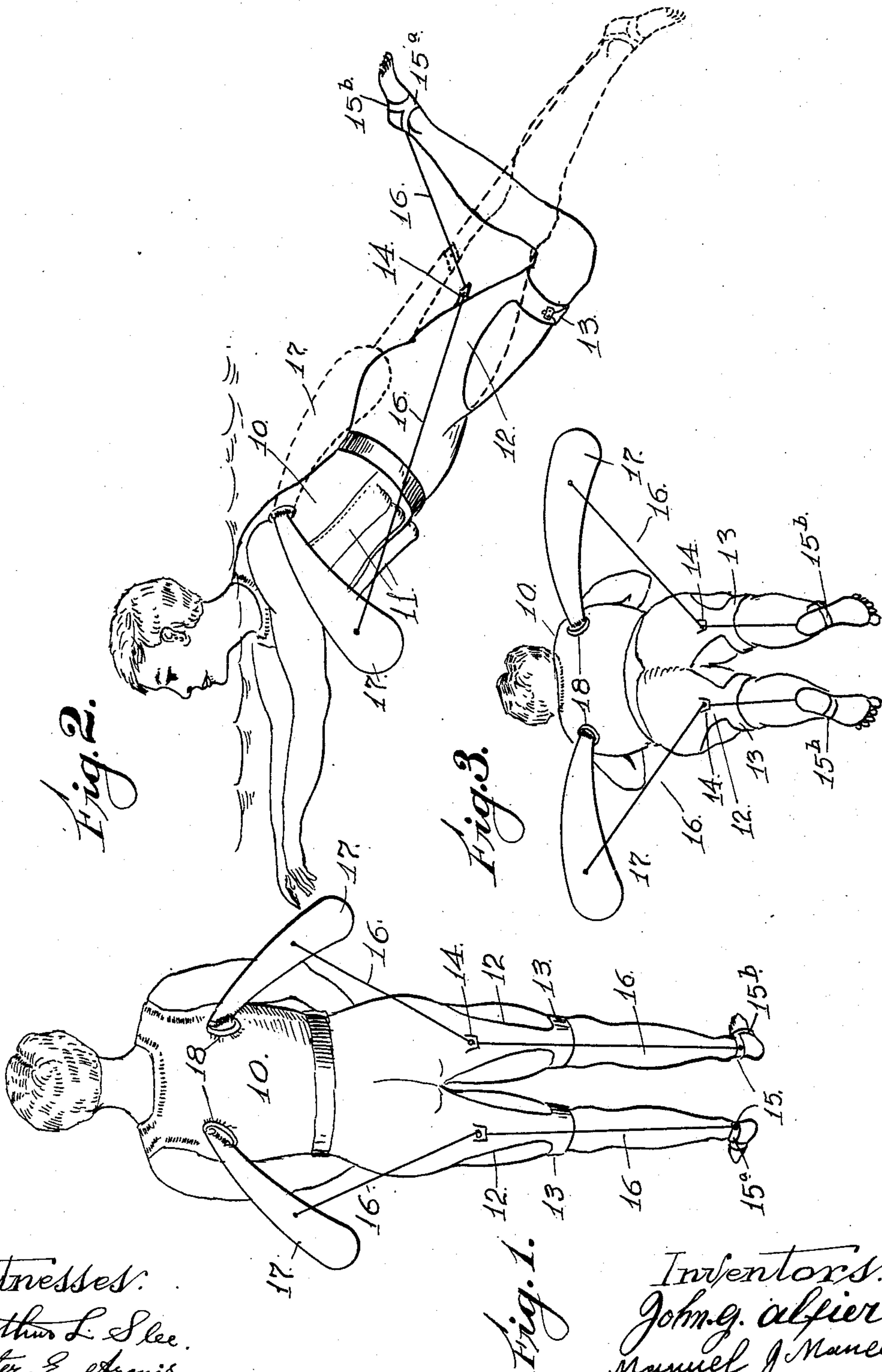


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SWIMMING APPLIANCE.  
APPLICATION FILED MAR. 29, 1911.

998,146.

Patented July 18, 1911.

