No. 737,753. PATENTED SEPT. 1, 1903.

J. H. MAGUIRE.

AMUSEMENT APPARATUS.

APPLICATION FILED NOV. 29, 1902.

NO MODEL. 5 SHEETS—SHEET 1.

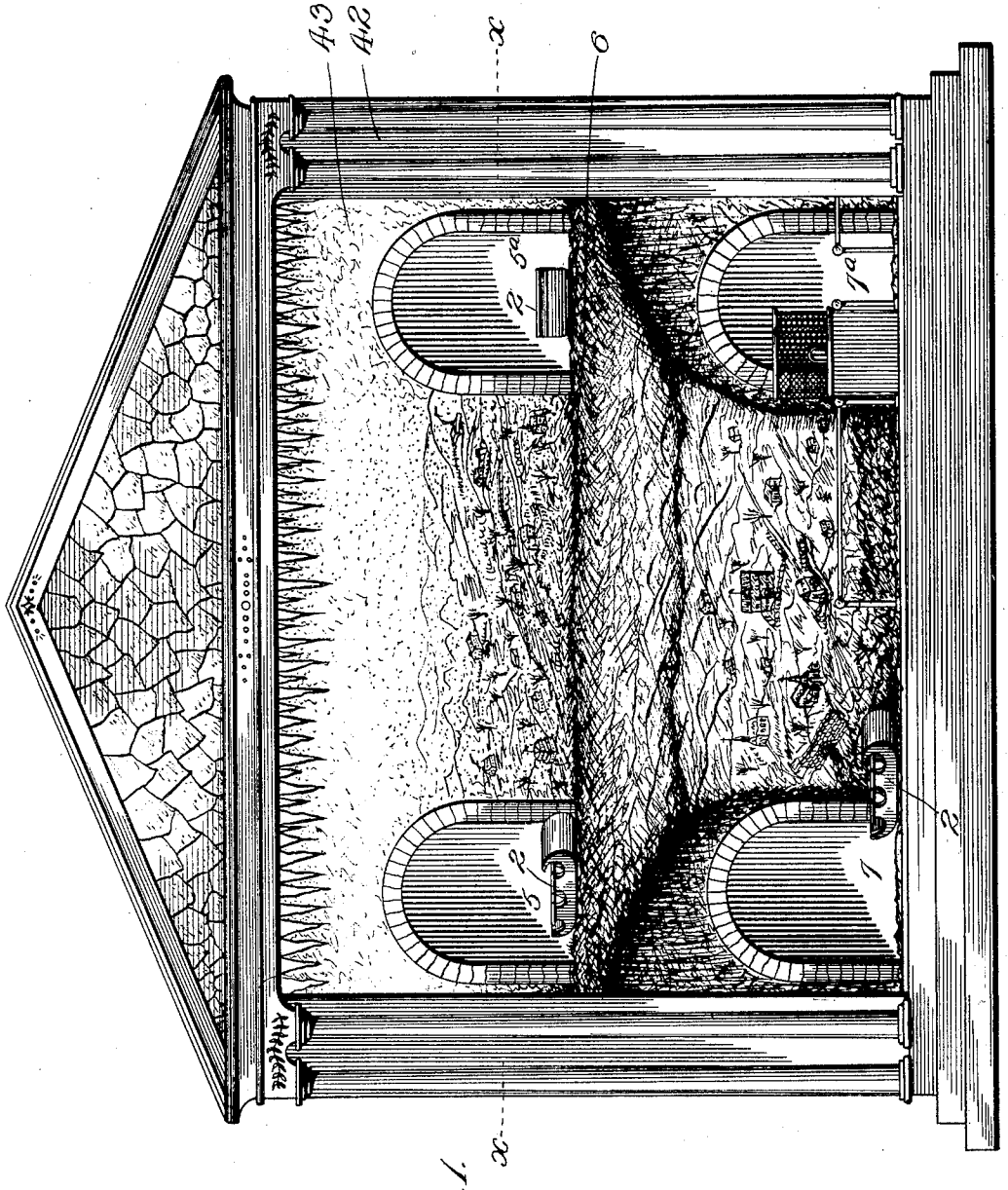

Fig. 1.

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NO MODEL. 5 SHEETS—SHEET 2.

