No. 721,631. PATENTED FEB. 24, 1903.

J. BROWN.

AMUSEMENT APPARATUS.

APPLICATION FILED NOV. 18, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

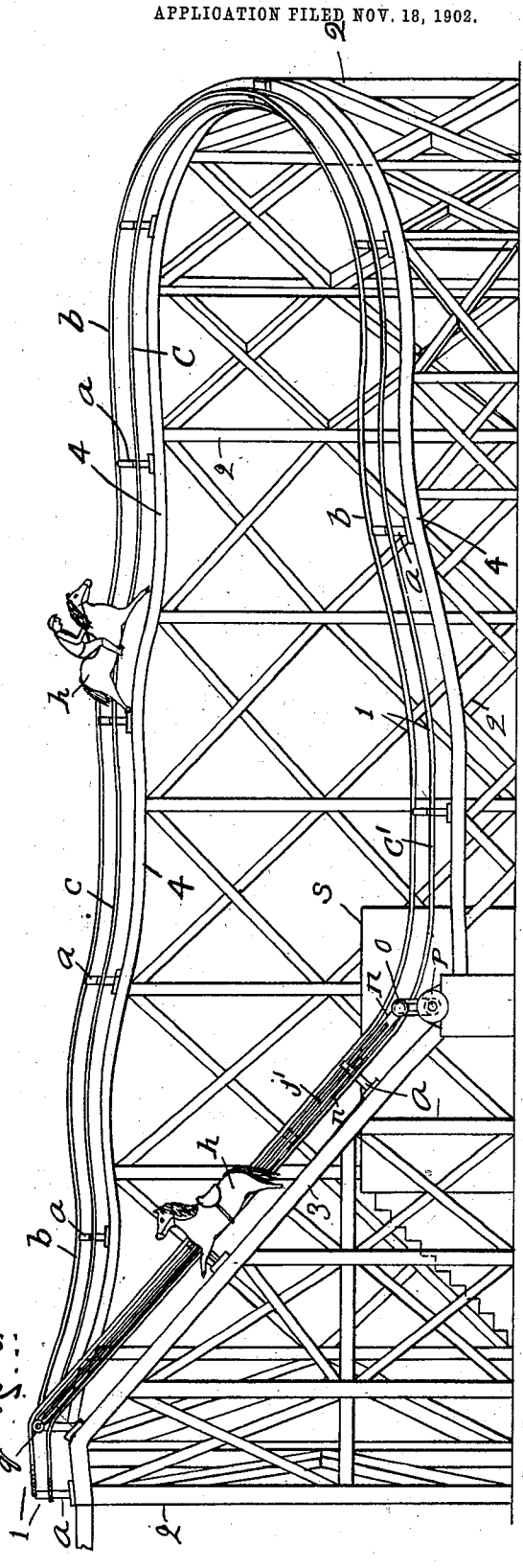

Fig. 1.

Witnesses:
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NO MODEL. 3 SHEETS—SHEET 2.

Fig. 2.

