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GAME APPARATUS

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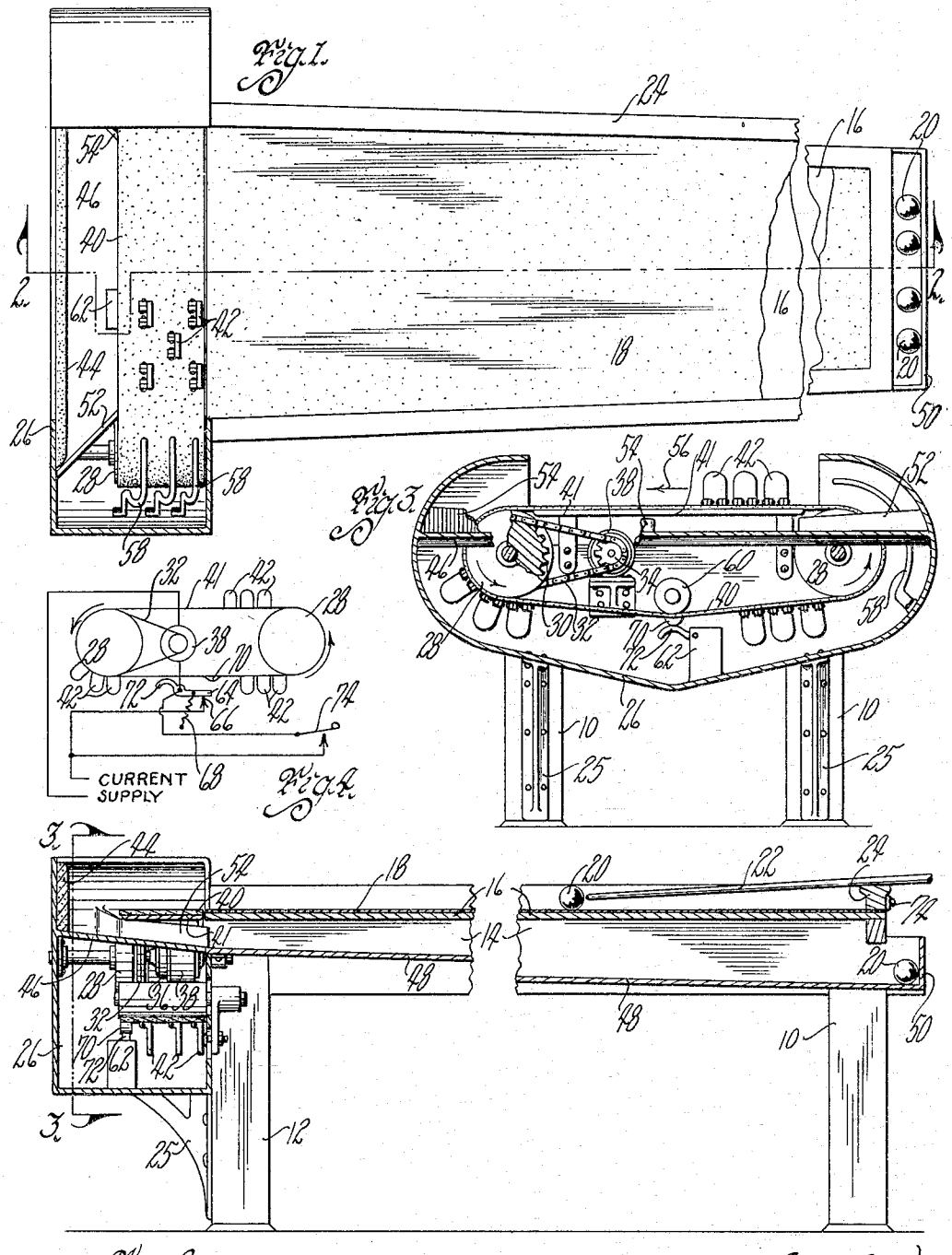

Inventor
Edwin H. Plenge
by Bair, Freeman & Sinclair
Attorneys

Witness
Edw. Sieler

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EDWIN H. PLENGE, OF MEMPHIS, MISSOURI

GAME APPARATUS

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The object of my invention is to provide a game apparatus which is simple, durable and comparatively inexpensive to manufacture.

A further object of my invention is to provide a game apparatus in which a moving belt has a plurality of targets pivoted thereto, the belt forming a continuation of a projection table along which a ball may be projected by a cue and aimed at the targets for causing them to drop against the belt.

A further object is to provide a back stop beyond the belt and a return trough extending through the belt to beneath the table and terminating at the front of the table so that the balls, after being projected across the belt, are returned to the front of the table for further projection.

Still a further object is to provide automatic means for causing a single revolution of the belt, so that a player may have a predetermined number of chances to shoot at the targets during one cycle of operation of the belt.

More specifically, it is my object to provide a normally closed switch for a motor which operates the belt, but which is opened by a projection on the belt after the belt has made one complete revolution, a control switch such as a push button or a coin controlled switch being provided for shunting the automatic switch to start operation of the motor.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawing. Although the invention is susceptible of a variety of embodiments, it is unnecessary to fully describe and illustrate more than one in order to give a full understanding of the invention both from its structural and functional standpoints. Accordingly, I have illustrated a preferred and desirable embodiment of the invention in the accompanying drawing, in which:

Figure 1 is a plan view of a game apparatus embodying my invention.

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

Figure 3 is a vertical transverse sectional view on the line 3—3 of Figure 2; and

Figure 4 is a diagrammatic view of the machinery of the apparatus and the electric circuit therefor.

