

Oct. 7, 1930.

B. EGUILUZ

1,777,749

SWIMMING APPARATUS

Filed Jan. 11, 1928

2 Sheets-Sheet 1

Fig. 1.

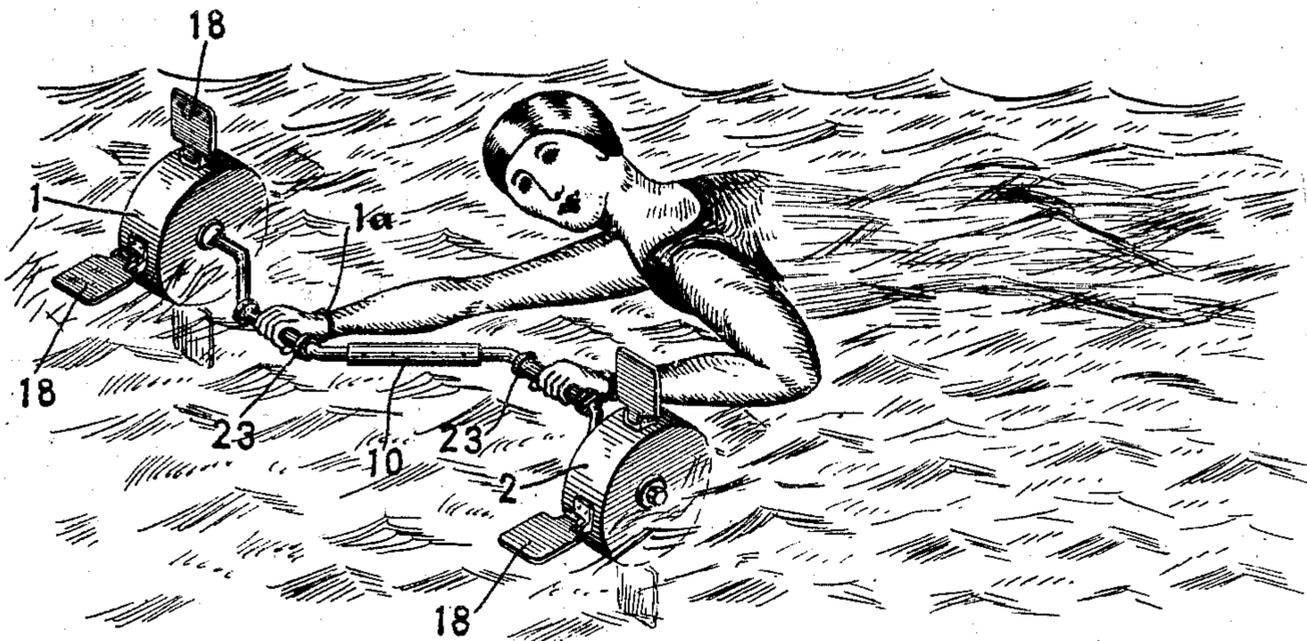


Fig. 2.

