

(No Model.)

2 Sheets—Sheet 1.

I. W. MOORE.  
PLEASURE RAILWAY.

No. 552,692.

Patented Jan. 7, 1896.

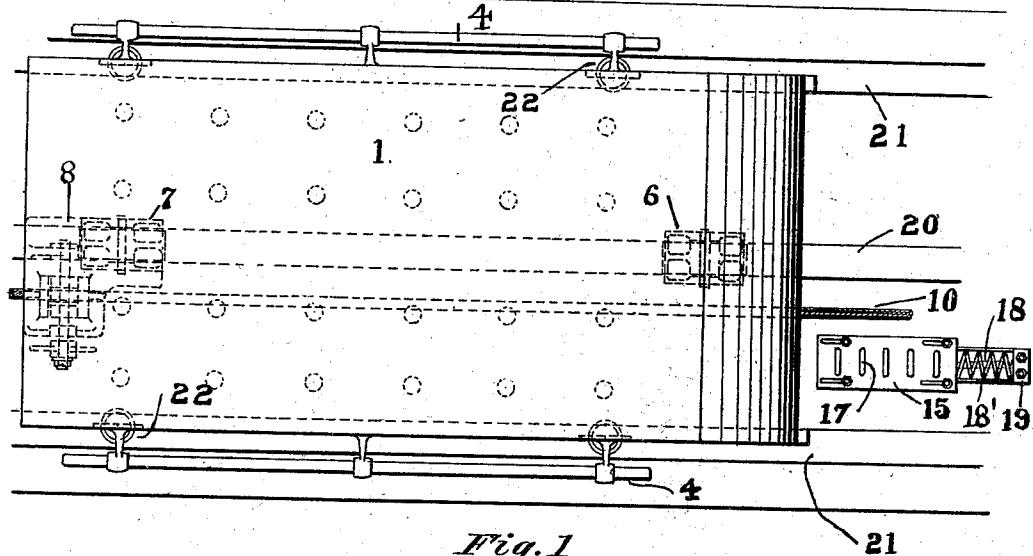


Fig. 1

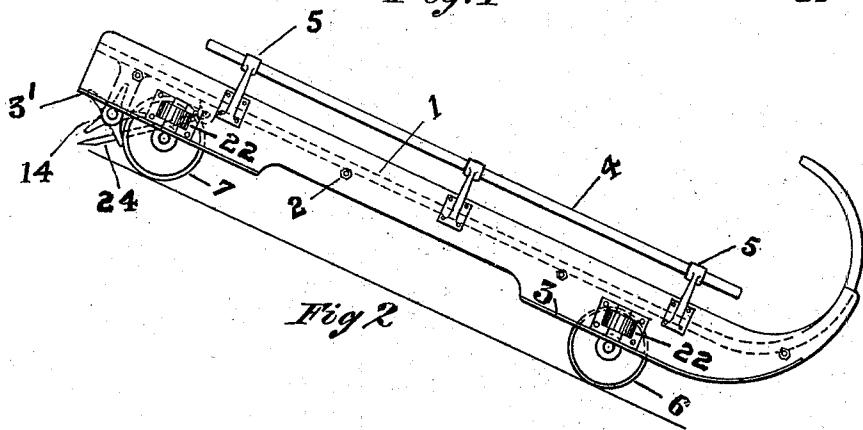
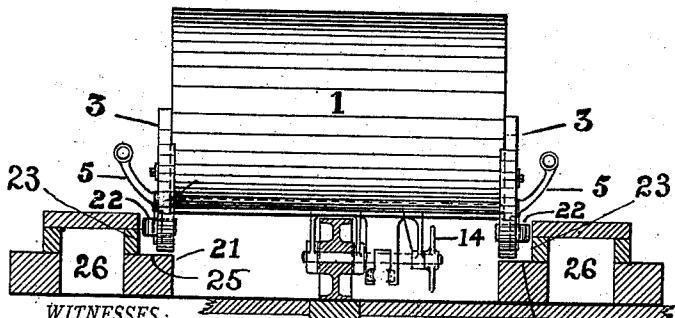


Fig 2



*WITNESSES.*

WITNESSES:

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Mrs. A. Garlick

INVENTOR

—20  
Fig 3

INVENTOR

Isaac Whidden Moore

BY

Whitaker, Pierce & ATTORNEYS.

