J. D. HAZEN.

AMUSEMENT APPARATUS.

APPLICATION FILED MAY 2, 1916.

1,207,914.

Patented Dec. 12, 1916.

3 SHEETS—SHEET 1.

FIG. 1.

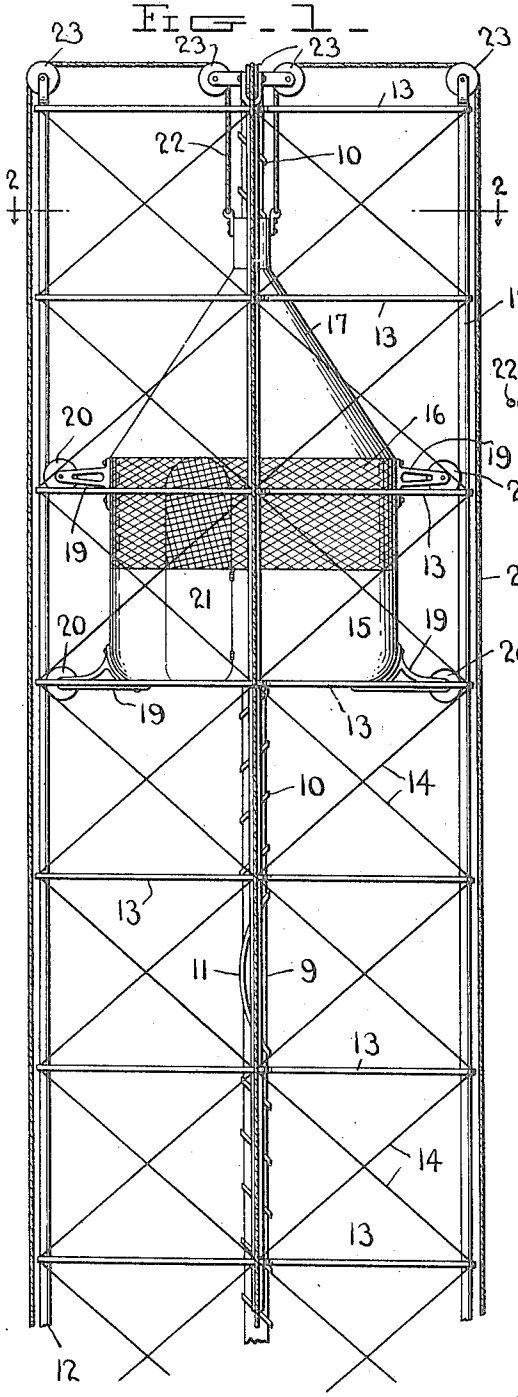


FIG. 2.

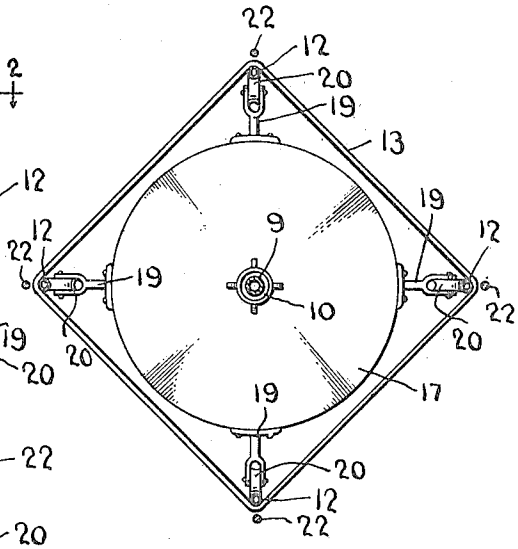
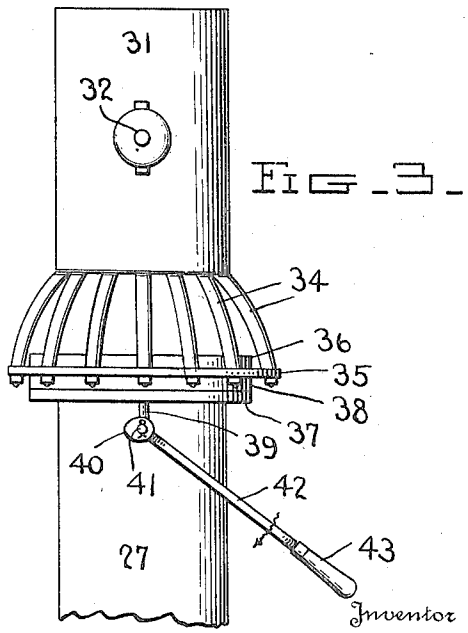


FIG. 3.



