Jan. 8, 1957 E. SCHRAMM ET AL 2,776,522

TOY GARAGE

Filed Nov. 23, 1954 3 Sheets-Sheet 1

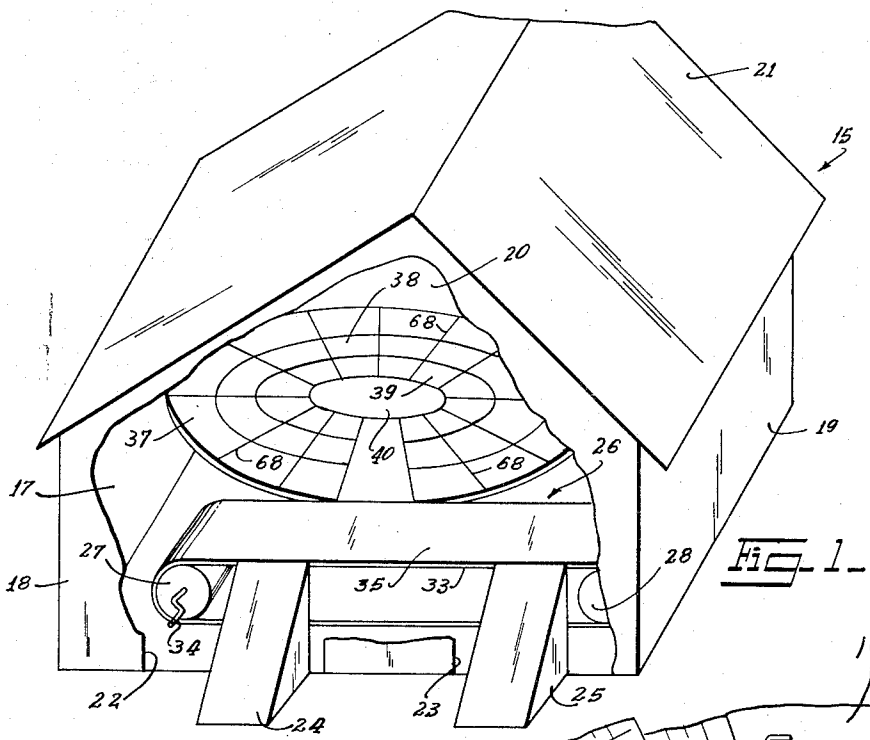


Fig. 1

