July 9, 1963 W. W. GAUER 3,096,980

DIVING BARRIER

Filed Oct. 19, 1960 2 Sheets-Sheet 1

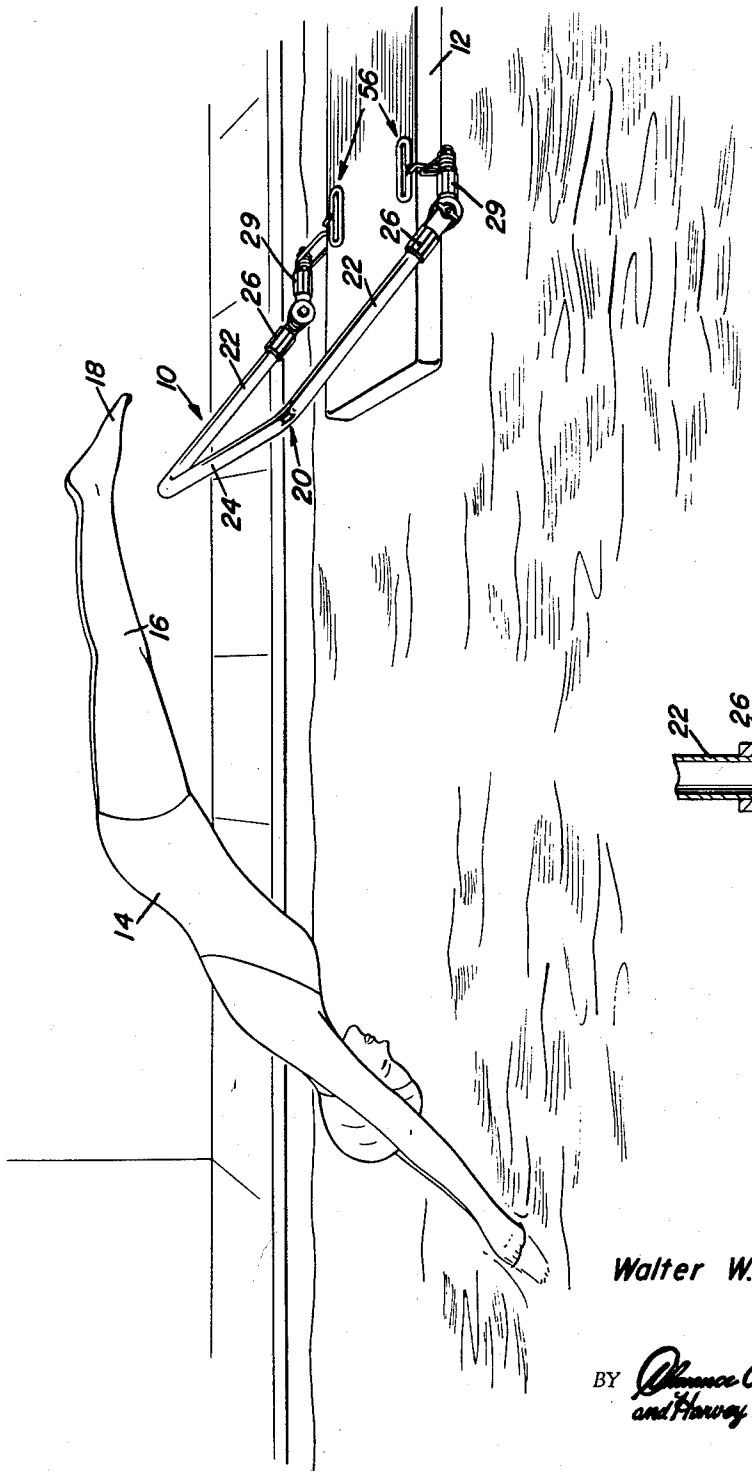



Fig. 1

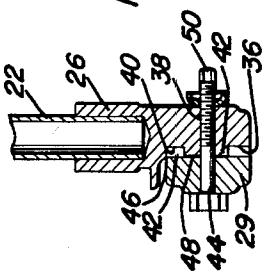



Fig. 5

Walter W. Gauer

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jackson

Attorneys

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Fig. 2

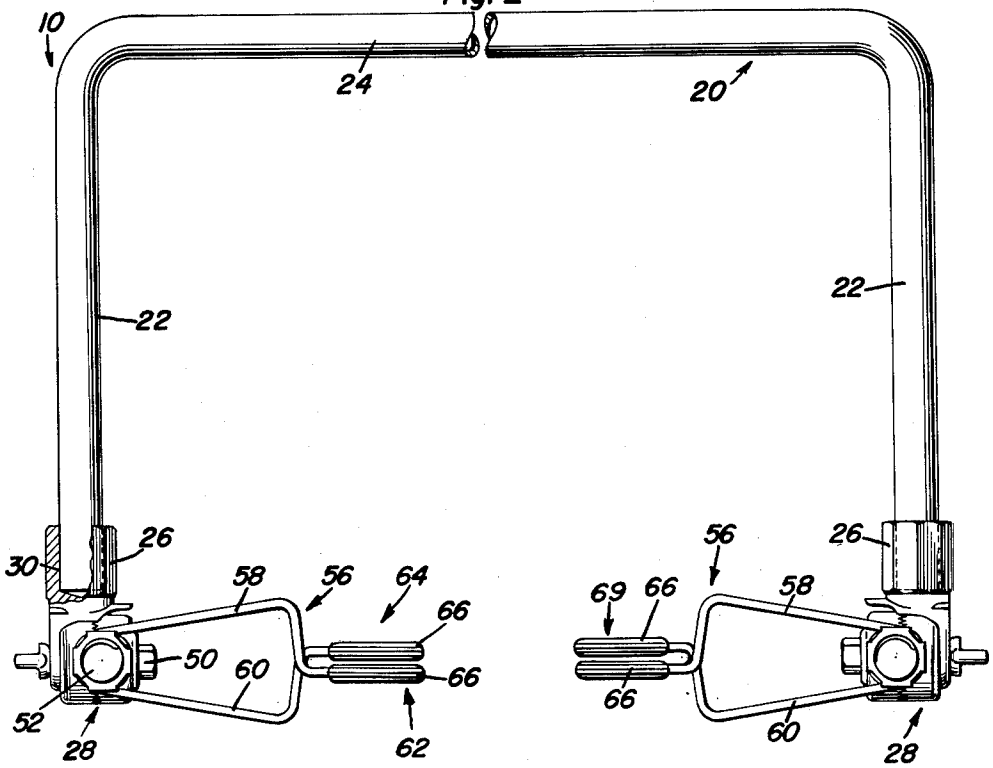



Fig. 3

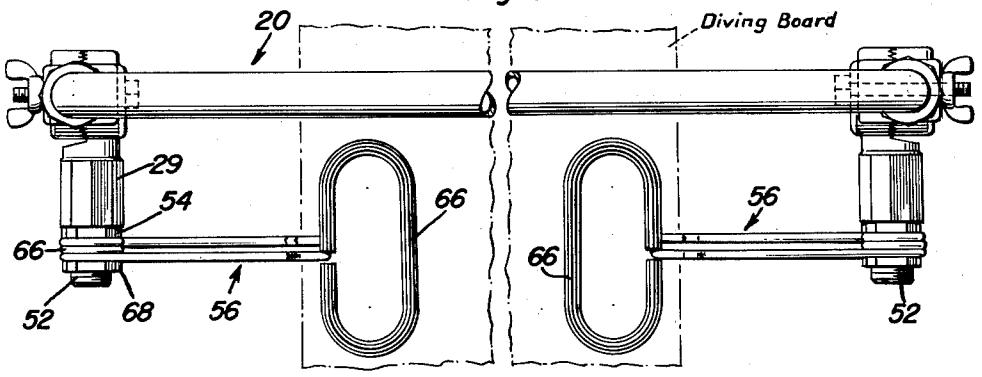
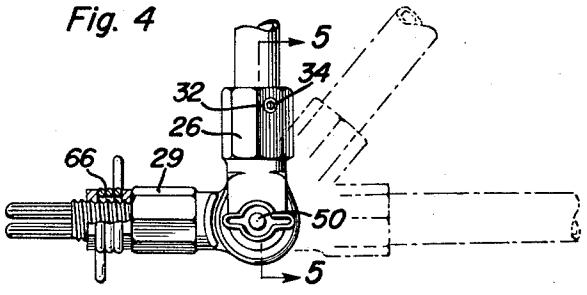



Fig. 4




Walter W. Gauer

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

United States Patent Office

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# DIVING BARRIER

Walter W. Gauer, Kenilworth, N.J., assignor to Wroble & Gauer Co., Inc., Kenilworth, N.J., a corporation of New Jersey

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This invention relates to a diving barrier for teaching beginning swimmers the fundamentals of diving into water.

When beginners are learning to dive into water from the side of a pool or from a diving board the normal tendency is to attempt to maintain the head high when entering the water with the hope that the head will not become submerged upon entering the water. This head high posiiton of a dive results in the beginner executing an extremely shallow dive with the stomach striking the water first. This type of dive is of course painful in some instances as the diver does not cut the water smoothly and cleanly.

