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Nolte

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[54] **TABLE BALL GAME WITH ALTERNATIVELY OPERATED ROTATABLE ATTACK AND DEFENSE PLAYERS**

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[51] **Int. Cl.** **A63f 7/10**

[58] **Field of Search** .... 273/85 R, 85 A, 85 B, 94 A, 273/94 B, 85 C, 85 D, 85 E, 85 F, 85 H, 94 C, 94 D, 94 E, 94 F, 94 H, 94 R

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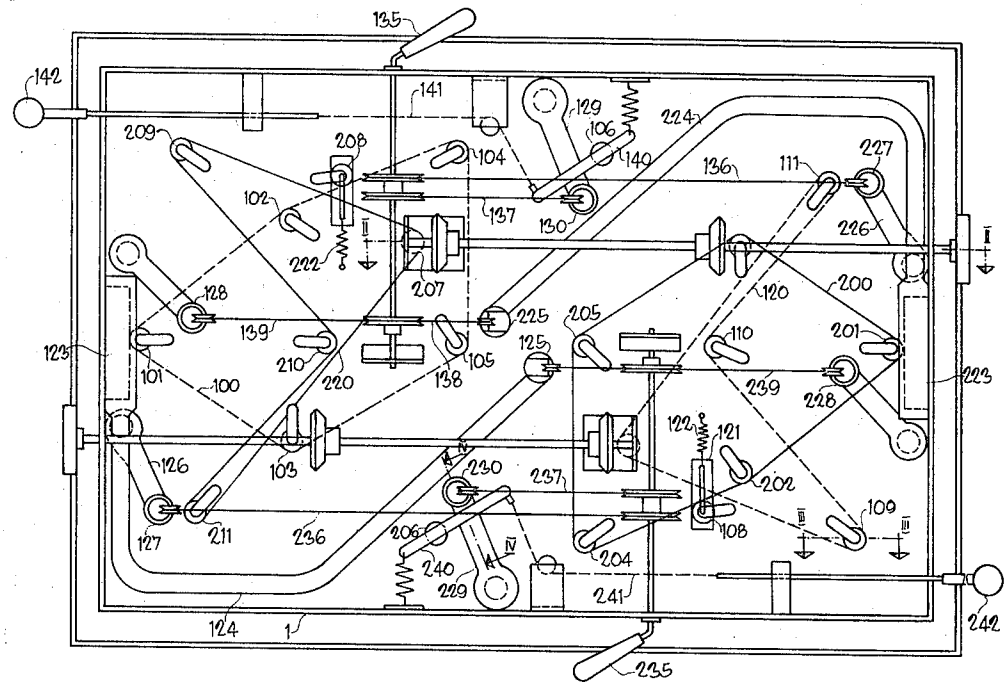
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[57] **ABSTRACT**

A table ball game, more particularly a table football game with player figures distributed over a playing area or field, and a ball moved by the said figures, each of the player figures, which are rigid, comprising a laterally projecting kicking leg, mounted so as to be capable of rotating about its longitudinal axis on a support forming the playing area, and the figures are adapted to be rotated by means of a drive which is operable by a handle, in such a manner that the kicking leg strikes against a playing ball situated in the region of rotational movement of the said leg. The player figures are divided into two teams with each team comprising an attack group and a defense group with means operatively connecting the player figures of each group for conjoint movement. A single-handle actuator for each team selectively actuates the attack or defense group. Openings for capturing the ball are connected to ducts for returning the ball to the playing area.

