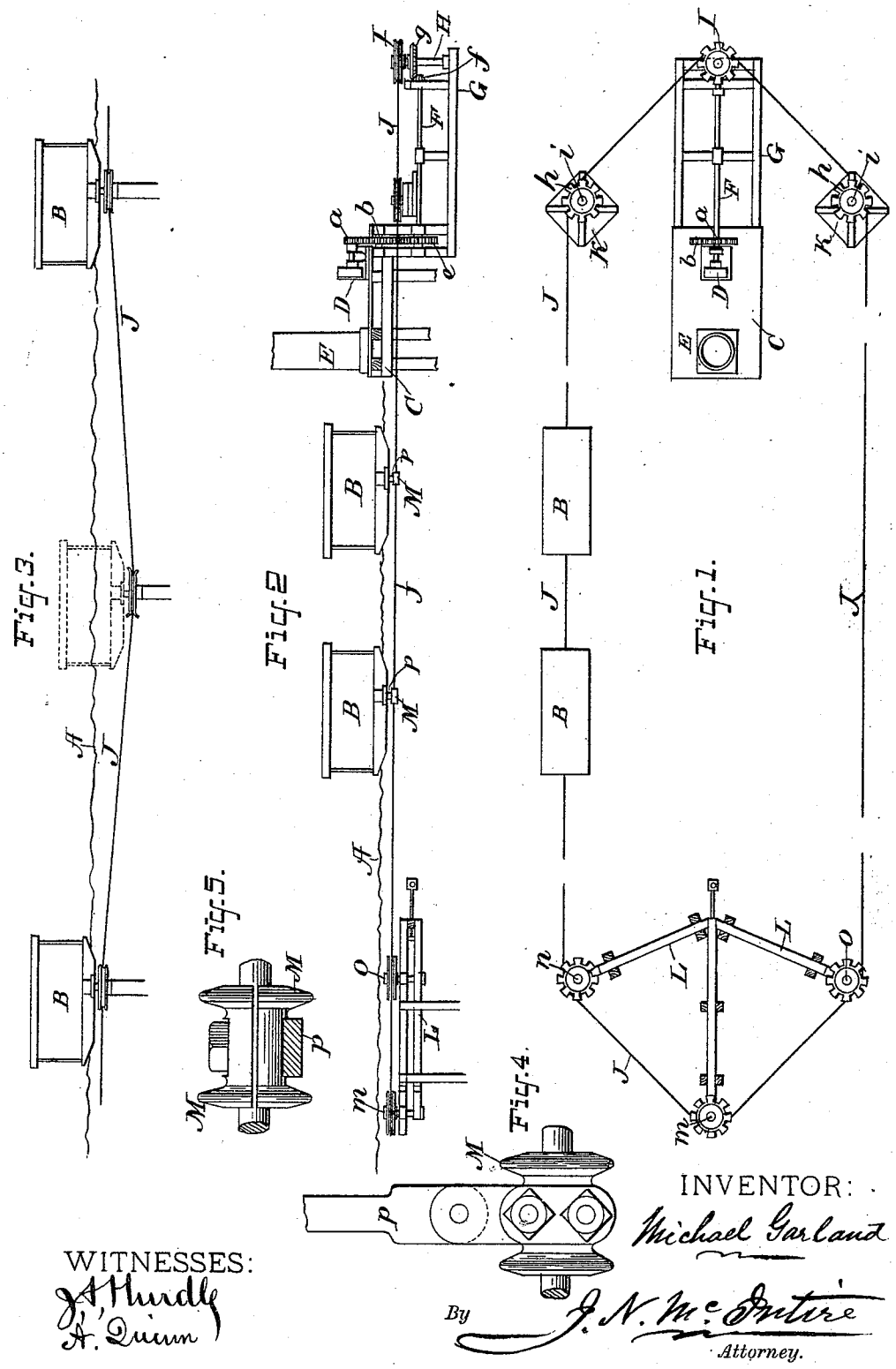
(No Model.)

