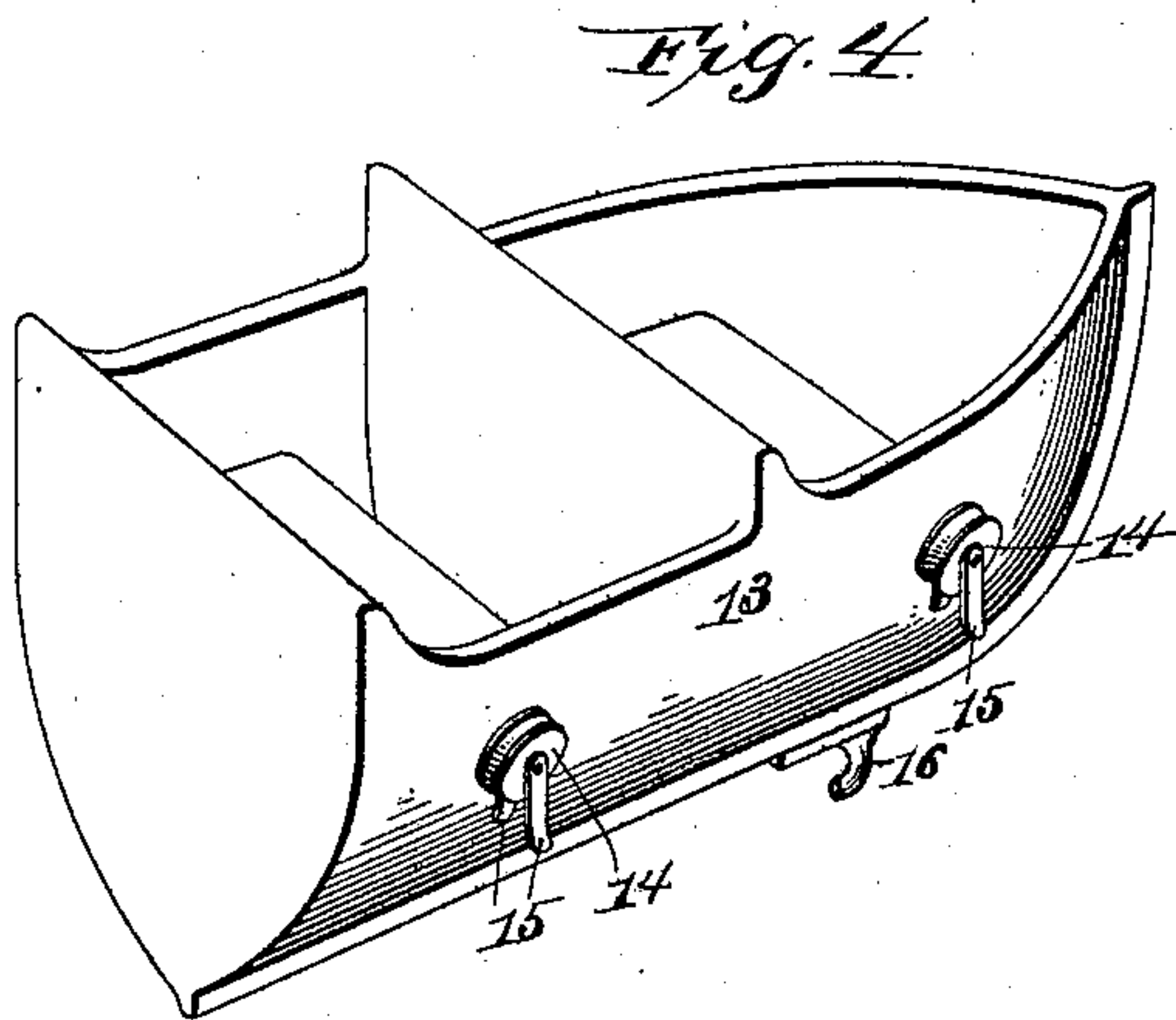
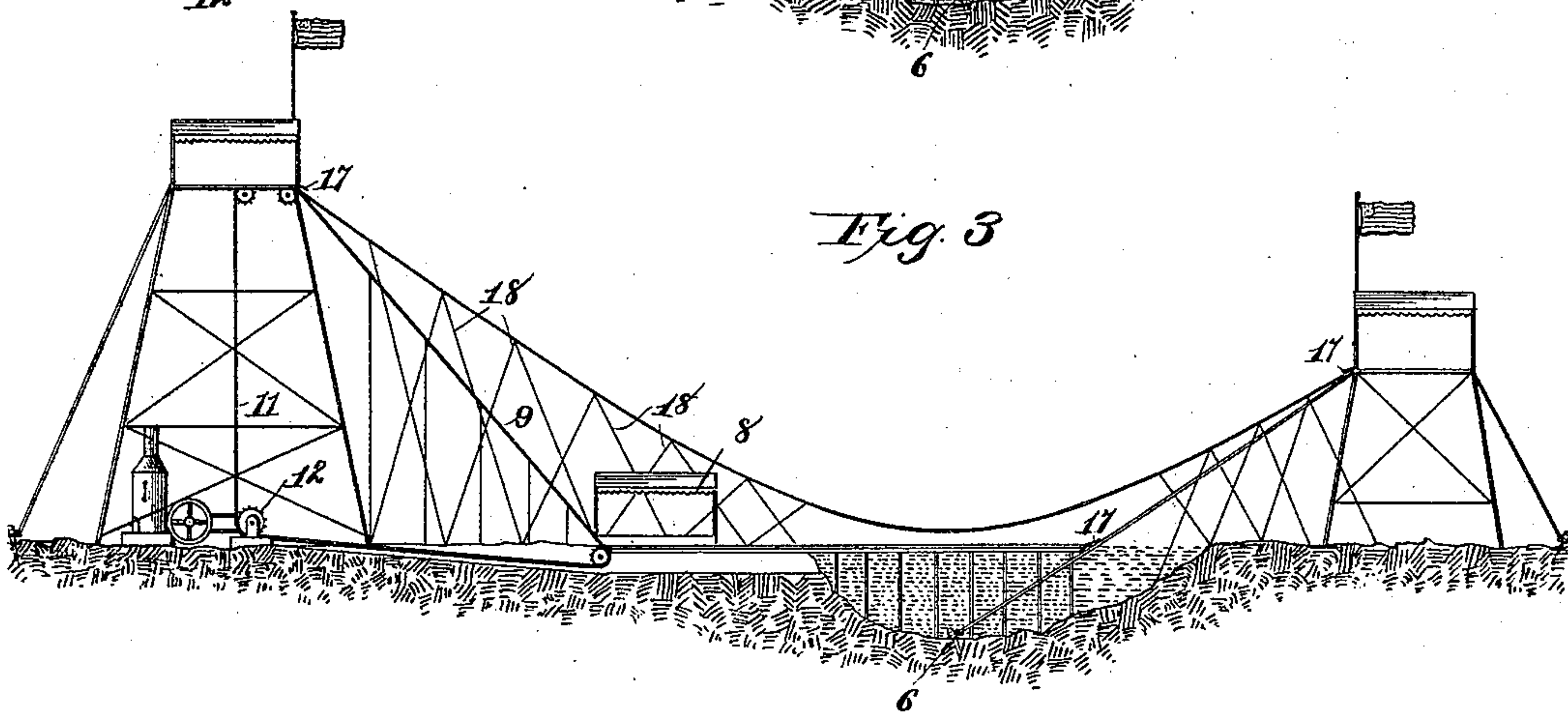
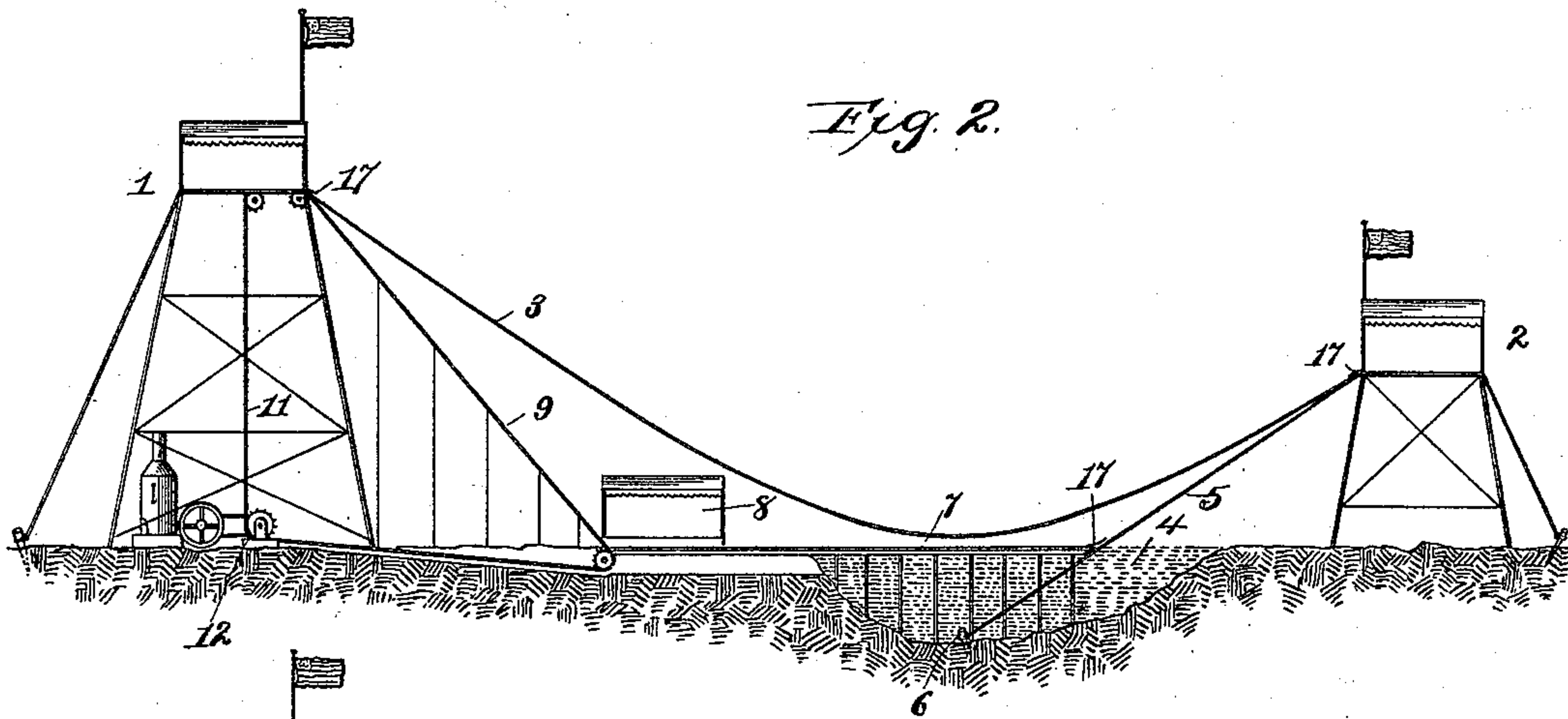
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UNITED STATES PATENT OFFICE.

