July 28, 1964 A. I. JACOBSEN 3,142,485

SWIMMER TRAINING DEVICE

Filed Nov. 13, 1962

Fig. 1

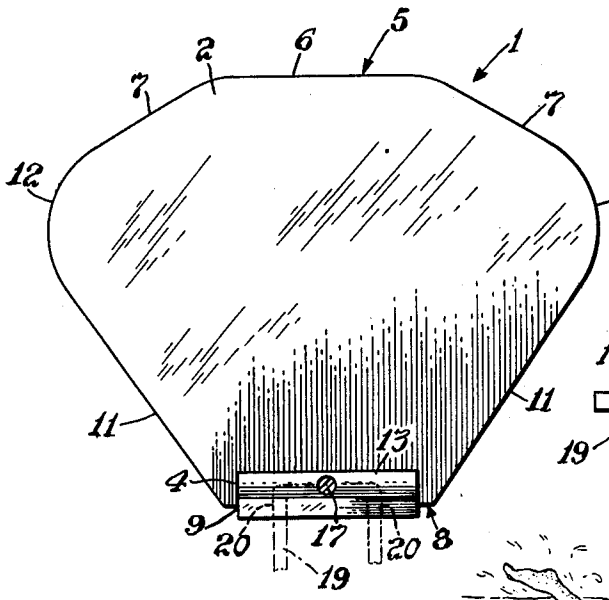


Fig. 2

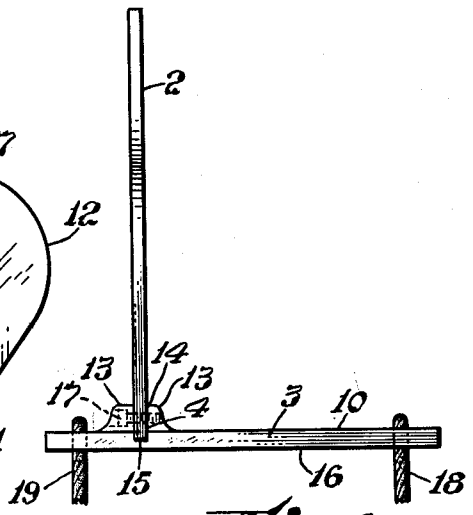


Fig. 4

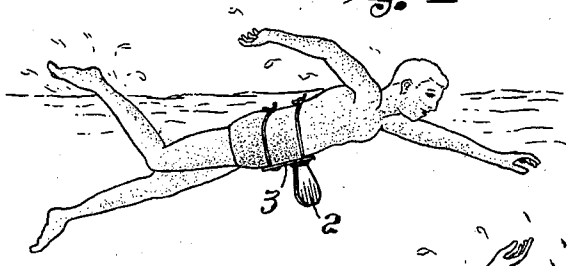
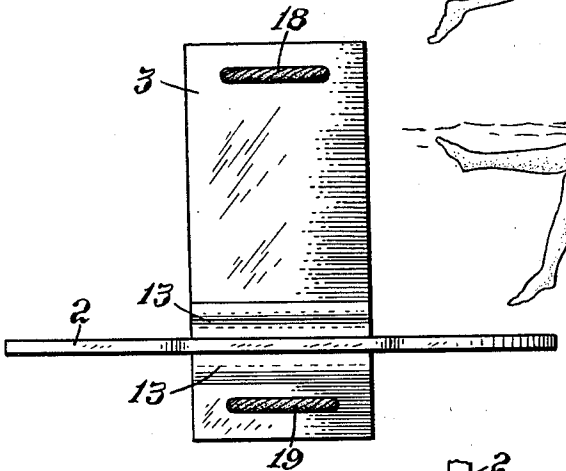


