No. 764,675. PATENTED JULY 12, 1904.

H. PFEIFFER.

AMUSEMENT DEVICE.

APPLICATION FILED MAR. 1, 1904.

NO MODEL.

Fig. 1

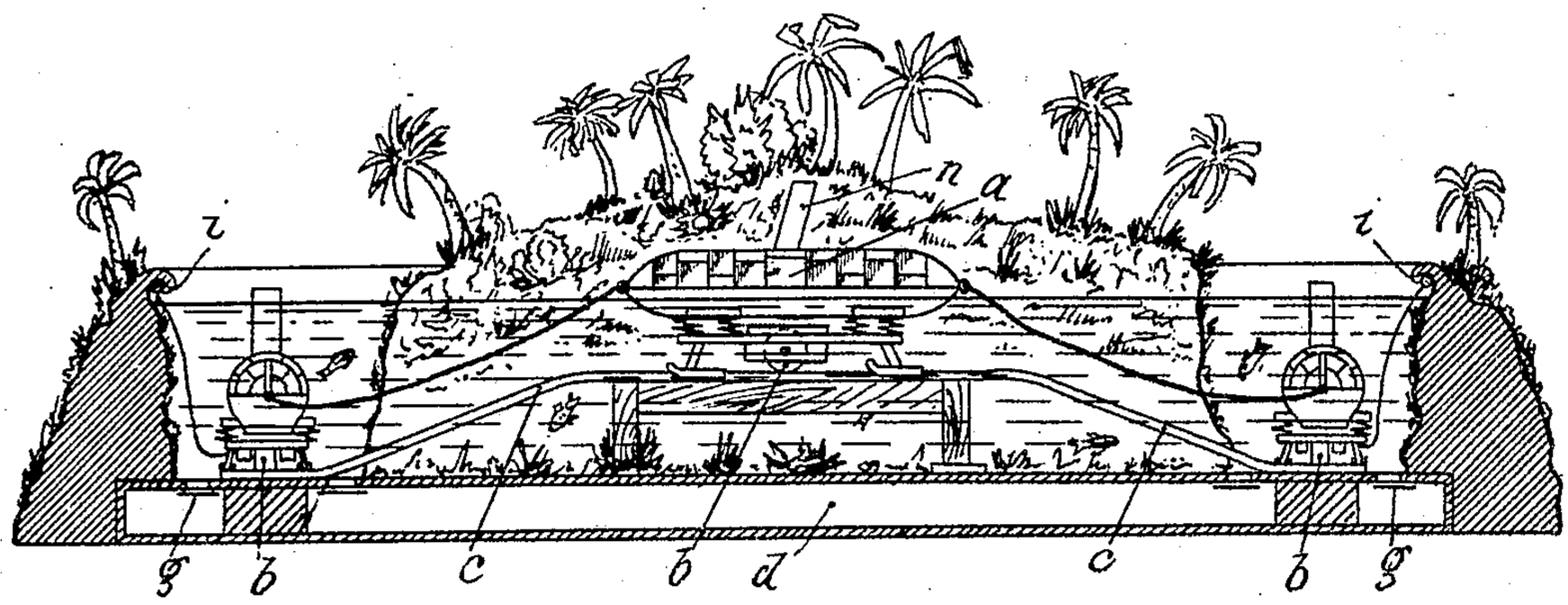
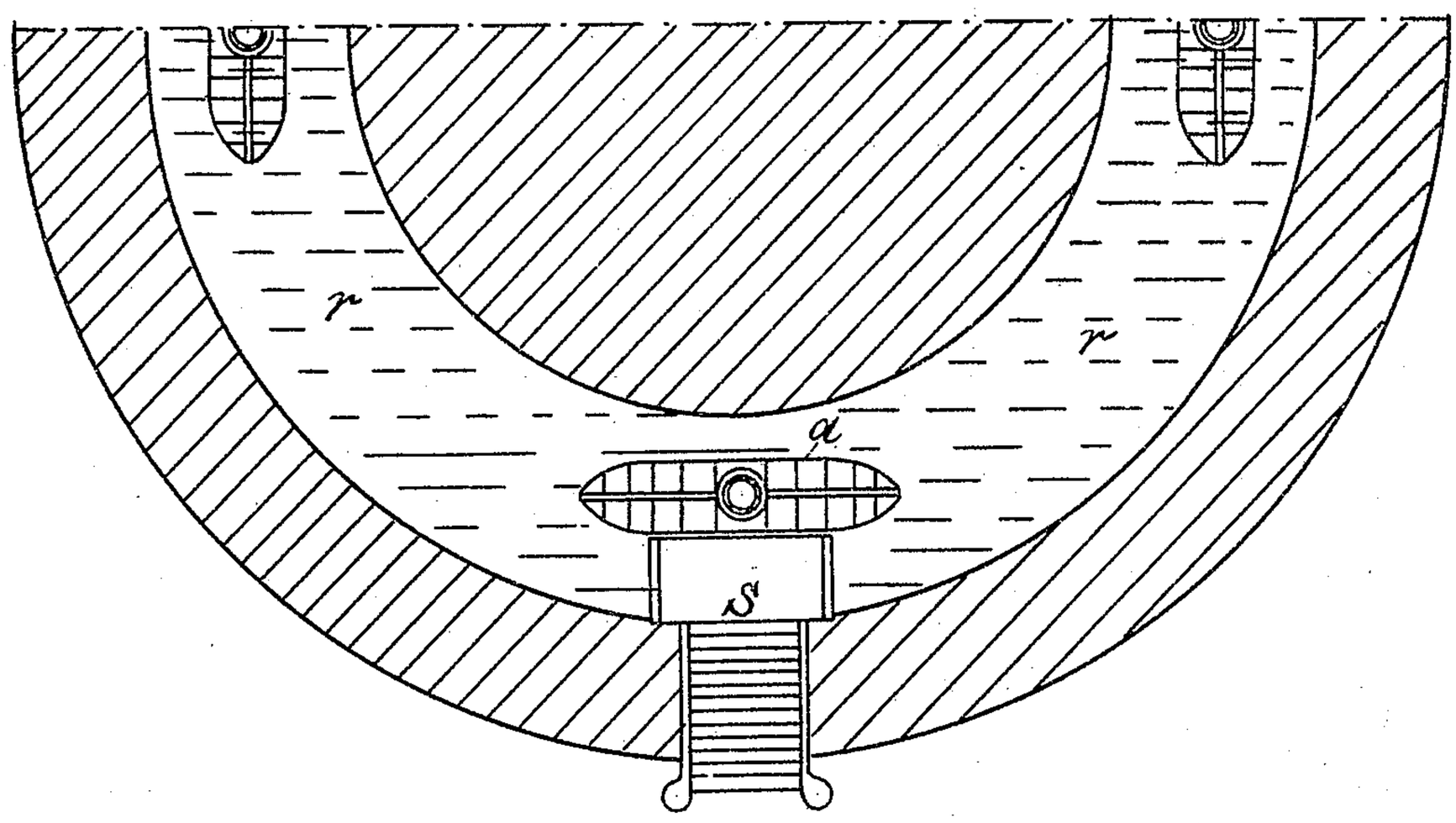