DANIEL M. HARMAN, OF PHILADELPHIA, PENNSYLVANIA.

AMUSEMENT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 570,016, dated October 27, 1896.

Application filed January 11, 1896. Serial No. 575,060. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. HARMAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

My invention relates to a new and interesting amusement apparatus; and it consists of a marine cableway so suspended and operated as to afford endless amusement and invigorating sport.

With these ends in view my invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction and operation in detail, referring by numbers to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective of my improved apparatus in use; Fig. 2, a central vertical section thereof; Fig. 3, a similar view of a slightly-modified form; Fig. 4, a perspective of one end of a boat used in connection with the cableway, showing guide and rails for retaining the boat upon the cable; and Fig. 5, a plan view of one of the tower-tracks.

Similar numbers denote like parts in all the views of the drawings.

1 represents the main tower, and 2 the sub-tower, between which is suspended the cable 3, which consists of two wires or other ropes running parallel with each other and so formed that the lowest point of the slack therein will be in close proximity to the water 4.

5 are two parallel cables, their upper end being secured to the subtower 2 and their lower ends pass beneath the water and are anchored at 6.

7 is the railway-track leading from the cables 5 at a point just below the surface of the water to the station 8, and from this station to the top of the main tower runs a track 9, supported upon a suitable trestle-work. The upper end of this track is connected with the

cables 3 by a semicircular track 10 upon the floor of the tower-house, and the opposite ends of the cables 3 are connected with the cables 5 by a similar track.

11 is an endless carrier-chain which passes from suitable guide-pulleys up the trestle-work and returns again to the drive-pulley 12, operated by a suitable motor. The object of this endless chain is to elevate the boat from the station to the primary tower.

