No. 689,085. Patented Dec. 17, 1901.

B. J. HOOPER.

SWIMMIMG DEVICE.

(Application filed Mar. 18, 1901.)

(No Model.)

Fig. 1.

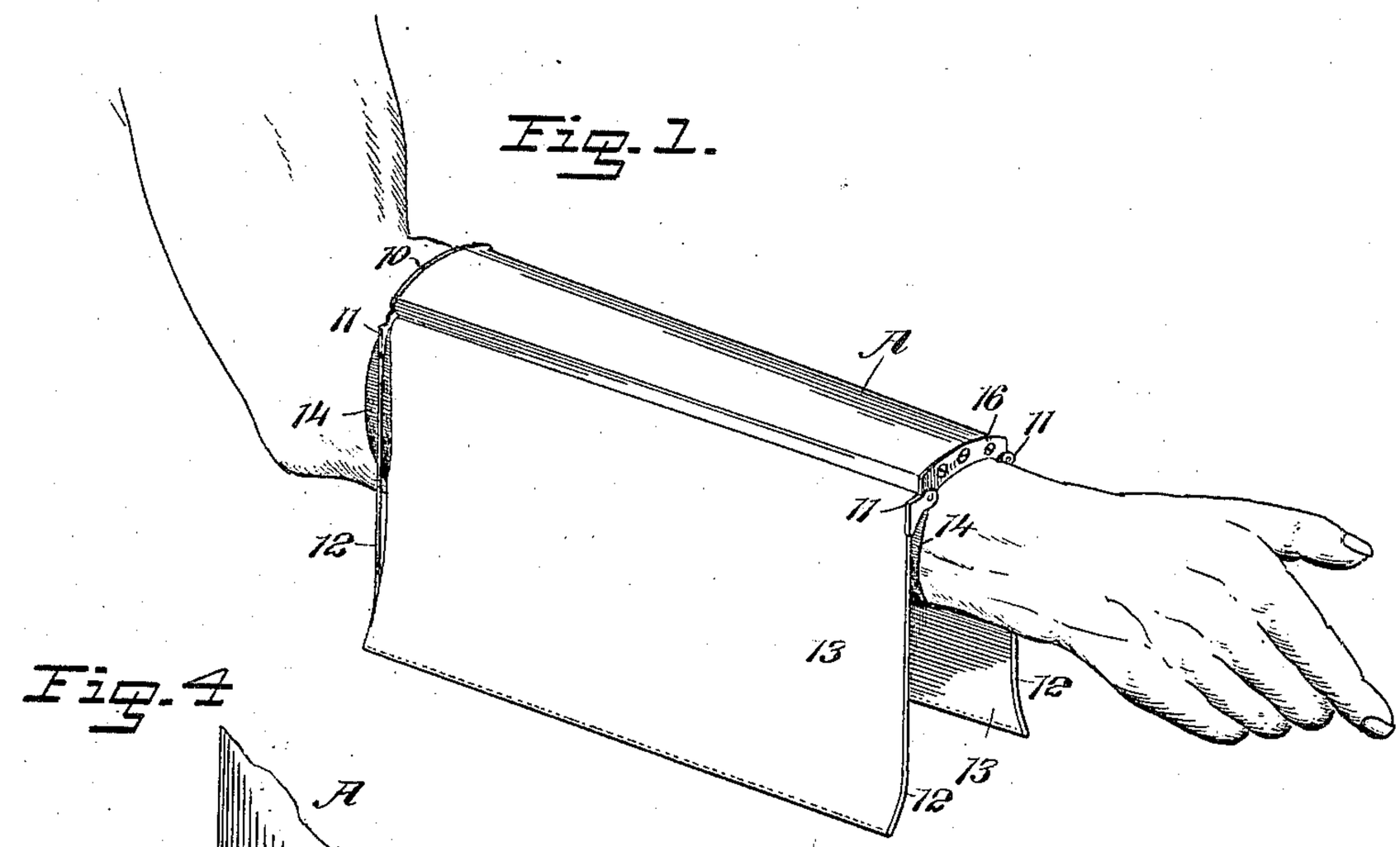


Fig. 4

Fig. 2.

