

1,014,407.

Patented Jan. 9, 1912.

3 SHEETS—SHEET 1.

Fig. 1.

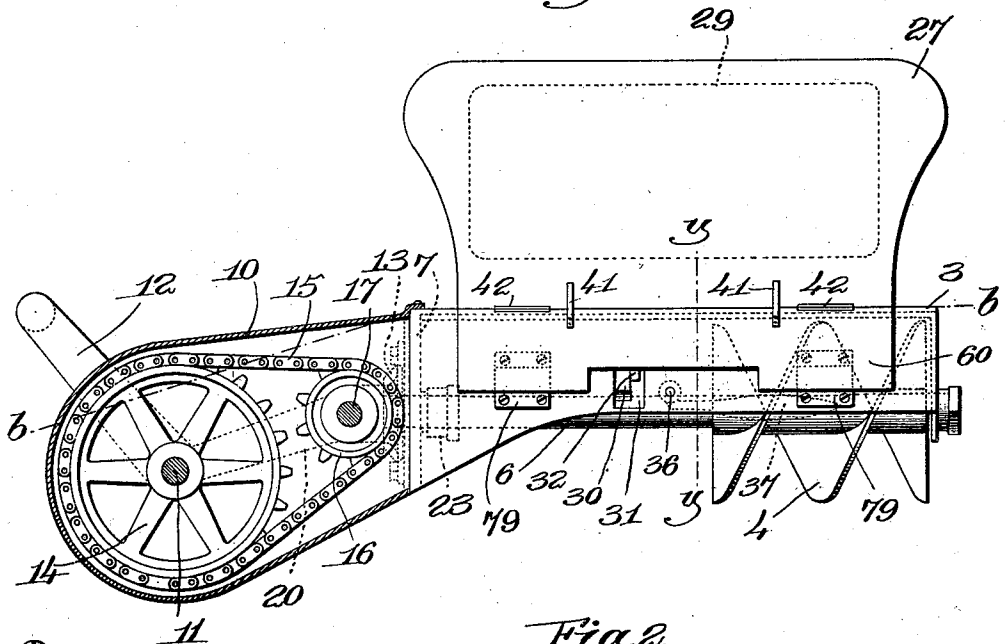
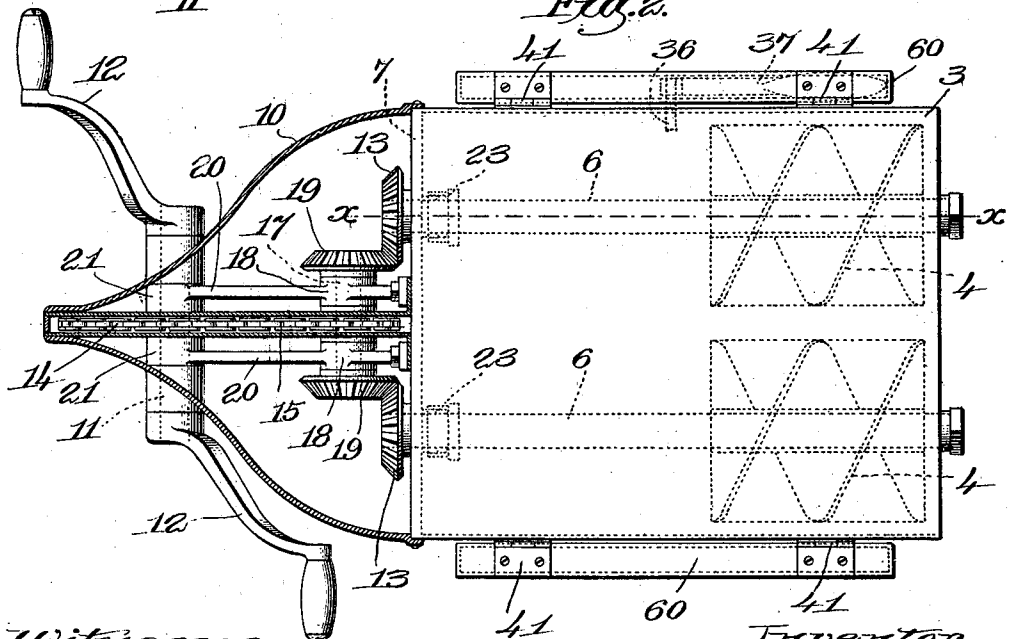


Fig. 2.



