

Dec. 20, 1955

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2,727,744

HOCKEY PUCKS

Filed June 11, 1954

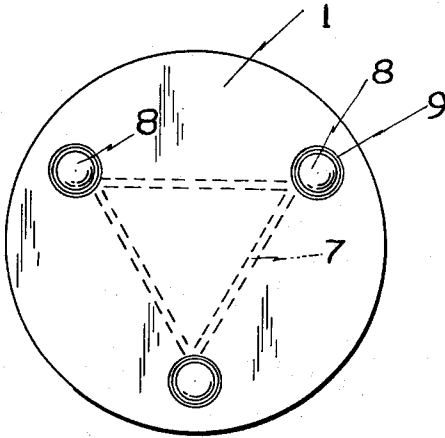


FIG. 1.

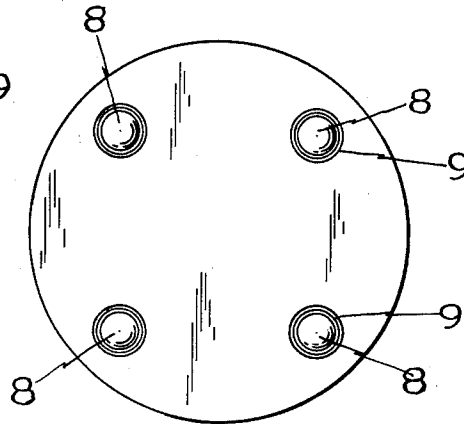


FIG. 4.

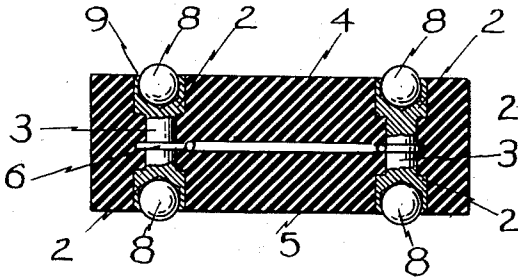


FIG. 2.

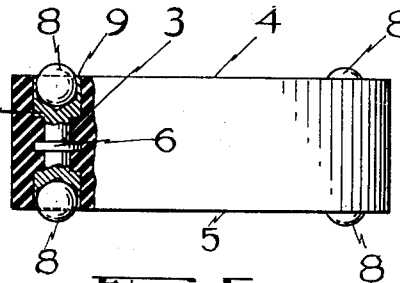


FIG. 5.

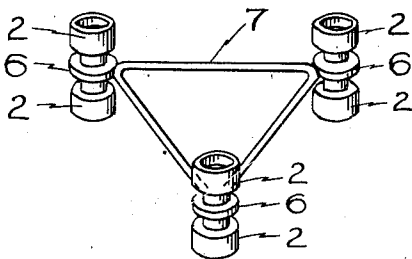


FIG. 3.

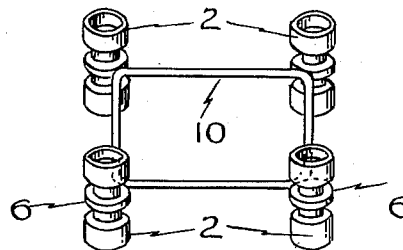


FIG. 6.

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2,727,744

HOCKEY PUCKS

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Application June 11, 1954, Serial No. 436,160

9 Claim. (Cl. 273—128)

This invention relates to hockey pucks and the principal object of the invention is to provide a puck which will behave on pavement or other friction surfaces in essentially the same manner as an ordinary puck on ice.

In particular it is the object of the invention to enable "ice" hockey to be realistically duplicated without requiring an ice surface and further to enable stick handling and puck control to be practised on a concrete pavement or other friction surface in any season of the year.

Another important object of the invention is to provide a puck as aforesaid which can be simply and economically manufactured, and which will have essentially the same rugged and indestructible properties as present pucks.

The principal feature of the invention resides in embedding in the puck body a plurality of roller retaining means opening preferably through opposing faces of the puck and inherently shock mounted by virtue of the resiliency of the puck body, and mounting roller members in the retaining means to present rolling surfaces beyond the puck faces.

Preferably the roller retainers comprise cups, and the rollers comprise balls rotatably retained in the cups.

Another feature of the invention resides in connecting the cups in opposition in pairs with one cup of the pair exposed through one face of the disc and the other cup of the pair exposed through the opposite face of the disc.

Again it is a feature to provide the connected cup pairs with a connecting formation presenting anchor means to securely and permanently locate the cup pairs in position in the puck body.

Still a further feature resides in interconnecting pairs of cups to maintain same in predetermined relative disposition to facilitate moulding of the puck and to assist in anchoring the cups in the puck body.

With reference to the accompanying drawings,

Figure 1 is a plan view of a puck embodying the invention.

Figure 2 is a vertical sectional view through the puck of Figure 1.

Figure 3 is a perspective view illustrating the ball-retaining means embedded in the puck of Figures 1 and 2.

Figure 4 is a plan view showing a modified form of the invention.

Figure 5 is a part elevational, part vertical sectional view of a puck constituting a further embodiment of the invention.

Figure 6 is a perspective view of the ball-retaining means employed in the puck of Figure 4.

