March 31, 1925. 1,531,420

J. H. SHEARS

GAME DEVICE

Filed Dec. 2, 1924 2 Sheets-Sheet 1

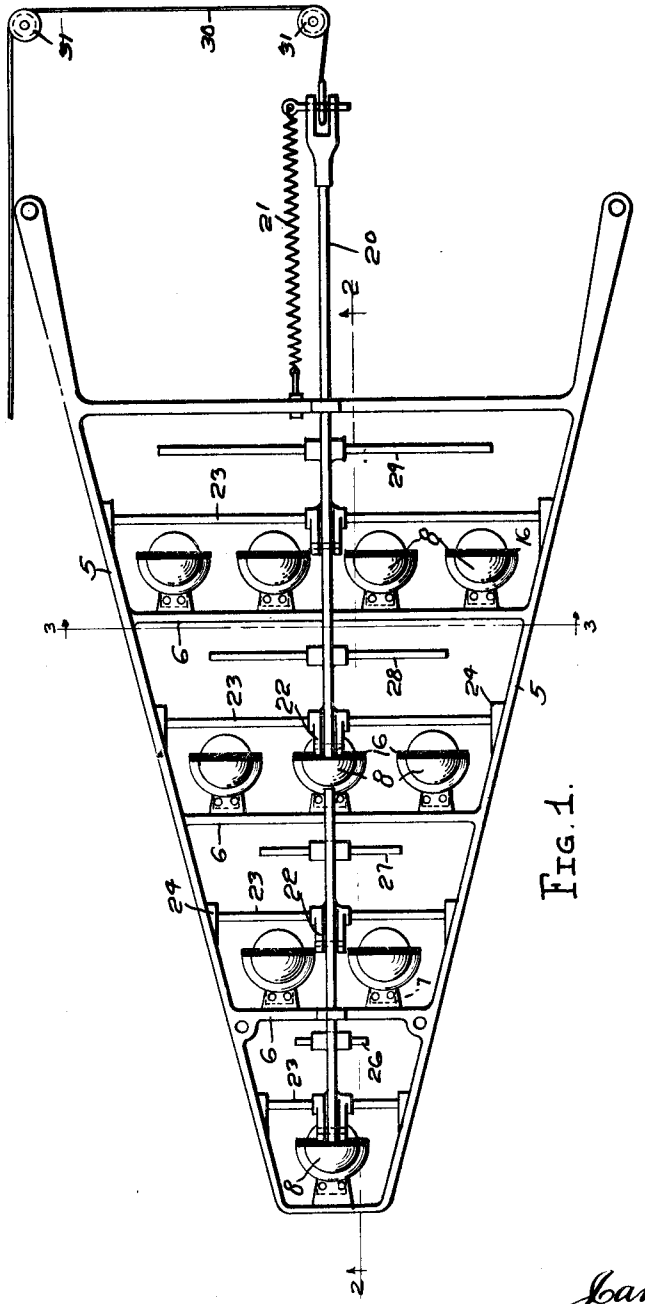


Fig. 1.

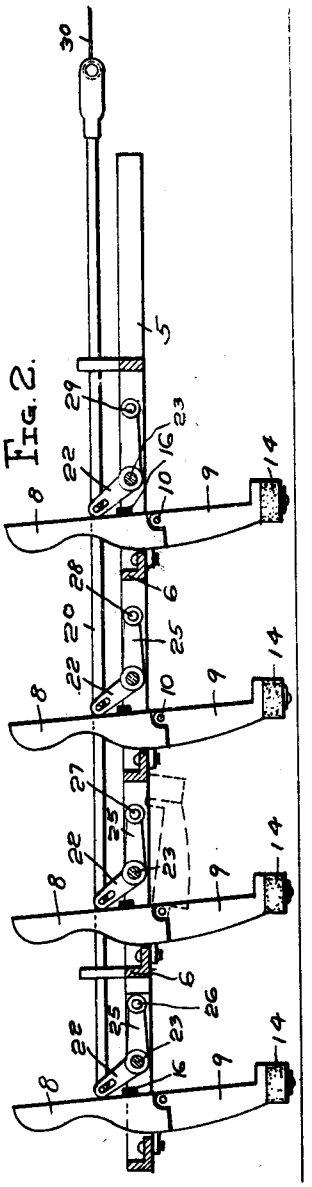


Fig. 2.

