United States Patent [19]

Smelden

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[45] **Mar. 19, 1974**

[54] **SLIDEABLE PUCK**

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[52] **U.S. Cl.** ..... **273/128 R**

[51] **Int. Cl.** **A63b 71/00**

[58] **Field of Search** ..... 273/126 R, 126 A, 128 R, 273/128 CS, 136 E, 137 R, 137 A, 137 AE, 137 AB, 137 AC, 137 AD, 137 B, 137 C, 137 D, 137 F, 137 W

[56] **References Cited**

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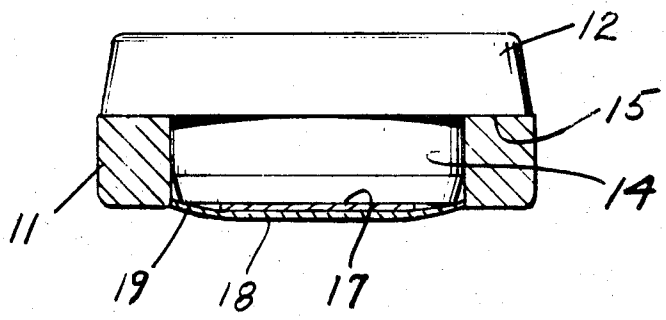
Primary Examiner—Richard C. Pinkham

Assistant Examiner—Theatrice Brown

[57] **ABSTRACT**

A slideable puck of novel design for use with a shuffleboard table. The puck is constructed of a substantially solid aluminum base member having a stud portion which defines a shoulder on the base. An annular ring portion constructed of steel has an inside diameter defining an interference fit with the diameter of the stud member for permanently nesting the steel ring on the shoulder portion of the aluminum base member. The thickness of the ring is greater than the height of the stud portion for defining a recess portion. A disc of fabric material, preferably felt, is located in the recess. The puck is propelled on the felt material, which places the heavier steel portion closest to the table. The steel ring has an outside diameter greater that the outside diameter of the aluminum base member for absorbing impact damage resulting from contacting other objects.

9 Claims, 5 Drawing Figures



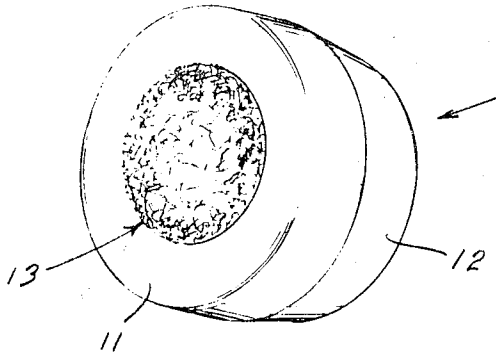
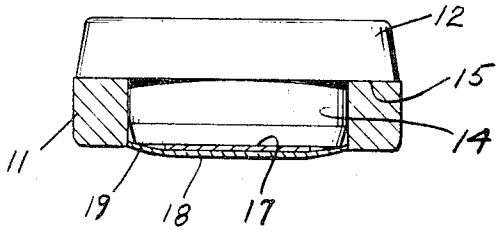


FIG. 1.

FIG. 3.



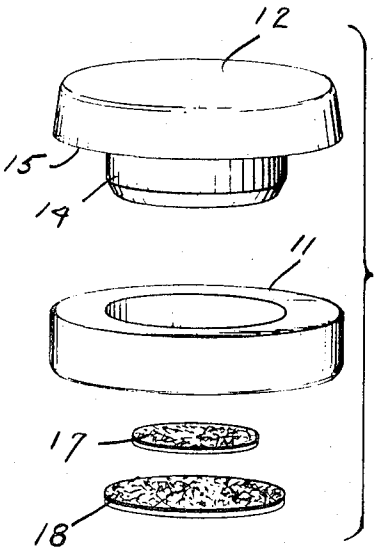
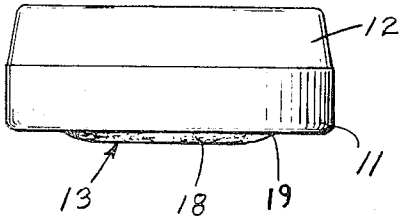


FIG. 2.

