

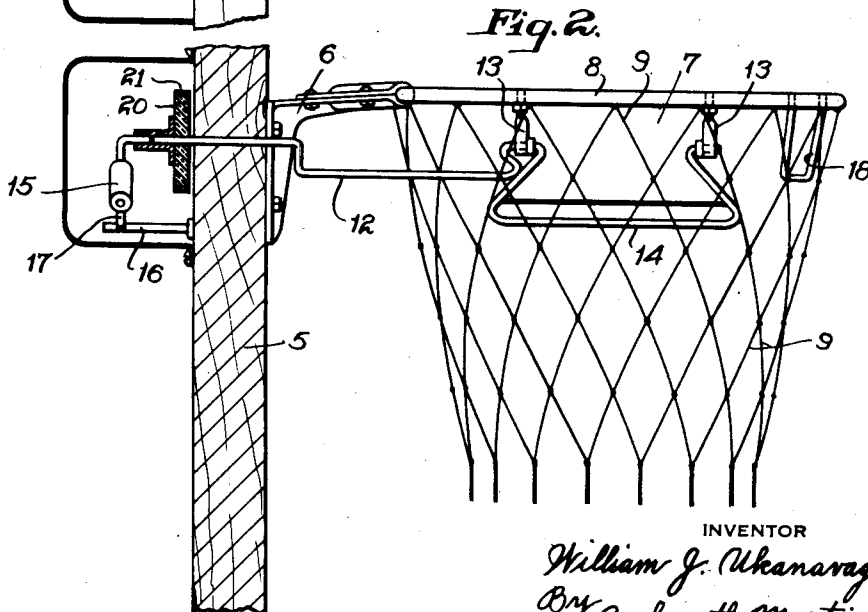
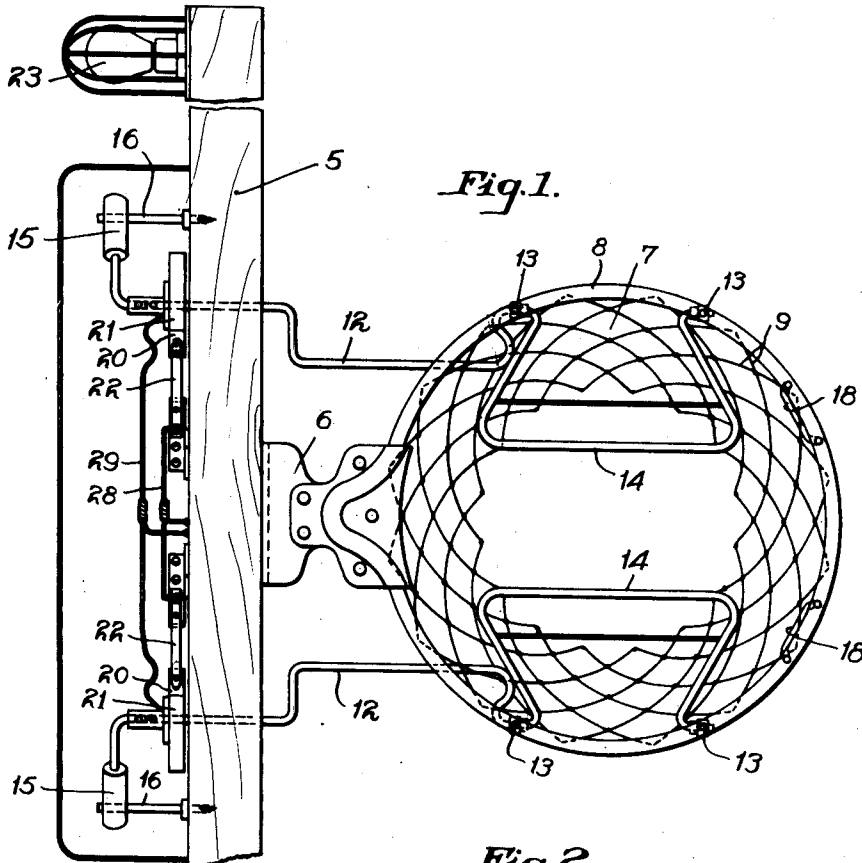
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W. J. UKANAVAGE

1,995,872

CAGING INDICATOR

Original Filed June 15, 1931 2 Sheets-Sheet 1



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Fig. 3.

