

No. 743,968.

PATENTED NOV. 10, 1903.

J. WILSON.

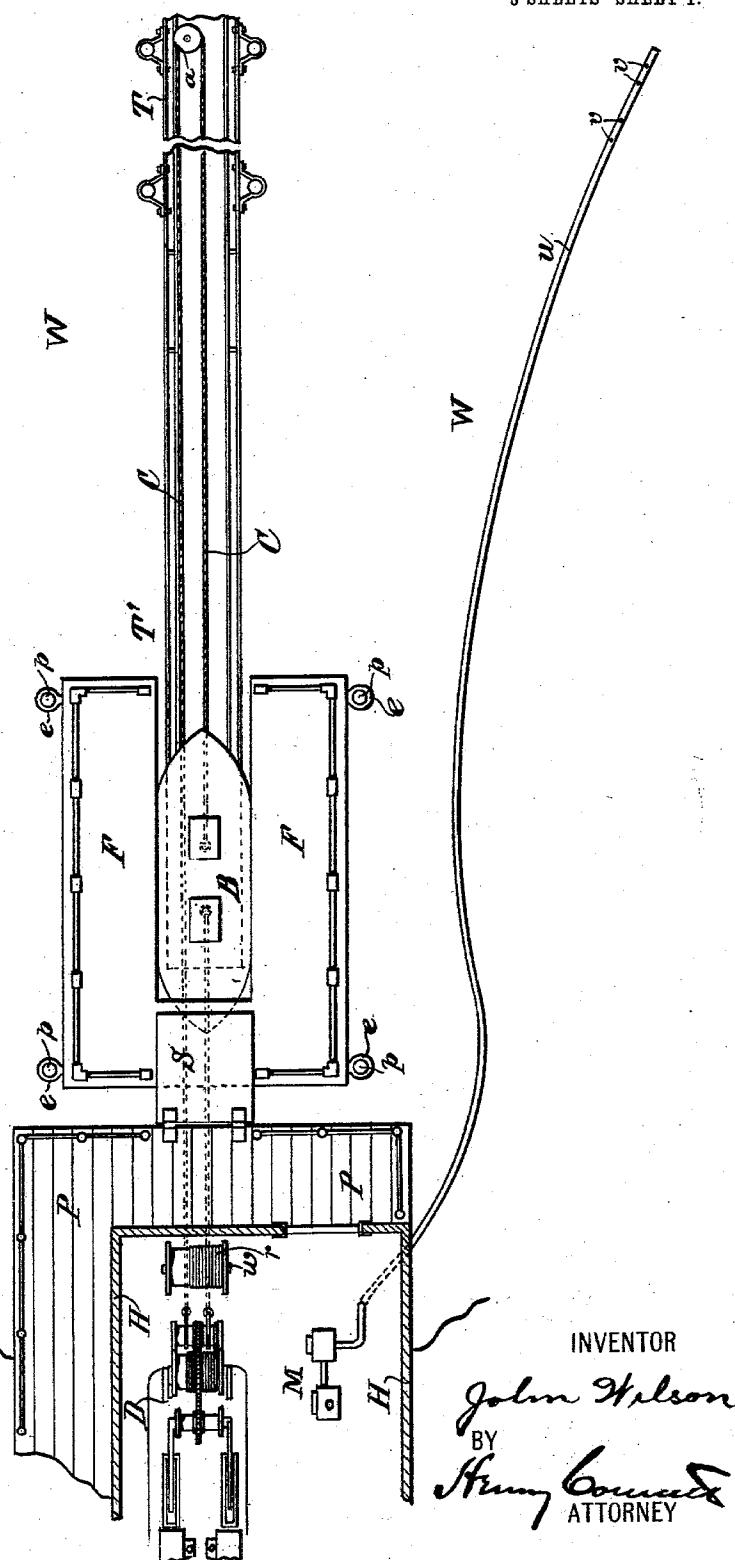
RECREATION DEVICE.

APPLICATION FILED FEB. 12, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

William J. Firth.  
Peter A. Ross.