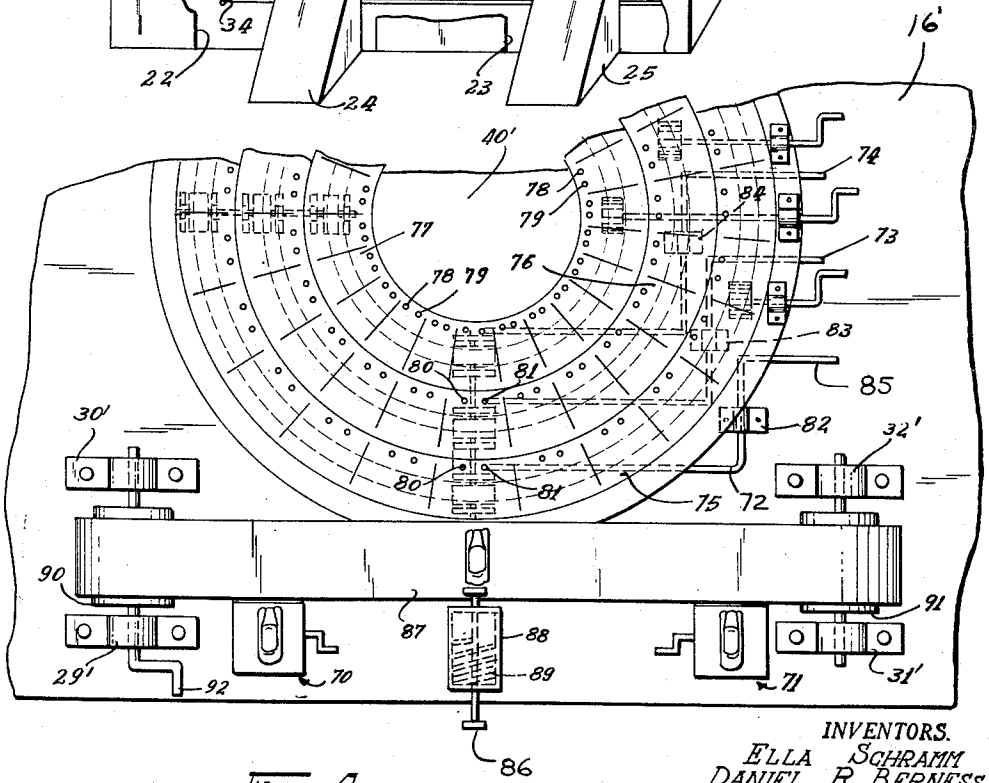


Fig. 4

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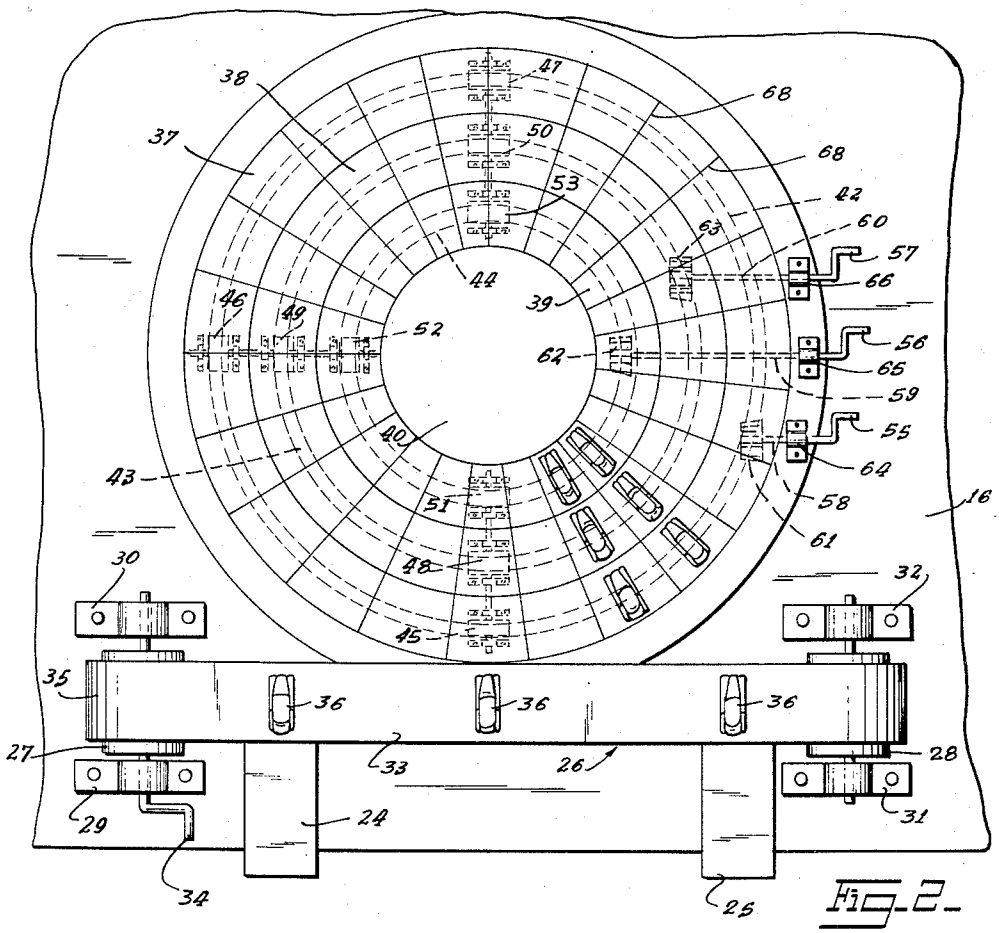


Fig. 2.