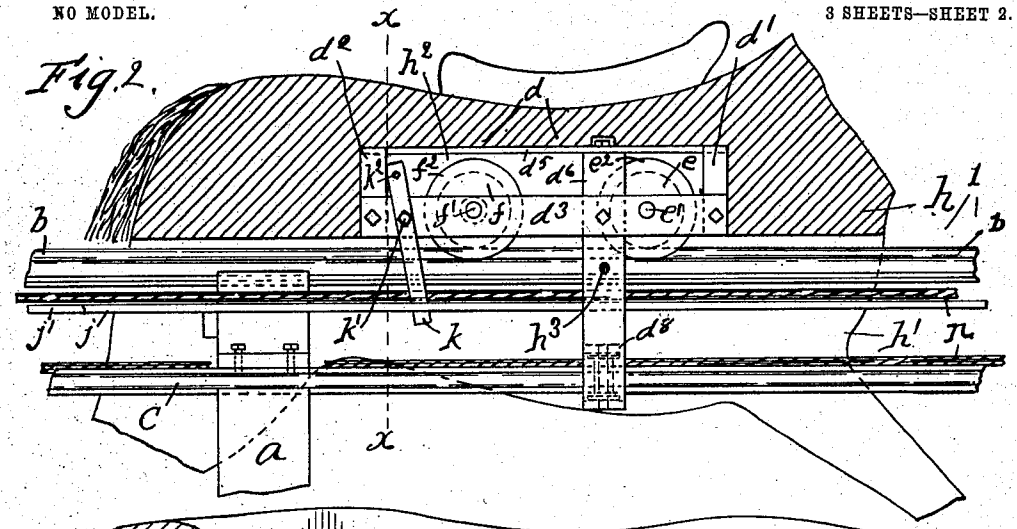
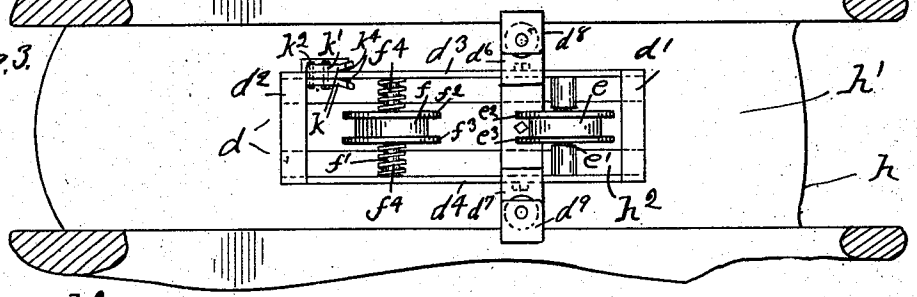


Fig. 3.



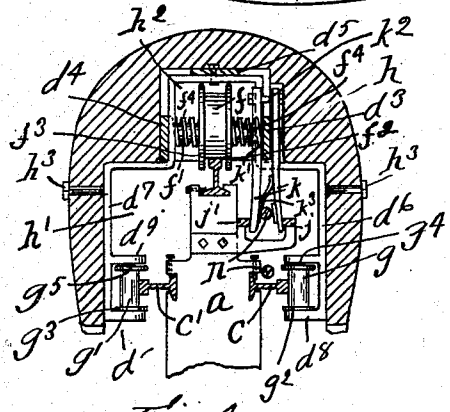


Fig. 4.

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APPLICATION FILED NOV. 18, 1902.

NO MODEL. 3 SHEETS—SHEET 3.

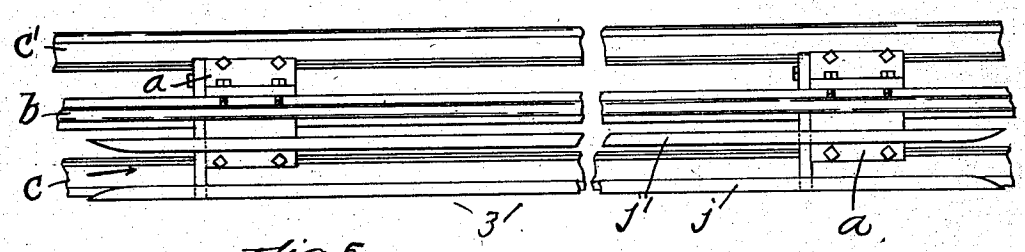

Fig. 5.

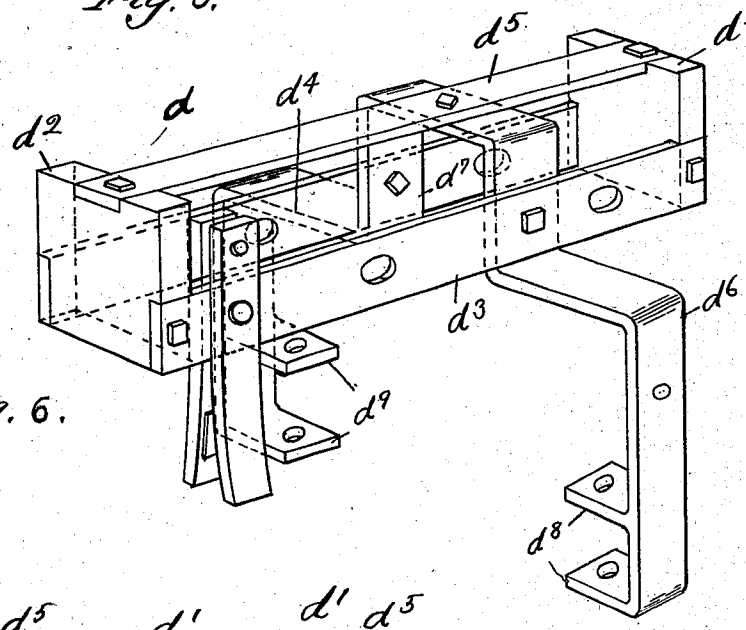

Fig. 6.

