March 15, 1966 K. O. EK 3,240,495

GAME BOARD HAVING KEY ACTUATED PLAYERS

Filed June 18, 1962

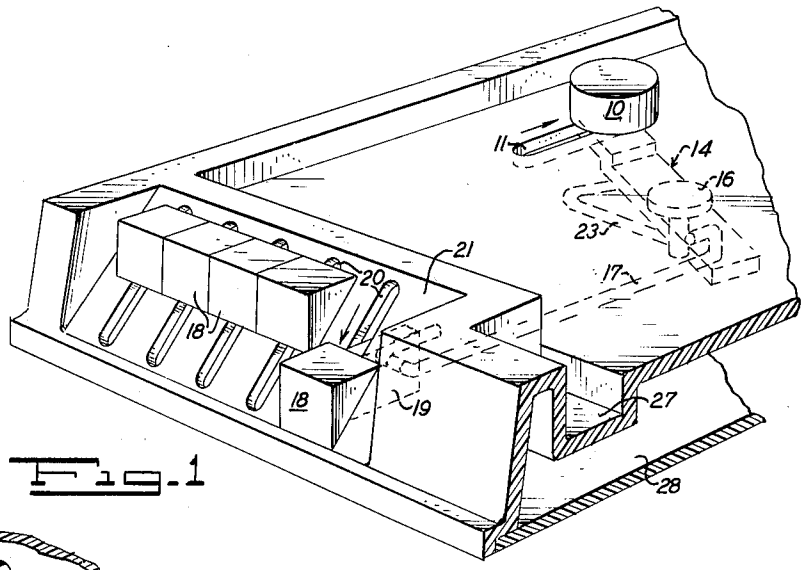


Fig. 1

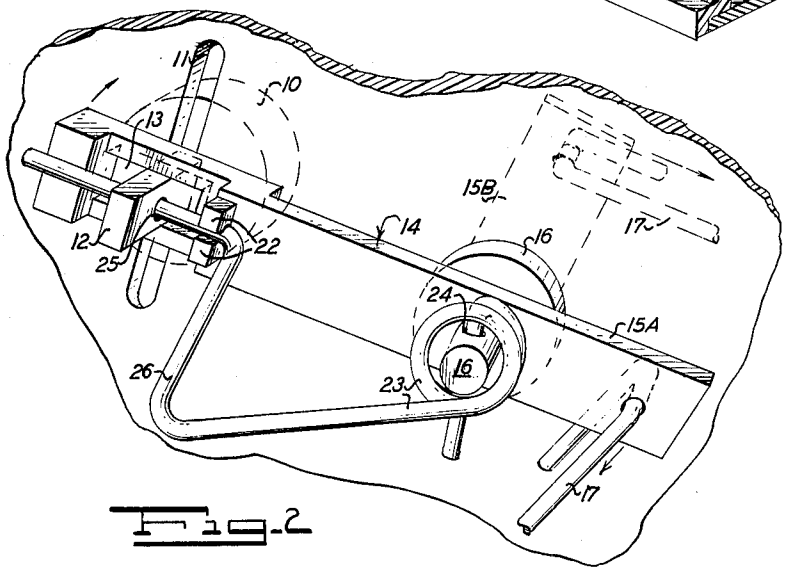


Fig. 2

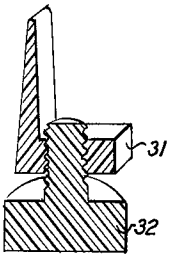


Fig. 4

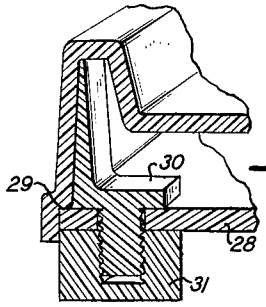


Fig. 3

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GAME BOARD HAVING KEY ACTUATED PLAYERS

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3 Claims. (Cl. 273—85)

This invention relates to miniature football games or the like.

