

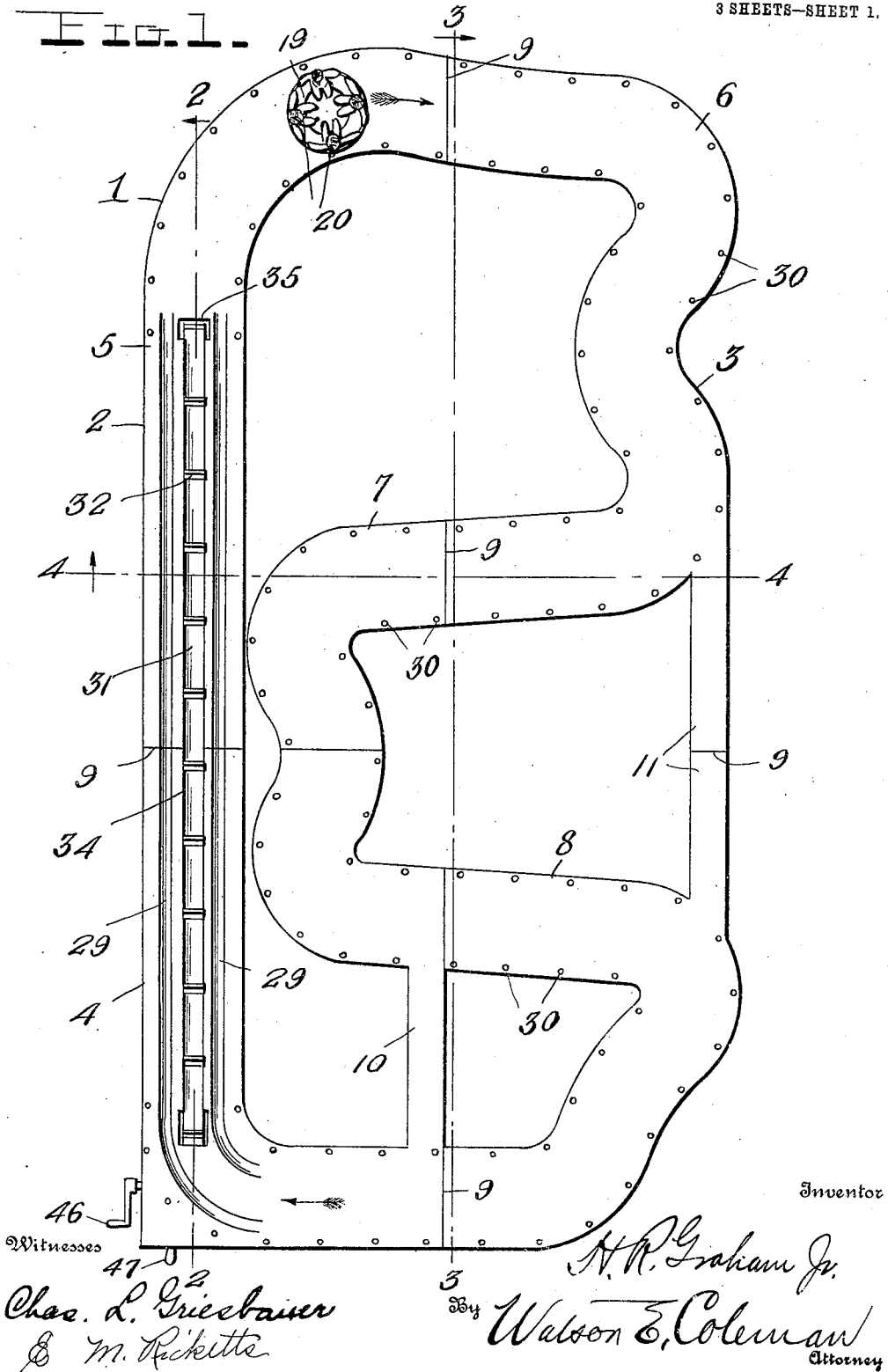
H. R. GRAHAM, JR.
TOY.