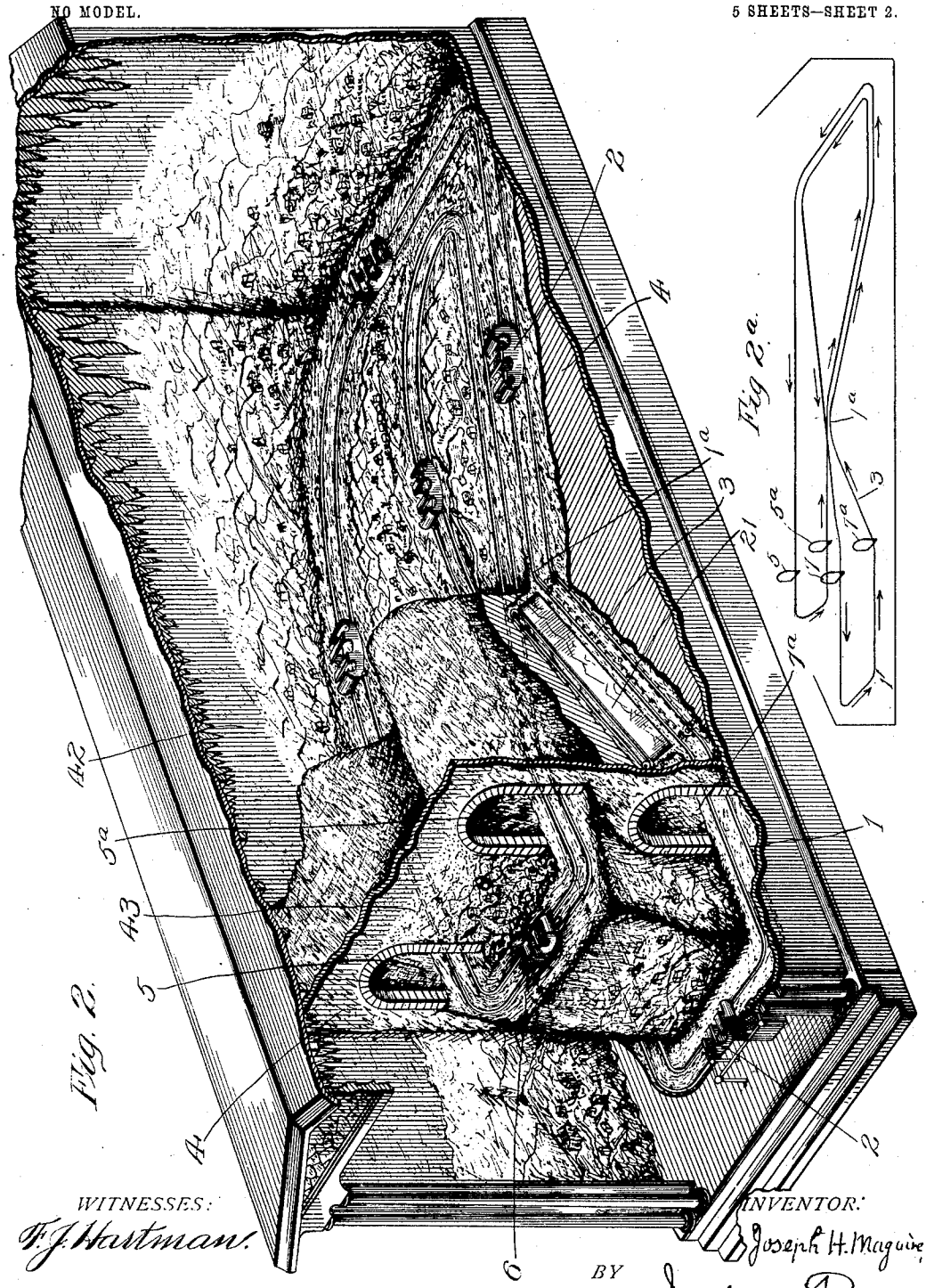

Fig. 2.

Fig. 2a.

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NO MODEL. 5 SHEETS—SHEET 3.

Fig. 3.

