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(54) **Method and apparatus for causing one or more playing pieces to move along an elongate track**

Verfahren und Vorrichtung zum Verursachen einer Bewegung eines oder mehrerer Spielstücke längs einer länglichen Bahn

Méthode et dispositif de mise en mouvement d'une ou plusieurs pièces de jeu le long d'une piste allongée

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Description

[0001] The present invention relates to a method and apparatus for playing a game, and in particular, to a method and apparatus for causing one or more playing pieces to move along an elongate track.

[0002] A game, known as "Escalado", has been available for many years and enables players to simulate a horse race. Playing pieces, fashioned as horses with riders, are placed on a length of track. The track is tensioned, for example, across a table, and a winding mechanism at one end of the track is operated to reciprocate the track along its length. The construction of the winding mechanism is such that the track moves slowly towards the winding mechanism and quickly back. The playing pieces are moved towards the winding mechanism with the track, but when the track reverses its movement, its speed enables it to slip under the playing pieces. In this manner the playing pieces are moved steadily towards the winding mechanism. Of course, the movement imparted to the playing pieces by the track is not efficient and is not exactly the same for each playing piece. This enables the movements to simulate a horse race.

[0003] Whilst the game has fascinated many generations of potential players, the existing apparatus has a number of problems. For example, there have been problems in the setting up and operation of the apparatus, problems with its durability, and the simulated race does not always function as well as possible with playing pieces being moved sideways, rather than longitudinally, relative to the track, and knocked over.

[0004] GB 659,875 discloses a method of causing one or more playing pieces to move along a length of material defining an elongate track, wherein the elongate track extends between a track control mechanism and resilient tensioning means applying tension to the track, the method comprising the steps of operating the track control mechanism to cause the track to be moved through one or more cycles, in each cycle the track being moved longitudinally against the action of the resilient tensioning means and then being returned towards its initial position by the action of said resilient tensioning means, wherein the track control mechanism and the resilient tensioning means are arranged about the track such that periodically the playing pieces are caused to move relative to the track.

[0005] It is an object of the present invention to provide an apparatus for playing a game which enables, for example, a horse race to be simulated, but which reduces the disadvantages experienced with existing apparatus.

[0006] According to the present invention a method of causing one or more playing pieces to move along a length of material defining an elongate track as defined above is characterised in that:

the track material coefficient of friction is sufficiently high such that playing pieces on said track are generally moved together with the track as it moves through its movement cycles; and

the periodic relative movement of the playing pieces is caused by the further step of abruptly arresting the movement of the track when being moved under the action of the resilient tensioning means whereby momentum imparted to the playing pieces during their movement together with the track causes the playing pieces to move relative to the track.

[0007] A method of embodiments of the invention operates in a manner which is distinct from the method of the known apparatus. In this respect, the playing pieces move with the track both when it moves against the action of the resilient tensioning means and when it is returned to its initial position.

[0008] In an embodiment, the track is moved longitudinally against the action of the resilient tensioning means by camming means of said track control mechanism.

[0009] In use, of embodiments of the invention, the track preferably moves quickly back to its initial position with the playing pieces being carried thereby. When, therefore, the movement is abruptly arrested, the playing pieces will generally continue moving in the same direction thereby causing the necessary relative movement between the playing pieces and the track.

[0010] The arrangement of the resilient tensioning means and the track control mechanism about the track is such that playing pieces on the track are caused to move towards the resilient tensioning means.

[0011] In an embodiment, the method preferably further comprises the step of, during each cycle, causing the track to move against the action of the resilient tensioning means at a first speed, and then returning the track towards its initial position at a second speed, wherein said second speed is considerably greater than said first speed.

[0012] The present invention also extends to apparatus for causing one or more playing pieces to move along a length of material defining an elongate track, said apparatus comprising an elongate track arranged to extend between a track control mechanism and resilient tensioning means for applying tension to the track, wherein said apparatus is arranged to be operated by a method as defined above.

[0013] According to a further aspect of the invention there is provided apparatus for playing a game, said apparatus comprising a number of playing pieces, a length of material for defining an elongate track, resilient tensioning means for applying tension to the track, and a track control mechanism for causing the track to be moved through one or more cycles, wherein the track extends between the track control mechanism and the resilient tensioning means, and wherein in each cycle the track is moved longitudinally against the action of the resilient tensioning means and then is returned to-

wards its initial position by the action of said resilient tensioning means, wherein the track control mechanism and the resilient tensioning are arranged about the track such that periodically the playing pieces are moved relative to the track, the apparatus characterised in that:

the track material coefficient of friction is sufficiently high such that playing pieces carried on the track generally move together with the track as it moves through its movement cycles; and
means for abruptly arresting the movement of the track when being moved under the action of the resilient tensioning means, cause periodic relative movement of the playing pieces relative to the track.

[0014] It has been found that apparatus of embodiments of the invention is easier to set up than previously, imparts straight line movement to the playing pieces, moves the playing pieces in a much more positive manner, and provides for more variation in the speed of the playing pieces which enhances the game.

[0015] Preferably, said resilient tensioning means comprises a cord of elastic material, which is fixed at or near one end of the track which is remote from said track control mechanism, and which acts to apply a force to the track in a direction acting to pull the track away from said track control mechanism.

[0016] In a preferred embodiment, a length of said cord of elastic material is fixed to said one end of the track, the two ends of said cord being spaced apart over the transverse extent of said track.

[0017] Preferably, the apparatus further comprises a track end bracket which is fixed to said one end of the track to extend substantially transversely thereof, and which extends substantially over the whole of the transverse extent of the track, and wherein said cord of elastic material is fixed to said track end bracket.

[0018] The provision of a track end bracket to which two spaced ends of the elastic cord are fixed enables the tensioning force from the resilient tensioning means to be applied across the transverse extent of the track. This provides not only consistent tension across the transverse extent of the track, but also enables the tension applied along the length of the track to be consistent.

[0019] Preferably, said resilient tensioning means further comprises a fixing bracket arranged to be fixed to a table or other support, said fixing bracket having one or more cord holders with which said cord may be selectively engaged.

[0020] In a preferred embodiment, said track control mechanism comprises a handle operated mechanism arranged to move the track longitudinally in a direction against the action of said resilient tensioning means.

[0021] For example, said handle may be rotatable about a generally horizontally extending axis.

[0022] The provision of a handle with an horizontal axis ensures that the winding movement is in a substantially vertical plane. This is a very natural way to wind a handle, particularly when it is arranged at the edge of a table.

[0023] Preferably, the handle is arranged to be rotated in one direction only and the winding mechanism is provided with a safety device to prevent breakage if the handle is rotated in the opposite direction.

[0024] In use, as the handle is rotated it is arranged to move the track longitudinally against the action of the resilient tensioning means. During that same rotation the track control mechanism is arranged to release the force which has been applied to the track whereby the track is enabled to move back towards its initial position by the action of the resilient tensioning means.

[0025] In a preferred embodiment, said track control mean mechanism comprises a track end housing receiving and holding the other end of said track remote from said resilient tensioning means, a winding mechanism housing coupled to said track end housing, and a winding mechanism actuated by a handle to alter the spacing between said track end housing and said winding mechanism housing.

[0026] Preferably, a single rotation of said handle is arranged to move said winding mechanism housing and said track end housing towards each other at least once, and to release said track end housing at least once such that said track end housing, and the track, may be moved by the action of said resilient tensioning means.

[0027] In an embodiment, said winding mechanism comprises two interengaging camming surfaces, one of said camming surfaces being coupled to said handle and the other of said camming surfaces being coupled to said track end housing.

[0028] In a preferred embodiment, said track end housing extends substantially transversely relative to the track and receives the transverse extent of said other end of the track.

