F. P. INGRAM.

LIFE SAVING APPLIANCE.

APPLICATION FILED APR. 23, 1917.

1,341,908.

Patented June 1, 1920.

2 SHEETS—SHEET 1.

Fig. 3.

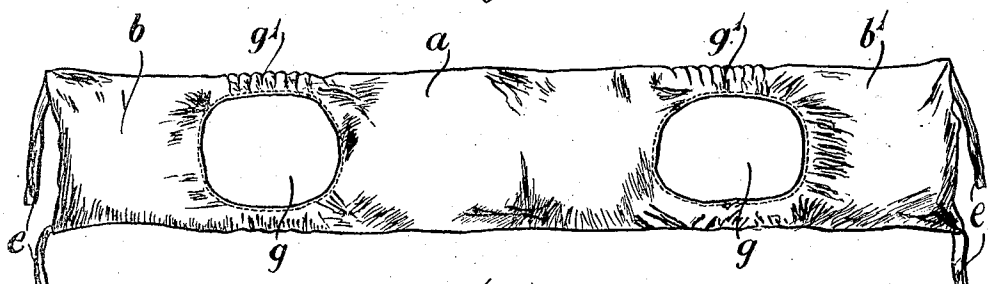


Fig. 1.

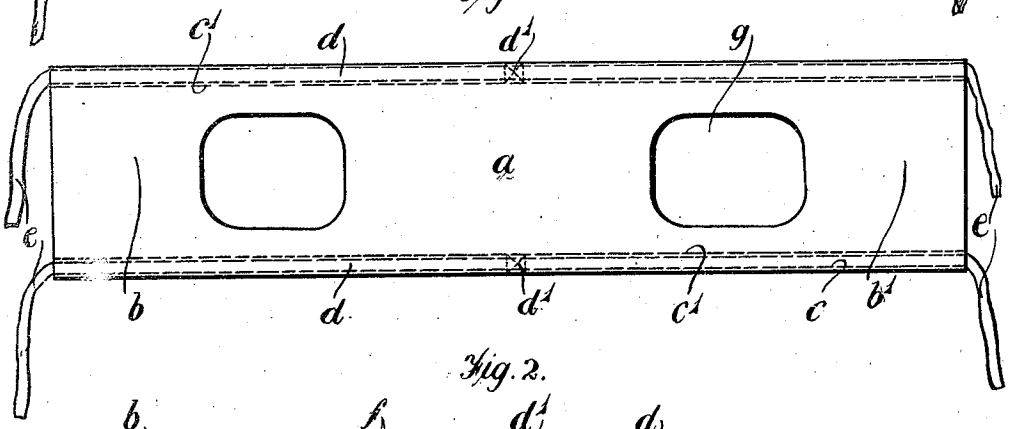
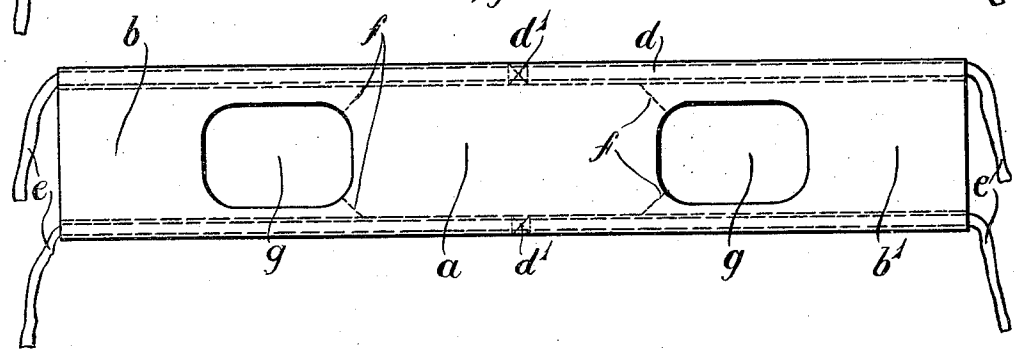


Fig. 2.



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Atty.

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2 SHEETS—SHEET 2.

Fig. 4.

Fig. 5.

