

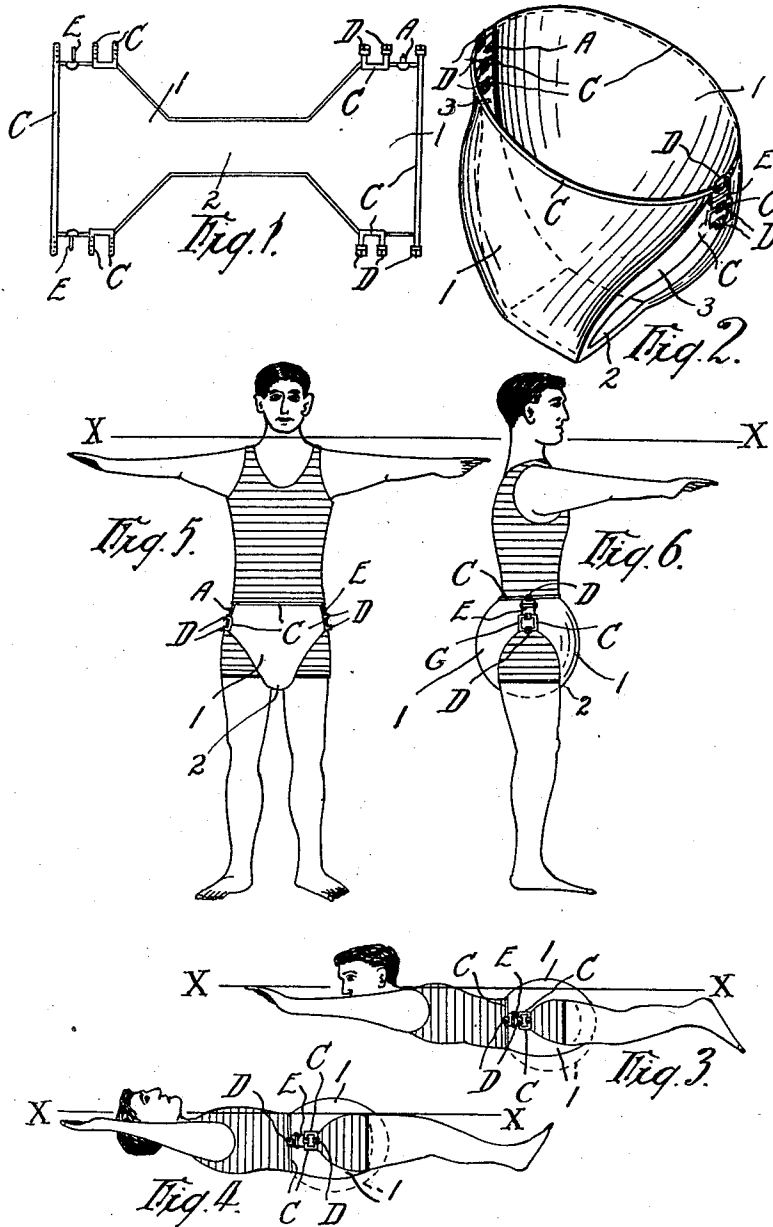
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APPARATUS TO ASSIST IN THE ART OF SWIMMING

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UNITED STATES PATENT OFFICE

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APPARATUS TO ASSIST IN THE ART OF SWIMMING

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This invention has reference to apparatus to assist in the art of swimming and has been devised with the object of providing means whereby declination of the body will be prevented, the apparatus being so fitted to the wearer as will maintain it in a state of stable equilibrium.

The basic principle embodied in my invention consists in the provision of an inflated member which when fitted to the user will occupy a position on the opposite side of the centre of gravity to that of the lungs.

Apparatus for the purposes herein indicated comprise broadly an inflatable member adapted for strapping or otherwise attaching to the body, said member when in position occupying a position about the waist line and extending downwardly between the legs to provide an inflated portion at the back and front portions of the lower trunk.

In order to more readily understand the invention reference will now be made to the accompanying drawing in which:—

Figure 1 illustrates unfastened apparatus constructed according to my invention.

Figure 2 shows the apparatus illustrated in Fig. 1, in a fastened condition.

