United States Patent [19]

Miller

[11] **3,910,575**

[45] ***Oct. 7, 1975**

[54] **BASKET BALL TARGET BOUNCE-AWAY DEVICE**

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[*] Notice: The portion of the term of this patent subsequent to Jan. 23, 1985, has been disclaimed.

[22] Filed: **Mar. 11, 1974**

[21] Appl. No.: **450,059**

[52] **U.S. Cl.** ..... **273/1.5 A**

[51] **Int. Cl.²** **A63B 63/00;** A63B 69/00

[58] **Field of Search** ..... 273/1.5 R, 1.5 A, 58 R, 273/58 K, 106 R, 102 R; 272/1 R, 1 B, 65; 16/85, 86 A

[56] **References Cited**

UNITED STATES PATENTS

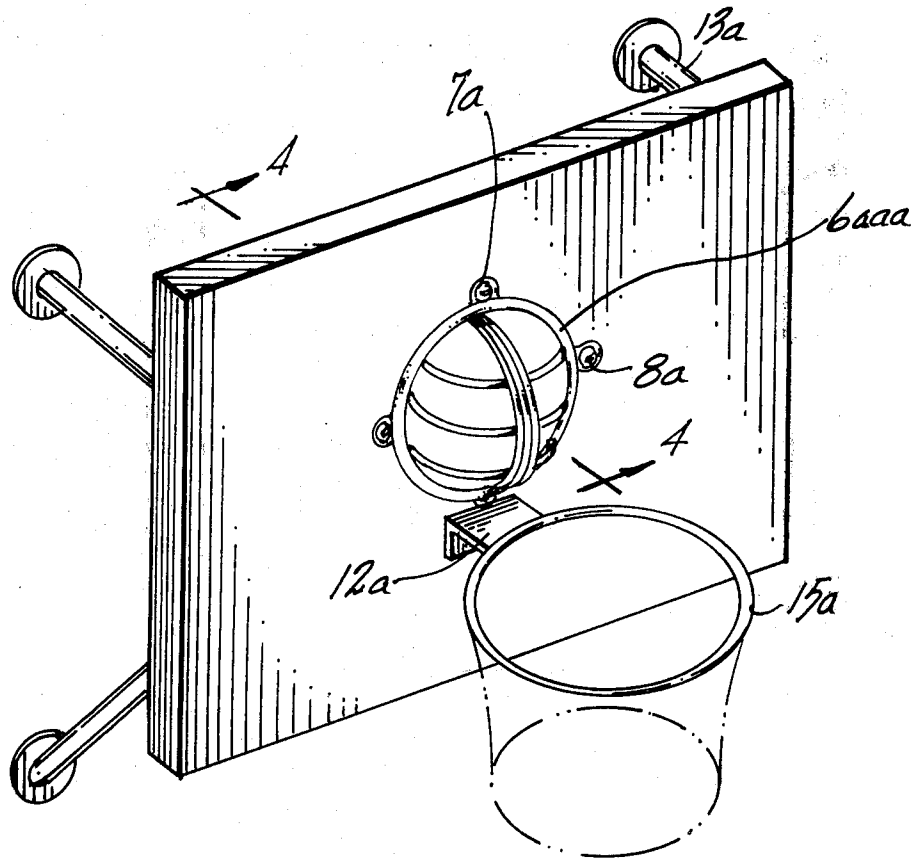
2,482,234	9/1949	Barker	273/102 R
2,694,572	11/1954	Crisp	273/1.5 A
2,812,946	11/1957	Hughes	273/102 R X
2,814,159	11/1957	Green	273/58 K X
3,001,790	9/1961	Pratt	273/102 R X
3,176,982	4/1965	O'Daniell	272/1 B
3,365,196	1/1968	Miller	273/1.5 A
R1,399	2/1863	Clark	16/86 A

Primary Examiner—Paul E. Shapiro

[57] **ABSTRACT**

In a preferred embodiment, a hemispherically shaped inflatable enclosure structure having a flat faced base with circumscribing flange extensions of the base having flange apertures through which mounting bolts are insertable for the mounting thereof in a position spaced above a basket ball basket, for the mounting of the hemispherically shaped inflatable enclosure structure on a forwardly facing broad front surface of a basket ball backboard, preferably including as a part of the combination the backboard and basket ball board, with a suitably located inlet-valve for inserting therethrough compressed air into the inflatable enclosure structure. Alternatively the device may be a substantially hemispherical member of flexed ribs and flexed cross supports, a cylindrical section of resilient material or a triangular wedge of resilient material.