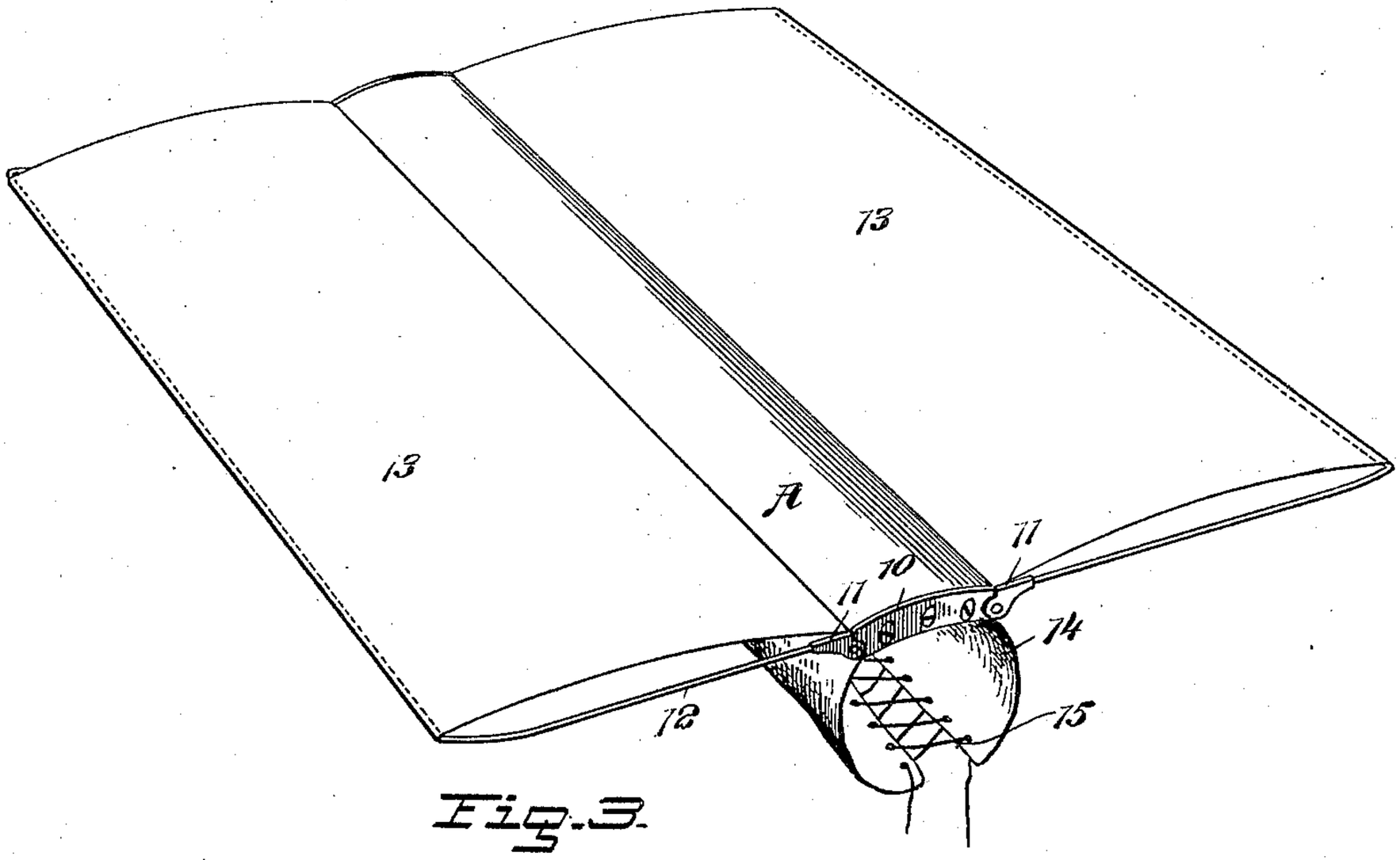
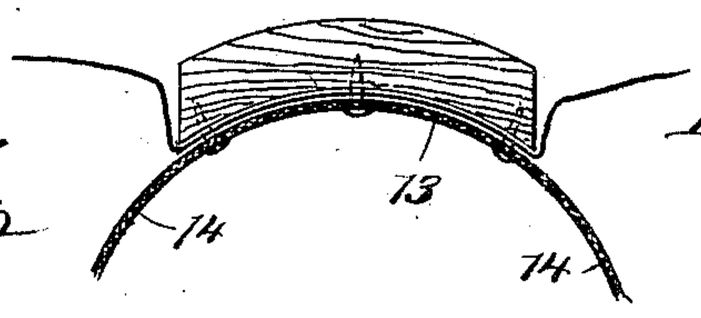


Fig. 3.

WITNESSES:

James F. Duhamel

J. Reddick



INVENTOR

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BYRON JAMES HOOPER, OF PORTLAND, OREGON.

SWIMMING DEVICE.

SPECIFICATION forming part of Letters Patent No. 689,085, dated December 17, 1901.

Application filed March 18, 1901. Serial No. 51,608. (No model.)

To all whom it may concern:

Be it known that I, BYRON JAMES HOOPER, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Swimming Device, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a swimming device comprising a body and two wings hinged thereto, limited in their upward and downward movements, and such devices are arranged for attachment to each arm, extending from the elbow to the wrist, and to each leg, extending from the knee to the ankle.

A further purpose of the invention is to provide a swimming device which when worn will prevent a person unskilled in swimming from sinking in the water and will enable him to make progress in the water and which will also be of great assistance to a practiced swimmer, enabling such a swimmer to make rapid progress in the water without overfatigue.

