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(54) **TABLE FOOTBALL**

TISCHFUSSBALL

BABY-FOOT

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## Description

### Field of the invention

[0001] The present invention relates to the construction of a table football. The invention falls into the field of table board games imitating outdoor sports.

### Background of the invention

[0002] Currently, a commonly known game is table football. For instance FR2728479 discloses a table football according to the preamble of claim 1.

This game is designed in such a

[0003] way that the used game tables allow the figures to move only along the axis of the game rods on which they are attached. The rods pass through holes in the side panels of the game table with a diameter only slightly larger than the diameter of the game rod on which the figures are attached. By rotating this game rod is possible shooting with the ball.

[0004] In practice, this means certain limitations, which are: very low maneuverability and uploading. Shooting accuracy is rather dependent on the random angle at which the ball comes into contact with the figure. It also gives more experienced players the ability, if they manage to work the ball, to keep it under control for a virtually unlimited amount of time, during which they can set up the ball for a shot and the opponent has no chance to hit it in any way. This makes the game uninteresting and the necessary dynamics are lost. The game is also hampered when the ball reaches a place on the board where none of the players with any figures can reach it. The often massive tables then need to be lifted and tilted in order for the ball to reach one of the figures.

[0005] The last weak point of the current state of this board game is the game rods extending over the wall behind which the opponent is. Each of the players controls 4 rods in the case of singles, when 1 and 1 player play against each other, or 2 game rods are controlled in the case of doubles, when 2 and 2 players play against each other. Opponents - opponents face each other on the sides of the game table, and with the protruding part of the game rod, they can, if they want or not, attack opponents, or, on the contrary, the opponent can control the opponent's figures with the protruding part of the game rod, knowingly or by mistake, which is inadmissible.

[0006] The shortcomings of the existing constructions of the game of table football in the state of the art evoked the need to create an effective solution expanding the gaming possibilities of players. The effort to create an innovative construction of the table football game resulted in the construction according to the present invention.

## Description of the invention

[0007] The mentioned shortcomings of the construction of table football with a playing surface, players and goalkeepers attached to the playing rods, goals and guardrails are eliminated according to the invention, the essence of which consists in that the playing rods are telescopic and at both ends are movably placed in the eyes of the deflection mechanisms allowing the deflection of the playing rods in the left and right direction, while the deflection mechanisms are coupled to the side walls of the playing surface of the table and ensure the return of the playing rods to the central position after their player lets them go of hand. On the player's side, the outer parts of the playing rods are placed in the eyes, and on the opposing player's side, the inner parts of the playing rods are placed in the eyes, which have locking elements to prevent their axial movement. For the purposes of the present invention, the term "eye" must be understood as a body shaped like a loop or a ring into which a playing rod is loosely woven. But it is also necessary to understand under this term a more massive body, preferably a cuboid, a cube with a drilled hole into which a playing rod is loosely woven.

[0008] Several options are offered to solve the deflection mechanisms allowing deflection of the playing rods in the direction to the left and right, and their return to the central position. The first variant, according to the claimed invention, is a construction that requires the game table to be supplemented with continuous horizontal chambers located along both side walls behind the playing surface. Each chamber has six guiding sectors for players and two guiding sectors for goalkeepers. Player guiding sectors have guideways sloping to the center of the player guiding sectors with a slight slope, preferably approx. 10%, where at the same time the central (rest) position of the game rod is. Guiding sectors for goalkeepers have guideways sloping towards the goals with a slight slope, preferably approx. 10%, where the game rod is at rest at the same time. The guideways are made of hard material and they have one or two parallel guide slots. On the guideways, the movement mechanisms for each playing rod are mounted on rolling stock, which consist of two traveling wheels coupled with axles. On the axles, the pull rods, for example, made of webbing, are loosely attached through the upper eye, which are inserted in the guide slots of the guideways, and at the lower ends they are terminated by eyes through which the playing rods are guided. Thanks to this arrangement, it is possible to hold the rod on both sides, which allows the rod to move from the central position in both directions. After the player lets go of the rod, it returns to the center position by itself due to its own weight and the sloping floor of the chamber. The wheels are used in order to prevent frictional force and possible jamming even with a minimal slope. Due to stability and strength, it is advantageous to implement this entire fastening system in a more robust design made

of solid metal. In order to prevent an excess of metallic sound during play, the wheels can preferably be rubberized on the surface.

