

No. 829,741.

PATENTED AUG. 28, 1906.

A. SCHWALGE.
SWIMMING SHOE.
APPLICATION FILED MAR. 10, 1906.

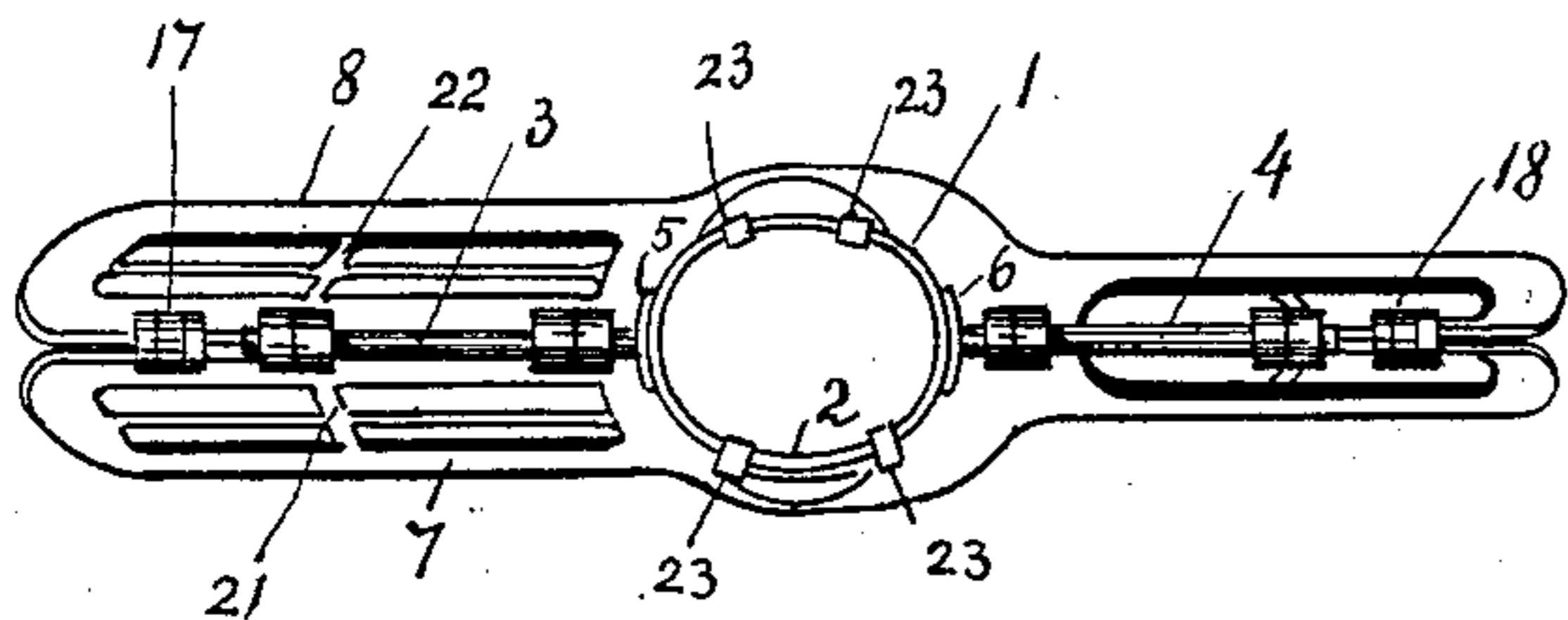