Inventor

James H. Shears

By Samuel Herrick,

Attorney

March 31, 1925. 1,531,420

J. H. SHEARS

GAME DEVICE

Filed Dec. 2, 1924 2 Sheets-Sheet 2

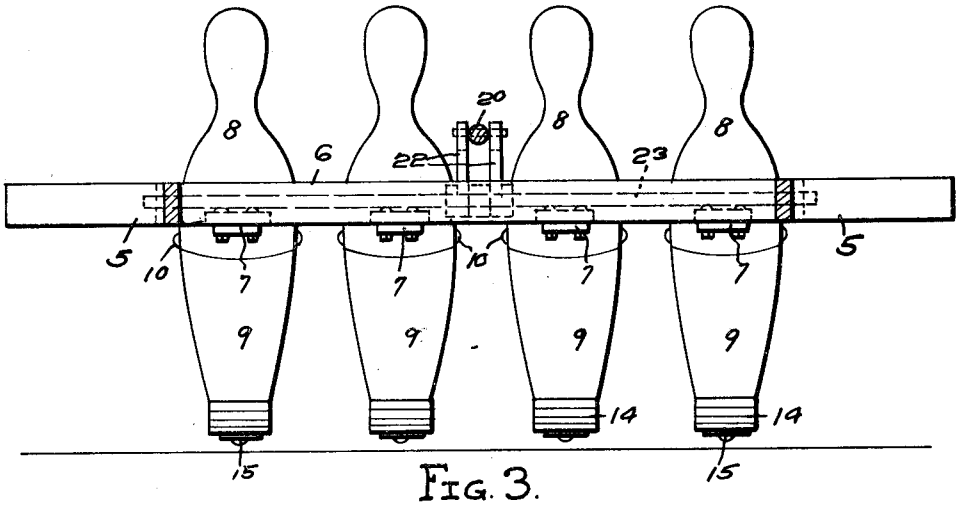


FIG. 3.

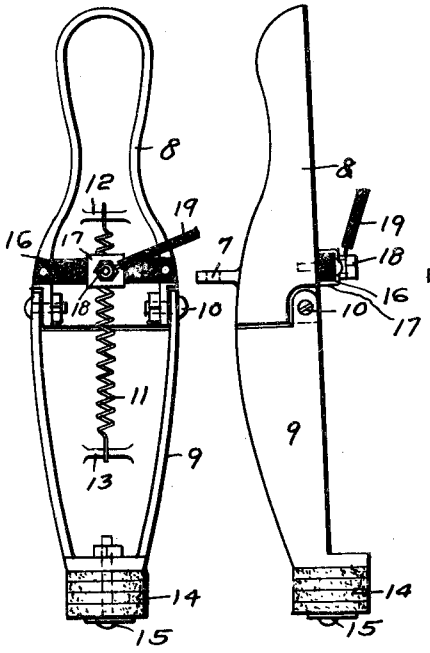


FIG. 4.

FIG. 5.

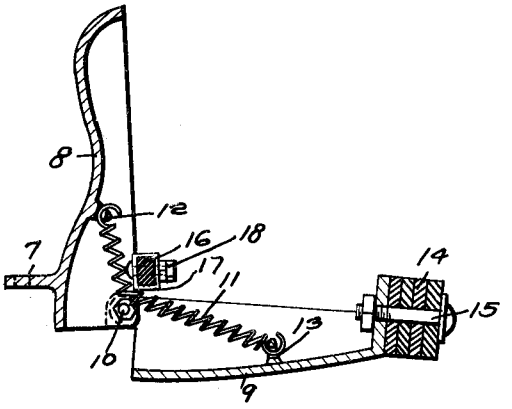


FIG. 6.

Inventor

James H. Shears

By Samuel Herrick

Attorney

Patented Mar. 31, 1925. 1,531,420

UNITED STATES PATENT OFFICE.