21 Claims, 5 Drawing Figures



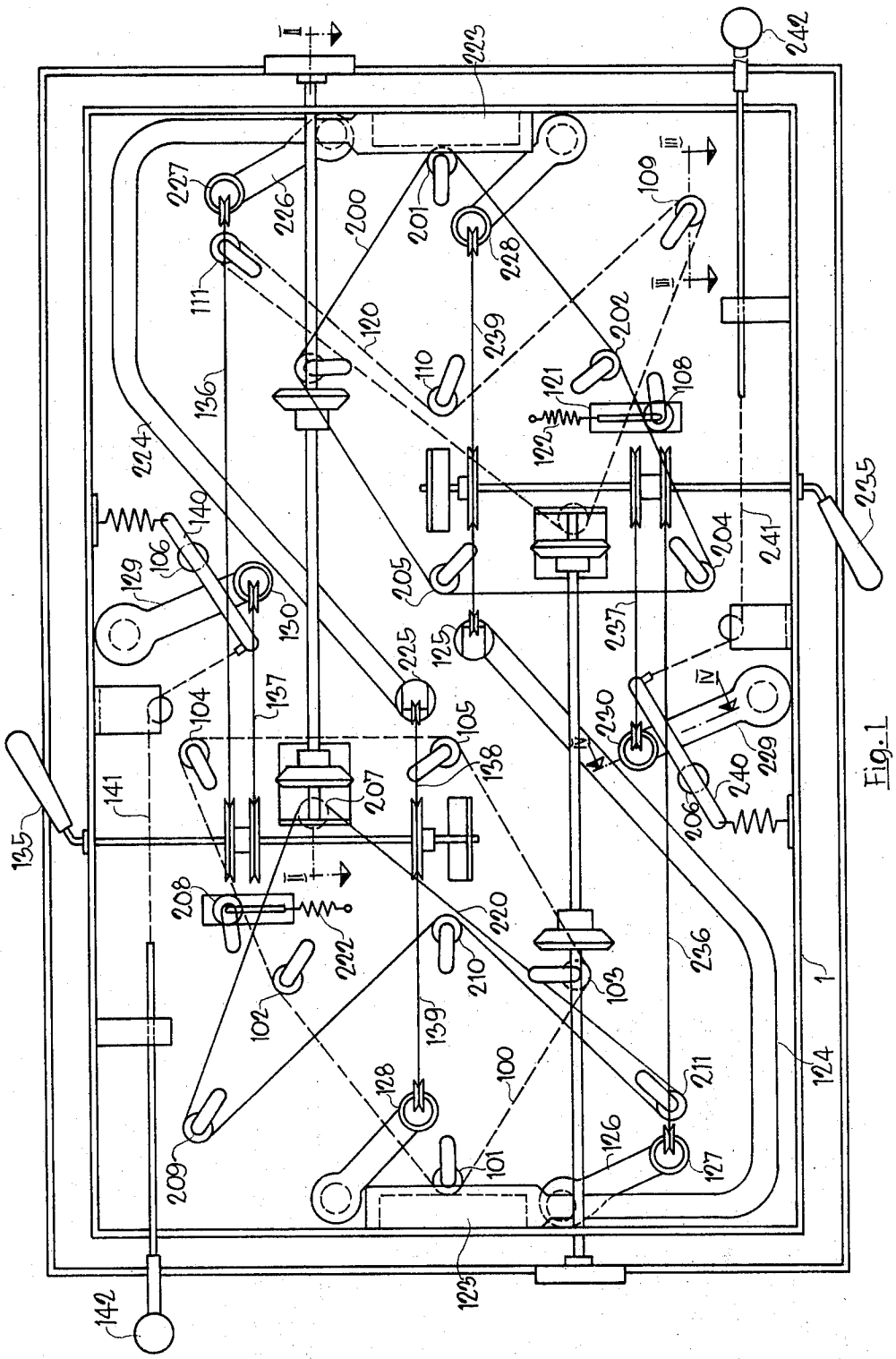


Fig. 1

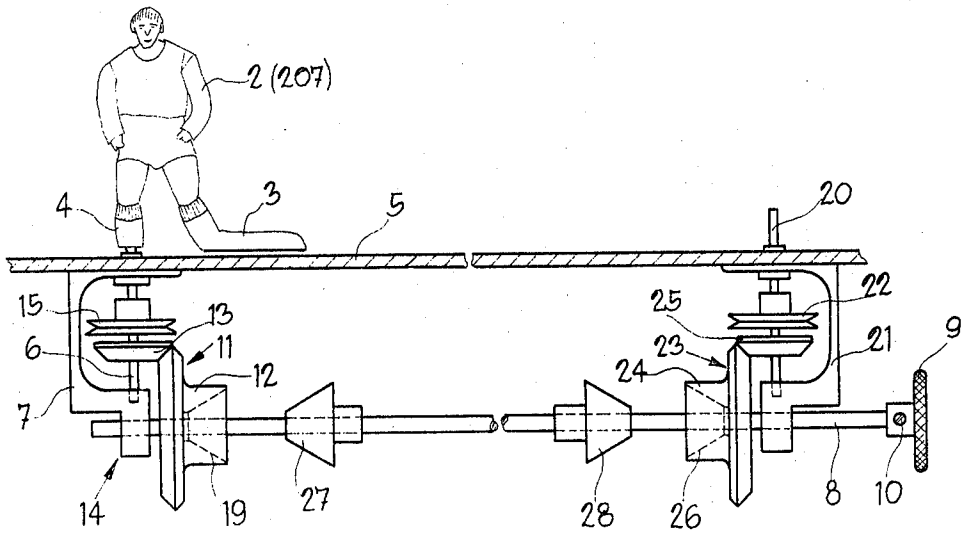


Fig. 2

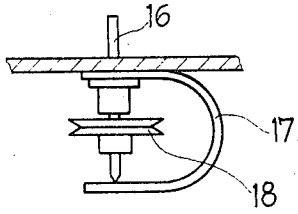


Fig. 3

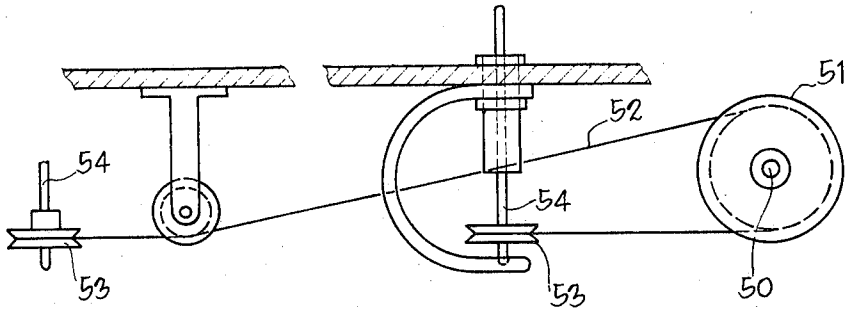


Fig. 5

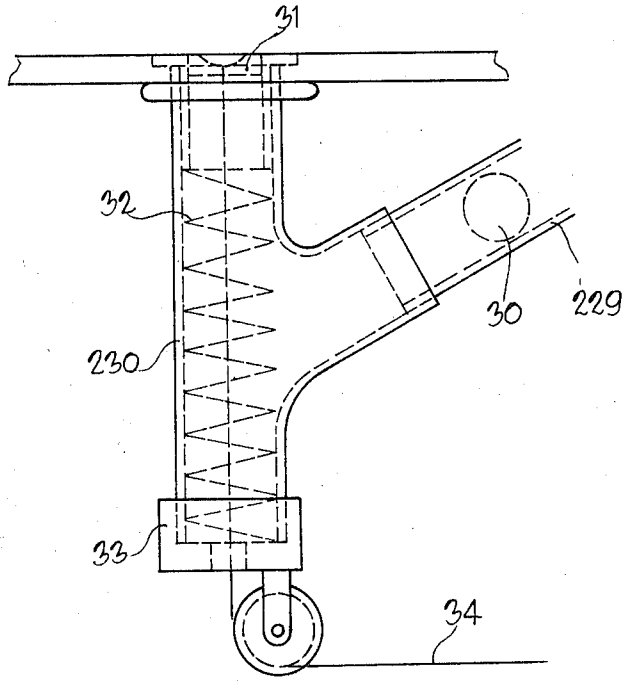


Fig. 4

TABLE BALL GAME WITH ALTERNATIVELY OPERATED ROTATABLE ATTACK AND DEFENSE PLAYERS

The invention relates to a table ball game, more particularly a table football game, with player figures arranged distributed over a playing area, and a ball which can be moved by these figures.