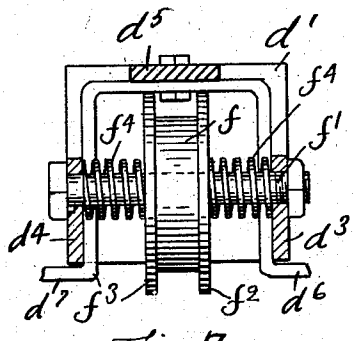

Fig. 7.

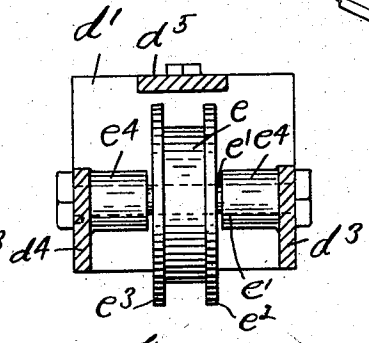

Fig. 8.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH BROWN, OF SALEM, MASSACHUSETTS.

AMUSEMENT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 721,631, dated February 24, 1903.

Application filed November 18, 1902. Serial No. 131,812. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BROWN, of Salem, county of Essex, State of Massachusetts, have invented an Improvement in Amusement Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

My invention relates to an amusement apparatus of the general character of a gravity-railway in which a wooden pony having a saddle for the rider is mounted on wheels and rolls down on a track which is provided with undulations and curves in order to give the sensation of riding on horseback. In apparatus of this character it has been customary when a figure representing a pony has been employed to cut the figure in two pieces across the body close to the fore legs and also to form the carrier therefor in two sections to permit one section to swing with respect to the other, so that the whole device may move readily about the curves of the track or runway. The figure of the pony and the carrier thus separated is weakened and rendered complicated and difficult to set up, and it often happens that the limbs of the rider are pinched by the parts of the figure as they are swung together.

The object of my invention is to provide a form of carrier which enables the figure to be readily and securely attached thereto and which does not necessitate the formation of the figure in two parts.

Further objects of my invention are to improve prior constructions in other particulars to be hereinafter described.

For an understanding of the means employed by me in accomplishing these objects reference is now made to the accompanying drawings, in which—

Figure 1 is a side elevation of a gravity-railway made according to my invention. Fig. 2 is a central longitudinal cross-section, on a larger scale, of the carrier and one of the figures mounted thereon. Fig. 3 is a plan view of the under side of the figure and carrier. Fig. 4 is a cross-section on the line $x\ x$ of Fig. 2. Fig. 5 is a plan view of a portion of the track. Fig. 6 is a perspective view of the frame of the carrier-body. Figs. 7 and 8 are cross-sections on an enlarged scale, taken on the lines $y\ y$ and $z\ z$ of Fig. 2, respectively.

In Fig. 1 I illustrate a form of gravity-railway having an endless track 1, supported on a structure 2, said track being formed with a steep inclined portion 3 and a more gradually inclined portion 4, extending from the top of the incline 3 down to the bottom thereof and being provided with the desired number of curves and undulations. A series of brackets a are mounted on the structure 2, and a top or supporting rail b is secured to the upper end of each bracket with its bearing-face uppermost. Two guard-rails $c\ c'$ are secured on each side of said brackets with their bearing-faces in an upright position.

