Dec. 16, 1947. R. A. GORSUCH 2,432,570

BALL PROJECTOR

Original Filed April 11, 1942

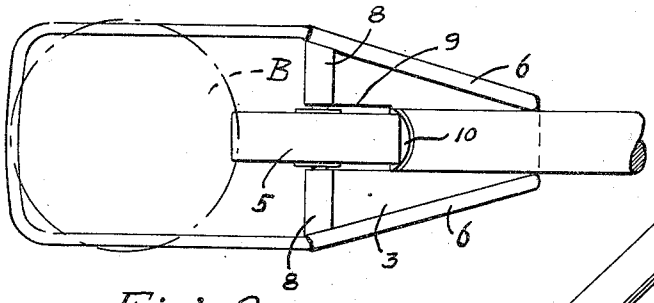


Fig. 2

Fig. 1

Fig. 4

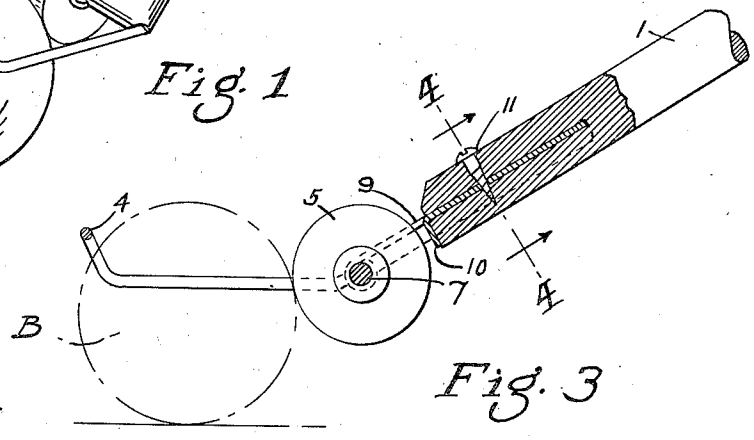


Fig. 3

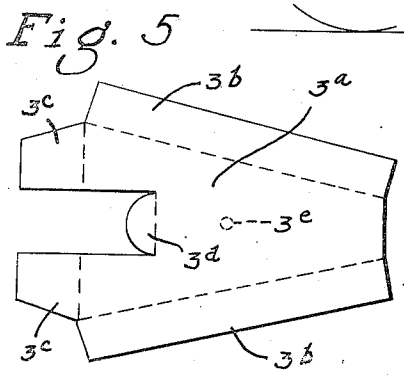


Fig. 5

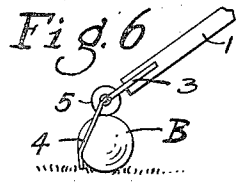


Fig. 6

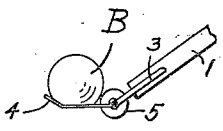


Fig. 7

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Patented Dec. 16, 1947

2,432,570

UNITED STATES PATENT OFFICE

2,432,570

BALL PROJECTOR

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Original application April 11, 1942, Serial No. 438,626, now Patent No. 2,366,782, dated January 9, 1945. Divided and this application December 11, 1944, Serial No. 567,549

9 Claims. (Cl. 273—129)

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This is a division of an application bearing Serial No. 438,626, filed April 11, 1942, issued January 9, 1945, as Patent No. 2,366,782, in which is disclosed a game that is played upon lawns or other suitable playing surfaces. The game somewhat resembles shuffleboard in the manner in which it is played, although in my game, round playing members or balls are used instead of disks, and the invention that constitutes the subject matter of the present application is the implement or cue for rolling and handling the playing members or balls.

The object of the invention is to provide a device for the purpose stated that is relatively simple and inexpensive of construction, is strong and durable, and that cooperates with the playing member or ball in such manner as to reduce to a minimum the friction between the device and the rolling member as the latter is shoved along the playing surface by the former.

A further object is to provide an implement or cue that is so shaped or constructed that it may be employed with facility for retrieving, maneuvering or carrying the playing member or ball.

