March 4, 1969 H. S. ROSS ET AL 3,430,959

TARGET HAVING MEANS FOR OPENING THE REEDS OF A SWITCH

Filed Nov. 1, 1966

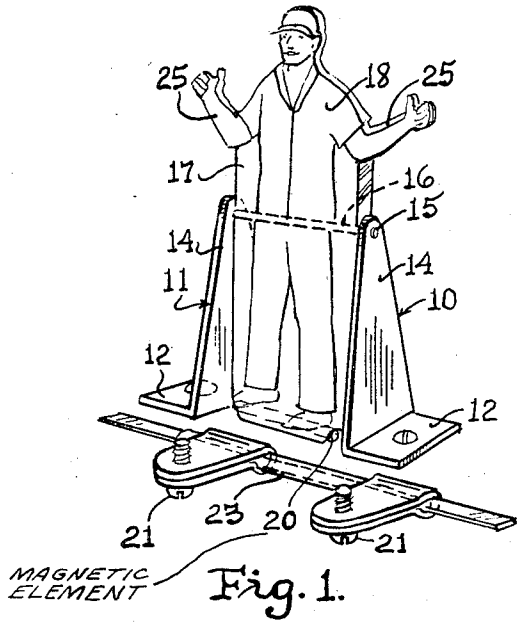


Fig. 1.

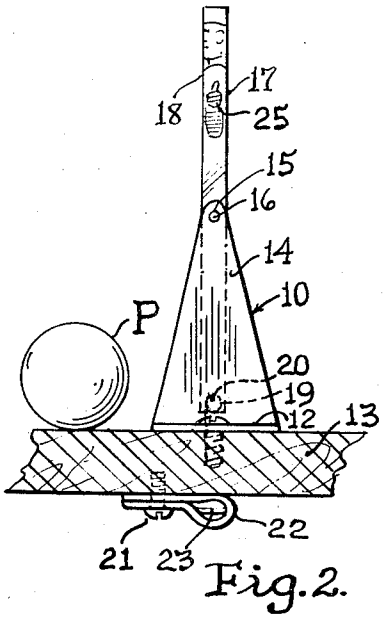


Fig. 2.

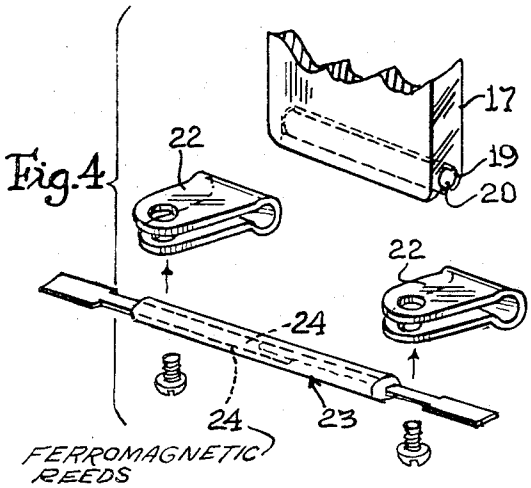


Fig. 4

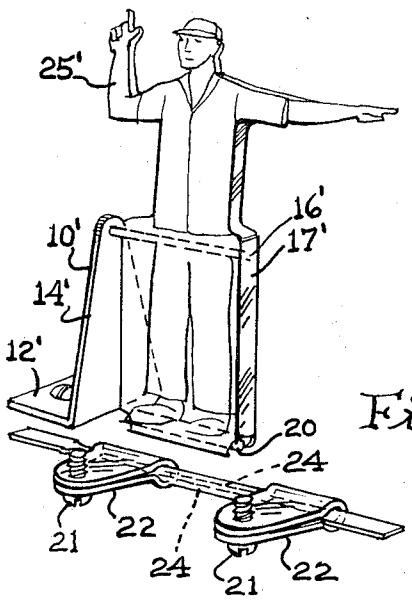


Fig. 3.

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TARGET HAVING MEANS FOR OPENING THE REEDS OF A SWITCH

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ABSTRACT OF THE DISCLOSURE

A pivotally supported magnet-carrying target moved by contact of a projectile over and above a playing field which houses a magnetically controlled switch, the components of which move in response to the presence or absence of the magnetic influence of the target magnet as the same is pivoted over the playing field by the projectile.

Summary of the invention

Our invention is especially adapted for use in amusement game apparatuses, such, for example, as a baseball game wherein a magnetically controlled reed switch is employed for controlling a counting or scoring circuit.

One of the several objects of the invention is to provide a target simulating a player or character of the game with which the target is used, to open the reeds of a switch under the influence of a magnetic field of a magnet carried by and movable with the target.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

FIG. 1 is a perspective view of the invention;

FIG. 2 is a side elevational view of the same;

FIG. 3 is a perspective view similar to FIG. 1 but showing a modified form of construction;

FIG. 4 is a perspective view of parts embodied in the invention shown in exploded relation with respect to each other.

