No. 728,062. PATENTED MAY 12, 1903.

J. WILSON.

RECREATION DEVICE.

APPLICATION FILED NOV. 11, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

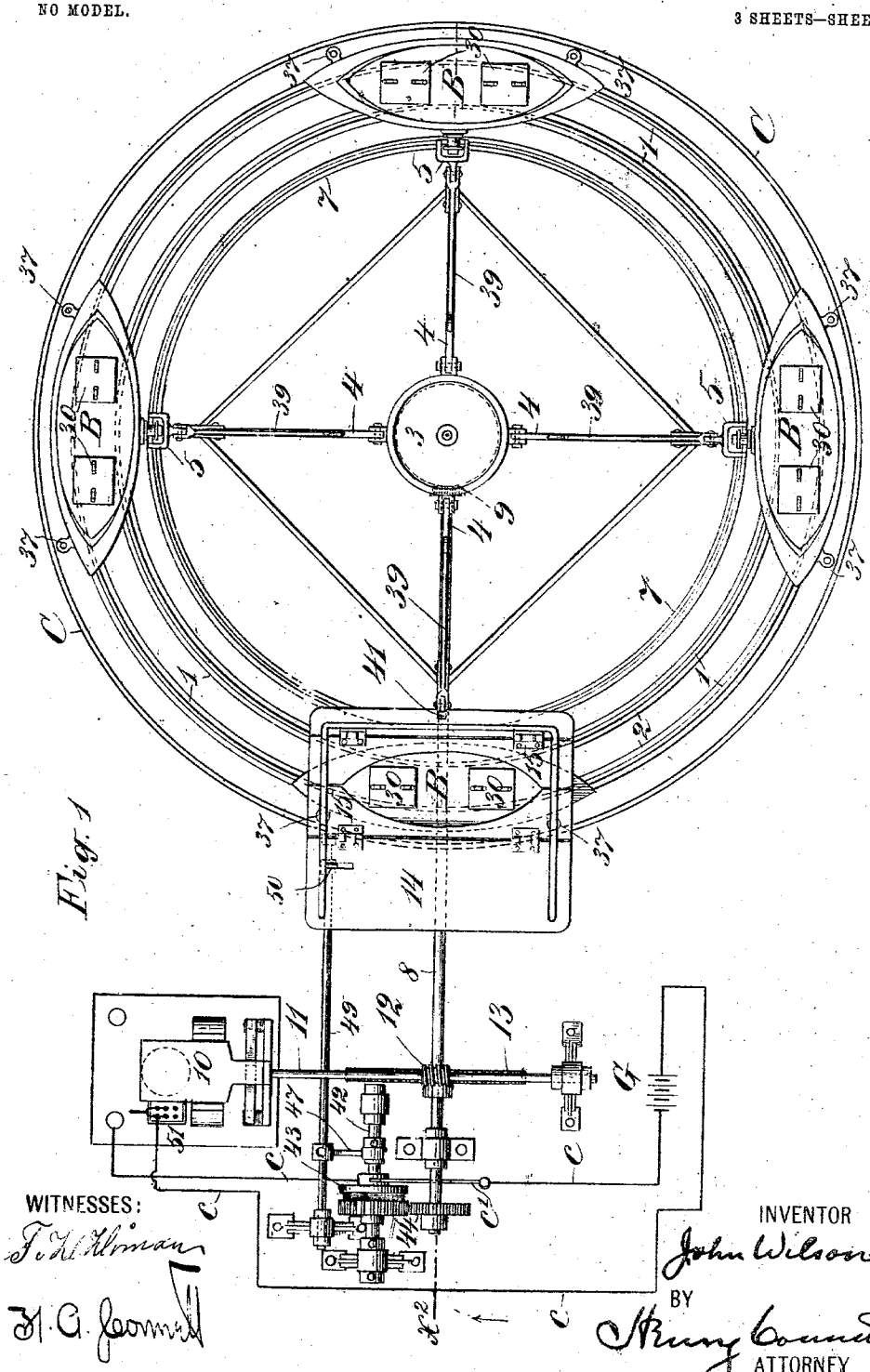

Fig. 1