Witnesses.
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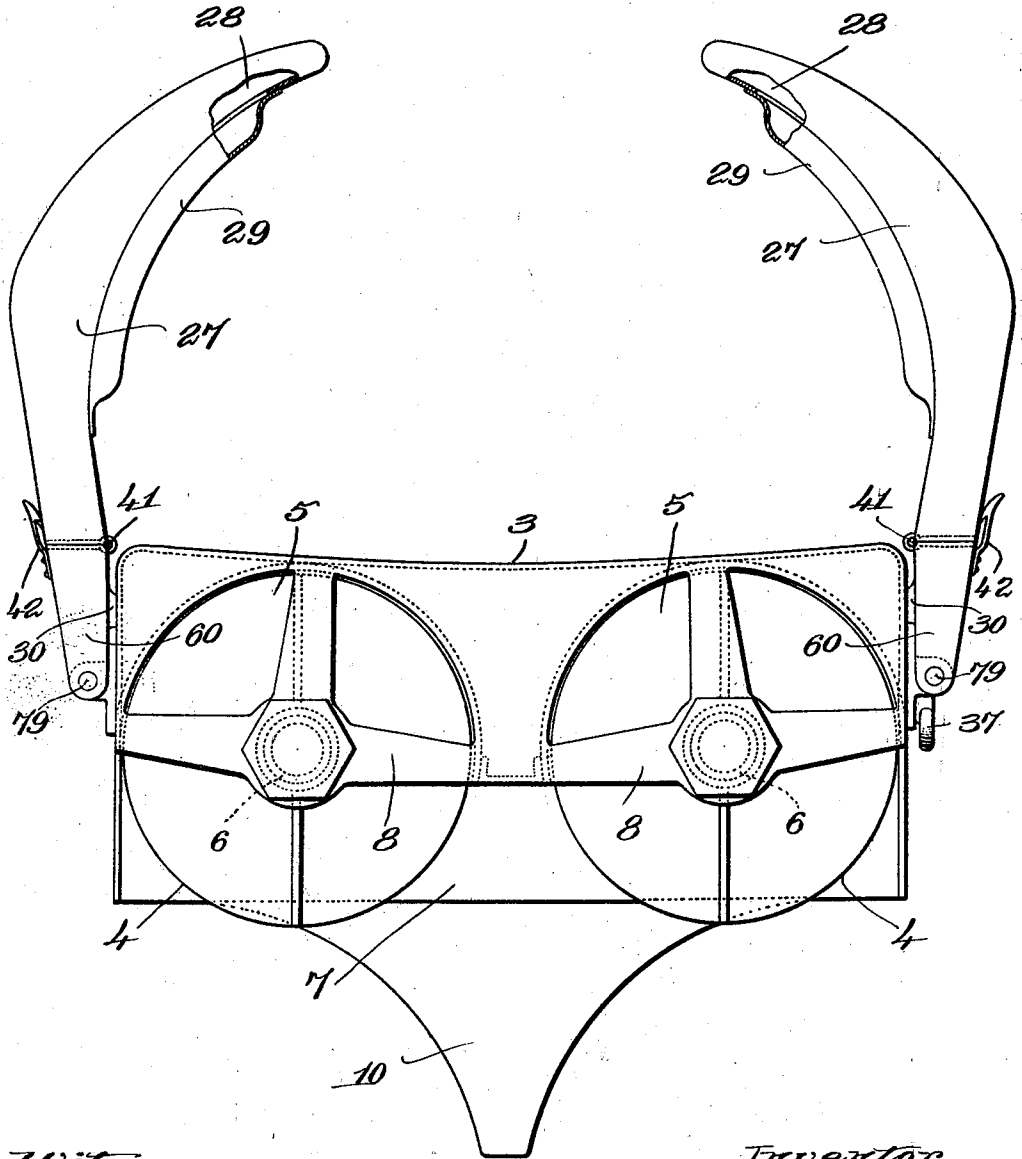
H. W. McLEOD.
SWIMMING APPLIANCE.
APPLICATION FILED OCT. 3, 1910.

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3 SHEETS—SHEET 2.

Fig. 3.