[0029] Preferably, a tensioning roller is housed within said track end housing to which said other end of the track is fixed, and releasable locking means are provided to lock the tensioning roller against rotation.

[0030] The mounting of the track on a roller makes it easy to adjust the length of the track, and its tension, and ensures that the track is longitudinally aligned. The roller provides means on which the track may be stored when not in use and this greatly facilitates storage.

[0031] In use, the track is pulled from the roller to the desired length and then the roller is locked against rotation whereby the required tension is imparted to the track.

[0032] A track end bracket ensures that there is a consistent tension applied to the track both along its transverse extent and along its length.

[0033] The design of the winding mechanism is such that the longitudinal movement imparted to the track is generally accurately longitudinal thereof. This ensures that the movement imparted to the playing pieces is generally longitudinal and that side movements of the play-

ing pieces are minimised.

[0034] Embodiments of the present invention will hereinafter be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 shows schematically apparatus of the invention for playing a game;

Figure 2 shows a plan view of the apparatus of Figure 1 with parts cut away to show the construction more clearly;

Figure 3 shows the side view, partly in section, of the apparatus of Figure 2.

Figure 4 shows a perspective view, partly broken away, of a winding mechanism for causing reciprocation of a track of the apparatus;

Figure 5A shows a detail view, partly broken away, of a roller with control knob on which the track of the apparatus is wound, the roller being in a locked position; and

Figure 5B shows a view similar to that of Figure 5A illustrating the roller in an unlocked position.

[0035] Apparatus of the invention for playing a game comprises an elongate track on which playing pieces are arranged. Reciprocation of the track moves the playing pieces along it, and, because there is no positive engagement between the playing pieces and the track, individual playing pieces are moved longitudinally of the track at different relative speeds. Such an arrangement has been used previously to simulate a horse race scenario and, in such a case, the playing pieces are each configured as a model horse with rider. A game to be played utilising apparatus of the invention is described below as a simulated horse race. However, it will be appreciated that the apparatus described herein is not limited to such a use and that the playing pieces may be modelled on any elements it is required to "race" along the track. In fact, the apparatus may be used for any circumstance in which it is required to move one or more playing pieces longitudinally along a track.

[0036] As can be seen in Figure 1, a length of material, for example, of plastics material, is provided to define an elongate track 2. At one, free end, the track 2 is fixed to a track end bracket 4 which is fastened to, and extends over, the entire transverse extent of the one end of the track 2. At its other end, the track 2 is fixed to a roller 6 (Figure 2) mounted for rotation within a track end housing 8. When the track 2 is not in use it is stored within the track end housing 8 rolled onto the roller 6. When the track is to be deployed, as shown in Figure 1, the track 2 is pulled from the housing 8, as illustrated, to the length required. A control knob 10 is resiliently biassed to a position preventing rotation of the roller 6. To unwind the track 2, this control knob 10 is depressed to enable rotation of the roller. The control knob 10 is then released and urged outwardly by way of its biassing means whereby further rotation of the roller 6 is prevented. In this way, the length of the track 2 can be chosen as is required. The construction and operation of the control knob 10 is described further below.

[0037] The track end housing 8 is coupled to a winding mechanism housing 12 to cause the longitudinal movement of the track 2 as is described below. In the embodiment illustrated, the winding mechanism housing 12 carries two clamps 14. When setting up the apparatus, the clamps 14 are used, in normal manner, to fix the winding mechanism housing 12 tightly to the edge of a table or other support surface.

[0038] As described above, the end of the track 2 remote from the winding mechanism housing 12 is fixed to the track end bracket 4. For example, and as indicated in Figure 2, a loop formed at the one end of the track 2 may be fixed around a bar 16 mounted within a bracket 18. The bracket 18 carries connections 20 to which an elastic cord 22 is fixed.

[0039] It will be appreciated that the end of the track 2 is supported by the bracket 4 over its entire width. Furthermore, the elastic cord 22 is elongate and its ends are fixed to the bracket 4 but spaced apart transversely of the extent of the track. The bracket 4 and the elastic cord 22 together act as resilient tensioning means to apply tension to the track 2. The use of a bracket, as 4, which extends over the entire transverse extent of the track, and the provision of a elastic cord 22 which is secured at transversely spaced points relative to the track, ensure that the tension applied to the track 2 is consistently applied along the transverse extent or width of the track 2, and hence along the length thereof.

[0040] The elastic cord 22 is arranged to be engaged with a fixing bracket 30 which is secured to the table or other supporting surface by any appropriate means. In the embodiment illustrated, the fixing bracket 30 is secured by a hook 32. As can be seen, the fixing bracket 30 carries a number of cord holders 34 which, in the embodiment illustrated, are formed as hooks. It will be appreciated that the tension applied to the track 2 by the resilient tensioning means 4, 22 can be varied by appropriate selection of the hook 34 with which the elastic cord 22 is engaged.

[0041] The provision of hooks 34, with a selected one of which the cord 22 may engage, provides a very simple way of releasably engaging the cord 22 on the fixing bracket 30. However, it will be appreciated that any appropriate engagement or clamping means may be utilised.

[0042] As indicated above, when setting up the apparatus for use, the winding mechanism housing 12 and the fixing bracket 30 are positioned on a table or other support. The winding mechanism housing 12 is secured first to the table by the clamps 14, and then the fixing bracket 30 is lined up with, but spaced from, the winding mechanism and is also attached to the table. The control knob 10 controlling rotation of the roller 6 is then depressed to enable rotation of the roller 6 and unwinding of the track 2. The track is extended until the track end bracket 4 approaches the fixing bracket 30. When an

appropriate length of the track 2 has been unwound, the control knob 10 is released to lock the roller 6. The elastic cord 22 is then engaged with one of the hooks 34.

[0043] The set up of the apparatus is completed by adjusting the tension of the track 2. This can be done by pulling the track end housing 8 towards the winding mechanism housing 12 whilst at the same time depressing the control knob 10 to enable rotation of the roller 6 and manually rotating the knob 10 to wind or unwind the track 2 until the track 2 is tight and tensioned. The control knob 10 is then released to lock the roller 6, and hence the track 2, at the chosen track extension and at the selected tension. Other elements of the game may then be positioned. For example, a number of model horses (not shown) may be spaced on the track 2 transversely across the track and adjacent the track end housing 8. If required, model distance posts and a model winning post (not shown) may be arranged along one side of the track 2, and a model starting gate (not shown) and other model pieces may be supported over the track.

[0044] The apparatus includes a winding mechanism to cause reciprocating movement of the track 2 whereby the horses are caused to move longitudinally along the track. As can be seen more particularly in Figures 3 and 4, this winding mechanism comprises the track end housing 8 and the winding mechanism housing 12 which are interconnected by a tube 42. This tube 42 is arranged to be reciprocated by rotation of a handle 40 of the winding mechanism. At its end within the track end housing 8, the tube 42 is fixed to the housing 8. Thus, when the reciprocation of the tube 42 causes it to be pulled back towards the handle 40, against the force of the elastic cord 22, the track end housing 8 is pulled towards the winding mechanism housing 12.

[0045] As is described below, the winding mechanism between the handle 40 and the tube 42 is effective to pull the tube 42 periodically towards the handle 40. Thereafter, further rotation of the handle 40 causes the tube 42 to be released. When there is no longer any force acting against the elastic cord 22, the resilience of the cord 22 acts on the track 2 to pull it back towards its original position.

[0046] The winding mechanism is arranged such that rotation of the handle 40 in one direction only is effective. If rotation in the opposite direction is attempted, the connection between the handle 40 and the tube 42 is released.

