S. LEVI & W. F. SULTZER.

AMUSEMENT DEVICE.

APPLICATION FILED APR. 26, 1912.

1,128,466.

Patented Feb. 16, 1915.

3 SHEETS—SHEET 1.

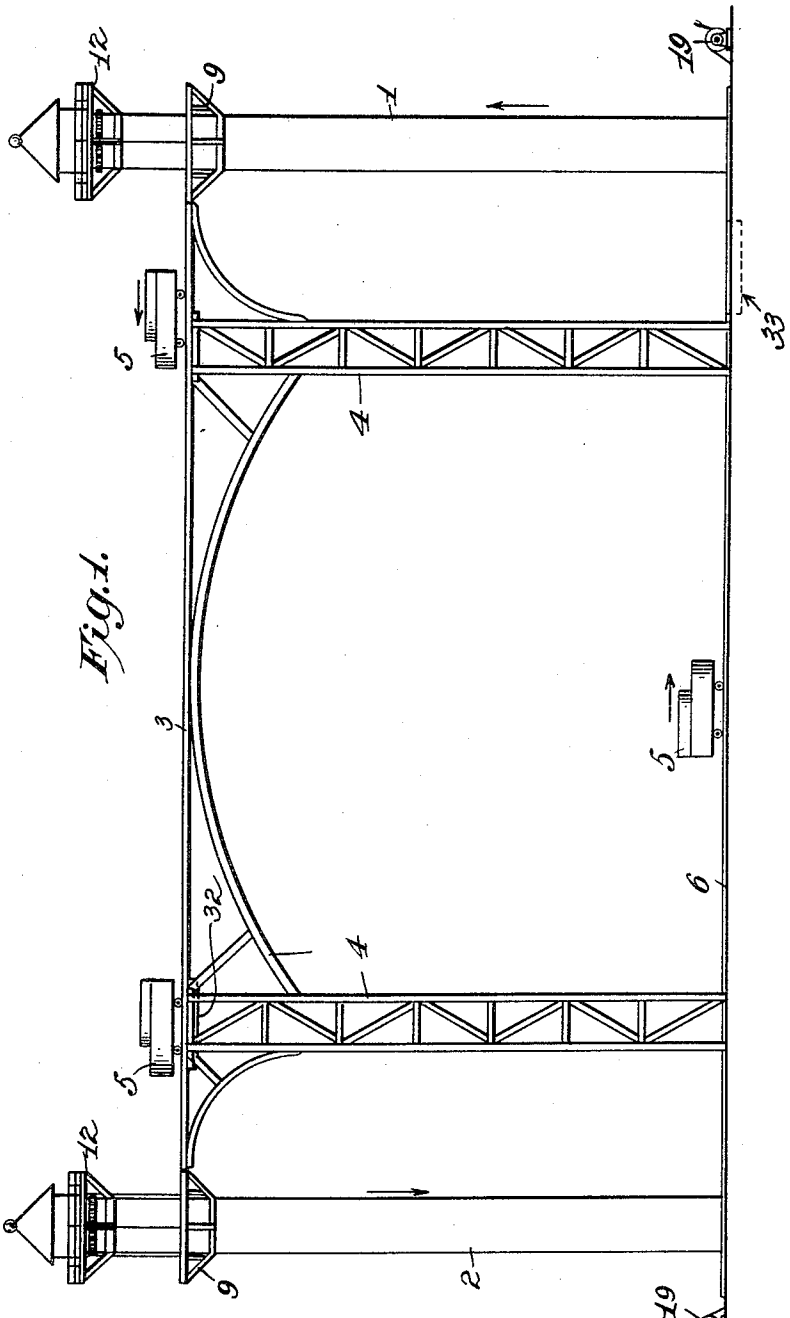

Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 2.