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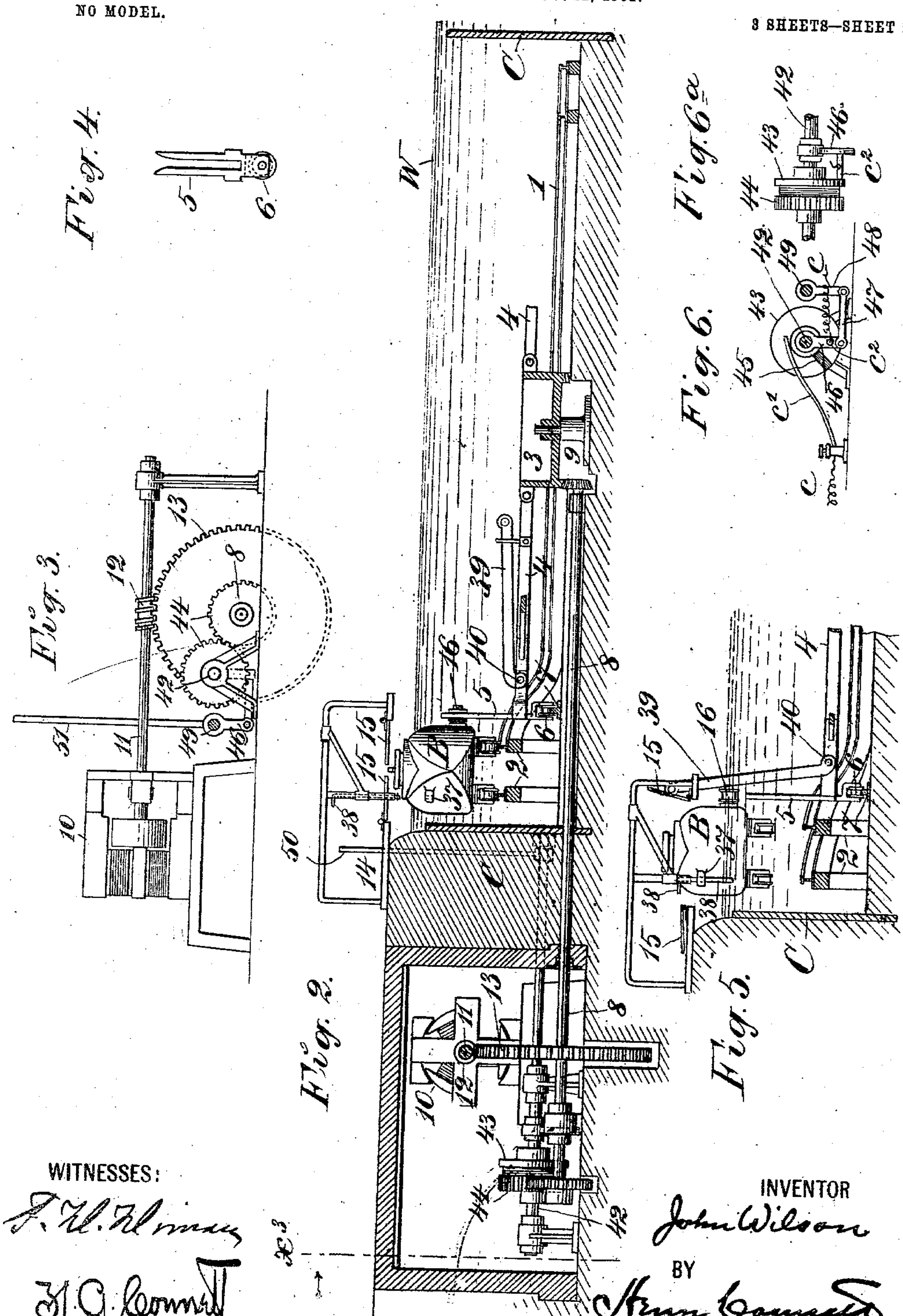
NO MODEL. 3 SHEETS—SHEET 2.



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NO MODEL. 3 SHEETS—SHEET 3.