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3 SHEETS—SHEET 2.

FIG. 4.

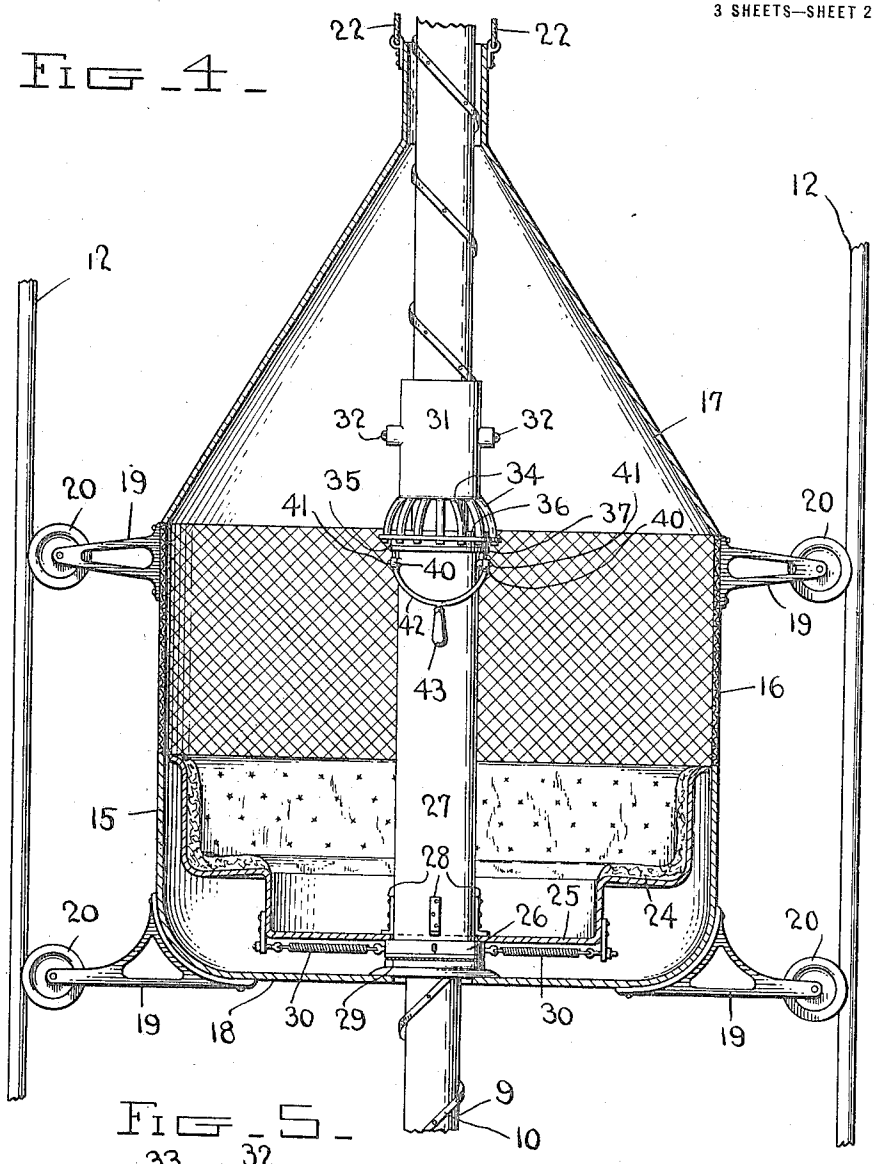
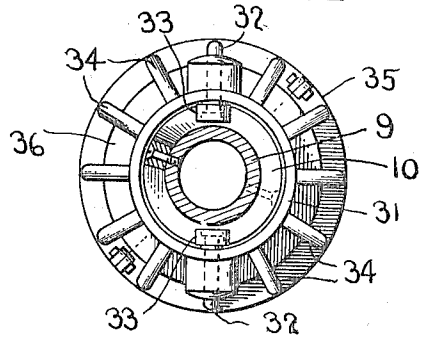


FIG. 5.