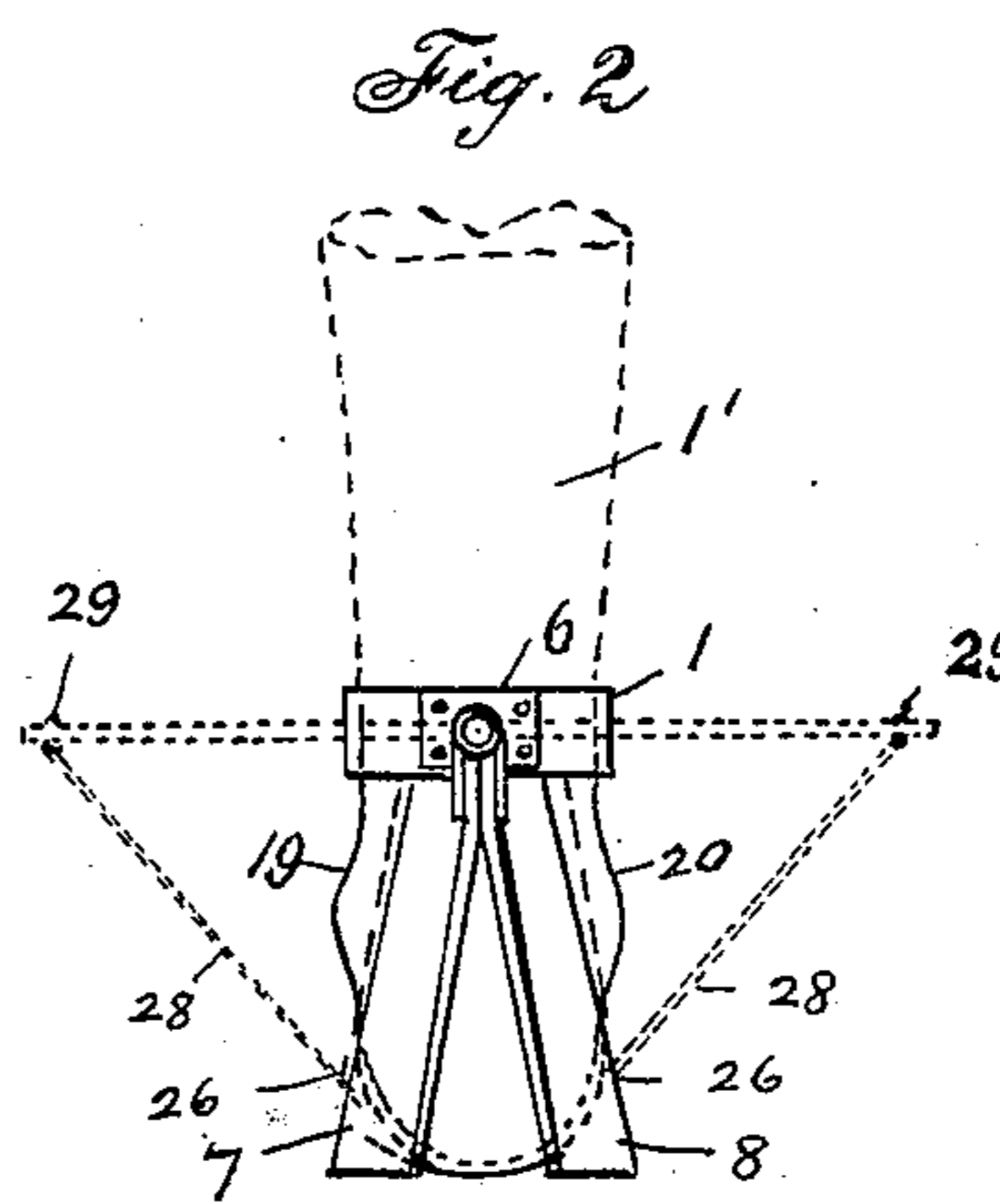
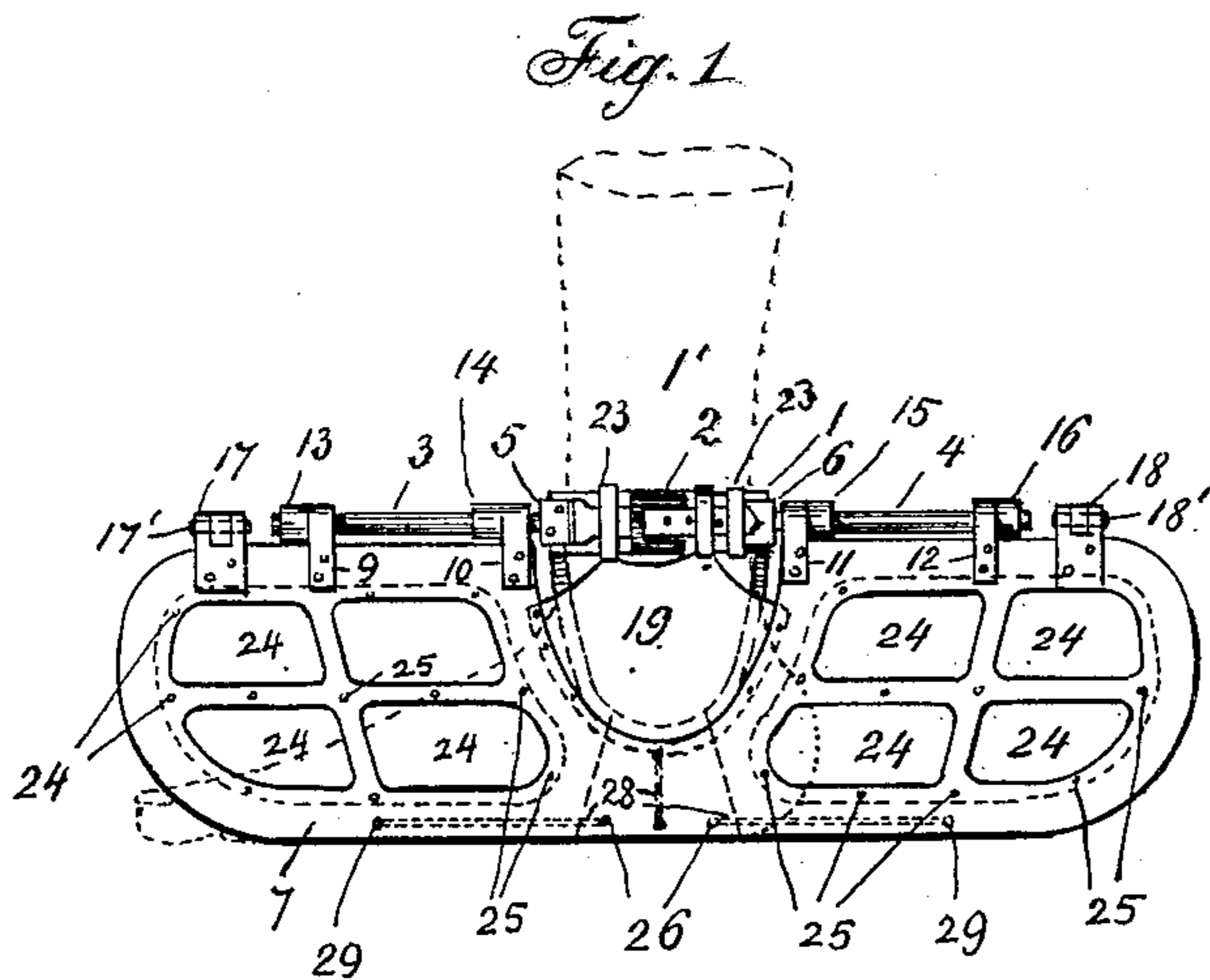


