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W. J. BRANDEL ET AL

3,390,740

CANTILEVER LADDER TYPE DIVING BOARD FOR SWIMMING POOL

Filed July 14, 1965

FIG. 1

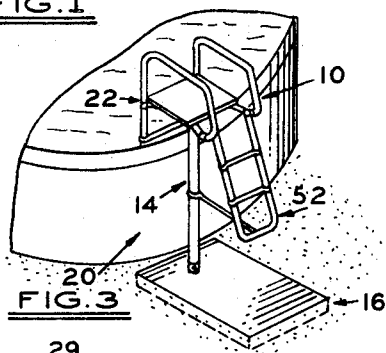


FIG. 3

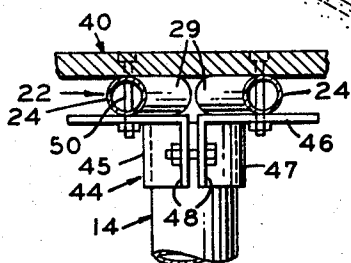


FIG. 2

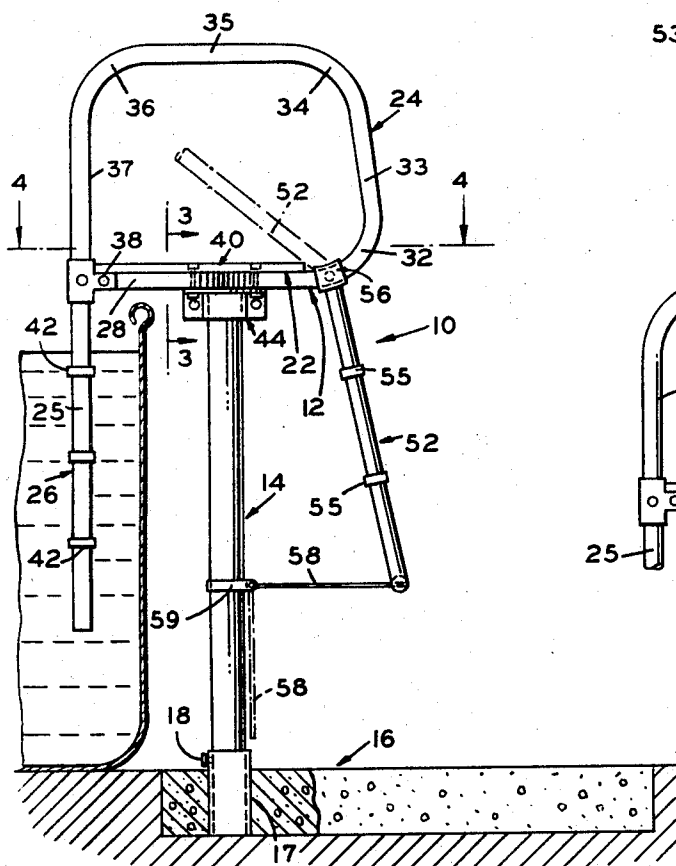


FIG. 4

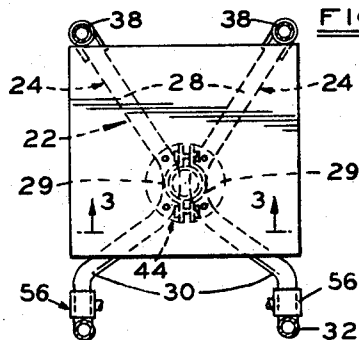


FIG. 5

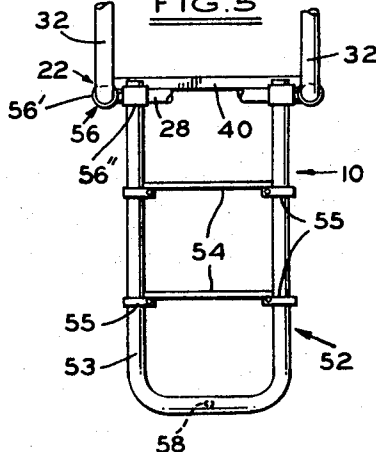
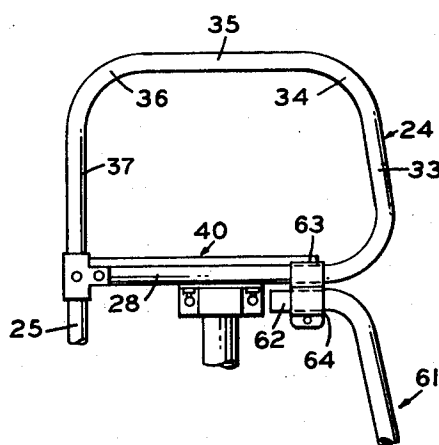


FIG. 6



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CANTILEVER LADDER TYPE DIVING BOARD FOR SWIMMING POOL

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ABSTRACT OF THE DISCLOSURE

A diving board for a home use, which board is of a cantilever ladder type, in that it has a platform supported by a special improved type of frame, with the frame in turn supported on a theoretical line substantially central of the platform by means of an upright tubular post having a ground support at its bottom.

The frame is constituted substantially in its entirety by a pair of one-piece lengths of tubular stock, each bent to provide a bottom inturned portion, adjacent inner and medial zones of which portions the frame is fixedly applied, as by means of a collar device, to the top of the post. Each tubular length also provides an integral elevated hand rail structure including inner and outer upright portions connected by a horizontal rail portion; and the inner portions depend into the pool as parts of an inside-pool ladder. An outside-pool ladder is in depending relation to the inner part of the frame, preferably with provisions enabling it to be removed or placed in an inoperative position to discourage use of the diving board.

The present invention relates to an improved cantilever ladder type diving board for swimming pools, more particularly, portable swimming pools of a rather large size such as have recently come into vogue for home yard use.

It is an object of the invention to provide a diving board of this nature which, in addition to a diving platform, proper, equipped with guard rails and ladder to ascend the platform from both the exterior and the interior of a portable pool, includes a central upright cantilever post affording the sole support of the diving platform and ladder unit. This post is, in turn supported strongly and stably by a relatively massive concrete ground base, thus leaving space beneath the platform which is available for various purposes.