I provide a carrier d, having a frame which is preferably rectangular in form, said frame comprising two solid square end pieces $d'\ d^2$, two side bearing-supports $d^3\ d^4$, and a top support d^5. A yoke, comprising two arms $d^6\ d^7$, is secured to the inner sides of said supports $d^3\ d^4\ d^5$, and said arms extend horizontally from supports $d^3\ d^4$ in opposite directions and then extend down vertically, as shown in Figs. 4 and 6. The inner sides of said arms are provided with bearing-brackets $d^8\ d^9$, respectively. Two wheels e and f are journaled on axles $e'\ f'$, respectively, midway between the bearing-supports $d^3\ d^4$, the ends of said axles being mounted in said supports. The axles $e'\ f'$ are located at opposite sides of the yoke $d^6\ d^7$, the front axle e' being considerably nearer axle e' than axle f', for reasons which hereinafter appear. These wheels $e\ f$ are each provided with retaining side flanges $e^2\ e^3$ and $f^2\ f^3$, respectively, forming grooved bearing-faces therein, said flanges being a sufficient distance apart to permit the bottom of the grooves to rest on the face or top of rail b, said flanges limiting the transverse movement of the wheels with respect thereto, yet permitting a certain freedom or looseness of movement to prevent binding at the curves. The front wheel e is held from movement from its middle position by sleeves e^4, which are arranged on said shaft e' and interposed between the wheel and the bearing-supports $d^3\ d^4$. The wheel f is free to slide longitudinally on the shaft f', but is normally held in its middle position by means of stiff springs f^4,

which are interposed between the hub of the wheel and the bearing-supports. Guard-rolls $g\ g'$ are journaled on vertical shafts $g^4\ g^5$, which have their opposite ends secured in the brackets $d^8\ d^9$, respectively, said guard-rolls being in the form of spools, each having a relatively long bearing-surface with respect to the surface of the guard-rails $c\ c'$, which they engage, and end flanges $g^2\ g^3$.

The particular form of figure which the carrier d is primarily adapted to support is the figure of a pony h, as indicated in Figs. 1 and 2. The body of the pony is provided with a longitudinal groove h' in its under side, which extends from end to end, as indicated in Figs. 2, 3, and 4. A rectangular-shaped recess h^2 is formed in the middle of the body, leading from the bottom of the grooves h', and the carrier-frame is fitted into said recess, so that the body of the figure h is supported on the top of the carrier-frame and on the horizontal portion of the arms $d^6\ d^7$ and is held from tipping sidewise by the vertical sides of the frame d and the vertical portion of the arms $d^6\ d^7$, as indicated in Fig. 4. Bolts h^3 are preferably passed through the sides of the body h and are threaded into the vertical portion of the arms $d^6\ d^7$, which are set into vertical grooves in said sides, (see Fig. 3,) so as to firmly secure the body to the carrier. Other securing means between the figure and carrier are not essential, and, in fact, the bolts h^3 are only used as a matter of precaution. As shown in the drawings, the figure of the pony is made all in one rigid piece, which is highly advantageous for reasons other than those already pointed out. This arrangement, moreover, enables the figure to be supported above its center of gravity and just below the seat of the rider, the wheels $e\ f$ being journaled within recess h^2 and protruding below the bottom of the groove h' only far enough to hold the body out of contact with the top rail b. This reduces the tendency of the carrier to leave the track to a minimum, thereby avoiding the danger of accidents from this source. The guard-rolls $g\ g'$, which bear against the guard-rails $c\ c'$, hold the carrier in an upright position and make it impossible for the wheels $e\ f$ to leave the track b. The transversely-movable rear wheel f permits the latter to move out of line with the front wheel as the carrier passes about the curves, so that the flanges of the wheels do not bind on the rail b to an appreciable extent, the slight looseness between the flanges and the rail in conjunction with the sidewise movement of the rear wheel making it unnecessary to have either wheel pivoted with respect to the other. By arranging the yoke $d^6\ d^7$ close to the front wheel e and considerably in advance of the rear wheel f the guard-rolls $g\ g'$ will not interfere with the transverse movement of the rear wheel, and yet they are perfectly effective in performing their functions when arranged in this position.

