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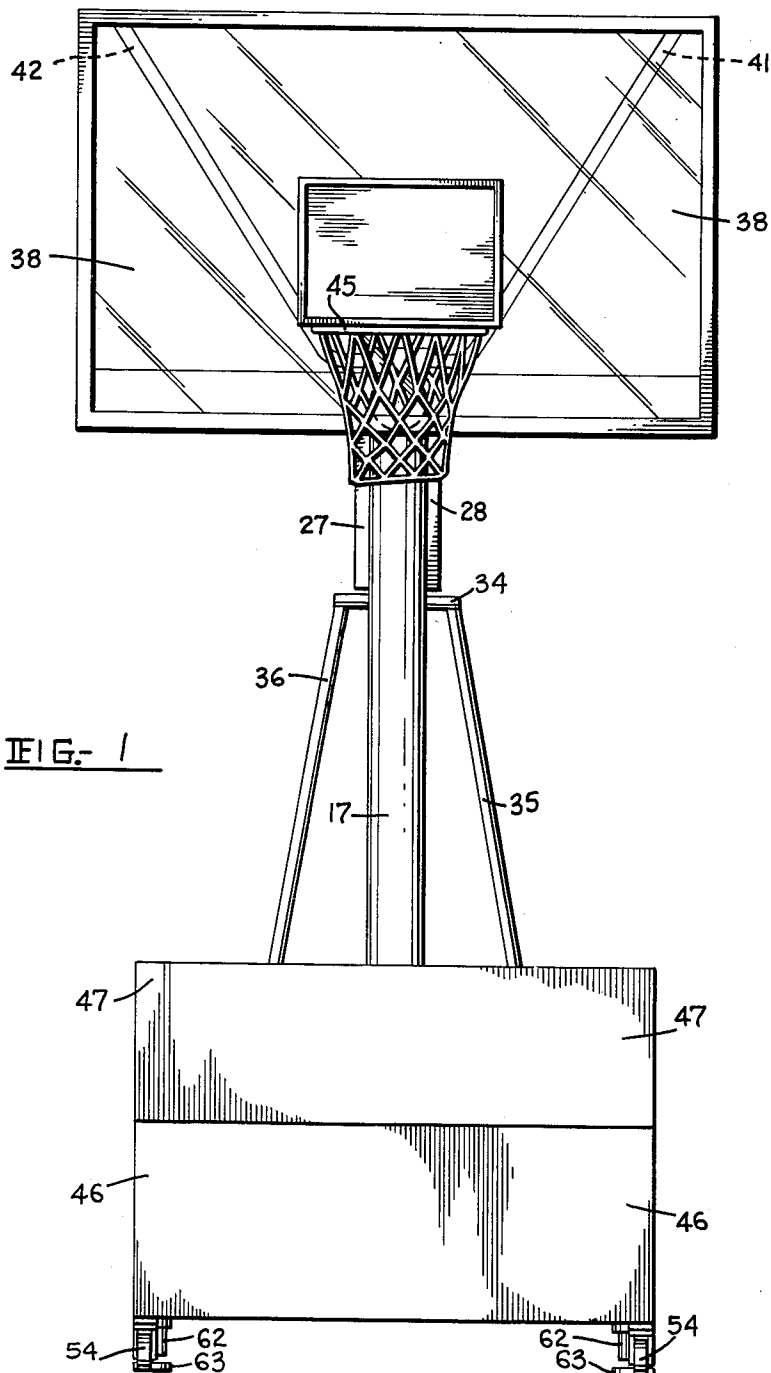
J. W. DUGANICH