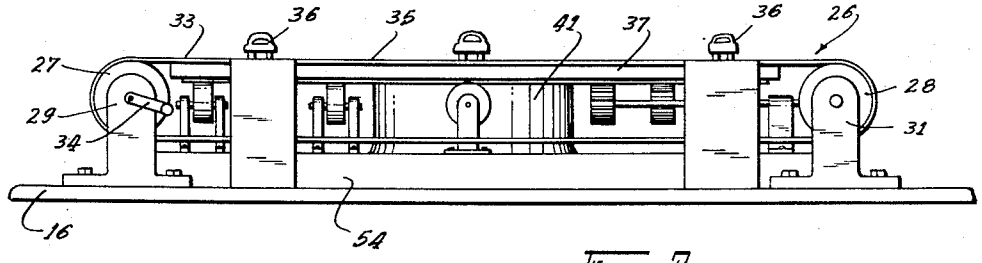


Fig. 3.

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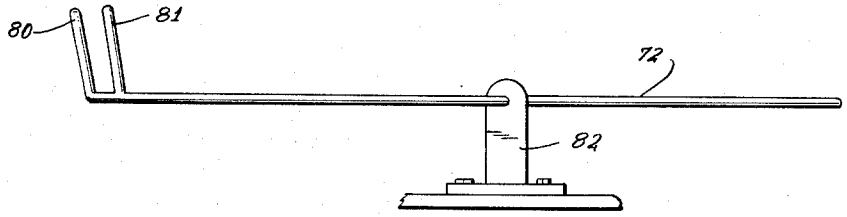


Fig. 5.

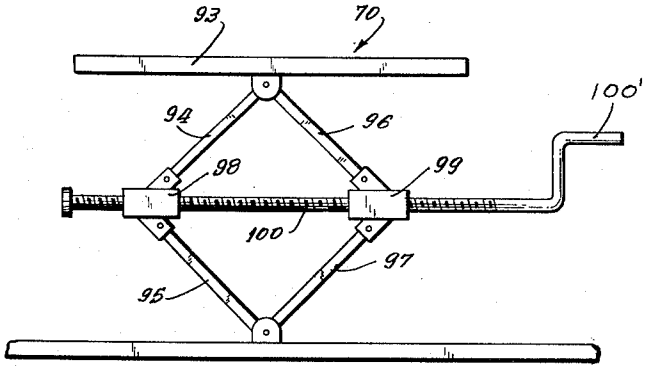


Fig. 6.

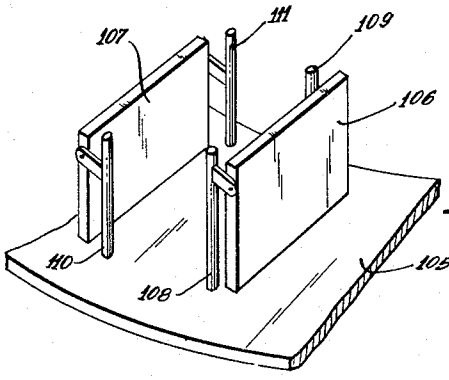


Fig. 7.

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TOY GARAGE

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Application November 23, 1954, Serial No. 470,652

6 Claims. (Cl. 46—39)

This invention relates to new and useful improvements in toys.

More particularly, the present invention proposes the construction of an improved toy garage with a number of related operative parts which a child can easily use mechanicallly to move toy vehicles so that a number of them can separately be parked and stored in individual places or stalls selected by the child.

Still further, the present invention proposes forming a toy garage so that a child operating it will be able to garage toy vehicles in a realistic and educational manner such as might be used in a real full scale automatic or semi-automatic garage.

As a further object, the present invention proposes constructing the toy garage with a plurality of concentric annular turntables having parking lanes or stalls marked or formed thereon for toy vehicles.

Another object of the present invention proposes forming the toy garage with an endless conveyor belt adjacent the outermost turntable to convey toy vehicles to and from a point where they may be moved on or from the turntables.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a toy garage constructed and arranged in accordance with the present invention with parts of the building broken away for clarity.

Fig. 2 is a top plan view of the toy garage with the removable roof removed and the side walls broken away.

Fig 3 is a side elevational view of the structure shown in Fig. 2.

Fig. 4 is a fragmentary view similar to Fig. 2 but illustrating a modification of the present invention.

