W. H. HOBDEY.

MECHANICAL TOY.

APPLICATION FILED OCT. 18, 1907.

916,151. Patented Mar. 23, 1909.

Fig. 1.

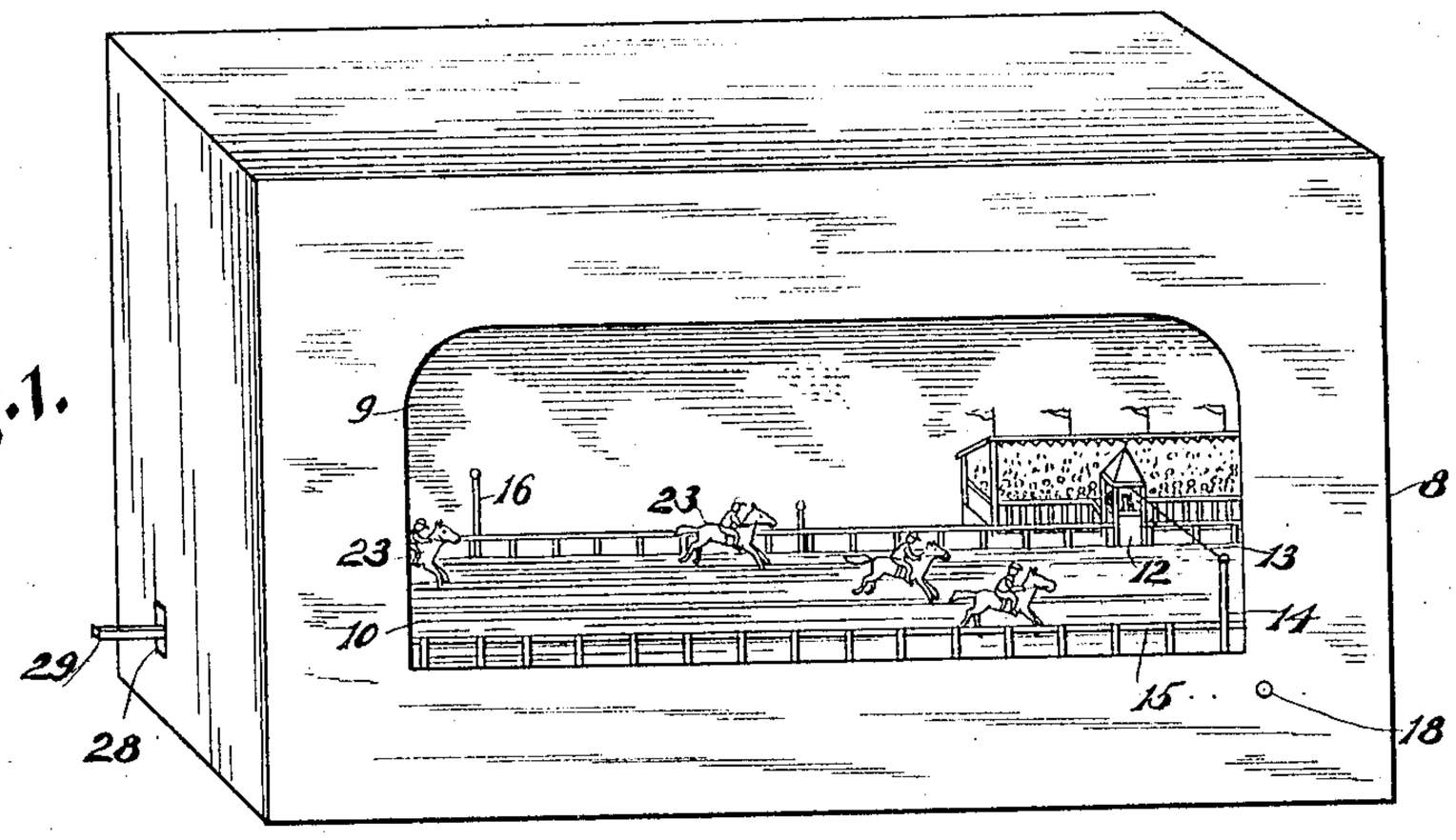


Fig. 2.

