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(54) **GYMNASTIC APPARATUS FOR WALKING AND RUNNING EXERCISES**

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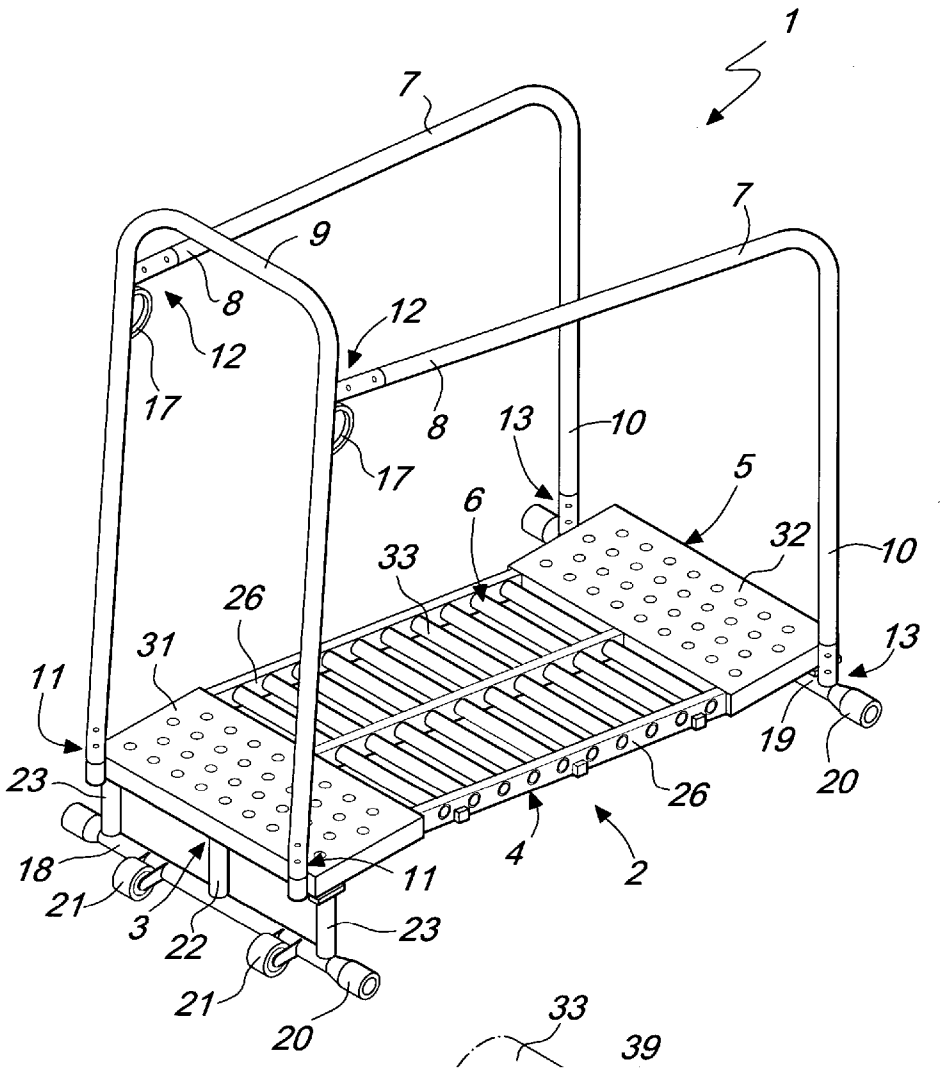
(57) **ABSTRACT**

A gymnastic apparatus for walking and running exercises, comprising a platform for resting on the floor which is provided in an upper region with a pair of bars for user grip and forms a treading surface for walking and running in place; the treading surface is constituted by a plurality of parallel rollers that are supported so that they can rotate freely transversely within the platform.



