

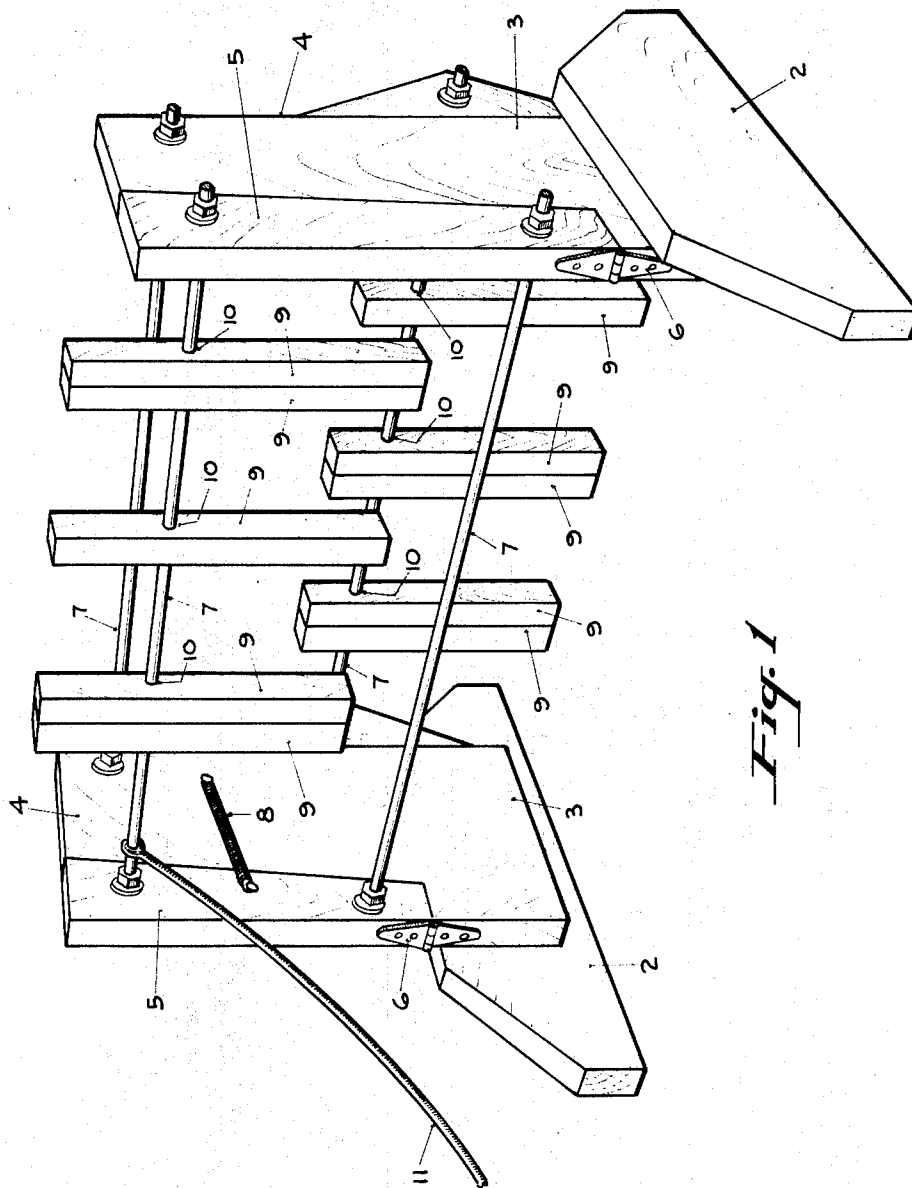
Jan. 4, 1966

C. R. GROFF
BOWLING GAME TARGET

3,227,448

Filed Aug. 10, 1964

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

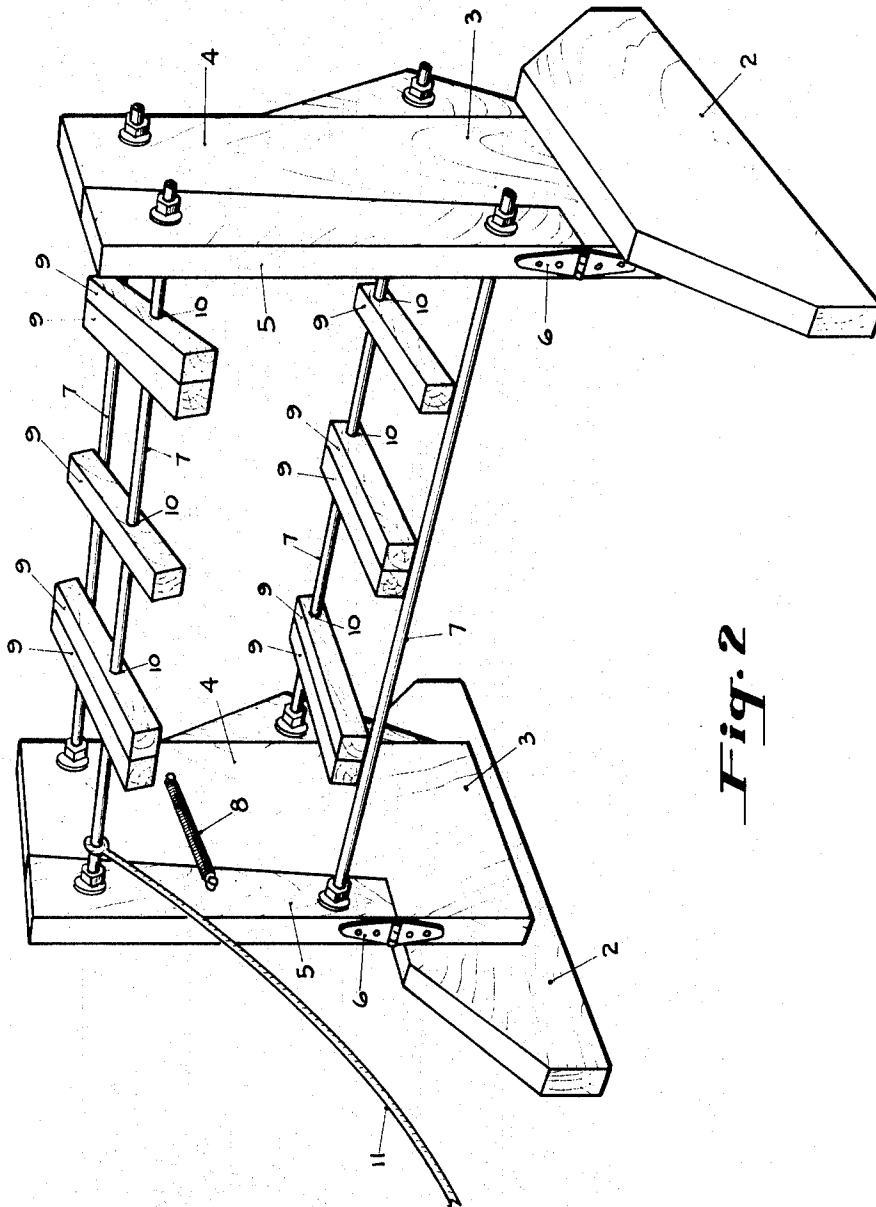


Fig. 2

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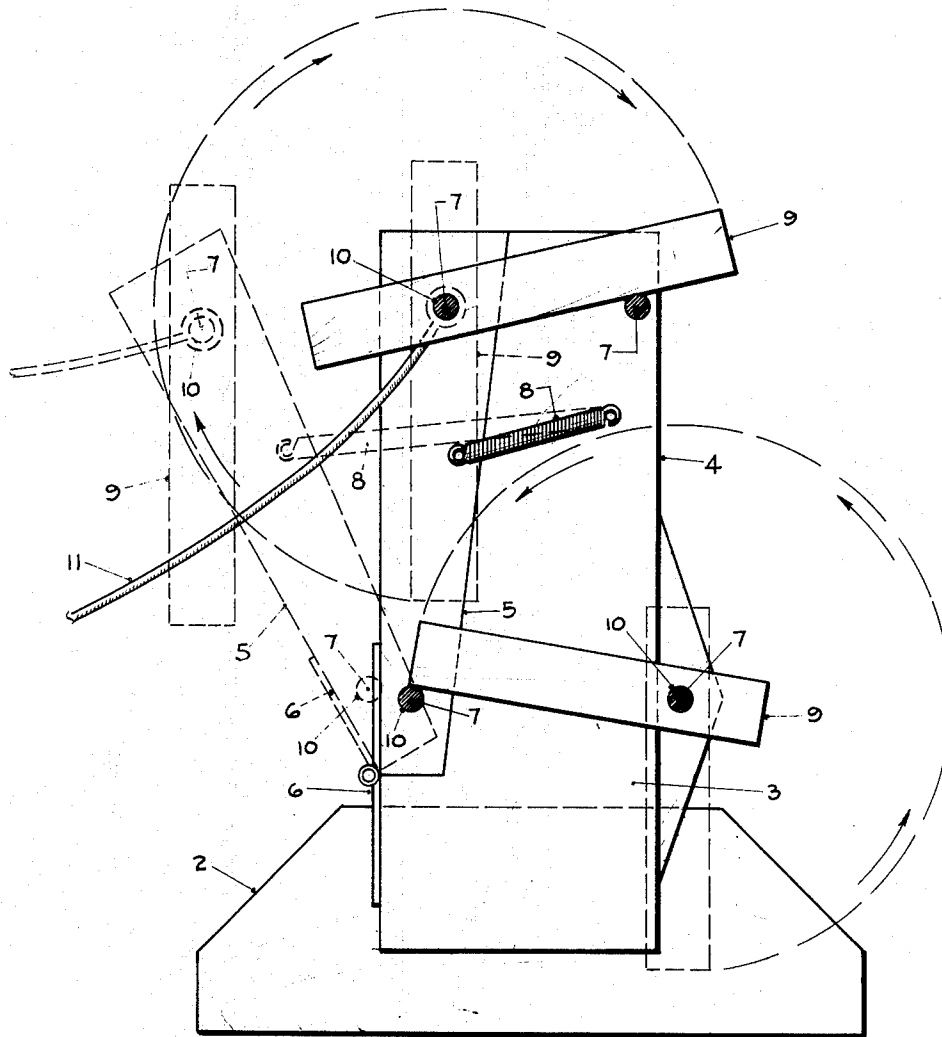


Fig. 3

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3,227,448

BOWLING GAME TARGET

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2 Claims. (Cl. 273—41)

This invention relates to a bowling game target, and more particularly a bowling target which can be reset from the point at which the bowler is located or from a remote area.

It is an object of this invention to provide a device in which the bowling pins can be reset manually by merely pulling a rope attached to a hinged portion of the upright support permitting the pins to be restored to their original positions.