Further in accordance with the invention, the upright cantilever post of the diving board is removably associated with its supporting base, as by an upright sleeve incorporated in the latter which telescopically receives the post, thus enabling the platform unit to be removed for winter storage, without removing the concrete base from location, if this is desired.

It is a further object of the invention to provide a diving board or platform unit of the above type, centrally supported by heavily counterweighted base means, in which the inside-pool and outside-pool ladders are of an upright length such as to depend to a level above the bottom of the pool and the top of the counterweight base, yet sufficiently low as to be conveniently reached from those surfaces by the diver.

Still further in accordance with the above object, provision is made to pivotally mount the outside-pool ladder to swing upwardly about a horizontal axis, so that it may be positioned out of reach of small children when the diving board is not to be used. In the alternative, means may be provided to remove the ladder bodily from the remainder of the structure for the same purpose, or otherwise to discourage unauthorized use of the board.

The foregoing as well as other objects will become

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more apparent as this description proceeds, especially when considered in connection with the accompanying drawing illustrating the invention, wherein:

FIG. 1 is a fragmentary perspective view showing the improved cantilever-supported diving board of the invention as operatively associated with a portable swimming pool or tank;

FIG. 2 is a view in side elevation of the diving board unit, as set up in condition for use, also indicating in dotted line the optional position of the outside-pool access ladder when the board is not to be used;

FIG. 3 is a fragmentary enlarged scale view in vertical cross section along line 3-3 of FIGS. 2 and 4, more clearly illustrating certain provisions by which the platform of the unit is associated with a tubular supporting frame thereof and the cantilever post of the unit;

FIG. 4 is a fragmentary view in horizontal section on line 4-4 of FIG. 2, indicating the outline of its bottom platform-supporting frame members of the unit;

FIG. 5 is a fragmentary view in end elevation, as from the right of FIG. 2, further illustrating a pivotal mount for the outside-pool ladder component; and

FIG. 6 is a fragmentary view in side elevation illustrating an alternative mode of associating the last mentioned ladder component with the remainder of the diving board structure.