APPLICATION FILED MAR. 25, 1909.

938,844.

Patented Nov. 2, 1909.

3 SHEETS—SHEET 1.



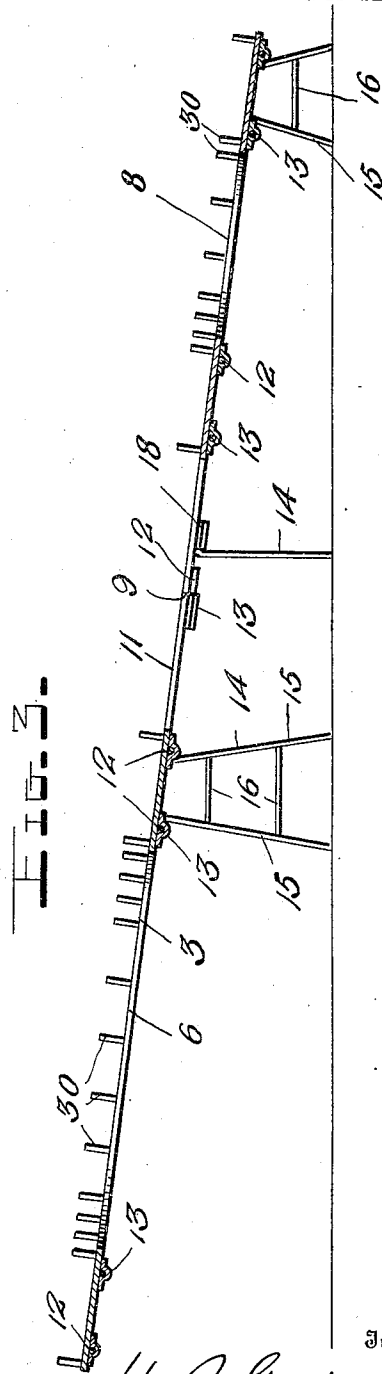
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3 SHEETS—SHEET 3.

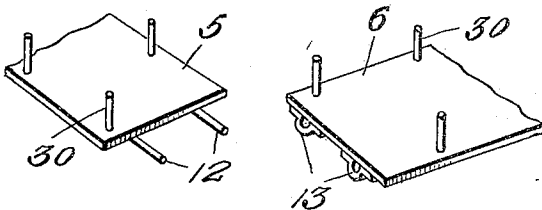
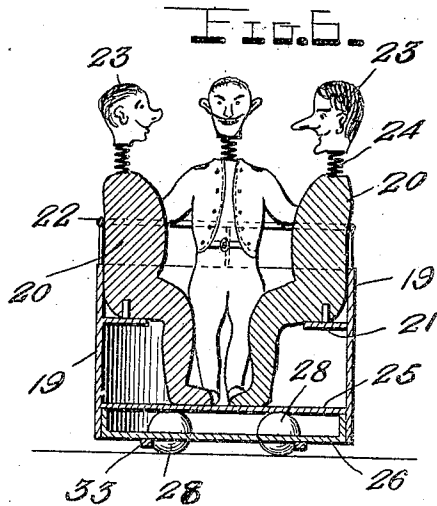
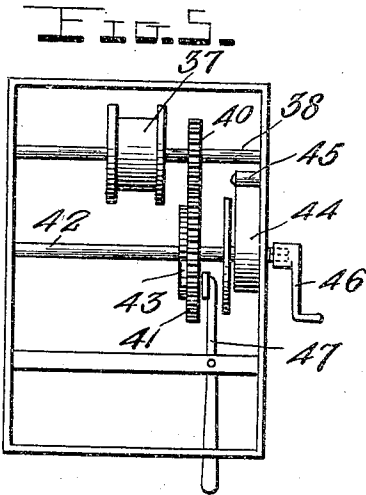
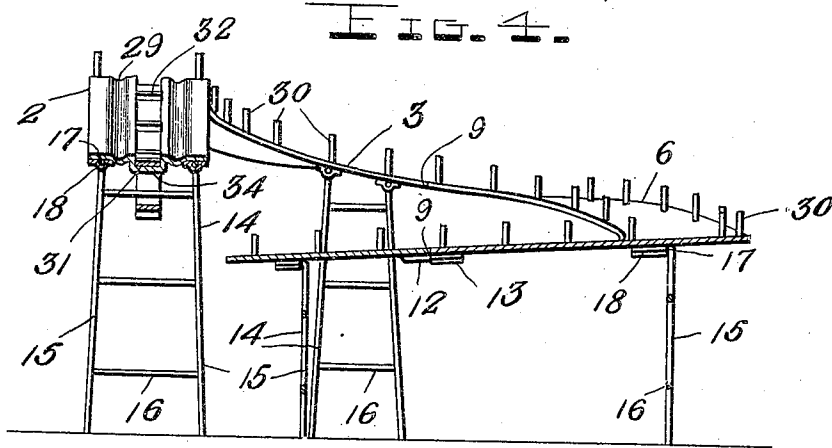
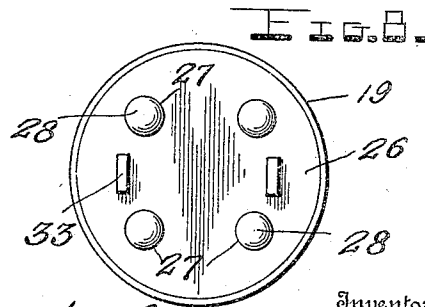