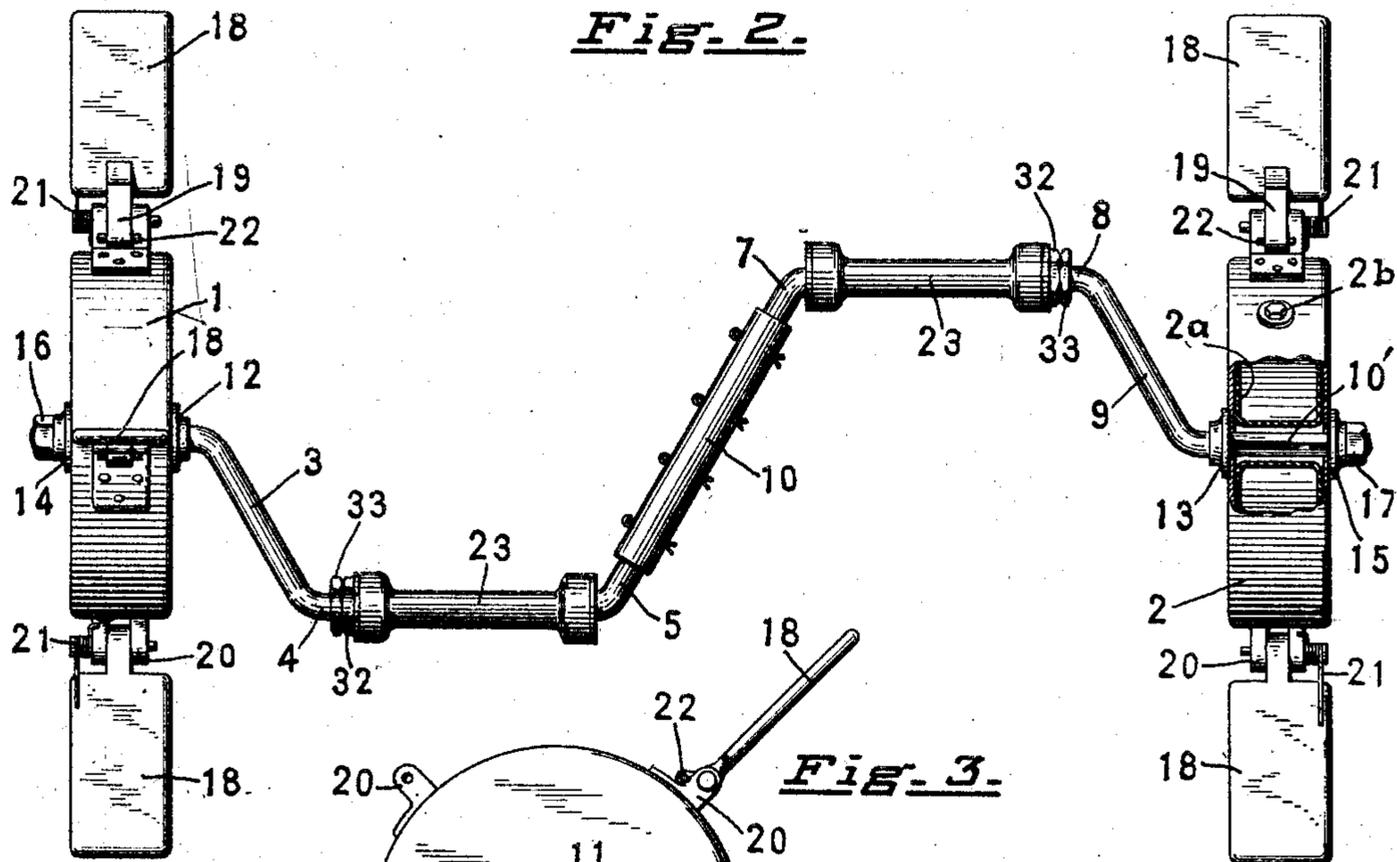
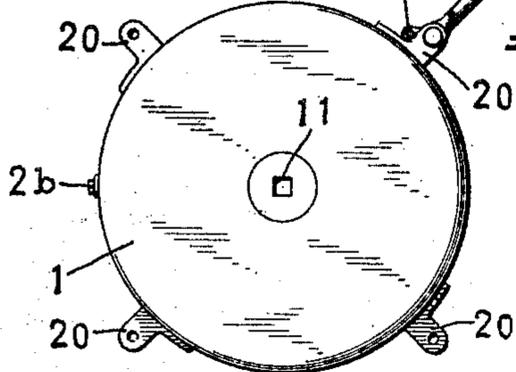


Fig. 3.