A further object is to provide a target in which the individual pins can be moved along the support rods horizontally to set up different combinations of pins for varying the scoring opportunities and presenting a greater challenge to the player.

A still further object is to provide a device which can be readily put in position in a recreation room or outdoor area with ease and can be readily relocated if desired.

In order that the device of this invention may be more readily understood, it will be described in connection with the attached drawings, in which

FIGURE 1 is a perspective view of the device of the invention;

FIGURE 2 shows the device with all the pins in their fully rotated position; and

FIGURE 3 is an end view showing the pins in their original position in solid lines and in their reset position in broken lines with the hinged part of the two supports open to show how the pins can be reset.

Referring to FIGURE 1 there is shown a pair of flat surfaced supports 2 designed for their flat surfaces to rest on the floor or other suitable relatively level surface. Each of the supports 2 carries an upright 3 securely attached thereto forming an inverted T configuration. The arrangement is such that the two supports are spaced from one another a predetermined distance in vertical parallel relationship with each other. Each upright 3 is divided into two parts; a main portion 4 and a second portion 5 attached to the main portion 4 by means of a hinge 6. A plurality of cylindrical rods 7 span the distance between the two spaced uprights 3. Two of the rods are mounted in the main portions 4 of the uprights 3 while the other two are mounted in the hinged portions 5. The hinged portions 5 are held in firm engagement with the main portions 4 by means of springs 8. The two rods 7 carried by the main portions 4 are positioned one above the other on a vertical plane and the two rods 7 carried by the hinged portions 5 are also one above the other on the same vertical plane. The top rod on the portion 4 is on substantially the same horizontal plane as the top rod on the hinged portion 5. Likewise the two bottom rods are on substantially the same horizontal plane.

