A. H. SMITH.

AMUSEMENT DEVICE.

APPLICATION FILED NOV. 3, 1908.

909,953.

Patented Jan. 19, 1909.

2 SHEETS—SHEET 1.

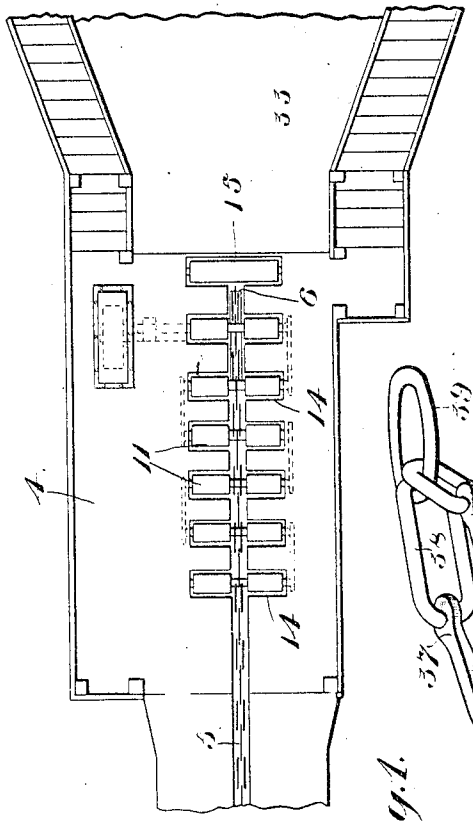


Fig. 4.

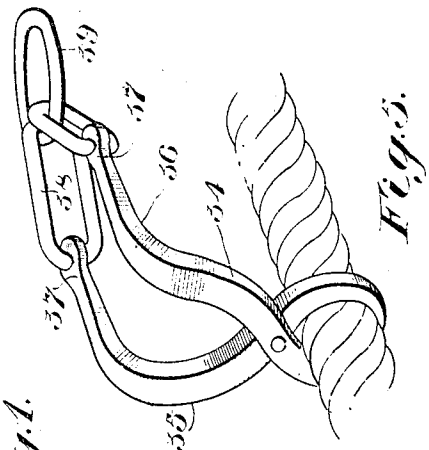


Fig. 5.

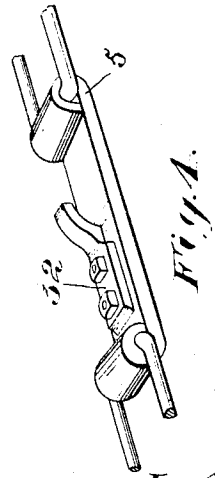
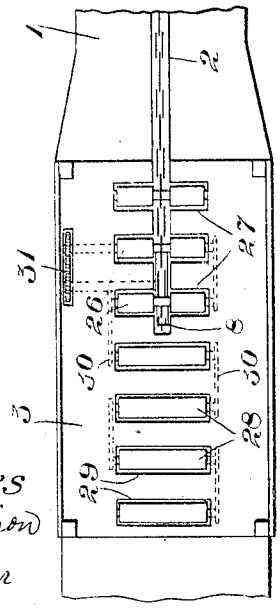


Fig. 4.



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AMUSEMENT DEVICE.

APPLICATION FILED NOV. 3, 1906.

909,953.

Patented Jan. 19, 1909.

2 SHEETS—SHEET 2.

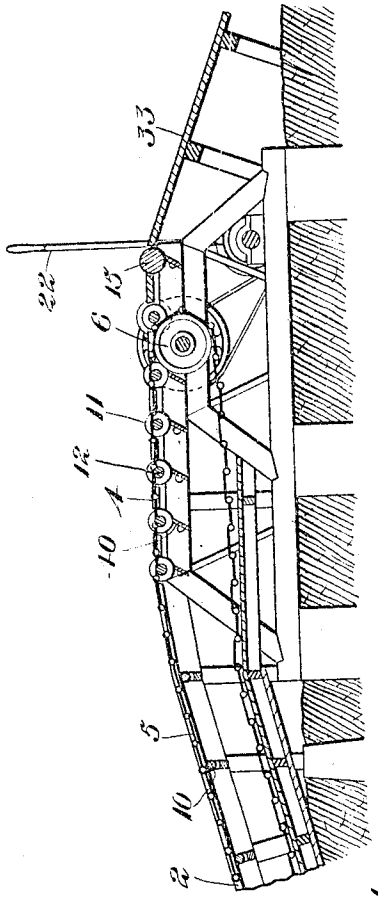


Fig. 2.