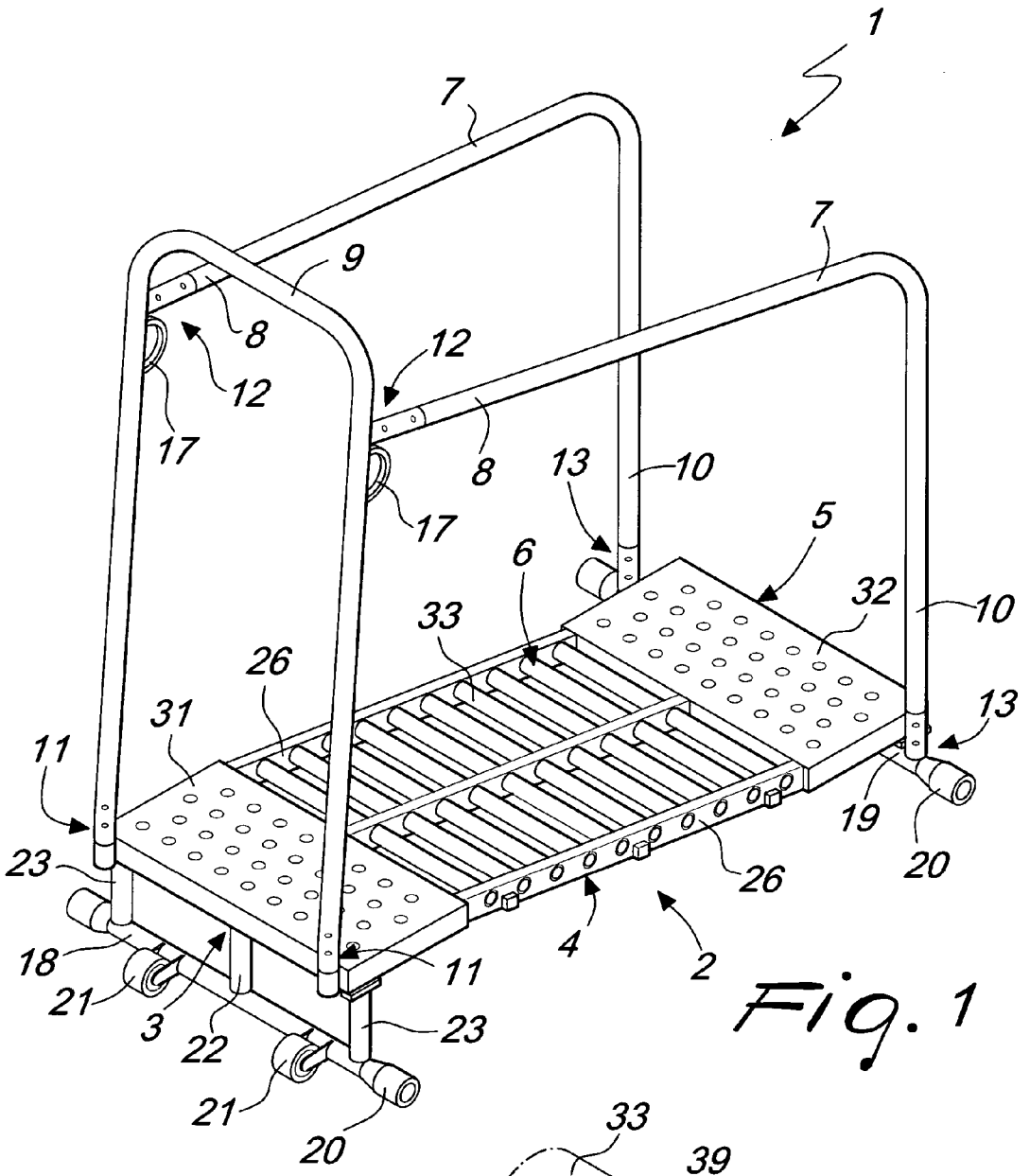

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Fig. 1

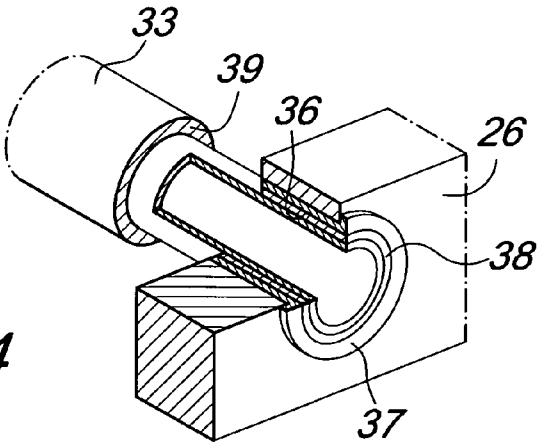
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Fig. 4

