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(54) **QUICK-CHANGE FOOSBALL TABLE ROD HANDLES**

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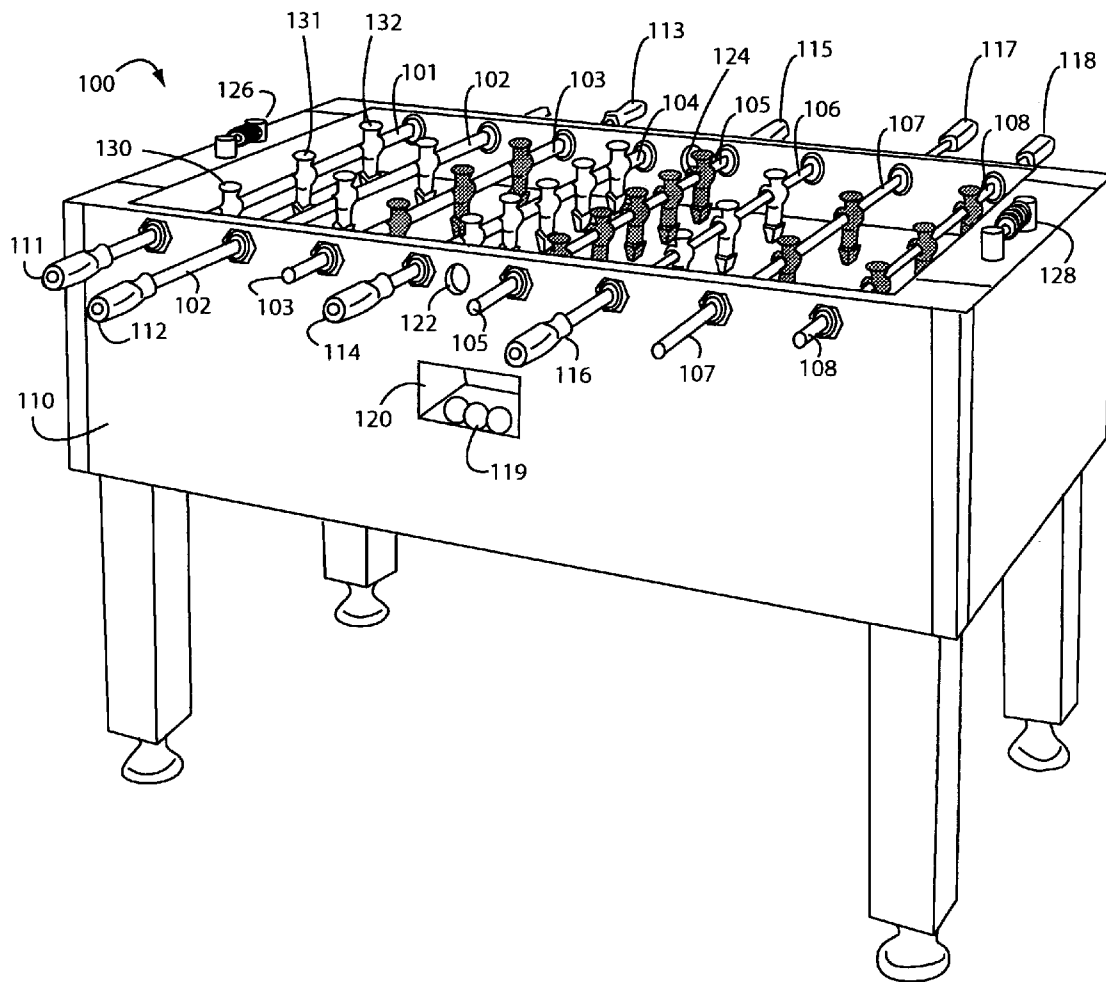
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(57) **ABSTRACT**

A table soccer game includes quick-change handles attached to one end of each of the player-figure rods. Each rod is drilled near one end to retain a roll-pin that secures a handle core or adaptor. A variety of standardized, interchangeable handle shells can be quickly docked onto any of the handle cores. The outside diameters vary, materials, firmness, and profiles of the handle shells vary and are chosen to suit individual players preferences. The shells are secured to the adaptors with a fastener or quick-release locking device.