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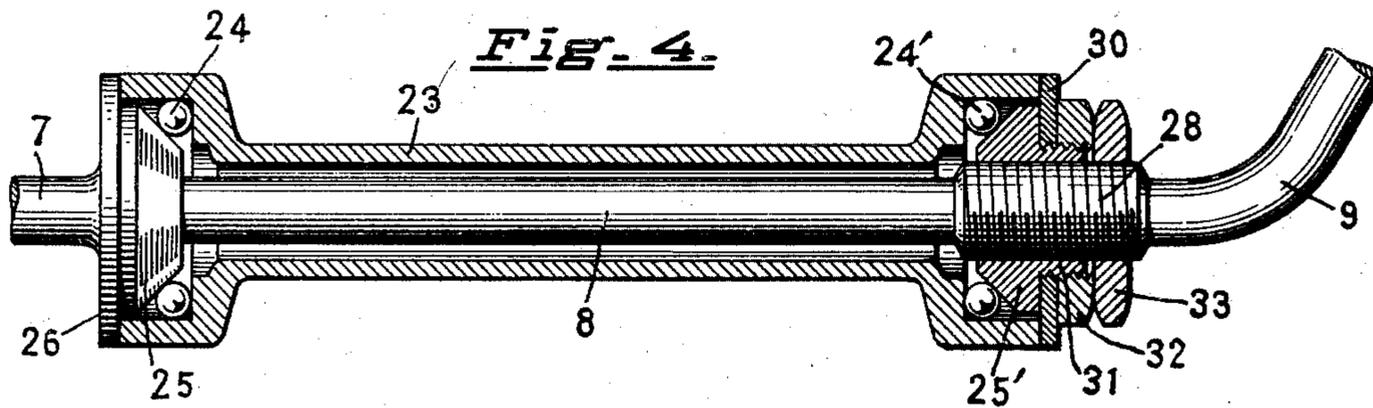
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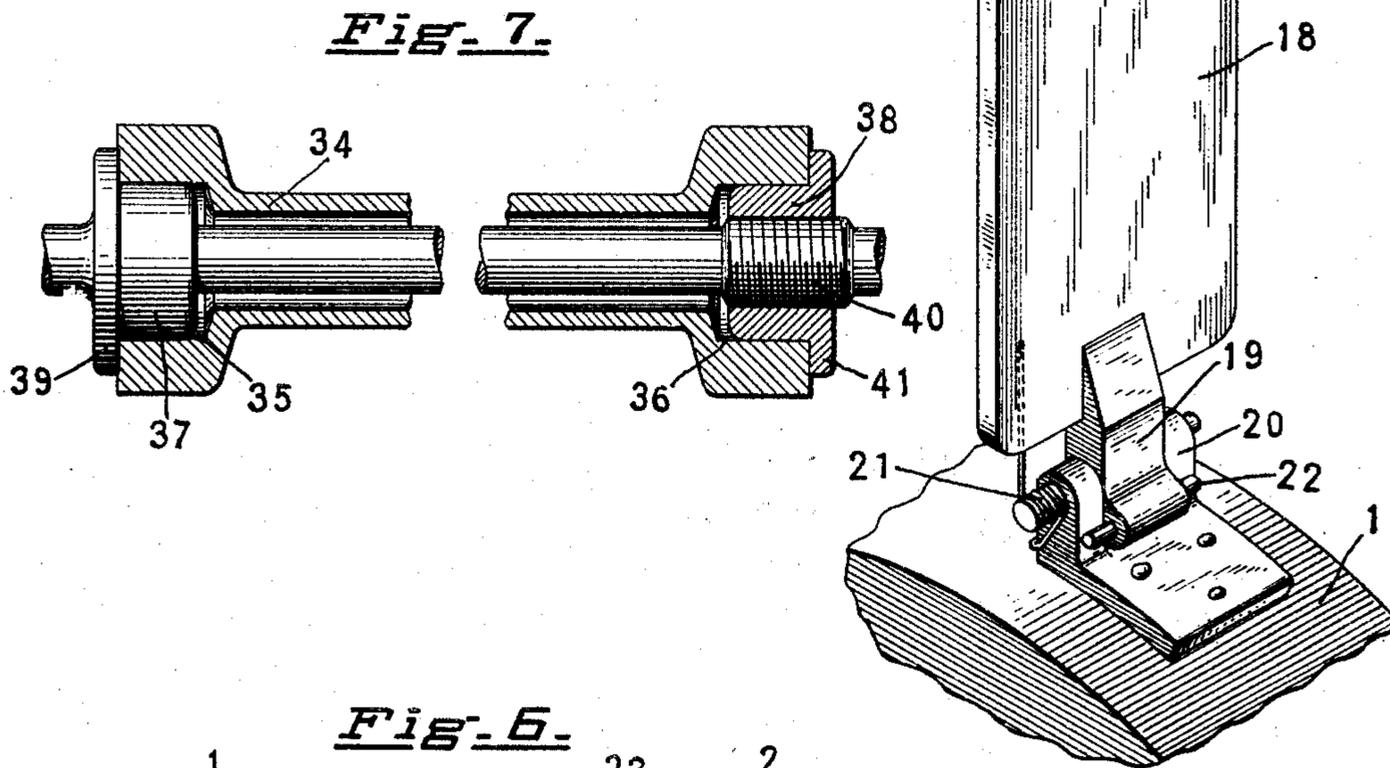
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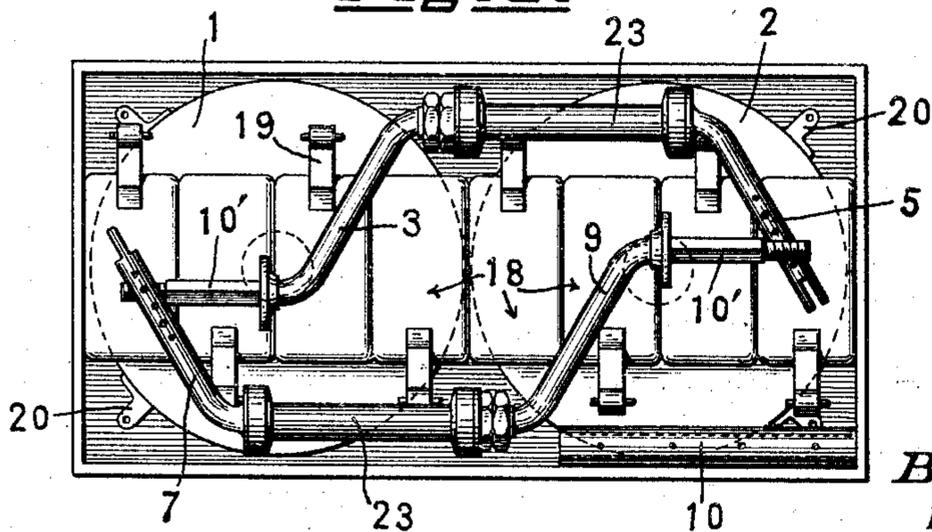
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**Fig. 5.**