2 Claims, 10 Drawing Figures



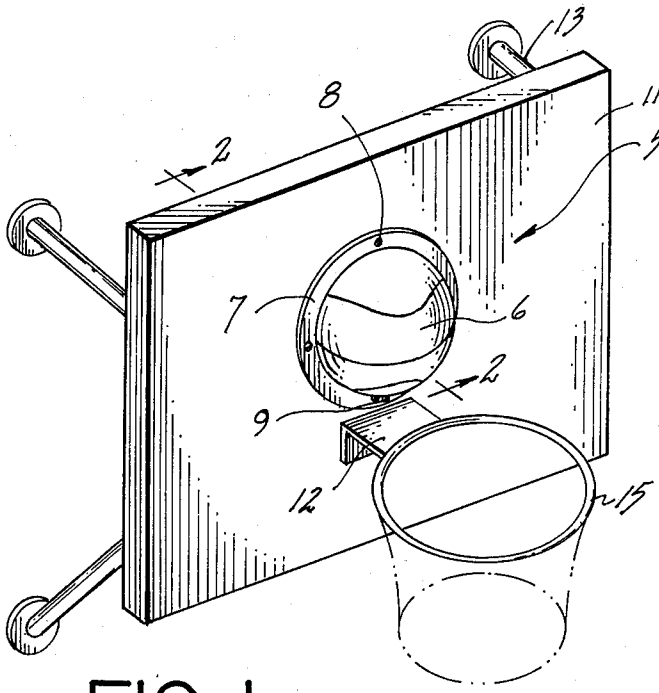


FIG. 1

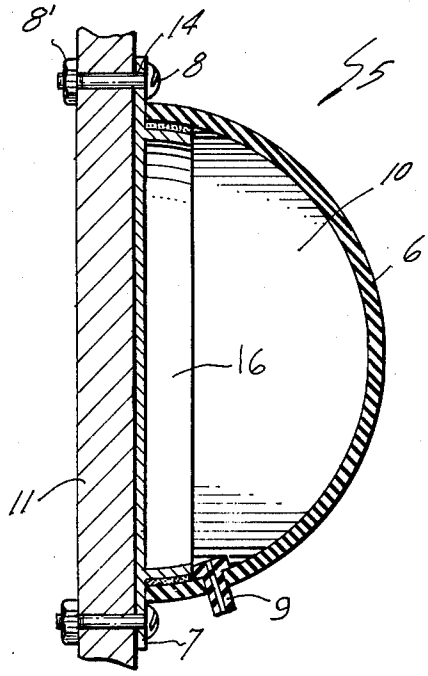


FIG. 2

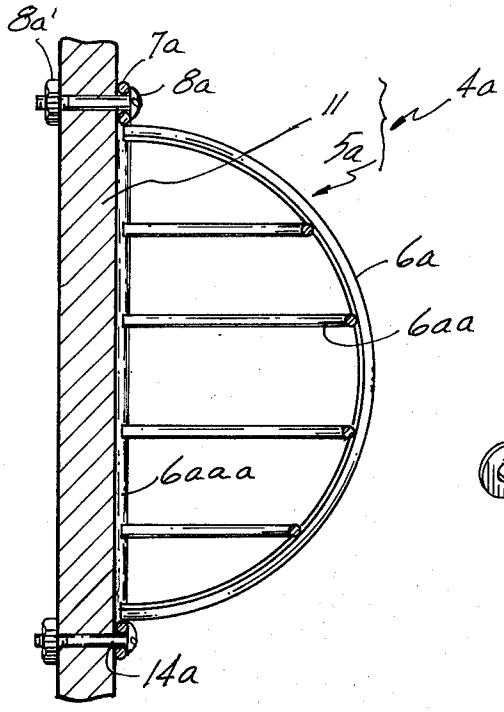


FIG. 4

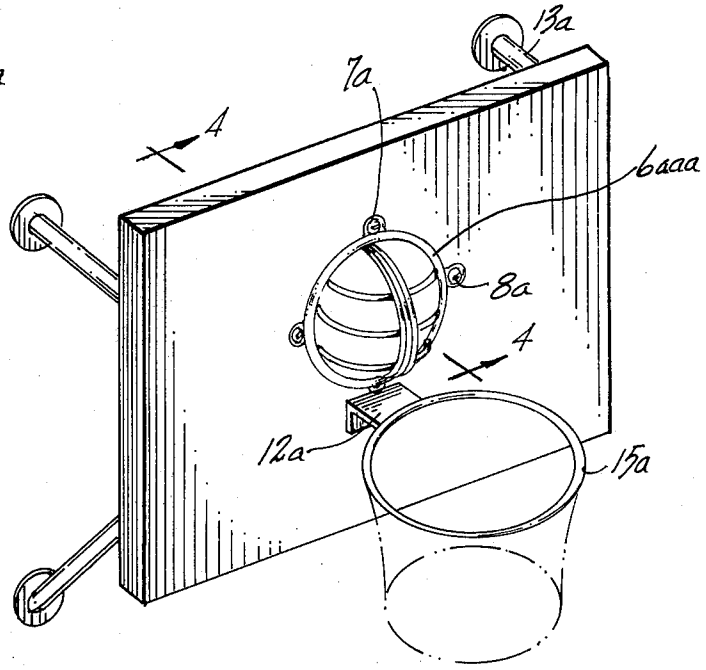


FIG. 3

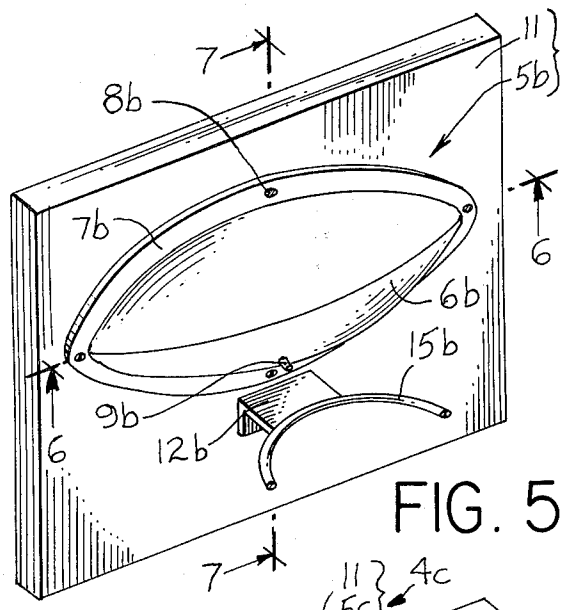


FIG. 5

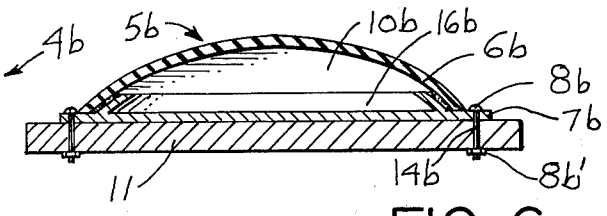


FIG. 6

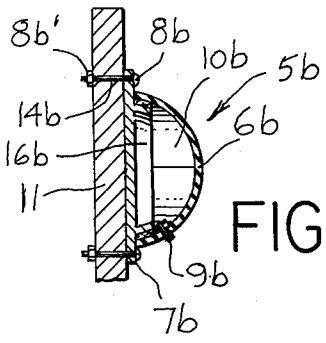


FIG. 7

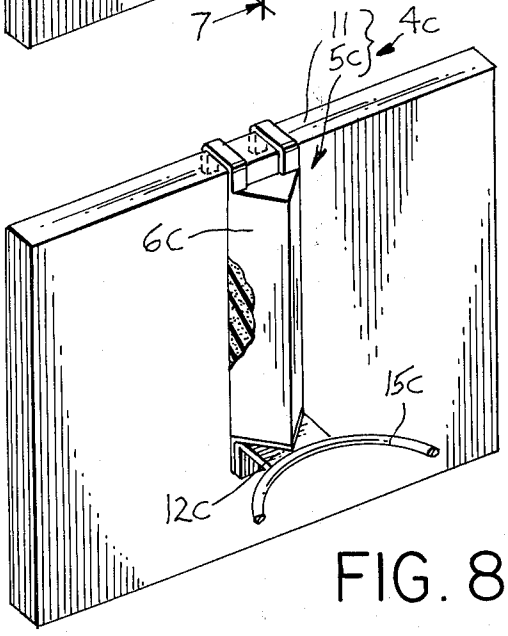


FIG. 8

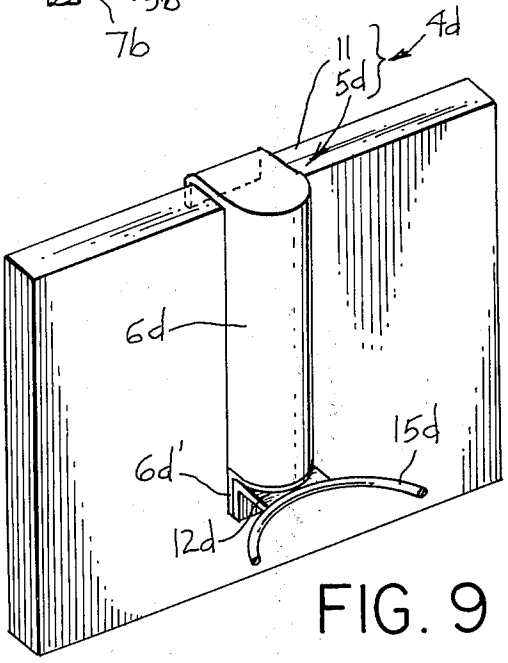


FIG. 9

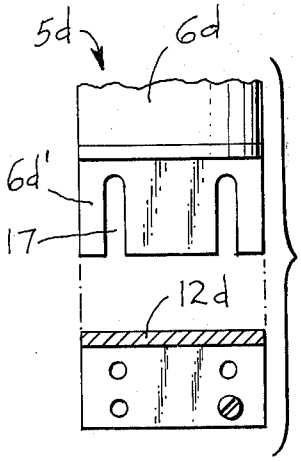


FIG. 10

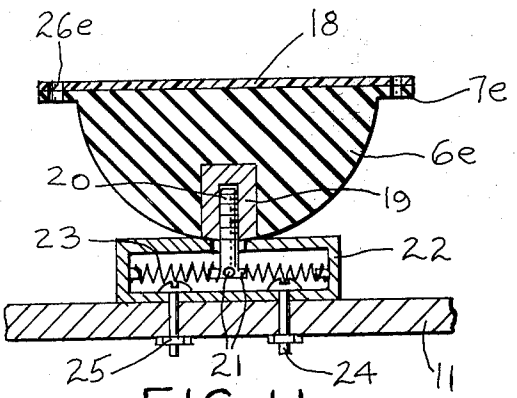


FIG. 11

BASKET BALL TARGET BOUNCE-AWAY DEVICE

This invention relates to a training device for training or practicing in shooting a basket ball at the basket ball basket instead of the backboard above the basket.

BACKGROUND OF THE INVENTION

Prior to the present invention, there has existed an unfulfilled need by basket ball players of all types such as high school, college and professional to require the player to shoot the basket ball for the basket rather than for the backboard, it being more important to concentrate on direct basket shots rather than backboard shots since the percentage of success insofaras probabilities is much greater for direct shots than for rebound backboard shots. Irrespective of how often a coach emphasizes the importance of shooting for the basket rather than the backboard, players continue to rely heavily on the backboard. It is of course true that during actual play — unless the present device of this invention be adopted for real play to thereby improve the quality of the game — that the backboard remains available for achieving successful backboard rebound shots, but the overall high scoring possibilities of the player are nevertheless enhanced by practice using the present invention, as for example has been demonstrated by a profession well-known player of basket ball. Concentration on the basket is critical and it is important to compel the player during practice to rely solely on concentration toward achieving direct basket shots.