Figure 3 is a view showing the device fitted to a swimmer doing breast stroke.

Figure 4 is a view showing the invention applied to a swimmer doing the back stroke.

Figures 5 and 6 are views in front elevation and side elevation respectively showing how wearer maintains the head above water.

The apparatus in the preferred embodiment of the invention shown by the drawings, includes inflatable pouches 1, 1, adapted to be inflated by air from the lungs, one of said pouches as here shown being provided with an inflating valve A which may be of any well known construction. The pouches are connected by a relatively narrow connecting portion 2, adapted to be inserted in the crotch of the user's body.

The outer ends of the pouches collectively form a belt portion adapted to embrace a swimmer's waist, and are provided with fastening means such as straps C and buck-

les D, whereby said belt portion may be contracted on the waist. The pouches 1 have inner sides which are conformable to anterior and posterior surfaces of the user's body below the waist line, and outer sides adapted to be bulged outwardly by internal air pressure.

The longitudinal edges of the pouches are shaped to provide leg-receiving openings 3, between the connecting portion 2 and the belt portion.

When the apparatus is inflated and in place, it is adapted to compensate for the density of the hips which is the controlling factor in flotation.

The construction is such that when the device is semi-inflated it will adjust the body to a position of horizontal flotation both on the chest or on the back, Figs. 3 and 4.

As regards affecting the degree of flotation of the body the device allows the body to assert its degree of buoyancy by virtue of the fact that the tendency of the hips to sink causes a pressure on the lower pouch which deflates it and inflates the upper pouch. In this way the body asserts its own degree of buoyancy before calling on the device to add the necessary buoyancy above the body to exactly adjust the horizontal flotation.

When approaching the vertical position of floating the whole of the buoyance of the device (being now submerged) will allow the wearer to maintain the whole of the head above water without the application of physical effort, Figs. 5 and 6. There is an air-connecting tube E, preferably of rubber, between the two pouches, the said tube extending between the outer portions of the pouches. In Figure 1 the tube E is shown severed, but in reality the tube joins the two pouches at their outer ends, as best shown by Figure 2, allowing the air to pass freely from the top of one pouch to the top of the other when floating vertically. The tube E constitutes a suitable embodiment of means for conducting air from either pouch to the other to provide a greater volume of air in the highest pouch when the body is substantially horizontal, as

shown by Figures 3 and 4, practically all of the air from the lower pouch being transferred to the upper pouch. On assuming the vertical position the air approaches the tops of pouches equally distributed in each pouch and centred around the centre of gravity of the body. X—X represents the draught line in each of the cases.

It is claimed that the device will make drowning practically impossible for a person who adopts it. It will also make the unseaworthy (that is persons that sink in water) seaworthy.

The device when fitted will permit increased speed through the water. Being compact when deflated it can easily be fitted into the pocket of a coat.

It is invaluable for all swimmers and non-swimmers when perfecting strokes or learning to swim.

I claim:

An inflatable swimming trunk adapted to bear only on the portion of a swimmer's body between the waist and the lower portions of the thighs, said trunk comprising two inflatable pouch members, and a flexible strap member connecting the pouch members, said pouch members having inner edges joined to the strap member, outer edges, and intermediate edges, the outer edges being adapted to extend about and closely fit the wearer's waist, while the intermediate edges and the strap member edges are adapted to extend about and closely fit the upper thigh portions, the pouch members having flexible inner sides adapted to conform closely to anterior and posterior portions of the body, and flexible outer sides coextensive with the inner sides and presenting convex external surfaces when the pouches are inflated, means being provided for securing the trunk to the body, inflating the pouch members, and permitting transference of air from either pouch member to the other, the form and arrangement being such that when the trunk is secured, and the pouch members are inflated, air is confined only on the upper portions of the thighs and below the waist, the confined air being distributed at opposite sides of the body when the latter is upright, and confined mainly on the upper side of the body when the latter is in swimming position, and facing either upward or downward, progressive swimming being facilitated by the location and the convex form of the outer sides of the pouch members.

In testimony whereof I have affixed my signature to this specification.

RICHARD GEORGE COLE.