Such structure, generally designated by the reference numeral 10, basically comprises a platform unit 12 strongly and stably supported from beneath by an upright center post 14, which is in turn supported with equal stability by a relatively massive concrete base 16. Typically, the post 14 may be a standard 3½" O.D. pipe. Base 16 will, for example, be of about 2 feet width, 4 feet length and ½ foot height, approximating, say, 400 pounds in weight.

Adjacent the pool-side thereof, the base 14 has an upright tubular socket member or sleeve 17 embedded therein to telescopically receive the cantilever post 14 with slight sliding clearance; and a small set screw or bolt 18 is provided to normally hold the post against withdrawal. The fit of the post and sleeve components should be sufficiently close to prevent wobble of the post.

FIG. 1 of the drawing shows the unit 10 as operatively associated with a typical portable, yard-type swimming pool or tank 20, which, because of its low purchase cost and low cost of installation and maintenance, has come into considerably popular vogue in recent years.

As best illustrated in FIGS. 2, 3 and 4, the platform unit 12 comprises a rigid tubular frame 22 constructed substantially in its entirety in a very special contour of but two lengths 24 of standard pipe of, say, 1¼" O.D.; and these frame lengths also provide the side uprights 25 of the inside-pool ladder of the diving board, which is generally designated by the reference numeral 26.

In forming the frame lengths 24 of the platform frame section of the diving board, they are provided, starting with ends thereof which extend over the adjacent wall of the pool or tank 20, with irregular shaped bottom portions 28 best shown in FIGS. 3 and 4. These portions are in a common horizontal plane, and converge outwardly, in reference to the pool and post 14, at an angle such that they substantially meet at reversely curved formations 29 thereof, at which the frame is connected to cantilever post 14 in a manner to be described.

Departing from this zone, the bottom portions flare or diverge outwardly away from one another at 30, and are then bent at 32 upwardly in parallel relation to one another about an arc of curvature amounting to, say 75°. From this curved formation, the tube or pipe lengths 24 incline mildly upwardly at 33 to another curved formation 34 of about 105° extent, then inwardly in a parallel, coplanar relation to one another at 35. The upwardly ex-

tending portions 33 constitute outer upright side portions of frame 22. Finally, the lengths 24 are again curved downwardly at 36 approximately 90° into inner upright frame side portions 37, and terminate in substantially vertical, parallel and coplanar relationship to one another in the ladder side uprights 25. These upright members and the respective bottom parts 28 of the frame lengths 24 are rigidly connected at 90° to one another, as by standard 1¼" T's 38 (FIG. 2).

Thus, the tube or pipe lengths 24, as fabricated in the above outlines by simple pipe bending procedures, afford elevated hand guide rails at the top portions 35 thereof which connect the outer and inner frame portions 33, 37, respectively, and are well braced in relation to one another and to the post 14, without the need for additional strut or like provisions.

In a typical board or platform unit 12, the frame 22 will have a horizontal dimension of approximately 30" maximum from its T fittings 38 to the outer extremity of its curved formations 32; and a side-to-side dimension across the insides of its remaining portions 33, 35 and 36 amounting to, say, 18"; and the dimensions of the platform 40 are such as to approximate these side dimensions.

The inside-pool tubular uprights 25 are fixedly equipped with a series of ladder rungs 42; and (FIG. 2) the inside-pool ladder 25 terminates substantially above the bottom of pool or tank 20, yet sufficiently low for convenient availability to the swimmer.

Referring now to FIG. 3 in conjunction with FIGS. 2 and 4, the platform 40 and frame 22 are rigidly supported approximately centrally upon the cantilever post 14 by means of a split collar unit 44 which will permit the platform and frame to be removed as a unit from the post, if desired. Thus, the mounting device 44 comprises a pair of identical and approximately semi-circular collars 45, each providing a horizontal flange 46 and a collar portion 47 which has diametrically opposite clamp ears 48. The latter receive through bolts 49 to clamp the members 45 to the top of post 14.