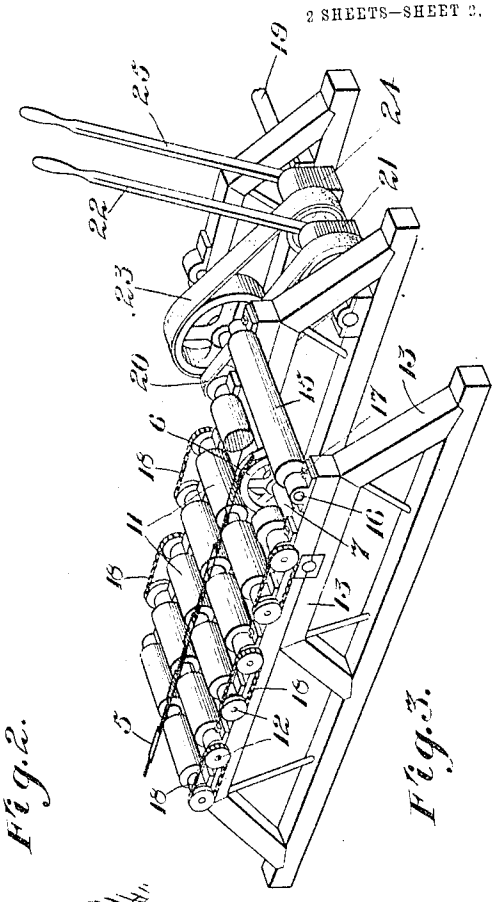
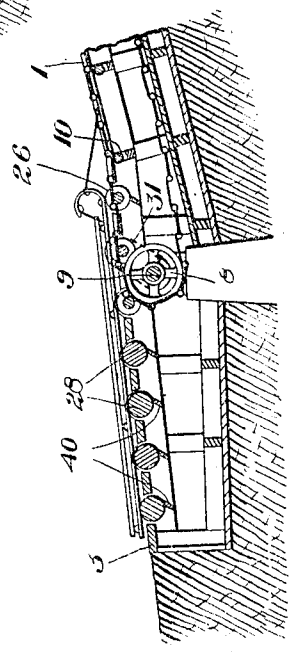


Fig. 3.



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UNITED STATES PATENT OFFICE.

ARTHUR HERBERT SMITH, OF TORONTO, ONTARIO, CANADA.

AMUSEMENT DEVICE.

No. 909,953. Specification of Letters Patent. Patented Jan. 19, 1909.

Application filed November 3, 1908. Serial No. 460,959.

To all whom it may concern:

Be it known that I, ARTHUR HERBERT SMITH, a subject of the King of Great Britain, and resident of the city of Toronto, county of York, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

The invention relates to improvements in amusement devices, as described in the following specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in the novel construction and arrangement of parts, whereby toboggans, or other similar amusement devices, raised to the top of a slide by a suitable endless carrier are carried clear of the said carrier by a plurality of rollers arranged adjacent thereto, and driven independently.

The objects of the invention are to eliminate the arduous feature of climbing to the top of the slide and dragging the heavy toboggan, and to devise a simple and safe mechanical device for drawing the toboggan and its occupants to the upper level.

In the drawings, Figure 1 is a plan view of the device showing the starting and receiving platforms and the gradient portion broken away. Fig. 2 is a sectional elevational view of the device showing the gradient portion broken away. Fig. 3 is a perspective detail of the mechanism for releasing the toboggans from the carrier and carrying them clear of said carrier. Fig. 4 is an enlarged perspective detail of one of the chain links showing the hook for attaching the rope of the toboggan. Fig. 5 is a perspective detail of the gripping device for use on a rope carrier.

Referring to the drawings, 1 is an inclined-way extending from the bottom to the top of the hill and preferably flush with the surface of the ground and having a slot 2 in the center extending from end to end thereof.

The inclined-way 1 is built on a suitable sub-structure sunk in a trench, and terminates at the lower end in a platform 3 also arranged on a level with the ground, and at the upper end in a raised platform 4 supported on a suitable structure.

5 is an endless belt or carrier here shown in the form of a chain, though it may be in the form of a rope or other belt, if so desired. The carrier 5 extends around the sprocket wheel 6 arranged at the upper end of the slot 2 and secured to a shaft 7 supported in suitable bearings below the platform 4, and around a sprocket wheel 8 arranged at the opposite end of the slot 2 and secured to a shaft 9 supported in suitable bearings below the platform 3.

The sprocket wheels 6 and 8 are so arranged that the chain passing there-over is carried slightly below the upper surface of the said platforms and said chain is supported at intervals throughout the length of the slide by the rollers 10.

11 are rollers arranged in pairs upon the shafts 12 journaled in suitable bearings supported on a trussed structure 13, said rollers extending upwardly through the openings 14 in the platform 4 arranged to each side of the central slot or opening 2.

15 is a single roller secured to a shaft 16 journaled in the bearings 17 and arranged beyond the sprocket 6 and extending across the slot 2.

The rollers 11 are inter-connected by sprocket chains 18 and the whole set of rollers thus connected together are driven from the main shaft 19 through a suitable belt and pulley connection 20.