Fig. 5 is a side elevational view of one of the vehicle arresting devices shown in Fig. 4.

Fig. 6 is a side elevational view of one of the elevators shown in Fig. 4.

Fig. 7 is a fragmentary sectional view of a turntable showing another modification of the present invention.

The toy garage, in accordance with the first form of the invention illustrated in Figs. 1, 2 and 3, has a building **15** with a base or floor **16**, side walls **17**, **18**, **19** and **20**, and a removable roof **21**. The front side wall **18** has an entrance opening **22** and an exit opening **23** through which respectively extend inclined ramps **24** and **25** which are mounted on the base **16**.

Inside the walls **17**, **18**, **19** and **20** behind the front wall **18** a belt conveyor **26** is mounted on the base **16**. Belt conveyor **26** has a pair of spaced rollers **27** and **28** which are rotatably mounted on the base **16** being suspended between bearings **29** and **30** and **31** and **32** which are fastened to the base. An endless belt **33** is mounted on the rollers **27** and **28** extending over the rollers and

between them. Roller **27** has attached to it a crank **34** for rotating the roller and the belt. The top surface **35** of the belt **33** is disposed adjacent to and at the same height as the top ends of the inclined ramps **24** and **25** so that toy vehicles **36** may be moved up and down the ramps and onto and off of the belt **33**.

Centrally disposed in the building **15**, a plurality of concentric annular turntables **37**, **38** and **39** are rotatably mounted on the base **16**. A center pivot section **40** is disposed inside the innermost turntable **39** for that turntable to revolve around, the section **40** having a stand **41** fixed to base **16**.

Turntables **37**, **38** and **39** have annular racks or ring gears **42**, **43** and **44**, respectively mounted beneath them on their underface. A plurality of spaced rollers or roller gears **45**, **46** and **47**, and **48**, **49** and **50**, and **51**, **52** and **53** are provided respectively for the turntables **37**, **38** and **39**. The roller gears are all mounted on a base plate **54** fixed to base **16** and each roller gear is disposed in meshing alignment with one of the annular racks or ring gears **42**, **43**, or **44**.

Means separately to rotate the turntables **37**, **38** and **39** is provided by cranks **55**, **56** and **57**, crankshafts **58**, **59** and **60** and crank pinions or gears **61**, **62** and **63**. Crank **55**, crankshaft **58** and crank gear **61** are rotatably mounted on base **16** by a bearing **64** and rotate the outermost turntable **37**. Crank **56**, crankshaft **59** and crank gear **62** are held by bearing **65** and rotate the intermediate turntable **38**. Crank **57**, crankshaft **60** and crank gear or pinion **63** have a bearing **66** and rotate the innermost turntable **39**. The gears or pinions **61**, **62** and **63** are disposed to mesh with the racks or ring gears **42**, **43** and **44**, respectively

Turntables **37**, **38** and **39** have a plurality of radial markings **68** radially dividing and designating alignable parking lanes and spaces on the turntables.

To operate the toy in the manner of an automatic or semi-automatic parking garage, a child may roll or send toy vehicles up the entrance ramp to the belt conveyor. The roof of the building may be removed or the child may reach through the entrance opening to operate the conveyor crank to move the vehicle along the conveyor. The belt of the conveyor having its top surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surfaces of all the turntables, vehicles may easily be moved from the belt onto the turntables. The child then turns the turntable cranks until parking spaces are aligned to form a lane extending all the way to the center surface. A toy vehicle can be moved laterally from this lane to any adjacent parking space on any of the turntables. When the parking spaces adjacent this entrance lane are filled, the turntables may be revolved and realigned for another or other similar lanes. In this way a large number of toy vehicles can be garaged. The toy vehicles can be removed from the turntables in a similiar manner and taken from the garage down the exit ramp.