Referring to FIGS. 3 and 4, the clamping device 44 is assembled to frame 22 and platform 40, from beneath the frame, at the intermediate reversely curved and substantially meeting formations 29 of frame lengths 24, using carriage bolts 50 which are countersunk into the top of platform 40, extending through the frame formations 29 and the collar flanges 46 at four points.

Thus, the platform assembly 12 of the diving board 10 is given a very stable, strong and wrack-resistant support on cantilever post 14, which is in turn equally well sustained against toppling or lateral shift by the relatively heavy concrete base 16, the latter also serving as a step.

Directly above base 16 the tubular platform frame 22 carries its outside-pool ladder 52, which may, like the platform frame lengths 24, be of 1¼" tube stock. As shown in FIGS. 2 and 5, this may be in the form of a U-shaped frame 53, to the side uprights of which a pair of rungs 54 of birch are secured by bracket bands 55. For the purpose of enabling the ladder 52 to be swung upwardly, as to the dotted line position of FIG. 2, and out of reach of small children when the diving board is not to be used, the ladder uprights are at the tops thereof swiveled to frame 22, at the outer bottom bends 32 of the latter, by means of a pair of swiveling collar devices 56. Each of these includes a collar element 56' clamped to the frame portion 32 and a further element 56'' clamped to the ladder, and pivotally connected on a horizontal axis to the element 56'.

As illustrated in FIG. 2, the outside-pool ladder may be stabilized horizontally when in use by a ½" rod 58 pivoted on a collar 59 affixed to cantilever post 14. The rod 58 has a suitable releasable connection to the bottom of ladder 52, so that when the latter is swung to its dotted line out-of-reach position, the stabilizing rod 58 will drop to its dotted line position.

As an alternative to the swingable type of outside-pool

ladder 52, the unit contemplates the arrangement shown in FIG. 6, wherein the last named ladder structure is bodily removable in its entirety from the frame and platform structure. Thus, the outside-pool ladder, specially designated 61, has its uprights bent at their extremities 62 into a horizontal plane, being disposed directly beneath the spread portions 32 of the frame structure 22. Split collar-type clips 63 are clamped to the frame portions 32 and clamp the ladder extensions at 64. Ladder 61 may therefore be removed bodily from the remainder of the diving board, when access to its platform is not desired.

All exposed ends of the frame and ladder pipes or tubes 24, 53 and 61 are tightly plugged.

It is seen that the invention affords an improved, highly stable diving board or platform construction which occupies a minimum of space, and may be readily assembled to and disassembled from operational condition. It is constructed in its entirety of readily available and very inexpensive tube or pipe components and platform; and its sales appeal for use in conjunction with the popular type of pool 20 is evident.

What we claim as our invention is:

1. A cantilever ladder type diving board, comprising a frame constituted substantially in its entirety of a pair of continuous tubular lengths each affording an elevated side hand guide rail and a bottom portion diverted inwardly toward the other of said lengths, said bottom portions supporting a horizontal platform, said rails terminating in inner upright portions depending substantially beneath said platform and connected by rung members to form an inside-pool ladder, an upright post affording a ground support for the frame and platform, said post having means connecting the same to said frame adjacent said bottom portions to provide a support for the platform on a theoretical line substantially central of the latter, and an outside-pool ladder connected to said platform and frame in depending relation to the latter.

2. A cantilever ladder type diving board, comprising a frame constituted substantially in its entirety of a pair of continuous tubular lengths each affording an elevated side hand guide rail and a bottom portion diverted inwardly toward the other of said lengths, said bottom portions supporting a horizontal platform, said rails terminating in inner upright portions depending substantially beneath said platform and connected by rung members to form an inside-pool ladder, an upright post to afford a ground support for the frame and platform, said post having means connecting the same to said frame adjacent said bottom portions to provide a support for the platform on a theoretical line substantially central of the latter, said last named means including a collar device embracing the post, and means locking said platform and bottom portions to said device, and an outside-pool ladder connected to said platform and frame in depending relation to the latter.