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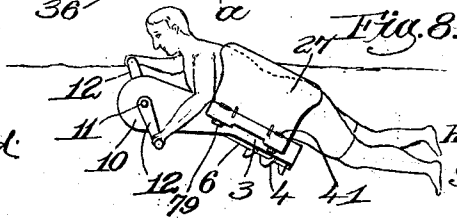
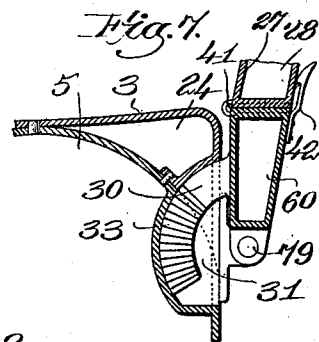
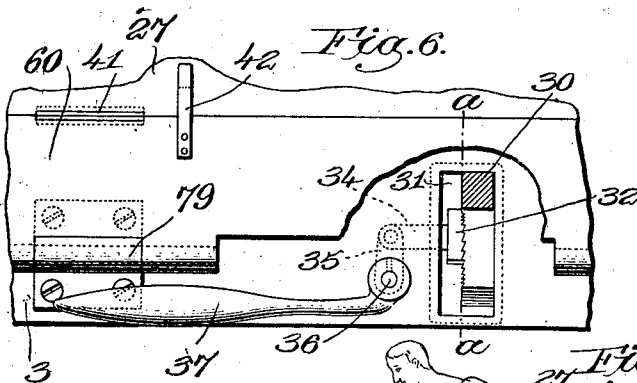
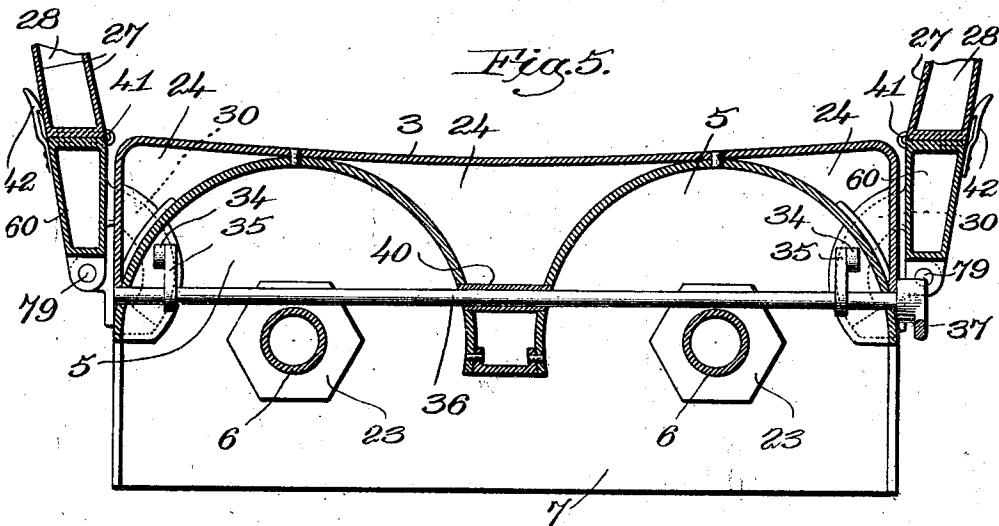
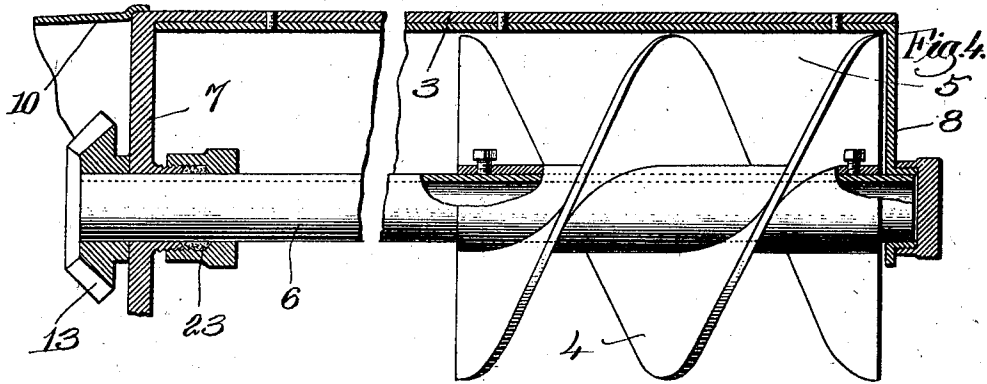
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3 SHEETS—SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARVEY W. McLEOD, OF QUINCY, MASSACHUSETTS.