Fig. 7.



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UNITED STATES PATENT OFFICE.

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938,844.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY R. GRAHAM, Jr., a citizen of the United States, residing at Palco, in the county of Rooks and State of Kansas, have invented certain new and useful Improvements in Toys, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in toys of that class having moving figures and actuated by a spring motor.

The object of the invention is to provide a toy of this character highly amusing, which will be strong, durable and comparatively inexpensive in construction and which when not in use may be taken apart and compactly folded for storage or shipment.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the improved toy set up for use; Figs. 2 and 3 are vertical longitudinal sections taken on the planes indicated by the lines 2—2 and 3—3 in Fig. 1; Fig. 4 is a vertical section taken on the plane indicated by the line 4—4 in Fig. 1; Fig. 5 is a bottom plan view of the spring motor; Fig. 6 is a vertical section through the moving car containing the figures; Fig. 7 is a detail view showing the joint or connection between two sections of the track or incline; and Fig. 8 is a bottom plan view of the car.

The invention comprises a continuous track 1 having a straight inclined portion 2 and a zigzag or tortuous portion 3, which latter is also inclined and has its upper end communicating with the upper end of the straight portion 2 and its lower end communicating with the lower end of said straight portion, as clearly shown in Fig. 1 of the drawings. The track 1 may be made in one piece or solid and mounted on a suitable base if desired, but it is preferably made in a number of detachably connected sections, which latter have detachably connected supports, whereby the sections and supports may be taken apart to permit the toy to be packed into a comparatively small box. While any number of said track sections may be employed, the embodiment illustrated consists of five sections numbered

4, 5, 6, 7, 8, the abutting edges of said sections being indicated at 9, as clearly shown in Fig. 1. It will be understood that said track sections may be of any shape and the different portions of each one may be connected together and braced by integral braces 10, as shown in the section 4 in Fig. 1, or one or more braces may be provided between the adjacent sections and made in detachable sections, as indicated at 11. Said brace 11 has two portions, one projecting from the track section 6 and the other from the track section 8 and the ends of said brace portions are detachably connected in the same manner in which the track sections are detachably connected. This detachable connection between the track sections is shown more clearly in Fig. 7 of the drawings and consists in providing one or more projecting pins 12 on the end of one track section to enter sockets 13 on the abutting end of the adjacent track section. The detachable supports 14 for the track or track sections may be of any form and construction but as illustrated, each is in the form of an open frame consisting of uprights 15 connected by cross bars 16 and having their upper ends bent substantially at right angles to provide projecting pins 17 adapted to enter sockets 18 provided upon the bottom faces of the track sections. Any number of the supports 14 may be provided and they may be arranged to extend either longitudinally or transversely of the track sections, as indicated in Fig. 4.