**[0009]** The second variant of the deflection mechanisms enabling deflection of the playing rods in the left and right direction, not being part of the claimed invention, is a structure consisting of two coiled expansion springs, one end of which is fixed in the eyes through which the playing rods pass, and the other ends of which are attached to upper side walls and lower side walls of the playing surface of the table. In this case, the eyes loops are rings. This solution requires that the side walls of the game table have continuous rectangular spaces created on both sides to allow the deflection of the playing rods. Movement of the playing rod in both directions from the central position is made possible by tensioning the springs, which return again when the playing rod is released with playing rod to the center position. In order to limit the movement of the playing rod only within the relevant playing rectangle and also to prevent its damage or breakage, a fixed cable attached to the places where the coil spring is also attached passes through the inner part of the thread of each coil spring, while the cable limits the expansion of the coil spring only to set limit.

**[0010]** The third variant of the deflection mechanisms enabling deflection of the playing rods in the left and right direction, not being part of the claimed invention, is a structure consisting of two gas springs preferably filled with nitrogen, one end of which is fixed in the eyes through which the playing rods pass, and the other ends of which are attached to upper side walls and lower side walls of the playing surface of the table. It is advantageous to calibrate the pneumatic springs from 17N to 15N so that their expansion for the game is comfortable without developing too much force. In this case, the eyes are blocks with drilled holes. This solution also requires that the side walls of the game table have continuous rectangular spaces created on both sides to allow the deflection of the playing rods. Movement of the playing rod in both directions from the central position is made possible by pulling and compressing the gas springs, which return again when the playing rod is released with playing rod to the center position.

**[0011]** All three variants of deflection mechanisms can be implemented on playing tables that are already in operation, and thus by adapting their side walls as described above, or already in the production of playing tables, by making the side walls with continuous rectangular spaces.

**[0012]** The advantages of the construction of the table football according to the present invention are obvious from the effects they manifest externally. In general, it can be stated that the originality of the solution lies in the fact that the maneuvering and combination possibilities will increase incomparably. The improvement allows the movement of the figures by moving the game rod, on which they are also fixed forward and backwards, i.e. towards your own goal or the opponent's goal from the

middle starting position. Thus, the player directly controls the entire rectangle of the playing field, which is bounded, and partially overlaps, with the playing field of the figures on the adjacent playing rods. The position of the playing rod within this field relative to the side edge of the table can range from perpendicular to both diagonals of this rectangle. This ensures 100% game coverage of the given rectangle and, in contrast to the current situation, practically an infinite number of new angles for uploads and shots across the entire surface. Since the position of the other game rod can be changed in this way, the combination possibilities on the playing surface are multiplied even more. Since the individual playing rectangles directly touch each other and the figures rotate around the axis of the game rod, not only is direct contact between the figures possible (football is a contact game), but the figures also partially interfere with the neighboring playing rectangle. It means that the possibility of a player being able to control the ball without being interfered by an opponent is greatly reduced. This option will certainly be welcomed by less experienced players, on the contrary, experienced players will appreciate the huge number of new combination and shooting options that depend only on their speed and ability to control the ball. The implementation of deflection mechanisms by means of conventional coiled expansion springs and gas expansion springs, preferably filled with nitrogen, enables the movement of the playing rods in the longitudinal direction of the field. Their control, due to the permanent effect of counter-tension, is more difficult for beginning players, therefore weaker springs can be used on the opposite side to hold the game rod.

### Brief description of the drawings

**[0013]** The table football according to the present invention is shown in the attached drawings, where Fig. 1 shows a system of deflection mechanisms with continuous horizontal chambers and traveling wheels located on the side walls behind the playing surface. Fig. 2 shows a set of deflection mechanisms with coiled springs, not part of the claimed invention.

Fig. 3 shows a deflection mechanism with gas springs not part of the claimed invention.

Fig. 4 shows the opposite end of the playing rod. Fig. 5 shows in the view from above the possibilities of expanding the playing field for individual playing rods. Fig. 6 shows in the side view the possibilities of expanding the playing field for individual playing rods.

