H. B. MOORE.

AMUSEMENT APPARATUS.

APPLICATION FILED FEB. 6, 1920.

1,367,417.

Patented Feb. 1, 1921.

2 SHEETS—SHEET 1.

Fig. 2.

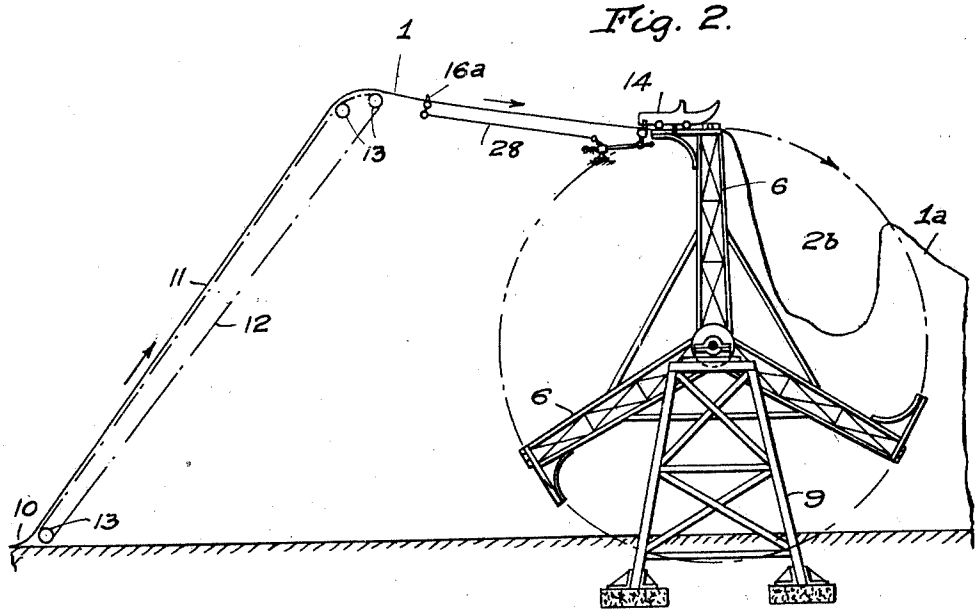
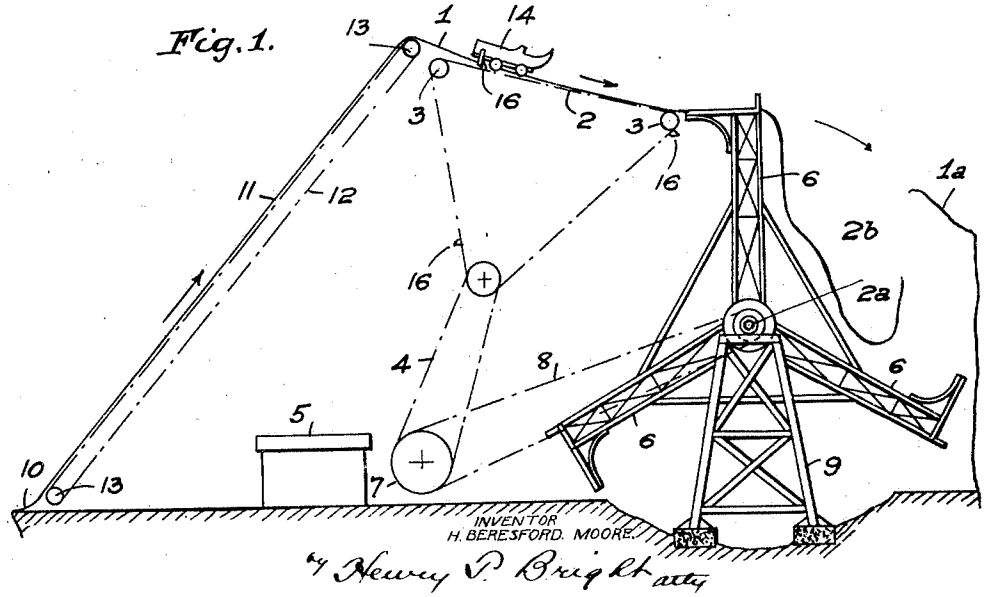


Fig. 1.



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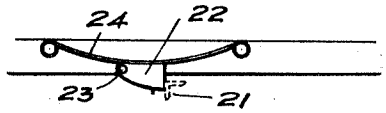


Fig. 4.