SWIMMING APPLIANCE.

1,014,407.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed October 3, 1910. Serial No. 584,962.

To all whom it may concern:

Be it known that I, HARVEY W. McLEOD, a citizen of the United States, residing at Quincy, county of Norfolk, and State of Massachusetts, have invented an Improvement in Swimming Appliances, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to a swimming appliance adapted to be applied to the body of a swimmer and provided with a manually-operated propeller.

The object of the invention is to provide a novel device of this character which can be quickly applied and firmly secured to the body; to provide an arrangement whereby the device will act also as a float to help buoy up the body without any tendency to turn the body over; and to otherwise improve devices of this character, all as will be more fully hereinafter described and then pointed out in the appended claims.

In the drawings wherein I have illustrated a selected embodiment of my invention which is sufficient to disclose the principle thereof, Figure 1 is a side view of the device with a part shown in section; Fig. 2 is a section on the line *b-b*, Fig. 1; Fig. 3 is an enlarged end view; Fig. 4 is a section on the line *x-x*, Fig. 2; Fig. 5 is a section on the line *y-y*, Fig. 1; Fig. 6 is a detail fragmentary view showing the manner of locking the clamping wings in position; Fig. 7 is a section on the line *a-a*, Fig. 6; Fig. 8 is a view showing the manner in which the device is used.

My improved swimming appliance comprises a body portion designated generally by 3 which is adapted to be applied to the front of the swimmer's body and which is provided with one or more manually-operated propellers. The propellers herein shown are in the form of screws 4, and I have shown two such propellers in the present embodiment of the invention. These screw propellers operate in parti-cylindrical chambers 5 formed on the underside of the body 3, and each propeller is secured to a shaft 6 which extends longitudinally of the body and is journaled at one end in the front wall 7 that depends from the body, and at the other end in a spider 8 secured to the back end of the body.

The chambers 5 are both open on the under

side and are closed on the upper side so that the lower half of the screws or propellers 4 project below said chambers, as shown in Figs. 1 and 8.

Situated at the front of the body is a gear casing 10 in which is received the gears for operating the shafts 6. This gear casing will preferably be made water-tight, so as to keep the gears therein dry and prevent them from corroding. It may be formed from a casting or may be formed from sheet metal stamped or bent into shape. It is herein shown as secured to the front of the body 3 and the wall 7 of the body forms the rear end of the casing. The gear casing 10 supports a driving shaft 11 which projects through the sides of said casing and is provided with crank handles 12 by which it may be turned. Any suitable gearing may be employed to communicate motion and power from the driving shaft 11 to the propeller shafts 6. The gearing herein shown comprises a sprocket wheel 14 fast on the shaft 11 and connected by a sprocket chain 15 with a sprocket wheel 16 fast on a countershaft 17 that is journaled in suitable bearings 18 suitably supported within the gear casing. This countershaft 17 has thereon two bevel gears 19 that mesh with bevel gears 13 fast on the ends of the shafts 6 which project through the wall 7 and into the gear casing. The bearings 18 are shown as having arms 20 extending therefrom which are provided at their ends with hubs 21 through which the driving shaft 11 extends, this construction affording not only an added support for the shaft 11, but also serving to hold the gearing more rigidly in position.

The wall 7 is provided with stuffing boxes 23 through which the shafts 6 extend, and which serve to prevent any water leaking into the gear casing around said shafts.

The body 3 may conveniently be made of sheet metal stamped into shape and the spaces 24 between said body and the walls of the cylindrical chambers 5 constitute air spaces which make the appliance buoyant.