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3 SHEETS—SHEET 3.

FIG. 6.

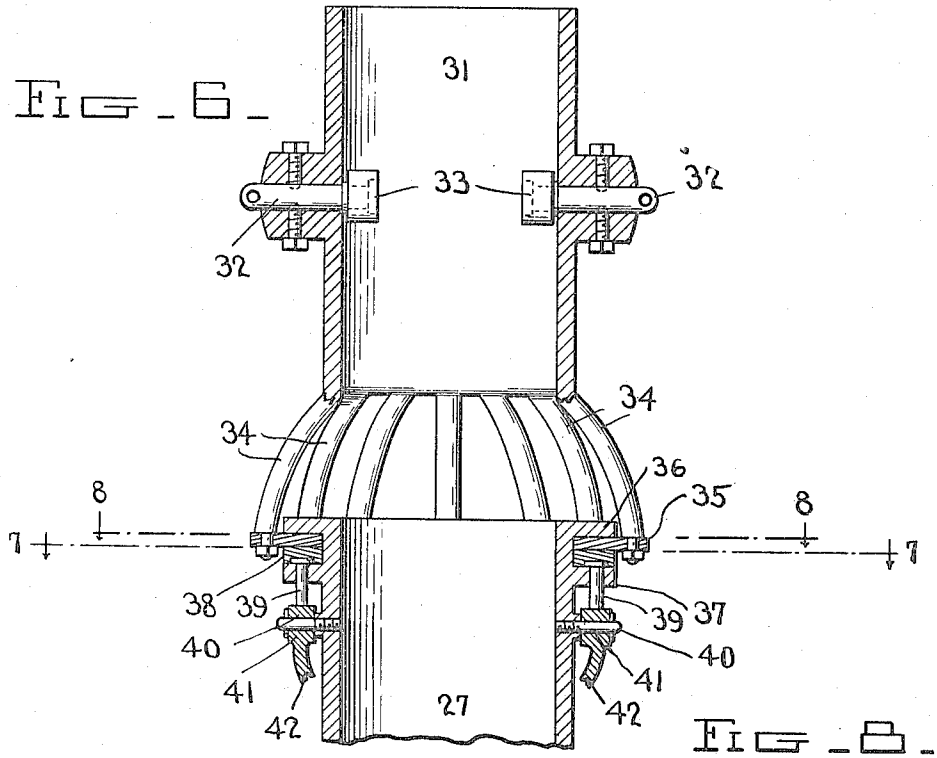


FIG. 7.

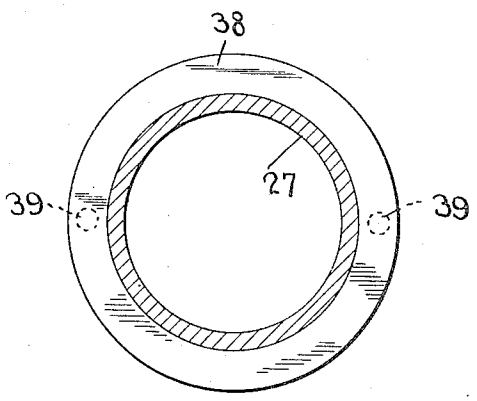
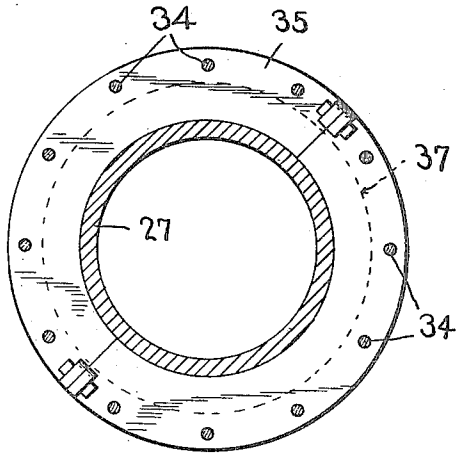


FIG. 8.