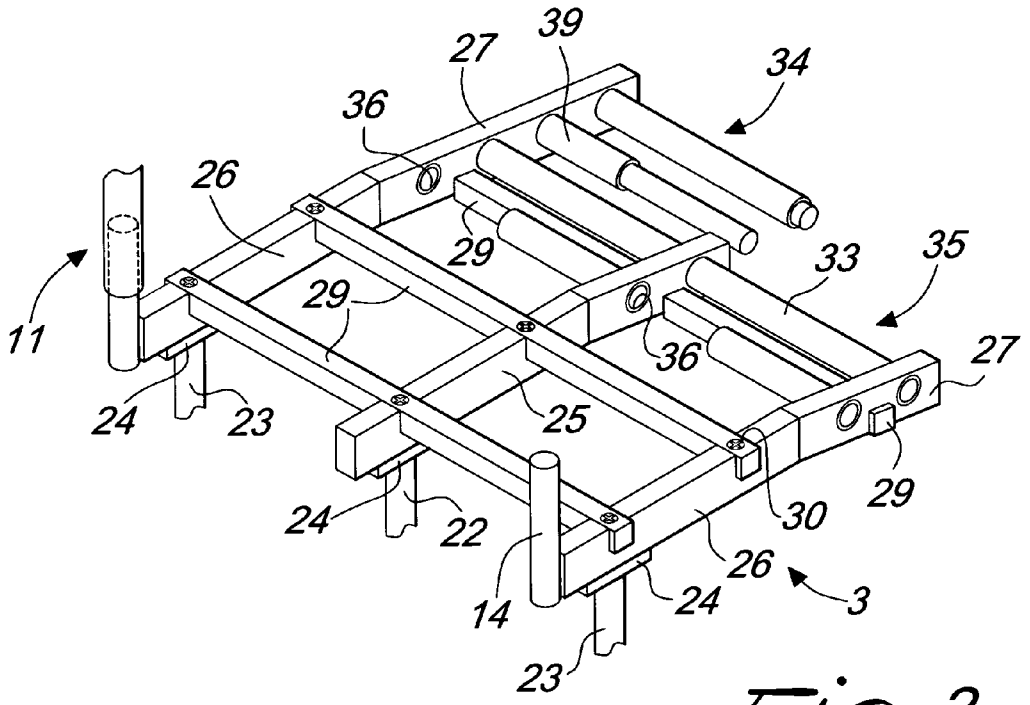
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Fig. 2

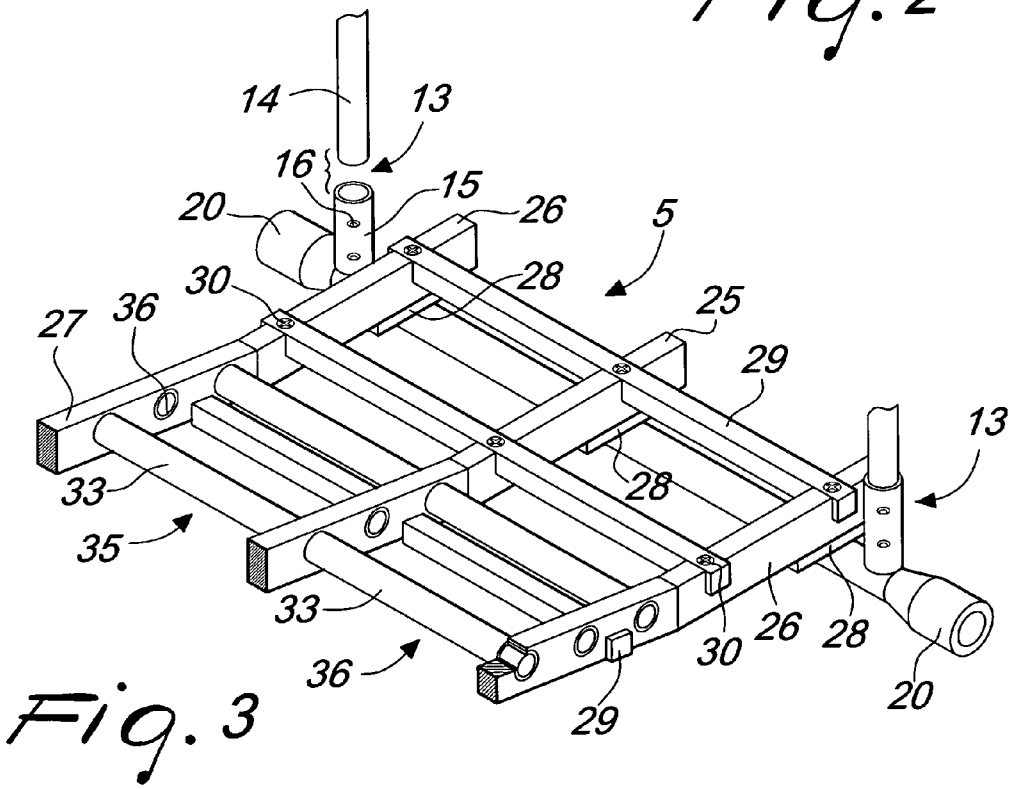
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Fig. 3