The modification of the invention illustrated in Figs. 4, 5 and 6 is characterized by the provision of elevators **70** and **71** in place of entrance and exit ramps and car stopping levers **72**, **73** and **74** for the three annular concentric turntables **75**, **76** and **77**. These turntables are constructed and arranged similar to those described above except that each turntable is provided with a plurality of spaced pin passing openings **78** and **79** which are alignable with the two spaced pins **80** and **81** of each lever **72**, **73** and **74**. The levers **72**, **73** and **74** are pivotally mounted on the base **16'** of the garage and fulcrumed in bearings **82**, **83** and **84**. Each lever is mounted beneath one of the turntables and has pins **80** and **81** at one end and a handle **85** at the other end.

A car impelling spring plunger **86** is mounted on the

base adjacent the conveyor belt 87 to move cars from the belt 87 onto one of the turntables. Plunger 86 is slidably mounted in a casing 88 fixed to the base and a spring 89 in the casing and fixed at one end to the plunger 86 forces the plunger toward the turntables when the plunger is drawn back and then released.

Conveyor belt 87 is mounted on rollers 90 and 91 and crank 92 is attached to roller 90 to revolve the belt.

Elevators 70 and 71 are each provided with a platform 93 with links 94, 95, 96 and 97 connecting the platform with the base and with threaded sleeves 98 and 99 through which extend a threaded crank rod 100 for raising and lowering the elevator platforms. The rod is provided with an operating crank 100'.

The other parts of the garage shown in Figs. 4, 5 and 6 are identical to those in the first three figures and have similar reference numerals but primed to distinguish the figures.

The modification illustrated in Fig. 7 is characterized by the provision of a turntable 105 having spaced swinging stall walls 106 and 107 pivotally mounted on spaced posts 108, 109, 110 and 111 and radially dividing and designating alignable parking lanes and spaces on the turntable.

While we have illustrated and described the preferred embodiments of our invention, it is to be understood that we do not limit ourselves to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent is:

1. A toy garage comprising a base, a belt conveyor having a pair of spaced rollers rotatably mounted on the base, an endless belt mounted on the rollers and extending therebetween, a crank on one of the rollers to rotate the roller and the belt, a plurality of concentric annular turntables rotatably mounted on the base, said belt having an upper surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surface thereof, said turntables having a plurality of radially divided alignable parking lanes and spaces, means separately to rotate the turntables, said means including a crank, crankshaft and crank gear for each turntable, each of said turntables having a ring gear disposed to mesh with the crank gear for that turntable, and car stopping means for each turntable, each of said car stopping means being adapted to be detachably and operatively connected with its respective turntable, said car stopping means each including a lever pivotally mounted on the base beneath one of the turntables with a pair of spaced pins at one end and a handle at the other end, said turntables each having a plurality of spaced pin passing openings each alignable with one of the pins for receiving said pin.

2. A toy garage comprising a base, a belt conveyor having a pair of spaced rollers rotatably mounted on the base, an endless belt mounted on the rollers and extending therebetween, a crank on one of the rollers to rotate the roller and the belt, a plurality of concentric annular turntables rotatably mounted on the base, said belt having an upper surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surface thereof, said turntables having a plurality of radially divided alignable parking lanes and spaces, means separately to rotate the turntables, said means being a crank, crankshaft and crank gear for each turntable, each of said turntables having a ring gear disposed to mesh with the crank gear for that turntable, car stopping means for each turntable, each of said car stopping means being adapted to be detachably and operatively connected with its respective turntable, said car stopping means each being a lever pivotally mounted on the base beneath one of the turntables with a pair of spaced pins at one end and a handle at the other end, said turntables each having a plurality of spaced pin passing openings each alignable with one of the pins for receiving said pin, and a plurality of spaced roller gears rotatably mounted on the base and disposed beneath the turntables rotatably to mount the turntables on the base.

3. A toy garage comprising a base, a belt conveyor having a pair of spaced rollers rotatably mounted on the base, an endless belt mounted on the rollers and extending therebetween, a crank on one of the rollers to rotate the roller and the belt, a plurality of concentric annular turntables rotatably mounted on the base, said belt having an upper surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surface thereof, said turntables having a plurality of radially divided alignable parking lanes and spaces, means separately to rotate the turntables, said means being a crank, crankshaft and crank gear for each turntable, each of said turntables having a ring gear disposed to mesh with the crank gear for that turntable, car stopping means for each turntable, each of said car stopping means being adapted to be detachably and operatively connected with its respective turntable, said car stopping means each being a lever pivotally mounted on the base beneath one of the turntables with a pair of spaced pins at one end and a handle at the other end, said turntables each having a plurality of spaced pin passing openings each alignable with one of the pins for receiving said pin, a plurality of spaced roller gears on the base and being disposed in meshing alignment with said ring gears, and a center pivot section disposed inside the innermost annular concentric turntable for said turntable to revolve about.