Fig. 3



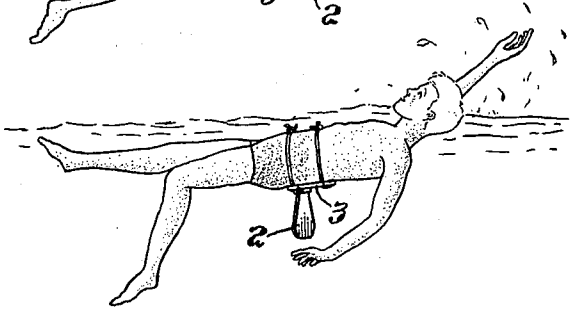
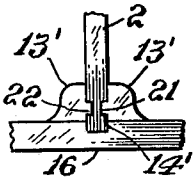


Fig. 5

Fig. 6



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SWIMMER TRAINING DEVICE

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This invention relates to training devices and more particularly to a training device for swimmers engaged in competitive swimming.

Swimming competition involves the natural resistance presented by the swimmer's body in its effort to move the required distance through water at the greatest possible speed. It does not require the use of added resistance devices, but rather attempts to minimize natural body resistance by better techniques. If in training for swimming races and also in learning to swim the swimmer encumbers himself with a device that adds to his natural resistance to the movement of his body through water, he is naturally impelled to exert more force to accomplish his object. The increased resistance that the swimmer wearing the device encounters stimulates him to exert more force in his effort to move forward. The exertion of more force in his effort calls upon the greater use of the muscles involved in swimming. The greater use of these muscles results in the increased size and strength of these muscles, which in turn leads to greater speed and endurance. Thus when the resistance is shed, the swimmer presents only his natural resistance; yet he has been trained for a much more difficult task. This training enables him, with his larger and stronger muscles, to better accomplish his competitive goals. It is not sufficient training procedure to build up his muscular strength through other exercise unrelated to swimming because that is done in a different environment. By utilizing the increased resistance offered by my training device in the water environment while swimming, he can greatly increase his competitive capacity.

It is therefore the object of this invention to provide a device which will increase the resistance of a swimmer's body to his movement through water.

A feature of this invention is a swimmer training device which comprises a resistance member, means to support said resistance member and means to secure the resistance member and support member to the swimmer's body.

Another feature is that the resistance member is a flat member adapted to offer resistance to water when the swimmer moves therethrough. The support member is adapted to fit the swimmer's body either in the front or the back, depending on what type of swimming stroke the swimmer is using. The support member has a groove therein normal to the long axis thereof and raised portions on either side of the groove coextensive with the groove which is adapted to receive the lower edge of the resistance member in a snug sliding fit so that the resistance member is readily detachable therefrom. There is also included in the support member fastening means to securely hold the resistance member in the groove and coextensive raised portions.

The above-mentioned and other features and objects of this invention will become more apparent by reference to the following description taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a front elevation view of the training device of this invention;

FIGURE 2 is a side elevation view of the training device;

FIGURE 3 is a plan view of the device;

FIGURE 4 is a view showing how the training device

is attached to the swimmer's body when practicing prone strokes;

FIGURE 5 is a view showing how the training device is attached to the swimmer's body when practicing back strokes; and

FIGURE 6 is another embodiment of the training device.

Referring now to FIGURES 1, 2 and 3, there is shown the training device **1** which consists of a resistance member **2**, a support member **3** and means **4** to hold the training device securely to the swimmer's body. The resistance member **2** is substantially flat and at one end **5** offers a relatively large symmetrical resistance area. The end **5** of resistance member **2** has a straight edge **6** in the central section and adjoining edge **6** are side tapered edges **7**. The opposite end **8** of the resistance member **2** has a straight edge **9** which is substantially parallel to the surface **10** of support member **3**. Adjoining the edge **9** on either side are tapered edges **11** and joining tapered edges **7** to tapered edges **11** on both sides are curved edges **12**. The configuration of the resistance member thus provides maximum graduated resistance to fluid flow from end **5** to end **8** with maximum resistance at the area between the curved edges **12**. It is to be understood however that the resistance member can be in the shape of a rectangle with equal width from one end to the other.