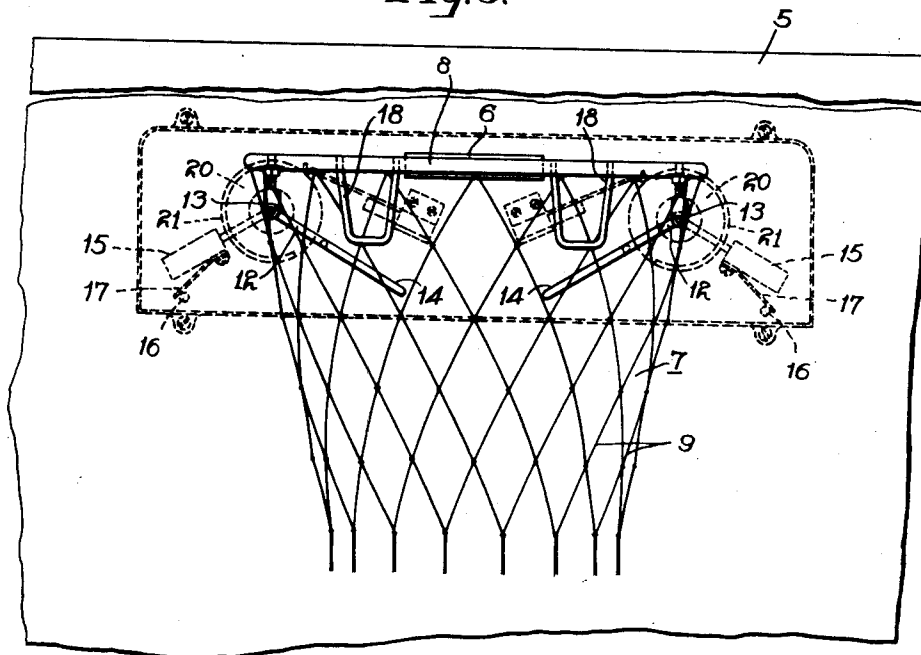
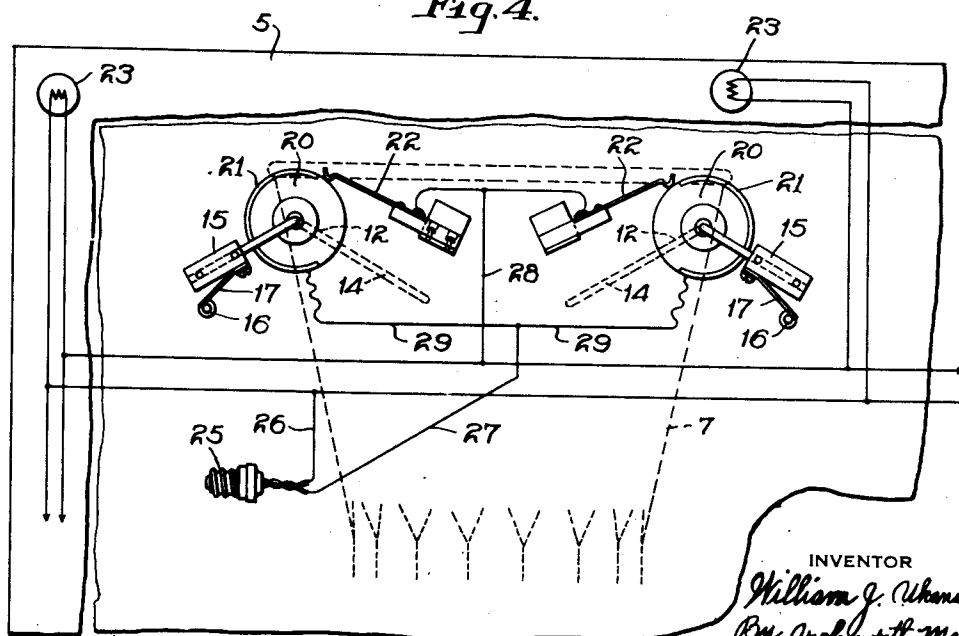


Fig. 4.



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UNITED STATES PATENT OFFICE

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CAGING INDICATOR

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Application June 15, 1931, Serial No. 544,313
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2 Claims. (Cl. 177—384)

My invention relates to caging indicators, and is herein specifically described as applied to basket ball cages or baskets. Frequently, during the excitement of play or because of poor visibility it is difficult for the spectators and even for the players to definitely know whether the ball has gone through the basket.

My invention has for its object the provision of means whereby a signal such as a lamp or a bell will be actuated whenever the ball passes through the basket.

One form which my invention may take is shown in the accompanying drawings wherein Figure 1 is a plan view of an installation; Fig. 2 is a side elevational view thereof, partly in section; Fig. 3 is a front elevational view thereof, and Fig. 4 is a rear view.

The board 5, the bracket 6 and the basket 7 may be of any usual type. The basket comprises a metal rim 8 and a netting 9 which is open at its bottom. In order to effect a visible or audible signal when a ball enters the basket a sufficient distance to insure scoring, that is when the ball actually passes through the basket, I provide mechanism which will now be described, which mechanism can be readily applied to various standard basket structures.