With any table ball game which is based on the model of a real-life game, it is necessary to adapt the movement of the player figures, the pattern of the game and the playing possibilities to the real-life original as far as possible. In games where the players are usually in constant movement, this presents particular difficulties. Moreover the rules of the game which are used in the original often cannot be reproduced in the imitation. Therefore, when designing a table ball game, disadvantageous compromises have always to be made. This is particularly true of table football games, since it is scarcely possible to imitate the original closely owing to the many kinds of playing possibilities and the many special rules of the game.

Table football games are known wherein the players of each team are lined up on rods which can be rotated by means of a handle at the side of the playing area. Several rods are arranged adjacent one another, each second rod being associated with one team. The rods can be displaced axially so that the players mounted on them can cover a strip extending transversely over the playing area and can move a ball which moves into this strip. This is done by turning and/or pushing the rod. This table football game has of course little to do with the original, since the players are not even moved on the playing area but above it. Also, hitting the ball is left more or less to chance, and it is scarcely ever possible to kick in an aimed direction. Furthermore the rules of the game cannot be used, except for kicking at the goal and the initial kick-off.

In another known constructional form, the playing area consists of a sheet to which the goalkeeper can be fixed. Each team consists only of the goalkeeper and one further player. The player figure comprises a push-rod which extends on its longitudinal axis and acts as a push arm on the kicking leg connected to the body of the figure. The ball is moved by placing the player in the vicinity of the ball in such a manner that when the push arm is pressed down the kicking leg hits the ball. In this way it is in fact possible to adapt the kicking movement of the player to the original, but the result of play is left to chance, since what is used as the ball is a polygonal element in the manner of a die, whose surfaces are provided with two different colours. Depending on which colour appears at the top, one or other team is entitled to play, so that the result of play depends on which colour is seen at the top most frequently, and therefore depends on chance.

In another known construction form, the players of a team are mounted tiltably in a recess on the playing area, so that the ball always rolls into these recesses towards the player figure. The ball is played by tilting the figure. In this way the original game is only imitated to an inadequate extent, since owing to the large number of recesses the playing area does not correspond in any way to the original field and the ball always arrives at a player figure without the skill of the player being of any substantial importance.

The invention has as its object to provide a table football game of the type initially described which is so adapted to the original as to permit of substantial imitation of the original playing possibilities, the patterns of the game and the rules of the game.

The object is achieved according to the invention in that the player figures, which are rigid in themselves, comprise a laterally projecting kicking leg, are mounted to be rotatable about their longitudinal axis on the support forming the playing area, and are capable of being rotated by means of a drive to be operated by a handle, in such a manner that the playing leg strikes against a ball situated in the area covered by its rotational movement.

With this construction, a large number of player figures can be arranged on the playing area without the movement drive for the figures becoming too complicated. Because the figures are adapted to be rotated about their longitudinal axis, a laterally projecting kicking leg moves over a circular surface which amounts to a not inconsiderable section of the playing area. The turning movement also makes it possible to imitate the pattern of movement of a kick with the inner side of the foot. This construction also enables the player to move his figures so that they move the ball towards one another. Moreover, the playing area or field is free of any surface irregularities.

Conveniently, the player figures are mounted to be rotatable on the leg on which they are standing, so that the drive for the particular figure is substantially invisible.

In one constructional form, all the player figures of a team can be rotated by a single handle through a common driving mechanism. In this way the operation of the player figures is very simple. In order to permit playing the ball to one another, the figures are preferably so arranged on their axes that the kicking legs of each player figure or groups of player figures are in different positions relatively to the playing area.