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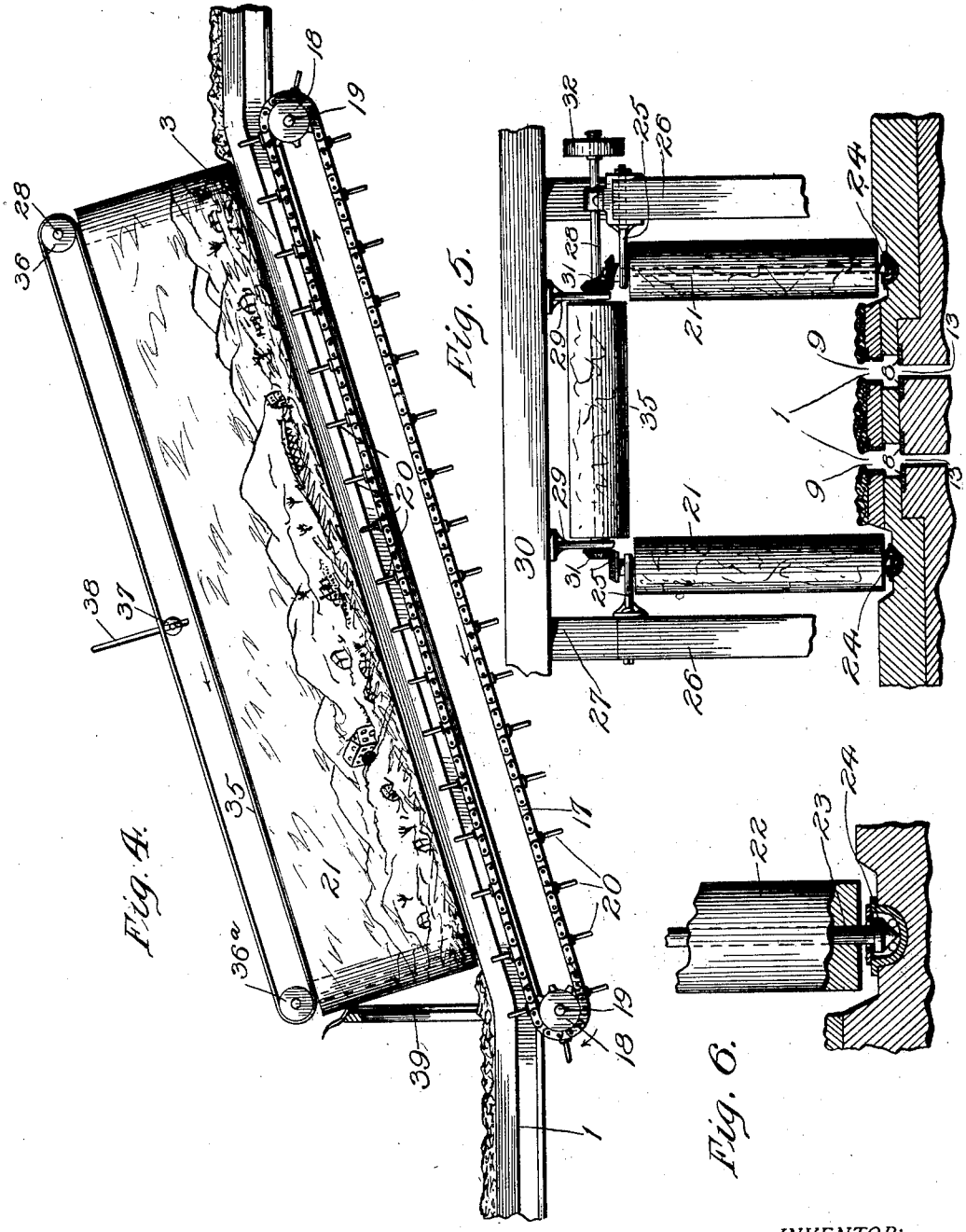
NO MODEL. 5 SHEETS—SHEET 4.



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NO MODEL. 5 SHEETS—SHEET 5.

