March 21, 1961 C. F. ARMSTRONG 2,975,749

SWIMMING INSTRUCTION APPLIANCE

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FIG. 1

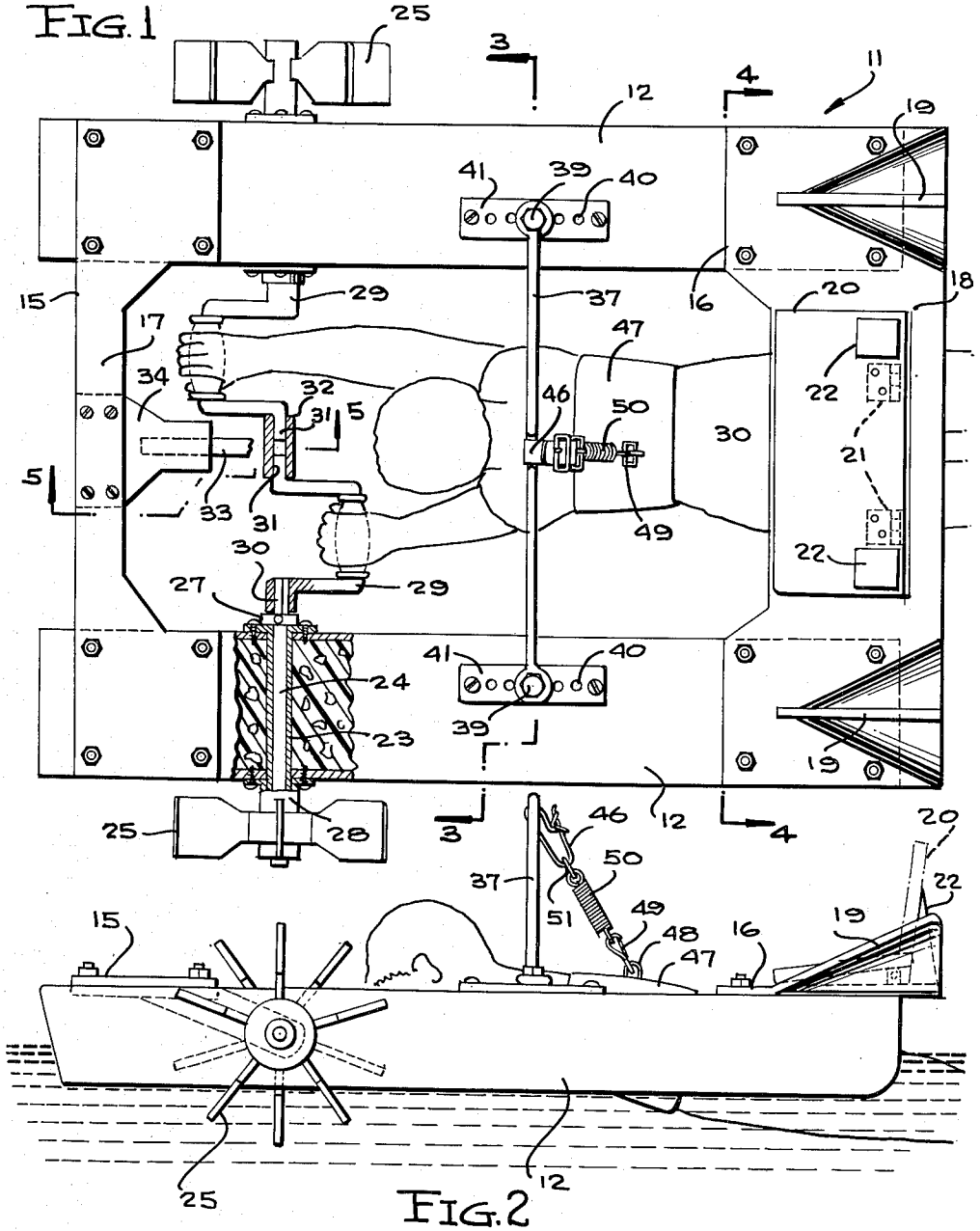


FIG. 2

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FIG. 3

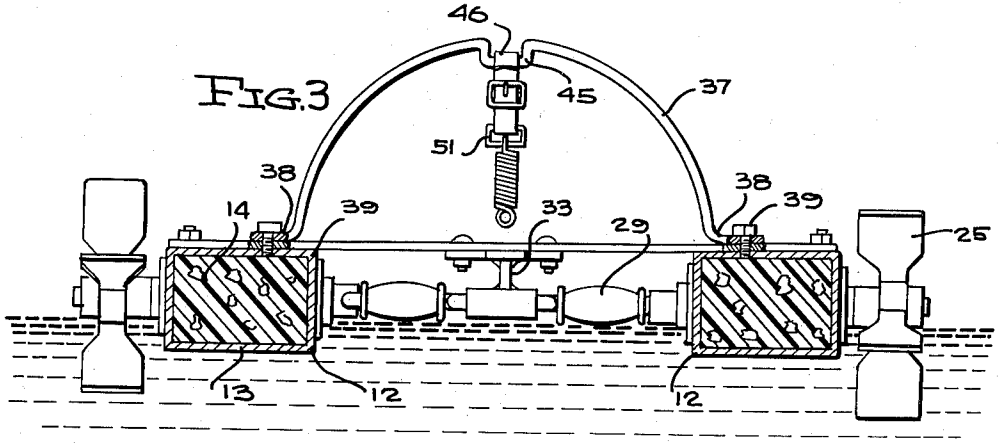


FIG. 6

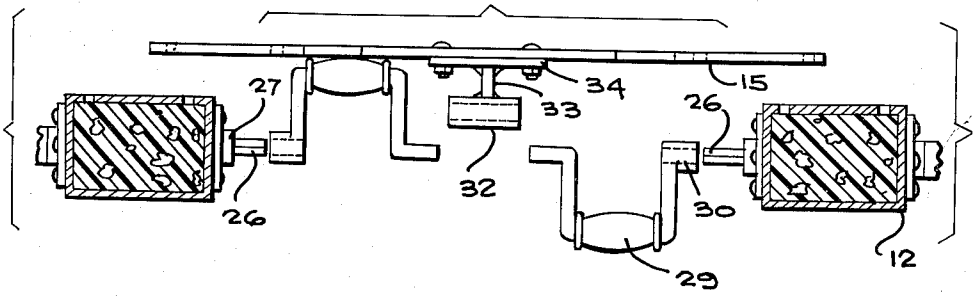


FIG. 4

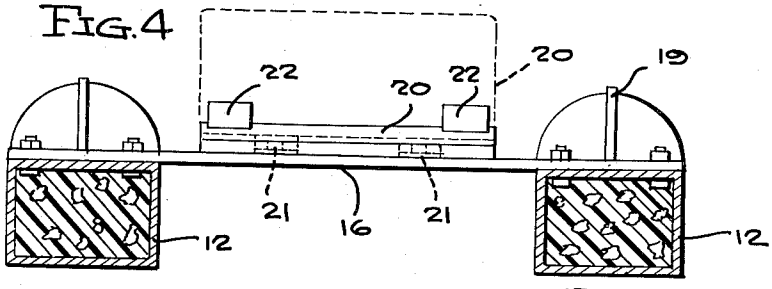


FIG. 5

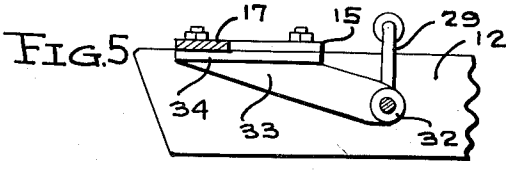
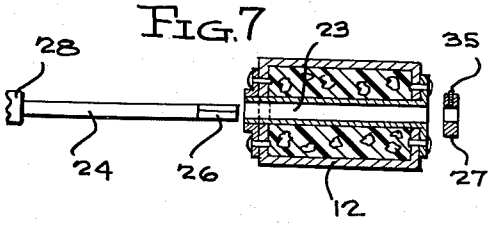


FIG. 7



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United States Patent Office 2,975,749 Patented Mar. 21, 1961

2,975,749

SWIMMING INSTRUCTION APPLIANCE

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Filed Feb. 16, 1960, Ser. No. 9,095

4 Claims. (Cl. 115—22.2)

This invention relates to devices for assisting persons in learning to swim, and more particularly to a buoyant supporting device which is adapted to support a person in a position similar to that assumed during swimming, whereby the person may acquire confidence in maintaining this position, while at the same time perform movements similar to the actual movements of the body in swimming.

A main object of the invention is to provide a novel and improved instruction appliance for teaching persons to swim, the appliance being simple in construction, being easy to use, and being substantially unsinkable.