In a preferred constructional form, the player figures of a team are divided into a defence group and an attacking group, the attacking group of one team being arranged in the opposing team's half of the field. This mixing of the player figures of the two teams corresponds to what happens in the original game to a very considerable extent.

Advantageously the drive of the defence group and the attacking group of a team is separated by a coupling which can be operated by the handle, and can be operated selectively so that only one part of the team at a time plays the ball. This again is in accordance with what happens in real games. But it is also possible instead to provide separate drives one for the attacking group and one for the defence group.

The driving mechanism advantageously consists of a shaft which can be rotated by the handle, and a mitre wheel gearing connected to the said shaft and driving the spindle of at least one player figure of a team, the drive for the other player figures being taken from this spindle. Thus, by turning the handle either all the player figures of a team or at least one group of players of a team are operated.

In the last-mentioned case one player figure of the forwards group and one figure of the defence group can be driven each by a mitre wheel gearing, these being capable of being connected to the driving shaft by way of a coupling. A constructionally particularly simple

solution is obtained if the driving wheels of the two mitre wheel gearing units have a conical bore which is engaged positively or non-positively by a suitable conical coupling element of the driving shaft.

The gearing units used can be of toothed or friction type. The other player figures of a team or team group can be driven by cable systems which are driven by way of cable pulleys by the particular player figure which is initially driven.

Instead of this driving mechanism, all the player figures can be driven by means of cable systems, a cable pulley being arranged on the spindle of each player.

There can be arranged at the longitudinal and/or transverse-end and/or goal boundary lines of the playing area, openings and ducts connected to them into which a ball which passes over these lines enters and its passed by means of a descending guideway to a lateral "throw-In spot" or a "kick-off spot" in the goal area or to a "corner kick spot" or a "kick-off spot" in the central region of the playing area.

Since the invention permits of any arrangement of the player figures on the field, it is possible to provide at least two lateral "throw-in spots" and one "goal kick spot" and one "corner kick spot" at each goal and also a "kick-off spot" in the middle of the field, and to post a player figure of one or other team in the region of these spots. Consequently the playing roles of the original game can be adhered to and imitated.

In one constructional form the descending guideway opens laterally into a vertical tube which itself opens on to the corresponding spot in the playing area and is closed there by means of spring-loaded plug which can be drawn into the tube by means of, handle, preloading the spring, receives the ball falling into the tube and conveys the ball lying on it to the playing area by releasing the spring, on which the tube is thereby again closed flush with the playing surface. The player figure standing in the region of the mouth of the tube, in other words at the "throw-in spot," "corner kick spot" or the like can then bring the ball back into play.

The playing area can be slightly inclined towards its longitudinal axis so that the ball can roll towards its longitudinal axis of the playing area and be played thereby a player figure.

The invention can of course be used with equal advantage for games of hockey, ice hockey and so forth in addition to a table football game, and in those cases the laterally projecting kicking leg will be replaced by an item of sports equipment such as, for example a hockey stick or the like.

The invention will be described hereinafter with the help of a preferred constructional form shown in the drawings wherein:

FIG. 1 shows a plan view on to one constructional form of table ball game without the playing area;

FIG. 2 shows a section taken on II/II of FIG. 1;

FIG. 3 shows a section on III/III of FIG. 1;

FIG. 4 shows a section on IV/IV of FIG. 1 and

FIG. 5 shows a side view of another constructional form of the drive.

The table ball game comprises a frame 1 which is placed directly on a table or is provided with a suitable stand of its own. Also connected to this frame 1 is a support which forms the playing area and is not shown in FIG. 1. This support bears all the markings, goals and the like which are necessary for the proposed ball game. In FIG. 1 two teams are indicated each comprising eleven player figures. The figures of one team are denoted with the reference numerals 101 to 111, and those of the other team are given the reference numerals 201 to 211. The player figures are so arranged that each team consists of a defence group 101 to 105, or 201 to 205 respectively and an attack group with player figures 106 to 111 or 206 to 211 respectively.