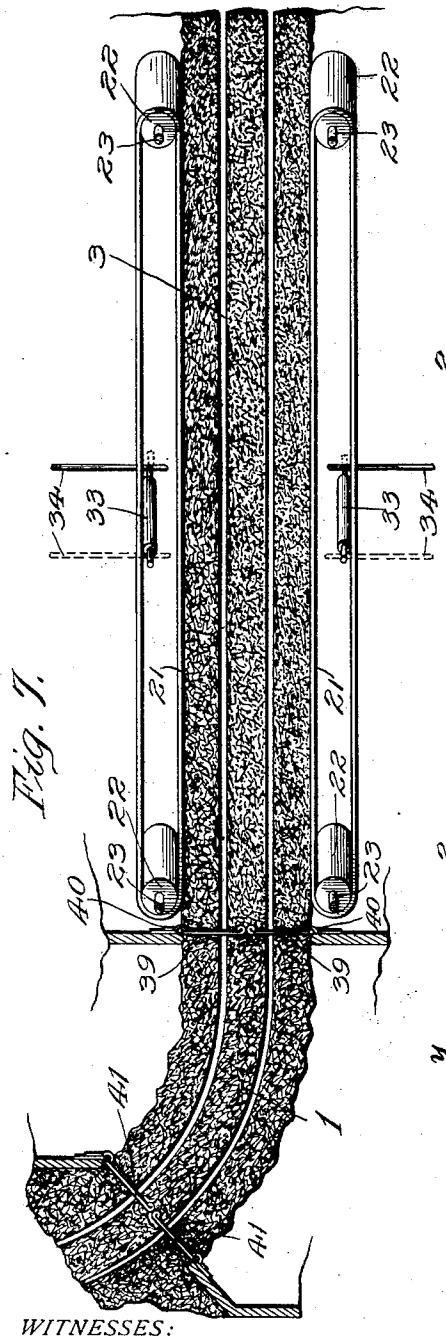

Fig. 7.

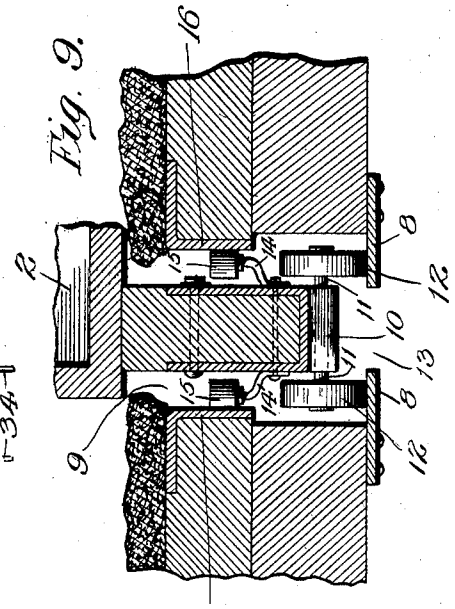

Fig. 9.

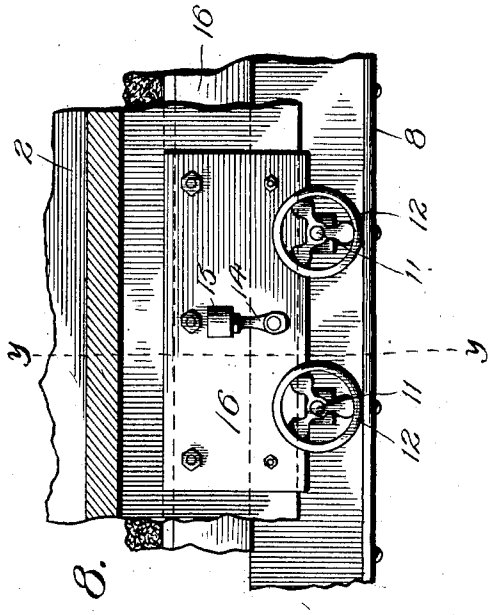

Fig. 8.

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UNITED STATES PATENT OFFICE.

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AMUSEMENT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 737,753, dated September 1, 1903.

Application filed November 29, 1902. Serial No. 133,279. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. MAGUIRE, a citizen of the United States, residing at Wayne, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a front elevation. Fig. 2 is a perspective view, portions of the walls being broken away so as to exhibit the interior of the structure. Fig. 2ª is a diagram of the trackway. Fig. 3 is a sectional plan view taken on line *x x*, Fig. 1. Fig. 4 is a sectional side elevation of the incline of the trackway, connecting the lowest with the highest level thereof and showing the means for carrying the vehicles up said incline and showing also one of the panoramic side aprons and the apron covering the space between said side aprons. Fig. 5 is an enlarged cross-section of the trackway in front of the panoramic aprons. Fig. 6 is a detail, enlarged, of the lower bearing of one of the drums around which the side aprons pass. Fig. 7 is a plan view of Fig. 4, the apron covering the space between the side aprons being removed, as also the drums around which said apron passes. Fig. 8 is a side elevation, enlarged, of the lower part of one of the vehicles upon the trackway. Fig. 9 is a section on line *y y*, Fig. 8.