GYMNASTIC APPARATUS FOR WALKING AND RUNNING EXERCISES

BACKGROUND OF THE INVENTION

[0001] Apparatuses of the most disparate types have long been known for performing physical activities, such as gymnastics, suitable in particular to simulate walking and running in place according to the rhythms and requirements of the user.

[0002] Moreover, the practice of walking and running in place in an aquatic environment, i.e. for example in a swimming pool, has recently become widespread both in the sports field and in centers specialized in rehabilitation therapies. Apparatuses that have characteristics specifically defined to ensure reliable operation in the aquatic environment have been devised for this purpose in order to allow the user to enjoy particular benefits, such as intensification of the efforts caused by hydrodynamic resistance to movement and the massaging action of water on the muscles.

[0003] These apparatuses are inherently scarcely flexible and have several drawbacks that are mainly due to the constructive complications introduced in order to ensure their correct operation in an aquatic environment; moreover, in order to allow their installation they often lead to substantial modifications to the structure and bottom of the swimming pool, with expensive work.

SUMMARY OF THE INVENTION

[0004] The aim of the present invention is to obviate the above-cited drawbacks, by providing an apparatus for performing physical training activities, in particular a gymnastic apparatus that is flexible and versatile, i.e., allows to perform walking- and running-in-place exercises in any environment, including aquatic environments such as swimming pools.

[0005] Within this aim, an object of the present invention is to provide a sports apparatus that has a simple and lightweight structure and is effective and reliable in use.

[0006] Another object of the present invention is to provide a gymnastic apparatus that can be disassembled and transported easily without the intervention of specialized technicians and furthermore does not require modifications to the environment in which it is intended to be used.

[0007] Another object of the present invention is to provide a sports apparatus that is suitable to massage the sole of the feet while performing walking or running exercises.

[0008] Another object of the present invention is to provide a sports apparatus that is simple, relatively easy to provide in practice, safe in use, effective in operation, and has a relatively low cost.

[0009] This aim and these and other objects that will become better apparent hereinafter are achieved by the present gymnastic apparatus for walking and running exercises, characterized in that it comprises a platform for resting on the floor which is provided in an upper region with a pair of bars for user grip and forms a treading surface for walking and running in place, said treading surface being constituted by a plurality of parallel rollers that are supported so that they can rotate freely transversely within said platform.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Further characteristics and advantages of the present invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment of a sports apparatus for walking and running exercises according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

[0011] **FIG. 1** is a perspective view of the sports apparatus according to the invention;

[0012] **FIG. 2** is a partially sectional perspective view of a detail of the front portion of the platform;

[0013] **FIG. 3** is a partially sectional perspective view of a detail of the rear portion of the platform;

[0014] **FIG. 4** is a partially sectional perspective view of a detail of one of the rollers.

[0015] In the embodiments that follow, individual characteristics, given in relation to specific examples, may actually be interchanged with other different characteristics that exist in other embodiments.