In order to achieve this desired end, the present inventor has experimented with a variety of shapes and materials and devices, eliminating many possibilities as totally unsuitable and substantially inoperative. For example, the hemispherically shaped device is important as compared to triangular or square or as compared to mere planar shaped surfaces that might project to prevent overhead backboard shots and/or sidewardly approaching backboard shots. It has also been found, for example, that a solid rubber material does not perform satisfactorily because the rubber continues to give-in against forceful blow by an impelled basket ball thereagainst, such that the ball after striking the solid rubber may nevertheless continue on its way toward and into the basket from what would have been a backboard rebound shot. In like manner it was determined that a solid pad or plastic or wood model has too great a rigidity as to perform satisfactorily, in actual trial, such as in U.S. Pat. No. 3,365,196, for example.

SUMMARY OF THE INVENTION DISCLOSURE

Accordingly, objects of the present invention include the obtaining of an operative backboard rebound effective device for diverting a shot basket ball from the basket whenever such shot ball would first rebound against the backboard, while avoiding the difficulties and problems of the type discussed above and while achieving the fulfillment of the above-stated training need.

Other objects become apparent from the preceeding and following disclosure.

One or more objects of the present invention are obtained by the invention as defined herein.

Broadly the invention includes a hemispherical very resilient structure which exerts increased degrees of resistance as the intensity of force of the impelled basket ball increases or continues, or as the ball moves (by virtue of the greater force) closer toward the center of the

convexly shaped surface the magnitude of resistance increasing. This is accomplished for example in one embodiment by having metal flexed ribs anchored at each of opposite ends thereof with cross-support flexed brace members, both the ribs and the brace members yielding resiliently against the forceful blow of a basket ball but the yielding of the ribs and the brace members requiring each greater and greater force to continue to progressively further bend or flex the ribs and/or brace members. In a preferred embodiment, there is provided what is equivalent to half of a basket ball mounted with its half-point flat base-face flushly against the backboard at a point space a desired and/or predetermined distance above the basket ball basket, such that the compressed gas place therein, such as compressed air inserted through an appropriate valve, serves to offer greater and greater resistance as the hemispherically shaped enclosure structure becomes greater and greater compressed in the greater compression of the air within as the impelled ball presses further and further inwardly the outer surface of the enclosure structure. The material out of which the enclosure structure may be made may be leather or plastic or may have an inside-located innertube, or the like, all being consistent with the present invention. Preferably the base of the enclosure structure includes a circumscribing flange as the preferred mechanism of mounting the enclosure structure onto a forward broad face of the backboard, through apertures in the flange. However, equivalent other desired or conventional mounting mechanisms for other somewhat similar structures may be employed for the mounting thereof. Typically bolts and nuts are employed for the mounting, the bolts extending through the backboard. The deflector may be solid highly elastic foam or rubber.

The invention may be better understood by reference to the figures as follow.

FIG. 1 illustrates a perspective front-side view of a preferred embodiment of the present inventive training device.

FIG. 2 illustrates an in-part view in cross-section as taken along lines 2—2 of FIG. 1.

FIG. 3, illustrates a view comparable to that of FIG. 1, but for an alternate embodiment of the invention.

FIG. 4 illustrates a view comparable to that of FIG. 1, except being a cross-sectional view along lines 4—4 of FIG. 3.

FIG. 5, in a view comparable to that of FIG. 1, illustrates in perspective view a typical alternate embodiment.

FIG. 6 illustrates a cross-sectional view as taken along line 6—6 of FIG. 5.

FIG. 7 illustrates a cross-sectional view as taken along lines 7—7 of FIG. 5.

FIG. 8 and FIG. 9 each illustrate in perspective view still other alternate embodiments of the present invention.