### Description of the preferred embodiments

#### Example 1

**[0014]** This example of a certain embodiment describes the first construction of a table football according

to the invention, which is shown in Fig. 1 and 4. Table football consists of a playing table with playing surface 5. The playing table is designed in such a way that the side walls 4, which are divided into three parts in height, are partially removed. Preferably, the lower parts of the side walls 4 are preserved. The middle parts of the side walls 4 are removed and they represent free spaces. The upper parts of the side walls 4 are preferably supplemented with continuous horizontal chambers 7 located along both side walls 4 behind the playing surface 5. Playing rods 1 are telescopic. On the player's side, the outer rotatable and extendable parts of the playing rods 1 are placed in the eyes 2, and on the opposing player's side, the supporting inner parts of the playing rods 1 are placed in the eyes 2, which have locking elements 6 to prevent their axial movement, as shown in Fig. 4. The playing rods 1 are movably placed at both ends in the eyes 2 of the deflection mechanisms 3 enabling the deflection of the playing rods 1 in the left and right direction, while the deflection mechanisms 3 are coupled to the side walls 4 of the playing surface 5 of the table. In Fig. 5 marked dotted lines represent rectangular playing surfaces for player movement as in the current state of the art. The dashed lines delimit the expanded, new rectangular playing surfaces when moving the playing rod 1 forwards or backwards, and thus 100% coverage of the playing surface, there are no places where the figures cannot reach the ball. Logically, goalkeepers only have half the range of movement and only forward. At the same time, the goalkeeper is the only figure who can control the ball without the possibility of an opponent's intervention, which better corresponds to real football, as he has the possibility of an unhindered kick. The deflection mechanism 3 is designed so that the horizontal chamber 7 advantageously has six guiding sectors 8 for players and two guiding sectors 9 for goalkeepers. The guiding sectors 8 for players advantageously have metal guideways 10 sloping towards the center of the guiding sectors 8 for players with a slight slope of approx. 10% and the guiding sectors 9 for the goalkeepers have preferably metal guideways 10 sloping towards the goals 11 with a slight drop of approx. 10%. The guideways have two parallel guide slots 15. On the guideways 10, the movement mechanisms for each playing rod 1 are mounted on rolling stock, which consist of two traveling wheels 12 coupled with axles 13. On the axles 13, the pull rods 14, made of webbing, are loosely attached through the upper eye 2, which are inserted in the guide slots 15 of the guideways 10, and at the lower ends they are terminated by eyes 2 through which are the playing rods 1 guided. It should be noted that due to the connection of the traveling wheels 12 and the attachment of the playing rod 1 by a fixed connection, the gentle rise of the traveling wheels 12 also leads to the same gentle rise of the entire playing rod 1 and thus also the figures. This rise must be taken into account so that at its highest point the figure has a height that still allows contact with the ball, as shown in Fig. no. 6.

## Example 2

**[0015]** This example of a certain embodiment describes the second construction of a table football not being part of the claimed invention, which is shown in Fig. 2. Table football consists of a playing table with playing surface 5. The playing table is designed in such a way that the side walls 4, which are divided into three parts in height, are partially removed. Preferably, the upper and lower parts of the side walls 4 are preserved. The middle parts of the side walls 4 are removed and they represent free spaces. The deflection mechanisms 3 enabling deflection of the playing rods 1 in the left and right direction are solved in such a way that their construction preferably consists of two coiled expansion springs 16, one end of which is fixed in the eyes 2 through which the playing rods 1 pass, and the other ends of which are attached to the upper side walls 4 and lower side walls 4 of the playing surface 5 of the table. In this case, the eyes 2 are loops or rings. Movement of the playing rod 1 in both directions from the central position is made possible by tensioning the coiled expansion springs 16, which return again when the playing rod 1 is released with playing rod 1 to the center position. In order to limit the movement of the playing rod 1 only within the relevant playing rectangle and also to prevent its damage or breakage, a fixed cable fixed in the places where the coiled expansion spring 16 is also fixed passes through the inner part of the thread of each coiled expansion spring 16, while the cable limits the expansion of the coiled expansion spring 16 only to the specified limit.

## Example 3

**[0016]** This example of a certain embodiment describes the third construction of a table football not being part of the claimed invention, which is shown in Fig. 3. Table football consists of a playing table with playing surface 5. The playing table is designed in such a way that the side walls 4, which are divided into three parts in height, are partially removed. Preferably, the upper and lower parts of the side walls 4 are preserved. The middle parts of the side walls 4 are removed and they represent free spaces. The deflection mechanisms 3 enabling deflection of the playing rods 1 in the left and right direction are solved in such a way that their construction preferably consists of two gas springs 17, one end of which is fixed in the eyes 2 through which the playing rods 1 pass, and the other ends of which are attached to the upper side walls 4 and lower side walls 4 of the playing surface 5 of the table. In this case, the eyes 2 are preferably blocks with a hole. Movement of the playing rod 1 in both directions from the central position is made possible by pulling and compressing the gas springs 17, which return again when the playing rod 1 is released with playing rod 1 to the center position.

## Industrial applicability

[0017] The table football according to the present invention can be used primarily in social spaces and gaming houses.