FIG. 4.



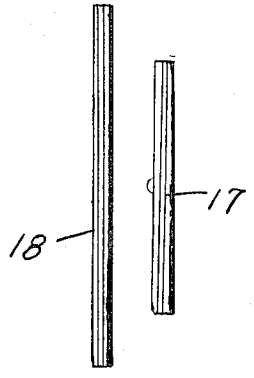


FIG. 5.

SLIDEABLE PUCK

This invention relates to a slideable puck, and more specifically to a slideable puck for use on a shuffleboard table, that eliminates the need for using wax or other external means to reduce friction between the moving puck and the base of the table.

The game of shuffleboard is usually played upon an elongated table having a substantially flat surface, and is generally played according to the same rules as floor shuffleboard. A weighted object called a puck is propelled from one end of the table to the opposite end in such a manner as to stop at some predetermined position calculated to give a maximum score.

The opposing player attempts to propel his puck to the opposite end of the table in such a manner as to land in a predetermined area having a score greater than his opponent's. It is also an object of the game for each subsequent player to attempt to contact the puck of the opposing player in such a manner as to dislodge his puck from the preferred position while, at the same time, allowing his own puck to remain in an area having a high numerical content.

A puck suitable for the game of table shuffleboard must therefore have a weight content sufficient to displace the opponent's puck when contacted at the far end of the table. In addition, the puck must have the capability of freely sliding along the shuffleboard table with a minimum of friction and substantially under the control of the user when propelled at a distance. Since the puck is usually held in the hand and grasped by the fingers when used, the external size of the puck is generally limited by the hand of the user.

The game of shuffleboard is usually played on a table of approximately 20 to 40 feet long, and hence the color of the individual pucks must be easily discernable at a distance by the opposing player. Since the pucks normally contact each other, it is most important that the integrity of the pucks and the identifying color of the pucks be maintained during the game.

In the prior art, pucks have normally been constructed to have sliding surfaces of metal in contact with the shuffleboard table. Slideability between the metal surfaces of the puck and the table is generally under the control of external waxes and powders constantly required to achieve a smoothly operating puck. Color identification of the individual pucks has always been a problem, since contacting of pucks against each other has tended to chip and mar painted surfaces, which tends to destroy the color coding of the individual puck and also create debris which interferes with the slideability of the puck on the table.

Different attempts have been made to solve these problems, of which the Tjomsland U.S. Pat. No. 2,606,030 is an excellent example. The disclosed puck contains a plurality of parts identified primarily by a rubber bumper intended to protect the surface against damage when contacted by another suitable projectile.

In the present invention, there is disclosed a puck comprised basically of two parts. The first part consists of a solid member having a centrally located stud portion defining a shoulder portion. The second member comprises a ring member having an inside diameter defining an interference fit with said stud portion for holding said ring member on a shoulder of said solid member in a nesting relationship. The ring member has

a thickness that is greater than the length of the stud member for defining a recess between the end of the stud portion and the annular ring portion.

In the preferred embodiment, the base member is preferably constructed of anodized aluminum having a preferred color for easy identification. The ring member is preferably constructed of steel and has a diameter that is greater than the diameter of the aluminum base member, thereby insuring that the steel ring will absorb all impact damage resulting from contacting other objects.

A disc of material, preferably felt and having a thickness that is generally thicker than the thickness of the recess, is adhesively attached to the end portion of said stud member to provide a base for sliding the puck on the shuffleboard table.

The completed puck, when sliding on the felt material, has the steel ring in the lowermost portion close to the shuffleboard table, thereby providing a low center of gravity for the weighted puck. The anodized aluminum having a preferred color and a diameter that is less than the diameter of the steel ring and is easily identifiable at a distance and is protected from contact with other pucks by the oversized diameter of the steel ring.