Removably mounted on the track and adapted to travel around the same are one or more objects 19, the one illustrated being in the form of a tub-like car containing one or more clown-like men 20 seated upon a seat 21 within the body of the car and having their arms resting upon a hand rail 22 surrounding the top of the car. The heads 23 of said figures are connected to their bodies by coil springs 24 or other resilient supports, whereby their heads will shake as the car travels around the track, as hereinafter described. While this is the preferred construction of the figures, it will be understood that they may be otherwise constructed and mounted. The car 19 has a false bottom 25 and a removable bottom 26 formed at four or more points with circular openings 27 to receive balls or spheres 28 to form supporting rollers, whereby the car may travel freely

around the track. Said balls or rollers 28 rotate in the openings 27 and project partially from the same so as to contact the upper surface of the track. For the purpose of guiding the car 19 up the straight inclined portion 2 of the track and preventing it from falling off of the same, said portion 2 is formed with longitudinally extending, parallel track grooves 29 in which the balls or rollers 28 travel, as will be seen upon reference to Figs. 1 and 4. The car is prevented from dropping off of the tortuous or zigzag portion 3 of the track and it is also caused to spin or rotate alternately in opposite directions as it travels by gravity down said inclined portion 3, by providing along the edges of the latter upright pins or studs 30 arranged in spaced relation so that the car will bound from one pin to the other in its movement and be spun or turned by its contact with such pins. As the car is thus spun or rotated in its movement down the zigzag incline 3, the heads 23 of the figures in the car will swing in different directions and render the toy highly amusing to children.

For the purpose of moving the car up the straight inclined portion 2 of the track, an endless elevator 31 is provided and a spring motor 32' or any other suitable means may also be provided for actuating said elevator. This elevator consists of an endless belt provided upon its outer face with a plurality of transverse cleats or ribs 32 adapted to engage one or more cleats or projections 33 provided upon the under face of the bottom 26 of the car, as shown in Figs. 2 and 6 of the drawings. The upper stretch of the belt or band 31 travels through a central groove or channel 34 provided in the straight inclined portion 2 of the track and the upper end of said belt passes through an opening 35 in the track section 5 and over a guide roller or pulley 36 suitably journaled beneath the opening 35. The lower end of the belt 31 passes over a driving roller or pulley 37 fixed to a shaft 38 journaled in the casing of the motor 32' which motor casing has a detachable pin and socket connection 39 with the track section 4, as shown in Fig. 2 of the drawings. Fixed to the shaft 38 is a pinion 40 which meshes with a gear 41 loose on a shaft 42 and connected to the latter to rotate therewith in one direction by means of the usual pawl and ratchet connection 43. A spiral spring 44 has its inner end fixed to the shaft and its other end fixed at 45 to the motor casing, whereby the shaft 42 will be rotated when said spring uncoils. A removable crank handle 46 is provided on the projecting outer end of the spring shaft 42 for the purpose of winding up the spring and a pivoted brake lever 47 is provided for frictional contact with one side of the gear 41, whereby the rotation of the shaft 43 un-

der the action of the spring 44, may be regulated, as will be readily understood upon reference to Fig. 5 of the drawings. While this is the preferred construction of spring motor employed, it will be understood that a spring motor of any other form and construction or any other means may be provided for actuating the elevator belt 31.