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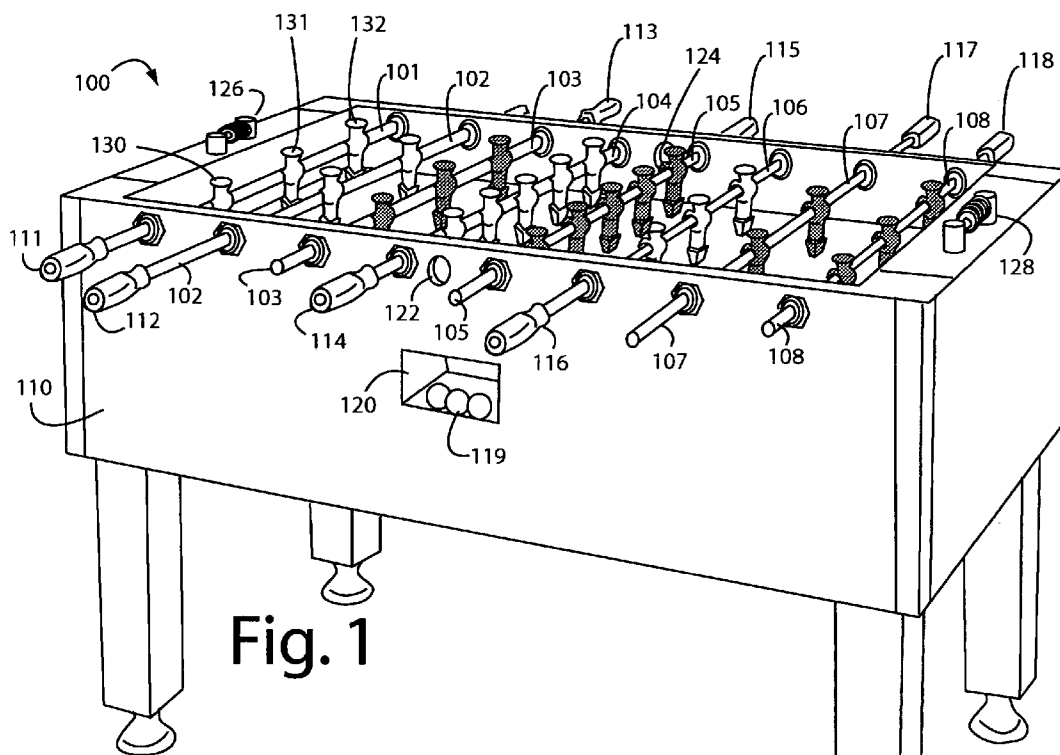