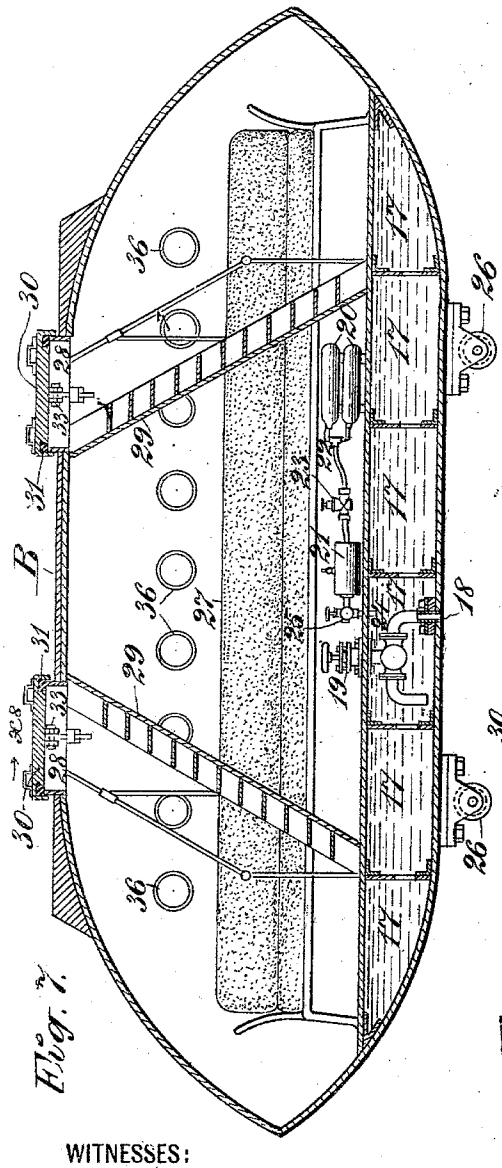

Fig. 7.

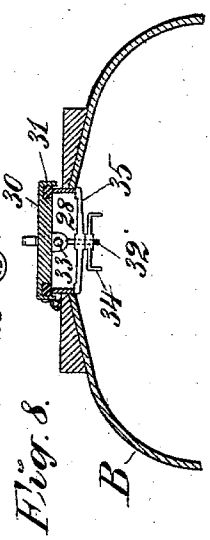

Fig. 8.

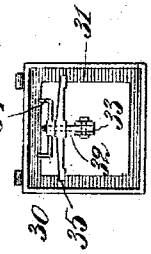

Fig. 9.

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No. 728,062. Patented May 12, 1903.

UNITED STATES PATENT OFFICE.

JOHN WILSON, OF NEW SUFFOLK, NEW YORK.

RECREATION DEVICE.

SPECIFICATION forming part of Letters Patent No. 728,062, dated May 12, 1903.

Application filed November 11, 1902. Serial No. 130,881. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILSON, a citizen of the United States, residing in New Suffolk, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Recreation Devices, of which the following is a specification.

This invention relates to the class of devices employed for amusement and recreation and usually found at popular summer resorts; and the object is to provide a means whereby those who desire it may experience the novel sensation of diving in a water-tight submarine boat, making a trip under water, and coming to the surface at a landing-place.

In my United States Patent No. 690,215, of December 31, 1901, I showed and described a recreation device of this general character, and the present invention is in some sense an improvement thereon, embodying, however, certain novel features designed in part to reduce the cost of installing the plant and in part to provide novel means for operating and controlling the boat-vehicles.

In the accompanying drawings, which serve to illustrate the invention, Figure 1 a plan of the device. Fig. 2 is a vertical section substantially at line x^2 in Fig. 1. Fig. 3 is a section substantially at line x^3 in Fig. 2. Fig. 4 is a detail view of the end of a driving-arm. Fig. 5 is a view illustrating the operation of getting a floating boat on the track. Figs. 6 and 6^a are views illustrating the electric stop device. Fig. 7 is a longitudinal vertical mid-section of the boat-vehicle on a large scale. Fig. 8 is a cross-section at x^8 in Fig. 7. Fig. 9 is a face view of the under side of the hatch.

W designates any waterway—as an artificial lake, for example—and C designates a circular curb or wall submerged in the same adjacent to the shore. This curb is not absolutely necessary, but it is convenient for various reasons.