The construction of the player figures is shown in FIG. 2. The player figure 2 which is rigid in itself comprises a laterally projecting kicking leg 3 and a standing leg 4. The player figure is adapted to be rotated about its longitudinal axis on the support 5. For example the standing leg 4 is prolonged through the support 5 and mounted by means of a spindle 6 in a bearing 7 which is also secured to the support 5. The illustrated player figure 2 is directly driven. For this purpose there is provided a shaft 8 extending outwards through the frame 1, with a rotary knob 9 which is secured for example by means of a grub screw 10 to the shaft. The shaft 8 comprises in the region of its end a mitre wheel gearing 11 by means of which the spindle 6 of the player figure 2 can be driven and which can comprise toothed bevel gearwheels or friction wheels. The drawing shows a bevel wheel drive with the driving wheel 12 and the driven wheel 13 which is mounted on the sprindle 6. The shaft 8 is mounted to be rotatable on the bearing 7 at 14. By turning the handle 9 the wheel 12 and the wheel 13 meshing with it are rotated so that the player figure 2 rotates about the spindle 6. As it rotates, its kicking legs 3 passes over approximately a circular area of the playing field.

All the other player figures of a team can be driven from the player figure 2. For this purpose there is provided for example a cable pulley 15 which is mounted on the spindle 6 and has a cable system extending about it. The other player figures of a team are arranged, as FIG. 3 shows, on a spindle 16 which is mounted in a bearing 17 and is provided with a cable pulley 18. The pulleys of the player figures of one team are situated at a different height from the pulleys of the player figures of the other team, so that the various cable systems do not disturb one another.

Each team group — attack group and defence group — can be provided with separate drives or with a common drive with interposition of a suitable coupling. One constructional form of the last-mentioned type is shown in FIG. 2.

The player figure 2 which is shown there is for example the forward player designated as 207 in FIG. 1 of the team shown on the right. The shaft 8 which is used for driving this player figure at the same time drives a player figure of the defence group, for example the player figure 203 in FIG. 1. This is mounted on a spindle 20 guided rotatably in a bearing 21. A cable pulley 22 is also mounted on this spindle.

This spindle 20 is driven by means of the shaft 8 and a mitre wheel gearing 23 comprising a bevel wheel 24 and a further bevel wheel 25 mounted on the spindle 20. To produce a driving connection the bevel wheel 12 shown at the left comprises a conical bore 19 and the bevel wheel 24 shown at the right a conical bore 26. Into this conical bore, suitably conically shaped coupling elements 27 and 28 respectively can engage, to connect the shaft 8 non-positively or positively to the bevel wheels. Depending on the position of the coupling elements 27, 28 either the attack or the defence group is moved.

This can be achieved by adjusting the coupling elements **27, 28** by hand or by constructing the shaft **8** as a push rod which in its left-hand end position closes the coupling **19, 27** and in its right-hand position closes the coupling **26, 28.** The coupling elements **27, 28** may also be so adjusted that the two team groups can be moved simultaneously.

The other player figures of the defence and attack groups are driven by cable systems from a cable pulleys **15** and **22.** FIG. **1** shows such cable systems, **100** or **200** for the defence group and **120** or **220** for the attack group of each team. Conventional apparatus can be provided for tensioning the cable systems. In FIG. **1,** such devices are designated as **121** and **221.** The player figures **108** and **208** mounted there are arranged on a spindle which is capable of being so displaced under spring preload **122, 222,** that the corresponding cable pulley always is applied under pressure against the cable system. FIG. **1** also shows that the kicking legs of the player figures of a team are in various suitably chosen positions in one specific position of the drive.