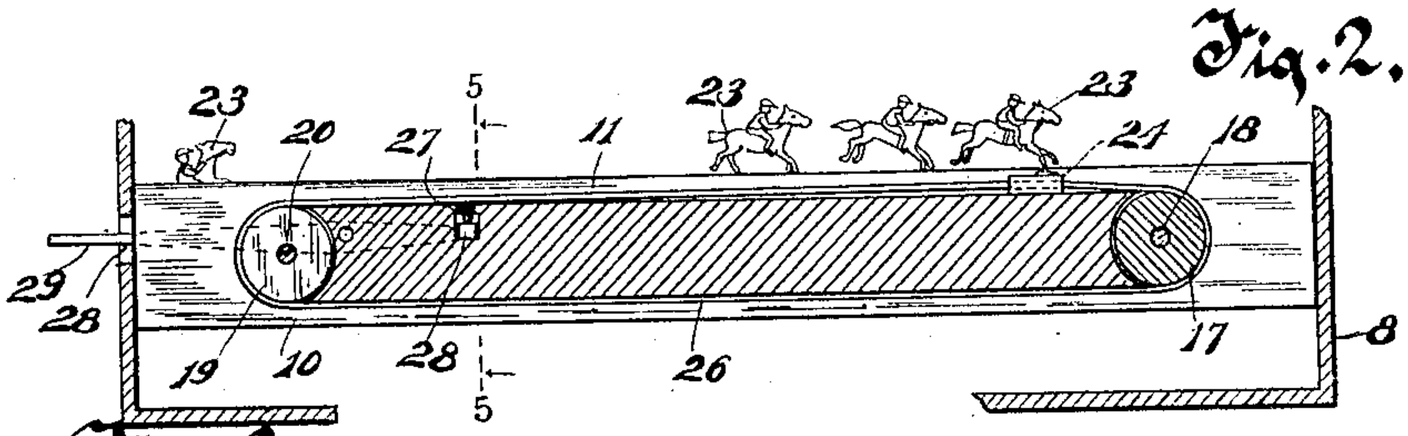


Fig. 3.

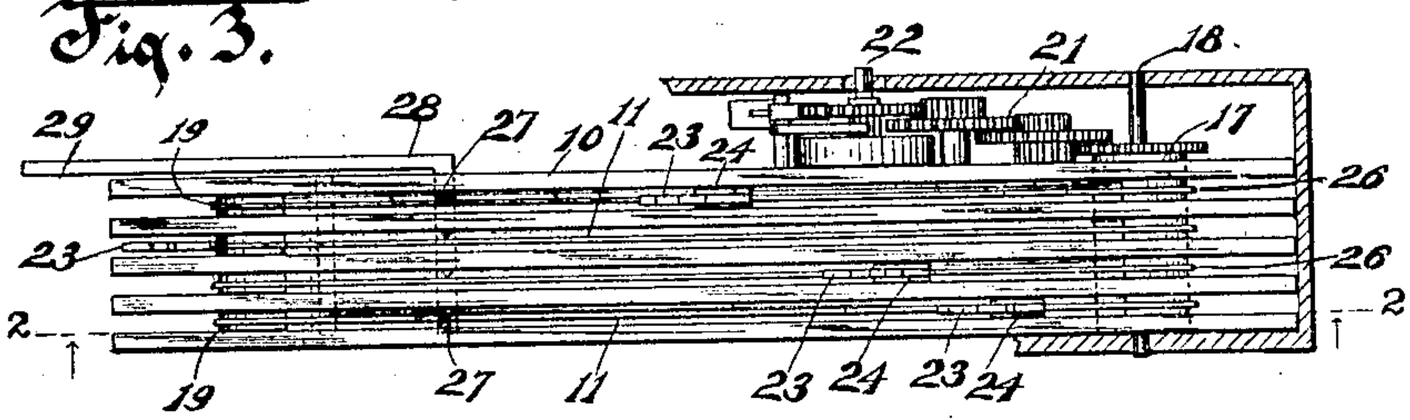


Fig. 2r.