The object of this invention is to provide an amusement structure or apparatus in the nature of an artificial gravity coasting-course.

The invention comprises certain novel features hereinafter described and duly pointed out.

Referring to the accompanying drawings, 1 designates a trackway adapted to be traveled by wheeled vehicles 2, formed in imitation of sleds or sleighs. This trackway has a point 1ª of highest elevation, whence it gradually descends in a serpentine course, as shown, to a point adjacent to said highest point, to which latter it ascends by an incline 3.

The upper part of the front portion of the framework 4 or body of the structure is constructed to form two tunnels 5 5ª, that open onto a ledge 6, the trackway extending through the tunnels and across the ledge. The lower part of the structure is also provided with two tunnels 7 7ª, through which the trackway extends and passes around the base of the ledge 6, as clearly seen in Figs. 1, 2, and 3. From the said highest point of elevation the descending trackway forms a loop and passes through the upper tunnel 5, thence across the ledge 6 and through the tunnel 5ª, and forming another loop passes down obliquely through the lower tunnel 7, thence around the base of the said ledge 6 and into the tunnel 7ª, and thence by the incline 3 to the said highest point of the trackway.

The diagrammatic view, Fig. 2ª, indicates the course of the trackway and the arrows the direction of travel of the sled-like vehicles thereon. This trackway is some distance below the surface of the structure and consists of rails or plates 8, Figs. 8 and 9, at the bottom of a vertical slot or opening 9 in the framework 4 and secured to the latter.

The sleds 2, which are provided with seats for the riders, have depending beams, hereinafter termed "runners," at each side. These extend into the slots 9, and journaled in boxes 10, fastened to the lower ends of the runners, are shafts 11, carrying wheels 12, that rest upon the rails 8. I usually leave an opening 13 between the rails for the escape of dirt that may fall into the slots, and the inclined part of the trackway 3 has a similar opening between the rails for a purpose hereinafter appearing.

Journaled in brackets 14, projecting from the sides of the runners, are rollers 15, that are adapted to ride against the side walls of the slot 9 or against suitable plates 16, fastened to said walls. These rollers serve to properly guide the runners in traveling the slots.

I form the top of the structure between the trackways and adjacent thereto in the semblance of natural ground with pleasing landscapes, water, &c., and in order to present the appearance of winter I cover this ground with white paint or other material interspersed with bits of mica or other substance that sparkles in the light, whereby a snow effect is obtained. I also give to the part of

the structure having the several tunnels the appearance of rock, as also the part whose top constitutes the ledge 6, by covering the same with canvas suitably painted.

In order to convey the sleds up the incline 3, which is preferably within the tunnel 7^a, as shown, I provide beneath the incline an endless sprocket-chain 17, passing over sprocket-wheels 18 upon transverse shafts 19, one at each end of the incline, that are journaled in suitably bearings of the framework that supports that part of the trackway. This chain carries a series of studs 20, that project up through the opening between the rails 8 into one of the slots 9 and are adapted to engage a projection of the sled-runner when the sled arrives at the lower end of the incline, a box 10 for the shaft carrying the wheels 12 forming a suitable projection in this instance.

The chain is driven in the direction of the arrow in Fig. 4 from a source of power, and when a sled arrives at the base of the incline 3 it, the said projection of the runner, is caught by a stud 20 as the latter is brought around on the upper side of the chain, and thus the sled is carried up the incline to the aforesaid highest point of the trackway.

Adjacent to the side of the incline 3 are two similarly-inclined endless belts or aprons 21, whose sides are in a vertical plane and have depicted thereon landscapes or other entertaining scenery or panoramic views—as, for example, the mountain scenery shown in Fig. 4. Each apron passes around drums 22 upon shafts 23, whose lower ends are adapted to turn in bearings 24, secured to the top of the framework 4 adjacent to the trackway. The upper ends of said shafts are journaled in brackets 25, extending from the posts 26 of the framework 27, that is supported by the framework 4. The two aprons are driven in the same direction by a transverse shaft 28, that is journaled in brackets 29, depending from a cross-beam 30 of the framework 27, the said shaft having bevel-gear connections 31 with the upper end of the shafts 23.