To correspond to the usual rules of a football game, the arrangement of the player figures is made such that goal kicks, corner kicks, throw-ins and the like can be carried out. For example a ball passing over the goal line passes into an opening **123** or **223** within the goal. The ball travels then through a descending guideway, for example a duct **124** or **224,** which ends in the region of the centre of the field. From this duct the ball is conveyed through a tube **125** or **225** on to the field in the region of the centre of the field. From there the ball can be kicked-off again by the player figure **105** or **205.**

The same is true correspondingly if the ball goes out of the playing area to either side of the goal. It passes through ducts **126** or **226** into a tube **127, 227** and from there on to the field. The player **111** or **211** posted there can then take a corner kick. The same applies to balls which are played by one team over the line at the other team's end of the field. They can be brought to a goal kick spot **128** or **228** and kicked there by the goalkeeper.

Finally, balls which go into touch at the side of the field can be conducted through a duct **129, 229** to a tube **130, 230** from where they are conveyed again on to the field. The precise construction of this device is shown in FIG. **4.** Through the descending duct **229** the ball **30** rolls to the tube **230** which is closed at its top end with a plug **31** which is under the action of a spring **32** supported at **33.** The plug can be drawn downwards in opposition to the spring force by means of a cable **34** so that the ball **30** moves on to the upper end of the plug **31.** After the cable is released, the plug **31** conveys the ball to the surface of the field and closes the tube again. The ball is then situated at the throw-in spot, the goal kick spot or the like.

The plugs provided at the corner kick spot, the throw-in spot, the kick-off spot and the goal kick spot which are associated with one team are operated by a common lever **135, 235** by way of cable systems **136, 137, 138** and **139,** or **236** to **239** (FIG. **1**).

Whereas goal kicks and kick-offs are carried out by the player figures of the team groups described, in the constructional example shown in FIG. **1** a special player figure **106** or **206** is provided for throwing-in. These figures are mounted on a spring-loaded rocking lever **140, 240** which is operated by means of a cable **141, 241** by a pull knob **142, 242.**

In the simplified constructional form shown in FIG. **5,** all the player figures of a team are operated from a single handle. This handle comprises a shaft **50** on which a cable pulley **51** is arranged about which a cable **52** is looped. The cable **52** runs over cable pulleys **53** one of which is arranged on each player figure spindle **54.** The cable **52** is guided at suitably selected points by guide pulleys **55** and loaded by tensioning pulleys as designated for example at **108** and **208** in FIG. **1.** Instead of a cable system, a belt drive can also be provided, in which case the belt may be profiled, for example being provided with studs or perforations. The driving pulleys would then be correspondingly profiled.

What I claim is:

1. A table game, more particularly a table football game having a ball-like member moved along a playing area comprising: a plurality of rigid player figures having a standing leg and a laterally projecting kicking leg, each of said plurality of player figures being mounted on said playing area to be rotatable about a longitudinal axis extending through said standing leg, said plurality of player figures being divided into a first and second team, each of said first and second teams being divided into a defense group and an attack group, said attack group of said first and second team being disposed in the opposing team's half of said playing area, means operatively connecting the player figures in each group for conjoint movement, driving means including a single-handle actuator for each respective team with each actuator including means under the control of an operator for selectively coupling the respective drive means to said defense group or said attack group of said respective team and rotating said player figures of said groups.

2. A ball game according to claim **1** wherein said driving means further includes a shaft adapted to be rotated by said handle, a mitre wheel means connected to said shaft for rotating at least one of said player figures of a respective defense group or attack group of a respective team, and means connected to said last mentioned player figures for rotating other figures of the respective defense group or attack group of the respective team.

3. A ball game according to claim **2** wherein at least a pair of mitre wheel means are provided on said shaft, one of said mitre wheel means being operatively connected with at least one of the player figures of said attack group and the other of said mitre wheel means being operatively connected with at least one of the player figures of said defence group, said coupling means coupling a respective mitre wheel means with said shaft to rotate said player figures.

4. A ball game according to claim **3** wherein each of said mitre wheel means includes a driving wheel and a driven wheel, said driving wheel being provided with a conical bore cooperable with a conically shaped coupling element provided on said shaft.

5. A ball game according to claim **4** wherein said means for rotating the other player figures of a respective group includes a cable means for interconnecting said other player figures with said player figure driven by said mitre wheel means.