[0047] The apparatus is arranged such that the track 2 is pulled against the action of the elastic cord 22 towards the winding mechanism housing 12 relatively slowly. However, when that force is released, the resilient force of the elastic cord 22 is large enough to effect relatively fast return of the track 2 towards its initial position. The material of the track 2 is arranged to have a sufficiently high coefficient friction that the horses thereon generally travel together with the track. Thus, as the track 2 is pulled slowly back towards the winding mechanism housing 12, the horses move backwards with the track. When the track 2 is released and moves relatively quickly forwards, the horses move forward. Movement of the horses relative to the track 2 is caused by abruptly stopping the forward movement of the track 2 under the control of the elastic cord 22. This abrupt cessation of the forward movement of the track 2 may be caused by any suitable means. In the embodiment illustrated, the end of the tube 42 within the winding mechanism housing 12 is arranged, during forward movement of the track 2 to engage a projection and thereby prevent further movement of the track 2. Of course, upon stopping the forward movement of the track 2, the forward momentum of the horses remains and they continue to move forward. The overall effect of these actions, which are then repeated, is that the horses move along the track 2 from its end at the winding mechanism housing 12 towards its end at the track end bracket 4.

[0048] It has been found that the arrangement described and illustrated is easy to set up, causes the horses to move in a substantially straight line longitudinally along the track 2, gives positive forward movement to the horses, and provides a large variability in the speed of the horses whereby horse races are simulated.

[0049] It is intended that the apparatus will be set up so that, as described above, the horses move generally away from the winding mechanism. However, it would be possible, for example, by adjusting the track tension, to cause the horses to move in the reverse direction. Whilst such an adjustment is not ideal, and is not intended, it is not excluded from the scope of this application.

[0050] An embodiment of the winding mechanism between the handle 40 and the tube 42 is illustrated in Figure 4. As can be seen, the winding mechanism, generally indicated at 50, comprises two facing annular rings 52, 54 on whose facing surfaces cooperating cams are provided. The annular cam 52 is fixed to the inside of the tube 42. A shaft 56 of the handle 40 extends through the cam 52 and is fixed to the cam 54. The camming surfaces of the cams 52 and 54 are arranged such that rotation of the handle 40 in the anti-clockwise direction, as shown in Figure 4, is not possible.

[0051] Reciprocation of the track 2 is caused by rotating the handle 40 in the clockwise direction as indicated by the arrow A on Figure 4. As the handle 40 is rotated there is relative rotation between the cams 52 and 54 which is arranged to pull the tube 42 in the direction towards the handle 40. As the tube 42 is fixed to the track end housing 8, this movement of the tube 42 moves the track end housing 8, and hence the track 2, towards the handle 40 against the action of the resilient elastic cord 22. This pulling action continues until the cams 52, 54 are mutually positioned at an end point at which the cam 54, and hence the tube 42, are suddenly released. At this point, the tube 42 is returned to its initial position by the action of the elastic cord 22. This also returns the two cams 52 and 54 to their original position whereby continued rotation of the handle 40 begins again to move the tube 42 towards the handle 40.

[0052] It will be appreciated that reciprocating movement of the track 2, to thereby move the horses, is achieved by continuing to rotate the handle 40. This causes the track to be moved through a number of cycles of movement as described above. It may be arranged that one rotation of the handle causes one such cycle of movement or one rotation may cause two or more such cycles. It will be seen that the handle 40 is rotatable in a vertical plane about a substantially horizontal axis. This is a particularly comfortable orientation for the person performing the winding.

[0053] The entire transverse extent of the track 2 is received on the roller 6 which is received within the track end housing 8. The reciprocating movement of the track 2 is caused by the movement of the track end housing 8 towards and away from the winding mechanism housing 12. The winding mechanism is arranged such that the two housings 8, 12 remain substantially parallel to each other and generally transverse to the longitudinal extent of the track. That is, there is no skewing of the track end housing 8 relative to the winding mechanism housing 12. This, and the support of the track across its entire width, ensures that the reciprocating movement of the track is generally accurately longitudinal whereby the horses are generally imparted with movement which is substantially longitudinal.

[0054] If required, one or more guide rails (not illustrated) may extend within and between the track end housing 8 and the winding mechanism housing 12 to prevent twisting of the housings 8 and 12 relative to one another.

[0055] Figures 5A and 5B show, in more detail, the construction and operation of the control knob 10. In this respect, Figure 5A shows the control knob 10 biassed to its outer position in which the roller 6 is locked against rotation. Figure 5B shows the situation when the control knob 10 is depressed to enable rotation of the roller 6.

[0056] As can be seen, the roller 6 has, within one end thereof, a compression spring 60 which acts to bias a locking gear 62 outwardly. In its outer position the gear teeth of the locking gear 62 are engaged with corresponding teeth 64 in a locking ring 66. This locking ring 66 is fixed against rotation within semi-circular formations 68 formed within the track end housing 8. It will be appreciated that, in this position, as the locking ring 66 is locked against rotation the locking gear 62 is similarly prevented from rotating. As this locking gear 62 is fixed to the end of the roller 6, the roller 6 is similarly locked against rotation.

[0057] At its outer end, the locking gear 62 carries a keyed projection 70 which engages within an appropriate recess (not visible) within the control knob 10. This ensures that rotation of the control knob 10 causes rotation of the roller 6. Of course, and as already described, rotation of the control knob 10 is not possible when the locking gear of the roller 6 is in the position shown in Figure 5A.

[0058] When rotation of the roller 6, for example to unwind the track 2, is required, the control knob 10 is depressed as indicated by arrow B in Figure 5B. By holding the control knob depressed the locking gear 62 is moved, against the action of the spring 60, out of engagement with the locking ring 66. In this depressed position there is nothing preventing rotation of the roller 6 which may be rotated in either direction, by appropriate rotation of the control knob 10, to extend or retract the track 2.

[0059] It will be appreciated that variations in and modifications to the particular embodiments described and illustrated may be made within the scope of the invention as defined in the appended claims.

Claims

1. A method of causing one or more playing pieces to move along a length of material defining an elongate track (2), wherein the elongate track extends between a track control mechanism (8, 12) and resilient tensioning means (4, 22) applying tension to the track, the method comprising the steps of operating the track control mechanism to cause the track to be moved through one or more cycles, in each cycle the track being moved longitudinally against the action of the resilient tensioning means (4, 22) and then being returned towards its initial position by the action of said resilient tensioning means, wherein the track control mechanism and the resilient tensioning means are arranged about the track such that periodically the playing pieces are caused to move relative to the track, the method **characterised in that**:

   the track material coefficient of friction is sufficiently high such that playing pieces on said track are generally moved together with the track as it moves through its movement cycles; and

   the periodic relative movement of the playing pieces is caused by the further step of abruptly arresting the movement of the track (2) when being moved under the action of the resilient tensioning means (4, 22) whereby momentum imparted to the playing pieces during their movement together with the track causes the playing pieces to move relative to the track.

2. A method as claimed in Claim 1, wherein the track (2) is moved longitudinally against the action of the resilient tensioning means by camming means (50) of said track control mechanism.

3. A method as claimed in Claim 1 or Claim 2, further comprising the step of, during each cycle, causing the track (2) to move against the action of the resilient tensioning means (4, 22) at a first speed, and

then returning the track towards its initial position at a second speed, wherein said second speed is considerably greater than said first speed.