Fig. 2



WITNESSES:

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No. 764,675. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

HANS PFEIFFER, OF MUNICH, GERMANY.

AMUSEMENT DEVICE.

SPECIFICATION forming part of Letters Patent No. 764,675, dated July 12, 1904.

Application filed March 1, 1904. Serial No. 196,074. (No model.)

To all whom it may concern:

Be it known that I, HANS PFEIFFER, a citizen of the Empire of Germany, residing at Munich, Germany, have invented certain new and useful Improvements in Amusement Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to amusement devices, and especially to submarine railways adapted for use in connection with boats, whereby the boats successively ride upon and beneath the surface of the water. Hitherto it has been usual in devices of this character to provide extensive and cumbersome framework above the surface for supporting and propelling the boats and guiding their movements. The result is a detracting from the illusionary effect as the boats dive and again rise to the surface.

This invention has for its object the provision of supporting, propelling, and guiding means concealed from view and operating smoothly and noiselessly.

In the accompanying drawings my invention is illustrated in such manner as to render the same perfectly clear.

In the drawings, Figure 1 is a cross-section of an amusement device installed, and Fig. 2 is a top plan view of Fig. 1.

Referring to the drawings more in detail, a waterway is provided, preferably annular or elliptical, and arranged in connection with such landscape effects as may be appropriate and desirable. Within and upon this waterway boats *a* are provided, which are arranged to carry passengers, being of water-tight construction and provided in their upper portion with glass plates adapted to afford to passengers an unobstructive view both when above and below the surface of the water. These boats are provided with suitable driving mechanism actuating a toothed wheel *b*, which travels in engagement with a toothed rack. This rack extends between two parallel grooved rails and together therewith forms a track *c*, which extends throughout the length of the water-channel. The track is continuous or unbroken in that it is not divided into sections; but it is not necessarily endless. It may be circular or straight, as is best suited to the shape of the waterway, the boats traveling in a circular path or out and back over the same path. This track is arranged at different elevations, grading from the bottom of the channel to a point near its surface, and so proportioned that the boats traveling thereon will successively ride upon the surface of the water and dive beneath the same.

