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SPRINGBOARD CONSTRUCTION

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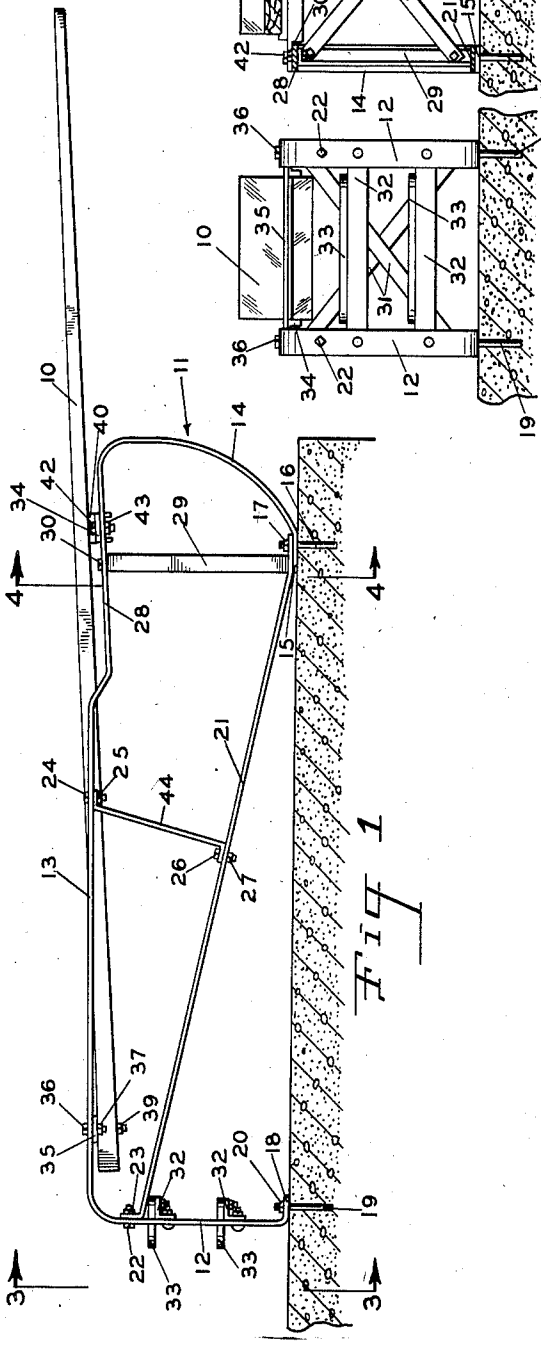


Fig. 1

Fig. 4

Fig. 5

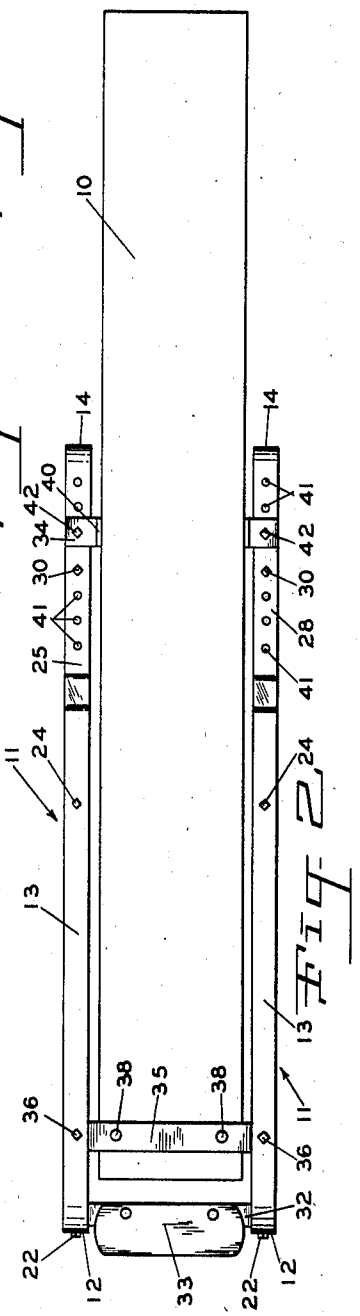


Fig. 2

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SPRINGBOARD CONSTRUCTION

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7 Claims. (Cl. 272—66)

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The present invention relates to a springboard construction, having particular reference to supporting means for a springboard. The invention is herein illustrated as comprising a diving board, but it is to be appreciated that the invention may equally well comprise any type of springboard for any purpose.