1 is a track, of circular form, laid on the bottom of the waterway and having an elevation at 2, Fig. 2. At the center of the circular track is rotatively mounted a hub 3, provided with arms 4. Four arms are shown herein; but the number is not essential to my invention. There may be one or more. Each arm has at its outer end an upright guideway 5 and a track-wheel 6, which runs on a circular track 7 at the bottom of the waterway. The hub or center 3 is rotated for operating the driving-arms 4 through the medium of a shaft 8, provided with a bevel-wheel 9, which gears with teeth on the hub. The power for driving the shaft 8 may be of any kind, so far as my invention is concerned. As here shown, it is an electric motor 10, having on a prolongation 11 of its armature-arbor a worm or screw 12, which gears with a worm-wheel 13 on the driving-shaft 8. There are some features for controlling the motor which will be explained hereinafter.

At the point 2, where the track 1 is elevated, there is a landing-stage 14, which has or may have two hinged platforms 15 15, adapted to be raised and lowered by suitable means.

B designates as a whole one of the boat-vehicles which travel submerged on the track 1. The boat is carried around or made to travel slowly over the circular track by means of one of the driving-arms 4, a projecting stud or lug 16 on the side of the boat engaging the upright guideway 5 on the end of said arm, said guideway permitting the boat to rise and fall without disengagement from the driving-arm. The boat in its preferred form is illustrated in Figs. 7, 8, and 9. The general form of the boat is that of the known submarine boat. In its bottom are connected water-ballast tanks 17, which are filled through a pipe 18 in the bottom and emptied through the same. This pipe is controlled by a suitable valve 19. 20 represents holders for highly-compressed air, and 21 is a pressure-reducer—that is to say, the air from the holder or holders 20 may be admitted to the reducer 21 through a pipe 22, controlled by a cock 23, and the pressure of the air in the holder 21 be thus reduced to any degree required. From the holder 21 a pipe 24, controlled by a cock 25, leads the air to the ballast-tanks. Now in case the boat, with fares or passengers on board, should be submerged and the machinery get out of order the compressed air may be turned on, the valve 19 opened, and the ballast blown out by the compressed air. The boat will then rise to the surface and can be floated to the landing-place 14. The boat has suitable flanged wheels 26, Fig. 7, to run

on the track 1, a seat or seats 27 for the passengers, hatchways 28 for ingress and egress, and steps 29 to reach the latter. The hatchways have each a hatch or cover 30, preferably hinged to the coaming, so as to turn back when lifted, and a locking device to draw it down when closed and cause the packing 31 therein to bear on the coaming and make a water-tight joint. This closing device consists of a screw 32, hinged to the under side of the hatch at 33 and provided with a handled nut 34, which bears on a cross-bar 35, loosely embracing the shank of the screw. The hatchway is an oblong rectangle, so that when turned one way the bar 35 will pass through it; but when turned the other way said bar will engage the margin of the hatchway, as seen in Fig. 8, and form a non-yielding base for the nut 34 to bear on. It is not essential, however, that the hatch be oblong or wider one way than another, as the bar may be turned diagonally of the opening, so as to pass out through the hatchway or opening. The boat is provided with bull's-eye lights or lenses 36 in its sides.

In case the boat should be put in floating condition and brought to the landing-place 14, as before stated, in order to insure its seating itself on the track properly and to insure the lug 16 properly entering the guideway 5 on the driving-arm when it is again sunk means are provided which will now be described.

On the side of the boat are two eyes 37, one near each end of the boat, and mounted slidably in suitable vertical guides on the landing-stage are two guiding-bolts 38. When the boat is brought into position, these bolts are passed down through the eyes 37 on the boat. These bolts serve to guide the boat in its descent, so that its wheels will rest or seat themselves properly on the track-rails. To insure the entry of the lug 16 into the guideway 5, there is a bar 39, hinged on the driving-arm 4 at 40, and when this bar is raised and turned over, so as to rest on the edge of the platform at the landing 14, it must be made to coincide with a mark or notch 41 on the platform in order to bring the guideway 5 into line with the lug 16 on the boat.

The electrical driving mechanism herein shown has some novel features, which will now be described with especial reference to Figs. 1 and 6.