The foregoing objects and advantages, with others hereinafter appearing, are attained in the embodiment of the invention illustrated in the accompanying drawing wherein Fig. 1 is a perspective view of the implement or cue, showing it applied to a ball in readiness for rolling or "shooting" the latter; Fig. 2 is a bottom plan view of the head portion of the implement or cue, the ball being indicated in broken lines in this and the succeeding view; Fig. 3 is a central longitudinal section through said head portion; Fig. 4 is a sectional detail on the line 4—4 of Fig. 3; Fig. 5 is a view of the sheet metal blank from which the body portion of the head is constructed, and Figs. 6 and 7 are views illustrating how the implement or cue may be employed for retrieving or maneuvering a ball, and for carrying a ball, respectively.

The implement or cue comprises a handle 1, desirably of wood, and a head designated generally by the reference numeral 2. The head is made up of a body portion 3 and a yoke 4, and the same incorporates an anti-friction element or roller 5. The body portion 3 is formed from the blank of sheet metal illustrated in Fig. 5, where said blank is designated 3^a. The yoke 4 is preferably made of heavy, stiff wire and is generally U-shaped, and the rear end portions of its lateral branches are turned inwardly and upwardly at a slight angle to the forward parallel portions thereof and are snugly held within sleeves 6 (Figs.

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2 and 4) provided by the curled over edges of the body portion 3 that are formed from the parts 3^b of the blank 3^a. The end portions of an axle 7 (Fig. 3) by which the anti-friction element or roller 5 is rotatably supported are grasped within transverse sleeves 8 (Fig. 2) formed by the curled under forward edges of the body portion 3 (constituted of the parts 3^c of the blank shown in Fig. 5) and located on opposite sides of a notch 9 in the forward end of the body portion and which notch accommodates the element or roller 5.

The handle 1 is provided with a transverse kerf at its forward end into which the central part of the body portion 3 is inserted, the kerf being deep enough to allow the body to enter until a lug 10 on said body portion engages the front end of the handle, said lug being formed by a part 3^d of the blank 3^a. A screw or other fastening means 11 is driven into the handle and through an aperture in the body portion 3. This aperture may be preformed or not, as desired, its position being indicated at 3^e on the blank 3 of Fig. 5. A simple but very effective connection between the head and handle is thus formed, the handle, at the rear of the head, being confined between the ends of the sleeves 6 that embrace the rearwardly converging parts of the yoke 4, while it is otherwise held in fixed relation to the handle by the fastening means 11 and the lug 10. The forward end of the yoke 4 is arched upwardly and over between the lateral branches thereof, as best shown in Fig. 1.

When it is desired to propel or shoot a playing member or ball, such as that designated B, the yoke 4 is dropped over the ball until its lateral branches rest upon the sides thereof slightly above the plane of its center. The anti-friction element or roller 5 engages the rear side of the ball in about the plane of the yoke (Fig. 3) and spins as the ball is propelled along the lawn or other playing surface by means of the implement. The element or roller 5 is preferably of the ball bearing type and rotates very freely, wherefore friction is reduced to a minimum. This end is further served by the fact that only a very slight portion of each lateral branch of the yoke 4 engages the ball at any time, and then quite near the rotating axis of the latter. Preparatory to propelling or shooting a ball, the player stands with his shooting arm hanging at his side and comfortably grips the rear end portion of the handle 1, in the meantime having engaged the head of the implement with the ball as above described and as illustrated in Figs. 1 and 3.

Assuming that the player is using his right arm for shooting, he steps forward, leading with his left foot, and swings his right arm as he steps forward with a long even stroke. As the end of the stroke is reached, the implement is lifted from the ball, such action being enhanced by the tendency of the roller 5 to ride up the ball as the stroke is completed.

In retrieving or maneuvering a ball, the implement may be turned over and used in the manner shown in Fig. 6; and a ball may be flipped or rolled onto the implement and carried by it, as illustrated in Fig. 7.

Having thus described my invention, what I claim is:

1. An implement for propelling a round playing member along a playing surface, the same comprising a handle, a structure at the end thereof that is arranged to rest solely upon the playing member and position the implement in proper relation to said member while the member is in direct contact with said surface, and an anti-friction element incorporated in the implement for passive rolling contact with the playing member and through which a thrust imposed on the handle is transmitted to said member.

2. An implement for propelling a ball along a playing surface comprising a handle, a structure at one end thereof including laterally spaced parts between which the ball is adapted to be engaged and which rest directly upon the ball while the latter is in contact with said surface, and an anti-friction element incorporated in the implement for passive rolling contact with the ball and through which a thrust imposed on the handle is transmitted to the ball.

