To all whom it may concern:

Be it known that I, LEONARD E. CLAISON, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Swimming and Life-Saving Apparatus, of which the following is a specification.

My invention relates to swimming or life-saving devices, and pertains particularly to that class of swimming devices having means of propulsion.

It is the object of my present invention to devise a simple, light, portable life preserver.

A further object of the invention is to provide a life preserver in combination with means for propelling the same; and another object is to provide a device of this character which will permit the occupant to rest in comparative comfort when necessary.

The invention consists of the elements, the construction and the combination of elements, or their equivalents, as will be set forth in the following specification, and as further shown in the accompanying drawings, in which—

Figure 1 is a plan view of the device. Fig. 2 is a side view of the same. Fig. 3 is an end view. Fig. 4 is a detail view of one of the propelling blades. Fig. 5 is a detail sectional view of a power transmitter and motor.

In the embodiment of my invention in the form set forth in the drawings, I use a pair of rigidly braced bars 2. These bars may be either of wood, or tubular metal which may be filled with any suitable material, or closed at their ends, forming air chambers, and serve as buoyant members of the device, as shown in Fig. 2. Any desirable means may be employed by which the device may be strapped to the wearer.

Located at one end, and preferably approximately near the head or shoulders of the occupant of the device, is a rockable shaft 3, journaled at 4, in the main bars 2. Rigidly secured upon this rock shaft 3 are suitably curved arms 5, of any desirable construction, adapted to extend forward and over the shoulders of the occupant, and thence rearwardly, and parallel with the arms, and being provided at a point proximate to the hands with handles 6, by which the occupant may oscillate the handle bars 55 and the rock shaft in its bearings 4.

Short lever arms 7 project rearwardly from the rock shaft 3, and are suitably linked as at 8 to a crank 9 rigid on the stem or shaft of a small fluid transmitter 10, of any suitable construction. There is one of these fluid transmitters upon each forward end of the rod, and operated by means of the lever 7. The fluid is propelled from these transmitters, when they are operated, rearwardly through tubes 11, into suitable motors 12 where the force is exerted upon pistons in the motors to oscillate the shafts of the pistons. These transmitters are each securely fastened upon their respective ends of the bars 2, in such an angular position thereto as to cause the frame 14 of each propelling blade 15 to have a rearward and downward motion when the handles 5 are operated. In the present instance, these propelling blades 15 are constructed with an approximately triangular body portion in cross section, from the rearward and bottom edge of which is extended a loose flexible sheet or film 16 of suitable material, such as rubber, suitably reinforced with fabric, or the like, to give it sufficient strength. Thus, when the blade is on its upward or idle stroke through the water, the upper sharp edge 15 glides unresistingly through it, and the flexible edge 16 likewise unresistingly follows through the water; but upon the downward stroke of the several blades, the lower surface of the body portion of the blades 15, offers a fluke or web-like surface which, reacting upon the water causes the apparatus to be propelled forwardly, and at the same time is slightly lifted.

The member 14 of the frame of the fluke 95 is rigidly secured to the shafts of the several transmitters or motors, so that all of the motors are operated simultaneously in a given direction.

When desirable, there may be secured to the handle-bars 6, suitable chains or cords adapted to be extended backwardly, and connected by a bar 18 upon which the feet may be thrust, thereby assisting in the operation of the apparatus.

Projecting forwardly from the bars 2 may
be a suitable head-rest or bracket 19, so that the occupant of the apparatus may, when desirable, turn upon his back and support his weight upon the frame of the machine, and rest his head in the bracket. Manifestly this bracket and head-cover may be made of suitable strong material to successfully resist buffeting by waves or articles floating upon the surface of the water.

Various other attachments such as suitable buoyant members 20, may be made to the machine, as required, without altering in any way the general scope of the invention.

When the frame-work is put together, it is covered with heavy duck canvas, and filled with cork filling, enough to sustain weight of man.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a device of the character described, a frame, blades having rigid supporting shafts, mechanism by which said blades are caused to move backwardly and downwardly with relation to the frame, fluid-transmitters, means connecting said transmitters with the blade-actuating mechanism, and means controlled by an operator whereby said transmitters are actuated.

2. In an apparatus of the character described, a frame, fluid motors and transmitters, swinging blades having a rigid main arm, and a flexible web-like surface, connection between the rigid arms of the blades and the motors, said motors being set at angles which produce a downward and backward movement of the blades.

3. In an apparatus of the character described, a main frame, downwardly and backwardly movable blades, and mechanism by which the blades are actuated, said blades having a main substantially rigid portion, and a flexible web or sheet extending rearwardly therefrom, and capable of acting against the water on its rearward stroke, the front edge gliding through the water in its return stroke, and the flexible web following smoothly and unresistingly.

4. In an apparatus of the character described, a main frame, oscillating fluid pumps and motors carried thereon, with connecting transmitting pipes, propelling blades having a rigid forward portion, and a flexible web-like surface extending rearwardly therefrom, connections between the rigid portion of the blades and the pistons of the pumps and motors, curved arms adapted to extend over the shoulders of an operator, said arms having handles whereby the pumps and motors and the propelling blades may be actuated.

5. In an apparatus of the character described, a main frame, oscillating fluid pumps and motors carried thereon with connecting transmitting pipes, propelling blades having a rigid forward portion, and a flexible web-like surface extending rearwardly therefrom, connections between the rigid portion of the blades and the pistons of the 70 pumps and motors, curved arms adapted to extend over the shoulders of an operator, said arms having handles, chains extending rearwardly therefrom, a foot-bar with which the chains are connected whereby both hands and feet are available to transmit motion through the pumps and motors to actuate the blades.

6. In an apparatus of the character described, a main frame, a rock-shaft journaled transversely thereon, means for oscillating said shaft, segmental shafts and engines carried by the frame, connections through which said engines are actuated, propelling blades consisting of 85 rigid bars fixed to the pumps and engine shafts and movable therewith, and flexible sheets or films carried by said bars.

7. In an apparatus of the character described, a main frame, segmental pumps and engines fixed angularly upon said frame, means for transmitting a fluid to actuate said engines in unison, propelling blades fixed to the shafts of said pumps and engines having flexible webs attached thereto, a rock-shaft journaled upon the frame, connections between the rock-shaft and the pump shafts whereby the latter may be oscillated, arms connected with the rock-shaft, and provided with handles through which the connected mechanism may be oscillated.

8. In an apparatus of the character described, a main frame, fluid pumps and engines fixed diagonally to the sides of the frame, propelling blades having rigid arms carried by the shafts of the pump and engines, and flexible web-like extensions, a shaft journaled across the frame, connections between said shaft and the front pump shafts, fluid transmitting pipes connecting the front pumps with the engines at the rear, curved arms connected with the rock-shaft extending over the shoulders of the operator, handles by which said arms may be oscillated, rearward extensions connected with the handles, and having a foot-piece whereby both hands and feet may be utilized to actuate the propellers.

9. In an apparatus of the character described, a main frame, angularly fixed pumps located upon opposite sides and at the front, fluid transmitting connections between the pumps and rear engines, propelling blades having rigid arms connected with the pumps and engine shafts, and flexible webs, a shaft journaled transversely across the frame, connections whereby motion may be transmitted from said shaft to the pumps and propellers, curved arms fixed to the
shaft extending over the shoulders of the operator, and having a buoyant cushion fixed between the rearward extension of said arms, handles and foot-pieces connected with the rear of said curved arms whereby the hands and feet of the operator may be utilized to actuate the apparatus.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEONARD E. CLAWSON.

Witnesses:

GEO. H. STRONG,

CHARLES EDELMAN.