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## Reference numbers

### [0018]

- (1) playing rod
- (2) eye
- (3) deflection mechanism
- (4) side wall of the table
- (5) playing surface of the table
- (6) locking element
- (7) continuous horizontal chamber
- (8) guiding sector for the player
- (9) guiding sector for the goalkeeper
- (10) guideway
- (11) goal
- (12) traveling wheel
- (13) axle
- (14) pull rods
- (15) guide slot of the guideway
- (16) coiled expansion spring
- (17) gas spring

## Claims

1. Table football with playing surface, players and goalkeepers attached to playing rods, wherein the playing rods (1) are telescopic and at both ends are movably placed in eyes (2) of deflection mechanisms (3) enabling deflection of the playing rods (1) in the direction to the left and to the right, while the deflection mechanisms (3) are coupled with side walls (4) of the playing surface (5) of the table; on one side are placed in the eyes (2) outer parts of the playing rods (1) and on the opposite side are placed in the eyes (2) inner parts of the playing rods (1), which have locking elements (6) to prevent their axial movement, **characterized in that** the deflection mechanisms (3) enabling deflection of the playing rods (1) in the direction to the left and to the right, are formed by continuous horizontal chambers (7) located on the side walls (4) behind the playing surface (5), wherein each side wall (4) has six guiding sectors (8) for players and two guiding sectors (9) for the goalkeepers, wherein the guiding sectors (8) for the players have guideways (10) sloping towards the center of the guiding sectors (8) for the players and the guiding sectors (9) for the goalkeepers have guideways (10) sloping towards the goals (11); on the guideways (10) there are rolling movement mechanisms for each playing rod (1), which consist of traveling wheels (12) with axles (13); on the axles (13) there are loosely attached pull rods (14), which

are inserted in guide slots (15) of the guideways (10) and at the ends, the pull rods (14) are finished with the eyes (2), through which the playing rods (1) are guided.

## Patentansprüche

1. Ein Tischfußball mit einer Spielfläche, mit den auf den Spielstangen befestigten Spielern und Torwarten, wo die Spielstangen (1) teleskopisch sind und an beiden Enden beweglich gelagert sind in den Ösen (2) der Schwenkmechanismen (3), durch die die Schwenkung der Spielstangen (1) in der Richtung nach links und rechts ermöglicht wird, wobei die Schwenkmechanismen (3) mit den Seitenwänden (4) der Spielfläche (5) des Tisches gekuppelt sind; auf einer Seite sind in den Ösen (2) die Außenteile der Spielstangen (1) platziert und auf der Gegenseite sind in den Ösen (2) die Innenteile der Spielstangen (1) platziert, die über Sicherungselemente (6) verfügen, um ihre axiale Bewegung zu verhindern, **dadurch gekennzeichnet, dass** die Schwenkmechanismen (3), durch die die Schwenkung der Spielstangen (1) in der Richtung nach links und rechts ermöglicht wird, aus den an den Seitenwänden (4) hinter der Spielfläche (5) platzierten horizontalen Durchgangskammern (7) bestehen, wobei jede Seitenwand (4) sechs Führungssektoren (8) für die Spieler und zwei Führungssektoren (9) für die Torwarte aufweist, wo die Führungssektoren (8) für die Spieler über die Führungsbahnen (10) verfügen, die in Richtung Mitte der Führungssektoren (8) für die Spieler geneigt sind, und die Führungssektoren (9) für die Torwarte über die Führungsbahnen (10) verfügen, die in Richtung Tore (11) geneigt sind; auf den Führungsbahnen (10) befinden sich für jede Spielstange (1) rollende Bewegungsmechanismen, die aus Laufrädern (12) mit Achsen (13) bestehen, an den Achsen (13) sind die Zugstangen (14) frei befestigt, die in die Führungsspalten (15) der Führungsbahnen (10) eingelegt sind, und an den Enden sind die Zugstangen (14) mit den Ösen (2) beendet, über die die Spielstangen (1) geführt sind.

## Revendications

1. Le baby-foot avec un terrain de jeu, des joueurs et gardiens de but montés aux barres où les barres (1) sont télescopiques et aux deux extrémités sont montées de manière mobile dans les ouvertures (2) des dispositifs de déviation (3) permettant la déviation des barres (1) dans les directions gauche et droite, étant donné que les dispositifs de déviation (3) sont associés aux parois latérales (4) du terrain de jeu (5); d'un côté, les parties extérieures des barres (1) sont placées dans les ouvertures (2) et de l'autre côté

opposé, les parties intérieures des barres (1) sont placées dans les ouvertures (2) et sont équipées des éléments de fixation (6) évitant leur mouvement axial, **caractérisé en ce que** les dispositifs de déviation (3) permettant la déviation des barres (1) 5 dans les directions gauche et droite, sont constitués de chambres horizontales continues (7) situées sur les parois latérales (4) derrière le terrain de jeu (5), et chaque paroi latérale (4) comporte six secteurs de guidage (8) pour les joueurs et deux secteurs de guidage (9) pour les gardiens de but, où les secteurs 10 de guidage (8) pour les joueurs sont équipés des rails de guidage (10) qui sont inclinés vers le centre des secteurs de guidage (8) pour les joueurs et les secteurs de guidage (9) pour les gardiens de but sont 15 équipés des rails de guidage (10) inclinés vers les buts (11) ; sur les rails de guidage (10) se trouvent des mécanismes mobiles roulants pour chaque barre (1), ces mécanismes étant constitués de roues de roulement (12) avec des essieux (13), aux es- 20 sieux (13) se trouvent des tiges de traction (14) à fixation libre, insérées dans les fentes de guidage (15) des rails de guidage (10) et aux extrémités se trouvent les tiges de traction (14) terminées par les 25 ouvertures (2) à travers lesquels les barres (1) sont guidées.