A miniature football game has previously been proposed, which comprises a substantially horizontal table carrying a ball or the like and a number of movable pieces or players which are distributed at various positions on the table (e.g., as the players on a football field). These pieces are actuated during play by means of keys at one or more of the edges of the table in such a manner that the pieces at the depressing of the keys against the action of a spring or the like, perform a movement to displace the ball in the desired direction. The pieces or players are associated with spring-actuated arms pivotally supported by brackets beneath the table and swingable in slots in said table. This previously known game is essentially characterized in that each of said arms, by means of a slot therein is connected to a corresponding block or the like, movably arranged on the upper surface of said table and provided with a pin which is received in said slot.

In many respects this previously known game has been quite satisfying, and it has come very much into vogue. However, this game suffers from certain disadvantages and limitations, and the present invention aims at providing an improved game wherein the drawbacks and limitations of the previously known game are overcome.

To this end, the game according to the present invention is essentially characterized in that the play plane is formed integrally with the border and the goals at the short edges of the plane, at least portions of the outer wall of the double-walled border at the short edges of the plane being inclined outwardly and downwardly from the upper edge of the border, and in that said keys are arranged to slide along said inclined wall portions upon depression of said keys, so that pull-wires for the movement of said pieces, connected to said keys are subjected to a pulling motion, transmitted to the pieces in accordance with the force and the amount to which the respective key is depressed.

It will be seen that the manufacturing and assembling operations may be considerably facilitated by making the play plane with marginal borders and goals as well as the sliding surfaces for the keys of only a single piece.

Furthermore, it will be realized that the above mentioned principles of construction permit the players to transfer their intentions very exactly to the pieces through the movable mechanism, so that the impact of said pieces on the ball may be modified to the desired values with respect to the length and force thereof. The degree of dexterity exercised and talent for the football play in question will therefore determine the result of the play entirely, without chance playing any noticeable role.

According to the invention, it is particularly advantageous if on the undersurface of the plane are disposed vertical pins, on which there are journalled horizontally swingable arms for the actuation of the pieces. By this construction a particularly low height of the play plane is permitted which, of course, considerably facilitates the above mentioned manufacture in a single piece.

According to the invention, it is further advantageous to dispose at each of said pins a return spring for returning the corresponding key and piece to its rest position, said spring at the same time being arranged to act as a locking means for locking the corresponding swingarm on its pivot pin. Preferably a tongue of said spring is introduced into a bore in said pivot pin, outside the spring proper. Further, according to the invention, it is preferred that each of said springs is formed with an elongated leg, which is introduced through a bore in the pin which goes through said swingarm, so as to interlock the pin with the corresponding swingable arm.

Furthermore, according to the invention, it is preferred to provide the swingable or swing arms with guide protrusions, pins, recesses or the like, which are so disposed that the swing arm will be loaded by the force of the return spring, whereas the piece proper is relieved of the force of said spring.

When the play plane is made integrally with the marginal border, goals, etc., in the above mentioned manner, it is found particularly advantageous according to the present invention to give the plane a slightly downwardly curved shape relative to its center line, so that a ball or the like on said plane will always tend to roll towards the central portion of said plane. However, to permit a satisfying playing with the outermost pieces, corresponding to the outer forward players of a football team, it is particularly advantageous to let the corner portions of the plane run essentially horizontally, departing from the downwardly curved shape. By this measure, a ball will be slightly decelerated or slowed down in the corners, thereby to permit a play where the acquired dexterity is of greater importance than pure chance.

The invention will be disclosed in greater detail hereinafter with reference to the accompanying drawing in which:

FIG. 1 is a perspective view of a corner portion of a miniature football game in accordance with one embodiment of the present invention;

FIG. 2 illustrates a part of the game mechanism in perspective view, seen from below;

FIG. 3 shows in perspective and partly in section, a locking means for a bottom plate; and

FIG. 4 shows a modification of the locking means shown in FIG. 3.

The invention will be described below with reference to a mechanism for one piece only, but the mechanisms for the other pieces on the playing surface or plane are essentially similar to the one disclosed. The play piece or player **10** on the upper surface of the play plane or table is provided with pin **12** which extends through a longitudinal player slot **11** in the play plane. The pin **12** is movably disposed in a recess **13** in a swing arm **14** which is swingable in a horizontal plane. The swing arm is pivotally mounted on a pivot pin **16**, secured to the under surface of the play plane, and by means of a pull wire **17** is connected to a key **18**, which latter is provided with a projection **19**, which protrudes into a vertical key slot **20** in the outermost wall portion **21** of the double walled marginal border around the play plane.