G is the generator, (of any kind,) which supplies the motor 10 through a suitable circuit *c*. (Shown somewhat diagrammatically in Fig. 1.) Mounted on and insulated from a counter-shaft 42 is a contact-disk 43, which is rotated from the main shaft 8 through suitable gear-wheels 44. This disk is at a breaking-point in the circuit *c* and forms, through the medium of a brush *c'*, a terminal of the circuit at this break. The circuit is completed by a terminal stud c^2 in the circuit, Figs. 6 and 6ª, which bears on the face of the disk 43; but in the face of this disk is an insulating-block 45, which when the disk shall have made one revolution will come under the stud c^2, break the circuit, and stop the motor. In order to provide means for starting the motor again, the stud c^2 is mounted in a swinging arm 46, which may turn concentrically with the disk 43, and this arm is coupled by a link 47 to an arm 48 on the rock-shaft 49, adapted to be rocked by a lever 50 at the landing-place, Fig. 2, or situated wherever is most convenient.

The operation is as follows: As the disk 43 makes substantially one revolution whenever the boat B makes one circuit on its track, it follows that, if the parts be properly set, when the boat arrives at the landing-place the insulating-block 45 on the disk 43 will come under the stud c^2. The circuit will thus be broken, and the motor stopped. To start the motor, the attendant rocks the shaft 49 through the lever 50, so as to shift the stud c^2 from the insulation onto the metal of the disk, and thus again complete the circuit through the motor. There is or may be a reversing-switch 51 on the motor-frame, as indicated, for reversing the direction of travel of the boat, if this be desired.

The curb C is desirable for preventing the boat-vehicle from drifting too far should it be set afloat, and it also facilitates the confinement of the driving mechanism within a restricted space or well that may be pumped out, if occasion requires. This may be done by lowering the level of the entire body of water by draining until it is below that of the top of the curb.

The track 1 may be undulating or irregular, if desired, and the guiding-bolts 38 may extend down to the bottom to impart additional stability, if required.

Having thus described my invention, I claim—

1. In a device for recreation purposes, the combination with a submergible, buoyant water-tight, boat-vehicle, provided with wheels to run on a track and with water ballast, of means on the boat for blowing out said ballast to set the boat afloat, a submerged track on which the boat runs and down upon which it is pressed and held by the ballast, and means for propelling the boat along said track.

2. In a device for recreation purposes, a submergible, buoyant, water-tight, boat-vehicle, provided with wheels to run on a track, with water ballast to hold it down on the track, and with means for blowing out the ballast to set the boat afloat, of a substantially circular, submerged track on which the boat runs and down upon which it is pressed and held by the ballast, and mechanism for propelling the boat along said track, the latter having an elevated portion, substantially as and for the purpose set forth.

3. In a device for recreation purposes, the combination with a substantially circular submerged main track, a central hub provided with one or more driving-arms, mechanism

for driving said hub, upright guides 5 on the extremities of said arms, track-wheels on said guides, a submerged track on which said wheels run, and a boat-vehicle which is submergible and water-tight and provided with wheels which run on said circular track, and a stud 16 to engage the guide 5 on the arm, substantially as set forth.

4. In a device for recreation purposes, the combination with the submerged track, the driving-arm and its upright guide, the landing-platform, the vertically-sliding bolts 38 at said platform and the marking-bar, of the submergible boat-vehicle having wheels to run on said track, eyes 37 to receive said bolts, and a stud 16, said boat having also water ballast, and means for blowing out the same to set the boat afloat, as set forth.

5. The combination with the submerged track, and the ballasted boat-vehicle provided with wheels for running on said track, of means on said boat for discharging its ballast and setting it afloat, and means for guiding it to the submerged track when it is reballasted.

6. The combination with the endless, submerged track, and the submergible boat provided with wheels which run on said track, of a central hub 3, an arm 4 thereon, an upright guide 5 on said arm, and means for rotating said hub, said hub having a lug 16 on its side which engages said guide, substantially as set forth.

In witness whereof I have hereunto signed my name, this 10th day of November, 1902, in the presence of two subscribing witnesses.

JOHN WILSON.

Witnesses:
HENRY CONNETT,
PETER A. ROSS.