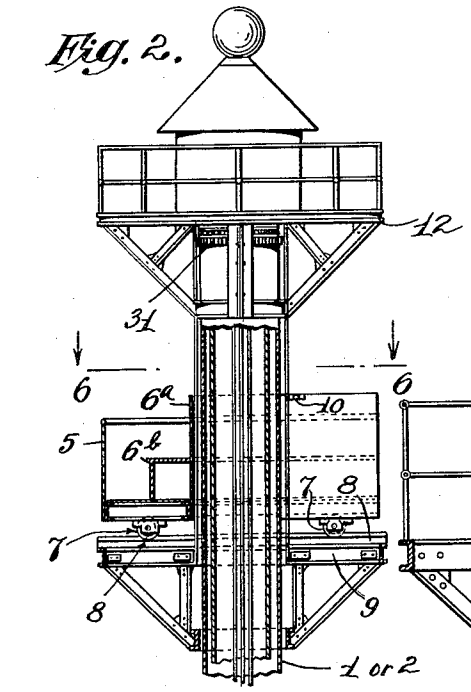
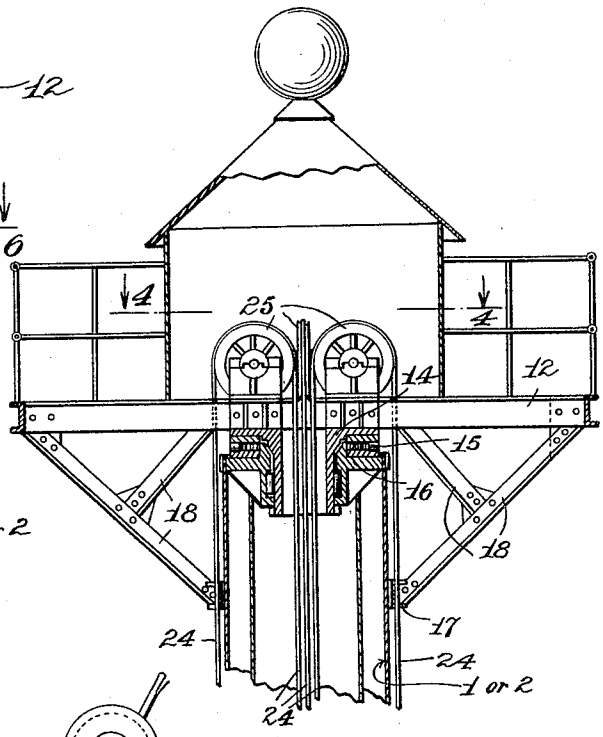
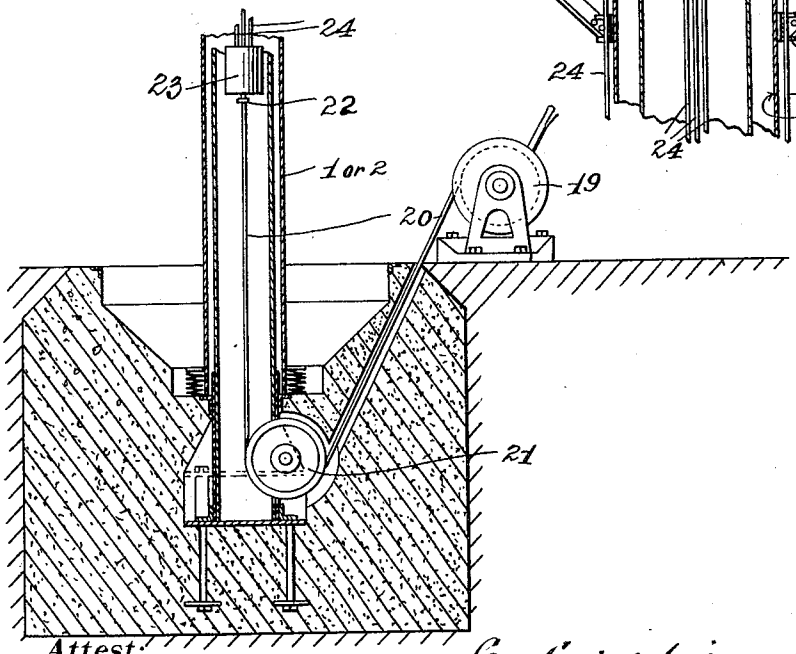


Fig. 3.





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3 SHEETS—SHEET 3.

Fig. 4.