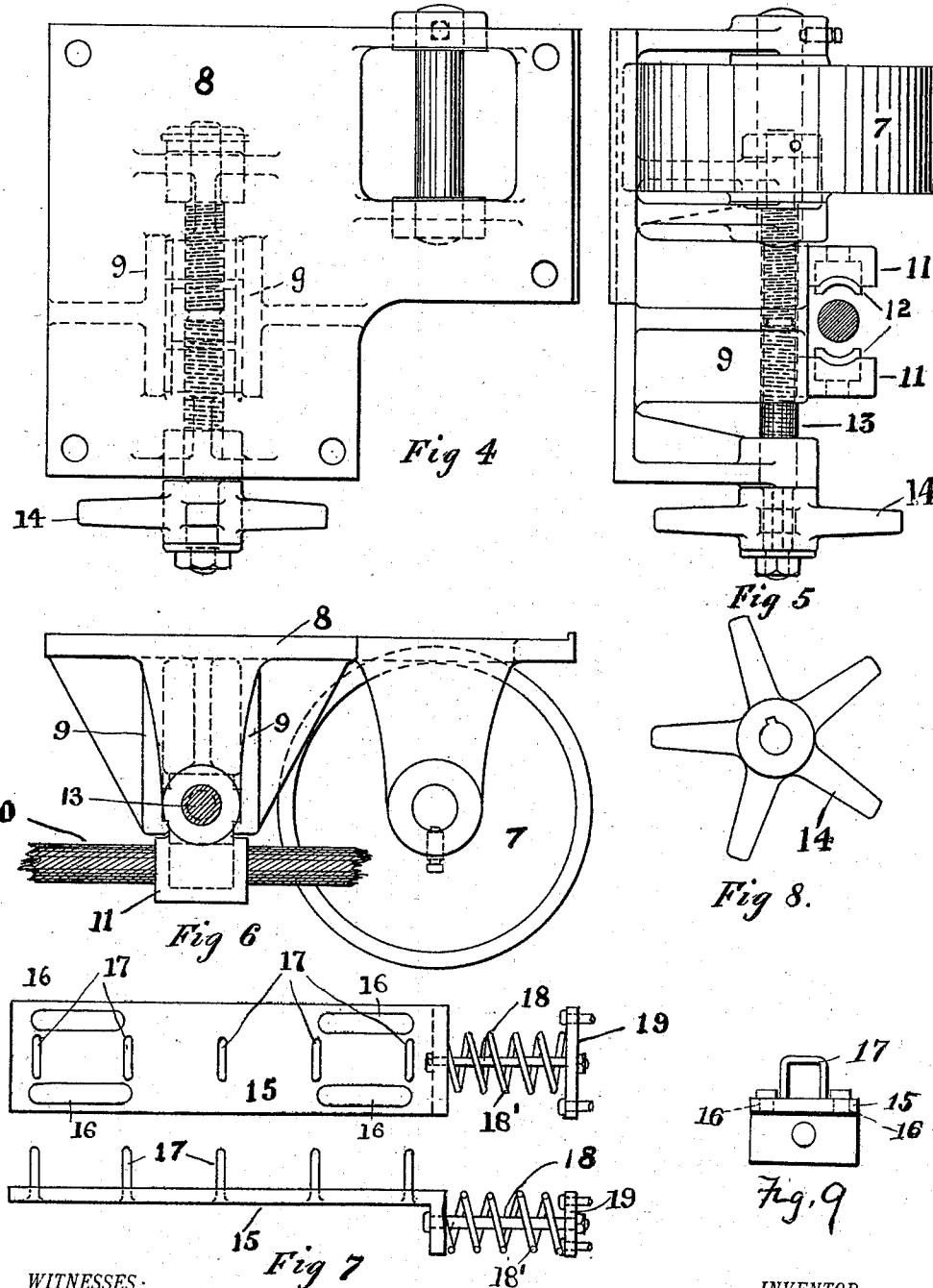
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WITNESSES:

Edward R. Zoll  
Geo. A. Carlisle

INVENTOR

Isaac Whilden Moore

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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ISAAC WHILDEN MOORE, OF ATLANTIC CITY, NEW JERSEY.

## PLEASURE-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 552,692, dated January 7, 1896.

Application filed September 21, 1894. Serial No. 523,723. (No model.)

To all whom it may concern:

Be it known that I, ISAAC WHILDEN MOORE, a citizen of the United States, residing at Atlantic City, in the county of Atlantic and State of New Jersey, have invented certain new and useful Improvements in Pleasure-Railways; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in pleasure-railways; and it consists in the novel features of construction and combination of parts hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention.

Referring to the said drawings, Figure 1 represents a top plan view of a sled and a portion of the slide illustrating the manner of drawing the sled up a suitable incline to the top of the slide. Fig. 2 shows a side elevation of the sled on its descent. Fig. 3 is a front elevation of the sled, showing the guide-rails and slide in section and one of the rollers in section. Figs. 4, 5, 6, 7, 8 and 9 are views of details of the apparatus.