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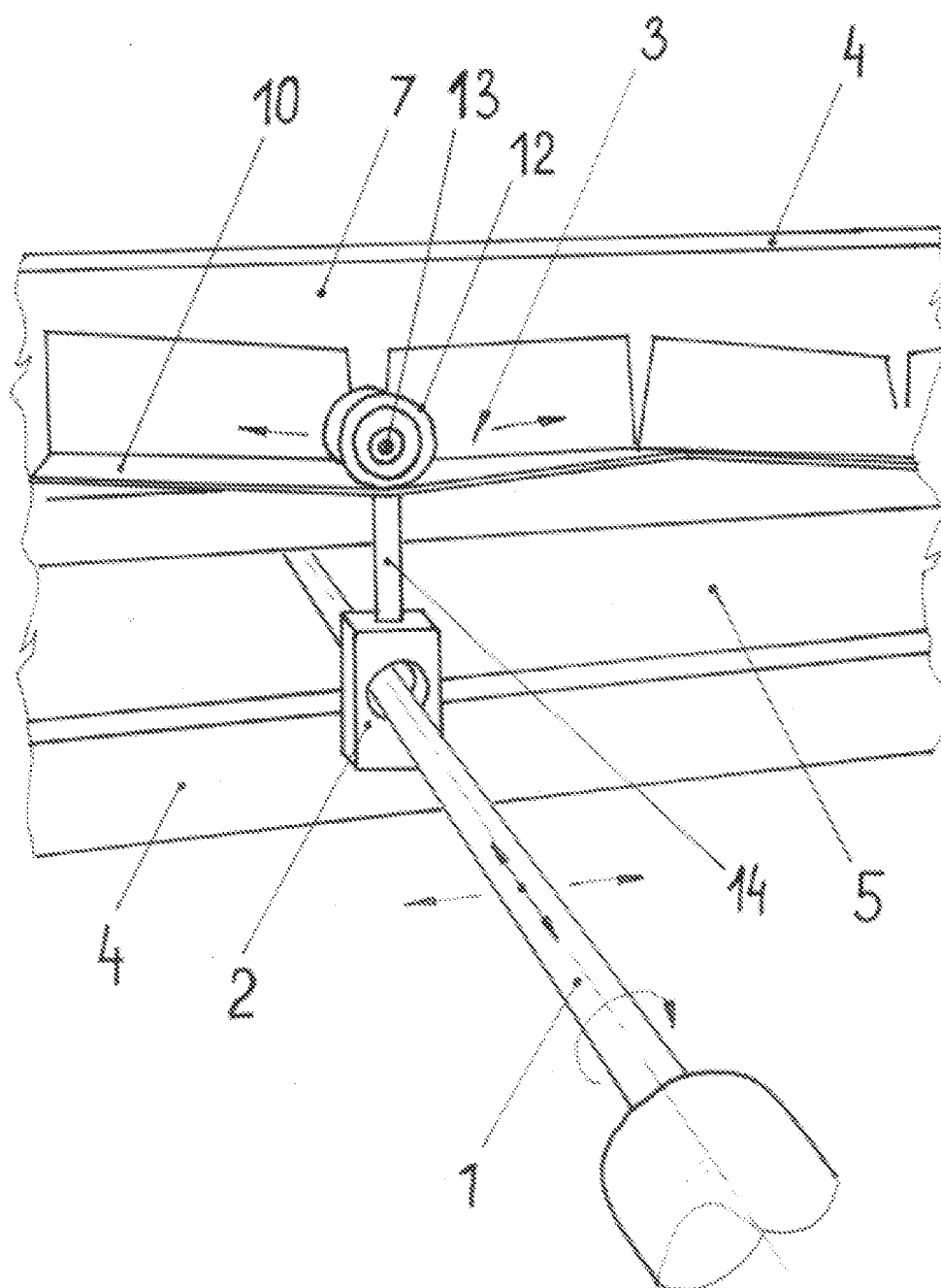