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UNITED STATES PATENT OFFICE.

JEAN D. HAZEN, OF SOUTH BOCAGRANDE, FLORIDA, ASSIGNOR OF ONE-HALF TO JOHN LOW KERR, OF SOUTH BOCAGRANDE, FLORIDA.

AMUSEMENT APPARATUS.

1,207,914. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed May 2, 1916. Serial No. 94,988.

To all whom it may concern:

Be it known that I, JEAN D. HAZEN, a citizen of the United States, residing at South Bocagrande, in the State of Florida, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

The present invention relates to amusement apparatus of the type in which the passengers are elevated and lowered, and the primary object is to provide mechanism of a novel character that will cause the passenger-carrying member to be rotated during its raising and lowering movement, this rotating movement, however, being under the control of an operator at all times, and the mechanism furthermore being so arranged that the rotating action will take place in opposite directions during the ascent or descent of the car.

A further and important object is to provide mechanism of this character which will properly safe-guard the passengers against accident and injury, and will eliminate sudden shocks and jars.

An embodiment of the invention that is at present considered the preferable one, is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of a portion of a tower and the elevating apparatus therein. Fig. 2 is a plan view thereof. Fig. 3 is a detail side elevation of the clutch mechanism. Fig. 4 is a vertical sectional view on an enlarged scale through the cage and car with the associated mechanism. Fig. 5 is a plan view of the clutch. Fig. 6 is a vertical sectional view of the clutch mechanism. Figs. 7 and 8 are horizontal sectional views taken respectively on the lines 7—7 and 8—8 of Fig. 6.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment disclosed, a central fixed vertical standard 9 is employed, on which is located a peripheral spiral trackway 10, portions of this trackway being arranged at opposite pitches and connected by a curved or bowed section 11, shown more particularly in Fig. 1. This standard 9 is surrounded by a suitable supporting frame which includes four corner posts 12, constituting guides, as hereinafter set forth, these posts being connected by transverse bars 13 and suitable braces 14.

Vertically movable in the frame and surrounding the central standard 9 is a housing or cage comprising a lower imperforate section 15 and an upper foraminous section 16 with a suitable top 17. The lower section 15 terminates in a horizontal bottom 18, and the walls are provided with outstanding brackets 19 having rollers 20 which run upon the corner posts or guides 12. A suitable door 21 provides convenient means for entrance to and exit from the housing or cage. This housing or cage can be raised or lowered by any suitable means. For example, in the embodiment shown, cables 22 are connected to its upper end and pass over suitable guide sheaves 23 to any well known type of hoisting means, not shown.

Arranged within the above described housing or cage is a car in the form of a circular seat 24 that surrounds the standard 9, and has a bottom 25 resting upon the flange 26 formed upon the lower end of a sleeve 27 that also surrounds said standard. Keepers 28 are preferably employed to maintain the said bottom 25 upon the flange 26. A suitable ball bearing 29 is interposed between the lower end of the sleeve 27 and the bottom 18 of the cage or housing, so that the entire car and sleeve can rotate freely. The carriage 24 is, however, loose with respect to the sleeve 27, but its play is limited. Yielding connections in the form of springs 30 are employed that connect the flange 26 and said carriage.

In the upper portion of the cage or housing is a collar 31 surrounding the standard 9 and carrying inwardly extending studs 32 on which are journaled rollers 33 that run upon the spiral trackway 10, so that said collar will always rotate as it moves longitudinally of the standard. The lower end of the collar 31 is provided with a series of flaring fingers 34, the lower ends of which are secured to a disk 35 that is interposed between two outstanding flanges 36 and 37 formed upon the upper end of the sleeve 27. Between said disk 35 and the lower flange 37 is a clutch ring 38 that is borne against by pins 39 which rest upon cams 40. These cams are journaled, as shown at 41, upon

opposite sides of the sleeve 27 and are connected by a yoke 42 having a handle 43.