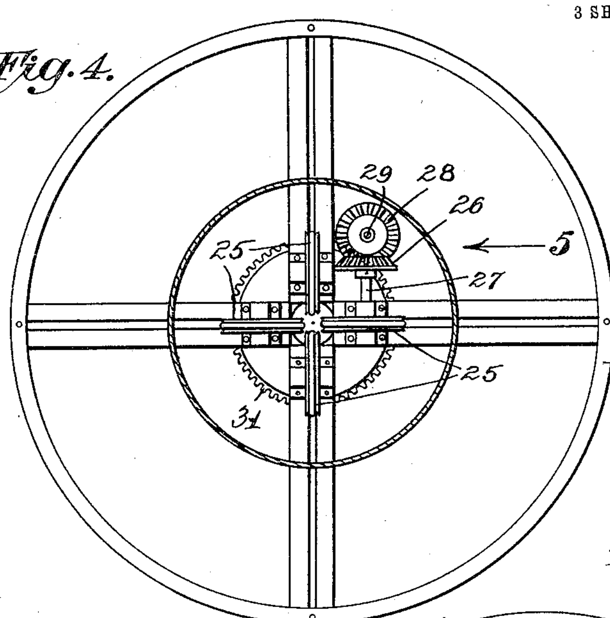


Fig. 5.

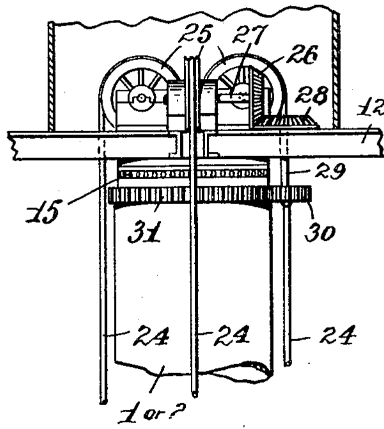
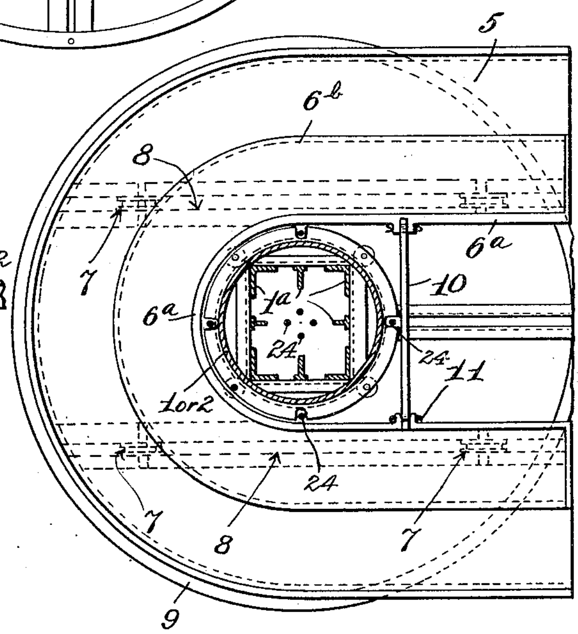


Fig. 6.



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UNITED STATES PATENT OFFICE.

SAM LEVI, OF NEW YORK, AND WILLIAM F. SULTZER, OF NEW ROCHELLE, NEW YORK.

AMUSEMENT DEVICE.

1,128,466. Specification of Letters Patent. Patented Feb. 16, 1915.

Application filed April 26, 1912. Serial No. 693,497.

To all whom it may concern:

Be it known that we, SAM LEVI and WILLIAM F. SULTZER, citizens of the United States, residing at New York and New Rochelle, respectively, in the counties of New York and Westchester, respectively, State of New York, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

Our present invention is an amusement device and resides in the means whereby we give a car a spiral ascent up a high tower to give the passengers a broad panoramic view of all the surrounding country and then give them a similar descent with or without an intermediate switchback or other ride.