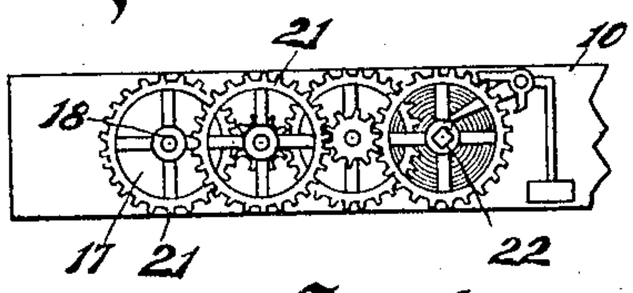


Fig. 6.

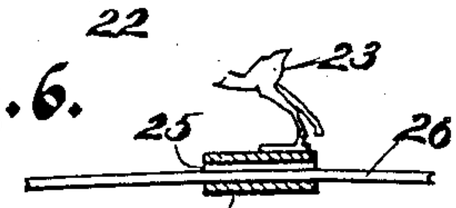
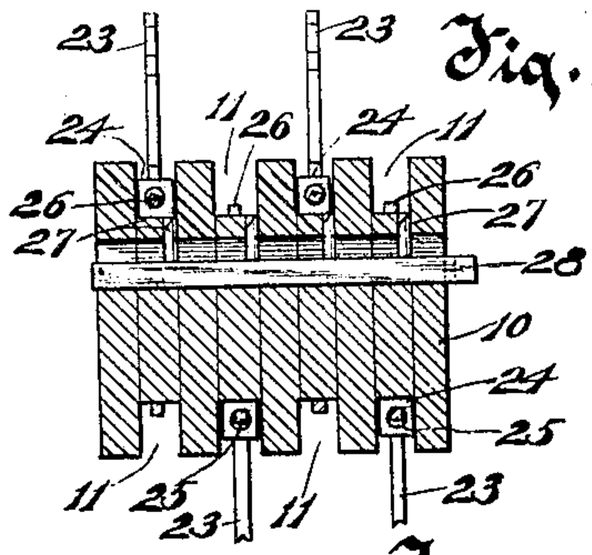


Fig. 5.



Witnesses.

C. H. Keeney

Anna F. Schmidtbauer

Inventor.

William H. Hobdey,

By Benedict, Morsell & Caldwell,

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM HUTCHINSON HOBDEY, OF MILWAUKEE, WISCONSIN.

MECHANICAL TOY.

No. 916,151. Specification of Letters Patent. Patented March 23, 1909.

Application filed October 18, 1907. Serial No. 398,030.

To all whom it may concern:

Be it known that I, WILLIAM HUTCHINSON HOBDEY, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a Mechanical Toy, of which the following is a specification.

This invention has relation to improvements in mechanical toys.

The principal object of this invention is to provide a mechanical toy in which figures of miniature horses appear to be racing in a life like manner on the stage of a miniature theatre.

A further object of this invention is to provide a mechanical toy which is adapted, on a large scale, to be used as an attraction for store and shop windows.

A still further object of this invention is to provide means whereby in racing on the track the relative position of the horses will constantly change in a haphazard manner so that it will be impossible, at the beginning of the race to pick out the winner.

A still further object of the invention is to provide means whereby the horses may be lined up at the starting post preliminary to the start of the race.

With the above, and other objects in view, the invention consists of the parts and their combination, and all equivalents thereof.

In the drawings, in which the same characters of reference indicate the same parts in all of the views: Figure 1 is a perspective view of the complete device showing the horses approaching the wire at the finish of a race; Fig. 2 is a longitudinal sectional view of the track taken on line 2—2 of Fig. 3; Fig. 3 is a plan view of Fig. 2; Fig. 4 is a side view of a portion of the track, showing the clock work mechanism for moving the horses; Fig. 5 is a sectional view of the track taken on line 5—5 of Fig. 2; and Fig. 6 is a sectional view of one of the blocks and a fragment of one of the horses connected thereto.