In connection with the above-described device I preferably employ a form of lifting apparatus by means of which the carrier may be stopped at the end of the ride to permit the rider to dismount and then be lifted to the starting-point. This means comprises a clamp having two arms $k\ k$, pivoted between their ends on a bolt k', which passes through the bearing-support d^3 near the rear end of the carrier-frame. The upper ends of said arms k are connected by a bolt k^2, and the lower ends are normally held apart by a spring k^3. The inner sides of arms k are provided with rubber cushions or faces k^4 near their lower ends, which are set into recesses in said arms and held therein by any suitable means. Two parallel clamping-rails $j\ j'$ extend from the lower end of the steeper incline 3 of the track up to the starting-point. Said rails $j\ j'$ are set a short distance apart parallel to the rails of the track and in such a position that the lower ends of the clamping-arms k will pass into and through the slot formed thereby as they are carried up the incline. Each end of each rail $j\ j'$ is beveled or flared outwardly, so that the slot therebetween is flaring at each end, as indicated in Fig. 5. A lifting-cable n passes one and a half times about a driving-pulley o, which may be driven by a motor p, and over a sheave q, which is arranged at the upper end of the incline 3, the pulley o and sheave q being arranged so that the cable is drawn parallel to the two rails $j\ j'$, above and closely adjacent thereto, as indicated in Figs. 1, 2, 4. The momentum of the carrier d and the weight which it carries causes the carrier to roll up the incline 3 far enough to force the lower ends of the clamping-arms k between the rails $j\ j'$ and press their rubber faces k^4 into firm engagement with the opposite sides of the lifting-cable n, so that the carrier becomes securely connected therewith, this connection being maintained so long as the arms of the clamp are held together by the clamping-rails. The friction of the clamp-arms with the rails $j\ j'$ will stop the carrier, so that the rider may dismount on a conveniently-located platform s. The operator then starts the motor driving the cable n, thus lifting the carrier, and with it the figure h, up the incline 3 until it reaches the horizontal portion at the top thereof. When the carrier reaches this point, the clamp k passes beyond the ends of the rails $j\ j'$, so that the spring k^3 forces the arms of the clamp apart, disconnecting the carrier from the lifting-cable.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An amusement apparatus comprising the figure or body having a groove in its under side extending longitudinally from end to end thereof, and a recess extending upwardly from the bottom of the groove, a carrier having its frame fitted in said recess, a supporting-rail, two wheels journaled in the carrier-frame and adapted to roll on said rail, a pair

of guard-rails at opposite sides of said supporting-rail, supports connected to said carrier between said wheels, and means carried thereby for engaging said guard-rails, substantially as described.

2. An amusement apparatus comprising two guard-rails a supporting-rail between said guard-rails, a carrier-body having two wheels journaled therein and rolling on the supporting-rail, means permitting transverse movement of the rear wheel with relation to said body, said wheels having flanges which engage opposite sides thereof, and means connected to said carrier for engaging said guard-rails, substantially as described.

3. An amusement apparatus comprising two guard-rails, a supporting-rail between said guard-rails, a carrier-body having two wheels journaled therein and rolling on said supporting-rail, each wheel having a grooved face into which the rail may sit, depending supports secured to opposite sides of the carrier between said wheels, and rolls journaled therein, and bearing against said guard-rails, substantially as described.

4. An amusement apparatus comprising two guard-rails having upright bearing-faces and a supporting-rail between and above said guard-rails, a carrier-body having two wheels journaled therein rolling on top of said supporting-rail, each wheel having a grooved face into which the rail may sit, depending supports connected to opposite sides of the carrier between said wheels, and rolls journaled therein and bearing against said guard-rails, said rolls having end flanges to engage the sides of the rolls, substantially as described.

5. An amusement apparatus comprising two guard-rails having upright bearing-faces and a supporting-rail between and above said guard-rails and having a relatively horizontal bearing-face, a carrier-body having two wheels journaled therein and rolling on the face of said supporting-rail, depending supports connected to opposite sides of the carrier between said wheels, and rolls journaled therein and bearing against said guard-rails, substantially as described.

6. An amusement apparatus comprising two guard-rails and a supporting-rail between said guard-rails, a carrier-body having two wheels journaled therein and rolling on the upper surface of said supporting-rail, means permitting transverse movement of the rear wheel with respect to the carrier, and means connected to said carrier for engaging said guard-rails in front of said rear wheel, substantially as described.

7. An amusement apparatus comprising two guard-rails and a supporting-rail between and above said guard-rails, a carrier-body having two wheels journaled therein and rolling on the face of said supporting-rail, means permitting transverse movement of the rear wheel with respect to the carrier, springs on opposite sides of said rear wheel acting to move the same to its middle position, and means connected to said carrier for engaging said guard-rails in front of said rear wheel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH BROWN.

Witnesses:
LOUIS H. HARRIMAN,
H. B. DAVIS.