O. L. LEWIS.

AUTOMATIC TOY.

APPLICATION FILED AUG. 3, 1910.

991,217.

Patented May 2, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

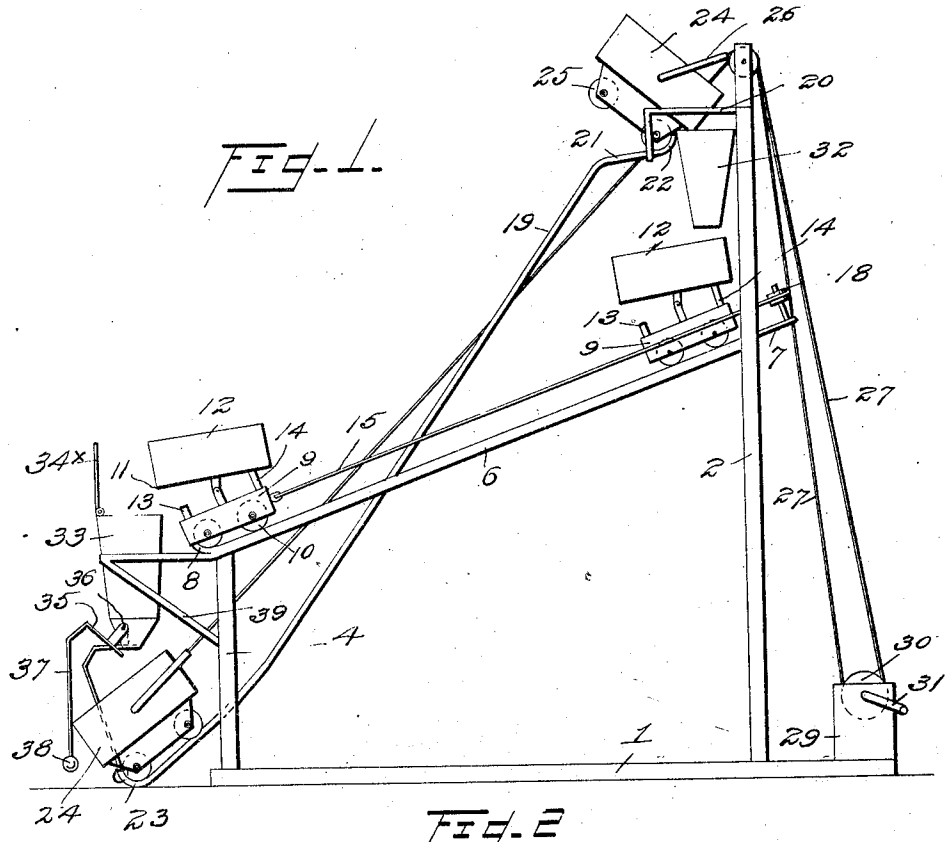
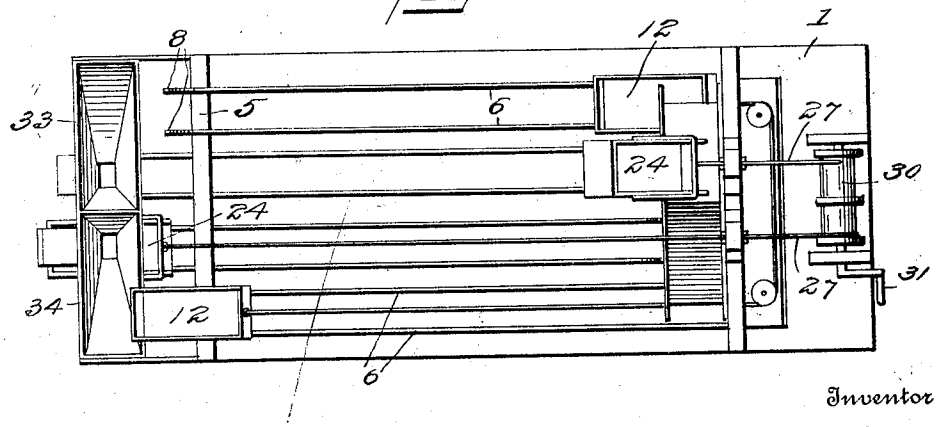


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 4.