[0016] Moreover, it is noted that anything found to be already known during the patenting process is understood not to be claimed and to be deleted from the claims.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] With reference to **FIG. 1**, the reference numeral **1** generally designates a sports apparatus for walking and running exercises according to the invention. The apparatus is designed to be placed and used in any environment, for example a sports environment or a rehabilitation therapy center, and is particularly suitable to be installed also in an aquatic environment, typically a pool or tub: in such an environment it is in fact possible to utilize hydrodynamic drag in order to intensify the efforts and produce a massaging effect on the muscles.

[0018] The sports apparatus comprises a platform **2** for resting on a floor surface (for example the bottom of the pool), which is preferably made of a metallic material that is particularly resistant to corrosion and oxidation and is constituted by a front portion **3** (**FIG. 2**), a central portion **4** and a rear portion **5** (**FIG. 3**); the central portion **4** of the platform forms a treading surface **6** that is suitable to perform walking- and running-in-place exercises.

[0019] The resting platform **2** is provided at an upper region with two grip bars **7** in order to keep the user balanced during the execution of the exercises and in the correct position at the treading surface **6**. The bars **7** have a slender tubular shape, are substantially folded in an L-shaped configuration and are connected, at their respective front ends **8**, to a sort of slender tubular arch **9** that protrudes substantially vertically from the front portion **3** of the platform **2**; at the rear ends **10**, said bars are fixed to the rear portion **5** of the platform, preferably to its sides, so as to diverge slightly from the front toward the rear.

[0020] The arch **9** is connected to the front portion **3** of the platform by means of a first pair of detachable lower couplings **11**; the bars **7** are connected respectively to the arch **9** and to the rear portion **5** of the platform by means of

a second pair **12** and a third pair **13** of detachable couplings. Each one of the couplings **11, 12, 13** is preferably constituted by a male portion **14**, which is inserted in a female portion **15** and can be locked for example by means of a pair of screws **16** (see **FIG. 3** in particular). Moreover, two eyes **17** are further rigidly coupled respectively to the second pair of couplings **12** in order to engage the opposite ends of a safety belt for disabled users.

[0021] The platform **2** comprises a front bar **18** and a rear bar **19**, which are substantially transverse and tubular and have, at their respective ends, sorts of substantially cylindrical caps **20** made of anti-slip material (for example rubber) for stable resting on the floor. Moreover, wheels **21** are provided for carrying the apparatus and are rigidly coupled to the front bar **18**.

[0022] A central upright **22** and two lateral uprights **23** are rigidly coupled by welding to the front bar **18**, rise vertically, and are each provided at their top with a respective front plate **24**; a central longitudinal member **25** and two lateral longitudinal members **26** are fixed respectively on the front plates **24**, and each longitudinal member is substantially shaped like or extended along a path that forms a broken line and forms respective inclined portions **27** that form a preset and suitable angle with respect to the plane of the floor. The rear portions of the lateral longitudinal members **26** and of the central longitudinal member **25** are fixed, preferably by welding, above respective rear plates **28** that are rigidly coupled to the rear bar **19**.

[0023] The lateral longitudinal members **26** and the central longitudinal member **25** are interconnected by means of a plurality of cross-members **29** that have a substantially square cross-section; in particular, the cross-members are engaged by interlocking in respective recesses provided in an upper region and in a lower region and are fixed thereat by screw means **30**.

[0024] A front footboard **31** and a rear footboard **32** that form anti-slip surfaces are provided at the front portion **3** and at the rear portion **5** of the platform **2**.

[0025] The treading surface **6** is constituted, according to the invention, by a plurality of parallel rollers **33**, which are supported so that they can rotate freely in the central portion **4** of the platform. In particular, the rollers **33** are grouped into a first set **34** and a second set **35**, which are mutually adjacent and mirror-symmetrical with respect to the plane of symmetry of the platform **2**; said sets are suitable to be walked on by a respective lower limb. The rollers **33** of the first and second sets **34, 35** are supported rotatably, by way of their ends, in respective pluralities of through holes **36** that have axes that lie transversely to the platform, are coaxial in threes and are provided in the lateral longitudinal members **26** and in the central longitudinal member **25**.