INVENTOR

John Wilson  
BY  
Henry Conrad  
ATTORNEY

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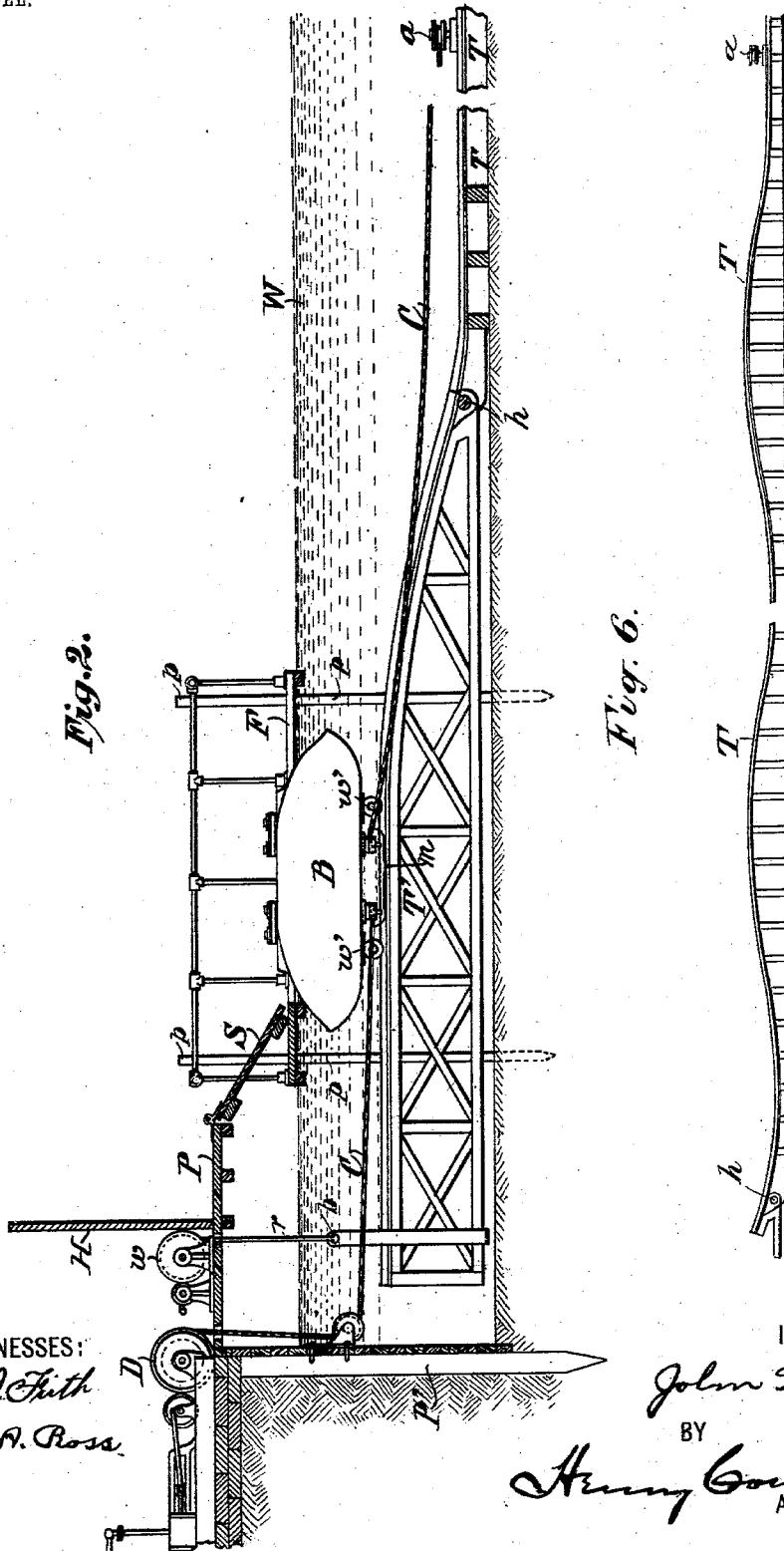
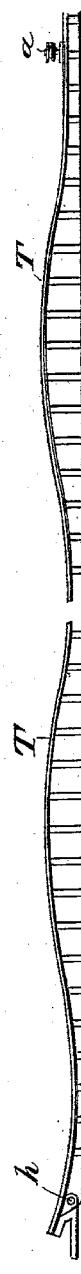


Fig. 2.

Fig. 6.



WITNESSES:

William J. Keith  
Peter A. Ross.