In the drawings which show only one of the specific embodiments which our invention is adapted to take, Figure 1 is a front elevation of an amusement device within our invention; Fig. 2 is a vertical section on an enlarged scale of one of the towers and related parts of Fig. 1, the middle portion of the tower being broken away; Fig. 3 is a vertical section on a still larger scale of the upper portion of the tower in Fig. 2; Fig. 4 is a horizontal sectional view on the line 4—4 in Fig. 3; Fig. 5 is a side elevation partly in vertical section looking at Fig. 4 in the direction of the arrow 5; and Fig. 6 is a horizontal sectional view on an enlarged scale on the line 6—6 in Fig. 2.

The particular form of our invention as shown in the drawings provides for two towers, a tower 1 for the spiral ascent of the car and a tower 2 for its spiral descent, and further provides for connecting tracks 3 supported on a framework 4 whereby the car 5, provided with an electric motor or otherwise, can travel from the top of the ascending tower 1 to the descending tower 2, and further provides tracks 6 by which the car can return from the base of the descending tower to the starting point at the base of the ascending tower.

The towers 1 and 2 are cylindrical in cross section and are braced and strengthened by suitable internal braces and angle irons 1^a (Fig. 6).

The car in plan view (Fig. 6) is U-shaped so that it can straddle the towers. 6^b is a seat whose back 6^a conforms with the inside of the U so that the passengers sit with their backs to the tower looking outwardly over the country as the car rises and lowers in a spiral course about the tower. The car has supporting wheels 7 whose gage fits the tracks 3 and 6 and also fits the short tracks 8 (Figs. 2 and 6) on the platforms 9, one surrounding each tower, and which, by mechanism subsequently to be described, is raised and lowered and simultaneously rotated about the tower, and in so doing carries the car 5 with it in an ascending or descending spiral.

10 (Fig. 6) is a bar pivoted at 11 to one side of the back of the car and adapted to drop down into a slot at the other side of said back to lock the car and prevent it from falling off the platform 9 as it is raised and lowered.

At the top of each tower 1 and 2 is a platform 12 which rotates carrying the platform 9 suspended from it, but which does not rise or lower. For this purpose, each platform 12 has a sleeve 14 (Fig. 3) fixed to its under side which rotates on roller bearings 15 about a vertical axis on a fixed sleeve 16 mounted in the top of the tower 1 or 2. Each platform 12 is steadied against tilting as it revolves by a ring 17 loosely surrounding the tower and supported from the platform by braces, 18. Roller bearings may be provided on this ring to bear against the cylindrical outside of the tower.

19 (Figs. 1 and 2) is a hoisting engine or equivalent device, one for each tower, to wind up, and vice versa to release, a cable 20 extending down around a sheave 21 and then vertically up through the center of the given tower to connect by a swivel joint 22 with the bottom of the weight 23 suspended from the lower ends of four cables 24 which it serves to keep taut. These cables 24 extend up out of the top of the tower through the hollow in the sleeve 14 (Fig. 3) and thence extend respectively over the sheaves 25 supported in suitable bearings on the platform 12 at right angles to each other, whence said cables extend downwardly and are permanently attached to the platform 9 and thereby suspend and support said platform 9 from the platform 12. The result is that when the hoisting engine 19 is operated, it raises and lowers the platform 9 relative to the platform 12.

We next provide further means as follows for rotating the upper or supporting platform 12 at the same time that the lower

or supported platform 9 is elevated or lowered as described by the operation of the cable 20. This further means comprises a bevel gear 26 (Figs. 4 and 5) on the end of the axle 27 of one of the sheaves 25, said bevel gear being in mesh with another bevel gear 28 on the upper end of the vertical shaft 29 that projects down through a suitable bearing in the platform 12 and is provided below said platform with a pinion 30 in mesh with a stationary gear 31 secured concentrically to the outside of the tower 1 or 2. The result is that as the cable 20 is operated as described to raise or lower the suspended platform 9, the pinion 30 is simultaneously caused to rotate by reason of the fact that it is geared to one of the sheaves 25 and travels in a circular path about stationary gear 31, which latter is in effect a circular rack. The result is that the platform 12 is likewise caused to rotate and in so doing likewise causes the suspended platform 9 to rotate with it. The result of the rising or lowering motion of the platform 9 and of its rotary motion being an ascending or descending spiral about the tower of which, of course, the supported car 5 partakes. When the car has been raised in this manner to the top of the tower 1, the locking bar 10 is released and the car is propelled from the platform 9 along the track 3 until it reaches the turn table 32. Here it is brought to rest and reversed so that the opening of its U is directed toward and therefore can straddle the descending tower 2 as the car runs upon the platform 9. The car is then locked and given its spiral descent to the base of the tower 2, whence it travels on the track 6 to turn table 33 where it is again reversed so that it can straddle the tower 1 and be received on the platform 9 which meanwhile has been lowered preparatory to the next ascent.