It will be understood that instead of the toothed rack and grooved rail other well-known propelling and guiding means may be adopted, although that described has been found of great efficiency as providing a smooth and sure propulsion and guidance.

In the preferred construction illustrated electricity is used as the motive power, each of the boats being provided with a suitable motor and the current being supplied thereto from the feed-wire *i* by means of a sliding contact-shoe and connections in a known manner. Fresh air is supplied to the interior of the boats through the tube *n*, which is so proportioned as to extend above the surface of the water when the boat is at its greatest depth. A landing-stage S is provided, as shown in Fig. 2, by means of which passengers may enter and leave the boats *a* through the doors, which when closed hermetically seal the interior against the entrance of water.

In order to provide for the speedy emptying of the waterway in case one of the boats should from any cause begin to leak, an empty space or room *d* is provided beneath the same and separated therefrom by means of a large number of valves *g*. These valves may be connected electrically or otherwise with the interior of the boats or with a central station, so that in case of mishap they may be simultaneously and quickly opened and the water withdrawn from the waterway. After necessary repairs have been made the water may be again forced into the channel by means of pumps or in any other well-known manner.

Having thus fully disclosed my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a body of water, and a water-tight boat heavier than the water,

of a track arranged beneath the surface of the water at varying depths so proportioned that the boat traveling thereon will alternately rise to the surface and dive beneath the same, and driving mechanism for propelling the boat along said track.

2. The combination, with a body of water, and a water-tight boat, of a continuous track arranged beneath the surface of the water at varying depths so proportioned that a boat traveling thereon will alternately rise to the surface and dive beneath the same, and driving mechanism for propelling the boat along said track.

3. The combination, with a body of water, and a water-tight boat, of a continuous track arranged beneath the surface of the water at varying depths so proportioned that the boat traveling thereon will alternately rise to the surface and dive beneath the same, and driving mechanism for propelling the boat along said track, such driving mechanism being hid from view by the boat.

4. The combination, with a body of water, and a water-tight boat, of a continuous track arranged beneath the surface of the water at varying depths so proportioned that a boat traveling thereon will alternately rise to the surface and dive beneath the same, and driving mechanism for propelling the boat along said track, such driving mechanism consisting of an electric motor disposed within the boat.

5. The combination, with a body of water, and a boat, of a track arranged beneath the surface of the water at varying depths so proportioned that a boat traveling thereon will alternately rise to the surface and dive beneath the same, a toothed rack extending along said track, a toothed wheel carried by the boat, and a motor for driving said toothed wheel.

6. The combination, with a body of water, and a boat, of a continuous track arranged beneath the surface of the water at varying depths so proportioned that a boat traveling thereon will alternately rise to the surface and dive beneath the same, a toothed rack extending along said track, a toothed wheel carried by the boat in engagement with said rack, and mechanism consisting of an electric motor within the boat for driving said toothed wheel.

7. The combination, with a body of water, and a boat, of a track arranged beneath the surface of the water, driving mechanism for propelling the boat along said track, and means for speedily draining off said water.

8. The combination, with a body of water, and a boat, of a track arranged beneath the surface of the water at varying depths, driving mechanism for propelling the boat along said track, and means for speedily draining off said water.

9. The combination, with a body of water, and a water-tight boat, of a track arranged beneath the surface of the water at varying depths so proportioned that the boat traveling thereon will, under normal conditions, alternately rise to the surface and dive beneath the same, driving mechanism for propelling the boat along said track, and means for speedily draining off said water.

10. The combination, with a body of water and a water-tight boat, of a track arranged beneath the surface of the water at varying depths so proportioned that the boat traveling thereon will under normal conditions alternately rise to the surface and dive beneath the same, driving mechanism for propelling the boat along said track, a space below the level of the waterway, and valves connecting said space with the waterway whereby the water may be speedily drawn off.

11. The combination, with a body of water, and a water-tight boat, of a track arranged beneath the surface of the water at varying depths so proportioned that the boat traveling thereon will, under normal conditions, alternately rise to the surface and dive beneath the same, a toothed rack extending along said track, a toothed wheel carried by the boat in engagement with said rack, a motor within said boat for driving said toothed wheel, a space below the level of the waterway, and valves connecting said space with the waterway whereby the water may be speedily drained off.

In testimony whereof I affix my signature to this specification in the presence of two witnesses.

HANS PFEIFFER.

Witnesses:
CLARA I. PARKER,
ULYSSES BYWATER.