The felt base located in the recess between the end of the stud member and the thickness of the steel ring allows the puck to slide on the shuffleboard table without the need of external waxes or special sliding powders of any kind. It has been further discovered that the felt disc allows the user to completely control the movement of the puck, since there is no predetermined grain structure on the felt to interfere with the spin or control imparted by the user. The individual felt pads are easily removed and replaced by the user without disassembling of the individual puck.

Further advantages of the invention will be made more apparent by referring now to the accompanying drawing, wherein:

FIG. **1** is a perspective view of the complete puck assembly constructed according to the principles of the present invention;

FIG. **2** is an exploded view of the individual components comprising the completed puck assembly as illustrated in FIG. **1**;

FIG. **3** is a partial cross-section of the puck assembly;

FIG. **4** is a side elevation of the puck assembly; and

FIG. **5** illustrates the preferred embodiment of utilizing two different diameters of adhesively backed felt material as the sliding element on the puck assembly.

Referring now to FIG. **1**, there is shown a perspective view of the complete puck assembly **10** illustrating the steel ring **11**, the solid aluminum base member **12**, and the slideable material **13**.

In normal use, the puck assembly **10** is used with the slideable material **13** in contact with the base of the shuffleboard table. In the preferred embodiment, the slideable material **13** is constructed of a disc of adhesively backed felt material that reduces wear and scratches on the shuffleboard table. It also increases the speed and controlability of the puck assembly. The disc of adhesively backed felt material **13** is easily replaced without disassembly of the puck assembly **10**

and, in addition, eliminates the need for wax or external speed powders.

The steel ring **11** has a density greater than the density of the aluminum base member **12** and is located on the bottommost portion of the puck, thereby keeping the center of gravity as low as possible to insure controlled movement of the puck when externally propelled during operation. The external diameter of the steel ring **11** is larger than the external diameter of the aluminum base member **12,** to provide a contacting surface when urging one puck against another puck during the game operation. In other words, the steel ring not only provides the heavy weighted portion of the puck for controlability but also extends beyond the aluminum portion to protect the aluminum portion and thereby absorb all impact damage when pucks contact each other or external objects during the game.

The aluminum base member **12** is preferably anodized a preferred color in order to provide instant visual recognization of the puck at a distance. The anodizing of the aluminum base member **12** is achieved during manufacture and is not subject to cracking or blistering or destruction during the game in view of the oversize diameter of the ring member **11.**

Referring now to FIG. **2,** there is shown an exploded view of the puck assembly **10** which illustrates how the individual components of the steel assembly **11,** aluminum base **12,** and the slideable material **13** are connected together to form the complete assembly.

The aluminum base member **12** contains a stud portion **14** having a diameter that is less than the diameter of the base member **12,** in order to define a shoulder **15.** The internal diameter **16** of the steel ring **11** has a diameter that defines an interference fit with the diameter of the stud portion **14.** During the construction of the puck assembly, the steel ring assembly **11** is sweated on the stud portion **14** during an operation that initially uses heat to expand the steel ring **11** at the same time that the stud portion **14** is artificially cooled. The sweating operation overcomes the interference fit existing between the stud portion **14** and the internal diameter **16** of the steel ring **11.** During assembly, the steel ring **11** is inserted over the stud portion **14** until the ring assembly rests upon the shoulder **15.**

Cooling of the complete puck assembly **10** provides a solid unitary structure with the steel ring **11** permanently attached to the stud portion **14** of the aluminum base member **12.** The adhesively backed slideable material **13** is then attached to the end of the stud portion **14** to complete the assembly.