3,137,502

PORTABLE BACKSTOP

Filed March 28, 1962

4 Sheets-Sheet 1



INVENTOR
JOSEPH W. DUGANICH

BY *Herbert R. Winter*

ATTORNEY

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J. W. DUGANICH

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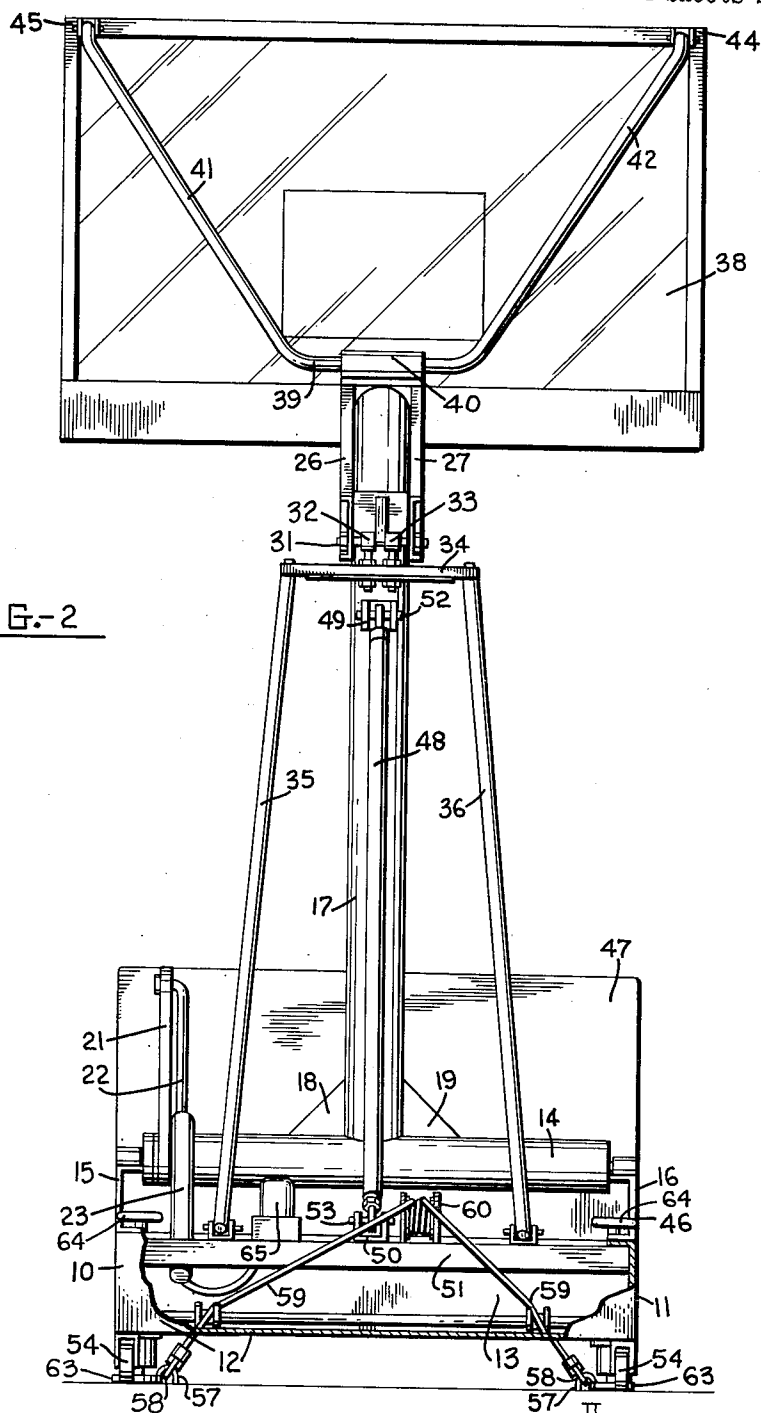


FIG.-2

INVENTOR
JOSEPH W. DUGANICH

BY *Herbert A. Winter*

ATTORNEY

June 16, 1964

J. W. DUGANICH
PORTABLE BACKSTOP

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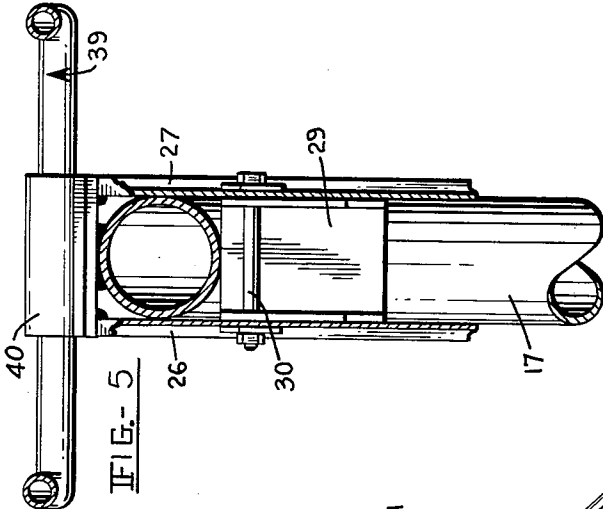