Fig. 1

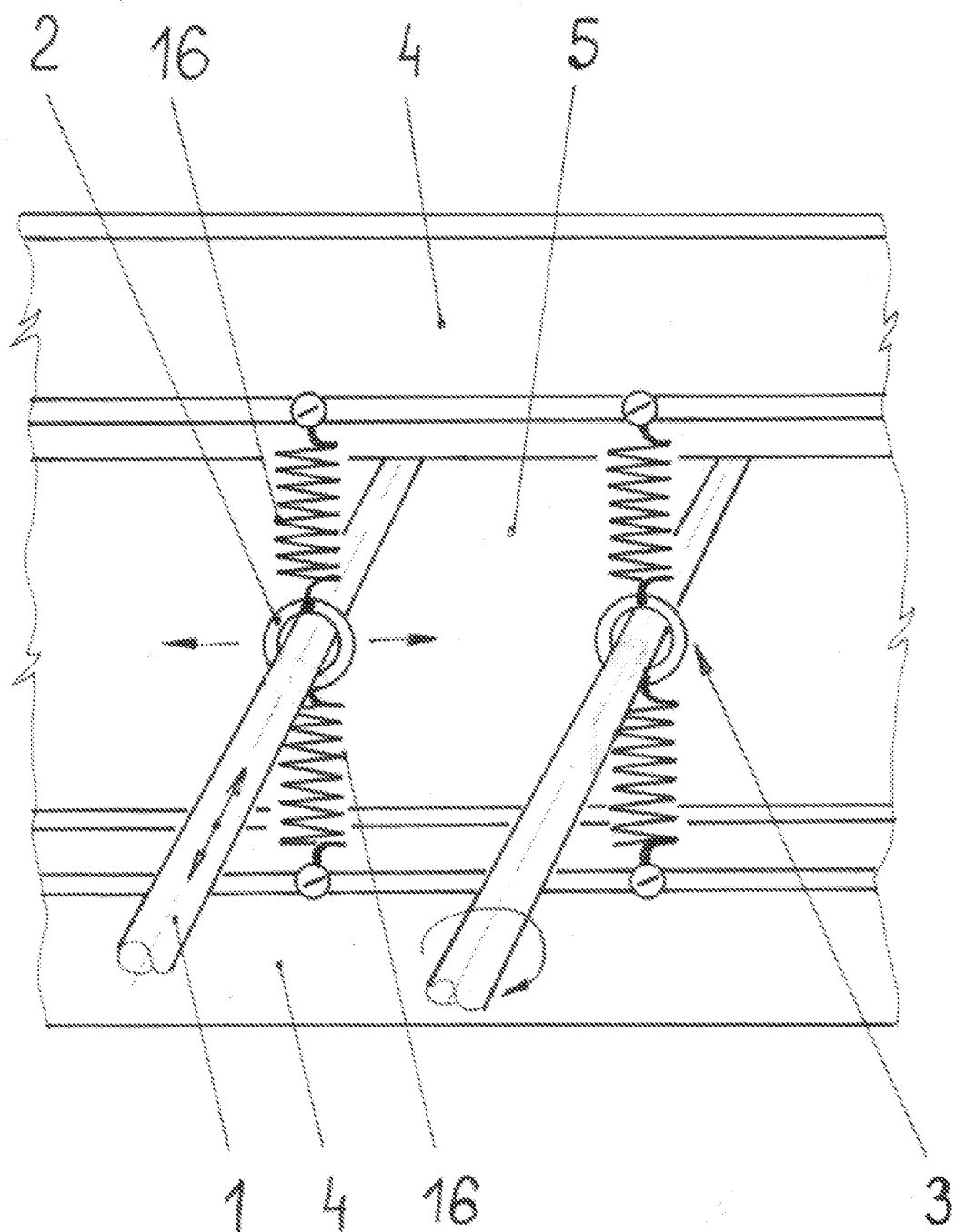


Fig. 2

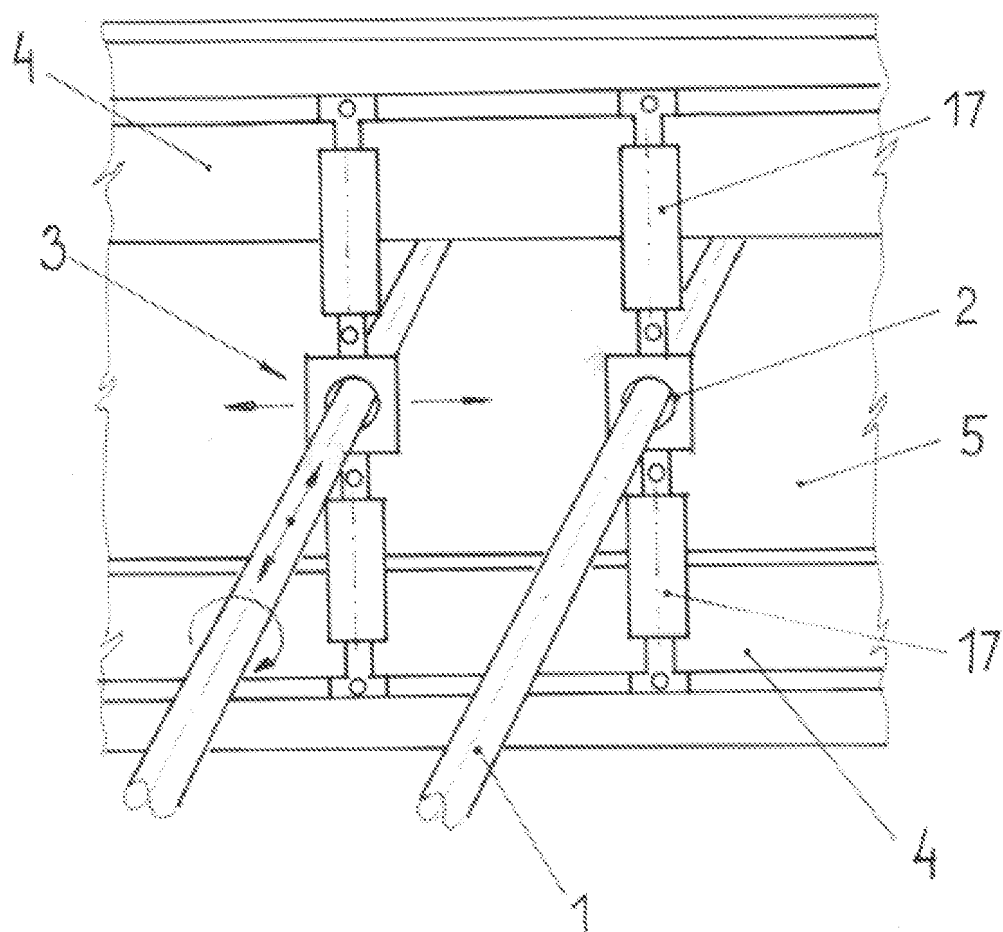


Fig. 3