The support member **3** comprises raised parallel members **13** and a groove **14** formed by the inner walls of raised members **13** and a groove **15** in the body **16** of support member **3**. The width of the groove **14** is made just large enough to slidably accommodate the bottom edge **9** of the resistance member **2**. The support member **3** can be made of elastic material so that the groove **14** can be made slightly smaller and as the resistance member **2** is pushed into the groove **14**, the resilient force exerted by the walls of the groove **14** will retain the resistance member **2** in place. However, to secure additional retention, there is provided a fastening member **17** in the center of one raised member **13** which passes through a mating hole in the resistance member **2** and a nut (not shown) in the opposite raised member **13**. However, it should be understood that though there is described a threaded fastening device to provide additional retention means of resistance member **2** to support member **3**, any suitable fastening device can be used. It is thus seen that by means of the groove **14**, it is possible to quickly remove the resistance member **2** and substitute another resistance member **2** having a different area and consequently a different degree of resistance. For the purpose of attaching the resistance device **1** to the swimmer's body, there is provided on the support member two fastening members **18** and **19** which may be cords or ribbons, each of which passes through parallel holes **20** on each end of the support member. The fastening members **18** and **19** are each long enough to encircle a swimmer's body and to be tied thereon to hold the resistance device to the swimmer while he is swimming. The fastening members **18** and **19** can also be made of resilient material and can be stretched when the swimmer is putting on the device and will resiliently hold the training device in place. The resistance device is attached securely to the swimmer's abdominal area, as shown in FIGS. 4 and 5, for those swimming strokes that employ a prone body position, as shown in FIG. 4, or a supine body position, as shown in FIG. 5. The device can also be attached to the swimmer's chest area.

In FIGURE 6, the resistance member **2** is adapted to be slidably moved into the groove **14'** and held securely therein without a threaded fastening member. The end **9** of the resistance member **2** is provided with oppositely disposed grooves **21** in which are received mating tongues **22** which are integral with the raised members **13'**. The

tongue and groove arrangement thus prevents the resistance member **2** from moving out of engagement with the groove **14'** in a direction normal to the support member **13**.

While I have described above the principles of my invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of my invention as set forth in the objects thereof and in the accompanying claims.

I claim:

1. A swimmer training device for increasing the resistance of a swimmer's body to his movement through water comprising a flat resistance member, a support member having a groove therein transverse to the long axis of said support member, raised portions on either side of said groove coextensive with said groove, the width of said groove and the coextensive portions being adapted to snugly receive therein a mating edge of said resistance member and to support said resistance member, means to securely hold said resistance member to said support member, and means to secure said support member with said resistance member to the torso of the swimmer's body with the long axis of said support member in coincidence with the long axis of the swimmer's body, the flat surface of said resistance member being disposed transverse to the forward movement of the swimmer to impede the movement of the swimmer through water.

2. A swimmer training device according to claim 1 wherein said resistance member is in the form of a rectangle and has equal width from one end thereof to the other.

3. A swimmer training device according to claim 1 wherein said resistance member is wider at one end and tapers to the other narrow end.

4. A swimmer training device according to claim 3 wherein said narrow end is receivable in said groove.

5. A swimmer training device according to claim 4 wherein said means to hold said resistance member to said support member includes a threaded member.

6. A swimmer training device according to claim 5 wherein said means to secure said support member with said attached resistance member to the swimmer's body includes means attached to said support member at each end and adapted to encircle the swimmer's body.

7. A swimmer training device according to claim 4 wherein said resistance member includes at least one groove parallel to the bottom edge of said resistance member and said support member includes a protruding element slidably engageable with said groove in said resistance member.

References Cited in the file of this patent

UNITED STATES PATENTS

1,114,466	Goodenberger	Oct. 20, 1914
1,231,646	Pyros	July 3, 1917
1,552,603	Hawks	Sept. 8, 1925
1,730,844	Dupius	Oct. 8, 1929
2,521,212	Geisler	Sept. 5, 1950
2,720,664	Gray	Oct. 10, 1955

FOREIGN PATENTS

1,327	Great Britain	1891
39	Great Britain	1902