M. GARLAND.

ROUNDABOUT.

No. 461,629. Patented Oct. 20, 1891.



WITNESSES:
J. H. Hundley
A. Quinn

INVENTOR:
Michael Garland
By J. N. McIntire
Attorney.

UNITED STATES PATENT OFFICE.

MICHAEL GARLAND, OF BAY CITY, MICHIGAN.

ROUNDABOUT.

SPECIFICATION forming part of Letters Patent No. 461,629, dated October 20, 1891.

Application filed January 31, 1891. Serial No. 379,841. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL GARLAND, of Bay City, in the county of Bay and State of Michigan, have invented an Aquatic Merry-Go-Round; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention has for its object to provide for use a contrivance or mechanism designed for pleasure or for an amusement something after the fashion of that afforded by the use of what is generally known as a "merry-go-round," but adapted to carry persons through a circuitous route of travel in vehicles which travel on water instead of on land.

I propose to provide for use one or more gondolas or small boats, which may have the capacity to carry either one person or more, as may be deemed expedient, having combined therewith some sort of endless propelling-cable and a suitable stationary motor for driving said cable, whereby the said gondolas or boats may be driven round and round through a given circuit of travel on or in the water; and to this main end and object my invention may be said to consist in a novel combination and arrangement of devices, whereby the boats driven by the cable may be caused to travel sometimes on the surface of the water and at other times beneath the surface, all as will be hereinafter more fully explained, and as will be more specifically pointed out in the claim of this specification.

To enable those skilled in the art to which my invention most nearly relates to understand and practice the latter, I will now proceed to more fully explain my improvement, referring by letters to the accompanying drawings, which make part of this specification, and in which I have shown my invention carried into effect by that form of apparatus or mechanism which I have so far contemplated in the use of my improvement, though it may be carried out, of course, with other forms of mechanism or under various modifications, as to the details of the machinery employed.

In the drawings, Figure 1 is a plan view; Fig. 2, a vertical sectional elevation; Fig. 3, a similar sectional view showing a modification; and Figs. 4 and 5 are detail views, on an enlarged scale, of detached parts of a contrivance embodying my invention, while in these several figures the same part will be found designated by the same letter of reference.

A represents the surface line or level of the water of a pond, lake, or other body of water on which the floating vehicles are to ride or travel, while B B are two gondolas such as may be used to carry the passengers in. Upon a suitable dock or platform C, erected at any desired point in the pond or lake, is located an engine D (preferably a new type of square piston-engine known as the "Dake" engine) and a boiler E for supplying steam thereto. The motive power of said engine is communicated through the medium of a spur-pinion *a* and gear *b* (mounted on suitable shafts, the boxes of which are supported by the frame-work C) to a spur-gear *e*, fast on one end of a shaft F, that is mounted in suitable boxes supported upon the supplemental submerged frame-work G, and on the other end of said shaft F is a bevel-pinion *f*, which engages with the horizontally-placed bevel-gear *g* of the vertical shaft H. This shaft is mounted to turn in suitable boxes supported by the supplemental frame-work G, all as clearly shown in the drawings, and carries at its upper end a sprocket-wheel or gaped rope-wheel I partially around the periphery of which passes the endless grip-cable J, that is driven by the wheel I, and which propels the gondola B B, all in a manner to be presently more fully explained.

At K K are located two other supplemental frames or other suitable submerged anchorages on each of which is mounted, in suitable boxes, another vertical shaft *i*, and each of these shafts *i i* carries at its upper end a wheel *h*, similar to the one I on the shaft H. In the case shown these wheels *h h* are located about equidistant from and on either side of the frame-work G and in about the same horizontal plane with the wheel I.

At any suitable desired distance from the frame-work C is located another submerged frame-work L, by means of which are supported and securely held in place three other vertical shafts *m n o*, each of which is furnished at its upper end with a gaped rope-wheel—such as those already referred to (the

three wheels being located in about the same horizontal plane with said other wheels) and around all of these wheels passes the grip-cable J, all as clearly shown in the drawings.