FIG. 5

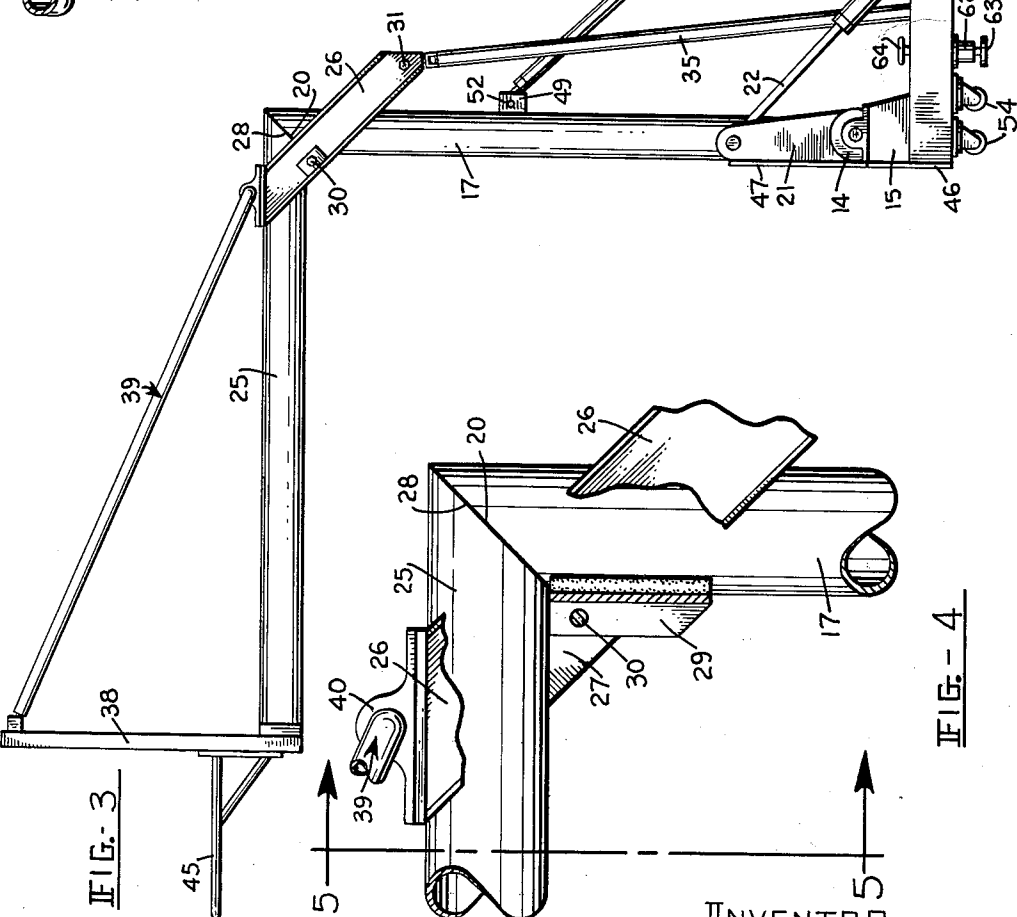


FIG. 3

FIG. 4

INVENTOR
JOSEPH W. DUGANICH

BY *Herbert A. Weintraub*

ATTORNEY

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3,137,502

PORTABLE BACKSTOP

Joseph W. Duganich, Anderson, Ind., assignor to
Recreation Equipment Corporation, Anderson,
Ind.

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1 Claim. (Cl. 273-1.5)

This invention relates to a portable, floor supported basketball backstop which may be optionally kept in position on a playing floor or removed to clear the floor. Such a backstop would normally be lowered to a compact arrangement for moving through doors and into storage space, and then elevated to position the basket at the proper playing height when returned to the floor.

The portable backstop construction lends itself to a more flexible court arrangement than does the overhead suspended construction, particularly in gymnasiums of large floor areas where the courts may be crosswise as well as longwise of the area and also when the court may be arranged to depend upon the number of spectators in attendance.

Moreover, through use of the structure embodied in the present invention, a very quick set up as well as removal of the backstop is had without having to handle long bracing, lifting, and lowering cables and securing them otherwise required in the high ceilings of modern gymnasiums.

The inventive structure provides a rigid backstop for excellent angle shots off the board. The backstop is substantially vibration free.