4. Apparatus for playing a game, said apparatus comprising a number of playing pieces, a length of material for defining an elongate track (2), resilient tensioning means (4, 22) for applying tension to the track, and a track control mechanism (8, 12) for causing the track to be moved through one or more cycles, wherein the track extends between the track control mechanism and the resilient tensioning means, and wherein in each cycle the track is moved longitudinally against the action of the resilient tensioning means and then is returned towards its initial position by the action of said resilient tensioning means, wherein the track control mechanism and the resilient tensioning are arranged about the track such that periodically the playing pieces are moved relative to the track, the apparatus **characterised in that**:

the track material coefficient of friction is sufficiently high such that playing pieces carried on the track generally move together with the track as it moves through its movement cycles, and means for abruptly arresting the movement of the track (2) when being moved under the action of the resilient tensioning means (4, 22) cause periodic relative movement of the playing pieces relative to the track by virtue of the momentum imparted to the playing pieces during their movement together with the track.

5. Apparatus as claimed in Claim 4, wherein said resilient tensioning means (4, 22) comprises a cord of elastic material (22), which is fixed at or near one end of the track which is remote from said track control mechanism, and which acts to apply a force to the track in a direction acting to pull the track away from said track control mechanism.

6. Apparatus as claimed in Claim 5, wherein a length of said cord of elastic material (22) is fixed to said one end of the track (2), the two ends of said cord being spaced apart over the transverse extent of said track.

7. Apparatus as claimed in Claim 5 or Claim 6, further comprising a track end bracket (4) which is fixed to said one end of the track to extend substantially transversely thereof, and which extends substantially over the whole of the transverse extent of the track (2), and wherein said cord of elastic material (22) is fixed to said track end bracket.

8. Apparatus as claimed in any of Claims 5 to 7, wherein said resilient tensioning means (4, 22) further comprises a fixing bracket (30) arranged to be fixed to a table or other support, said fixing bracket having one or more cord holders (34) with which said cord (22) may be selectively engaged.

9. Apparatus as claimed in any of Claims 4 to 9, wherein said track control mechanism (8, 12) comprises a handle operated mechanism arranged to move the track longitudinally in a direction against the action of said resilient tensioning means.

10. Apparatus as claimed in Claim 9, wherein said handle (40) is rotatable about a generally horizontally extending axis.

11. Apparatus as claimed in Claim 10, wherein during a single rotation of said handle (40) the track control mechanism (8, 12) is arranged to release the force on the track (2) to enable it to be moved by the action of said resilient tensioning means (4, 22).

12. Apparatus as claimed in any of Claims 4 to 11, wherein said track control mechanism (8, 12) comprises a track end housing (8) receiving and holding the other end of said track (2) remote from said resilient tensioning means (4, 22), a winding mechanism housing (12) coupled to said track end housing, and a winding mechanism (50) actuated by a handle (40) to alter the spacing between said track end housing and said winding mechanism housing.

13. Apparatus as claimed in Claim 12, wherein a single rotation of said handle (40) is arranged to move said winding mechanism housing (12) and said track end housing (8) towards each other at least once, and to release said track end housing at least once such that said track end housing, and the track, may be moved by the action of said resilient tensioning means (4, 22).

14. Apparatus as claimed in Claim 12 or Claim 13, wherein said winding mechanism comprises two interengaging camming surfaces (52, 54), one of said camming surfaces (54) being coupled to said handle (40) and the other of said camming surfaces (52) being coupled to said track end housing (8).

15. Apparatus as claimed in any of Claims 12 to 14, wherein said track end housing (8) extends substantially transversely relative to the track and receives the transverse extent of said other end of the track.

16. Apparatus as claimed in Claim 15, wherein a tensioning roller (6) is housed within said track end housing (8) to which said other end of the track is fixed, and further comprising releasable locking means (10) to lock the tensioning roller against ro-

tation.

Patentansprüche

1. Verfahren zum Auslösen einer Bewegung eines oder mehrerer Spielsteine entlang einer eine längliche Bahn (2) definierenden Stoffbahn, wobei sich die längliche Bahn zwischen einem Bahn-Steuermechanismus (8, 12) und einer flexiblen Spannvorrichtung (4, 22) erstreckt, die eine Spannung auf die Bahn ausübt, wobei das Verfahren die Schritte aufweist den Bahn-Steuermechanismus zu betätigen, so dass die Bahn einen oder mehrere Zyklen durchläuft, wobei die Bahn bei jedem Zyklus in Längsrichtung entgegen der Wirkung der flexiblen Spannvorrichtung (4, 22) bewegt wird und dann durch die Wirkung der flexiblen Spannvorrichtung in ihre Ausgangsposition zurückkehrt, wobei der Bahn-Steuermechanismus und die flexible Spannvorrichtung so um die Bahn herum angeordnet sind, dass eine Bewegung der Spielsteine relativ zu der Bahn regelmäßig ausgelöst wird, wobei das Verfahren **dadurch gekennzeichnet ist, dass**:

   der Reibungskoeffizient des Bahnmaterials ausreichend groß ist, so dass die Spielsteine auf der Bahn generell zusammen mit der Bahn bewegt werden, wenn diese ihre Bewegungszyklen durchläuft; und
   die regelmäßige relative Bewegung der Spielsteine durch den weiteren Schritt des abrupten Anhaltens der Bewegung der Bahn (2) bewirkt wird, wenn diese unter der Wirkung der flexiblen Spannvorrichtung (4, 22) bewegt wird, wodurch ein Impuls, der auf die Spielsteine während ihrer Bewegung zusammen mit der Bahn übertragen wird, bewirkt, dass sich die Spielsteine relativ zu der Bahn bewegen.

2. Verfahren nach Anspruch 1, wobei die Bahn (2) durch eine Nockeneinrichtung (50) des Bahn-Steuermechanismus in Längsrichtung entgegen der Wirkung der flexiblen Spannvorrichtung bewegt wird.

3. Verfahren nach Anspruch 1 oder 2, das weiterhin den Schritt aufweist, dass im Verlauf eines jeden Zyklus bewirkt wird, dass sich die Bahn (2) entgegen der Wirkung der flexiblen Spannvorrichtung (4, 22) mit einer ersten Geschwindigkeit bewegt, und dann die Bahn mit einer zweiten Geschwindigkeit in ihre Ausgangsposition zurückkehrt, wobei die zweite Geschwindigkeit beträchtlich größer als die erste Geschwindigkeit ist.

4. Vorrichtung zum Spielen eines Spiels, wobei die Vorrichtung aufweist: eine Anzahl von Spielsteinen, eine Stoffbahn, um eine längliche Bahn (2) zu definieren, eine flexible Spannvorrichtung (4, 22), um eine Spannung auf die Bahn auszuüben, und einen Bahn-Steuermechanismus (8, 12), der bewirkt, dass die Bahn einen oder mehrere Zyklen durchläuft, wobei die Bahn sich zwischen dem Bahn-Steuermechanismus und der flexiblen Spannvorrichtung erstreckt, und wobei in jedem Zyklus die Bahn in Längsrichtung entgegen der Wirkung der flexiblen Spannvorrichtung bewegt wird und dann durch die Wirkung der flexiblen Spannvorrichtung in ihre Ausgangsposition zurückkehrt, wobei der Bahn-Steuermechanismus und die flexible Spannvorrichtung so um die Bahn herum angeordnet sind, dass die Spielsteine regelmäßig relativ zu der Bahn bewegt werden, wobei die Vorrichtung **dadurch gekennzeichnet ist, dass**

   der Reibungskoeffizient des Bahnmaterials ausreichend groß ist, so dass die auf der Bahn getragenen Spielsteine sich generell zusammen mit der Bahn bewegen, wenn diese ihre Bewegungszyklen durchläuft; und

   eine Einrichtung zum abrupten Anhalten der Bewegung der Bahn (2), wenn diese unter der Wirkung der flexiblen Spannvorrichtung (4, 22) bewegt wird, eine regelmäßige relative Bewegung der Spielsteine relativ zu der Bahn bewirkt, mittels des Impulses, der auf die Spielsteine während ihrer Bewegung zusammen mit der Bahn übertragen wird.