Each of the gondolas is secured to or engaged with the cable J by means of an arm *p*, which projects downwardly from the bottom of the boat and has its lower end fastened securely to one of a series of sprocket-like cable-clamps M, the arm *p* being located about centrally of the gondola, widthwise of the latter, but nearer to the forward or leading end of the boat than to the rear end in order that when the gondola is drawn through the water by the draft of the grip-cable and its clamp M on the depending arm *p* the boat will (so to speak) be properly steered. A series of the grip-clamps M is secured to the cable and said clamps are arranged at such intervals or distances apart on said cable that as the latter travels around the gaped wheels the said clamps or devices M will match into the gaps of the wheel and thus the drive-wheel of shaft H will keep always in driving engagement with the grip-cable, while the latter will turn the other cable-supporting wheels as idlers.

Of course the attachment of the gondolas by the means explained may be made at any such distances apart as may be desired or may be found expedient, and it will be seen that under the construction shown and so far described any continuous movement of the endless cable induced by the drive-wheel, its geared connections, and the engine will cause the whole series of gondolas to travel round and round in the circuit of the cable, and on the surface of the water, as indicated.

The detail views, Figs. 4 and 5, plainly show the forms and mode of union of the parts by means of which the gondolas are coupled to the grip-cable; but these details of the mechanism shown may be varied, as may also all the other details of construction, without departing from the spirit of my invention.

As clearly indicated at Figs. 1 and 2 of the drawings, the construction and operation of the contrivance so far described are such that the gondolas easily ride or travel throughout the whole extent of the cable's circuit (and any repetitions of this line of travel) on the surface of the water; but, under the modification shown at Fig. 3, by the addition of, say, three cable-wheels (each properly held to rotate in its proper position) during each long straight run of the cable, and by locating the middle one of the three in the same plane as the wheels, (seen at Figs. 1 and 2,) and each of the others, say, three or four feet lower in the water, all as clearly shown, each of the gondolas will be periodically drawn down below the surface of the water or completely submerged, and thus may the contrivance be rendered capable of running all the gondolas part of the time on the surface of the water and part of the time under water for the purpose of bathing on the part of the occupant or passengers.

Of course the number of times the boat may be caused to "duck," so to speak, and the depth to which she may be submerged and the length of time held under water are all matters to be varied as experience and surrounding circumstances may render desirable.

If deemed expedient or desirable, the arrangement of the endless cable and other parts may be such that by means of an engine located on land and an oblique arrangement of the endless cable the gondolas may be made to travel part of the time on land and part of the time on water. This might facilitate the entrance to and exit from the vehicles, especially by children and women afraid of the water, and under such a modification of the contrivance there would, of course, have to be a floor or deck for the boats to ride on while out of water, and to enable the gondolas to travel over the surface of said floor or deck without much friction each should in such case be provided with wheels to run on, (probably three wheels properly arranged would answer,) the said wheels being so sized, arranged, and connected to the bottom of the boat as to render the most efficient service when in use and offer the least possible hinderance to the movements of the boat while running in the water.

It is very evident that so far as the pith of my invention is concerned, which lies in the idea of one or more vehicles adapted to travel on or in water, combined in the manner described with a suitable endless impelling-cable arranged wholly or partially in the water and other adjuncts to effect a circuitous course of travel of such vehicles, almost infinite variations may be made in the details of the machinery employed and in the particular line of travel adopted without departing from my invention.

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

In an aquatic merry-go-round, the combination, with a series of boat-like vehicles, of an endless impelling-cable connected with said vehicles and arranged, as specified, to travel at various distances below the surface of the water and thus drive said vehicles along on the surface of the water a part of the time and beneath the surface of the water a part of the time, all substantially as and for the purposes hereinbefore set forth.

In witness whereof I have hereunto set my hand this 13th day of December, 1890.

MICHAEL GARLAND.

In presence of—

MORRIS L. COURTRIGHT,

HENRY J. AUGER.