We contemplate accomplishing the various objects of the invention by the form of construction shown in the accompanying drawings. Referring particularly to FIG. 1, the form there shown comprises a pair of L-shaped mounting brackets **10** and **11** each having a base **12** which is secured to the playing board **13** of the game apparatus and over which board a projectile P in the form of a ball is adapted to be projected.

Each of the brackets **10** and **11**, in addition to the base **12**, includes upwardly extending arms **14** arranged in parallel spaced relation with respect to each other. Journalled in the outer end portion of the arms **14** as at **15** is an elongated rod **16**. The rod **16** carries a target **17** which in the present instance is in the form of a plate having mounted or printed thereon a character **18**, which, in the present instance, is an umpire of the baseball game with which the target is used. The target **17** may pivot relative to the rod **16** or, if desired, the rod **16** may be fixed to the target and the rod may be pivoted about its journal connection as at **15**.

The target **17** at its lower edge portion in its preferred form of construction is provided with a transverse groove **19** in which is fixedly mounted in any suitable manner an elongated magnet **20**.

Beneath the playing board **13** are secured as at **21** a pair of U-shaped clips **22** which support a switch **23** having a pair of reeds **24**. The reeds **24** are preferably formed

of spring-tempered ferromagnetic material and, by reason of their resiliency, have the ability to open when not under the influence of a magnetic field.

As shown in FIGS. 1 and 2, the reed switch is located directly beneath the magnet **20** carried by the target **17**.

In the form shown in FIG. 1, the arms **25** of the character **18** are so disposed that they limit the anticlockwise pivotal movement of the target by engaging the forward edges of the arms **14** of the brackets **10** and **11**.

In this form of construction, each time that a projectile, preferably in the form of a ball, engages the lower portion of the target **17**, the target will be caused to pivot in an anticlockwise direction. As the target pivots, the magnet is moved from influencing relation with respect to the reeds **24** of the switch, with the consequence that these reeds, due to their resiliency, will open and therefore cause a circuit (not shown) to be energized to register that a hit has been made. This circuit does not constitute any part of our present invention and is therefore not illustrated.

As long as the target **17** is in a vertical position such as shown in FIG. 1, the magnetic field created by the magnet **20** will influence the reeds of the switch and maintain the same in a closed or contacting relation with respect to each other.

In this manner, a simple arrangement has been provided for effectively influencing the opening and closing of a switch which is preferably arranged in a hit registering or scoring circuit of a game with which the target is associated.

The target **17** is of such construction that it is at all times properly balanced so as to maintain the vertical position shown in FIG. 1.

The form shown in FIG. 3 is substantially identical to that shown in FIG. 1, with the exception that in FIG. 3 we employ but a single bracket **10'** including a base **12'** and an upstanding arm **14'**, the base **12'** being connected by means of screws to the playing board **13**. In this form the character **18'** has one arm angled and the other arm extending outwardly from the shoulder, the angled arm **25'** serving the same function as the arms **25**, i.e., to limit the anticlockwise rotation of the target. The construction of the form shown in FIG. 3 is otherwise the same as that shown in FIG. 1.

From the foregoing description it will be manifest that I have provided a unique and simple arrangement for controlling the switch of a hit registering or scoring circuit to indicate target hits by a projectile.

While we have illustrated and described the preferred form of construction for carrying our invention into effect, this is capable of variation and modification without departing from the spirit of the invention. We therefore do not wish to be limited to the precise details of construction set forth, but desire to avail ourselves of such variations and modifications as come within the scope of the appended claims.

Having thus described our invention, what we claim as new and desire to protect by Letters Patent is:

1. A target for a game apparatus in which there is a playing board over which a projectile is adapted to move into striking contact with the target, comprising

(a) a target element mounting bracket carried by the playing board,

(b) a target element pivotally supported by said bracket in a substantially vertical position and adapted to be pivoted with respect thereto when struck by the projectile,

(c) an elongated magnetic element mounted in a transversely extending groove formed in the lower edge portion of said target element in close proximity to the surface of the playing board,

(d) a switch carried by and beneath the playing board in close proximity with respect to the magnetic element carried by said target element when said target element is in its vertical position,

(e) said switch comprising a pair of overlapping spring reeds formed of ferromagnetic material and held in contact with each other under the magnetic influence of said magnetic element, said reeds being out of contact with each other when said target element is pivoted by the projectile to move the magnetic element from magnetic influence upon said reeds.

2. A target element for a game apparatus as defined by claim 1, characterized by the provision of portions on said target element cooperating with said mounting bracket to limit pivotal movement of said target element under the influence of the projectile.

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