Fig. 3

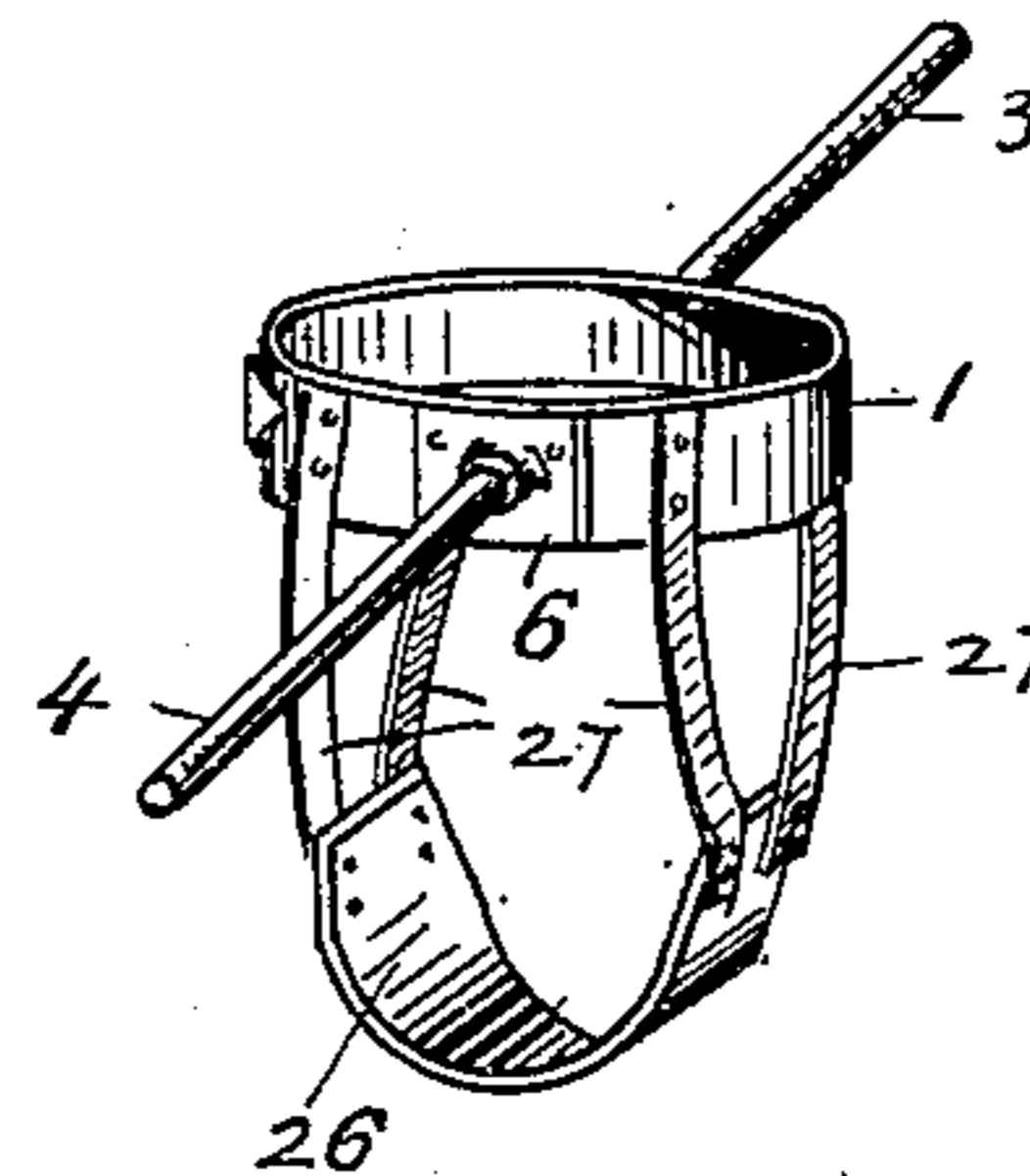


Fig. 4

Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT SCHWALGE, OF CHICAGO, ILLINOIS.

SWIMMING-SHOE.

No. 829,741.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed March 10, 1906. Serial No. 305,302.

To all whom it may concern:

Be it known that I, ALBERT SCHWALGE, a subject of the German Emperor, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Swimming-Shoes, of which the following is a specification.

My invention relates particularly to the class of devices which enable a swimmer to considerably increase the rapidity of the forward movement of the body in water without burdening the foot with a heavy, inconvenient, and inflexible contrivance, which would have a tendency rather to tire the swimmer than to assist him. In order to obtain this object, it is necessary to make the device of such light and flexible material as can be conveniently attached without causing a pressure or other inconvenience at any point of the foot.

It is of the greatest importance that the device when put in action forms a surface of resistance against the water in connection with that of the foot, so that both work in conjunction. In that case the device greatly facilitates the function of "water-treading," which is of much assistance to the swimmer, as it allows him to recuperate his strength from time to time when considerable distances are to be covered.

