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A63B 69/12 (2006.01)(52) **U.S. Cl.** **441/56; 441/59**(57) **ABSTRACT**

A device for use in swimming comprising an elongate elastic member for positioning on the posterior forearm of a swimmer's arm, a first attachment means for attaching one end to a distal portion of the arm near the hand or wrist of the swimmer, and a second attachment means for attaching the other end to an intermediate portion of the arm near the swimmer's elbow. The device vibrates and creates turbulence on the posterior side of the forearm, enabling the swimmer to modify his or her stroke to maximise the generated turbulence, encouraging correct stroke technique.

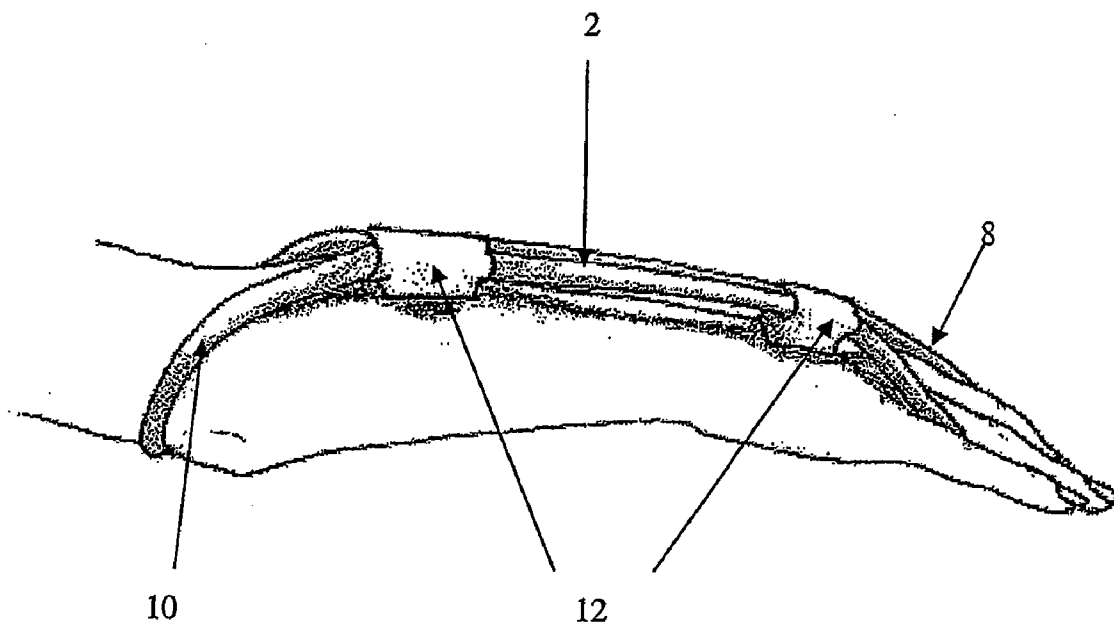


FIGURE 1

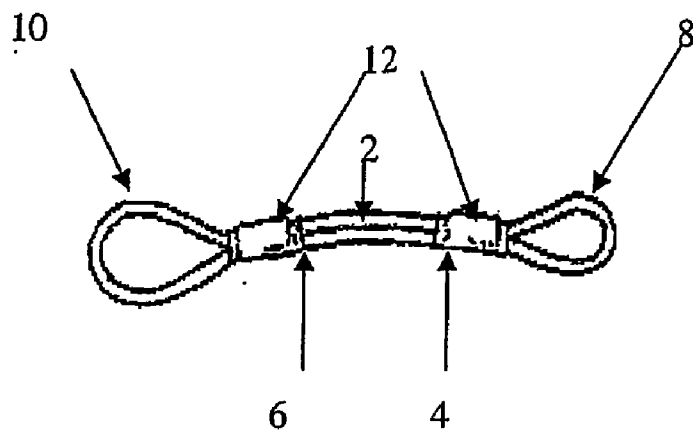


FIGURE 2

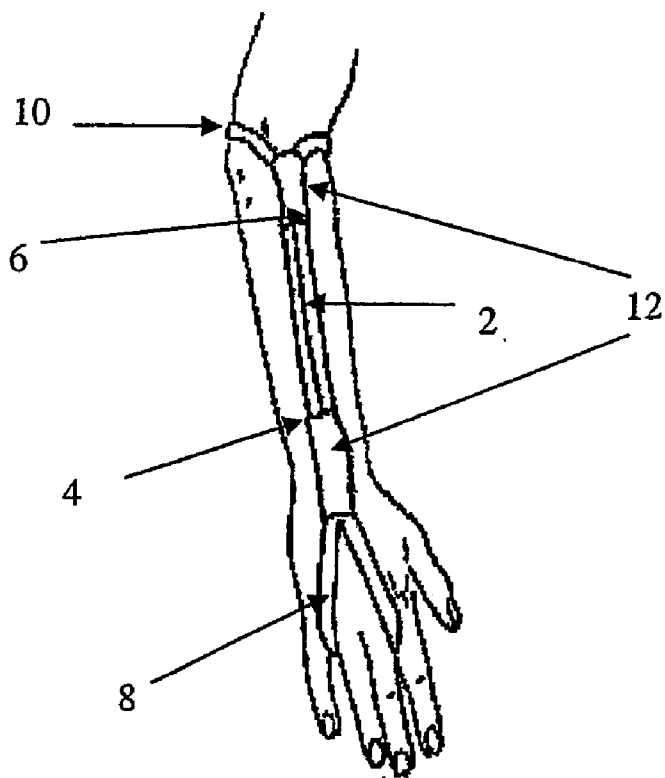
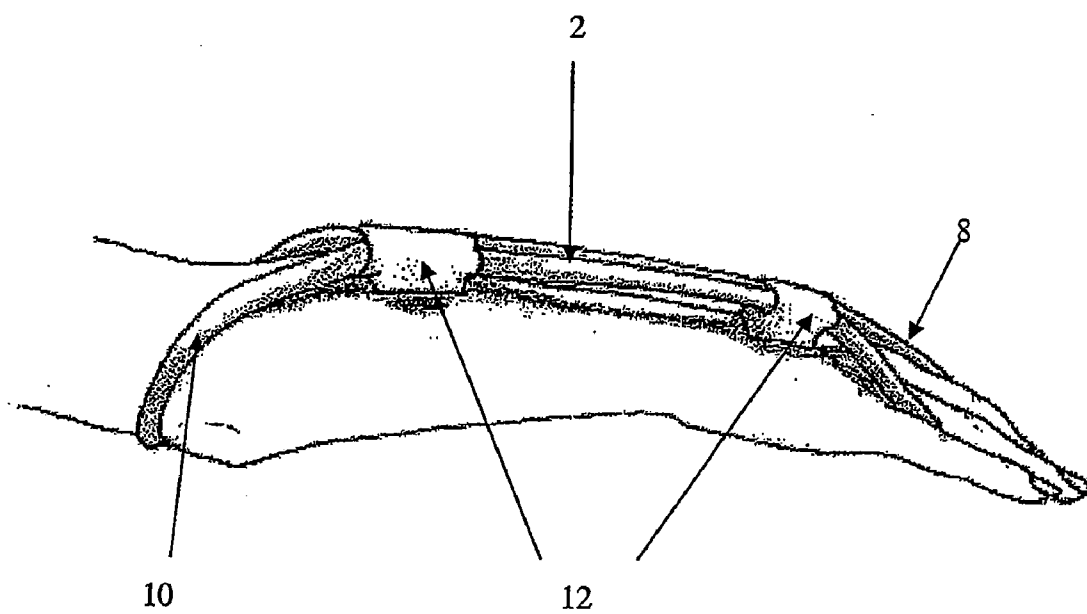


FIGURE 3



SWIMMING AID

FIELD OF THE INVENTION

[0001] The invention relates a device for use in swimming, for example as a coaching or training aid.

BACKGROUND OF THE INVENTION

[0002] Many devices have been developed for use in swimming, including devices that are used to assist in the development of swimming stroke technique. One such device is a hand paddle, which attaches to the hand of a swimmer and provides a flat surface which extends over the palm and fingers of the swimmer. This device increases the propulsive force of a stroke by increasing the surface area of the hand. However, this has the disadvantage that it forces the elbow and wrist to flex in a manner which reduces stroke power and encourages poor form. It also effects the stroke in such manner that a different swimming rhythm is experienced by the swimmer when compared with swimming without the paddle. It is also cumbersome in practice when used with swimming strokes other than freestyle.

SUMMARY OF THE INVENTION

[0003] In a first aspect, the present invention provides a device for use in swimming comprising:

[0004] an elongate elastic member for positioning on the posterior forearm of a swimmer's arm, the member having opposed first and second ends;

[0005] first attachment means for attaching the first end to a distal portion of the arm near the hand or wrist of the swimmer; and

[0006] second attachment means for attaching the second end to an intermediate portion of the arm near the swimmer's elbow.

[0007] Preferably the first attachment means attaches the first end to the hand near the knuckles of the swimmer, and provides a biasing force urging the hand to bend toward the outer forearm at the wrist.

[0008] The device preferably further comprises one or more spacing elements positioned between portions of the elongate elastic member and the posterior forearm for maintaining a distance between said portions of the elongate elastic member and the posterior forearm.