FIG. 10 illustrates in exploded in-part view in partial cross-section, a lower mounting-structure end of the deflector element of the FIG. 9 embodiment, together with the basket mounting structure relative thereto.

FIG. 11 illustes a side-cross-sectional view of a still further alternate embodiment mountable in forward or reverse directions and illustrated in reverse-mounted position by the utilization of an accessory mounting element structure.

DETAILED DESCRIPTION OF THE INVENTION

In greater detail, FIGS. **1** and **2** illustrate a preferred embodiment of the present invention, and FIGS. **3** and **4** illustrate an alternate embodiment thereof. In particular, FIGS. **1** and **2** disclose the larger combination **4** of the backboard **11** and rebound device **5**, while FIG. **2** illustrates the overall rebound device **5** and its inclusive elements. The backboard of FIG. **1** is supported on support elements **13**, and the basket ball basket **15** is mounted by its mounting structure **12** on the backboard **11**, with the backboard **11** having the rebound device **5** mounted on the same forward face as the basket and spaced above the mounting element **12**, and the rebound device **5** including a hemispherically shaped compressed-air-containing structure **6** with valve **9** for inserting therethrough into the enclosure space **10**. Circumscribingly around the base of the structure is included a laterally extending flange **7** having mounting apertures **14** (see FIG. **2**) with bolts **8** and **8'** securing the device **5** to the backboard **11**. In the embodiment of FIGS. **3** and **4**, the corresponding numerals such as **7***a* and **8***a* correspond in identification of similar parts to the FIGS. **1** and **2** numerals such as **7** and **8** for example. Additionally identified, however are the ribs **6***aa* and the bracing flexable strips **6***a* and circumscribing support ring **6***aaa*.

It is within the scope and spirit of the present invention to make such modifications and variations and substitution of equivalents as would be obvious to a person of ordinary skill in this field. However, a firm or rigid deflector is inoperative.

By virtue of the elements of the present invention as described above, it is possible for the player or student player to practice shooting for the basket, whereas if his aim is off in a rearward direction, the ball hits the novel rebound device and is thereby diverted from a path that might result in a successfully shot basket on rebound, whereby the player or student in order to successfully shoot a basket must aim and succeed in directing the ball directly to the basket.

Accordingly, the objects of the present invention are thereby obtained.

The resilient means may optionally convex in only one plane, such as about half a cylinder (as a cylinder split down the longitudinal axis thereof), or as a half-cuboid of triangular cross-section, or the like, for example, as in FIGS. **5, 8, 9** and **11.**

Also, when of the preferred hemispherical shape, it is possible to mount the rebound device backwardly, since the same resiliency would be obtained. Accordingly, FIG. **11** illustrates a typical hemispherically shaped foam-rubber deflector **6***e* body embodying rigid typically metal female element **19** mounted on male projection **20** by mating helical screw threads, the element **20** having base flanges **21** spring biased by diametrically-oppositely directed biasing springs **23** within a support structure **22** mounted by bolts **24** and nuts **25.** On the upper face are the flanges **73** and firming support **18** with mounting apertures **26***e* for use when mounting this surface member **18** against the board **11** without the support element **22.**

FIGS. **2, 6,** and **7** illustrate the nature of inner flange or rim **16** around which the inflatable member **6, 6***b*, respectively is adheasively or otherwise securable, rim **16** leaning inwardly.

FIG. **10** illustrates the FIG. **9** mounting flange **6***d'* of the deflector **6***d* structure, defining slots spaces **17** for the bolt mounting thereof, together with the basket-mounting structure **12***d.*

I claim:

1. A basketball backboard rebound device comprising in combination: angular projection-shaped substantially firm and resilient means for resisting a substantial amount of recoil within a predetermined range when struck with force-blows by an impelled basketball, and mounting means having at least two securing elements located at diametrically opposite edges of a diameter of the respective shaped resilient means, said resilient means being substantially hemispherically shaped and having a plurality of flexed ribs and flexed cross-supports therefor.

2. A basketball backboard rebound device of claim **1,** in which the ribs and cross-supports are each of metal.

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