INVENTOR

John Wilson

BY

Henry Gossard

ATTORNEY

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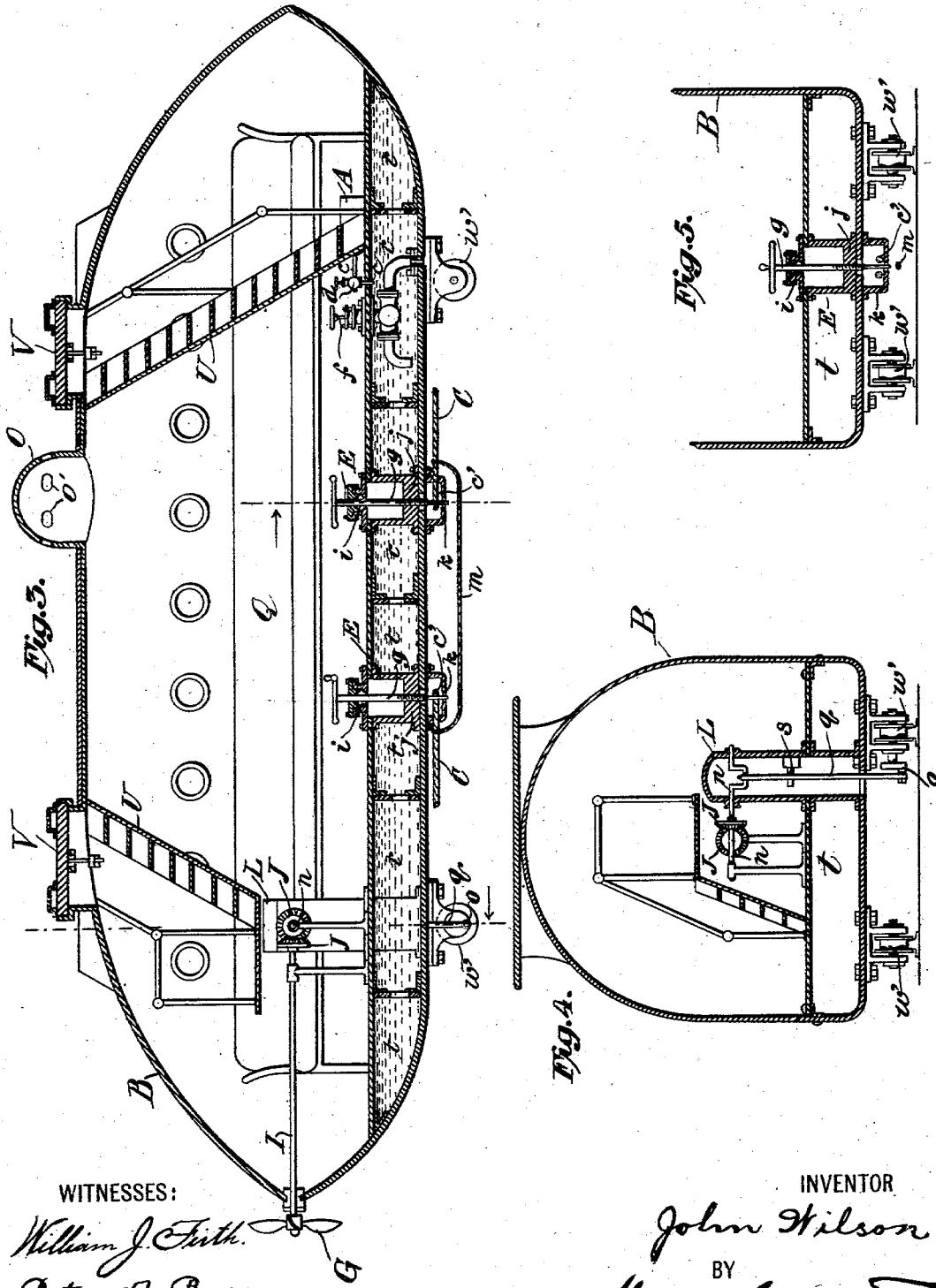
J. WILSON.

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NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES:

William J. Firth  
Peter A. Ross

INVENTOR

John Wilson  
BY  
Henry Compton  
ATTORNEY

## UNITED STATES PATENT OFFICE.

JOHN WILSON, OF NEW SUFFOLK, NEW YORK.

## RECREATION DEVICE.

SPECIFICATION forming part of Letters Patent No. 743,968, dated November 10, 1903.

Application filed February 12, 1903. Serial No. 143,036. (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 recreation devices of which that illustrated in my Letters Patent No. 690,215, issued December 31, 1901, is a type—that is to say, this is a device comprising a submerged track or railway, a submarine boat or boat-vehicle having wheels to run on said railway, and means for propelling or driving the boat.

The present invention has for its object to provide a submarine boat-vehicle and a track therefor adapted to be used in tidal waters, such as the waters near the shores of bays and land-locked harbors, and which may be set up and used at a moderate cost and expense. In this construction provision is made for adapting the landing-stage and the track thereto at the rise and fall of the tide.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a plan view of the apparatus on a small scale, and Fig. 2 is a sectional side elevation of the same. These views show the boat at the landing-stage at nearly low tide. Fig. 3 is a longitudinal section of the boat. Figs. 4 and 5 are cross-sections of the boat, taken, respectively, at lines  $x^4$  and  $x^5$  in Fig. 3. Fig. 6 is a view showing an undulating submerged track.