Referring to the drawing, the numeral 8 indicates a box-like structure provided with an opening 9 to represent the opening from the auditorium of a theater on to the stage. The stage or track consists of a block of wood 10 provided with a plurality of parallel grooves 11 extending entirely around the block longitudinally and vertically. The upper surface of this block is flush with the lower edge of the box opening and the lower surface of said block is positioned a sufficient distance above the bottom of the box to permit the horses to pass between the bottom of the box and the lower surface of the block. The block extends the entire length of the box and is secured thereto in any convenient manner. To the right of the stage and in the rear of the block is located the judges' stand 12 with the grand stand in the back-ground immediately in the rear of the judges' stand, and a wire 13 is stretched from the judges' stand forwardly over the track and is connected to a post 14. This post is known as the mile post and the wire connected thereto indicates the finishing line or the end of the race. The mile post 14 forms part of a rail fence 15 extending the entire length of the box opening and in front of the track. This fence is duplicated in the rear of the track and is a representation of the regulation fence which surrounds all race tracks and is added to the track to produce a more realistic representation of a race track. To the left of the judges' stand is a post 16, known as the three-quarter mile post, and indicates that the distance between this post and the finishing wire is one-quarter of a mile. The shorter post midway between the judges' stand and the three-quarter mile post is known as the seven-eighths mile post. This representation of a race track indicates a mile and a quarter derby or a track one mile and a quarter around, that is starting from the three-quarter mile post and returning, is supposed to be just one mile, and from this post to the finishing wire adds the quarter mile to make the mile and a quarter.

The track is formed of a single block of wood or other material, with grooves formed therein or it may be made of alternate sizes of pieces of wood the thickness of the grooves, fastened together to form a block provided with continuous grooves extending longitudinally in both the upper and the lower surfaces, and vertically, in the ends of the block. The vertical grooves are of greater depth than the horizontal grooves to provide clearance for the horses passing therearound. A spool 17 extends transversely through an opening near the right hand end of the block and its shaft 18 is mounted in the box. The opening in the block is slightly larger than the spool to avoid frictional contact therewith, and the spool is of a diameter corresponding to the distance, vertically, between the bottoms of the grooves so that the pe-

riphery of the spool is flush with the bottom of said grooves. Pulleys 19 is loosely mounted on a shaft 20 supported in the block 10, are positioned in the grooves near the opposite end of the block, one pulley for each groove, and these pulleys are of the same diameter as the spool 17 so that their peripheries will also lie flush with the bottoms of the grooves. The spool 17 is connected to one wheel of a train of gear wheels 21 of the ordinary clock work mechanism, and this mechanism is provided with the usual pendulum escapement and a power spring. A winding shaft 22 extends through an opening in the box and is adapted to be wound up with a clock key (not shown). The pendulum escapement gives the intermittent movement to the rollers which is very desirable in producing the realistic running effect of the horses.

The miniature figures of horses 23 are cut or stamped from sheet rubber, metal or other material, and one of the fore legs of each horse is connected to an oblong slide or block of wood 24 provided with an opening 25 longitudinally therethrough. These oblong blocks are square in cross section and are adapted to freely slide in the grooves 11 of the track block. The oblong slide blocks and their attached horses are caused to slide in a haphazard manner in the grooves by means of endless cables 26 passing loosely through the openings 25 in said blocks 24 and extending in the grooves 11 and around the idle pulleys 19 and the power spool 17. These cables may be made of rubber bands, elastic tape or ordinary string, but I find that spliced rubber bands which are of less size in cross section than the diameter of the opening through the slide blocks give very satisfactory results, as the frictional contact of the rubber bands with the surface of the blocks surrounding the openings in the slide blocks is sufficient to overcome the friction between the slide blocks and the surface forming the bottom of the grooves and causes said blocks to slide in a haphazard manner.