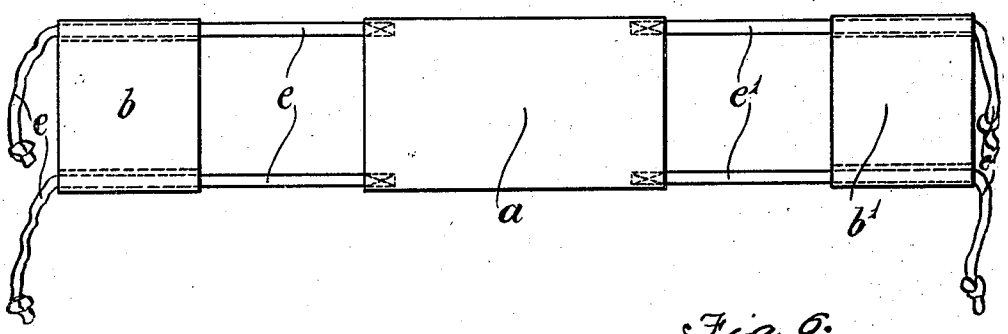
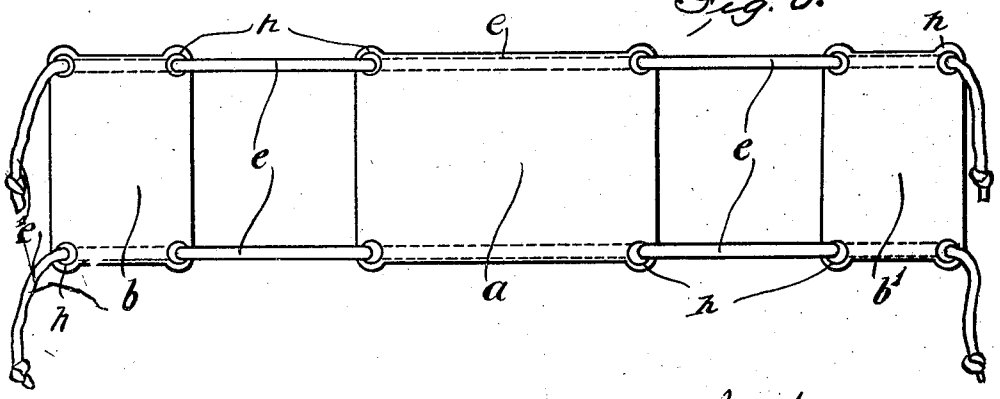


Fig. 6.



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By:- B. Singer, Atty.

UNITED STATES PATENT OFFICE.

FINCH PORTMAN INGRAM, OF FAIRLIGHT, ENGLAND.

LIFE-SAVING APPLIANCE.

1,341,908. Specification of Letters Patent. Patented June 1, 1920.

Application filed April 23, 1917. Serial No. 163,979.

To all whom it may concern:

Be it known that I, FINCH PORTMAN INGRAM, a subject of the King of Great Britain, residing at Fairlight, Chigwell Row, Essex, England, have invented a new and useful Improvement in Life-Saving Appliances; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to life saving appliances and has for its object to provide an improved device for supporting persons in the water which can be quickly secured upon the person and adjusted to fit either adults or children of either sex.

My appliance may be constructed as is already known in connection with life saving devices, to provide a greater buoyancy at the front than at the back so that the wearer is automatically turned on his back in the water and supported with his face well above the surface.

An appliance constructed in accordance with the present invention comprises one or more back buoyant compartments and one or more front buoyant compartments connected together by flexible portions having arm holes in or between them, a running tape or running tapes or equivalent means being provided on the appliance to pass substantially horizontally over the shoulders and across the back and/or chest of the wearer whereby the size of the neck opening of the appliance can be adjusted to fit persons of widely varying sizes. In combination with the said tape or tapes or their equivalent, there may also be provided on the said appliance a running tape or running tapes or their equivalents, whereby the buoyant compartments can be drawn together below the arms of the wearer to fit persons of widely varying sizes, but I make no claim to the provision of a running tape or tapes or their equivalents below the arms of the wearer only.

In some cases I may also provide buoyant compartments in the arm spaces.

The accompanying drawings illustrate by way of example some life-saving appliances constructed in accordance with my invention.

Figure 1 is a view showing one form of the device at an early stage of its construction.

Fig. 2 is a similar view of the device at a later stage of its construction.

Fig. 3 is a view of the completed device.

Fig. 4 is a view showing the device in use.

Fig. 5 is a view showing a modified form of the device.

Fig. 6 is a view showing a further modification.

In the construction illustrated in Figs. 1 to 4 the appliance is provided with one buoyant compartment a at the back and two b b^1 at the front. In constructing this form of appliance a substantially rectangular piece of woven or other flexible material is taken and folded along a center line parallel to its longer sides. The meeting edges at the longer sides are then sewn together at c (Fig. 1) and additional lines of stitching are made at c^1 c^1 through both thicknesses of material a short distance from and parallel to each of the longer edges, thus forming two loops d d along each edge. Tapes e e are then threaded through the loops d d and these tapes are preferably secured to the loops near the center as at d^1, and have their ends projecting from the loops. The device is then turned inside out (see Fig. 2) so that the seams will present a better appearance.