What we claim is:

1. An amusement device comprising in combination a tower, an upper platform rotatably supported on the tower, a lower platform rotatable around the tower and held thereby against material swaying movement, means for raising and lowering the lower platform from the upper, and means for simultaneously rotating the upper platform.

2. An amusement device comprising in combination a tower, an upper platform rotatably supported on the tower, a ring-like lower rotatable platform freely surrounding the tower and held thereby against material swaying movement, means for raising and lowering the lower platform from the upper, and means for simultaneously rotating the upper platform.

3. An amusement device comprising in combination a tower, an upper platform rotatably supported on the tower, a lower platform, means for raising and lowering the lower platform from the upper, means for simultaneously rotating the upper platform, and a U-shaped car that is removably located upon the lower platform in straddling position relative to the tower.

4. An amusement device comprising in combination a tower, an upper platform rotatably supported on the tower, a ring-like lower platform freely surrounding the tower, means for raising and lowering the lower platform from the upper, means for simultaneously rotating the upper platform, and a U-shaped car that is removably located upon the lower platform in straddling position relative to the tower.

5. An amusement device comprising the combination of a tower, a platform movable up and down said tower, and a U-shaped car that is removably located on said platform in straddling position relative to the tower.

6. An amusement device comprising the combination of a tower, a platform movable up and down said tower, and a U-shaped car that is removably located on said platform in straddling position relative to the tower, and a locking bar which releasably connects the legs of the U of the car at their free ends.

7. An amusement device comprising the combination of a tower, a platform, means for moving said platform up and down the tower in a spiral course, and a U-shaped car that is removably located on the platform in straddling position relative to the tower.

8. An amusement device comprising the combination of a pair of towers connected above and below by tracks, a platform for each tower movable up and down it, a U-shaped car adapted to be run on each platform in straddling position relative to its tower, and car-reversing means in said tracks.

9. An amusement device comprising the combination of a hollow tower, an upper platform rotatably supported on the upper edge of the tower, a ring-like lower platform freely surrounding the tower, a hoisting cable extending up the tower from below, a swivel joint on the end of said cable within the tower, sheaves on the upper platform, a plurality of cables leading from said swivel joint up through the tower over the respective sheaves and downwardly on the outside of the tower where said cables connect with and suspend the lower platform, a horizontally disposed circular rack on the upper end of the tower, and a pinion engaging said rack driven from one of the sheaves.

10. An amusement device comprising the combination of a hollow tower, an upper platform rotatably supported on the tower, a lower platform, sheaves on the upper platform, means for raising and lowering the

lower platform comprising cables extending up through the tower over said sheaves and downwardly on the outside of the tower where they connect with the lower platform, and means operating between the upper platform and the tower for rotating said platform and driven by the operation of the sheaves.

11. In an amusement device, the combination with a tower, of a platform rotatable about and movable up and down on the tower, a car that is removably located on the platform in straddling relation to the tower, and means for permitting the placing of the car on the platform at one elevation and removing it at another.

12. In an amusement device, the combination with spaced towers, of a platform rotatable about and movable up and down on each tower, a car that is removable from one platform to the other and is adapted to be supported upon each in straddling relation to the tower thereof, and means for permitting the transfer of the car from one tower to the other at different elevations and for reversing the position of the car during such transfer.

In testimony whereof we affix our signatures in presence of two witnesses.

SAM LEVI.
WILLIAM F. SULTZER.

Witnesses:
E. W. SCHERR, Jr.,
A. C. MCDONNELL.