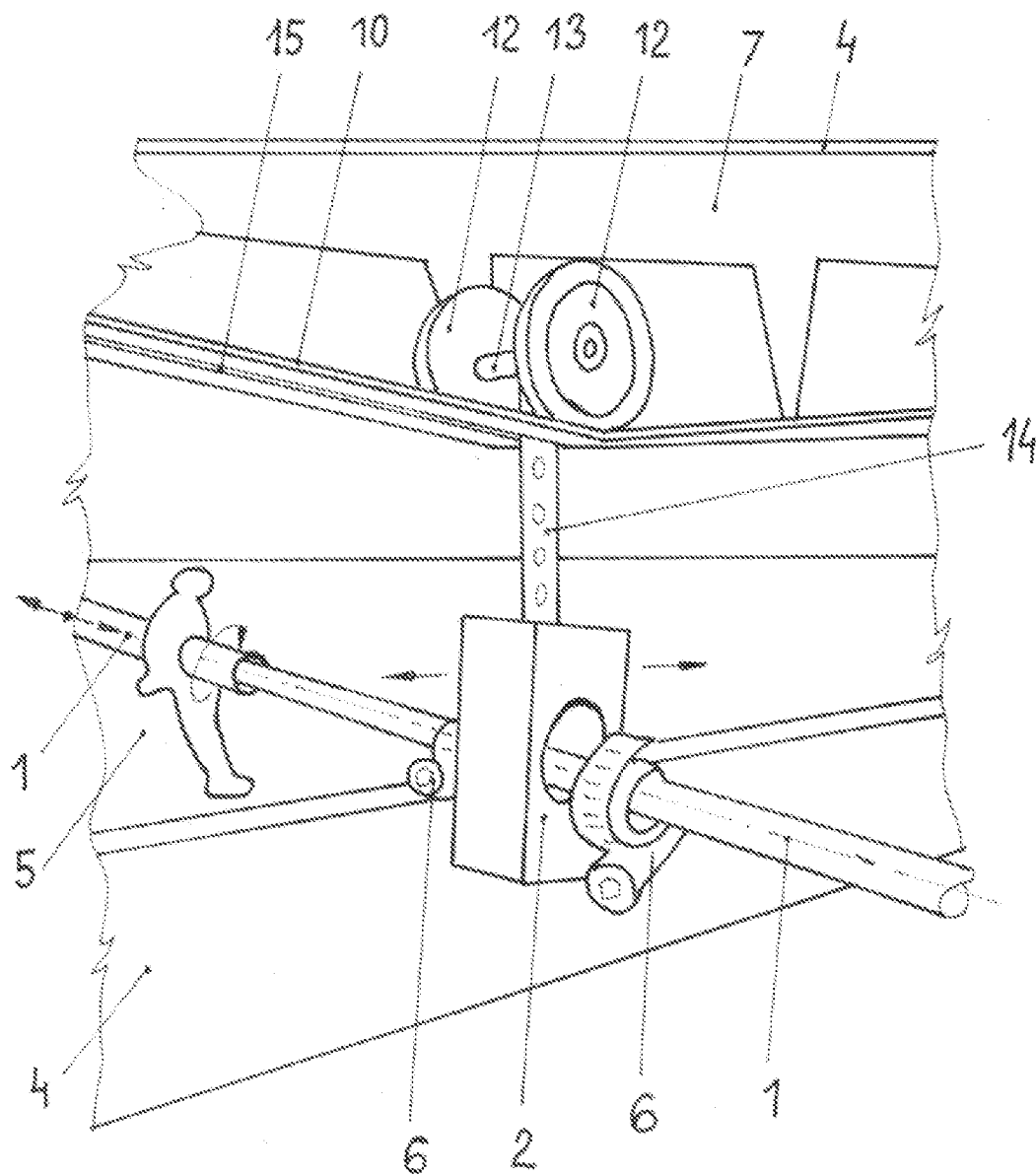


Fig. 4

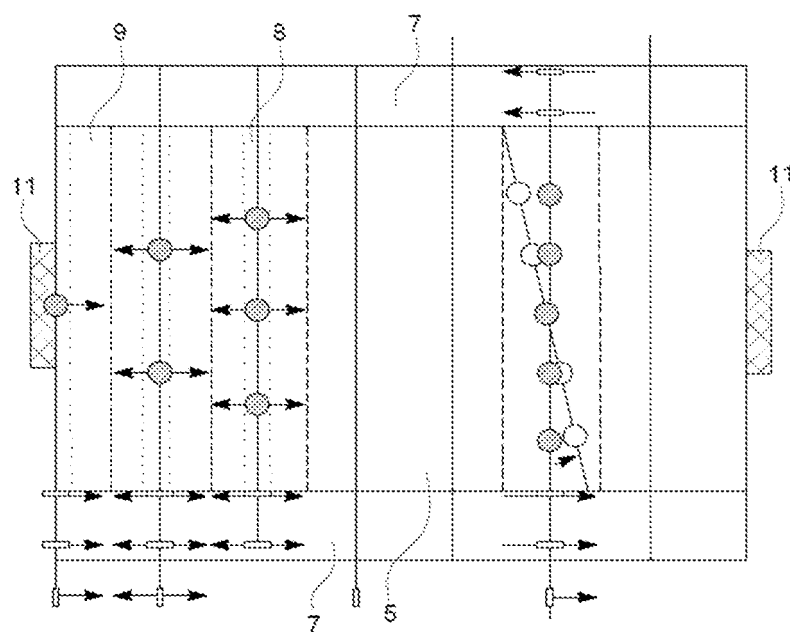


Fig. 5