From this description the operation of my improvement will be as follows: A number of boats 13 are provided, which have grooved pulleys 14, journaled upon their sides, and depending fingers at 15 to prevent the pulleys from leaving the cables, and these boats are placed between the rails so that the pulleys run thereon, and when the proper number of persons have been seated in the boat it is given a start by hand from the station, so as to engage the hook 16 with a suitable member of the drive-chain, when said chain will elevate the boat up the track 9 to the tower 1, where said boat will pass onto the track of said tower and around to the cables 3, when by gravity it will move rapidly down the incline of said cable and by the momentum thus gained up the opposite incline, which is of considerable less degree, on account of the difference in height of the towers 1 and 2, and when reaching the tower 2 the boat will pass onto the track thereof and around to the cables 5, down which it will pass and be guided by the tracks 7 back to the station, where it will be unloaded.

In the descent of the boat down the first incline of the cables 3 it will come into contact with the water, as shown in Fig. 1, which will be forced into spray, giving the effect of a diving fish; and, again, when returning by the cables 5 the boat will strike the water with considerable force, giving a repetition of the effect just described.

Safety-curves 17 are so placed as to prevent the pulleys of the boat from leaving the tracks or cables in passing from one to the other. The advantages gained in this device are that a very attractive apparatus can be established at comparatively small cost, which will give endless amusement to those who enjoy the sensation of falling long distances

at a rapid rate, and perfect safety, from the fact that the boat is positively guided by either the tracks or cables at all times, and therefore there is no liability of an accident.

5 In order that a light cable may be used, and yet the slack therein be maintained upon such a curve as to hold its lowest point in proper relative position to the water, I have shown a modification in Fig. 3, which con-
10 sists in a number of stay-wires 18, attached to the under side of the cables and anchored to the ground. By this arrangement the curves in the cables may be determined and maintained regardless of the weight of said
15 cables and the weight of the boat traveling thereon.

Other slight modifications might be made without departing from the spirit of my invention, such as forming the parallel guide-
20 ways by rigid tracks supported upon suitable trestle-work for supports instead of the suspended cables.

Having thus fully described my invention, what I claim as new and amusing is—

25 1. An amusement apparatus consisting of two parallel cables suspended over a body of water, the lowest point of said cables being in close proximity thereto, two towers for supporting said cables, and a track leading
30 from the water-level to the primary tower, and two cables leading from the secondary tower to said track as and for the purposes set forth.

2. In an amusement apparatus, a primary
35 and a secondary tower, two parallel cables suspended therefrom in such manner as to bring the lowest point in the slack of said cables in proximity to the water-line, two parallel cables leading from the secondary
40 tower to the water and terminating therein, a track placed below the surface of the water and arranged to receive a boat from the last-named cables, an incline track leading from the submerged track to the primary
45 tower, suitable cars in the shape of boats

adapted to travel upon said cables and tracks, and means for elevating said cars from the submerged track to the primary tower substantially as and for the purposes set forth.

3. The herein-described combination of a 50 primary tower 1, and a secondary tower 2, a pair of parallel cables suspended between said towers, a pair of cables 5, leading from the secondary tower to a suitable water-sur-
55 face, a submerged track 7, leading from the cables 5, an incline track 9, leading from said submerged track to the primary tower, suitable cars provided with rolls adapted to travel upon said cables and tracks, guard-
60 rails 17, for preventing said cars from leaving either the cables or the track when passing from one to the other, semicircular tracks arranged upon each tower to make a contin-
65 uous circuit, and a hoisting apparatus for elevating the cars from the submerged track to the primary tower as shown and described.

4. An amusement apparatus consisting of a primary tower and a secondary tower, parallel guideways leading from the first-named to the second-named tower, the lowest point 70 of which is in close proximity to a water-surface, a semicircular track in each tower leading from the guideways, a secondary guideway leading from the secondary tower to the water-surface, a submerged track leading 75 from the secondary guideway, an incline track leading from the submerged track to the primary tower and connecting with its semicircular track, cars adapted to travel upon said tracks and guideways, and a hoist-
80 ing mechanism for elevating the cars from the submerged track to the primary tower substantially as and for the purpose set forth.

In testimony whereof I have hereunto af-
85 fixed my signature in the presence of two subscribing witnesses.

DANIEL M. HARMAN.

Witnesses:

S. S. WILLIAMSON,
SAMUEL L. TAYLOR.