(No Model.)

J. PUSEY.

ARTIFICIAL TOBOGGAN OR COASTING HILL.

No. 387,733. Patented Aug. 14, 1888.

Fig. 1.

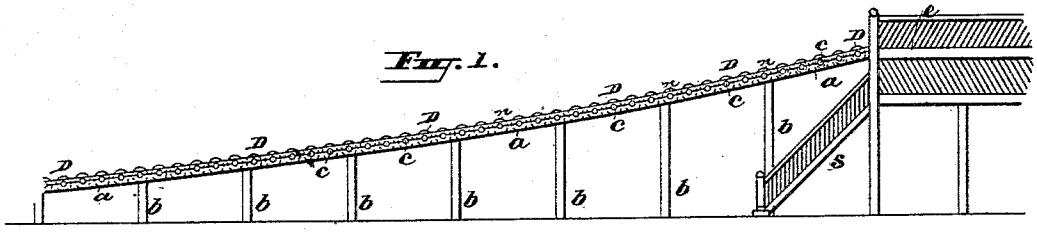


Fig. 2.

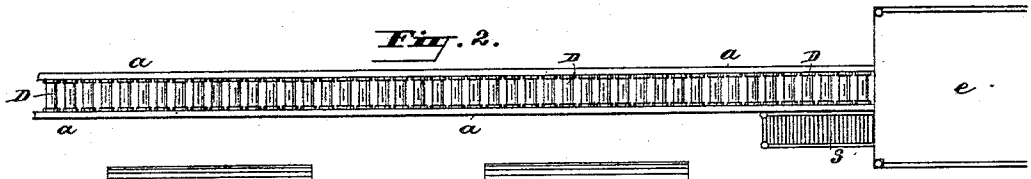


Fig. 5.

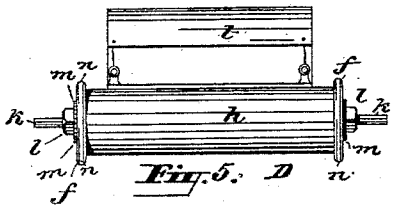


Fig. 6.

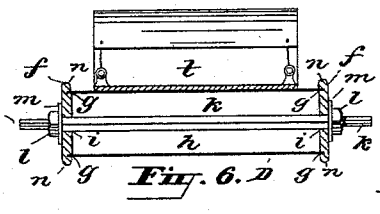


Fig. 8.

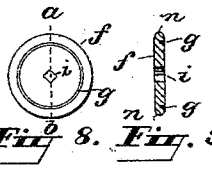


Fig. 9.

Fig. 7.

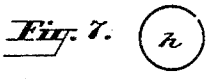


Fig. 10.

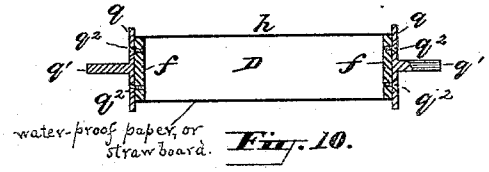


Fig. 3.

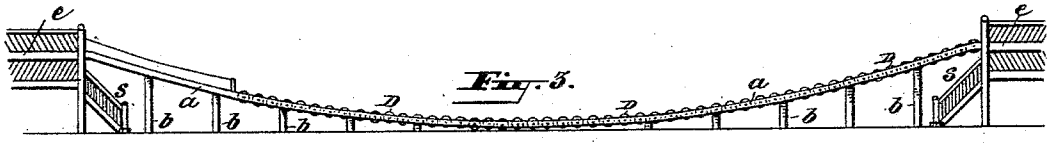


Fig. 4.

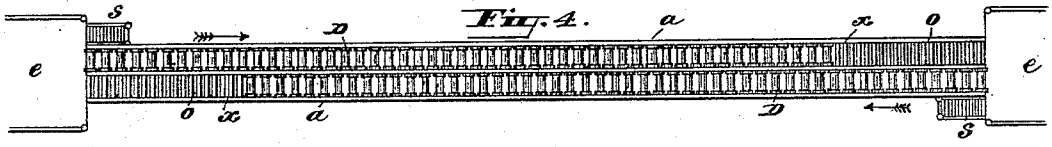
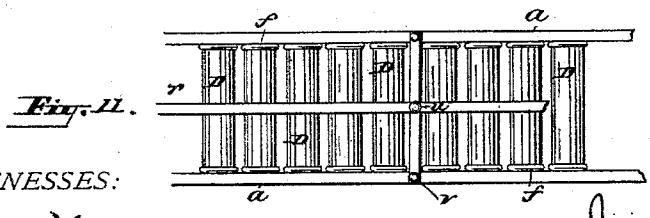


Fig. 11.