To secure the device to the swimmer's body, I have provided combined floats and clamping members, that is, members which are adapted to partially encircle the body and clamp the device thereto and which are hollow so as to constitute floats. These members are shown at 27 and may conven-

iently, be made of sheet metal pressed into the desired shape and formed with the air spaces 28, or may be made with any other material provided they are so constructed as to constitute air chambers. I will preferably make a portion at least of the interior faces of said members 27 of flexible material, as shown at 29, so that when the device is in position these portions of flexible material will form comparatively soft pads to engage the body. These wings 27 are hinged to the sides of the body 3 at 79 so that they can be brought into different positions to embrace a large or a small body. I have provided means for locking these wings in adjusted position so as to avoid any possibility that the swimming device will become disconnected from the swimmer's body, and in the present embodiment I accomplish this by providing each of the wings 27 with a sector-shaped locking arm 30 which enters the side of the body 3 and plays in a chamber 31 formed on the interior of the body. Situated in each of the chambers 31 is a clamping member 32 which will preferably have teeth adapted to engage the serrated face 33 of the corresponding locking arm 30. Each clamping member 32 is provided with a stem 34 which projects through the wall of the chamber 31 and is connected to an arm 35 fast on a shaft 36 that extends from one side to the other of the body and is provided on the exterior of the body with a handle 37 by which it may be turned. When the handle 37 is swung downwardly, the clamping members 32 are withdrawn from the arms 30 and the two wings are free to be swung outwardly or inwardly about their pivots 79. When the device has been adjusted to the body and the wings have been folded around the body, the operator will elevate the handle 37 and will thus bring the clamping members 32 in clamping engagement with the locking arms 30, thus locking the wings in their adjusted position. A suitable spring catch 39 may be employed to hold the handle 37 in its adjusted position.

I have arranged the locking arms 30 so that they are situated in front of the propellers and the shaft 36 is situated to extend across the body 3 in front of the propellers. Where the shaft extends through the chamber 24 between the walls of the two chambers 5, I will provide a sleeve 40 through which the shaft extends and which prevents any water leaking into the chamber 24 around the shaft.

The wings 27 are preferably made in two sections hinged together at 41 and the two sections can be held in alinement with each other, as shown in Fig. 5 by any suitable catch device 42. The purpose of making the wings in sections in this way is to permit them to be folded down against the body when the device is to be transported.

When the device is secured to the swimmer's body, as shown in Fig. 8, the air chambers of the wings come at the sides and above the body, and although there is some buoyant power in the air in the chamber 24, yet the larger extent of the air chamber is at the sides and top of the swimmer's body so that there will be no tendency for the device to turn the swimmer over onto his back as would be the case if all the buoyancy were in the chamber 24 beneath the swimmer's body.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to the swimmer's body, and a lock carried by the frame and acting to hold the wings locked positively in their adjusted position.

2. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to the swimmer's body, each wing having an arm extending therefrom, and a clamping member to engage each arm and thus positively lock the wing in adjusted position.

3. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, rigid buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to a swimmer's body, and means coöperating with the wings near their pivots to hold the wings rigidly in clamping position.

4. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to a swimmer's body, a lock for each wing, and means to operate both locks simultaneously.

5. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, a two-part buoyant wing hinged to each side of the frame, and a catch to hold the two parts of each wing in operative position.

6. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, rigid buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to the swimmer's body, each wing having extending therefrom a rigid curved arm and the frame having recesses in which said arms operate, and clamping members to engage said arms and thus lock positively the wings in adjusted position.

7. In a swimming appliance, the combina-

tion with a frame, of propeller mechanism carried thereby, rigid buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to the swimmer's body, each wing having extending therefrom a rigid curved arm and the frame having recesses in which said arms operate, clamping members to engage said arms and thus lock positively the wings in adjusted position, and means for operating said clamping members simultaneously.

8. In a swimming appliance, the combination with a frame, of propeller mechanism carried thereby, rigid buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to the swimmer's body, each wing having extending therefrom a rigid curved arm and the frame having recesses in which said arms operate, clamping members to engage said arms and thus lock positively the wings in adjusted position, a shaft to which both clamping

members are connected, and means for operating said shaft.

9. In a swimming appliance, the combination with a frame formed on its underside with two parti-cylindrical chambers extending longitudinally thereof, of a screw propeller in each chamber, a water-tight casing at the front of the frame, gearing therein connected to and operating the propellers, buoyant clamping wings hinged to the frame and adapted to fold about and clamp the frame to the swimmer's body, and means carried by the frame and acting to hold the wings rigidly locked in their adjusted position.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HARVEY W. McLEOD.

Witnesses:

LOUIS C. SMITH,

THOMAS J. DRUMMOND.