Fig. 1

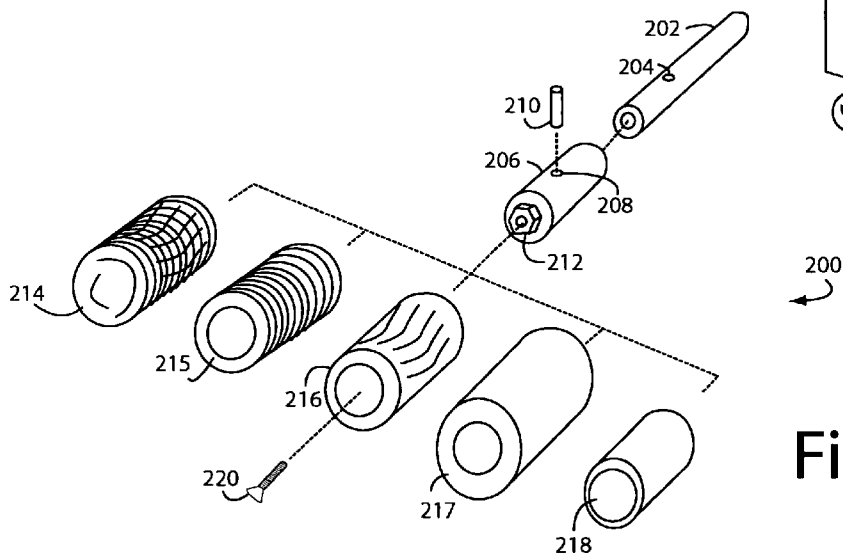
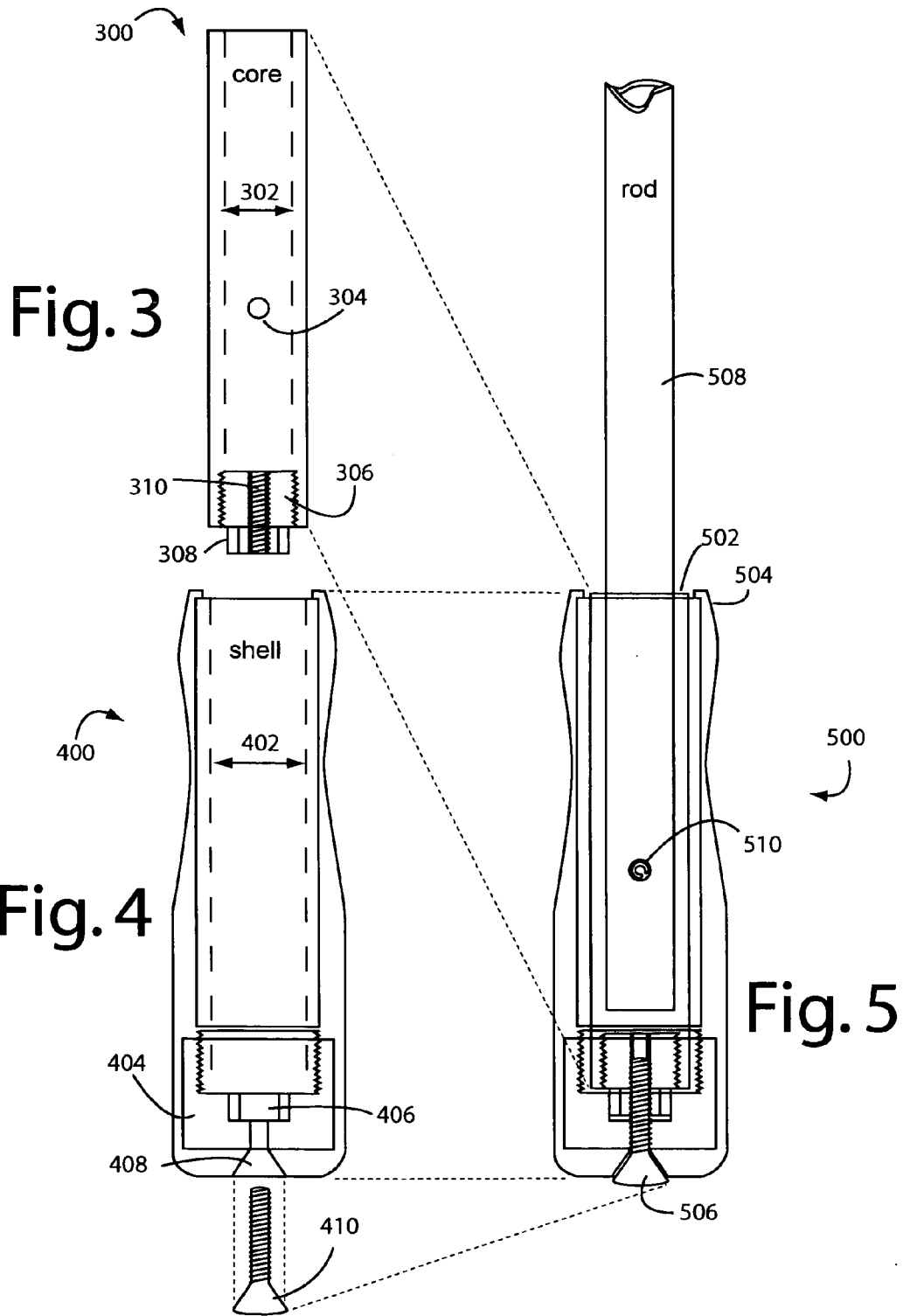


Fig. 2



## QUICK-CHANGE FOOSBALL TABLE ROD HANDLES

### BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to football and soccer tables, and more particularly to methods and devices for quick-change rod handles.

[0003] 2. Description of Related Art

[0004] Table soccer, or “foosball” as it seems to be spelled in German, is based on a miniature soccer/football playing field and has evolved from a parlor game into a competitive sport. The first table soccer games appeared in France and especially Germany in the 1920’s. The earliest mention of it in a United States patent seems to have been by Xaver Leonhart, who describes a commercial foosball table in his U.S. Pat. No. 3,400,930, issued Sep. 10, 1968. It shows a guard device that is used to keep the balls with the table by having a captive path that is used to return the ball from the ball return to the serving hole. Today, there are professional foosball players, player’s associations and a growing number of foosball competitions with very substantial prize monies.