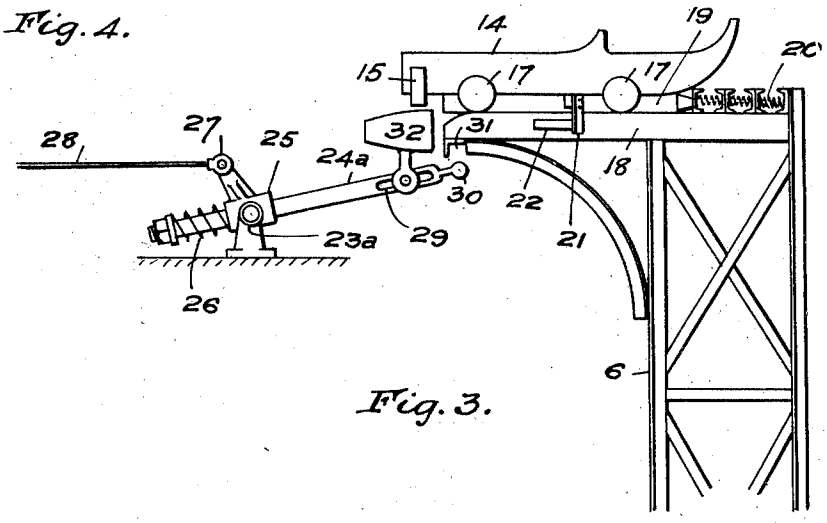
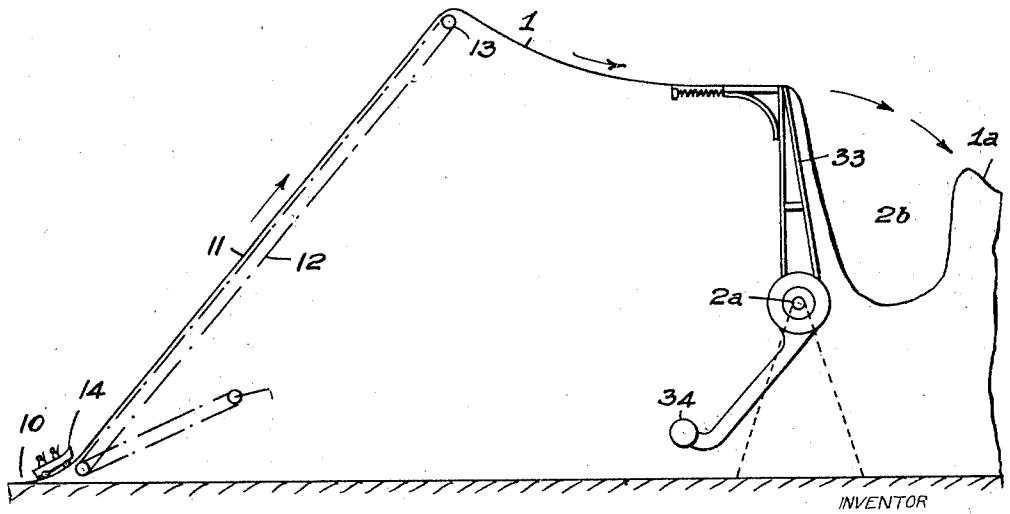


Fig. 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY BERESFORD MOORE, OF LIVERPOOL, ENGLAND.

AMUSEMENT APPARATUS.

1,367,417. Specification of Letters Patent. Patented Feb. 1, 1921.

Application filed February 6, 1920. Serial No. 356,697.

To all whom it may concern:

Be it known that I, HENRY BERESFORD MOORE, a subject of the King of Great Britain, and a resident of Liverpool, England, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

This invention relates to an apparatus preferably for outdoor amusement which is designed to enable the users to imitate the action of skeeing or sledging. In actual skeeing on snow shoes, a feature of the performance consists in a considerable jump being effected by the player and the distinguishing feature of the present invention consists in an imitation of the actual skeeing jump.

According to this invention, the apparatus comprises a track preferably inclined, but which may be of any desired undulating or contoured shape, down which track the player or operator is carried either in a trolley, sledge, or the like, which may be fitted with skees or snow shoes, so that he may stand in the snow shoes in the trolley. The trolley or the like to which the snow shoes are secured may be free or positively connected to, and driven down or along, the track by an endless chain or other flexible or the like elements. At some portion in the track a gap is arranged across which the player, still supported in the trolley, is carried by mechanism such as an armed wheel or the like, the ends of the arms of which engage the trolley or other mechanism on the one side of the gap and carry it across to the opposite side by, preferably, an angular movement, the trolley or the like being then disengaged from the armed wheel when at the opposite side of the gap and permitted to continue the flight down the remaining portion of the track. If desired, also, the flight down the remaining portion of the track may be positively controlled by means of the trolley or other mechanism being connected, on reaching the farther side of the gap, to another or the same endless chain or flexible or other element. The essential feature of the invention consists in the carrying of the player across a considerable gap disposed in the incline, this carrying over being preferably effected by means of a series of radial arms which are timed relatively to the speed of the endless chain or flexible element so that the ends of the arms always engage one of the sledges or trolleys, carry it by an angular movement across the gap and disengage it at the far side, to permit the trolley or the like to continue, preferably by gravity, down the remaining portion of the track.

The invention is illustrated in the accompanying drawings in which Figure 1. is an elevation of an apparatus in which the trolley in running down the inclined track is connected to a controlling chain, Fig. 2. being an analogous view in which the trolley is free of such controlling chain. Fig. 3. is a fragmentary detailed view showing the trolley engaging with the end of one arm of the armed wheel which carries the trolley across the gap, this view also showing a release mechanism for the arm and for the succeeding trolley. Fig. 4. is a fragmentary plan view of the detent for holding the trolley on the armed wheel against the rebound of the buffer springs. Fig. 5. shows a modification in which a single armed element vibrates across the gap under a weighted control.