2 SHEETS—SHEET 1.



Witnesses:  
Arthur L. Slee.  
Peter E. Cronis

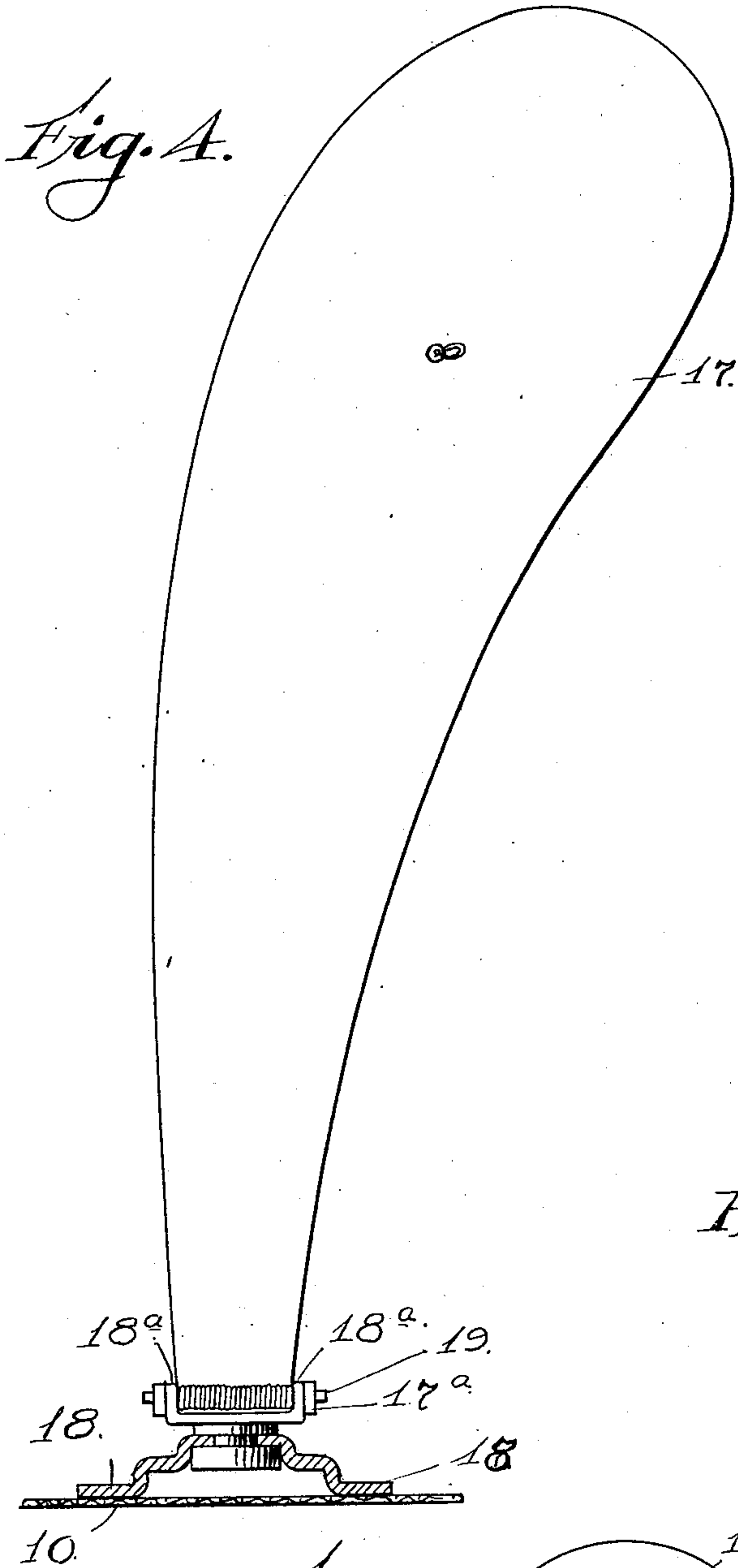
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