Referring, primarily, to the principal views, W designates in general a waterway—such as a bay or harbor, for example, where the situation is such that the water in summer is not too rough.

H designates a power-house of any kind on the shore, with a suitable platform P about it.

F is a somewhat U-shaped float in the water provided with a protecting-railing, and S is a stage hinged at its shore end to the platform and resting at its other end on the float. The float may be kept in place by means of eyes e at its sides or ends, or both, which loosely embrace piles p, driven in the bottom of the waterway. The float rises and falls with the tide and the hinged stage preserves connection of the float with the platform. The

waterway, if too shallow, may be dredged out near the shore and piles P' driven, as shown in Fig. 2, or some other known means employed to sustain the earth. A trackway T is sunk to the bottom of the waterway and extends out into the waterway in a straight line from the landing-float to any distance required. In Figs. 1 and 2 this track is shown broken away for lack of room. It may be of any length. The main portion T of the trackway, which lies in the bottom, may be held in place by anchoring it to piles or stakes driven in the bottom; but that portion T' thereof which is at the float F is inclined and elevated, as clearly shown in Fig. 2, the rails being laid on a framed structure hinged at h to the main trackway. This construction allows the portion T' of the trackway to be raised and lowered with the tide, so as to keep the track-rails thereof at the landing-place always submerged to about the same depth. A suitable means for raising and lowering this hinged portion T' of the trackway is shown in Fig. 2 and comprises a windlass w and a rope r depending therefrom to a cross-bar b on the frame of the trackway.

B is a submarine boat or boat-vehicle with wheels w' to run on the rails of the trackway. This boat is coupled to a rope or cable C, which extends from a winding-drum D in the power-house H out along the trackway to its end and then about a guide-sheave a and back again to the drum D. The drum D and the power that drives it may be of any known kind purchaseable in the market and of which there are several kinds.

So far as described the operation is as follows: By raising or lowering the trackway-section T' the track-rails thereon, which are beneath the space for the boat in the V-shaped float, are kept submerged to a depth sufficient to allow the top of the boat where the entering hatches are situated to project a little above the surface of the water. The passengers enter the boat at the hatch or hatches, the latter are closed hermetically, and the signal given to the engineer in the power-house. The engineer sets in motion the winding-drum, and the boat is drawn down the incline of the trackway and out to the end of the trackway T. The winding-drum is then reversed and the boat makes the return-trip

to the float, where the hatches are opened and the passengers allowed to disembark.

The construction of the boat will now be described more in detail. In the bottom or lower part of the boat is a ballast-tank *t*, which is filled or charged with water, so as to keep the boat down to the track when submerged, and *A* is a holder for compressed air, which is connected by a pipe *c* with the tank *t*. This pipe is controlled by a cock *d*. A cock *f* controls the flow of water into and out of the ballast-tank. In case anything should occur to stop the machinery or foul the cable while the boat is out on the track and submerged the cocks *d* and *f* may be opened, when the compressed air will blow out the water ballast and allow the boat to rise to the surface. The cock *f* must now be closed, and the boat can be towed or floated to the landing-place. It will be necessary, however, to free the boat from the cable *C*, and this is effected by the means shown in Figs. 3 and 5. The cable *C* has an eye *c'* in each end, and these ends are secured to the boat separately, but by like devices (designated as a whole by *E*.) Each device *E* is constructed as shown in Fig. 5—that is to say, a screw-pin *g* extends down through a stuffing-box *i*, a nut *j*, and the bottom of the boat and has an end bearing in a stirrup *k*. The eye *c'* on the cable enters the stirrup-space and the pin *g* extends down through it. By unscrewing the pin from inside the boat the pin is withdrawn and disengaged from the eye. In order to keep the ends of the cable *C* connected when the boat is detached from the cable by withdrawing the pins *g*, the said ends are permanently joined by a suitable connector *m*, which may be a chain. It is desirable to impart to the boat the appearance of being driven by a propeller from an electric or other motor in the boat, and to carry out this idea the boat may have the device illustrated in Figs. 3 and 4. This comprises a small propeller *G* on a shaft *I*, driven through gears *J*, one of which is on the shaft *I* and the other on a crank-shaft *n*, incased in a boxing *L*. This shaft *n* is situated above one of the wheels *w'* of the boat, and the journal of this wheel has a crank *o*, which is coupled by a connecting-rod *q* with the crank in the shaft *n*. Thus when the wheel of the boat rotates rotary motion is imparted to the propeller. The rod *q* may have in it a longitudinal slot, which provides the rod with a sliding fulcrum on a stud *s*. This is a well-known construction where a connecting-rod couples together two cranks and will require no special illustration. It is desirable also to conceal from spectators on shore or on the platform the position or line of movement of the submerged boat, and this may be effected by extending from the power-house a pipe or pipes *u* out obliquely on the bottom of the waterway *W* and perforating it at intervals near its outer end, as at *v*. Air is forced