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UNITED STATES PATENT OFFICE.

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ARTIFICIAL TOBOGGAN OR COASTING HILL.

SPECIFICATION forming part of Letters Patent No. 387,733, dated August 14, 1888.

Application filed January 5, 1887. Serial No. 223,432. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA PUSEY, a citizen of the United States, residing at the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Artificial Toboggan or Coasting Hills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a side elevation. Fig. 2 is a plan. Fig. 3 is a side elevation of a modification. Fig. 4 is a plan of Fig. 3. Fig. 5 is an elevation of roller detached, with end view of toboggan thereon. Fig. 6 is a longitudinal section through the middle of Fig. 5. Fig. 7 is an end view of roller-cylinder. Fig. 8 is an inside view of a head of one of the rollers. Fig. 9 is a section on line *a b*, Fig. 8. Fig. 10 is a sectional view of a modified construction of roller. Fig. 11 is a plan view of a modified construction of a double trackway.

The nature of this invention is a coasting or toboggan hill wherein, instead of the usual smooth trackway upon which sleds with wheels are designed to run, or in winter ordinary sleds or toboggans upon ice or snow, the trackway consists of a series of rollers journaled transversely in a suitable frame-work, whereby the sport of sledding or tobogganing (or a close imitation thereof) may be enjoyed in the summer season and in those places where there is little or no snow or ice in the winter.

The invention consists in a sledding hill of this construction; also, in a certain modification thereof and in the construction of the rollers, whereby the latter are made at the same time strong and light, so that their inertia is easily overcome by the descent and friction of the sleds or toboggans in running over the same; also, in some details that will be hereinafter described and specifically claimed.

Referring to the annexed drawings, *a*, Figs. 1 and 2, represents longitudinal frames or stringers supported by a trestle-work or posts, *b*, and provided with bearings *c*, for the journals of the series of wide transverse rollers D. The frames and trestle-work are arranged to form a hill or incline with a platform, *e*, from which the sleds or toboggans are started.

It is obvious that if a sled or toboggan leaves the top of the declivity it will run down over the rollers, the speed for a given incline depending upon the ease with which the inertia and friction of the rollers are overcome, and this of course depends mainly upon the weight of said rollers.

In order to secure a combination of lightness and strength in these rollers, I prefer to make the same in the following manner: I take two round heads, *f*, preferably of wood, and cut in one side of the same a circular groove, *g*, Figs. 6, 8, and 9. I then take a sheet—say one quarter of an inch thick, more or less—of suitable light material, compacted water-proofed paper or straw-board being preferred, whose length is about equal to the circumference of the grooves. I then bend this sheet to form a tube or cylinder, *h*, and insert the ends of the same in the grooves of heads *f*, respectively. These heads are provided with square holes *i*, through which is passed a shaft, *k*, round at the ends. A short distance from the ends, outside of the heads, the shaft is provided with a screw-thread adapted to receive a threaded nut, *l*. I usually interpose a large washer, *m*, between the nuts and the heads, and then screw up the nuts at each end until the heads are forced tightly against the ends of the said tube. The rollers are then placed closely together in their bearings in the frame or stringers *a*. The parts *n* of the heads projecting beyond the paper cylinder form flanges which prevent the toboggans or sleds *t* from running off sidewise. (See Figs. 5 and 6.)

It will be obvious to any mechanic that other means for guiding the toboggans or preventing them from leaving the trackway may be used in lieu of the said projecting flanges on the roller-heads.

Instead of the foregoing-described construction the paper roller may be made as shown in Fig. 10—that is to say, the paper cylinder is nailed onto the peripheries of the heads *f*, respectively, and the heads are provided with journals. In this form I prefer to provide metal disks *q*, larger than the heads of the roller, which disks are provided with journals *q'* and are screwed to the heads *f* by means of screws q^2 or otherwise. The coasters, starting from the elevated platform *e*, run down the roller trackway and then walk back and reascend to the platform by way of the steps *s*. In order, however, to obviate the necessity of thus walking back to the starting-point and ascending the platform-steps, the device may be made in the form of what might be termed a "double-ender" hill—that is to say, a series of track-

ways arranged as shown in Figs. 3 and 4, whereby the momentum acquired in descending the first hill carries the coasters part way up the opposite hill in a manner similar to that described in my Letters Patent Nos. 318,025 and 318,026, both dated May 19, 1885.