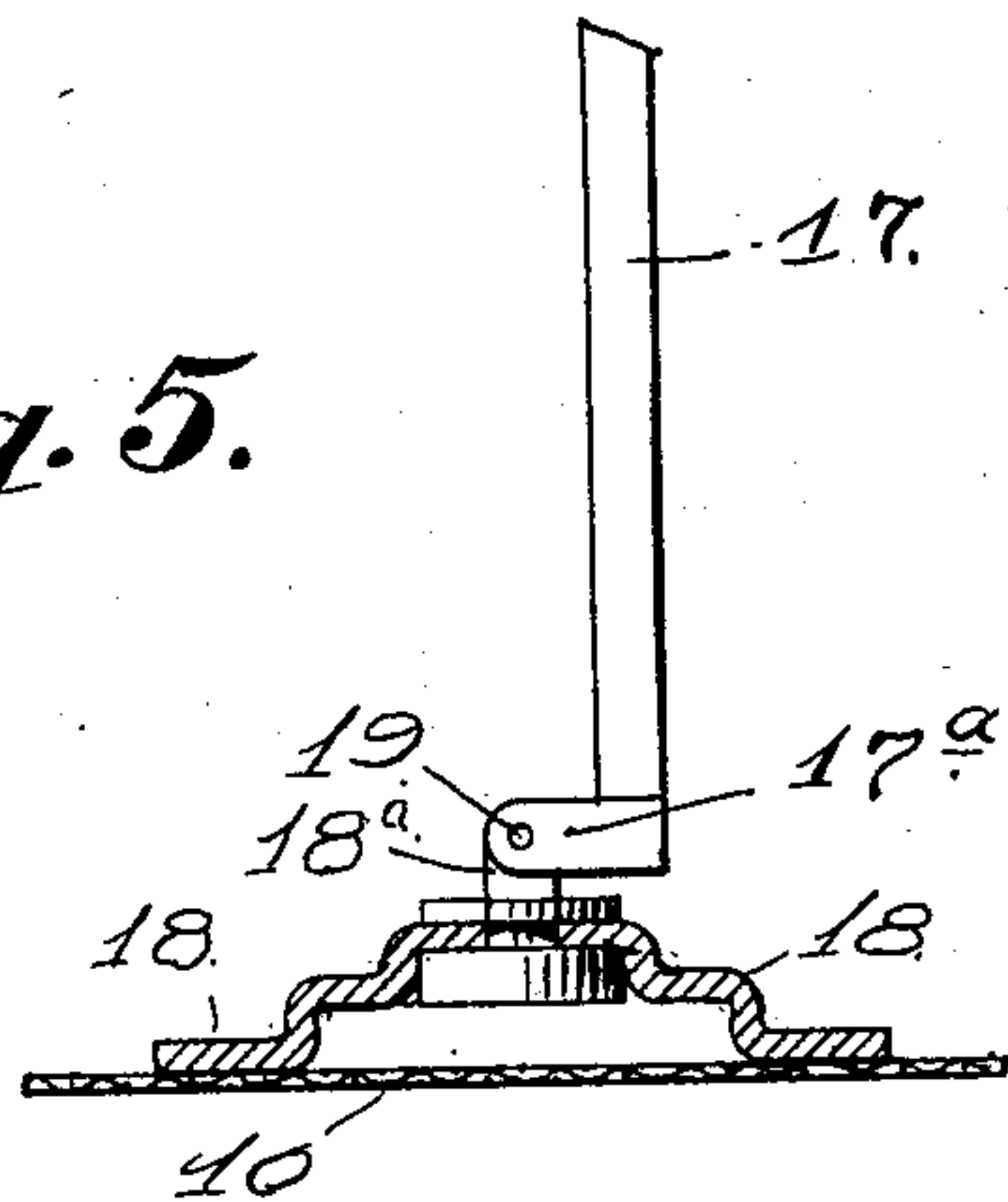
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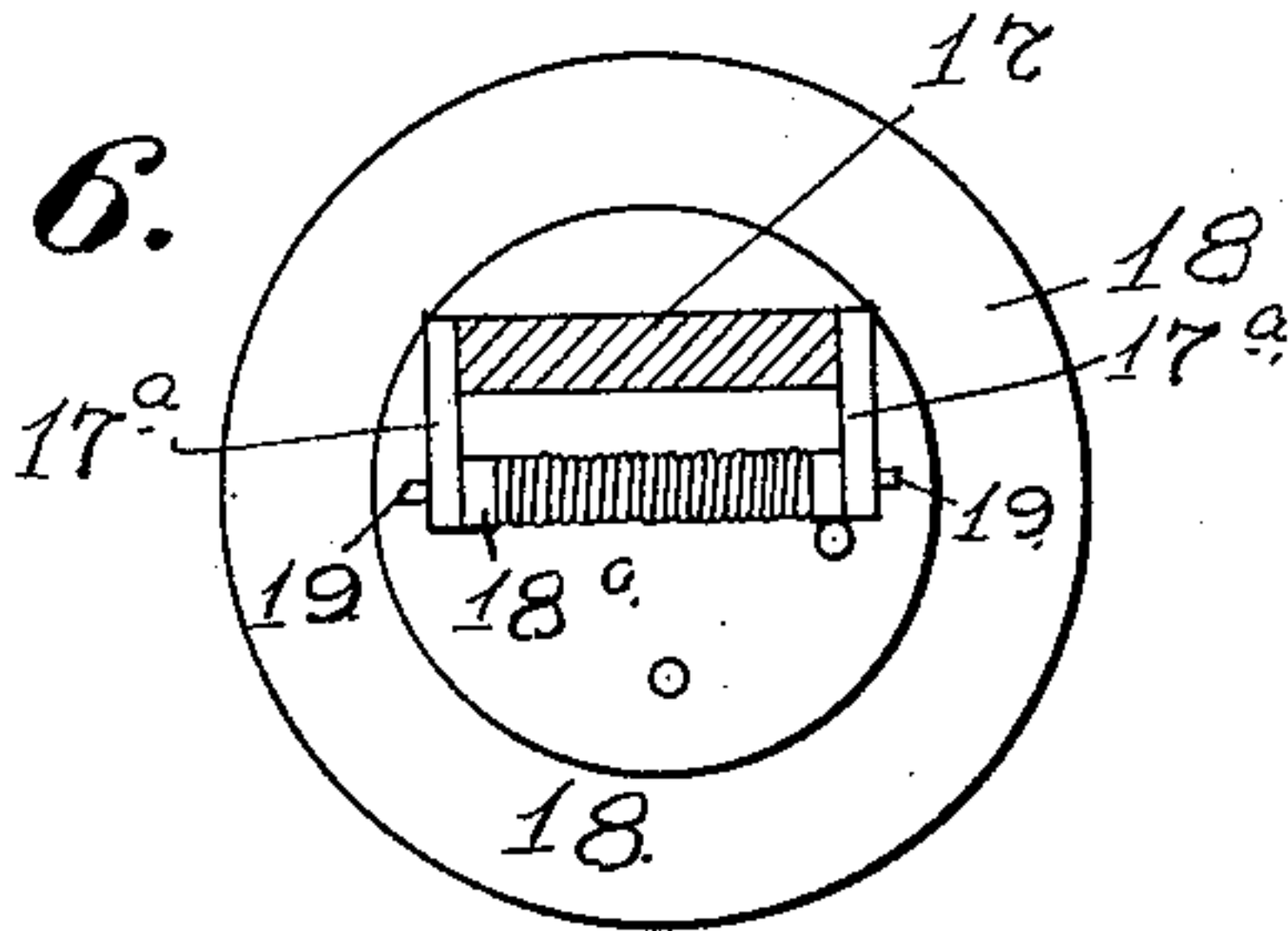
2 SHEETS—SHEET 2.