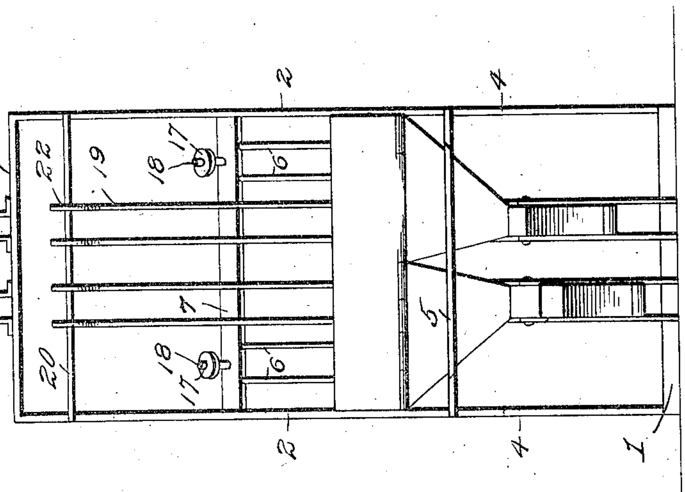
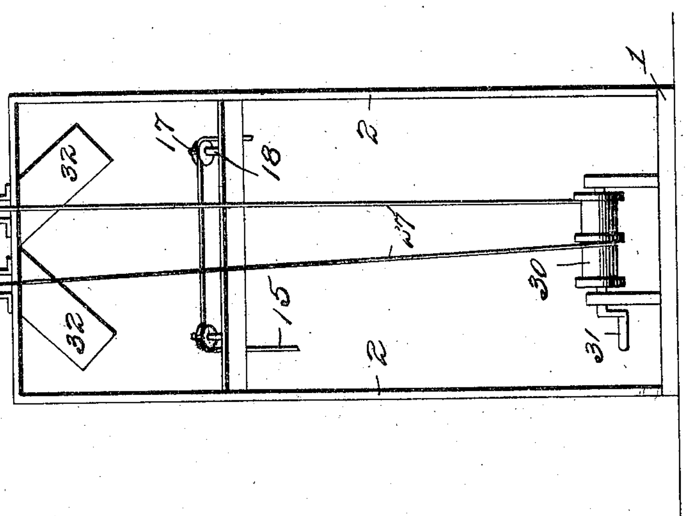


Fig. 5.



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AUTOMATIC TOY.

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To all whom it may concern:

Be it known that I, OWEN L. LEWIS, a citizen of the United States, residing at Lyon Mountain, in the county of Clinton and State of New York, have invented certain new and useful Improvements in Automatic Toys, of which the following is a specification.

This invention relates to automatic toys, and one of the principal objects of the same is to provide a toy of simple construction, which will simulate the carrying of loads up inclines and dumping the same, which will return on inclined tracks and automatically dump into cars to be drawn up the inclines by winding drums.

Another object of the invention is to provide a toy comprising a pair of slope tracks having cars mounted therein, said cars adapted to receive loads at the lower ends of the slope tracks to be drawn upward by winding drums, and balance tracks located underneath the slope tracks at the upper ends thereof and leading to points above the slope tracks at the lower ends.

Still another object of the invention is to provide an amusing toy containing interesting mechanical movements, which will have a tendency to instruct young people in mechanical knowledge.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,

Figure 1 is a side elevation of a toy made in accordance with my invention showing the movable cars in one of the positions which they assume during the operation of the toy. Fig. 2 is a plan view of the same. Fig. 3 is a view looking at the right hand end of Fig. 1 with the cars removed. Fig. 4 is a view looking at the left hand or lower end of Fig. 1 with the cars and cables removed.