The principal object of the present invention is to provide a springboard support comprising a frame consisting of a compound spring. The purposes of the invention are to provide means whereby greater loft may be achieved by the person using the springboard, and to safeguard the springboard and the athlete by eliminating the shock effect of using the springboard and thus decreasing the possibility that the springboard may break.

A further object of the present invention is to provide a springboard support of simple, sturdy construction which may be formed of readily available, easily shaped and assembled materials, and which may be shipped in disassembled or partially disassembled form, thereby decreasing the ultimate cost by reducing shipping charges.

A further object of the present invention is to provide a springboard support of the foregoing character which comprises a fulcrum bar adjustable in the longitudinal direction of the springboard, thereby accommodating the tastes of individual performers or permitting persons of various weights to achieve the same feats by use of the one springboard.

A further object of the present invention is to provide a springboard support of the foregoing character, the fulcrum point of which may be adjusted without altering the angle of inclination of the springboard.

The objects and advantages of the present invention may be more readily understood by reference to the accompanying drawings wherein like numerals refer to like parts throughout, and in which a preferred form of the invention is illustrated.

In the drawings,

Fig. 1 is a side elevation of the invention;

Fig. 2 is a plan view corresponding to Fig. 1;

Fig. 3 is an end view looking from the plane of the line 3—3 of Fig. 1; and

Fig. 4 is a vertical section taken substantially along the plane of the line 4—4 of Fig. 1.

In the drawings, there is illustrated a tapered springboard 10 which may be of any suitable or desired construction. The springboard is supported by a supporting structure including a pair of side frames 11 maintained in upright, parallel, spaced relation to each other. Each of the side frames comprises a plurality of spring bar members, ordinarily consisting of bar stock approximately three inches by three-eighths of an inch, which may be tempered to preserve the spring action of the bars. The spring bars comprise a first spring bar including a vertical, rear leg portion 12, an intermediate, elongated, substantially horizontal portion 13 and a forwardly bowed, dependent front portion 14 terminating in a ground-engaging foot 15 which is retained as by means of a bolt 16 buried in the concrete surrounding a swimming pool and a cooperating nut 17. The rear leg 12 also terminates in a ground-engaging foot 18 which is retained by a bolt 19 and nut 20. A second spring bar 21 is connected to the first spring bar, the second spring bar comprising a straight bar extending diagonally upward from the foot 15 to an upper part of the rear leg portion 12, being connected at its ends to the first spring bar by the bolt 16 and nut 17, and being connected to the rear leg portion by a bolt 22 and nut 23. A tie member 44, preferably comprising a bar similar to the other bars, is provided with laterally bent ends which are connected to intermediate points of the horizontal portion 13 by a bolt 24 and nut 25 and of the second bar by means of a bolt 26 and nut 27. While the intermediate portion 13 is generally horizontal, a forward portion 28 thereof is disposed at an incline approximating that of the springboard. The inclined portion 28 extends forwardly and rearwardly from a vertical plane through the foot 15. A rigid front leg 29 is connected to the front end of the second bar 21 at its lower end by any suitable means (not shown) and to an intermediate point of the portion 28 at its upper end by suitable means such as bolt 30. The forward leg is vertically disposed and spans the bowed front portion 14 of the first spring bar.

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The side frames are maintained in upright, parallel, spaced apart relation to each other by suitable cross-brace means. In the preferred embodiment the cross-brace means comprises a pair of diagonally disposed bars 31 suitably connected to the upper and lower extremities of the front legs 29, and a pair of horizontally disposed angle bars 32 suitably connected to vertically spaced portions of the rear leg portions 12 and providing supports to which treads 33 may be suitably attached.

The springboard 10 is supported by means comprising a fulcrum bar 34 and an anchor bar 35. The anchor bar is preferably a flat bar spanning the space between the rear ends of the horizontal portions 13 and having its ends connected thereto by suitable means such as bolts 36 and nuts 37. The intermediate portion of the anchor bar is preferably skewed slightly with respect to its ends, so that the ends may be bolted flatly to the under surface of the spring bar portions 13 while its intermediate portion may lie flush against the upper surface of an inclined springboard 10. The rear end of the springboard 10 is connected to, and lies underneath, the intermediate portion of the anchor bar, being retained in such position by a pair of bolts 38 and nuts 39. The springboard is of such width as to fit between the side frame with some clearance at each side allowing for a slight lateral

movement thereof, but the arrangement is such that the springboard remains generally parallel to and between the side frames.