The rollers of the going and returning trackways are in this double trackway form preferably journaled, as seen in Fig. 4, so that the bearings of the rollers of one of the trackways alternate with those of the other, whereby the stringers may be made of less width or thickness than would be required if the journals of the rollers of the respective trackways were upon the same transverse line.

The rollers of the one trackway start from the end platforms, *e*, alternately, and are continued, respectively, up to the point—say at *x*—at about which the natural momentum of the sleds would carry them. Beyond this point the trackway is plane, or it may be provided with cross-slats *o*, in order to provide a foothold for the coasters, who, stepping from their toboggans, walk on up to the platform at the summit of the hill. I prefer, however, to provide the side hand-rails—such as shown in said Patent No. 318,026—extending a short distance beyond the natural stopping-point of the toboggans, so that in case any toboggan should not quite reach to or beyond the roller-course the occupants may pull themselves up to the same by taking hold of the side rails. In such case, however, the roller-trackways would be continued on up to the platforms; or suitable devices—such, for instance, as that shown in Figs. 7 and 8 of said last-mentioned patent—may be provided to prevent the toboggan from running down backward; or a device—such, for instance, as that described in my Patent No. 318,025—may be employed to carry the toboggans on up to the top of the hill by means of a suitable motive power.

I remark that a suitable width for said rollers would be two feet, and their diameter about six inches; but where a double trackway is desired, the rollers may be made of double width, as in Fig. 11, with a dividing-board, *r*, in the middle, which board projects a suitable distance above the rollers, and is retained in place by means of bolts *u*, connected with cross-beams *v*, at suitable intervals apart.

The roller-trackway may be boarded over, which will protect the rollers, and, also, when the flooring is covered with ice or snow, provide a toboggan-slide in winter. This flooring may be made in sections, so that it can be readily removed and replaced when desired.

I am aware of the fact that roller-trackways for sleds are old, and also a toy inclined trackway for sleds, in which trackway were inserted rollers or balls for the runners of the sleds to descend upon; and I do not therefore claim, broadly, as new an inclined trackway with rollers therein.

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

1. An artificial coasting-course or toboggan-slide consisting of the combination of the inclined longitudinal frames or stringers, the supporting-frame or trestle-work, and the series of rollers journaled in and between said stringers, adjacent to and out of contact with each other, substantially as and for the purpose set forth.

2. An artificial coasting device consisting of the combination of a toboggan and a series of wide rollers journaled in a suitable frame-work to form an inclined trackway, whereby the weight of the toboggan will be distributed evenly across the peripheries of the rollers, together with means, substantially as described, for preventing the toboggan from running off laterally, substantially as and for the purpose set forth.

3. An artificial toboggan or coasting hill consisting of a series of hollow rollers journaled in a suitable frame-work to form an inclined trackway, substantially as and for the purpose set forth.

4. A hollow roller for artificial toboggan or coasting hills of the class described, having the cylindrical portion thereof made of paper or similar light and strong material, substantially as and for the purpose set forth.

5. A roller adapted for use in artificial toboggan or coasting hills, consisting of the combination of a hollow cylindrical body, of paper or other suitable material, heads with flanges extending beyond the ends of said body, and shafts secured to the heads, substantially as and for the purpose set forth.

6. A roller for artificial toboggan-slides, consisting of the combination of the tube, of paper or similar material, the grooved heads and the shaft, with means, such as threaded nuts, for holding together the heads and tube, substantially as and for the purpose specified.

7. An artificial toboggan or coasting hill consisting of an inclined trackway of hollow rollers whose width is greater than the toboggans or sleds adapted to run upon the same, and provided with end flanges adapted to prevent the toboggans or sleds from running off sidewise, substantially as and for the purpose described.

8. An artificial toboggan or coasting hill composed of a series of trackways ascending in opposite directions to substantially the same altitude, and provided with a continuous series of suitably-journaled rollers, excepting spaces at the ends of the trackways, alternately at and beyond the points where the natural loss of momentum of the toboggans or sleds acquired in descending the one incline of a series brings the toboggans, &c., to a stop, which spaces are covered with a suitable flooring, substantially as and for the purpose set forth.

In testimony whereof I have hereunto affixed my signature this 1st day of January, A. D. 1887.

JOSHUA PUSEY.

Witnesses:
JNO. NOLAN,
FRANCIS S. BROWN.