The bottom rod 7 mounted in the portions 4 and the top rod 7 mounted in the hinged portions 5 are each provided with a multiplicity of target pins 9. These pins are suspended on the rods by reason of holes 10 drilled through the pins in the proximity of the one end of the pin 9. These holes 10 are so positioned above the center of gravity of the pin so that the pin will hang vertically but may be easily rotated about the rod 7 when struck a blow on the lower extremity. The holes 10 are larger than the diameter of the rods 7 so that the pins can rotate freely thereon.

Viewing the device from the right of FIGURE 1, the pins 9 will rotate about the rod 7 in a counterclockwise direction. If one of the pins mounted on the top rod 7 is

in alignment with the pin being rotated, the lower extremity of the rotating pin will strike the lower extremity of the pin mounted on the top rod and will rotate the top pin clockwise around the top rod 7. The spacing of the two top rods and two bottom rods is such that the distance between them is less than the length of the pin 9 from the hole 10 to the lower extremity of the pin 9 so that the pin 9, as it is being rotated about the rods 7, will strike the other rod 7 on the same horizontal plane which will stop the rotation of the pin. With this arrangement, the pins 9 can only rotate through an arc of approximately 270 degrees.

FIGURE 2 shows all of the pins 9 rotated to their fullest extent. When all the pins are in this position, the device can be reset with all of the pins suspended vertically by merely pulling the lanyard 11 attached to the hinged portions 5. This increases the distance between the two top rods and the two bottom rods so that this distance becomes greater than the length of the pins from the openings 10 to the ends of the pins. When this condition exists, the pins on the top rod will continue their clockwise rotation and the pins on the bottom rod will continue their counterclockwise rotation. The springs 8 return the hinged portions 5 to their original position when the force is released on the lanyard 11.

FIGURE 3 is an end view showing the arc of the target pins 9 on the bottom rod 7 and the arc of the target pins 9 on the top rod 7. It will be seen that these two arcs intersect through a segment of approximately 60 degrees, in the area of the lower extremities of the pins 9 on the top rod when they are suspended at rest. The relative relationship of the rod and pins with the hinged portions 5 in closed position is shown in solid lines in FIGURE 3 while the relative relationship with the hinged portion moved away from the main portions 4 is shown in broken lines.

Inasmuch as the pins 9 can rotate freely on the rods 7, they can also be moved lengthwise along the rods so that various combinations of pins can be arranged to challenge the ability of the player.

The rods 7 may be made of steel or some other suitably hard material. The rotatable pins 9 may be made of plastic, wood, or other material which is relatively light but of sufficient strength to prevent breaking.

In the operation of the game, the device here illustrated and described is placed on a relatively level surface with the pins 9 suspended in their vertical position and positioned lengthwise on the rods 7 so that certain of the pins on the top rod 7 are in alignment with pins or groups of pins on the bottom rod 7. The player assumes a position a predetermined distance from the device and rolls a ball along the level surface. The ball is of a diameter greater than the distance between the lower extremity of the lower pins and the level surface. If the ball strikes one of the pins or group of pins, it will rotate the pins it strikes and cause them to strike the pins mounted on the top rod if so aligned. A player is permitted a predetermined number of times to roll the ball in each particular game and the score is computed from the number of pins or combinations of pins which are rotated at the end of the game.

I claim:

1. A bowling game target the elements comprising, a base, a pair of uprights each carried by a section of said base, a portion of each of said uprights being hingedly secured to said upright, four rods spanning the horizontal distance between said uprights, two of said rods being mounted on the main portion of said uprights and two of said rods being mounted on said hinged portions, the two rods on the main uprights being on substantially the same vertical plane and the two rods being carried on the hinged portion being on substantially the same vertical plane, the two top rods being on substantially the same

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horizontal plane and the two bottom rods being on substantially the same horizontal plane, two rods disposed in diagonal relationship with one another being provided with a plurality of rotatable pins, said pins being mounted on said rods for rotation thereon and being suspended substantially vertically, the length of said pins being greater than the horizontal distance between adjacent rods on the same horizontal plane, the arrangement being such that the arc inscribed by the pins carried on one rod intersects the arc of the pins carried by the other rod.

2. A device in accordance with claim 1 in which the

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arc through which the pins can rotate is greater than 180 degrees and less than 360 degrees.

References Cited by the Examiner

UNITED STATES PATENTS

1,321,108	11/1919	Lasares	-----	273—41
2,141,958	12/1938	Ruberti	-----	273—41 X

10 RICHARD C. PINKHAM, *Primary Examiner*.