The shaft 28 is driven from a source of power in a direction to cause the sides of the aprons toward the trackway to travel in a direction opposite to that of the sprocket-chain—*i. e.*, of the sleds as they are conveyed up the incline, as indicated by the arrows in Figs. 4 and 7—by a belt (not shown) running over a pulley 32, Fig. 5, upon the end of shaft 28. Preferably as matter of convenience and economy I would drive said shaft 28 by suitable gearings or connections with one of the shafts of the sprocket-wheels 18.

In order to prevent liability of the aprons from slipping on the drums, I place on the inner side of the outer part of the aprons, transversely and at right angles thereto, a roller 33, which is journaled to upper and lower bars 34, that are secured to the framework 27. These bars maintain said roller in position to draw the apron outwardly, thus keeping it taut and so preventing any slipping upon the drums. I also employ a third apron 35, that covers over the space between the side aprons, which apron is designed to represent the sky. I usually provide this apron with a number of perforations through which the light exterior to the space between the several aprons may shine, thus giving the appearance of stars. Said apron passes over a drum 36 on the aforesaid shaft 28 at right angles to the plane of the side aprons and over a similar drum 36^a and is adapted to be driven at the same speed and in the same direction as the side aprons. I also use a roller 37, Fig. 4, in a similar relation to the apron 35 as that of rollers 33 to the side aprons and for a like purpose, said roller being journaled to bars 38, one of which is seen in said figure, that are secured to the framework 27.

Immediately in front of the low end of the incline 3—that is, of the aprons—and extending across the trackway is a hinged door 39, made light and strong and whose width and height are such that occupants of a sled about to enter the space inclosed by the aprons will be prevented from seeing into said space. This door is preferably made in two similar sections hinged to the framework of the structure and meeting in the middle of the trackway when closed. They are maintained normally in the closed position by springs (indicated at 40, Fig. 7) in connection with suitable stops, the force exerted by the springs being such that the doors will easily and readily open by the impingement of a sled against them as it travels toward the space inclosed by the aprons.

In order to enhance the amusement to the riders and also to prevent spectators from seeing into the space inclosed by the panoramic aprons, I place a similar spring-controlled door or doors 41, extending across the trackway at a point to the rear of the first-mentioned doors at such distance from the latter that a sled after having pushed open the doors 41 will travel a sufficient distance to allow the last-mentioned doors to close before it, the sled, can contact with the doors 40. Preferably these doors 41 would be located across the entrance to the tunnel 7^a.

I would usually erect the apparatus or structure within a suitable building 42, the public entrance to which is in front of the part of the structure having the tunnels, the portions of the structure to the rear of the front end of the tunnels being shut off from view by a transverse wall or partition 43, Figs. 2 and 3, extending from side to side of the building and to the roof thereof when the building is roofed, as in this instance. The purpose of the said wall is to prevent spectators and those entering the building from seeing any of the moving parts except the sleds as they emerge from the tunnel 5 onto the ledge 6 and pass into the tunnel 5^a and as they, the sleds, pass from the one of the lower tunnels 7 around to the other 7^a.

In order to further aid in carrying out the idea or illusion of sledding or coasting, I decorate the walls of the building with winter scenes and suggestions, as also the roof, from which imitations of icicles depend, and (the amusement being particularly designed for use in the summer vacation or warm season of the year in parks or at the seashore) I provide means for maintaining the interior of the building comparatively cool. The building would also be brilliantly lighted by electricity or other light, and the space inclosed by the aprons would also be sufficiently lighted for the riders to see the panoramic views depicted on the aprons.

The starting-point of the sleds is at the bend of the trackway between the two lower tunnels 7 and 7ª, one of the sleds being shown at this point in Fig. 2.