The horses being connected to the slide blocks by one of their fore legs, which is flexible, permits said horse to spring up and down when it is moved forwardly in a haphazard manner by the intermittent movement of the power spool and cables, thereby causing said horses to appear to be running in a realistic manner.

In order to start all of the horses from the starting post 16 at the same time, stop pins 27 are adapted to be raised in the grooves in the path of movement of the slide blocks 24, and these pins are connected to an operating lever 28 positioned in an opening extending transversely through the block 10 beneath the upper horizontal grooves, and in line with the starting post 16. When the operating lever is pressed down these pins pass up through vertical openings from the transverse opening to the grooves and are positioned in one side of the grooves so as to obstruct the slide blocks but not to interfere with the movement of the cables which continue to run while the horses are being lined up preliminary to the start.

The operating lever 28 is provided with a pivot extension which is mounted in the block 10 and the operating handle 29 of this lever extends through an opening in one end of the box.

In starting a race the operating lever is passed downwardly to raise the stop pins in the grooves and the clock work spring is wound up by means of a key thus starting the clock mechanism and the rotation of the power spool clockwise. The cables in engagement with the spool will be caused to travel in their respective grooves and the slide blocks on which the horses are mounted and through which the cables pass will be caused to slide in said grooves until they all line up against the stop pins at the starting post. In this position the cables slip through the blocks and continue to travel with the intermittent rotation of the power spool. The race is now started by lifting the operating lever which movement lowers the stop pins out of the path of movement of the slide blocks. As soon as the pins are down all of the horses start to travel with their respective cables in a haphazard manner according to the varying friction between the cables and the blocks and the walls forming the grooves. Thus, they all go forward, perhaps all in a bunch, some are in the lead and others straggling behind, but all following the course of the grooves, past the grand stand, out of sight behind the wing of the box and down and around the power spool, beneath the track in the opposite direction, up and around the pulleys, by the starting point, and down the home stretch to the finish beneath the wire in front of the grand stand thus completing the mile and a quarter race.

In the travel of the horses around the track some of the slide blocks may encounter more friction than others or may stick momentarily on the spool or pulleys, so that it is impossible to tell which horse will win the race. The pendulum movement of the block works produces an intermittent jerky movement of the elastic cables which produces an animated forward and up and down movement of the horses due to the flexibility of the horses' legs which are attached to the sliding blocks.

What I claim as my invention is:

1. A mechanical toy, comprising a plurality of cables, figures loosely connected to said cables, and means for moving the cables to move the figures in a haphazard manner.

2. A mechanical toy, comprising a plurality of cables, figures loosely connected to said cables, and means for intermittently moving the cables to move the figures in a haphazard manner.

3. A mechanical toy, comprising a block, a plurality of cables movably connected to said block, figures loosely connected to said cables, and means for moving the cables to move the figures in a haphazard manner.

4. A mechanical toy, comprising a grooved track, a plurality of cables movably positioned in the grooves of said track, figures loosely connected to said cables, and means for moving the cables to move the figures in a haphazard manner.

5. A mechanical toy, comprising a grooved track, a plurality of cables movably positioned in the grooves of said track, blocks movably positioned in said grooves and loosely connected to the cables, figures connected to said blocks, and means for moving the cables to move the figures in a haphazard manner.

6. A mechanical toy, comprising a grooved track, a plurality of cables movably positioned in the grooves of said track, slide blocks provided with openings positioned in said grooves and through which openings the cables pass and are loosely connected to said blocks, figures connected to said blocks, and means for moving the cables to move the figures in a haphazard manner.

7. A mechanical toy, comprising a grooved track, a plurality of cables movably positioned in the grooves of said track, figures positioned to slide in said grooves, means for moving the cables at the same rate of speed, and means for loosely connecting the figures to the cables to cause them to move at different rates of speed.

8. A mechanical toy, comprising a track, a plurality of cables adjacent to said track, means for moving the cables at the same rate of speed, figures constructed to move on said track, and means for loosely connecting the figures to the cables to cause them to move at different rates of speed.