5. Vorrichtung nach Anspruch 4, wobei die flexible Spannvorrichtung (4, 22) eine Schnur aus elastischem Material (22) aufweist, welche an oder nahe einem Ende der Bahn, welches von dem Bahn-Steuermechanismus entfernt ist, befestigt ist und durch welche eine Kraft auf die Bahn in eine Richtung ausgeübt wird, die bewirkt, dass die Bahn von dem Bahn-Steuermechanismus weggezogen wird.

6. Vorrichtung nach Anspruch 5, wobei ein Stück der Schnur aus elastischem Material (22) mit dem einen Ende der Bahn (2) befestigt ist, wobei die beiden Enden der Schnur über die transversale Länge der Bahn voneinander beabstandet sind.

7. Vorrichtung nach Anspruch 5 oder 6, die weiterhin einen Halter (4) für das Bahnende aufweist, welcher an einem Ende der Bahn befestigt ist und sich im Wesentlichen quer dazu und im Wesentlichen über die gesamte transversale Länge der Bahn (2) erstreckt, und wobei die Schnur aus elastischem Material (22) an dem Halter (4) für das Bahnende befestigt ist.

8. Vorrichtung nach einem der Ansprüche 5 bis 7, wobei die flexible Spannvorrichtung (4, 22) weiterhin einen Befestigungshalter (30) aufweist, der so ausgebildet ist; dass er an einem Tisch oder einem an-

deren Träger befestigt werden kann, wobei der Befestigungshalter einen oder mehrere Schnurhalter (34) hat, mit welchem/welchen die Schnur (22) selektiv in Eingriff kommen kann.

9. Vorrichtung nach einem der Ansprüche 4 bis 9, wobei der Bahn-Steuermechanismus (8, 12) einen mit Griff betriebenen Mechanismus aufweist, der so ausgebildet ist, dass er die Bahn in Längsrichtung in eine Richtung entgegen der Wirkung der flexiblen Spannvorrichtung bewegt.

10. Vorrichtung nach Anspruch 9, wobei der Griff (40) um eine sich generell horizontal erstreckende Achse drehbar ist.

11. Vorrichtung nach Anspruch 10, wobei eine einzige Drehung des Griffs (40) des Bahn-Steuermechanismus (8, 12) bewirkt, dass er die Kraft auf die Bahn (2) freigibt, so dass diese durch die Wirkung der flexiblen Spannvorrichtung (4, 22) bewegt werden kann.

12. Vorrichtung nach einem der Ansprüche 4 bis 11, wobei der Bahn-Steuermechanismus (8, 12) ein Gehäuse (8) für das Bahnende, das das andere Ende der Bahn (2), das von der flexiblen Spannvorrichtung (4, 22) entfernt ist, aufnimmt und hält, ein Gehäuse (12) für den Aufwickelmechanismus, das mit dem Gehäuse für das Bahnende gekoppelt ist und einen Aufwickelmechanismus (50), der durch einen Griff (40) bedient wird, um den Abstand zwischen dem Gehäuse für das Bahnende und dem Gehäuse für den Aufwickelmechanismus zu ändern, aufweist.

13. Vorrichtung nach Anspruch 12, wobei eine einzige Drehung des Griffs (40) vorgesehen ist, um das Gehäuse (12) für den Aufwickelmechanismus und das Gehäuse (8) für das Bahnende zumindest einmal aufeinander zu zu bewegen und um das Gehäuse für das Bahnende zumindest einmal freizugeben in der Weise, dass das Gehäuse für das Bahnende und die Bahn durch die Wirkung der flexiblen Spannvorrichtung (4, 22) bewegt werden können.

14. Vorrichtung nach Anspruch 12 oder 13, wobei der Aufwickelmechanismus zwei ineinander eingreifende Nockenflächen (52, 54) aufweist, wobei eine der Nockenflächen (54) mit dem Griff (40) gekoppelt ist und die andere Nockenfläche (52) mit dem Gehäuse (8) für das Bahnende gekoppelt ist.

15. Vorrichtung nach einem der Ansprüche 12 bis 14, wobei das Gehäuse (8) für das Bahnende sich im Wesentlichen quer zu der Bahn erstreckt und die transversale Länge des anderen Endes der Bahn aufnimmt.

16. Vorrichtung nach Anspruch 15, wobei eine Spannrolle (6) in dem Gehäuse (8) für das Bahnende untergebracht ist, an dem das andere Ende der Bahn befestigt ist, und weiterhin eine lösbare Verriegelungseinrichtung (10) zum Sperren einer Drehbewegung der Spannrolle vorgesehen ist.

Revendications

1. Procédé de mise en mouvement d'une ou plusieurs pièces de jeu afin qu'elles se déplacent le long d'une longueur de matériau définissant une piste allongée (2), dans lequel la piste allongée s'étend entre un mécanisme de contrôle de piste (8, 12) et un moyen de tension élastique (4, 22) appliquant une tension sur la piste, le procédé comprenant les étapes consistant à actionner le mécanisme de contrôle de piste afin de provoquer une mise en mouvement de la piste au sein d'un ou plusieurs cycles, au cours de chacun desquels la piste est déplacée longitudinalement contre l'action du moyen de tension élastique (4, 22) puis est retournée dans sa position initiale par l'action dudit moyen de tension élastique, dans lequel le mécanisme de contrôle de piste et le moyen de tension élastique sont agencés autour de la piste de telle sorte que, périodiquement, les pièces de jeu soient mises en mouvement par rapport à la piste, le procédé étant **caractérisé en ce que** :

le coefficient de frottement du matériau de la piste est suffisamment élevé pour que les pièces de jeu sur ladite piste soient généralement déplacées avec la piste lorsqu'elle se déplace lors de ses cycles de mouvement ; et
le mouvement relatif périodique des pièces de jeu est provoqué par l'étape supplémentaire d'arrêt brutal du mouvement de la piste (2) lorsqu'elle est déplacée sous l'action du moyen de tension élastique (4, 22), moyennant quoi la quantité de mouvement transmise aux pièces de jeu pendant leur mouvement avec la piste provoque une mise en mouvement des pièces de jeu par rapport à la piste.

2. Procédé selon la revendication 1, dans lequel la piste (2) est déplacée longitudinalement contre l'action du moyen de tension élastique par un moyen de came (50) dudit mécanisme de contrôle de piste.

3. Procédé selon la revendication 1 ou la revendication 2, comprenant en outre l'étape consistant à, pendant chaque cycle, provoquer la mise en mouvement de la piste (2) contre l'action du moyen de tension élastique (4, 22) à une première vitesse, puis à retourner la piste dans sa position initiale à une seconde vitesse, dans lequel ladite seconde vi-

tesse est considérablement plus élevée que ladite première vitesse.

4. Appareil pour jouer à un jeu, ledit appareil comprenant un certain nombre de pièces de jeu, une longueur de matériau pour définir une piste allongée (2), un moyen de tension élastique (4, 22) pour appliquer une tension sur la piste, et un mécanisme de contrôle de piste (8, 12) pour provoquer la mise en mouvement de la piste au sein d'un ou plusieurs cycles, dans lequel la piste s'étend entre le mécanisme de contrôle de piste et le moyen de tension élastique, et dans lequel, lors de chaque cycle, la piste est déplacée longitudinalement contre l'action du moyen de tension élastique puis est retournée dans sa position initiale par l'action dudit moyen de tension élastique, dans lequel le mécanisme de contrôle de piste et le moyen de tension élastique sont agencés autour de la piste de telle sorte que, périodiquement, les pièces de jeu soient déplacées par rapport à la piste, l'appareil étant **caractérisé en ce que** :

le coefficient de frottement du matériau de la piste est suffisamment élevé pour que les pièces de jeu portées sur la piste soient généralement déplacées avec la piste lorsqu'elle se déplace lors de ses cycles de mouvement ; et
un moyen pour arrêter brutalement le mouvement de la piste (2) lorsqu'elle est déplacée sous l'action du moyen de tension élastique (4, 22) provoque un mouvement relatif périodique des pièces de jeu par rapport à la piste en raison de la quantité de mouvement transmise aux pièces de jeu pendant leur mouvement avec la piste.