Referring now to FIG. **3,** there is shown a partial cross-section illustrating the steel ring **11** and the aluminum base member **12.** In the preferred embodiment, the thickness of the steel ring **11** is slightly wider than the length of the stud portion **14** located on the aluminum base member **12** and thereby provides a slight recess between the ring member and the end of the stud member when in the final assembled condition. The slideable material **13** is chosen to have a thickness greater than the thickness of the recessed portion in order to provide a bearing surface for the puck assembly **10.** The adhesively backed slideable material **13** is simply pressed on to the end portion of the stud **14,** and should the material be damaged or cut during the game, it is only necessary to peel off the defective felt material and replace it with another of similar size.

A smaller diameter adhesively backed felt material **17** is located on the central portion at the end of the stud portion **14.** A larger diameter adhesively backed felt material **18** having a diameter equal to the diameter of the stud portion **14** is placed over the smaller diameter felt **17** and pressed in place. The periphery portion **19** of the large diameter felt **18,** having the same thickness as the thickness of the recessed portion, therefore fits into the recessed portion between the steel ring **11** and the end of the stud portion **14,** whereas the centermost portion comprises the thickness of the large diameter felt **18** and the smaller diameter felt **17,** which has the effect of producing a concave shape for the slideable material **13.** In practice, the concave material keeps the underside of the steel ring **11** above the playing surface of the shuffleboard and reduces wear and scratches, with an increase in puck speed. The recess between the stud member **14** and the ring **11** protects the periphery portion **19** of the felt **18** as the puck is propelled. The recess also protects the felt from otherwise peeling or splitting during use.

Referring now to FIG. **4,** there is shown a side elevation of the complete puck assembly **10** showing the concave effect of the two felts **18** and **19** forming the slideable material **13** described in connection with FIG. **3.**

Referring now to FIG. **5,** there is shown a cross-sectional view of the small diameter adhesively backed felt material **17** and the large diameter adhesively backed felt material **18** as illustrated in FIG. **3.**

This completes the description of the invention. However, it will be recognized by those skilled in the art that the specific shape of the slideable material may be achieved by using a single material having the desired concave structure or, further, that a buffer material may be attached to the centermost portion of the stud member and a single, larger diameter felt material placed over the complete end portion of the stud assembly. The exact shape of the slideable material and the specific fabric concerning the slideable material is a matter of design within the teachings of the present invention.

I claim:

1. A slideable puck comprising:

a solid member having a centrally located stud portion defining a shoulder portion on said member,

a ring member having an inside diameter defining an interference fit with said stud portion for holding said ring member on the shoulder of said solid member in a nesting relationship,

said ring member having a thickness greater than the length of said stud member for defining a recess betweeen the end of said stud portion and the end of said ring member, and

a disc of material adhesively attached to the end portion of said stud member, whereby the puck slides on said material when externally propelled.

2. A slideable puck, according to claim **1,** in which said solid member is aluminum and said ring member is steel, and in which the outside diameter of said steel ring member is greater than the outside diameter of said solid aluminum member for absorbing impact damage resulting from contacting other objects.

3. A slideable puck, according to claim **1,** in which said solid aluminum member is anodized a preferred color to enhance and improve visual identification of said puck.

4. A slideable puck, according to claim 1, in which said disc of material is constructed of a wool fabric.

5. A slideable puck, according to claim 1, in which said disc of material has a thickness at the periphery substantially equal to the thickness of said recess, whereby the edge portions of the disc are protected by a steel ring.

6. A slideable puck, according to claim 1, in which the centermost portion of said disc of material is thicker than at the periphery to thereby provide a bearing surface for the puck when propelled.

7. A slideable puck, according to claim 1, in which said disc of material comprises a first disc having a diameter substantially smaller than the diameter of said stud member and adhesively attached to the centermost portion of said stud member, and

a second disc having a diameter substantially equal to the diameter of said stud member and adhesively attached to the centermost portion of said stud member and over said first disc.

8. A slideable puck, according to claim 7, in which the thickness of said second disc is substantially equal to the thickness of said recess, whereby the edge portions of the second disc are protected by a steel ring.

9. A slideable puck, according to claim 7, in which each of said discs is comprised of a fabric wool material.

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