21 is a suitable reversing clutch arranged on the main shaft 19 and operated by a lever 22 to change the direction of rotation of the rollers 11 or to stop or start the said rollers.

The carrier chain is driven through a belt and pulley connection 23 operating from the main shaft 19 and controlled by a suitable clutch mechanism 24 operated by a lever 25. Both the rollers and belt are shown driven from a common drive, but it must be understood that an independent drive may be arranged for each of them.

From this description it will be seen that the carrier may be stopped and started at will independently of the rollers 11 and said rollers may also be stopped and started or reversed as desired.

26 is a set of rollers similar to the rollers 11 arranged in suitable bearings and extending through the openings 27 in the platform 3 to each side of the carrier chain.

28 are rollers arranged beyond the carrier and extending through the openings 29 in said platform.

The rollers 26 and 28 are connected by suitable sprocket chains 30 and driven

through the sprocket connection 31 from the shaft 9 carrying the sprocket wheel 8, so that the portion of the rollers extending above the platform travels at a slightly slower speed than the said carrier.

The links of the carrier chain are at intervals provided with hook shaped members 32 secured to the upper sides thereof.

In the operation of this device the toboggan and its occupants are brought on to the platform 3 and the rollers 28 and 26 carry the toboggan forward until the rope for holding the same can be placed over one of the hooks 32 on the said chain. The carrier then draws the toboggan and its occupants up the incline slide-way until the platform 4 is reached and the toboggan drawn on to the rollers 11.

As the rollers 11 are rotated so that their upwardly protruding surfaces travel much faster than the carrier, the toboggan is carried forward ahead of the carrier and the rope released from the chain hook.

As soon as the rope is released the rollers 11 may be stopped if desired until the occupants get off, or else they may remain on the toboggan and be carried forward to the incline 33 leading from the said platform.

By having the rollers 11 constantly rotating at a faster speed than the carrier, each toboggan as it comes up to the platform is carried forward and automatically disengaged from the carrier and sent clear of the device so that it will not interfere with the next succeeding toboggan.

It may be found advisable to use an endless rope for the carrier instead of the chain with the hooks and in this case the rope for pulling the toboggan may be secured to a gripping member 34 shown in Fig. 5.

The gripping member 34 consists of tong shaped device having the members 35 and 36 pivoted together and formed on their outer end to encircle the rope and the other ends bent backwardly having the eyes 37 formed in the ends thereof.

38 are links secured in the eyes 37 and joined together by a ring 39 to which the rope of the toboggan is secured.

The weight of the toboggan pulling on the tong shaped gripping member causes it to grip the rope securely and is automatically released from engagement with the rope as soon as the toboggan reaches the rollers 11, the forward movement causing the toboggan to move faster than the gripping member and spreading its arms apart to release the tong shaped portion from the rope.

The device herein described, is described as being adapted particularly for use on toboggan slides, but it may be used for other devices where it is required to elevate a car or other device carrying passengers and the slide need not be constructed in the particular manner herein described.

The inclined way 1 is arranged convenient to the slide-way and used as a means for returning from any of the slides.

When this device is used for elevating toboggans it will be necessary to provide a means for keeping the rollers clear of snow or ice, and to this end I provide the scrapers 40 extending across the frame beneath the rollers 11, 26 and 28 held rigidly in position adjacent to the surface of the said rollers so that any snow or ice accumulating thereon will be scraped off as the rollers rotate.

What I claim as my invention is:—

1. In an amusement device, an inclined-way, an endless carrier operating on said inclined-way, a platform connected with said inclined-way and having a plurality of openings therethrough, a plurality of rollers suitably journaled and supported beneath said platform and extending through the openings therein and suitably driven.

2. In an amusement device, an inclined-way suitably supported and having a central slot therein, an endless carrier formed of a belt and supported on suitably driven wheels at the ends of said slot, a plurality of rollers arranged to each side of said endless belt and rotatably connected together, and a suitable mechanism for starting and stopping said rollers independent of the starting mechanism of said carrier belt.

3. In an amusement device, an inclined-way, an endless belt extending from end to end of said inclined-way and supported on suitable wheels, a plurality of rollers mounted at the lower end of said inclined-way and rotated so that their upper surfaces move slower than said belt, a plurality of rollers suitably mounted at the upper end of said inclined-way and rotated so that their upper surface moves faster than said carrier belt, and means for starting, stopping or reversing the latter set of rollers independent of the movement of said belt.

4. In an amusement device, an inclined-way, an endless carrier extending the length of said inclined-way and suitably driven, a plurality of rollers arranged adjacent to said carrier at the ends of said inclined-way and suitably driven, and a plurality of scraping blades rigidly supported adjacent to said rollers.

Signed at the city of Toronto, county of York, Province of Ontario, in the Dominion of Canada, this 15th day of October, 1908.

ARTHUR HERBERT SMITH.

Witnesses:

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WM. C. MUIR.