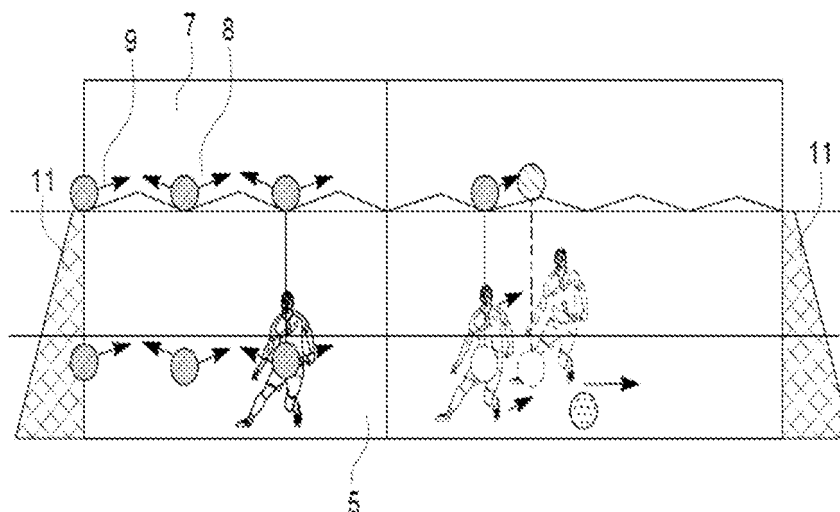


Fig. 6

**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- FR 2728479 [0002]