JAMES H. SHEARS, OF OKLAHOMA CITY, OKLAHOMA.

GAME DEVICE.

Application filed December 2, 1924. Serial No. 753,435.

To all whom it may concern:

Be it known that JAMES H. SHEARS, a citizen of the United States, residing at Oklahoma City, in the county of Oklahoma and State of Oklahoma, has invented certain new and useful Improvements in Game Devices, of which the following is a specification.

This invention relates to game devices. Its object is to provide a plurality of pins of the nature of bowling pins, said pins being arranged in triangular formation after the usual manner of setting up bowling pins and each pin comprising a fixed section and a hinged section. The hinged sections are acted upon by the bowling balls to move them to a "past center" position in which position they are held by springs.

The invention further contemplates the provision of a resetting mechanism by which the hinged portions of the pins may be restored to their former position and held there by the action of the springs.

Further objects and advantages of the invention will be set forth in the detailed description which follows:

In the accompanying drawings:

Figure 1 is a plan view of a game apparatus constructed in accordance with the invention.

Figure 2 is a longitudinal sectional view therethrough on line 2—2 of Figure 1.

Figure 3 is a transverse sectional view upon line 3—3 of Figure 1.

Figure 4 is a rear elevation of one of the pins upon an enlarged scale.

Figure 5 is a side elevation of one of the pins, and

Figure 6 is a detail sectional view of one of the pins illustrating the actuating springs and with the parts moved to the position they occupy after the lower part of the pin has been struck by a bowling ball.

Like numerals designate corresponding parts in all of the figures of the drawing:

In carrying out the invention, I provide a light metal frame, such as an aluminum frame, for example, of substantial V-shape and comprising the side members 5 and the cross members 6. The cross members are preferably in the shape of angle bars and serve as points of attachment for flanges 7 of the upper pin sections 8. The lower pin sections 9 are pivotally connected to the upper sections 8, at 10. The hinging of the lower sections 9 on the upper sections 8 adapts these lower sections to swing to the position illustrated in Figure 6; the normal position of the pins being indicated in Figure 5. The lower pin sections 9 are held in either of their extreme positions by the action of springs 11 which springs are connected at their ends to lugs 12 and 13 formed upon the upper pin sections 8 and the lower pin sections 9, respectively. The lower ends of the sections 9 carry cushioning pads 14, which are held in place by bolts or like fastening devices 15; the pads 14 may be made in one piece or they may be made of a plurality of disks indicated in Figure 6. They are preferably made of leather but they may be made of fiber, rubber or any other suitable material. When the lower pin sections are moved to the position illustrated in Figure 6 the cushioning pads strike against the cross bar 6, next in the rear of the particular pin moved to arrest the upward movement of the pin sections 9, the impact being cushioned by the material 14.

The rear faces of the pin sections 8 are spanned by bars 16 of fiber, hard rubber or like insulating material and these bars in turn carry contact bands 17 which extend therearound and which are contacted with by the springs 11 when the pin is collapsed as illustrated in Figure 6. The contact bands carry binding posts 18 to which annunciator wires 19 may be connected so that the particular pins collapsed by a player may be indicated upon a suitable annunciator board adjacent the player's position. Annunciators of this character are common in the art and form no part of the invention, since I contemplate employing any suitable annunciator for this purpose.

For resetting the collapsed pins I provide a longitudinally extending actuating rod, 20, which is normally held in its forward position by a spring 21. This rod has pin and slot connections with the arms 22,

of bell crank levers that are mounted upon transverse rock shafts 23, the latter being supported in bearings 24 of the frame. The arms 25 of the bell crank levers carry transversely extending rods 26, 27, 28 and 29 which are thrust downwardly and forwardly whenever the rod 20 is drawn rearwardly against the action of the spring 21. When the rods 26 to 29 are thrust downwardly and forwardly they act against the rear edges of the lower pin sections 9 and thrust these sections into position in alignment with the sections 8; in which position they are held by the action of the springs 11. The rod 20 may be actuated from the player's station by providing a wire, or cable, or other suitable connection indicated at 30, which may be attached to the rear end of the rod 20 and lead to a point adjacent the player by passing it over suitable pulleys 31.