It is believed that the operation of the device will be apparent. If the cams 40 are so arranged that the pins 39 are in their lowest position, the disk 35 will be free from the sleeve 27 and as the cage and car ascends or descends while the collar 31 will rotate, the car will not revolve. If, however, the cams are moved to elevate the pins 39, the clutch ring 38 will be forced upwardly against the disk 35 and said disk will be clamped tightly between said clutch ring 38 and the flange 36. As a consequence the sleeve 27 will be made fast to the collar 31 and the two will rotate together. This rotary movement will be transmitted through the springs 30 to the car 24 and said car will be revolved. Upon one portion of the standard, the said car will rotate in one direction, but passing the curved or bowed section 11 the direction of rotation will be reversed, and this of course can be repeated as often as desired, depending upon the length of the standard and the number of sections of opposite pitch of the track-way.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim as new, and desire to secure by Letters Patent, is:—

1. In amusement apparatus of the character described, the combination with a passenger car, of means for raising and lowering the car, means for rotating said car, and means for coupling the car to and uncoupling it from the rotating means to cause both to rotate together or permit one to rotate with relation to the car.

2. In amusement apparatus of the character described, the combination with a passenger car, of means for raising and lowering the car, a rotatable member that moves up and down with the car, means for rotating the member during its travel with the car and means for clutching together and unclutching the car and member.

3. In amusement apparatus of the character described, the combination with a standard, of a rotatable member movable longitudinally thereof, coacting devices on the standard and member to cause the rotation of the latter, a car movable longitudinally of the standard, and means for clutching the car to the member to cause the rotation of said car and unclutching it therefrom to permit the movement of the car without rotating it.

4. In amusement apparatus of the character described, the combination with a standard having a spiral trackway thereon, of a car movable longitudinally of the standard and rotatable with respect to the same, a collar movable longitudinally of the standard and engaged with the trackway so as to be rotated thereby upon the longitudinal movement, a clutch for connecting the collar and car to cause the same to rotate together and permit the rotation of the collar with respect to the car, and means for operating the clutch.

5. In amusement apparatus of the character described, the combination with a car, of means for moving the same, means for rotating the car during such movement, and a yielding shock absorbing connection between the rotating means and car.

6. In amusement apparatus of the character described, the combination with a car, of means for raising and lowering the same, means for rotating the car during such raising and lowering movement, and spring connections between the rotating means and the car.

7. In amusement apparatus of the character described, the combination with a car, of means for raising and lowering the same, means for rotating the car during its raising and lowering movement, and shock absorbing means connecting the car and rotating means for permitting them to have a limited relative play.

8. In amusement apparatus of the character described, the combination with a standard and a spiral trackway thereon, of a collar movable longitudinally of the standard and engaged with the trackway and rotated thereby, a sleeve movable longitudinally of the standard, means for clutching the collar and sleeve together, a car, and yielding connections between the car and sleeve.

9. In amusement apparatus of the character described, the combination with a standard having a spiral trackway, portions of which are in reversed relation to each other, a car movable along the standard, and means connected to the car and engaging the trackway to cause the rotation of the said car in opposite directions during its longitudinal movement in one direction.

10. In amusement apparatus of the character described, the combination with a housing, of means for raising and lowering the same, a rotatable car in the housing movable therewith, and means for rotating the car during its movement with the housing.

11. In amusement apparatus of the character described, the combination with a standard, of a frame inclosing the standard and including guides, a non-rotatable cage engaged with the guides and movable longitudinally of the standard, means for raising and lowering the cage, a car rotatably

mounted within the cage and movable therewith, and means for rotating said car upon its movement with the cage.

12. In amusement apparatus of the character described, the combination with a standard having a spiral trackway thereon, of a frame inclosing the standard and including guides parallel thereto, a cage surrounding the standard and movable longitudinally thereof, said cage being engaged with the guides, a collar movable with the cage and engaged with the spiral trackway to be rotated thereby, a sleeve also surrounding the standard, means for clutching the sleeve and collar together and unclutching the same therefrom, a car surrounding the standard and sleeve, and yielding connections between the car and sleeve.

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

JEAN D. HAZEN.

Witnesses:

WALTER CLEARY,

PETER F. MEYER.