In order to assure that a beginner will not execute an extremely shallow dive of this type, instructors often make use of horizontal barriers positioned a spaced distance above the surface from which the beginner is diving which requires that the knees and feet of a diver be elevated above the barrier in order to clear the same. With the knees and feet of the diver being required to pass over such a horizontal barrier, the diver is forced to enter the water in a head downward inclined position thereby eliminating any possibility of the diver executing an extremely shallow dive.

Instructors have heretofore made use of hurdle-like barriers similar to those used in track events for the purpose of providing a barrier over which a diver must pass. These hurdle-like barriers are often heavy and cumbersome and are therefore not extremely desirable.

The main object of this invention is to provide a lightweight barrier which may be readily supported on a planar surface such as the apron of a pool or which may be clamped to the end of a diving board from which a beginner is learning to dive.

A further object of this invention, in accordance with the immediately preceding object, is to provide a diving barrier which may be readily adjusted in height and which is constructed in a manner whereby the diving barrier may be releasably retained in an operational position so that it will yield under contact by a diver should he not elevate his knees and feet high enough in order to clear the barrier.

A further object of this invention is to provide a diving barrier including an elevated horizontally disposed portion over which the diver must dive which may be positioned outwardly over the water in order to assure that the diver will also have to dive outwardly away from the supporting surface from which he is diving.

A final object to be specifically enumerated herein is to provide a diving barrier which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and relatively trouble free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the diving barrier shown mounted on the free end of a diving board and the horizontal portion of the diving barrier positioned outwardly beyond the end of the diving board;



FIGURE 2 is an end elevational view of the diving barrier, parts thereof being broken away;

FIGURE 3 is a top plan view of the diving barrier seen in FIGURE 2 with the outline of a diving board being shown in phantom lines;

FIGURE 4 is a fragmentary side elevational view of the diving barrier showing the manner in which the U-shaped frame of the barrier may be adjusted in positions relative to the supporting arms of the barrier; and

FIGURE 5 is a transverse vertical sectional view taken substantially upon the plane indicated by the section line 5—5 of FIGURE 4 and showing further structural details of the manner in which the U-shaped frame of the diving barrier may be adjusted in various inclined positions relative to the supporting arms of the barrier.

Referring now more specifically to the drawings, the numeral **10** generally designated the diving barrier of the instant invention which is shown in FIGURE 1 of the drawings clamped to a conventional diving or spring board **12**. A diver **14** is shown in position diving over the barrier **10** in FIGURE 1 and it will be noted that the knees **16** and feet **18** of the diver **14** are required to clear the diving barrier **10** in order for the diver **14** to enter the water.

With attention now directed to FIGURE 2 of the drawings it will be seen that the diving barrier **10** includes a generally U-shaped frame referred to in general by the reference numeral **20**. The frame **20** includes a pair of generally parallel legs **22** which are interconnected at their outer ends by means of an integral bight portion **24**. The bight portion **24** and the legs **22** are all contained substantially in the same plane and the free ends of the legs **22** are received in socket members **26** carried by the supporting arm assemblies generally referred to by the reference numeral **28**. The socket members **26** are each provided with a blind bore **30** which receives the end of the corresponding leg **22** and each of the socket members **26** is provided with a transverse bore **32** in which there is threadedly engaged a setscrew **34** by which the free ends of the legs **22** are secured within the blind bores **30**. The supporting arm assemblies **28** each include a pair of socket members **26** and **29**. The end of each of the socket members **26** remote from the bore **30** is provided with a circular face **36** and a transverse bore **38** which is concentric with the circular face **36**. The circular face **36** includes a serrated annular portion **40** and a center circular projection **42**. One end of the socket member **29** is also provided with a circular face which is designated by the reference numeral **42** and a transverse bore **44** similar to bore **38**. The circular face **42** includes an annular serrated surface **46** corresponding to and interlockingly engageable with the annular surface **40** and a center circular recess **48** for receiving the projection **42**. With the socket members **26** and **29** positioned as illustrated in FIGURE 5 of the drawings a suitable threaded fastener **50** is secured through the alined bores **38** and **44** in order to retain the socket members **26** and **29** in adjusted positions relative to each other.

The end of the socket member **29** remote from the bore **44** includes a diametrically reduced threaded shank portion **52** which may either be formed integrally with the socket member **29** or comprise a separate stud threadedly engaged in a threaded bore formed in the socket member **29**. In the event the threaded shank **52** comprises a part of a stud, a locking nut **54** is threadedly engaged with the shank **52** and abuts the outer end of the socket member **29** and serves as a jamnut for preventing rotation of the of the stud relative to the socket member **29**. A clamp

assembly which can best be seen in FIGURES 2 and 3 of the drawings is generally designated by the reference numeral **56** and includes a pair of L-shaped arms **58** and **60** which are each provided with angulated and opposing frame-like planar clamp heads generally referred to by the reference numerals **62** and **64**. The clamp heads **62** and **64** are formed on one pair of corresponding ends of the L-shaped arms **58** and **60** and an integral resilient coil **66** interconnects the other corresponding ends of the L-shaped arms **58** and **60** and resiliently urges the clamp heads **62** and **64** toward tight frictional engagement with each other.