The back buoyant compartment a is then formed by packing kapok, cork, either in sections or powdered, or other buoyant material between the thickness of the material forming the device at the center thereof, and this packing is confined by stitching across the device as at f on each side of the compartment thus formed.

The two front buoyant compartments b b^1 are then formed, one at each end of the appliance and each spaced apart from the back compartment a. The front compartment b b^1 may be formed as described with reference to the back compartment.

The arm holes g g are then cut substantially in the centers of the portions of flexible material disposed between the back and each of the front compartments. These arm-holes are hemmed around as indicated at g^1.

The appliance is secured upon the person by placing the arms through the arm holes and bringing the two front compartments b b^1 side by side over the chest. The tapes e are then pulled causing the flexible material around the sides to contract by forming into puckers until the device feels quite firm and secure. The ends of the tapes e are then tied together.

It will be observed that the upper tape occupies a position practically around the

neck while the lower tape is of course below the arms. When the appliance is thus secured the front buoyant compartments b b^1 lie across the chest with their upper ridge just below the chin while the back compartment a is disposed across the upper part of the back and may serve to support the head in the water.

I wish it to be understood that the number, shape and exact position of the buoyant compartments on the device may be varied as desired. These compartments may have either straight, inwardly or outwardly curved edges both at top and bottom and at the sides, further, instead of using solid or fibrous materials such as have been mentioned, the buoyant compartments may be of rubber or rubber lined and provided with valves or other means whereby they may be inflated. In such an arrangement, the compartments may be connected together by airtight tubes so that they can all be inflated together or they may each be separate, or any two or more may be so connected.

In the construction shown in Fig. 5 the back compartment a is made separately from the front compartments b b^1. The front compartments however are connected together by tapes e which are attached at one end to the back compartment a and pass through loops or their equivalents upon the front compartments b b^1 becoming detached from the device, the ends of the tapes or the like e are provided with knots or other obstructions which will prevent the compartments b b^1 from sliding completely off.

A further modification is shown in Fig. 6 wherein the back compartment a is made separately from the front compartments b and b^1. In this case the compartments a b and b^1 are provided with holes having eyelets h and the tapes or their equivalents are threaded through these eyelets in the manner shown.

The constructions illustrated in Figs. 5 and 6 are used in a manner similar to that described with reference to the construction shown in Figs. 1 to 4.

In cases where cork or like solid buoyant material is used, the blocks need not be entirely inclosed within the flexible material but may be secured to the appliance in any convenient manner.

The running tapes or their equivalents need not be entirely inclosed in loops as has been described but may be secured to the back compartment or compartments at any suitable point and be guided around the sides to the front of the appliance by short loops thereon.

In some cases buttons, press studs or other means may be provided for securing the meeting edges of the front compartments together when the appliance is in use.

If required, loose buoyant flaps may be flexibly or hingedly attached to any part, preferably the center of the front compartments and such flaps may be constructed in any of the ways described with reference to the other buoyant compartments.

It will be clear that one of the great advantages of the appliance lies in its extreme simplicity. These appliances are sometimes required for use by persons quite unskilled and quite unfamiliar with mechanical appliances generally such as women and children, and cases sometimes occur where such persons are in great danger and beyond reach of skilled assistance so that they are entirely dependent upon themselves in making use of the appliance, so that the fact that, when constructed without flaps, the device can be used equally well with either edge upper-most and with either side next the body, is of very great value. Where the buoyancy of the back compartment is about equal to the buoyancy of the two front compartments, which would usually be the case, it is possible to use the device with the back compartment at the front. Further, when the flaps are provided, the appliance can also be used with either edge uppermost and although this form of the device would be marked to indicate that the flaps should be on the outside of the appliance if the appliance should be used with the flaps next the body, no harm will be done.

It will be understood that the value of my invention lies chiefly in the fact that all sizes of persons of both sexes can equally well be fitted with a standard size of device without alterations being necessary to the device or any adjustments being made in addition to simply fastening the device upon the person.

I claim:—

A life saving appliance for use on water, and comprising spaced buoyant members arranged to extend around the body of the user, and flexible connecting means, including running tapes, at the upper and lower portions of and between said members, and coacting with said members to form arm openings and also adapting said appliance to be gathered and fastened at points slightly above the shoulders and also below the arm pits.

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

FINCH PORTMAN INGRAM.

Witnesses:

CHARLES HALE,

RICHARD GEO. DUNN.