The cushioning tip 14 is a feature of considerable importance. By mounting it upon the bolt 15 it is rendered capable of rotation so that it may be turned to bring fresh portions of its surface into position for contact with the transverse bar 6. Furthermore these tips may be easily and quickly removed without removing the pins from the frame. This eliminates much of the trouble and expense of upkeep of an apparatus of this character. Furthermore it will be noted that the rotation of the pins compensates for wear on the surface of the tips, resulting from contact with the bowling balls.

While I have shown the tip as being mounted upon a bolt 15, it is to be understood that it may be mounted upon the pin in any desired manner.

Tips of this character may be used as changeable shields for ordinary wooden or pressed metal or spun metal pins, and will prevent splitting and other damage. It is to be noted that the springs are concealed within the hollow pins and that no working parts are exposed in such position that they will be likely to be damaged by the bowling balls. It is also to be noted that the construction and assembly is such as to lend itself to ready repair or replacement. Individual pins may be removed as a whole by the mere removal of the bolts which pass through the flanges 7, or the lower halves of the pins may be removed by separating the parts at 10, while the tips may be removed by removing the bolts 15. Any of the foregoing may be accomplished without disturbing any of the remainder of the apparatus. Thus, while the chances of breakage are reduced to the minimum by the cushioning effect produced by the tips, if breakage should occur replacement may be made in a few minutes time and at a very small cost.

It is to be understood that the invention is not limited to the precise construction set forth but that it includes within its purview whatever changes fairly come within either the terms or the spirit of the appended claims.

Having described my invention, what I claim is:

1. A game apparatus of the character described comprising a plurality of pins, each comprising a fixed section and a hinged section and tension springs between the two sections adapted to hold said sections by past center action in either their collapsed or erect positions.

2. A game apparatus of the character described, comprising a plurality of pins, each of said pins comprising a pair of hollow sections hingedly connected to each other and tension springs engaged with said sections and adapted to move to opposite sides of the point of hinging of the sections as the pins are collapsed or brought to erect position.

3. In an apparatus of the character described, the combination with a pin having a fixed section and a hinged section of an insulating bar extending across the rear face of the fixed section, a contact element carried by said bar and a spring, having its opposite ends engaged with the said section and being movable into engagement with the contact element when the hinged section is moved to collapsed position.

4. A game apparatus comprising a plurality of pins, each of said pins comprising a fixed section and a hinged section, a plurality of bell crank levers, a common actuating rod connected to one of the arms of each of said bell crank levers and transverse rods connected to the other arms of said bell crank levers and adapted to engage and actuate the hinged sections of the pins.

5. In a game apparatus of the character described, the combination with a supporting frame comprising a plurality of transverse bars of a plurality of pins each comprising a fixed section and a hinged section, cushioning elements carried by the hinged sections adapted to engage said transverse bars, and resetting mechanism for moving the hinged sections away from said bar.

6. A structure as recited in claim 5, wherein the resetting mechanism comprising a plurality of bell crank levers, a common actuating member for all of said bell crank levers and transverse bars carried by said bell crank levers and engaging the hinged sections of the pins.

7. In a game apparatus, a pin comprising a fixed section and a hinged section and a cushioning element upon the hinged section mounted for rotation.

8. In a game apparatus, a pin comprising a hinged section and a fixed section, a spring engaged with said sections for holding them in either of their extreme positions, a stop,

and a cushioning element upon the lower end of the hinged section of the pin adapted to engage said stop.

9. A structure as recited in claim 8 wherein the cushioning element is mounted for rotation.

10. A pin comprising a hinged section and a fixed section, a cushioning element and a bolt traversing said cushioning element and a part of the hinged section of the pin to relatively mount the cushioning element upon said hinged section of the pin.

In testimony whereof he affixes his signature in the presence of two witnesses.

JAMES H. SHEARS.

Witnesses:

ROBT. K. EVEREST,

BETTY JANE GISH.