*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

JOHN G. ALFIER AND MANUEL J. MANEAS, OF OAKLAND, CALIFORNIA.

## SWIMMING APPLIANCE.

998,146.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed March 29, 1911. Serial No. 617,789.

*To all whom it may concern:*

Be it known that we, JOHN G. ALFIER and MANUEL J. MANEAS, subjects of the King of Greece, residing in the city of Oakland, county of Alameda, State of California, have invented a new and useful Improvement in Swimming Appliances, of which the following is a specification.

This invention relates to devices adapted to be worn by a person engaged in swimming, and more particularly to appliances which will not only aid in sustaining the user near the surface of the water and prevent his sinking, but also afford propelling mechanism auxiliary to that afforded by the usual movement of the limbs.

To these and other useful ends, the invention consists broadly speaking, in a body harness with which is combined wings, blades or paddles pivoted and movable from points located approximately at the shoulder blades of the user, and operatively connected with the legs at or near the heels, whereby each stroke of the latter will impart a propelling action to such wings, blades or paddles.

The body harness is also preferably wholly or partially constructed of floatable or inflatable material; certain other features and details of construction are also embodied in our invention, one preferred construction thereof being illustrated in the accompanying drawings forming part of this specification, and which we will now proceed to describe with reference thereto.

In said drawings, similar reference numerals are employed to designate similar parts in the several figures.

Figure 1 is a rear view of a standing figure with our swimming appliance in position. Fig. 2 is a side view of a swimmer in the water, with our appliance, the dotted lines showing the extended position of the leg and appliance. Fig. 3 is a rear view of Fig. 2. Fig. 4 is a detailed sectional view of one of the paddles. Fig. 5 is a side broken view of Fig. 4. Fig. 6 is a plan view of the plate to which the blade or paddle is secured.

The numeral 10 indicates the main body portion or jacket of a harness to be worn by the swimmer adapted to be secured around the chest and back in any suitable manner, leaving the neck and arms free, such body portion being preferably constructed at the chest with a chamber 11 adapted to be filled with cork or other float-

able material, or to be inflated with air or gas as may be found most desirable. This jacket 10 is made of any desired material and is preferably fastened centrally in front for convenience, although it may be of continuous circular form and also adapted to be tightened up by laces or other devices to suit different girths and sizes of wearers. It has two rear extensions 12, from the lower edge of the jacket each down to about the thick part of the wearer's leg, and there terminating in bands 13 encircling each limb and affording secure fastenings at these points.