3. An implement for propelling a ball along a playing surface comprising a handle, a yoke at one end thereof including ball engaging portions that are spaced apart in a lateral direction slightly less than the diameter of a ball wherewith the implement is intended for use so that the yoke may rest upon the ball and be supported thereby while the ball is in direct contact with said playing surface, and an anti-friction element incorporated in the implement for passive rolling contact with the ball and through which a thrust imposed on the handle is transmitted to the ball.

4. An implement for propelling a ball along a playing surface comprising a handle, a yoke at one end thereof including ball engaging portions that are spaced apart in a lateral direction slightly less than the diameter of a ball wherewith the implement is intended for use, so that the yoke may rest upon the ball and be supported thereby while the ball is in direct contact with said playing surface, the yoke including an integral part arched upwardly and over and connecting the forward ends of the aforesaid ball engaging portions, and an anti-friction element incorporated in the implement for passive rolling contact with the ball and through which a thrust imposed on the handle is transmitted to the ball.

5. A ball propelling and handling implement comprising an elongated handle, a head attached to one end thereof, a U-shaped yoke extending forwardly from the head and whose side portions are spaced apart a distance slightly less than the diameter of a ball wherewith the implement is intended for use and which are connected together at their forward ends by a central upwardly arched part of the yoke, and a roller rotatably supported by the head for rolling contact with the ball.

6. A ball propelling and handling implement comprising an elongated handle, a head including a body portion that is secured to one end of the handle and incorporating a yoke comprising side members that extend forwardly from said body portion and are spaced apart laterally thereof slightly less than the diameter of a ball wherewith the implement is intended for use and which side members are connected together at their forward ends by an upwardly arched portion of the yoke, an axle supported by and transversely of the body portion of the head, and a roller sustained thereby for rolling contact with the ball.

7. A ball propelling and handling implement comprising an elongated handle having a kerf that opens through its forward end, a head including a sheet metal body portion a part of which is inserted within said kerf, fastening means penetrating said part of the body portion and anchored within the adjacent part of the handle, the said body portion projecting beyond the end of the handle and provided with a notch in alignment with the handle, the forward edges of said body portion on opposite sides of said notch being curled about to form sleeves, an axle extending across the notch and having its ends supported within said sleeves, a roller supported by the axle in the aforesaid notch, substantially parallel members carried by the head and spaced apart slightly less than the diameter of a ball wherewith the implement is intended for use and whose rear end portions are held within curled over lateral edges of the body portion of the head.

8. A ball propelling and handling implement comprising an elongated handle having a kerf that opens through its forward end, a head including a sheet metal body portion a part of which is inserted within said kerf, fastening means penetrating said part of the body portion and anchored within the adjacent part of the handle, the said body portion projecting beyond the end of the handle and provided with a notch in alignment with the handle, a part of the material removed from said notch being turned downwardly to provide a lug for engagement with the end of the handle, the forward edges of said body portion on opposite sides of said notch being curled about to form sleeves, an axle extending across the notch and having its ends supported within said sleeves, a roller supported by the axle in the aforesaid notch, the head incorporating a U-shaped wire yoke whose side members adjacent their forward ends are substantially parallel and spaced apart slightly less than the diameter of a ball wherewith the implement is intended for use and whose rear end portions converge and are held within curled over lateral edges of the body portion of the head, the front central part of the yoke being arched upwardly and over between the side members thereof.

9. A ball propelling and handling implement comprising an elongated handle having a diametrical kerf that opens through its forward end, a head comprising a sheet metal body portion connected to said end of the handle by having a part thereof secured within the kerf of the handle, the lateral edges of said body portion diverging forwardly and curled under to provide sleeves whose rear ends are practically in engagement with the sides of the handle, the front end of said body portion having a notch in alignment with the handle and the front edges of

said body portion on opposite sides of said notch being curled under to provide sleeves, an axle whose end portions are confined within the last mentioned sleeves, a roller supported by the axle within said notch, and a U-shaped wire yoke having the rear portions of its side members secured within the first mentioned sleeves and which side members extend forwardly therefrom in substantially parallel relation to each other and are spaced apart a distance slightly less than the diameter of a ball wherewith the implement is intended for use, the closed forward end of the yoke being arched upwardly and over a substantial distance above the plane of said side members.

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The following references are of record in the file of this patent:

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