On the accompanying drawing, I have used the reference numerals 10 and 12 to indicate front and rear supporting legs, respectively. On the legs 10 and 12 I support side members 14 and a table top 16. The top 16 is preferably covered with billiard table felt 18.

The table top 16 forms a projection table, lengthwise of which a ball 20 may be projected by a cue 22. A front rail 24 is provided on which a hand of the player may be rested for guiding the cue 22.

Transversely arranged at the rear end of the table and supported by brackets 25, is a casing 26. Rotatably supported in the casing 26 are belt pulleys 28. One of the belt pulleys 28 has a sprocket 30 either countersunk therein or mounted on the shaft of the pulley and beyond the end of the pulley. The sprocket 30 is driven by a chain 32 from a sprocket pinion 34. The sprocket pinion 34 is secured to the shaft of a reduction gear mechanism contained within a housing 36, with which an electric motor 38 is associated. The reduction gearing is provided to reduce the speed of the motor to a proper low speed of travel of a target belt 40, which is supported on the belt pulleys 28 and on a stationary support 41.

Pivotally mounted on the target belt 40 are targets 42. These may be arranged in groups as illustrated and there are preferably three groups around the length of the belt, although more or less may be provided, as desired. They may be suitably numbered for scoring purposes, if desired. They ordinarily assume an upright position as illustrated on the drawing, but when struck by one of the balls 20, are knocked down against the belt and points may be scored, depending on the targets knocked down. It will be noted that the target belt 40 forms a continuation of the projection

table top 18, so that the ball 20 can be easily projected from the table across the belt.

Within the transverse casing 26 I provide a back stop 44 spaced from the target belt 40 on the side thereof opposite the projection table. A return trough extends from the back stop 44 toward the front of the table. The return trough comprises a portion 46 extending through the target belt 40, as shown in Figure 2, to a portion 48 beneath the table top 16. The front end of the return trough terminates at a front wall 50, against which the balls 20 engage when they assume the position shown in Figure 1 and from which they may be easily taken for re-projection. The return trough has diverging sides 52 and 54 for causing the balls 20 to be guided past the belt pulleys 28.

As the targets are knocked down, the belt continues to travel in the direction of the arrow 56 and they will assume an upright position because of gravity when on the under stretch of the belt. To assure that they assume their proper upright position, I provide guide fingers 58 at one end of the casing 26. A slidable belt tightener pulley 60 may be provided for retaining the belt in taut position.

It is desirable to have the belt rotate automatically only one revolution at a time, so as to give each player a predetermined number of chances to shoot at the targets. I, therefore, provide an automatic control switch 62 for the motor 38. The control switch 62 has contacts 64 and 66, which are normally engaged by a spring 68. They are adapted to be disengaged by a lug 70 on the belt 40. The lug 70 is adapted to engage an extension 72 of the contact 64. The contacts 64 and 66 supply current to the motor 38.

It will be obvious that when the lug 70 is in engagement with the extension 72 of the switch 62, the contacts 64 and 66 will be opened. I provide a push button switch 74 shunting the contacts 64 and 66 for energizing the motor 38 long enough to cause disengagement of the lug 70 from the extension 72, whereupon the motor will continue to operate until the belt 40 has made one complete revolution.

The device may be easily made into a coin controlled apparatus for amusement parks and the like by substituting a coin controlled switch for the push button 74.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets pivotally mounted on said belt, means for moving said belt transversely of said table, a back stop on the side of said belt opposite the projection table and a return trough from said back stop, through said belt to beneath said table, said return trough terminating adjacent the front end of the table.

2. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt, means for moving said belt transversely of said table, a back stop on the side of said belt opposite said projection table and a return trough from said back stop, through said belt to beneath said table.

3. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt, means for moving said belt transversely of said table and a back stop on the side of said belt opposite said projection table.

4. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt and means for moving said belt transversely of said table.

5. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt, means for moving said belt comprising an electric motor and control means for said motor to cause rotation of said belt and automatically stop such rotation after one revolution thereof.

6. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt, means for moving said belt comprising an electric motor and control means for said motor to cause rotation of said belt, said control means comprising an automatic switch, means for automatically engaging said switch and moving it to open circuit position after one revolution of said belt and a manually operable switch to shunt said automatic switch.

7. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt, a pair of pulleys for said belt, a drive sprocket countersunk in one of said pulleys and motive means for driving said sprocket.

8. In a game apparatus, a projection table, a target belt forming a continuation of one end thereof, targets on said belt, a pair of pulleys for said belt, electric motor means for driving said pulleys, an automatic switch for said motor, means on said belt for engaging said automatic switch and thereby opening the circuit of the motor and manually operable means for closing said circuit.

9. In a game apparatus, a projection table, a transverse casing at one end thereof, a target belt movable longitudinally of said casing and forming a continuation of the projection table, pulleys at the ends of said cas-

ing for supporting said belt, a back stop in said casing and spaced from said belt on the side thereof opposite said projection table and a return trough through said belt to beneath said table and to the front thereof.

10. In a game apparatus, a projection table, a transverse casing at one end thereof, a target belt movable longitudinally of said casing and forming a continuation of the projection table, pulleys at the ends of said casing for supporting said belt, a back stop in said casing and spaced from said belt on the side thereof opposite said projection table and a return trough through said belt to beneath said table and to the front thereof, said return trough passing between said pulleys and having diverging sides at the upper end thereof.

Des Moines, Iowa, May 11th, 1931.

EDWIN H. PLENGE.