My invention relates particularly to the class of pleasure-railways called "aquatic slides," in which there is an inclined slide provided with a series of parallel tracks or ways terminating at the lower end at the edge of a small artificial lake of any desired extent, a series of cars or sleds being made to descend said ways to the water where they will skip or bound over the surface of the same for a considerable distance. The slide will also be provided with one or more return inclined ways, each provided with an elevating cable operated by mechanical means for the purpose of hoisting the sleds or cars and their occupants to the top of the incline, as is usual in such constructions.

In the drawings, 1 represents the sled or car constructed according to my invention, which I propose to use. This car or sled is formed of a flat bottom curved upwardly and rearwardly in front, as shown, after the manner of a toboggan and having side pieces 2 which are also preferably given an upward curve at the front of the car.

3 3 represent a pair of curved steel shoes or runners which are secured to the front curved portions and bottom portions of the side 55 pieces 2, and may extend the entire length of the bottom of the said pieces; but I prefer to cut away said side pieces along the middle part of their lower edges, as shown in Fig. 2, and to provide the lower edges of the rear portions of said side pieces with auxiliary runners 3' 3' in line with the rear portion of the runners 3 3. The side pieces are each provided, preferably, with a hand-rail 4 supported in brackets 5 5 to enable the occupants to hold on while descending the slide. 60

The car or sled is supported upon two central broad-faced rollers 6 and 7, mounted adjacent to the ends of the sled in order to allow the sled to pass over upward curves or bends 70 in the ways. The roller 6 is mounted in suitable bearings at the front of the sled, and I prefer to mount the roller 7 in a casting 8, secured beneath the rear end of the sled and adapted to support the grip for engaging the 75 cable 10 used for elevating the sleds to the top of the slide.

The casting 8 is provided with suitable bearings for the roller 7 and with a pair of depending plates 9 9, having opposite grooves, in 80 which are held the sliding jaws 11 11, each jaw being provided with a removable friction-block, preferably of wood, for engaging the cable. The friction-blocks can thus be renewed when they become sufficiently worn. 85

13 represents a shaft provided with oppositely-pitched screw-threaded portions working in screw-threaded apertures in the sliding jaws 11 11, so that by turning the shaft in one direction the jaws will be brought together 90 upon the cable 10, and by turning it in the opposite direction said jaws will be separated to release the cable.

14 represents a star-wheel, provided with a series of radial arms, which is mounted on the 95 shaft 13. This wheel is preferably turned by hand to close the grip upon the cable, but I prefer to provide means for automatically operating the grip to release the cable. To this end I provide at the top of each of the 100 return-ways a device, as indicated in Fig. 1, for engaging the star-wheel 14 and turn it in a direction to loosen the grip, the said device being shown in detail in Figs. 6 and 7.

15 represents a horizontal releasing-plate secured to the return-slide by bolts or screws passing through slots 16 16 in the plate, so as to allow said plate to move longitudinally.

5 The said plate 15 has a depending portion at one end, to which is secured a guide-bolt 18, surrounded by a yielding buffer, in this instance a coiled spring 18', which engages a plate 19, rigidly secured to a portion of the 10 slide and having an aperture therein for the passage of the bolt 18. The bolt 18 is preferably provided with a nut, as shown. The plate 15 is also provided with a series of vertical lugs or projections 17, preferably formed 15 like a staple, as shown in Fig. 9, which projections are located in the path of the star-wheel 14 and will be engaged by said wheel when the sled has reached the top of the return-way.

20 When the star-wheel strikes the first of the 20 projections 17 the plate will be moved bodily by the impact, thus compressing the spring 18', which cushions the blow and prevents the jar which would otherwise result, and as the 25 car or sled is drawn over the plate 15 the star-wheel 14 will be rotated in a direction to loosen the grip from the cable, thus permitting the car or sled to stop and allowing it to be disengaged from the cable and started 30 down one of the inclined ways of the slide.

In Fig. 3 I have shown a transverse section through one of the ways or tracks, down which the sleds are sent, showing a sled in position in said way.