When out of the water, the device must not interfere with the free and unobstructed movement of the person using it, which would be highly objectionable.

I attain these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is a full side view of the device, showing the outline of the foot in dotted lines. Fig. 2 is an end elevation looking at the heel of the foot. Fig. 3 is a full plan view, and Fig. 4 is a perspective detail showing the method by which the device is fastened to the foot.

Like characters refer to like parts throughout the several views.

A substantial strap 1, Fig. 1, is placed around the ankle 1' and closed by buckle 2. 3 and 4 are rods projecting horizontally and in line with the foot from the strap, being fastened to gusset-pieces 5 and 6, which are riveted to strap 1. Movable wings 7 and 8 are hinged to rods 3 and 4 by hinges 9, 10, 11, and 12, fastened to wing 7, and by hinges 13, 14, 15, and 16, fastened to wing 8. The wings are again hinged together in them-

selves at their extreme forward and rear end by ring-hinges 17 and 18, through which are passed bolts 17' and 18'.

A web 19 and 20, consisting of flexible material, preferably soft rubber, fits over the ankle-bone. It is fastened with its lower edge to the frame structure 21 and 22, consisting of light material, such as aluminium, and with its upper edge to the main strap 1 by means of loops 23. The open spaces formed in the frame structure 21 and 22 are closed up with light fiber or celluloid plates 24, which are riveted to the frame by rivets 25.

In order to prevent turning of the main strap 1 around the ankle 1', foot-strap 26 is passed around under 27, so that a turning movement, slipping up, or getting in any way out of position of the device is practically impossible. The foot-strap 26, with its connecting-bands 27, is made, preferably, of cloth, which maintains elasticity, with lightness and comfort.

In action the wings will adjust themselves smoothly against the foot upon drawing in the limb, and in striking out the wings will immediately assume the horizontal position, as indicated in dotted lines in Fig. 2. When the horizontal position in the spreading movement of the wings is obtained, strings 28, which are fastened with one end to foot-strap 26 and with the other end to wings 7 and 8 at points 29, become tightened and limit such movement at or slightly below the above position.

It will be seen that in striking out the outspread wings add their so obtained surface with that of the sole of the foot, which materially increases the resistance of the water upon this surface area. This increased resistance, therefore, is instrumental in pushing the body of the swimmer through the water with great rapidity. In drawing in the limbs the wings fold against the form of the foot. In so doing the resistance during the said forward movement only slightly increases over that offered by the foot without the device.

It will be noticed that changes in the construction of this device may be made without departing from the scope of this invention.

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

1. In a swimming-shoe, the combination, of a main ankle-strap, rods secured thereto

and projecting horizontally in the direction as well as backwardly of the foot, movable wings hinged detachably to the said rods, hinges 17 and 18 whereby the said wings are
5 hinged in themselves, and flexible webs in the said wings fitting over the ankle-bone, substantially as described.

2. A swimming-shoe, comprising in combination, a main strap carrying horizontally-
10 projecting rods, movable wings hinged to said rods, a foot-strap passed around under the foot and fastened to said main strap by connecting-bands, flexible webs in said movable wings, fitting over the ankle-bone, and
15 strings limiting the spreading movement of the said wings when the device is pushed backwardly in the water, substantially as described.

3. In a swimming-shoe, the combination
20 of a main strap carrying movable wings, a flexible web in said movable wings which folds over the ankle-bone when the device is drawn forwardly through the water and so

connected with the said movable wings on one side and with the main strap on the other 25 as to provide a continuous surface of resistance against the water, said surface closely fitting around the ankle of the swimmer when the device is pushed backwardly through the water, substantially as described. 30

4. In a swimming-shoe, the combination of a main strap carrying movable wings, a flexible web in said movable wings, means for fastening said web to the main strap and means by which said wings are closely folded 35 against the foot of the swimmer when the device is drawn forwardly through the water, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 40 two subscribing witnesses.

ALBERT SCHWALGE.

Witnesses:

ADOLPH SMITH,
G. F. JONES.