9. A mechanical toy, comprising a grooved track, endless cables movably positioned in the grooves of said track, slide blocks loosely connected to said cables and positioned to slide in said grooves, figures flexibly connected to said slide blocks, and means for moving the cables to move the figures in a haphazard manner.

10. A mechanical toy, comprising a track, a plurality of cables adjacent to said track, means for moving the cables at the same rate of speed, figures constructed to move on said track, means for lining up the figures, and means for loosely connecting the figures to the cables to cause them to move at different rates of speed.

11. A mechanical toy, comprising a track, a plurality of cables adjacent to said track, means for moving the cables at the same rate of speed, figures constructed to move on said track, stops constructed to be moved into the path of movement of said figures, and means for loosely connecting the figures to the cables to cause them to move at different rates of speed.

12. A mechanical toy, comprising a track, a plurality of cables adjacent to said track, means for moving the cables at the same rate of speed, figures constructed to move on said track, a lever connected to said track and provided with stop pins which are constructed to be moved into the path of movement of said figures, and means for loosely connecting the figures to the cables to cause them to move at different rates of speed.

13. A mechanical toy, comprising a track provided with a plurality of grooves extending therearound, a power spool connected to one end of the track, cables positioned in said grooves and in engagement with said spool, slide blocks positioned in said grooves, and figures connected to said slide blocks, said blocks being loosely connected to the cables to cause the figures to move in a haphazard manner.

14. A mechanical toy, comprising a track provided with a plurality of parallel grooves extending around said track in vertical plane, a power spool connected to one end of the track, cables positioned within the grooves and in engagement with the power spool, slide blocks positioned in said grooves, and figures connected to said slide blocks, said blocks being loosely connected to the cables to cause the figures to move in a haphazard manner.

15. A mechanical toy, comprising a track provided with a plurality of parallel grooves extending around said track in vertical plane, a power spool connected to one end of the track, pulleys connected to the opposite end of the track, endless cables extending around said track within the grooves and in engagement with the power spool and the pulleys, slide blocks positioned in said grooves, and figures flexibly connected to said slide blocks, said slide blocks being loosely connected to the cables to cause the figures to move in a haphazard manner.

16. A mechanical toy, comprising a track provided with a plurality of parallel grooves extending around said track in vertical plane, a spool connected to one end of the track, a clock mechanism for actuating the spool, endless cables extending around said track within the grooves and in engagement with the power spool, slide blocks positioned in said grooves, and figures connected to said slide blocks, said slide blocks being loosely connected to the cables to cause the figures to move in a haphazard manner.

17. A mechanical toy, comprising a box

provided with an opening, a track provided with a plurality of grooves extending around said track in vertical plane positioned within said box, a starting post located adjacent to said track, a finishing wire positioned above the track, stop pins positioned to be moved into the grooves of the track in line with the starting post and transversely to the track, a spool mounted near one end of the track, pulleys mounted near the opposite end of the track, endless cables extending around said track within the grooves and in engagement with the spool and the pulleys, slide blocks positioned in said grooves, figures flexibly connected to said slide blocks, and clock work mechanism within said box for rotating the spool, said slide blocks being loosely connected to the cables to cause the figures to move in a haphazard manner.

18. A mechanical toy, comprising a box provided with an opening, a track provided with a plurality of grooves extending around said track in vertical plane positioned within said box, a starting post located adjacent to said track, a finishing wire positioned above the track, stop pins positioned to be moved into the grooves of the track in line with the starting post and transversely to the track, a spool mounted near one end of the track, pulleys mounted near the opposite end of the track, endless elastic cables extending around said track within the grooves and in engagement with the spool and the pulleys, slide blocks positioned in said grooves, figures flexibly connected to said slide blocks, and clockwork mechanism within said box for rotating the spool, said slide blocks being loosely connected to the cables to cause the figures to move in a haphazard manner.

WILLIAM HUTCHINSON HOBDEY.

Witnesses:
KATHERINE DEY,
W. H. BEVERUNG.