6. A ball game according to claim **2** wherein each of said last mentioned player figures is provided with a spindle extending from said standing leg and means are

provided on said spindle cooperating with said mitre wheel means for rotating said player figure.

7. A ball game according to claim **1** wherein said common driving means includes a cable means for interconnecting all the player figures of a respective group.

8. A ball game, according to claim **1** wherein said playing area is defined by boundary lines provided on said playing area, at least one duct means is provided for receiving the ball-like member as it passes over at least one of said boundary lines, and guideway and conveying means are provided for guiding and conveying the ball-like member from said duct means back to said playing area.

9. A ball game according to claim **8** wherein said guideway means is inclined and opens laterally into a vertical tube opening on at least one predetermined area on said playing area, spring-loaded plug means are provided for closing off said vertical tube from said playing area, handle means are provided for pulling said plug into said vertical tube to allow the ball-like member to enter into said vertical tube, whereby upon release of said handle said plug conveys said ball-like member back on to the playing area.

10. A ball game according to claim **9** wherein said driving means further includes a shaft adapted to be rotated by said handle, a mitre wheel means connected to said shaft for rotating at least one of said player figures of a respective defense group or attack group of a respective team and means connected to said last mentioned player figures for rotating the other player figures of the respective defense group or attack group of the respective team.

11. A ball game according to claim **10** wherein at least one player figure of a team rotated by said mitre wheel means is associated with the area of said playing area where said ball-like member is returned to said playing area.

12. A ball game according claim **11** wherein said playing area is slightly inclined towards its longitudinal axis.

13. A ball game according claim **12** wherein each of said teams consists of a number of player figures appropriate to the number of players used in the real-life game.

14. A ball game according to claim **8** wherein said boundary lines include at least a pair of spaced longitudinally disposed lines and at least a pair of transversely extending lines disposed at the respective ends of said longitudinally disposed lines, and at least one said duct means is provided along said longitudinally disposed lines and said transversely extending lines.

15. A ball game according to claim **8** wherein a plurality of duct means are provided and said guideway and conveying means guide to convey the ball-like member to at least one of a lateral "throw-in-spot," a "goal kick spot," a "corner kick spot" or a "kick-off spot."

16. A table game comprising: a playing area, a plurality of ball projectors in the form of player figures rotatably mounted on said playing area, said plurality of player figures being divided into at least a first and a second team, each of said first and second teams of said player figures being further divided into at least two groups, means operatively connecting the player figures in each group for rotating said player figures of said group, a respective operator controlled manual actuator for each of said first and second teams of player figures with each actuator including means for selectively coupling either one of said groups making up one team to selectively rotate the player figures in either one or another of said groups making up said team when the actuator is selectively coupled to said one or another of said groups and actuated by manual control of the operator.

17. A game according to claim **16** wherein said actuator includes a rotatable shaft disposed below said playing area, said shaft having disposed on one end thereof a handle portion for rotating said shaft and said selective coupling means are disposed along portions of said rotatable shaft.

18. A game according to claim **17** wherein said selective coupling means includes a pair of first members rotatable with said shaft and a pair of second members each operatively connected to one of the figure players of each group.

19. A game according to claim **18** wherein said first members include substantially conically shaped coupling portions and said second members include substantially conically shaped bore portions for receiving said coupling portions.

20. A game according to claim **16** wherein said playing area is defined by boundary lines provided on said playing area, at least one duct means is provided for receiving the ball-like member as it passes over at least one of said boundary lines, and guideway and conveying means are provided for guiding and conveying the ball-like member from said duct means back to said playing area.

21. A game according to claim **20** wherein said guideway means is inclined and opens laterally into a vertical tube opening on at least one predetermined area on said playing area, spring-loaded plug means are provided for closing off said vertical tube from said playing area, handle means are provided for pulling said plug into said vertical tube, whereby upon release of said handle said plug conveys said ball-like member back on to the playing area.

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