Referring to the drawings the numeral 1 designates a suitable base or support for the toy, 2 are the longer uprights at the head of the base provided with a cross bar 3 at the top thereof and 4 are the shorter uprights secured to one end of the base, said uprights 4 being provided with a suitable cross bar 5. Balance tracks 6 comprising rails secured at their upper ends to a cross bar 7 connected to the uprights 2, are supported at their lower ends upon the cross bar 5 secured to the uprights 4. The track rails 6 at their lower end are curved upwardly, as at 8, for a purpose which will presently appear. Mounted upon the balance track rails 6 are trucks 9 provided with wheels 10. Pivoted at 11 on each of the trucks 9 is a box 12, said box being adapted to tip when the truck 9 strikes the curve 8 in the rails to dump its contents. Stops 13 and 14 are provided for supporting the box 12 in either of its two positions. There are two of the trucks 9 and boxes 12 and they are connected together by a cord 15 which passes up and around grooved pulleys 17 mounted to rotate on axles 18 secured to the cross bar 7. Slope tracks 19 are supported at their upper ends upon a bracket 20 secured to the uprights 2. The slope tracks 19 are provided at their upper ends with substantially horizontal portions 21 and curved terminal ends 22. At their lower ends the slope tracks 19 are provided with curved ends or stops 23. As shown the slope tracks 19 are located at points inside the balance tracks 6. Slope cars 24 are mounted to run on the tracks 19, said cars being provided with wheels 25. The car for carrying the load is provided with a pivoted bail 26. There are two of the cars 24 and connected to each of the bails 26 is a cord 27, said cords leading to a winding drum 30 mounted in suitable brackets 29 on the base 1. As shown the cords 27 are secured to the winding drum 30 so as to wind in opposite directions when the crank 31 is operated, thus one of the cars 24 is elevated, while the other descends and vice versa. Properly supported upon the uprights 2 are inclined chutes 32, the lower ends of which are disposed immediately over the boxes 12 on the trucks 9 when in their uppermost positions. At the lower end of the frame a chute 33 is provided, said chute being of double form, as shown in Fig. 2 and provided with a hinged cover 34. The chutes 32 are of hopper like form and the comparatively small openings at the bottom of said chutes are closed by means of a hinged door 34 pivoted at 36 at the sides of the chute, said door having connected thereto an arm 37 provided with a weight 38 designed to close the door 35 and to permit the same to be opened when the car 24 descends and strikes the arm 37 upon either side of the chute 33.

The chute 33 is supported by means of a suitable bracket 39 supported upon short uprights 4. The cords 27 pass up over grooved pulleys *a* mounted in suitable brackets *b* mounted on the cross bar 3.

The operation of my invention may be briefly described as follows: One of the cars 24 is loaded with any suitable granular material of sufficient weight for the purpose. The car 24 is drawn upward by means of the winding drum and crank 31. When the car 24 reaches the upper end of the slope track 19 it is tilted to dump its contents into the chute 32 and from thence into the box 12 on the truck 9. The weight of the load in the box 12 will carry the truck 9 down to the lower end of the track 6 and when the truck strikes the curve 8, the box 12 will be tilted to discharge its contents into the chute 33. At this time one of the cars 24 is in its lowermost position to receive the load discharged from the box 12. The other car 24 being loaded and drawn up to its uppermost position will dump its contents into the other box 12 and after the toy has been started the operation will be continued, as will be obvious.

From the foregoing it will be apparent that my toy is of simple construction, will operate to amuse and instruct persons in mechanical movements and can be manufactured at low cost.

I claim:

1. A toy comprising a frame, balance tracks mounted on the frame, trucks mounted on the balance tracks, said trucks being connected by a cord passed around pulleys at the upper end of said tracks, tilting boxes mounted on said trucks, slope tracks supported on the frame, cars mounted to travel on said tracks, a winding drum for moving said cars, and means for dumping said cars into said tilting boxes.

2. A toy comprising a frame, balance tracks mounted on the frame, trucks mounted on the balance tracks, tilting boxes mounted on the trucks, a cord connected to said trucks and passing around pulleys at the upper ends of said balance tracks, slope tracks mounted on the frame, cars mounted to move on said slope tracks, a winding drum for raising said cars, means at the ends of the slope tracks and balance tracks for dumping the cars and boxes, and a double chute at the lower end of the balance tracks for receiving the loads from the tilting boxes, said chutes having doors provided with counterbalanced arms adapted to be operated by the movement of the cars.

3. A toy comprising a frame, balance tracks secured to the frame, trucks mounted on said balance tracks, cords connected to said trucks and passing over pulleys at the upper end of the tracks, tilting boxes on said trucks, means at the lower ends of the tracks for tilting said boxes, a chute at the lower end of said tracks, a series of slope tracks connected to the frame, cars mounted on said tracks, said cars being provided with pivoted bails, cords connected to said bails and passed over pulleys, said cords being connected to a winding drum for reverse operation, and means for dumping the cars into the tilting boxes, and for dumping the tilting boxes into the cars.

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

OWEN L. LEWIS.

Witnesses:
CLARENCE E. NIBLETTE,
WALTER F. DAVIDSON.