35 20 indicates a heavy stringer or rail, preferably of wood, which is of slightly greater width than the broad-faced rollers 6 and 7 and upon which said rollers run. The side pieces 2 of the sled are each provided with a horizontal 40 friction-roll 22 adjacent to the front and rear ends of the sled, which rolls engage a vertical face 23 of one of the railed partitions or guide-rails 26, which separates each way from the next adjacent ways. Each of said guide-rails 45 26 is also provided with a horizontal face 25, which I term a "friction-face," in line with the runners 3 and 3' of the sleds. These faces 25 25 are at such a height that the runners do not touch them when the sled is accurately 50 balanced upon the supporting wheels or rollers 6 and 7, but if the sled is tipped in either direction, even in a very slight degree, it will cause the runners on one side to engage the horizontal friction-face 25 and exert a considerable friction thereon, which will retard 55 the progress of the sled. By mounting the sleds on central wheels or rollers and providing the runners and friction-faces as described two or more sleds may race in descending the slide. For instance, two sleds 60 may be started exactly together at the top of the slide.

It will be readily understood that if the occupants of one sled are careful to keep it 65 exactly balanced upon its central wheels or rollers, thus keeping the runners out of contact with the friction-faces 25, the sled will

descend with the greatest possible speed. If, however, the occupant of another sled allows it to tip at different times so as to bring the 70 runners into engagement with said friction-faces, his sled will be retarded and will not descend so rapidly and will not reach the end of its travel as soon as the other. Thus a skillful operator will be enabled to outrun 75 the others and an additional feature of interest and amusement is afforded to the patrons of the slide. The runners and friction-surfaces also maintain the sleds in a substantially horizontal position and prevent them 80 from tilting to one side or the other far enough to throw out the occupant or rendering his position in any way unsafe or uncomfortable. When the sleds descend the inclined ways, they will strike the water and will skim along 85 its surface for a considerable distance, during which time the two central rollers perform the function of a keel and guide the sled in a straight course, thus serving an additional function.

The sleds or cars may be constructed of such size in relation to their weight and the weight of their occupants that they will float upon the surface of the water as their speed slackens, but I prefer to have them sink gradually into and below the water as speed lessens. This may be accomplished by making the sled of such a weight that with the additional weight of the occupants it will sink as soon as its motion is slackened or I may if I desire perforate the bottom of the sled, as indicated in dotted lines, so that as the sled comes to a standstill the water will come up through the holes and allow the sled and occupant to sink. As the occupants will be attired in 100 bathing-suits and the lake will have a uniform depth of only two or three feet, this operation will be attended by no danger and the effect will be exceedingly novel and amusing. The occupants will then carry their sleds to 105 the base of the return inclined way, where an attendant will place the sled above the cable 10, and after the occupants are seated thereon will turn the star-wheel 14 so as to cause the grip to seize the cable 10. The sled will then 110 be carried to the top of the slide, where the grip will be released by the star-wheel striking the lugs 17 on the releasing-plate 15, as before described. Each sled will also be provided with a pivoted dog 24 (see Fig. 2) having a pointed end adapted to stick into the 115 inclined return-way and prevent the sled from sliding backward should the grip for any reason become loosened or slip.

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

1. In a pleasure railway, a sled or car provided with central supporting wheels and rigid friction shoes, substantially as and for the purposes set forth.
2. In a pleasure railway the combination with an inclined way provided with horizontal friction faces, of a sled provided with central supporting wheels and rigid shoes in line

with but normally out of engagement with said friction faces whereby the tilting of the sled on its supporting shoes brings said shoes into engagement with said friction faces, substantially as described.

3. In a pleasure railway the combination with an inclined way having guide rails provided with vertical guiding faces and horizontal friction faces, of a sled provided with 10 central supporting wheels, side rolls for engaging said vertical guiding faces and rigid runners, located in line with but normally held out of engagement with said friction faces, whereby the tilting of said sled on its 15 supporting wheels brings said runners into engagement with said friction faces, substantially as described.

4. In a pleasure railway provided with an inclined return way and elevating cable, a sled provided with gripping jaws, a screw shaft for operating said jaws, and automatic releasing devices for said shaft including a plate and provisions for its positive connection with said shaft and a cushioning spring 25 for said plate yielding longitudinally of said return way, substantially as described.

5. In a pleasure railway provided with an inclined return way and an elevating cable, a sled provided with gripping jaws, operating devices for said jaws including a star wheel 30 and a plate provided with projections to engage with the star wheel, and a cushioning spring for said plate yielding longitudinally of said return way, substantially as described.

6. In a pleasure railway provided with an elevating cable, a sled provided with a pair of movable gripping jaws, a screw shaft for operating said jaws provided with a star wheel, a movable releasing plate provided with projections for engaging said star wheel 40 and a spring cushion for said plate, substantially as described.

7. In a pleasure railway a sled provided with central rollers adapted to serve as a keel and a perforated bottom, substantially as described.

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

ISAAC WHILDEN MOORE.

Witnesses:

G. A. BOURGEOIS,  
HARRY S. MOORE.