5. Appareil selon la revendication 4, dans lequel ledit moyen de tension élastique (4, 22) comprend une corde de matériau élastique (22), qui est fixée au niveau de ou près d'une extrémité de la piste qui est éloignée dudit mécanisme de contrôle de piste, et qui agit pour appliquer une force sur la piste dans une direction agissant pour tirer la piste à l'écart dudit mécanisme de contrôle de piste.

6. Appareil selon la revendication 5, dans lequel une longueur de ladite corde de matériau élastique (22) est fixée à ladite extrémité de la piste (2), les deux extrémités de ladite corde étant espacées sur l'étendue transversale de ladite piste.

7. Appareil selon la revendication 5 ou la revendication 6, comprenant en outre une patte de fixation d'extrémité de piste (4) qui est fixée à ladite extrémité de la piste afin de s'étendre de manière sensiblement transversale par rapport à celle-ci, et qui s'étend sensiblement sur la totalité de l'étendue transversale de la piste (2), et dans lequel ladite corde de matériau élastique (22) est fixée à ladite patte de fixation d'extrémité de piste.

8. Appareil selon l'une quelconque des revendications 5 à 7, dans lequel ledit moyen de tension élastique (4, 22) comprend en outre une patte de fixation (30) agencée pour être fixée à une table ou tout autre support, ladite patte de fixation possédant un ou plusieurs support(s) de corde (34) avec le(s)quel(s) ladite corde (22) peut être sélectivement engagée.

9. Appareil selon l'une quelconque des revendications 4 à 9, dans lequel ledit mécanisme de contrôle de piste (8, 12) comprend un mécanisme actionné par poignée agencé pour déplacer la piste longitudinalement dans une direction allant contre l'action dudit moyen de tension élastique.

10. Appareil selon la revendication 9, dans lequel ladite poignée (40) peut tourner autour d'un axe s'étendant généralement à l'horizontale.

11. Appareil selon la revendication 10, dans lequel, pendant une seule rotation de ladite poignée (40), le mécanisme de contrôle de piste (8, 12) est agencé pour relâcher la force sur la piste (2) afin de lui permettre d'être déplacée par l'action dudit moyen de tension élastique (4, 22).

12. Appareil selon l'une quelconque des revendications 4 à 11, dans lequel ledit mécanisme de contrôle de piste (8, 12) comprend un logement d'extrémité de piste (8) recevant et supportant l'autre extrémité de ladite piste (2) éloignée dudit moyen de tension élastique (4, 22), un logement de mécanisme d'enroulement (12) couplé audit logement d'extrémité de piste, et un mécanisme d'enroulement (50) actionné par une poignée (40) afin de modifier l'espacement entre ledit logement d'extrémité de piste et ledit logement de mécanisme d'enroulement.

13. Appareil selon la revendication 12, dans lequel une seule rotation de ladite poignée (40) est agencée pour déplacer ledit logement de mécanisme d'enroulement (12) et ledit logement d'extrémité de piste (8) l'un vers l'autre au moins une fois, et pour relâcher ledit logement d'extrémité de piste au moins une fois de telle sorte que ledit logement d'extrémité de piste, et la piste, puissent être déplacés par l'action dudit moyen de tension élastique (4, 22).

14. Appareil selon la revendication 12 ou la revendication 13, dans lequel ledit mécanisme d'enroulement comprend deux surfaces de came s'engageant l'une avec l'autre (52, 54), l'une desdites surfaces de came (54) étant couplée à ladite poignée (40) et l'autre desdites surfaces de came (52) étant cou-

plée audit logement d'extrémité de piste (8).

15. Appareil selon l'une quelconque des revendications 12 à 14, dans lequel ledit logement d'extrémité de piste (8) s'étend sensiblement de manière transversale par rapport à la piste et reçoit l'étendue transversale de ladite autre extrémité de la piste.

16. Appareil selon la revendication 15, dans lequel un rouleau de tension (6) est logé dans ledit logement d'extrémité de piste (8) auquel ladite autre extrémité de la piste est fixée, et comprenant en outre un moyen de verrouillage pouvant être relâché (10) afin de bloquer le rouleau de tension contre toute rotation.