4. A toy garage comprising a base, a belt conveyor having a pair of spaced rollers rotatably mounted on the base, an endless belt mounted on the rollers and extending therebetween, a crank on one of the rollers to rotate the roller and the belt, a plurality of concentric annular turntables rotatably mounted on the base, said belt having an upper surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surface thereof, said turntables having a plurality of radially divided alignable parking lanes and spaces, means separately to rotate the turntables, said means being a crank, crankshaft and crank gear for each turntable, each of said turntables having a ring gear disposed to mesh with the crank gear for that turntable, car stopping means for each turntable, each of said car stopping means being adapted to be detachably and operatively connected with its respective turntable, said car stopping means each being a lever pivotally mounted on the base beneath one of the turntables with a pair of spaced pins at one end and a handle at the other end, said turntables each having a plurality of spaced pin passing openings each alignable with one of the pins for receiving said pin, a plurality of spaced roller gears on the base and being disposed in meshing alignment with said ring gears, a center pivot section disposed inside the innermost annular concentric turntable for said turntable to revolve about, and a plurality of inclined ramps extending from the base to the upper surface of the belt.

5. A toy garage comprising a base, a belt conveyor having a pair of spaced rollers rotatably mounted on the base, an endless belt mounted on the rollers and extending therebetween, a crank on one of the rollers to rotate the roller and the belt, a plurality of concentric annular turntables rotatably mounted on the base, said belt having an upper surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surface thereof, said turntables having a plurality of radially divided alignable parking lanes and spaces, means separately to rotate the turntables, said means being a crank, crankshaft and crank gear for each turntable, each of said turntables having a ring gear disposed to mesh with the crank gear for that turntable,

car stopping means for each turntable, each of said car stopping means being adapted to be detachably and operatively connected with its respective turntable, said car stopping means each being a lever pivotally mounted on the base beneath one of the turntables with a pair of spaced pins at one end and a handle at the other end, said turntables each having a plurality of spaced pin passing openings each alignable with one of the pins for receiving said pin, a plurality of spaced roller gears on the base and being disposed in meshing alignment with said ring gears, a center pivot section disposed inside the innermost annular concentric turntable for said turntable to revolve about, a plurality of inclined ramps extending from the base to the upper surface of the belt, and a plurality of swinging stall walls pivotally mounted on each turntable radially dividing and designating alignable parking lanes and spaces thereon.

6. A toy garage comprising a base, a belt conveyor having a pair of spaced rollers rotatably mounted on the base, an endless belt mounted on the rollers and extending therebetween, a crank on one of the rollers to rotate the roller and the belt, a plurality of concentric annular turntables rotatably mounted on the base, said belt having an upper surface disposed adjacent and tangential to the outermost turntable and in the same plane as the top surface thereof, said turntables having a plurality of radially divided alignable parking lanes and spaces, means separately to rotate the turntables, said means including a crank, crankshaft and crank gear for each turntable, each of said turntables having a ring gear disposed to mesh with the crank gear for that turntable, car stopping means for each turntable, each of said car stopping means being adapted to be detachably and operatively connected with its respective turntable, said car stopping means each including a lever pivotally mounted on the base beneath one of the turntables with a pair of spaced pins at one end and a handle at the other end, said turntables each having a plurality of spaced pin passing openings each alignable with one of the pins for receiving said pin, a plurality of spaced roller gears on the base and being disposed in meshing alignment with said ring gears, a center pivot section disposed inside the innermost annular concentric turntable for said turntable to revolve about, and car impelling means mounted on the base adjacent the belt to move cars form the belt onto one of the turntables.

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