Each of the clamp heads includes a generally rectangular framework which may be covered by a suitable type of resilient material such as rubber hose **66**.

The coil **66** slidably and rotatably receives the stud **52** and a retaining nut **68** is threadedly engaged with the outer free end portion of the stud **52** in order to retain the clamp **56** on its associated stud **52** and also to afford a means whereby the clamp members **56** may be frictionally retained in adjusted rotated positions about the longitudinal axis of the studs **52**.

In operation, the clamp members **56** may be utilized to secure the dividing barrier **10** to the free end of the diving board **12** as illustrated in FIGURE 1 of the drawing and the U-shaped frame **20** may be adjusted in inclination relative to the longitudinal axis of the socket members **29** by loosening the fasteners **50** and adjusting the frame **20** to the desired position and then retightening the fasteners **50**.

If it is desired the clamp members **56** may also be utilized to engage the top of a diving stool by which the elevation of the diver above the water may be increased in case he is diving from the apron of a pool and also it is to be noted that the socket members **29** of the supporting arm assemblies **28** could be disposed in overlying relation to the apron of a pool and blocks for sandbags and the like utilized to maintain the diving barrier **10** in adjusted operational positions along the side of a pool.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with a supporting surface adjacent and above a body of water, a diving barrier for teaching beginners the fundamentals of diving into water, said barrier comprising a generally U-shaped frame having a pair of legs connected at one end by a bight portion, said legs and bight portion lying substantially in a single plane, a supporting arm for each of said legs, means pivotally securing one end of each arm to the free end portion of the corresponding leg for movement about an axis generally paralleling said plane, said pivotal securing means each including means for adjustably positioning said arms relative to said legs whereby the inclination of said frame may be adjusted relative to said arms, said arms each including means for supporting engagement with said supporting surface and for retaining said frame in adjusted inclined positions relative to said surface, said supporting surface comprising a diving board, said last-mentioned means including a clamp member carried by the free end of each of said arms clampingly engaged with edge portions of said diving board.

2. The combination of claim 1 wherein each of said clamp members projects laterally from the corresponding arm and is pivotally secured thereto for movement about the longitudinal axis of that arm.

3. The combination of claim 2 wherein said last-mentioned pivotal securing means includes means for frictionally retaining said clamps in adjusted rotated positions.

4. In combination with a supporting surface adjacent and above a body of water, a diving barrier for teaching beginners the fundamentals of diving into water, said barrier comprising a generally U-shaped frame having a pair of legs connected at one end by a bight portion, said legs and bight portion lying substantially in a single plane, a supporting arm for each of said legs, means pivotally securing one end of each arm to the free end portion of the corresponding leg for movement about an axis generally paralleling said plane, said pivotal securing means each including means for adjustably positioning said arms relative to said legs whereby the inclination of said frame may be adjusted relative to said arms, said arms each including means for supporting engagement with said supporting surface and for retaining said frame in adjusted inclined positions relative to said surface, said supporting surface comprising a diving board, said last-mentioned means including a clamp member carried by the free end of each of said arms clamping said diving board, each of said clamp members projecting laterally from the corresponding arm and being pivotally secured thereto for movement about the longitudinal axis of that arm, said last-mentioned pivotal securing means including means for frictionally retaining said clamps in adjusted rotated positions, the free end of each of said arms including a diametrically reduced externally threaded shank portion, said clamp members each including a pair of generally L-shaped arms opposing and opening toward each other, said L-shaped arms being formed integrally and interconnected at one pair of corresponding ends by means of a resilient coil comprising said last-mentioned pivotal securing means through which said shank is slidably and rotatably received, a retaining nut threadedly engaged on the free end of said shank disposed through said coil comprising said frictional retaining means, and a pair of opposing frame-like planar clamp heads carried by the other pair of corresponding ends of said L-shaped arms, said coil resiliently urging said clamp heads toward light frictional engagement with each other.

5. In combination with the free end of a spring board, a diving barrier including upstanding barrier defining means, clamp means removably securing said barrier defining means to said spring board with said barrier defining means extending transversely across and above said board, said clamp means including a pair of clamps pivotally secured to the lower end of said barrier means and at opposite sides of said board for rotation about axes extending transversely of said board and including jaw means releasably and clampingly engaged with the opposite side marginal edge portions of said board.

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