A further object of the invention is to provide an improved swimming appliance which enables a person to teach himself to swim with safety, which is durable in construction, which is inexpensive to manufacture, and which does not require any inflatable members.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a top view, partly in horizontal cross section, of an improved swimming appliance constructed in accordance with the present invention, shown in use by a person learning to swim.

Figure 2 is a side elevational view of the device illustrated in Figure 1.

Figure 3 is a transverse vertical cross sectional view taken substantially on the line 3—3 of Figure 1.

Figure 4 is a transverse vertical cross sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a fragmentary longitudinal vertical cross-sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a transverse vertical cross sectional view taken through the swimming appliance with the parts thereof in separated positions.

Figure 7 is a transverse vertical cross sectional view taken through one of the pontoon elements employed in the swimming appliance of Figure 1 and illustrating the manner in which the paddle wheel shaft associated therewith may be fastened to the pontoon member or detached therefrom.

Referring to the drawings, 11 generally designates a swimming appliance constructed in accordance with the present invention. The appliance 11 comprises a pair of spaced parallel pontoon members 12, 12, said pontoon members each comprising a rigid shell element 13 which surrounds and encloses a mass of relatively light buoyant material, such as expanded plastic material, shown at 14. For example, the material 14 may consist of "Styrofoam," or other similar expanded plastic material.

The end portions of the pontoon members 12, 12 are connected by respective rigid cross members 15 and 16, said cross members comprising flat horizontally arranged plate-like elements having the configurations illustrated in Figure 1, the forward cross member 15 being provided with the relatively narrow intermediate portion 17 and the rear cross member 16 being provided with the wider intermediate portion 18 which may be employed

at times as a seat, as will be presently explained. The end portions of the rear cross member 18 may be provided with a pair of upstanding simulated fins 19, 19 to enhance the appearance of the device.

Designated at 20 is a back rest member which is hinged at 21, 21 to the rear marginal portion of the intermediate element 18 of the rear cross member 16, the back rest member 20 being provided with the stop blocks 22, 22 which are arranged so as to support the back rest member 20 in an upright position, as shown in dotted view in Figure 2, so that the rear cross member 16 may be at times employed as a seat, and so that the appliance may be used as a swimming float or raft.

Respective transversely aligned bearing sleeves 23, 23 are mounted in the forward portions of the pontoon members 12, 12, and respective shaft members 24, 24 are rotatably mounted in the bearing sleeve 23, each shaft member being provided at its outer end with a paddle wheel assembly 25 and at its inner end with a squared portion 26. The shafts 24 are restrained against axial movement by the provision of retaining collars 27 secured inwardly adjacent the squared ends 26 thereof and cooperating with the hub 28 of the paddle wheel assemblies 25 to hold the shafts 24 against endwise movement while allowing the shafts to rotate freely in the bearing sleeves 23.

Respective hand cranks 29, 29 are provided, said hand cranks comprising squared socket portions 30 which are engageable on the squared ends 26 of the paddle wheel shafts 24 in the manner clearly illustrated in Figure 1. The hand cranks 29 are provided at their inner ends with respective stub shaft portions 31 which are rotatably engageable in the opposite end portions of a transversely extending bearing sleeve 32 which is rigidly secured to the bottom edge of a longitudinally extending bracket arm 33 carried by a bracket plate 34 secured to the intermediate portion of the middle element 17 of cross member 15. As shown in Figure 7, the retaining collars 27 are provided with set screws 35 which lock the collars on the paddle wheel shafts 24, but which may be loosened to allow said paddle wheel shafts to be withdrawn from the bearing sleeve 23. This disengages the squared ends 26 of the shafts from the squared socket elements 30 of the hand cranks 29, allowing the hand cranks to be angled sufficiently to disengage the stub shafts 31, which are somewhat rounded at their ends, from the respective end portions of the sleeve members 32. In this manner, the hand cranks 29, 29 and the paddle wheel assemblies may be readily detached from the device to allow the device to be employed as a float or raft, if so desired.

As will be readily apparent, the hand cranks 29, 29 are independently rotatable, although they are mounted for rotation on the same transverse axis, defined by the independently rotatable paddle wheel shafts 24, 24.