[0009] The first or second attachment may comprise a loop of elastic material. Preferably the elastic member is in the form of an endless loop having integrally formed first and second attachment means at each of the respective ends.

BRIEF DESCRIPTION OF THE FIGURES

[0010] FIG. 1 is a perspective illustration of a preferred embodiment of the present invention.

[0011] FIG. 2 is an illustration of the device of FIG. 1 positioned on a forearm.

[0012] FIG. 3 is a side-on view of the device illustrated in FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] In the preferred embodiment of the present invention, a device for use in swimming is constructed from one or more pieces of rubber, elasticised tubing as illustrated in FIG. 1.

[0014] The rubber tubing is an elastic member 2 that is positioned on the posterior forearm of a swimmer as illustrated in FIG. 2. It has a first end 4 and a second end 6. The first end 4 is connected to a first attachment means 8 in the form of a loop of elastic material. The loop 8 is formed from the same material as the elastic member 2. Similarly, the second end 6 is attached to a rubber loop 10 forming a second attachment means. The first attachment means 8 and second attachment means 10 are integrally formed with the elastic member 2, forming an endless loop.

[0015] Between the loop 8 and first end 4, and between the loop 10 and second end 6, is a spacing element 12 in the form of one or more small rubber pads. These pads 12 operate to space parts of the elastic member 2 from the forearm of the swimmer, as illustrated in FIG. 3. This enables the elastic member 2 to more freely vibrate as the forearm bearing the device is moved through water.

[0016] The preferred embodiment of the present invention is worn by a swimmer hooking the rubber loop 10 around his or her elbow, and hooking rubber loop 8 around two of his or her fingers so that the elastic member 2 extends along the posterior forearm of the swimmer. Rubber loop 8 wraps around the swimmer's fingers near the swimmer's knuckles.

[0017] In operation, the swimmer executes his or her swimming stroke in the normal fashion. The water flowing across the forearm of the swimmer causes the elongate member to vibrate, resulting in increased turbulence on the posterior side of the forearm. This turbulence is felt by the swimmer, who is able to modify his or her stroke in order to maximise the generated turbulence. The device also operates to provide a biasing force which urges the swimmer's hand to bend "backward" toward the outer forearm at the wrist. In order to maintain proper form (and thereby maximise turbulence) the swimmer must act against this biasing force, promoting the proper wrist posture for the stroke.

[0018] The preferred embodiment of the present invention has the following advantages, amongst others:

[0019] (a) The wrist posture of the swimmer is controlled in a manner which does not detrimentally affect stroke technique;

[0020] (b) Correct stroke technique is encouraged without interrupting stroke flow; and

[0021] (c) Use of the device forces the swimmer to exert more energy, developing power in the propulsive muscles and conditioning the cardiovascular system of the swimmer.

[0022] Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

[0023] Any discussion of documents, acts, materials, devices, articles or the like which has been included in the present specification is solely for the purpose of providing a context for the present invention. It is not to be taken as an admission that any or all of these matters form part of the prior art base or were common general knowledge in the field relevant to the present invention as it existed in Australia or elsewhere before the priority date of each claim of this application.

[0024] It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without

departing from the spirit or scope of the invention as broadly described. For example, the attachment means may be made of a different material to that of the elongate member. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

1. A device for use in swimming comprising:
an elongated elastic member for positioning on the posterior forearm of a swimmer's arm, the member having opposed first and second ends;
first attachment means for attaching the first end to a distal portion of the arm near the hand or wrist of the swimmer;
and
second attachment means for attaching the second end to an intermediate portion of the arm near the swimmer's elbow.
2. A device as claimed in claim 1 wherein the first attachment means attaches the first end to the hand near the knuckles of the swimmer, and provides a biasing force urging the hand to bend toward the outer forearm at the wrist.
3. A device as claimed in claim 1 further comprising one or more spacing elements positioned between portions of the

elongate elastic member and the posterior forearm for maintaining a distance between said portions of the elongate elastic member and the posterior forearm.

4. A device as claimed in claim 1 wherein the first or second attachment means comprises a loop of elastic material.

5. A device as claimed in claim 1 wherein the elastic member is in the form of an endless loop having integrally formed first and second attachment means at each of the respective ends.

6. A device as claimed in claim 2 further comprising one or more spacing elements positioned between portions of the elongate elastic member and the posterior forearm for maintaining a distance between said portions of the elongate elastic member and the posterior forearm.

7. A device as claimed in claim 2 wherein the first or second attachment means comprises a loop of elastic material.

8. A device as claimed in claim 2 wherein the elastic member is in the form of an endless loop having integrally formed first and second attachment means at each of the respective ends.

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