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, 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.
INTERCHANGEABLE FOOSBALL-TABLE ROD-HANDLES AND ADAPTERS

BACKGROUND OF THE INVENTION

1. Field of the Invention

2. Description of Related Art

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. A typical foosball table is a four-legged, floor-standing cabinet about 56”x30”x36”. A playing surface marked like a soccer playing field has goals at opposing ends. Player-figures, or “men”, are skewed on eight horizontal parallel rods. Each side maneuvers four rods, typically with eleven or thirteen player-figures each. The poles 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.

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.

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.

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.

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

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.

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

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

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.

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

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;

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

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;

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;

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;

FIG. 6 is a side view diagram of a quick-change handle adapter embodiment of the present invention for mounting inside the distal end of a player-figure rod like...
those in FIGS. 1 and 2, and has an octagonal keyed end for mating with handles similar to those shown in FIGS. 2, 4, and 7;

[0022] FIG. 7 is a side view diagram of a handle shell embodiment of the present invention for attachment to the player-figure rod fitted with the handle adapter shown in FIGS. 4 and 7; and

[0023] FIG. 8 is a side view diagram of a modular table-soccer handle system embodiment of the present invention in which the handle adapter of FIG. 6 has been secured inside the distal end of a player-figure rod using a roll-pin, and the interchangeable handle shell of FIG. 7 has been slipped over the rod and fastened to the octagonal keys with an end screw.

DETAILED DESCRIPTION OF THE INVENTION

[0024] 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 skwered on each of the rods 101-108. Each side’s men are color-coded differently.

[0025] 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.

[0026] 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.

[0027] 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.

[0028] 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.

[0029] 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.

[0030] 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.

[0031] 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.

[0032] 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.

[0033] 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. 2 and 3.

[0034] FIG. 6 illustrates another handle adaptor embodiment of the present invention, and is referred to herein by the general reference numeral 600. Adaptor 600 is sized to an outer diameter 602 to fit inside a distal end of a player-figure rod, as in FIGS. 1 and 2. It is in the general shape of a cylindrical plug. A roll-pin hole 604 allows the adaptor 600 to be secured to such rod. A male octagonal key 606 mates with a handle, a tapped machine-screw hole 608 provides a means to quickly secure such handle.
FIG. 7 shows a handle shell embodiment of the present invention, and is referred to herein by the general reference numeral 700. The handle shell 700 is one of a plurality that will fit adaptor 600. It may have one of many familiar outward appearances. An inner diameter 702 is such that it can slip over a bare player-figure rod and not wobble. An insert 704 includes a female octagonal key 706 that matches its male counterpart, key 608. Other styles and shapes of interlocks are possible. The point is to provide some keying mechanism that will prevent handle shell 700 from rotating on adaptor 600. A screw hole and relief 708 is provided so a machine screw 710 can be used to fasten to the tapped machine screw hole 610 in adaptor 600.

FIG. 8 illustrates a quick-change system 800 in which an adaptor 802 is permanently fastened inside a player-figure rod 804 with a pressed-in roll-pin 806. The player-figure rod 804 has a standard outside diameter 808 which just fits inside a quick-change handle shell 810. An easy-to-access oval head machine screw 812 is used to secure the handle shell 810 to the adaptor 802 and therefore also to the player-figure rod 804. The dotted lines in FIGS. 6-8 indicate such can be assembled using adaptor 600 and handle shell 700. This is also similar to that shown in FIGS. 1-5. When assembled, the handle and adaptor are securely fixed to the player-figure rod and do not allow any relative movement amongst them during use.

Embodiments of the present invention do not necessarily depend on the particular 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. The player-figure rods are industry standard, ubiquitous, and not practical to change-out or modify. So this pre-existing situation must be accommodated by embodiments of the present invention.

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 or Philips screwdriver. The handle shells must be easily interchangeable within one minute by a person of ordinary skill. It is acceptable for a skilled technician and/or special tools to be required to place or replace an adaptor on a rod.

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.

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 a diameter and length providing for a snug fit;
   - a standardized interlock disposed on a distal end of the adaptor and providing for anti-rotation keying and a one-at-a-time docking of a plurality of interchangeable handle shells; and
   - a simple fastener for retaining one of said handle shells on the adaptor.
   - wherein, when assembled, a handle shell and the adaptor are securely fixed to said player-figure rod and do not allow relative movement amongst them during use.

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 a distal end of said player-figure rod.

3. The accessory of claim 1, wherein:
   - the adaptor is in the general form of a cylindrical plug and includes a press-in roll-pin for fastening it inside a distal end of said player-figure rod.

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.