Designated at 37, is a generally semicircular, upwardly arched, transversely extending supporting rod which is formed with horizontal eye portions 38, 38 at its ends, extending outwardly in opposite directions, and adjustably secured to the intermediate portions of the longitudinally extending ponton members 12, 12, by fastening bolts 39, 39 threadedly engaged in selected top openings 40 formed in anchor plates 41, 41 secured to the intermediate portions of the top walls of the pontoon members 12, 12. The upwardly arched rod member 37 is formed at its intermediate portion with a generally U-shaped depending loop 45 to which is connected a looped flexible strap 46. Designated at 47 is a relatively wide flexible belt adapted to surround the waist of a swimmer in the manner illustrated in Figure 1. The belt 47 is provided with an attaching loop 48 to which is connected a snap hook 49. A coiled spring 50 has one end thereof connected to the snap hook 49 and the other

end thereof connected to the looped strap **46**, by means of a rigid, generally rectangular link member **51** provided at said other end of the spring. As shown in Figures 1 and 2, a swimmer may thus be resiliently supported beneath the upwardly arched transversely extending rod member **37** in a position such that the swimmer's body extends beneath the transverse rear cross member **18**, and so that the swimmer may readily grasp the hand cranks **29**, **29** and rotate said cranks to operate the paddle wheel assemblies **25**, **25**.

As will be readily understood, a swimmer is thus supported in a position similar to the position assumed during actual swimming and the swimmer's arms and legs may be moved in substantially the same manner as is required during swimming. This type of exercise provides a person using the appliance with sufficient experience in this position to make the person accustomed to assuming this position and to moving his body members in the same manner as is required in actual swimming.

As will be readily apparent, after sufficient use of the device, a person will become accustomed to maintaining his body in a generally horizontal position, and in moving his arms in a manner resembling the movements involved in performing a simple swimming stroke, such as a "dog paddle." Having learned the necessary movements to remain afloat and to perform the aforementioned swimming stroke, a person will eventually acquire sufficient confidence to dispense with the use of the appliance and to proceed to learn additional swimming strokes.

As previously mentioned, the paddle wheel assemblies and hand cranks may be readily removed, and the cross member **37** may be likewise readily removed by unfastening the bolts **39**, **39** allowing the device to be converted into a raft or float.

While a specific embodiment of an improved swimming appliance has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A swimming appliance comprising a pair of spaced parallel pontoon members, respective rigid cross members connecting the front and rear end portions of said pontoon members, respective transverse paddle wheel shafts journaled in the forward end portions of the pontoon members, paddle wheels on the outer ends of said shafts, respective hand cranks on the inner ends of said shafts located inwardly adjacent the pontoon members, an upwardly arched transverse support member connecting the intermediate portions of the pontoon members, spring means connected to the mid portion of said support member, and means attached to said spring means and adapted to support the body of a swimmer disposed between the pontoon members.

2. A swimming appliance comprising a pair of spaced parallel pontoon members, respective rigid cross members connecting the front and rear end portions of said pontoon members, respective transverse paddle wheel shafts journaled in the forward end portions of the pontoon members, paddle wheels on the outer ends of said shafts, respective hand cranks on the inner ends of said shafts located inwardly adjacent the pontoon members, an upwardly arched transverse support member connecting the intermediate portions of the pontoon members, a swimming supporting belt disposed between the pontoon members, and resilient means supportingly connecting said belt to the mid portion of said upwardly arched support member.

3. A swimming appliance comprising a pair of spaced parallel pontoon members, respective rigid cross members connecting the front and rear end portions of said pontoon members, respective transverse paddle wheel shafts journaled in the forward end portions of the pontoon members, paddle wheels on the outer ends of said shafts, respective hand cranks on the inner ends of said shafts located inwardly adjacent the pontoon members, means on the front cross member rotatably supporting the inner ends of said hand cranks, an upwardly arched transverse support member connecting the intermediate portions of the pontoon members, a swimming supporting belt disposed between the pontoon members, and resilient means supportingly connecting said belt to the mid portion of said upwardly arched transverse support member.

4. A swimming appliance comprising a pair of spaced parallel pontoon members, respective rigid cross members connecting the front and rear end portions of said pontoon members, respective transverse paddle wheel shafts journaled in the forward end portions of the pontoon members, paddle wheels on the outer ends of said shafts, respective hand cranks on the inner ends of said shafts located inwardly adjacent the pontoon members, means on the front cross member rotatably supporting the inner ends of said hand cranks, an upwardly arched transverse support member connecting the intermediate portions of the pontoon members, a swimmer supporting belt disposed between the pontoon members, resilient means supportingly connecting said belt to the mid portion of said upwardly arched support member, and a back rest member hingedly connected to the rear cross member and being movable to an upright position whereby the rear cross member may be at times used as a seat.

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