As is shown in FIG. 2, the swing arm **14** is provided with two spaced guide protrusions **22** for the spring **23**. These protrusions act to relieve the pin **12** from the action of the spring **23**, whereas the swing arm **14** still is under the action of spring **23** in such a manner that it tends to return to a rest position. The portion of the swing arm to which said pull wire **17** is connected runs parallel to the other portion of the swing arm as is shown in full lines for the swing arm portion **15A**, or is disposed at an angle with respect to said other portion of the swing arm, as shown in doted lines for the swing arm portion **15B**, depending on in which direction the swing arm has to swing in the vertical plane, i.e., either longitudinally or transversely of the play plane.

The helicoidal end of the spring **23**, the outermost tongue of which is inserted through a bore **24** in the pivot pin **16**, is placed around said pivot pin **16**, so that the swing arm **14** previously placed on said pivot pin will be retained on said pivot pin. As already mentioned, the other end of the spring is inserted between the protrusions **22** and is introduced into the bore **25** in the pin, so that the pin will be properly maintained in the recess **13** in the swing arm. The spring is formed with a bend **26** to facilitate the mounting of said spring, and by placing the spring between the bore of the pivot pin **16** and the bore of the player pin **12** the swing arm will be spring biased through the protrusions **22** so that the play man **10** and the key **18** return to their limit positions of rest when the pressure on the key is relieved. It should be noted that the spring acts both as a locking means for itself and as a return spring for the play mechanism.

Because the play plane is formed integrally with the surrounding border and goals **27**, and because the outermost wall portion of the marginal border at the short edges of the plane are arranged with an inclination with respect to the plane, exactly that pulling motion of the wire **17** is permitted which is necessary for the movement of the swing arm with a very great precision, without the intermediary of elaborate pivoted links, etc. It will be noted that assembling is considerably simplified as compared to that of previously known football games and that accurate measures and fittings of the individual parts, which have been necessary heretofore, are entirely avoided now inasmuch as all adjustment of the mutual positions of the individual parts can be accomplished by a rather simple bending of the pull wire **17**.

As shown in FIG. 3, the play plane is provided with a bottom plate **28**, which is fitted into a slot **29** on the inner surface of the lowermost edge portion of the outermost wall of the marginal border. The bottom plate **28** is locked to the play plane by means of a locking means, comprising a bracket **30** which is rigidly secured to the said wall and provided with a screw, on which a locking nut **31** is disposed. Alternatively, as shown in FIG. 4, the bracket **30** may be formed with a through-running bore, which is possibly a threaded bore, wherein a locking screw **32** is introduced. In this case, the locking nut **31** or the head of the screw **32** provides a foot for the play plane.

Many modifications and alterations as to details may be carried into practise within the limits of the inventive idea as covered by the following claims.

What is claimed is:

1. A game comprising a substantially horizontal table on which a ball may be placed, a plurality of movable players on said table, and keys for controlling movement of respective players, said game further comprising: an arm for each player located beneath the table, a pivot pin connecting each arm to the table, said table being provided with a player slot for each player in which the latter is movable, a spring connecting said pivot pin for each player with the arm and the respective player to urge the latter to a limit position in said slot, a pull wire connecting each of the arms with the respective key associated with the particular player, said table including an inclined marginal portion provided with key slots in which respective keys are movable, said keys being urged against said inclined marginal portion and to a maximum upward position in the key slots under the action of the springs acting on the arms, the keys being downwardly displaceable in the respective slots and slidable along said inclined marginal portion to effect displacement of the corresponding pull wires and arms to cause movement of the players in the player slots upon downward displacement of the keys which causes pulling of the pull wires and pivotal movement of the arms against the action of the springs.

2. A game as claimed in claim **1** wherein each player includes a pin projecting beneath the table, said arm for each player including spaced guide protrusions engaging the respective spring, said springs each having a length with a free end extending beyond said guide protrusions of the associated arm to engage said pin of the respective player, each arm being provided with a recess in which the pin of the associated player is constrained to move.

3. A game as claimed in claim **2** wherein each spring has an end remote from said free end and which is accommodated in a bore provided in the associated pivot pin.

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