[0005] A typical foosball table is a four-legged, floor-standing cabinet about 56"×30"×36". A playing surface marked like a soccer playing field has goals at opposing ends. Player figures, or “men”, are skewered on eight horizontal parallel rods. Each side maneuvers four rods, typically with eleven or thirteen player figures each. The rods can be twisted, and slid side-to-side a limited distance, to get the feet of the player figures to kick or block the ball in play. The first side to score five goals wins the game.

[0006] The first two rods form a defensive zone in front of the goal. The rod nearest the goal has three men, or goalies, and the second rod has two men. In conventional foosball tables, these rods have molded wooden handles on one end that are stapled in place with a roll-pin.

[0007] The next rod belongs to the opponent and has its handle mounted on the other side of the table. Such “striker row” has three men. The fourth rod is the midfield row and has five men. The fifth rod is the opponent’s midfield row. The sixth rod is the striker row. And the seventh and eighth rods are the opponent’s defensive zone.

[0008] All the handles for each competitive side are on the same side of the table. There are four handles on each side, enough for two teams of two to play each other. The teams periodically switch sides of the table to eliminate any advantage one side may have over the other. The player figures in high-quality tables sold in the United States are balanced so their feet will not drop if the player lets go of the control rods. This allows singles to play more easily.

[0009] Serious foosball players often put rubber inner tube sleeves, bandage wraps, and/or rosin on their handles to improve grip during play. In competition play, each player has only a short defined amount of time to remove anything they’ve done to their handles when it is time to switch sides. Current rules allow only sixty seconds to switch sides after each game. The ubiquitous use of wooden handles secured with roll-pins makes it very difficult to install and remove customized handles quick enough during competitive play.

### SUMMARY OF THE INVENTION

[0010] Briefly, a foosball game embodiment of the present invention comprises a table soccer game with quick-change handles attached to each of the player-figure rods. Each rod is drilled near one end to retain a roll-pin that secures a handle core or adaptor. A variety of standardized, interchangeable handle shells can be quickly docked onto any of the handle cores. The outside diameters, materials, firmness, and profiles of the handle shells vary and are chosen to suit individual players preferences. The shells are secured to the adaptors with a fastener or quick-release locking device.

[0011] An advantage of the present invention is handles are provided for table soccer games that are quickly and easily interchanged.

[0012] Another advantage of the present invention is that table soccer handles are provided that a player can retain from table to table.

[0013] A still further advantage of the present invention is that a table soccer game is provided in which each player-figure rod handle can be different.

[0014] The above and still further objects, features, and advantages of the present invention will become apparent upon consideration of the following detailed description of specific embodiments thereof, especially when taken in conjunction with the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0015] **FIG. 1** is a perspective view diagram of a table soccer game embodiment of the present invention with quick-release handles attached to each of the eight player-figure control rods;

[0016] **FIG. 2** is perspective view diagram of a modular table-soccer handle system embodiment of the present invention with interchangeable handle shells;

[0017] **FIG. 3** is a side view diagram of a handle core embodiment of the present invention for mounting on a player figure rod like those in **FIGS. 1 and 2**, and for receiving a handle shell as illustrated in **FIGS. 2 and 4**;

[0018] **FIG. 4** is a side view diagram of a handle shell embodiment of the present invention for attachment to the handle cores as illustrated in **FIGS. 2 and 3**; and

[0019] **FIG. 5** is a side view diagram of a modular table-soccer handle system embodiment of the present invention in which the handle core of **FIG. 3** has been installed on a player figure rod with a roll-pin, and the interchangeable handle shell of **FIG. 4** has been fastened over that with an end screw.