A pair of rocking arms or trip levers 12 are pivotally supported adjacent to their inner ends, in the board 5, and at their outer ends are pivotally connected to the rim 8 at 13. The bowed portions 14 of the arms are located at such distance apart that when they are tilted downwardly by the weight of the ball as hereinafter described, they will permit the ball to pass between them and out through the bottom of the net.

The arms are normally held with their portions 14 in inclined position by weighted extensions 15 that normally lie against stop pins 16 screwed into the rear side of the board 5. When a ball enters the basket it will rock the portions 14 of the levers downwardly, and after the ball has passed through, the weights 15 will return the rocker arms to their normal positions. Springs 17 are secured to the undersides of the weight members 15 to cushion the rebound which tends to occur when the weights fall against the stop pins 16. As heretofore stated, the bowed portions 14 of the arms are spaced apart, so that when a ball enters the basket it will not only impact with the arms to swing them downwardly, but will enter the space between the arms with a wedge-like action to assist in the swinging and spreading of the arms to permit passage of the ball through the basket. In case the ball should

not directly engage with the outer side of the bowed portions of the arms or between the arms, but at a point nearer to the rim of the basket, the ball will nevertheless be directed to such space to increase the leverage on the arm and to effect the wedge-like action because of the inclined position of the portions 14 of the arms. Thus, even if a ball should "ride therein" before toppling or rolling into the basket, with very little force, it will roll down the inclined portions and wedge between the same, thereby effectively swinging the arms and indicating by operation of the signalling devices that the ball has actually passed through the basket.

In order that the rocker arms will not be actuated by a ball save when the ball enters the basket, I provide yoke-shaped guard members 18 secured to the rim 8 and projecting downwardly in front of the rocker arms. Of course, if a ball hits the undersides of the rocker arms it cannot make a false indication because they cannot be rocked in an upward direction from the position shown.

The rocker arms carry disc members 20 of insulating material which have short electrical contact strips 21 on their peripheries. The contact strips 21 cooperate with stationary contact members 22, in the form of brush contacts, which yieldably bear against the peripheries of the disc 20. When the rocker arms are operated by a ball passing through the basket, the strips 21 will be brought into engagement with the stationary contact members 22 to close circuits through indicating devices such as lamps 23. These lamps can be located at convenient points throughout the hall or simply on the board 5.

By providing separate switches, the structure is simplified somewhat in that the movable contact member of each switch can be mounted directly on the rocker arm without the interposition of any operating mechanism, and without mechanical interconnection between the rocker arms, such as would be necessary if they were required to operate a single switch. Furthermore, there is less inertia to be overcome in case the ball initially engages only one rocker arm. The ball might, for example, be projected somewhat lightly against one rocker arm, but with sufficient force to swing it far enough to close the associated switch, and the ball could then continue its movement through the basket. If the ball always had to overcome the inertia of both arms, at times there would be some danger of it bouncing out of the basket. Location of the switches at the rear

side of the board protects them from being hit and damaged by the ball.

5 A plug 25 is provided for connection to an ordinary house-lighting circuit, to provide a source of energy for the signalling devices. The lamps 23 are connected to one side 26 of the line and are connected to the other side 27 of such line through conductors 28, switch contact members 22 and 21 and conductors 29.

10 It will be seen that by the circuit arrangement shown in Fig. 4 all of the signal devices will be energized upon the operation of even only one of the rocking levers, thus indicating that the ball has actually passed through the basket. As soon
15 as the bowed portions of the arms are released by the ball, the weighted extensions 15 return the arms to their normal position, thereby causing the contact strips 21 to be rotated out of engagement with the contacts 22, whereupon the signal
20 devices will be de-energized.

It is to be understood that signal devices of distinguishing characteristics will be employed with opposite baskets, so that basket indications for one team will be distinguished from the basket

indications of the opposing team. For example, different colored lamps may be employed for visual indications, or high and low toned bells or buzzers may be utilized for audible indications.

I claim as my invention:—

5 1. The combination with a basket ball cage and a back board therefor, of a pair of switches positioned behind said board, an electrical signal, an electrical circuit for said signal, opened and closed by said switches, a rocker arm operatively
10 connected to each switch and extending through the board, the arms extending along opposite sides of the basket, a ball-engaging projection extending from each arm into the basket, and means for yieldably maintaining the arms in such
15 position that the said projections will be engaged by a ball entering the basket, whereby at least one of the arms will be rocked to effect actuation of said signal.

20 2. A structure as recited in the preceding claim, wherein the said projections are inclined downwardly toward the center of the basket.

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