3. A cantilever ladder type diving board, comprising a frame constructed of a pair of tubular lengths having mutually inwardly convergent bottom portions disposed adjacent one another in an intermediate zone approximately central of said portions, inner and outer upright portions, and upper connecting portions, said upright and connecting portions being integral with the respective bottom portions and in substantially parallel planes throughout the remainder of the respective lengths, the inner upright portions depending substantially beneath said frame bottom portions as parts of an inside-pool ladder, a platform supported by said bottom portions, an upright post affording a ground support for the diving board, said post having means adjacent the top thereof to connect the same to said frame at said intermediate zone of said frame bottom portions, and an outside pool ladder connected to said frame in depending relation to the latter.

4. A cantilever ladder type diving board, comprising a frame constructed of a pair of tubular lengths having

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mutually inwardly convergent bottom portions disposed adjacent one another in an intermediate zone approximately central of said portions, inner and outer upright portions, and upper connecting portions, said upright and connecting portions being integral with the respective bottom portions and in substantially parallel planes throughout the remainder of the respective lengths, the inner upright portions depending substantially beneath said frame bottom portions as parts of an inside-pool ladder, a platform supported by said bottom portions, an upright post provided at its bottom with a relatively massive base to afford a ground support for the diving board, said post having means adjacent the top thereof to connect the same to said frame at said intermediate zone of said frame bottom portions, and an outside-pool ladder connected to said frame in depending relation to the latter.

5. A cantilever ladder type diving board, comprising a frame constructed of a pair of tubular lengths having mutually inwardly convergent bottom portions disposed adjacent one another in an intermediate zone approximately central of said portions, inner and outer upright portions, and upper connecting portions, said upright and connecting portions being integral with the respective bottom portions and in substantially parallel planes through the remainder of the respective lengths, the inner upright portions depending substantially beneath said frame bottom portions as parts of an inside-pool ladder, a platform supported by said bottom portions, an upright post affording a ground support for the diving board, said post having means adjacent the top thereof to connect the same to said frame at said intermediate zone of said frame bottom portions, including a collar device embracing the post, and means locking said platform and bottom portions to said device, and an outside-pool ladder connected to said frame in depending relation to the latter.

6. A cantilever ladder type diving board, comprising a frame constructed of a pair of tubular lengths having mutually inwardly convergent bottom portions disposed adjacent one another in an intermediate zone approximately central of said portions, inner and outer upright portions, and upper connecting portions, said upright and connecting portions being integral with the respective bottom portions and in substantially parallel planes through the remainder of the respective lengths, the inner upright portions depending substantially beneath said frame bottom portions as parts of an inside-pool ladder, a platform

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supported by said bottom portions, an upright post provided at its bottom with a relatively massive base to afford a ground support for the diving board, said post having means adjacent the top thereof to connect the same to said frame at said intermediate zone of said frame bottom portions, including a collar device embracing the post, and means locking said platform and bottom portions to said device, and an outside-pool ladder connected to said frame in depending relation to the latter.

7. A diving board in accordance with claim 1, in which said outside-pool ladder has means connecting the same to said platform in a manner enabling the optional positioning of said ladder in relation to the remainder of the diving board to discourage use of the latter, as desired.

8. A diving board in accordance with claim 2, in which said outside-pool ladder has means connecting the same to said frame in a manner enabling the optional positioning of said ladder in relation to the remainder of the diving board to discourage use of the latter, as desired.

9. A diving board in accordance with claim 3, in which said outside-pool ladder has means connecting the same to said frame in a manner enabling the optional positioning of said ladder in relation to the remainder of the diving board to discourage use of the latter, as desired.

10. A diving board in accordance with claim 4, in which said outside-pool ladder has means connecting the same to said frame in a manner enabling the optional positioning of said ladder in relation to the remainder of the diving board to discourage use of the latter, as desired.

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