With reference first to Figures 1 to 3, the puck generally designated at 1 comprises a circular disc formed of a mouldable material, preferably hard rubber, in accordance with regulation puck construction but which may of course be formed of other material of a generally similar nature, such as synthetic, rubber composition or a rubber-like polymer plastic material.

Embedded in the body of the puck 1 are a plurality of ball or roller retainers 2. These retainers 2 are of

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cylindrical cup shape and are preferably connected together in pairs by means of connecting portions 3 so that pairs of cups 2 are oppositely disposed and open through opposite faces 4 and 5 of the puck body 1. The connecting portion 3 between each of the cup pairs is preferably formed with an annular flange 6 which forms an anchor means fixing and locating the cups in the puck body against displacement.

As shown in Figure 3, to facilitate the relative disposition of the pairs of retainers or cups 2, a frame 7 in the form of a triangle connects three sets of the paired retainers 2 into a fixed relative disposition. The connection between the frame 7 and the cup pairs is preferably made through the annular flanges 6.

To construct the puck of Figures 1 and 2 the three pairs of retainers 2 are located in a suitable mould with their relative disposition being predetermined and fixed by the frame 7. The material from which the puck body 1 is made can then be moulded around these retainers to anchor them in position in the puck. By forming the puck of a resilient rubber or rubber-like material the retainers 2 are inherently shock-mounted against blows imparted to the puck when it is being manipulated or shot against a hard surface.

The cups 2, opening through the opposite faces of the puck body 4 and 5 have introduced therein balls 8, with a portion of the rolling surface of the balls projecting beyond the faces 4 and 5. After insertion of the balls 8 the annular edges or lips 9 are rolled over to retain the balls within the cups but leaving the balls to rotate to carry the puck along a friction surface in rolling engagement therewith.

Figures 1 and 2 illustrate a puck embodying three sets of paired ball retainers. Figure 4 illustrates a puck having four sets of ball retainers 2 connected in pairs and connected in relative disposition by means of a frame 10 of a square configuration rather than the triangular frame 7.

Figure 5 illustrates the employment of individual paired ball retainers or cups 2 which are not connected by any frame corresponding to the frames 7 and 10, so that these cup pairs may be located as desired in the puck body. Any number may be employed and their location disposed as desired while giving stability to the puck to roll over a hard or friction surface.

While it is desirable to connect the cup pairs together to facilitate their location and relative disposition in the puck body, it will be understood that individual ball or roller retainers may be employed and arranged to open through one of the faces of the puck body.

In manipulating the puck the balls 8 will run on a friction surface and will provide the same gliding effect to a remarkably similar degree as the movement of a conventional puck on an ice surface.

Further the puck may hop and roll and flip over to bring the opposite face downwardly and still glide along the friction surface.

A particular purpose of the puck contemplated is its use to play hockey on pavements where the player wears conventional roller skates, and the puck can be manipulated and stick-handled to closely and realistically enable the ice hockey game to be duplicated.

It will be appreciated that, while the above disclosure illustrates the preferred embodiment of the invention, various modifications and details of structure may be made without departing from the scope of the appended claims.

What I claim as my invention is:

1. A puck formed from a mouldable material and having substantially completely embedded therein a plurality of ball retaining cup members opening through opposite end faces of said body, the mouldable material of the

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puck intimately conforming around and resiliently gripping said cup members and ball members retained in said cup members and presenting rolling surfaces beyond said end faces.

2. A puck formed of moulded material of the character of hard rubber a plurality of ball retaining cup members embedded and shock mounted in said puck and extending through said puck and opening through opposing faces of said puck, the mouldable material of the puck intimately conforming around and resiliently gripping said cup members and ball members rotatably retained in said cup members and presenting rolling surfaces extending beyond said opposing faces.

3. A puck as claimed in claim 2, in which said cup members are arranged in opposing pairs and connected together in opposition with one of the cups of each of said cup pairs opening through one face of said puck and the other cup of the pair opening through the other face of said puck.

4. A puck as claimed in claim 3 in which each of said connected cup pairs has the connection thereof formed to present a portion of enlarged perimeter to constitute anchor means, and the material of the disc is moulded around said anchor means.

5. A puck as claimed in claim 4 in which said pairs of connected cup members are secured to each other by means maintaining said cup pairs in predetermined relative disposition.

6. A puck as claimed in claim 5 in which said means connecting said pairs of cup members are secured to the anchor means connecting the pairs of cups in pairs.

7. A puck of the character described formed of a mouldable material having embedded therein roller re-

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tainer housings opening through and flush with the faces of said puck, and roller means retained in said housings and presenting rolling surfaces exposed beyond said housings, the mouldable material of the puck intimately conforming around and resiliently gripping said cup members.

8. In a puck formed from a mouldable material, a plurality of bushing members, said bushing members being connected together in spaced relation to comprise a unit, said unit being substantially completely embedded within the body of said puck, with the material of the puck surrounding and intimately conforming with and resiliently gripping said unit, roller means retained in said bushing members and presenting roller surfaces projecting beyond opposite faces of the puck body.

9. In a puck formed from a mouldable material, a plurality of bushing members, said bushing members being connected together in spaced relation to comprise a unit, said unit being substantially completely embedded within the body of said puck, with the material of the puck surrounding and intimately conforming with and resiliently gripping said unit, and said bushing members opening through opposing faces of said body, and roller means retained in said bushing members and presenting rolling surfaces extending beyond said opposing body faces.

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