**Fig. 6.**



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# UNITED STATES PATENT OFFICE

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## SWIMMING APPARATUS

Application filed January 11, 1928. Serial No. 245,887.

This invention relates, as is indicated by its title, to a swimming apparatus. It involves three main elemental members. First, a safety device for swimmers. Second, an exercising device. Third, an instructive device.

It has been a common practice with beginners to employ some type of flotation device for holding the head up and giving confidence. The usual practice is to push a board or log or some other buoyant body ahead of the beginner, but such primitive methods give no immediate arm movement such as is required in the art of swimming. It is one of the objects of the present invention to provide a buoyant body which will give safety and confidence to the user, equal to the primitive device of the plank or other buoyant body. Incidentally, the device, in addition to giving confidence and safety, provides for exercise. Coupled with the exercise, the device gives certain instruction.

It follows that the swimmer using the device even though a novice, gains confidence, exercises the muscles which are necessary in swimming and instructs the swimmer. All of these objects are contained in a very simple and compact structure as hereinafter defined.

Referring to the drawings:

Figure 1, illustrates a device in use.

Figure 2, is a plan view of the device with parts broken away to show construction.

Figure 3, is a detailed side view of one of the buoyant bodies, with a propeller attached.

Figure 4, is a sectional detail of the hand grip and bearing.

Figure 5, is an enlarged view of one of the paddles and its mounting.

Figure 6, illustrates the whole structure in a knock down encased position.

Figure 7, shows a modified form of bearing from that illustrated in Figure 4.

Swimming, as is well known, is largely a matter of confidence and an ability to use the hands and feet for support and propulsion.

Children usually "dog paddle", that is, move the hands rapidly below the head and chest and kick the feet, much after the manner of a frog.

The next step is that of the "breast stroke" where the hands and arms are propelled forward and swung in an arc.

Usually the "side stroke", that is an extension of one arm and a back and down pull on the other holds the head and body up. From this develops the "crawl" and other strokes.

The principal object of the present invention is first to give a feeling of safety and confidence to the swimmers, (if novices), and a means of exercising without great fatigue if more than a novice. In fact, it will permit the novice or the expert to make good time, in so far as propulsion is concerned.

It is possible of regulation for short or long strokes and may be adapted to use in many novel manners.

Referring to the drawings, 1, and 2, indicate buoyant bodies which have a buoyancy sufficient to sustain the weight of an ordinary person with a fair safety factor. These two bodies, 1 and 2, are interconnected by a chain of elements 3, 4, 5, 7, 8, and 9, the three former and three latter being adjus- tably interconnected through a sleeve 10. Each of the members 5, 7, is perforated as is the sleeve 10. Therefore, the sleeve may occupy an adjusted position on the two members 5, 7, in order to give a longer throw on what is really the crank shaft bearing, the hand grips 4, and 8.