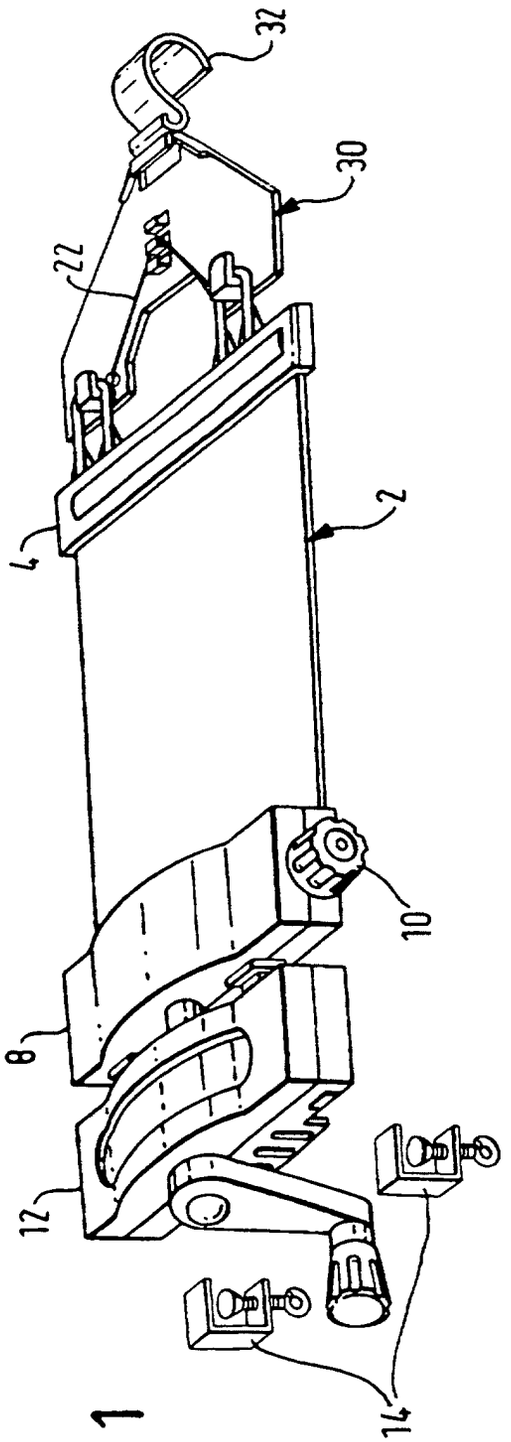


FIG. 1

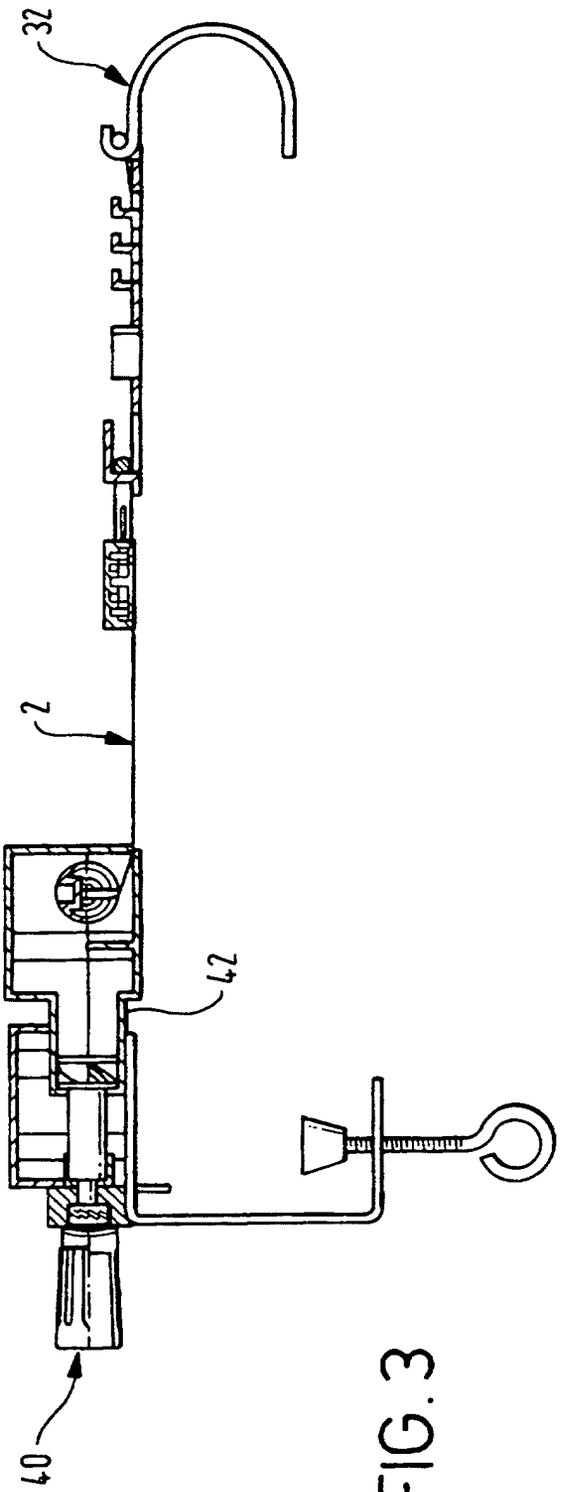


FIG. 3

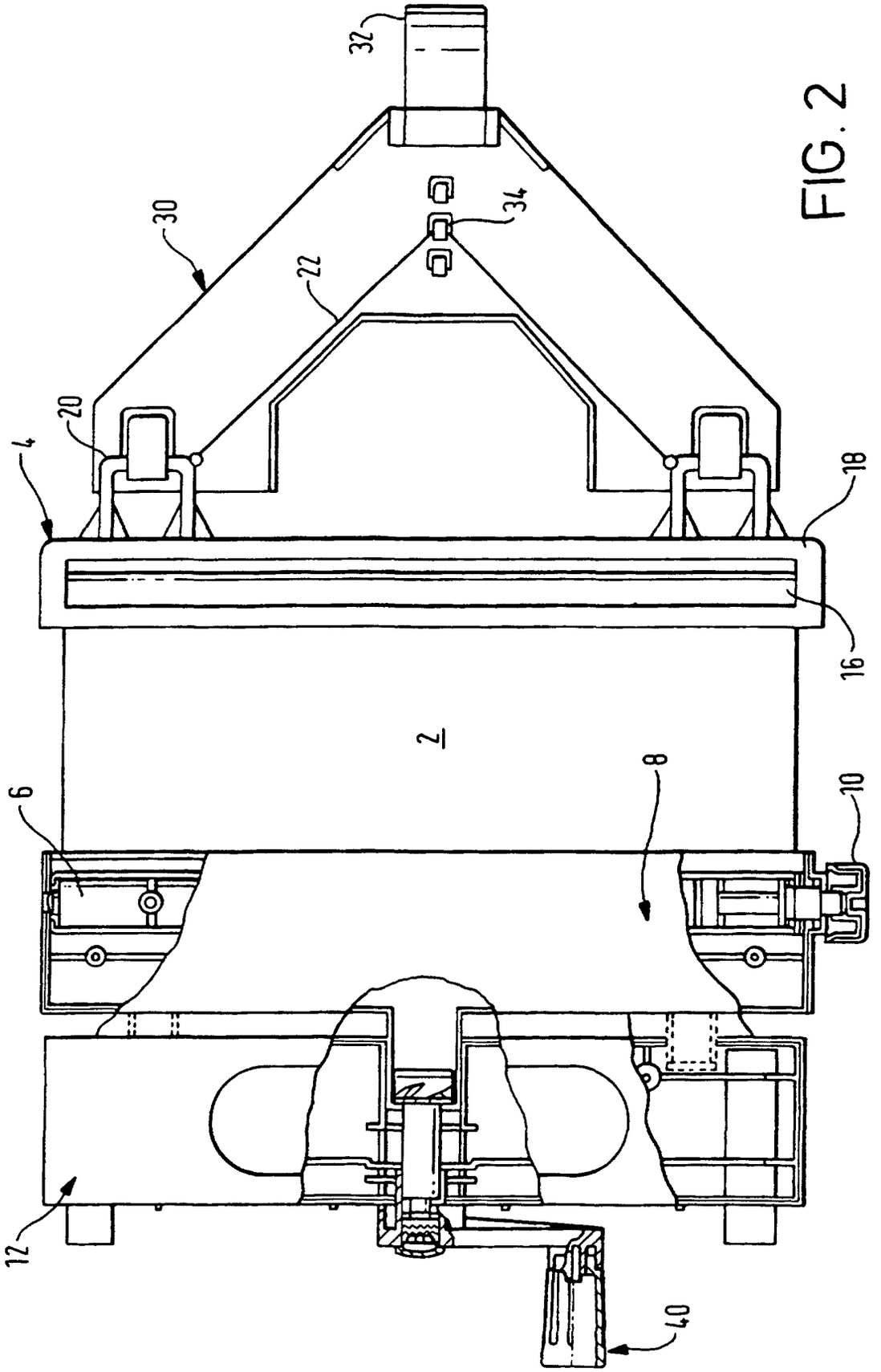


FIG. 2