Intermediate of the waist line of the body 10 and the encircling leg bands 13 and attached to or formed out of the material of the extension 12, are eyelets or sheaves 14, one to each extension. The harness further, and of necessity, embodies anklets 15 preferably composed of straps 15<sup>a</sup> adapted to be buckled around the leg just below the ankle joint and having in connection therewith supplementary straps 15<sup>b</sup> extending underneath the hollow of the wearer's feet. To some convenient part at the rear of these anklets 15, we affix one end of a flexible cord 16, and pass the same vertically through the eyelet or sheave 14 on the extension 12, and thence diagonally outward to a convenient point upon the rear face of a wing, blade or a paddle 17 connected to the body 10 of the harness at the back thereof at a point approximately located at or near the shoulder blade of the wearer.

It being premised that all of the above auxiliaries to the body 10 are duplicated and disposed for connection and operation with opposite limbs and shoulders of the wearer, we may say that the wings, blades or paddles 17 are of any light, durable material as aluminum or its equivalent and by preference of the elongated, curved, spoon-shape with the concave at the rear and the wide end at the outer free extremity, the cords 16 being connected sufficiently near the latter as to give the most powerful purchase. The inner ends of these members 17 are reduced in area, and provided with offsets 17<sup>a</sup> adapted to be pivoted between legs 18<sup>a</sup> pivotally secured upon suitable plates or housing 18, secured to the body or jacket 10 (at the shoulder portions thereof as already mentioned) the pivot pins 19 therefor being preferably spring-controlled, somewhere as illustrated, and the whole adapted to



swivel upon the body 10 or otherwise be constructed upon the general principles of a universal joint, as may be found convenient or desirable.

5 In the operation of our invention it will be seen that the body of the swimmer may be sustained afloat either entirely by the buoyancy afforded by the chamber 11 or by its combination with the wings 17, the arms being left entirely free to be given any of the approved movements for swimming without harness or buoyant device, (thus inspiring confidence and aiding the wearer in acquiring the natural art of swimming) while  
15 the forward, backward and outward movements of the legs will, through the flexible (though normally tense) cord connections between the anklets 15 and the wings 17, afford to the hands and arms powerfully enhanced means of propulsion through the water. The legs also, being thus insured against sinking toward the bottom, as is always a detriment to young swimmers, will be controlled and directed in their movements until within a short time, any beginner using our appliance will naturally fall into the same positions and actions when deprived of the appliance as though it were being worn, should he unexpectedly find himself in the water without it.

While we have described and illustrated what we consider to be the most simple and convenient embodiment of our invention, it must be understood that we do not limit ourselves to the precise details of construction or arrangement of parts herein above set forth, as the same may be varied or modified according to skill or judgment without departing from the principles or sacrificing  
40 the advantages of our invention.

What we claim and desire to secure by Letters Patent is as follows:

1. A swimming appliance embodying a harness and means of propulsion; such harness consisting of a jacket for the wearer's  
45 body, downward rear extensions therefrom one for each leg, eyelets or sheaves on each extension and anklets or heel fixtures near

each heel; and such propelling means consisting of wings, blades or paddles pivotally 50 connected to the rear of the jacket, one at or near each shoulder, and cord connections extending from such anklets through the eyelets or sheaves on the extensions, to points upon the rear of the wings intermediately of 55 their ends.

2. In a swimming appliance embodying a harness and means of propulsion, the combination with a body-jacket having a buoyancy element incorporated therewith, extensions from the lower rim of said jacket adapted to lie along the rear of the wearer's legs, eyelets upon said extensions, bands forming anklets or heel fastenings elongated, concaved wings, blades or paddles 65 having swiveling connections at their inner ends with the shoulder blade portions of the jacket at the rear thereof and cord connections between the anklet bands and the rear faces of the wings, approaching their 70 outer free ends.

3. In a swimming appliance embodying a harness and means of propulsion, the combination with a body-jacket having a buoyancy element incorporated therewith, extensions from the lower rim of said jacket adapted to lie along the rear of the wearer's legs, eyelets upon said extensions, bands forming anklets or heel fastenings, elongated, concaved wings, blades or paddles 80 having swiveling connections at their inner ends with the shoulder blade portions of the jacket at the rear thereof, springs at such swiveling connections normally in tension, and cord connections between the anklet 85 bands and the rear faces of the wings, approaching their outer free ends.

In witness whereof we hereunto affix our signatures in the presence of two subscribing witnesses.

JOHN G. ALFIER.  
MANUEL J. MANEAS.

Witnesses:

ARTHUR L. SLEE,  
PETER E. ARONSI.