The fulcrum bar 34 preferably comprises a channel bar, the ends of the flanges of which are removed so as to permit the ends of its web portion to overlie the portions 28 of the first spring bars. An elongated pad 40 of rubber or equivalent resilient material is preferably suitably affixed to the upper surface of the fulcrum bar, the pad preferably being as wide as the fulcrum bar and approximately one-half to three-quarters of an inch thick and being of sufficient hardness to retain its shape in spite of successive compressions under shock conditions. An intermediate portion of the springboard rests loosely upon the fulcrum bar, this construction permitting the board to spring clear of the fulcrum bar when released from the athlete's weight. Means are provided to retain the fulcrum bar in longitudinally adjusted position whereby to change the leverage of the springboard to suit individual tastes or weights. Such means may comprise a plurality of longitudinally spaced openings 41 in each of the portions 28 into which the bolts 42 retaining the fulcrum bar may be thrust, the fulcrum bar being retained in position by nuts 43 cooperating with the bolts 42. A plurality of the openings 41 are positioned ahead of the front legs 29 and a plurality thereof are positioned behind the front legs 29.

When the fulcrum bar 34 is positioned ahead of the rigid front legs 29 as illustrated, depression of the front end of the springboard results in forward bowing of the portions 14, upward bowing of the portions 13 together with the bars 21, and forward bowing of the rear leg portions 12. When the fulcrum bar 34 is positioned rearwardly of the front legs 29 the bowing of each portion of the side frames is reversed, but the same compound spring effect is realized. Not only is greater lofting action achieved thereby, but the shock to the board is materially lessened and the danger of breakage reduced.

Having illustrated and described a preferred embodiment of the present invention, it will be apparent to those skilled in the art that the same permits of modification in arrangement and detail. I claim as my invention all such modifications as come wtihin the true spirit and scope of the appended claims.

I claim:

1. A springboard support comprising a pair of upright side frames maintained in parallel, spaced relation to each other, cross-brace means at the front and rear ends of said side frames, said means being connected to said frames to maintain said frames in upright, parallel relation to each other in sufficiently spaced relation to permit the interposition of a springboard between the upper portions thereof, each of said frames comprising a first spring bar including a rear leg portion, an intermediate, elongated, substantially horizontal portion, and a forwardly bowed, dependent front portion, a second spring bar connected to a lower part of said front portion and to an upper part of said leg portion at its respective ends, a tie member connected to an intermediate part of said horizontal portion and to an intermediate part of said second spring bar at its respective ends, and a rigid front leg vertically spanning said bowed portion, an anchor bar spanning the space between the rear ends of said horizontal portions and connected

to said horizontal portions at its respective ends, means to connect the rear end of a springboard at said anchor bar, and a fulcrum bar spanning the space between the front ends of said horizontal portions and connected to said horizontal portions at its respective ends.

2. The construction of claim 1, in combination with a springboard having its rear end attached to and beneath said anchor bar and an intermediate part thereof loosely resting upon said fulcrum bar.

3. The construction of claim 1, in which said intermediate portion of each of said first spring bars includes a rearwardly sloping forward part inclined at an angle approximating the angle of repose of a springboard having its rear end attached to and beneath said anchor bar and an intermediate part resting on said fulcrum bar.

4. The construction of claim 1, in combination with means to retain said fulcrum bar at any one of a plurality of selected positions longitudinally of said side frames.

5. The construction of claim 1, in which said intermediate portion of each of said first spring bars includes a rearwardly sloping forward part inclined at an angle approximating the angle of repose of a springboard having its rear end attached to and beneath said anchor bar and an intermediate part resting on said fulcrum bar, said sloping part extending in opposite directions from the upper end of said front leg and having a plurality of openings therein for reception of fulcrum bar retaining means.

6. The combination with a springboard of a supporting structure comprising a pair of side frames, an anchor bar connected at its ends to laterally opposed portions of the rear upper ends of said side frames, the rear end of said springboard being attached to said anchor bar, and a fulcrum bar connected at its ends to laterally opposed portions of the front upper ends of said side frames, an intermediate portion of said springboard resting loosely on said fulcrum bar, and said side frames each comprising a pair of longitudinally extending spring bars disposed one above the other in spaced relation and means interconnecting said spring bars.

7. The combination with a springboard of a supporting structure comprising a pair of side frames, said side frames each comprising a pair of longitudinally extending spring bars capable of flexing vertically, said bars being disposed one above the other in spaced relation, and a plurality of means interconnecting said bars at a plurality of longitudinally spaced points, and means transversely interconnecting said frames comprising a forward means interconnecting forward portions of the upper bars of each pair and a rearward means interconnecting rearward portions of the upper bars of each pair, said springboard being attached to said rearward means and resting upon said forward means.

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