### DETAILED DESCRIPTION OF THE INVENTION

[0020] **FIG. 1** illustrates a table soccer game embodiment of the present invention, and is referred to by the general reference numeral **100**. The table soccer game **100** comprises a set of eight horizontal parallel rods **101-108** arranged above a playing field in a table **110**. Each of these rods **101-108** is fitted with a respective quick-change handle **111-118**. These handles are distributed on respective sides according corresponding teams. For example, handles **111, 112, 114, and 116** belong to a first team and are used to

manipulate the lighter colored player men to advance the ball to the goal on the right, and to defend against the opponent advancing the ball to the goal on the left. Similarly, handles **113**, **115**, **117**, and **118** are controlled by the opposing team. Balls **119** that have passed through the goals on each end will drop to a ball return **120**. A pair of service holes **122** and **124** are used to start the game. A pair of score keepers **126** and **128** are provided above the goals at each end. A row of player figures, as represented by “men”**130-132**, are skewered on each of the rods **101-108**. Each side’s men are color-coded differently.

[0021] In competitive play, a each singles or doubles team will consist of one or two players on the same side of table **110**. The defensive player on the first team would control handles **111** and **112**. That player’s offensive teammate would control handles **114** and **116**. The second team’s defensive player would be on the opposite side controlling handles **117** and **118**. The second team’s offensive player controls handles **113** and **115**.

[0022] When play is about to begin on each side, each player installs their own specialized handles according to their particular preferences. The quick-change handles **111-118** are all interchangeable and have standardized adaptors with interlocks and fasteners. The installation, and removal of any preexisting handle takes only a moment. It can either be done by hand or with a simple common tool like an Allen wrench. However secured, the handles must not come loose inadvertently during play. Such prohibition can be challenging because the handles are subjected to very rough use.

[0023] FIG. 2 shows a quick-change handle system embodiment of the present invention, and is referred to herein by the general reference numeral **200**. The system **200** can be used in game **100** of FIG. 1. A player-figure control rod **202** is drilled with a roll-pin hole **204**. The rod **202** is typically constructed of high quality spring steel and is chrome plated. Most commercial rods are hollow in the center. An adaptor **206** has a hole **208** through which a roll-pin **210** is driven. The adaptor **206** is aligned on rod **202** so the roll-pin **210** also passes through hole **204**. The adaptor and roll-pin fit on the rod are such that the fit is secure and wobble-free. A male hex interlock **212** is disposed on the distal end of the adaptor **206**. Such engages a matching female interlock disposed inside a selection of handle sleeves **214-218**. The selected one of these is secured with an Allen screw **220**.

[0024] The handle sleeves **214-218** are all interchangeable because they all have standardized internal dimensions and hex interlocks that fit the adaptor **206** and its male hex interlock **212**. Interchangeability is critical in order for the foosball players and equipment manufacturers to have the maximum benefits of the present invention. Each of handles **214-218** have a different external size, texture, profile, feel, and grip. Players with smaller hands will be more comfortable with smaller handles. Players that use “rollover shots” or “wrist shots” where the handles are rapidly rolled from the wrist over the palm to the fingers, will prefer smooth, soft handles with no ribbing.

[0025] Handles **214-218** may have cammed-profiles or rib indexes that allow a player to feel the rotational angle. If these are properly indexed with the men **130-132** on a particular rod **101-108**, the player may be able to know the

relative position of the feet of those player figures without taking time to look. Such could be advantageous in competitive play.

[0026] Embodiments of the present invention may adapt conventional bicycle and motorcycle handlebar grips for use. Such come in a wide variety of choices and many are ergonomically designed for gripping comfort. These conventional handles will need to be sleeved with a docking tube suitable to engage adaptor **206** properly.

[0027] FIG. 3 illustrates a handle adaptor **300**. Such is hollowed to an inner diameter **302** to fit snugly on a player-figure rod, as in FIGS. 1 and 2. A roll-pin hole **304** allows the adaptor to be secured to such rod. A threaded plug **306** is screwed into the end and includes a male hex interlock **308** and a screw hole **310**.

[0028] FIG. 4 shows a handle shell **400** that will fit adaptor **300**. It has the outward appearance of a motorcycle handlebar grip. Other appearances, some unique to foosball, are also possible. An inner diameter **402** is such that it can slip over adaptor **300** and not wobble. An insert **404** includes a female hex interlock **406** that matches male hex interlock **308**. Other styles and shapes of interlocks are possible. The point is to provide some keying mechanism that will prevent handle shell **400** from rotating on adaptor **300**. A screw hole and relief **408** is provided so a machine screw **410** can fasten to screw hole **310** in adaptor **300**.