In operation, the spring motor is wound by turning the crank 46 and its action is controlled by manipulating the friction brake 47. When a car is placed on the lower end of the straight inclined portion 2 of the track, one of the cleats 32 on the elevator belt 34 will engage one of the projections 33 on the car 19 to lock the latter to the elevator and cause it to be carried up to the top of the portion 2 of the track from which latter it will pass on to the highest part of the zigzag portion 3 of the track. The car will then travel down this portion 3 by gravity and in its downward movement it will bound from one side to the other of the track and strike against the pins or studs 30 on the side edges of said portion of the track. Each time it strikes against one of the pins it will be caused to turn or spin in one direction and such direction will be reversed as it bounds from a pin on one side to a pin on the other side of the track. In this bounding zigzag movement down the zigzag or tortuous portion 3 of the track the heads of the figures will be turned and twisted into various comical positions to afford much amusement to the onlookers. When the car reaches the lowest part or bottom of the inclined portion 3 of the track it will move by gravity onto the lowest part of the straight inclined portion 2 so that the car will be automatically picked up by the elevating belt and again carried to the highest part of the track.

While I have shown and described in detail the preferred embodiment of the invention, it will be understood that I do not wish to be limited to the construction set forth, since various changes in the form, proportion, and arrangement of parts and in the details of construction may be resorted to without departing from the spirit and scope of the invention.

Having thus described the invention what is claimed is:

1. A toy comprising a continuous track having two inclined portions, one being straight and the other tortuous, means on the straight inclined portion of the track for moving an object up to the top of the same, whereby it will travel by gravity down the tortuous inclined portion of the track, a car-like object mounted to travel around the track, figures upon the car-like object and provided with resiliently supported parts and means for spinning or turning the car-like object in different directions as it trav-

els down the tortuous portion of the track, whereby the resiliently supported parts of the figures in said object will be oscillated.

2. A toy comprising an inclined track, a car-like object to travel by gravity down said track, figures in said body and having resiliently supported parts and means upon the track for spinning or turning said object in different directions as it travels down the track, whereby the resiliently supported parts on said figures will be oscillated.

3. A toy comprising a continuous track having two inclined portions, one being straight and the other tortuous, said track being composed of detachable sections having a pin and socket connection, detachable upright supports for the track and having pin and socket connections with the track sections, means on the straight inclined portion of the track for moving an object to the top of the same, whereby it will travel by gravity down the tortuous inclined portion of the track, and a car-like object to travel around the track and adapted to be engaged and actuated by said elevating means.

4. A toy comprising a continuous track having two inclined portions, one being straight and the other tortuous, means on the straight inclined portion of the track for moving an object to the top of the same, whereby it will travel by gravity down the tortuous inclined portion of the track, a car-like object mounted on spherical supporting rollers to travel around the track and containing figures provided with resiliently supported parts, said car-like object being

adapted to be engaged and actuated by said elevating mechanism on the straight inclined portion of the track and spaced pins arranged on the sides of the tortuous portion of the track and adapted to be struck by said car-like object, whereby the latter will be spun or turned in different directions as it travels down the tortuous portion of the track.

5. A toy comprising a continuous track having straight and tortuous inclined portions, said straight inclined portion being formed with a central longitudinally extending channel and with longitudinal grooves on opposite sides of said channel, an endless elevator consisting of a belt provided with transverse ribs, the upper stretch of said belt being adapted to travel through the central channel of the straight inclined portion of the track, means for actuating said belt, a car-like object to travel around the track, spherical supporting rollers arranged in the bottom of said object and adapted to work in grooves on said straight inclined portion of the track, and ribs upon the bottom of said object to be engaged by the ribs on the upper stretch of the belt, whereby said object will be carried up the straight inclined portion of the track by said belt.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HENRY R. GRAHAM, JR.

Witnesses:

C. L. MILLER,
CLYDE W. SPERRY.