These and many other objects and advantages of the invention, including the unique folding arrangement, will become apparent to those versed in the art in the following description of one form now best known to me, as illustrated in the accompanying drawings, in which

FIG. 1 is a view in front elevation of a structure embodying the invention in erected position;

FIG. 2 is a view in rear elevation;

FIG. 3 is a view in side elevation;

FIG. 4 is a detail on an enlarged scale in side elevation and fragmentary section of the boom-to-post connection;

FIG. 5 is a fragmentary view in section on an enlarged scale on the line 5-5 in FIG. 4; and

FIG. 6 is a view in side elevation of the structure in a compacted, folded condition.

Six inch steel channels, 10, 11, 12, and 13, are welded end to end, to form a rigid, rectangular base unit eight and one-half feet long and five feet wide. A six inch cross shaft 14 is mounted across the top side, forward end portion of the base herein shown as rotatably by ends on blocks 15 and 16 secured on the channels 10 and 11.

A six inch column or post 17 is welded by its lower end centrally to the cross shaft 14 and preferably braced by the angle plates 18 and 19. The upper end of the post 17 has a forty-five degree end 20 sloping downwardly from back to front. A lever 21 is fixed by one end of the shaft 14 and has the connecting rod 22 of a hydraulic cylinder 23 fixed to the lever free end. The cylinder 23 is rockably supported, FIG. 6, on a base cross member 24.

A six inch pipe serving as a boom 25 has a pair of short length channel irons 26 and 27, one welded to each of opposite sides of the boom 25 near its rear end 28 to extend downwardly and rearwardly at substantially forty-five degrees to the axis of the boom. The rear end 28 is bevelled at forty-five degrees to abut the post end 20 with the boom 25 in horizontally disposed and the post in vertically disposed positions, FIGS. 3 and 4. These irons 26 and 27 extend downwardly and rearwardly, straddling the post 17.

The post 17, FIG. 5, has a bracket 29 fixed to the front side of the post 17 at its end 28 and extends between the irons 26 and 27 to receive a hinge bolt 30 (front side of the post 17) therethrough to support the boom 25 in a rockable manner on the post 17. The axis of the bolt 30 lies in the plane defined by the sloped upper end of the post. Referring to FIG. 2, a bolt 31 extends across and through the lower, rear end portions of the irons 26 and 27. To this bolt 31, is secured, such as by eye bolts 32 and 33 a cross-bar 34 below the ends of the irons 26 and 27. A pair of brace pipes 35 and 36 are fixed by upper ends to outer ends of the bar 34 and extend therefrom diagonally apart one from the other to be hingedly attached to their lower ends to a frame cross member 37 located a short distance to the rear of the cross shaft 14 and therebelow, to have the pipes 35 and 36 inclined upwardly and forwardly from the member 37 to the bar 34 at a slight angle such as is indicated in FIG. 3.

A back board 38 is fixed centrally by its lower end to the forward end of the boom 25 and is braced and maintained in a fixed upright position by a wishbone member 39 secured across and to the top, forward ends of the irons 26 and 27 by means of a bracket 40 welded to the irons. The wishbone diverges from the bracket 40 by two arms 41 and 42 which extend and are fixed to the board 38 at its upper corners 43 and 44. A basket frame 45 of the usual and well known construction is fixed centrally of the lower edge portion of the board 38.

A player protector plate 46 is fixed to and extends across the front of the base frame member 13 and upwardly to the tops of the blocks 15 and 16. There is a second plate 47 fixed by its lower portion to the cross shaft 14 and extends upward across the front side of the post 17 to a height nearly equal to the length of the lever 21. The second plate 47 fits against the first plate 46 as indicated in FIG. 1, when the post 17 is in its vertical position.

Operation

So far, the structure has been described in the erected or "playing" condition as illustrated in FIGS. 1, 2, and 3 primarily. In this position, a brace rod 48 is detachably secured to a bracket 49 fixed on the rear side of the post 17, FIGS. 2 and 3, and by its lower end, to a bracket 50, fixed to the cross member 51. Pins 52 and 53 pass respectively through the brackets 49 and 50 and end portions of the brace 48 extending therewithin. This brace 48 is readily removable by withdrawing the pins 52 and 53, and the brace must be removed in order to permit folding down of the structure.

The structure is mounted on casters, herein shown as two adjacent each corner of the frame, the casters being designated individually by the numeral 54.