[0026] A respective centering and reference bushing **37** is accommodated in each of the through holes **36** and is fixed to said hole preferably by seaming (**FIG. 4**). A substantially tubular sliding bearing **38** is inserted within the bushing **37** and is suitable to provide low-friction rotary support of the respective end of the roller. The bearing **38** is preferably made of anti-friction synthetic material, for example such as Teflon.

[0027] Each one of the rollers **33** is advantageously provided with a covering **39** (**FIG. 2**) made of a substantially soft and elastically yielding material, for example such as rubber, in order to cushion the impact of the feet of the user and make it comfortable.

[0028] The method of use of the gymnastic apparatus according to the invention is intuitive. The user climbs onto the rear footboard **32** and then reaches the treading surface **6**, where he can perform walking and running exercises on the rollers **33** also achieving a beneficial massage of the soles of the feet.

[0029] The apparatus can be disassembled rapidly, is practical and lightweight, and is extremely flexible and usable in any environment, although it is particularly suitable for aquatic environments; at the same time, its structure is solid, stable and reliable. The resting platform **2** is provided without resorting widely to welding, with consequent advantages in terms of production costs and times.

[0030] It has thus been shown that the invention achieves the intended aim and objects.

[0031] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the inventive concept.

[0032] In particular, it is possible to fit rollers **33** that are substantially twice as long and pass through the central longitudinal member **25**.

[0033] All the details may be replaced with other technically equivalent ones.

[0034] In practice, the materials used, as well as the shapes and the dimensions, may be any according to requirements without thereby abandoning the scope of the protection of the appended claims.

[0035] The disclosures in Italian Patent Application No. BO2003A000171 from which this application claims priority are incorporated herein by reference.

What is claimed is:

1. A gymnastic apparatus for walking and running exercises, comprising: a resting platform extending along a longitudinal direction; a pair of bars for user grip which is provided at an upper region of and above said platform; a treading surface provided at said platform so as to allow walking and running in place activities, said treading surface being constituted by a plurality of parallel rollers that are supported so as to be freely rotatable, transversely to said longitudinal direction and within said platform.

2. The gymnastic apparatus of claim 1, wherein said rollers are grouped into a first roller set and a second roller set, which are adjacent and substantially mirror-symmetrical with respect to a plane of symmetry of the platform, perpendicular along said longitudinal direction, each one of said sets being suitable to allow walking thereon of a respective, left or right, lower limb of a user.

3. The gymnastic apparatus of claim 2, wherein said platform comprises a central longitudinal member and two lateral longitudinal members provided with respective through holes that are transverse to said longitudinal direction and coaxial in threes, said rollers of said first and second sets being rotatably supported by way of respective ends thereof in said through holes.

4. The gymnastic apparatus of claim 3, comprising a plurality of centering and reference bushings, with respec-

tive sliding bearings inserted therein, each of said bushings being accommodated in a respective one of said through holes.

5. The gymnastic apparatus of claim 4, wherein each one of said sliding bearings is substantially tubular and is made of an antifriction synthetic material.

6. The gymnastic apparatus of claim 4, wherein said centering bushings are accommodated inside said respective through holes fixed by seaming.

7. The gymnastic apparatus of claim 3, comprising an arch that protrudes vertically from a front portion of said platform, each one of said bars being folded so as to be L-shaped and having a front end that is fixed to said arch, and a rear portion that is connected to a rear portion of said platform.

8. The gymnastic apparatus of claim 7, comprising detachable coupling for connection of said bars to said platform and to said arch and of said arch to said platform.

9. The gymnastic apparatus of claim 8, wherein said platform comprises, arranged at a central portion and at the front and rear portions thereof, parallel cross-members that engage in recesses provided along said central longitudinal member and said lateral longitudinal members, and are rigidly fixed in said recesses by way of screw means.

10. The gymnastic apparatus of claim 9, wherein each one of said central and lateral longitudinal members is substantially shaped so as to extend longitudinally along a broken line path and so as to have a respective inclined portion that forms a preset angle with respect to a surface of a resting bottom of an aquatic environment, said through holes being provided at said inclined portion.

11. The gymnastic apparatus of claim 1, wherein said platform is made of a metallic material that is resistant to corrosion and to oxidation.

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