The two elements 3 and 9, have angularly formed ends 10', as illustrated in Figure 2, which pass through openings of similar form 11, in the buoyant members 1, 2.

Collars 12, 13, serve as stops and binding collars 14, 15, with locking nuts 16, 17, complete the juncture between the buoyant members 1, 2, and the crank shaft elements 3, 9.

On each of the buoyant members 1, 2, may be arranged paddle elements 18, which preferably have tail pieces 19, which are pivoted in bifurcated brackets 20, secured to

the outer portion of the buoyant members 1, 2. A light spring 21, tends to normally hold these paddles 18, in fixed position for propulsion, inasmuch as pins 22, extend through the tail pieces 19, and abut against the bifurcated brackets 20.

The effect of this arrangement is that the paddles are rigidly held for propulsion during the forward sweep of the paddles, but permit a free backward movement of the paddle. This arrangement permits the swimmer to give more or less force to either arm stroke and thus permit a directional control.

There is a further purpose in having the paddles pivoted to the brackets of the buoyant members.

Pivots may be readily removed to permit packing the various parts of the device, as is clearly illustrated in Figure 6.

The hand grips 4, 8, illustrated in Figs. 1, 2, and 4, of the drawings are mounted on ball bearings and consist mainly of an outer sleeve or grip member 23, having at each end a ball race 24, 24', within which fit cones 25, 25'. The cone 25, may be backed up by a disk 26, and the adjustment for the bearing may consist of the cone 25', adjustable upon a threaded sleeve or enlargement 28, on the crank element 9.

A threaded disk 30, engages a reduced portion 31, of the cone 25', and is held in proper adjustment by a nut 32, and lock nut 33. Such a hand grip bearing gives great freedom of action between the parts and may be readily filled with a lubricant which is held therein by the collars, disks, etc., thus requiring no attention.

In Figure 7, there is shown a slightly modified form of bearing which does not require the cones and balls and ball races. This structure provides a simple and less expensive form of apparatus.

There is an outer tubular form 34, having interior bearing surfaces 35, 36, which engage bearing hubs 37, 38. The former is just in advance of a closure collar 39, and the latter is threaded to the shaft part 40, and has a closure collar 41.

This particular form and type of bearing for the grip device may be varied to suit the exigencies of any particular requirement, the main thought being that it shall be "fool proof" and active enough to insure continued use without disturbing the operator.

Likewise, the exact form of paddles and attachments may be modified and the character of the buoyant members may be changed.

One suggested change is illustrated in the right hand Figure 2, where the buoyant member 2, has an interlining of rubber or other material 2A, that may be inflated through a valve opening 2B, in order to insure greater safety in the event of the outer casing of the element 2 becoming damaged.

In fact, the entire buoyant member might be an inflatable member.

Whatever the constructional feature or materials, the main purpose of this invention is to provide buoyancy with safety and a means of propulsion.

As an added adjunct to safety, arm or wrist loops 1A are provided to keep the device attached to the arms of the swimmer. This will insure the swimmer having an opportunity of always regaining control of the device, should ever the hand, for any reason, slip from the hand grip.

It is to be presumed that the metallic parts of the hand grip may be covered with a resilient material, if desired.

What I claim as my invention and desire to secure by Letters Patent is:

1. A swimming device comprising a pair of floats, an intermediate crank shaft having two crank arms and means for adjusting the throw of the crank arms relatively to each other to lengthen or shorten the stroke of the swimmer, and hand grips for the swimmer.

2. In a swimming device, a pair of floats, intermediate crank shafts for rotating the floats and paddles pivotally mounted upon the floats and held against relative movement to the float, when moved in one direction.

3. In a swimming device, a pair of floats, means for inflating the floats with air, an intermediate crankshaft having a crank for each hand of the swimmer and paddles appurtenant to the float.

4. A device of the character described, a pair of separable crankshafts, one for each hand of the swimmer and removably attached floats for each of the crankshafts.

5. A device of the character described, a pair of separable crankshafts, one for each hand of the swimmer, removably attached floats for each of the crankshafts, and removably secured paddles for the floats whereby the various elements described may be assembled or unassembled for packing.

6. In a swimming device, a pair of floats comprising a casing and a separate interior inflatable member and a crankshaft joining the two floats with a crank for each hand of the swimmer.

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