Locating plugs 55 are fixed in the floor 56, FIG. 6, and carry in each instance a ring 57 which may be rocked upwardly to be engaged by a snap 58 on the end of a cable 59 which leads from a winch 60. The winch 60 is driven by a motor (not shown) to tighten the cable 59 which leads in the directions to the four corners of the frame to engage respectively through the snap 58 to the rings 57. The frame is further rigidly positioned by means of plungers 61, one near each end of the side channels of the frame to pass screw-threadedly downwardly through bracket 62 fixed to the frame members, and emerge from the lower ends thereof with a foot 63 in each instance which is pressed downwardly against the floor 56 by rotating the members 61 by any suitable means, such as by a hand wheel 64 in each instance. In this manner, any looseness or play in the various casters 54 and their mountings is nullified since the frame will be in effect resting on the feet 63 under downward pressure set up by the cable 59 from the winch 60.

Now to lower the structure from this "playing" posi-

tion, the cylinder 23 is pressurized from the relatively upper end thereof to cause the piston 22 to travel inwardly of the cylinder 23. The brace 48, when used, is of course removed first. In the travel of the piston rod 22, the lever 21 is rocked by its upper end rearwardly to cause the post 17 to rock around toward the horizontal position as shown in FIG. 6, the boom 25 pivoting around the bolts 30 and the braces 35 and 36 folding downwardly to a generally horizontally disposed alignment as in FIG. 6. In this relative travel of the post 17 and boom 25, the ends 20 and 28 rock away one from the other, and the channel members 26 and 27 remain in their fixed, welded engagement with the post 17, the brace members 35 and 36 being pivoted by their lower ends on the cross member 37, FIG. 6. The location of the pivot points and the lengths of the members 35 and 36 in relation to the bolt 30 and the axis of the shaft 14 permit these members, primarily the post 17 and the boom 25 to come around into parallelism. In so doing, the back board 38 remains vertically disposed as in FIG. 6, and the arms 41 and 42 of the wishbone member 39 remain in fixed engagement as above described. The pressurizing of the cylinder 23 and release of fluid from either side of the piston (not shown) in this cylinder is occasioned by means of a pump 65 mounted as herein shown on the rear end of the frame.

With the various parts then in the lowered positions, the feet 63 may be lifted by turning the hand wheel 64; the cables 59 slackened sufficiently to permit the snaps 58 to be disengaged from the rings 57, and then the entire structure is ready to be rolled away on the casters 54 to its place of storage as desired.

The boom 25 is securely positioned by the various parts, all aided by reason of the beveled joint between the ends 20 and 28 of the post 17 and the boom 25 respectively so that a widely dispersed, elliptical area of bearing is had between the post and the boom. Twisting of the device about the axis of the post 17 is resisted by the braces 35 and 36 being spaced apart at their upper ends and extending downwardly diagonally to the frame member 51.

Thus it is to be seen that the structure has a minimum number of parts rigidly interengaged and yet so interconnected as to permit the device to have the back board 38 lowered to permit the entire structure to be carried through the usual heights of doors found in gymnasium structures. There is no external bracing required, that is bracing from the structure to other points in the floor or to ceilings or the like. The device is entirely self-con-

tained, and is quite easily operated in a very short period of time both to the extended upright position, and to the lowered position.

Therefore I do not desire to be limited to that precise form beyond the limitations which may be required by the following claims.

I claim:

- A portable basketball backstop comprising
- a rigid base having front and back end portions;
- a post hingedly carried by a lower end portion, by said base, swingable from substantially a horizontal position over said base to an upwardly extending, vertical position;
- said post having an upper end sloping downwardly and forwardly in an approximate forty-five degree plane;
- a pair of members straddling said post adjacent said upper end;
- means carried by said post rockably supporting said members on an axis on the forward side of the post and included in a plane defined by said post sloped end;
- a boom on the forward side of said post;
- said boom having a rear end sloped downwardly and forwardly at an approximate forty-five degree angle;
- said boom being fixedly engaged to said members adjacent its rear end;
- said boom abutting by its rear end the upper end of said post to have the forty-five degree sloped ends thereof in intimate contact one with the other when said members are rocked to carry said boom to a substantially horizontal position;
- said rigid members extending substantially forty-five degrees from the axis of said boom downwardly, rearwardly, across and beyond said post with rearwardly extending end portions;
- actuating means carried by said base interconnecting with said member rear portions selectively swinging said boom upwardly and downwardly to and from its said rear sloped and contact with said post upper sloped end; and
- a backboard carried by the forward end of said boom.

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