When the riders have occupied a sled, it is left free to move, whereupon it descends by gravity into the tunnel 7ª, opens the doors 41 and 39, and is then engaged by a stud of the moving sprocket-chain 17 and is carried up the incline thereby. Upon the entrance of the sled into the space inclosed by the aprons the panoramic views upon the latter burst upon the astonished view of the riders, and owing to the movement of the aprons being in a direction opposite to that of the sleds rapid changes of scenery or panorama of the aprons are presented, and the speed of travel of the sled is apparently much greater, corresponding to the difference in the speed of the aprons and that of the chain, than would be the case if the aprons were motionless or traveling in the same direction as the sled.

The sled after passing on beyond the incline runs by gravity and passes on around to and through the upper tunnel 5, thence around the ledge 6, through the tunnel 5ª, thence around to the lower tunnel 7 to the aforesaid starting-point, where, if desired, its motion is arrested.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an amusement structure of the character described, the combination of the trackway, the vehicles adapted to travel thereon, the endless panoramic aprons at the sides of said trackway, the endless apron covering the space between said side aprons, and means for simultaneously driving said several aprons at the same speed in a direction opposite to that of said vehicles when traveling between said aprons, substantially as set forth.

2. In an amusement structure of the character described, the combination of the continuous serpentine trackway consisting of rails within the continuous slots, and descending from a highest to a lowest level and then ascending by an incline to the first level, the sled-like vehicles having the depending runners within said slots, said runners having wheels adapted to travel on said rails, means for conveying said vehicles up said incline, the upper tunnels, the ledge extending between and in front thereof, the lower tunnels, through which said several tunnels and upon which ledge the trackway passes, substantially as set forth.

3. In an amusement structure of the character described, the combination of the continuous serpentine trackway, consisting of the rails within the continuous slots and descending from a highest to a lowest level, and then ascending by an incline to the first level, the sled-like vehicles with depending runners within said slots, said runners having wheels adapted to travel on said rails, means for conveying said vehicles up said incline, the endless panoramic aprons at the sides of said incline, and means for driving said aprons in a direction opposite to that of the travel of the vehicles upon said incline, substantially as set forth.

4. In an amusement structure of the character described, the combination of the continuous serpentine trackway, consisting of the rails within the continuous slots and descending from a highest to a lowest level, and then ascending by an incline to the first level, the sled-like vehicles with depending runners within said slots, and said runners having wheels adapted to travel on said rails, means for conveying said vehicles up said incline, the endless panoramic aprons at the sides of said incline, the endless apron covering the space between the said side aprons, and means for driving the three aprons at the same speed in a direction opposite to that of the travel of the vehicles up said incline, substantially as set forth.

5. In an amusement structure of the character described, the combinatiou of the continuous trackway, vehicles adapted to travel thereon in one direction, opposite endless panoramic aprons at the sides of said trackway, means for driving said aprons in a direction opposite to the travel of said vehicles on the trackway, a hinged door extending normally across the trackway adjacent to and in front of said aprons, which door is adapted to open by the impingement of a vehicle traveling on the trackway, and means for causing said door to close automatically when the vehicle has passed beyond the same, substantially as and for the purpose set forth.

6. In an amusement structure of the character described, the combination of the continuous trackway, vehicles adapted to travel thereon, opposite endless panoramic aprons at the sides of said trackway, means for driving said aprons in a direction opposite to that of the travel of said vehicles on the trackway, the spring-controlled door extending across the trackway adjacent to and in front of said aprons and adapted to open by the movement of a vehicle traveling on said trackways, the similar door extending across said trackway at a distance from the first-mentioned door to permit the second door to close before said first-mentioned door is reached by the said

vehicle, and means respectively for causing said doors to close automatically when the vehicle has passed beyond the same, substantially as and for the purpose set forth.

7. In an amusement structure of the character described, the combination of the continuous serpentine trackway descending from a highest to a lowest level and then ascending by an incline to the first level, the vehicles adapted to travel on said trackway, means for conveying said vehicles up said incline, the upper tunnels, the ledge extending between and in front thereof, the lower tunnels, through which said several tunnels and upon which ledge the trackway passes, the building inclosing said structure and having the transverse wall adjacent to the front end of said tunnels, substantially as set forth.

In testimony whereof I have hereunto affixed my signature this 23d day of October, A. D. 1902.

JOSEPH H. MAGUIRE.

Witnesses:
CHAS. L. BROWN,
WALTER C. PUSEY.