Another purpose of the invention is to so construct the swimming device that it will not interfere with the liberty of the limbs of the wearer while on land.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the device applied to a forearm, the device being in inactive position. Fig. 2 is a perspective view of the device with the wings outspread and as it would appear when the stroke in swimming is commenced or when the limb to which the device is attached is thrown out upon the surface of the water. Fig. 3 is an enlarged transverse section through the body portion of the device and is likewise a section through a portion of the means employed for attaching the device to the limb, and Fig. 4 is a detail view showing how the frames of the wings have hinged connection with the body of the device.

The body A of the device consists of a block of light metal, wood, cork, or other material capable of floating, the said body being made with a concaved inner face, so that the said body may readily rest upon the limb of the wearer—the forearm, for example, or the leg between the knee and ankle. Usually the upper or outer face of the body A is more or less convexed. The body A is made of sufficient length to extend from a point near the elbow to a point near the wrist upon the upper surface of the forearm and is applied to the front of the legs, extending, as stated, from a point near the knee to a point near the ankle.

At each end of the body A a plate 10 is usually secured in any suitable or approved manner, the ends of which plates extend beyond the longitudinal edges of the body and are provided with knuckles of such description that in connection with opposing-knuckles a rule-joint 11 is made at each end of each end bar 10. A frame 12, usually of light wire and including side bars and a longitudinal outer bar connecting the side bars, is provided for each side portion of the body A, the end members of the frame 12 being secured to the outer members of the rule-joints 11, as is shown in Figs. 1, 2, and 4. Canvas 13 or a strip of other suitable material, single or double and plain or inflated, is attached to the outer longitudinal bars of the frames 12, but is not connected to the end bars of said frames. The strip 13 of material extends from one frame to the other beneath the body A and is attached to the under or inner face of the body, as shown in Fig. 3.

A sleeve 14 is secured to the under face of the body A, and this sleeve is cut longitudinally at a point below the body; but the cut portion of the sleeve is drawn together by a lacing 15 or the equivalent thereof. The sleeve 14 is fitted around the limb to which the device is to be applied and is secured thereto by means of said lacing 15 or other fastening device. When the limb strikes the water, the wings formed by the strip 13 and frames 12 occupy the upper or practically horizontal position shown in Fig. 2, their upward movement being limited by the rule-joints 11, which permit the wings to freely drop; yet when the wings are in their upper or horizontal position the shoulders of the

members of the rule-joints so engage as to prevent further upward movement of the said wings.

Normally the wings are in the vertical position shown in Fig. 1, and when the device is employed in swimming the wings retain their normal position at the upstroke of the limb, being held in such position by the pressure of the water; but as soon as the limb is carried downward the wings extend outward to a horizontal position and have firm bearing on the water, enabling the swimmer to obtain purchase and to force the body ahead. When the wings are outstretched, they likewise serve to prevent the body of the swimmer from sinking. Thus it will be observed that on the upstroke of the limb in swimming the wings offer comparatively little resistance, but offer a maximum amount of resistance to the water at the down or swimming stroke.

The covering 13 of the wings is not attached to the ends of the frame 12, in order that a concaved under surface may be obtained when the wings are outspread and presented for pressure upon the water, and under this construction it is obvious that the under faces of the wings will be cup-shaped, as will be seen in Fig. 2, and the greatest amount of bearing-surface is obtained for the wings. The sleeve 14 is provided with a suitable stiffening, similar to that, for example, used in corsets, in order to prevent the device turning out of proper position when in operation.

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

1. A swimming device comprising a body-section, means for securing the body-section to a limb, frames each having end members connected by a longitudinal member and hinged to the body-section, the frames being at opposite sides of the body-section, and a pliable material attached to the body-section and to the outer longitudinal members of the said frames, for the purpose described.

2. A swimming device consisting of a body-section, a sleeve attached to the body-section, provided with means for securing it upon a limb, frames at opposite sides of the body-section, and each comprising end members and a longitudinal member connecting the end members, the end members having a rule-joint connection with the said body-section, and a pliable material secured to the said frames and to the body-section, as and for the purpose described.

3. A swimming device consisting of a body-section, a sleeve attached to the body-section, provided with means for securing it upon a limb, frames at opposite sides of the body-section, having a rule-joint connection with the under portions of said body-section, and a pliable material carried by the said frames, said pliable material being carried from one frame to the other beneath the body-section to which the material is secured, the pliable material being attached to the outer longitudinal members of the frame, being free from attachment to the end members of the frame, for the purpose set forth.

4. A swimming device, comprising a body-section, a sleeve secured to the body-section and provided with means for securing it upon a limb, and hinged wings at opposite sides of the body-section, said wings consisting of rigid frames and pliable material secured to the body-section and to the frames, as set forth.

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

BYRON JAMES HOOPER.

Witnesses:

ALVIN E. ROPER,

WILLIAM HAHN.