through this pipe by a suitable air-pump *M* at the power-house, and this air rises in bubbles at the surface, thus leading the spectators to suppose the boat is where these bubbles rise. In Fig. 1 the water may be supposed transparent or absent, so as to disclose the submerged features in full lines, and in this figure only one pipe *u* is shown. Obviously there may be any number of such pipes extending in any direction and to any desired distance. Obviously, also, the platform *P*, together with the float *F* and stage *S*, might be built out on piles in a known way, so as to reach deep water without dredging. It is only necessary that the water where the trackway is laid shall be deep enough to submerge the boat properly—say to a depth of two or three feet.

The boat may be fitted up for ingress and egress and as to interior comforts in any way desired. In Fig. 3, *Q* designates a seat, *U* designates stairways, and *V* designates hatches. These features and the means for blowing out the water ballast form no part specifically of this invention, being substantially the same as are shown in a pending application of mine.

In Figs. 1 and 2 only a very small portion of the trackway *T* is shown; but in Fig. 6, 95 which is a side elevation of this trackway on a smaller scale, it is shown as undulating or as having elevations and depressions in it to impart a rocking motion to the boat-vehicle moving over it. This is the preferred construction; but the invention is not limited thereto.

The boat will have, by preference, an observation-tower *O*, (seen only in Fig. 3,) this latter having glazed sight-apertures *o'*. This device may or may not be employed.

The means for forcing out the water ballast so that the boat may rise to the surface I do not claim specifically in this application, as it is shown in another application of mine.

Having thus described my invention, I claim—

1. In a device for the purpose specified, a fixed platform, a float in the waterway adjacent to the platform, the piles *p* which guide said float in its rise and fall, the stage hinged to the platform and resting on the float, a submerged trackway in the waterway comprising a fixed portion and a portion hinged thereto and adapted to be raised and lowered under an opening in the float, a water-tight boat-vehicle having wheels and mounted on said track, means for propelling said boat-vehicle over said track, and means for raising and lowering the movable portion of the trackway.

2. In a device for the purpose specified, a submersible, water-tight boat-vehicle provided with wheels to run on a track, a cable for propelling said boat on the track, means for operating said cable, a submerged trackway for the boat to travel on, means for

lightening the boat so that it will rise to the surface, and means for disengaging the boat from the propelling-cable.

3. In a device for the purpose specified, a 5 submersible, water-tight boat-vehicle provided with wheels to run on a track, a cable for propelling said boat on the track, a submerged trackway for the boat to travel on, means for lightening the boat so that it will 10 rise to the surface, and means for disengaging the boat from the cable, said means comprising a pin which screws down through the bottom of the boat and engages an eye in the cable.

15 4. In a device for the purpose specified, a submersible, water-tight boat-vehicle having wheels to run on a track, a traveling cable for propelling said boat, a propeller and its shaft on said boat, means between the propeller and one of the wheels of the boat whereby 20 said wheel drives the propeller when the boat is in motion, and a submerged track on which the boat travels.

5. In a device for the purpose specified, the 25 combination with the submerged trackway T, the elevated and inclined trackway T' hinged

to the end of the trackway T and alined therewith, means for raising and lowering the trackway T' so as to maintain the tracks thereon at a substantially uniform depth of submergence, and a float above the trackway T', of a traveling cable extending along said trackways, and a submersible water-tight boat or boat-vehicle provided with wheels to run on said trackways and coupled to said cable. 30 35

6. In a device for the purpose specified, the combination with a submerged trackway, a submersible boat with wheels to run on said trackway, means for propelling said boat on the trackway, and means for producing bubbles of air in the waterway in which the said track is submerged, said means comprising a perforated pipe submerged in the waterway, and means for forcing air through said pipe. 40

In witness whereof I have hereunto signed 45 my name, this 9th day of January, 1903, in the presence of two subscribing witnesses.

JOHN WILSON.

Witnesses:

PETER A. ROSS,  
WILLIAM J. FIRTH.