[0029] FIG. 5 illustrates a quick-change system **500** in which an adaptor **502**, a handle shell **504**, and a screw **506** are all assembled on a player-figure rod **508** with a roll-pin **510**. The dotted lines in FIGS. 3-5 indicate such can be assembled using adaptor **300** and handle shell **400**. This is also similar to that shown in FIGS. 1 and 2.

[0030] Embodiments of the present invention do not depend on the use of roll-pins or machine screws as fasteners or to retain the adaptors on the rods or the handle shells on the adaptors. What is important is the device used to attach the adaptor to the rod must be secure and near permanent. It’s alright if tools, effort, and time are required to change the adaptor. For the handle shell, it is important that the device that locks the handle shell also be secure. But it is preferable for such to allow a quick release without the use of tools, or if tools are required then something very simple like an Allen wrench. The handle shells must be easily interchangeable within one minute by a person of ordinary skill. It is acceptable for a skilled technician to be required to place or replace an adaptor on a rod.

[0031] In alternative embodiments of the present invention, the player-figure rods themselves are machined or otherwise formed with notches or keyed so that the handle shells can be attached directly without an intermediary adaptor. Such approach would initially require the relatively expensive rods in already manufactured games to be replaced or retrofitted. The resistance to do this would probably be universal and be based on the time and expensive involved. Manufacturers could switch their production of games to include such special rods, but that too would increase costs and meet with resistance from people unwilling to change. The use of adaptors is therefore preferred because the large installed base of foosball games can be easily upgraded and any variations in particular rods can be absorbed in customizing the adaptors.

[0032] Although particular embodiments of the present invention have been described and illustrated, such is not intended to limit the invention. Modifications and changes will no doubt become apparent to those skilled in the art, and it is intended that the invention only be limited by the scope of the appended claims.

What is claimed:

1. A foosball table accessory, comprising:

an adaptor with a fastener for permanent mounting on one end of a player-figure rod of a table soccer game, and having an internal diameter and length providing for a snug fit;

a standardized interlock disposed on the outside surfaces of the adaptor and providing for anti-rotation keying and the one-at-a-time docking of a plurality of handle shells; and

a single fastener for retaining one of said handle shells on the adaptor.

2. The accessory of claim 1, wherein:

the adaptor is in the general form of a tubular sleeve and includes a roll-pin for fastening it to said rod.

3. The accessory of claim 1, wherein:

the interlock is in the general form of a hex nut that engages a matching hex socket in any of said plurality of handle shells.

4. A table soccer handle system, comprising:

an adaptor with a fastener for permanent mounting on one end of a player-figure rod of a table soccer game, and having an internal diameter and length providing for a snug fit;

a plurality of interchangeable handle shells with a variety of external diameters, profiles, textures, and materials that all can be docked and locked onto the adaptor;

a standardized interlock disposed on the outside surfaces of the adaptor and providing for anti-rotation keying and the one-at-a-time docking of any of the plurality of handle shells; and

a single fastener for retaining one of said handle shells on the adaptor.

5. A table soccer game, comprising:

a floor-standing cabinet with a playing field and a plurality of player figures supported on eight horizontal parallel control rods above the playing field;

a plurality of identical adaptors each with a fastener for permanent mounting on one end of each of the player-figure rods, and having an internal diameter and length providing for a snug fit;

a plurality of interchangeable handle shells with a variety of external diameters, profiles, textures, and materials that all can be docked and locked onto the adaptor; and

a standardized interlock disposed on the outside surfaces of all adaptors and providing for anti-rotation keying and the one-at-a-time docking of any of the plurality of handle shells on each of the rods.

6. A method of competitive foosball play with a floor-standing cabinet having a playing field and a plurality of player figures supported on eight horizontal parallel control rods above the playing field, comprising:

fitting a plurality of identical adaptors each with a fastener for permanent mounting on one end of each player-figure rods, and having an internal diameter and length providing for a snug fit;

using a plurality of interchangeable handle shells with a variety of external diameters, profiles, textures, and materials that all can be docked and locked onto said adaptors; and

having a standardized interlock disposed on the outside surfaces of all adaptors and providing for anti-rotation keying and the one-at-a-time docking of any of said plurality of handle shells on each of said rods.

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