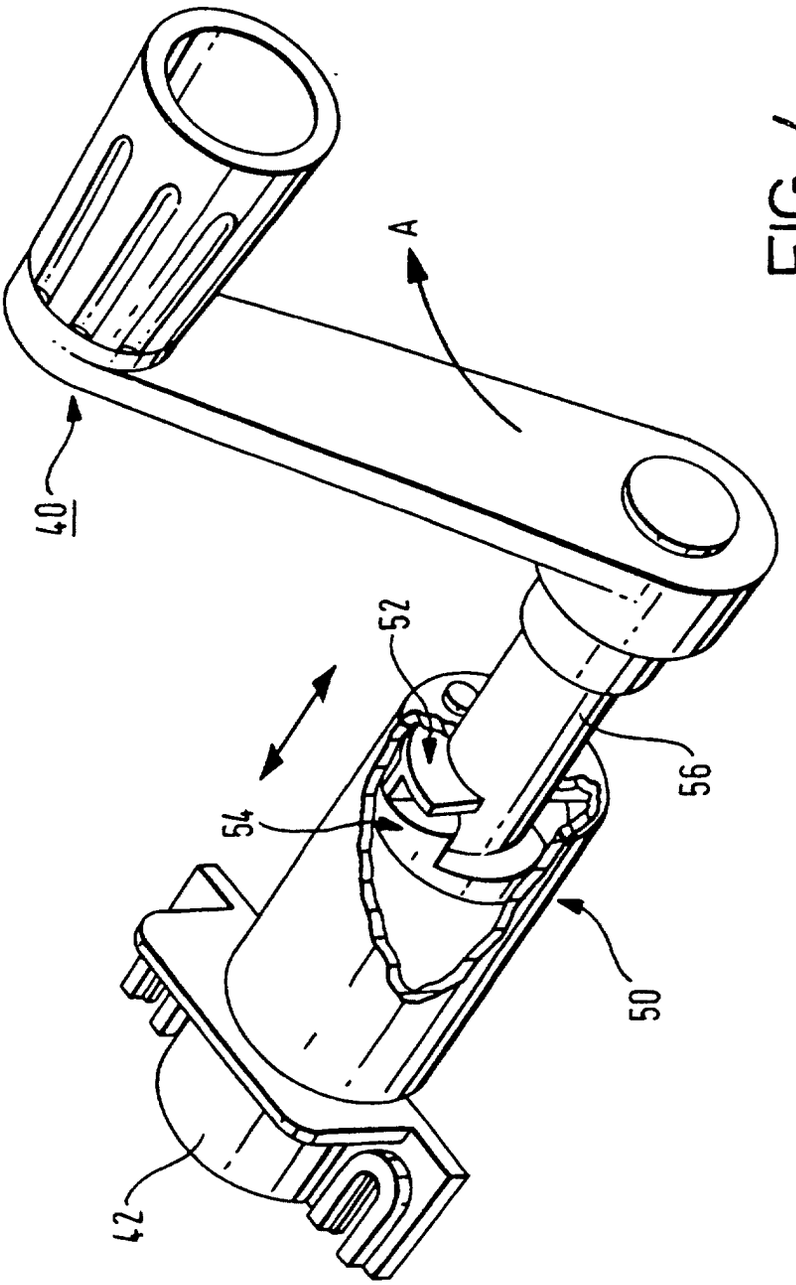


FIG. 4

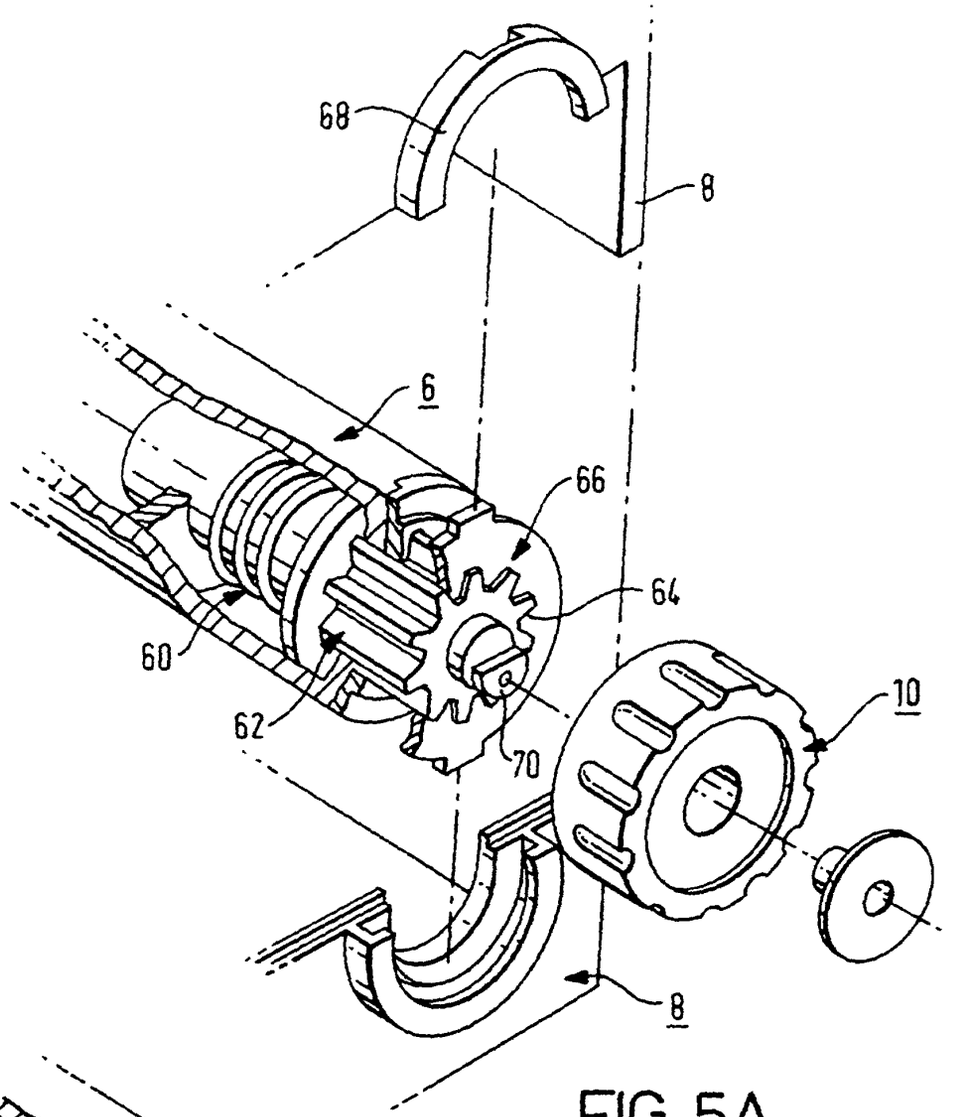


FIG. 5A

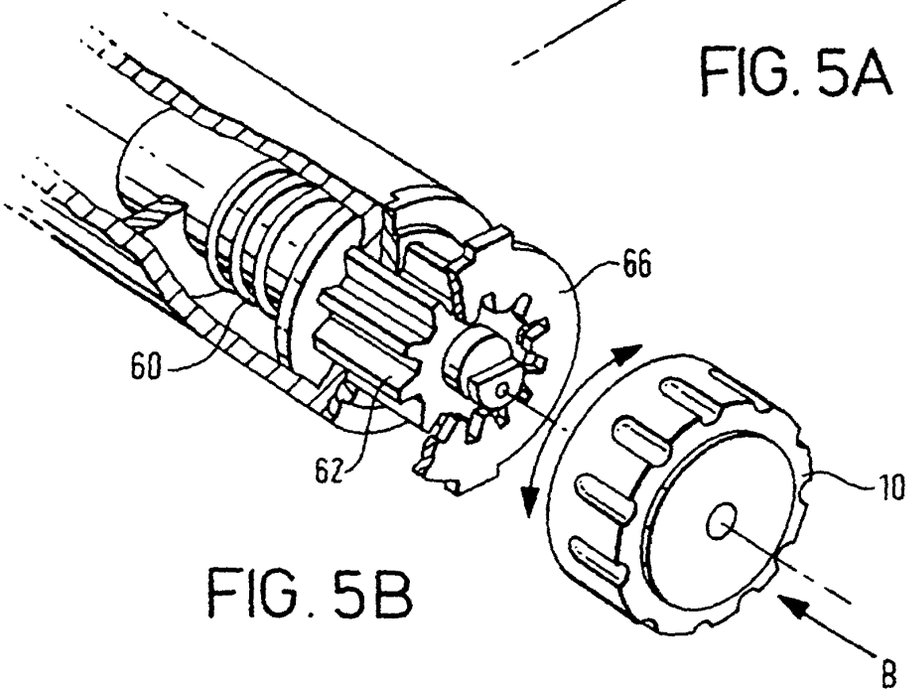


FIG. 5B