In a suitable construction an inclined track 1 is provided along which is positioned an endless chain or chains, 2, Fig. 1, or flexible bands, these endless chains or bands being carried around and guided upon suitable rollers 3, sprocket wheels, drums, or the like.

Means are provided for driving the flexible chains or the like element such as the drive 4 from the power house 5. To the endless chain 2 or other flexible element are detachably connected trolleys 14, sledges, or other receptacles in which the player is supported, either in a sitting or standing position. Where the player stands in the trolley, this may be fitted with skees or snow shoes, and in order to enable the operator or player to stand upright, a guide rail or other protection may be carried up from the trolley to which rail the operator may be strapped or otherwise supported.

Mounted rotatably near the gap 2^b is a shaft 2^a carrying an armed or the like structure 6 having, say three, or more equiangular long projecting arms, the ends of which are adapted to sweep closely past the end of the path 1 and the chains 2 or flexible elements carrying the trolley, and engage with the trolley 14 or the like, so that when the trolley reaches the end of the path 1 the arms 6, now

engaging the trolley, carry it in an outward sweep across the gap 2^b to the opposite side 1^a, where the trolley becomes disengaged from the arm. At this point, the trolley may either run freely down the remaining incline 1^a, engaging suitable retaining guides or otherwise, or it may be arranged to connect up with other or the same flexible chain or element and be positively continued in its flight. If desired, the endless chains carrying the trolleys down the first part of the track 1 may be connected with, and either drive, or be driven from, the armed wheel 6, and these flexible chains may be continued across the gap and along the remaining portion 1^a of the incline.

The continuous chain 2 may be driven from the same shaft 7 as that which drives the armed wheel 6 by the chain or belt drive 8. The armed wheel 6 is carried on a suitable frame support 9, and the final portion 1^a of the track may be arranged so that the trolleys run back by gravity to the starting point 10, whence they are raised up the incline 11 by an endless chain 12 passing over rollers or sprockets 13 until they are deposited on the beginning of the track 1.

In operation, the trolley 14 carrying the player or players being at the starting point 10, is carried up the incline 11 by the chain or the like 12 and deposited on the track 1. As the trolley travels or rolls down this inclined track, an abutment 15 on the trolley engages one of the stops 16 on the chain, the movement of which latter permits the trolley to roll down the incline until it reaches the arm 6 when the stop 16, passing around the right hand roller, frees itself from the trolley. The trolley wheels 17 run on to the top platform 18 of the arm, and a stop 19 on the trolley engages spring buffer 20 on the arm end to take up the shock. At the same time a projection 21 on the trolley engages behind a detent 22 which is pivoted at 23 and is resiliently controlled by the spring 24. This detent 22 holds the trolley on the platform 18 against the rebound of the spring buffer 20. As the arm 6 swings around, the stop 19 will disengage itself from the end member of the spring buffer 20, and the trolley 14 will ride down the second part 1^a of the track. Disengagement of the stop 19 from the spring buffer is effected by impact of the trolley with the side 1^a of the gap which temporarily arrests the flight of the trolley while the arm 6 continues its angular movement which moves the spring buffer 20 down and away from the stop 19. Another trolley has in the meantime been raised up the incline 11 and deposited on the track 1 down which it runs until arrested by one of the stops 16 on the traveling chain 2. In this way the trolleys are being continuously deposited on the track 1 and, after jumping the gap on the arms 6, pass down the track 1^a and are returned to the starting point 10. The stops 16 space the trolleys apart in step with the angular movement of the arms.

In the modification shown in Fig. 2, the trolleys are also raised up the incline 11 from the starting point 10 by the endless chain 12, passing around the rollers 13 and are deposited on the track 1, but instead of being controlled down this track by a movable chain, they fall freely by gravity until they engage the arm 6 to jump the gap as previously described. A timing release mechanism is preferably provided, the stop 16^a, Fig. 2, against which the trolley is arrested at the top of the track 1 being released by the engagement of the preceding car with the end of the trolley arm 6. This release mechanism is shown in Fig. 3. Pivotally mounted at 23^a is an arm 24^a slidable in a block 25, under a spring control 26, the block 25 carrying a bracket 27 connected by a link 28 to the stop 16^a, a pull on the link 28 effecting, in any suitable manner, the release of the stop 16^a from its engagement in front of the trolley. The arm 24^a is slotted at 29 and carries a catch 30 adapted to engage in a recess 31 in the end of the arm 6. Adjustably fixed in the slot 29 of the arm 24^a is a cam piece 32, which is engaged by the foot of the abutment 15. Normally the catch 30 is in engagement with the recess 31 when the arm 6 is at rest. As the trolley makes contact with the arm 6, the abutment 15 engages the cam 32 depressing the arm 24 about its pivot 23 releasing the catch 30 from the recess and rocking the lever 27 and pulling the link 28 to release the catch 16^a, thus permitting the succeeding trolley to roll down the track. In the meantime the arm 6 being freed from the catch 30, moves across the gap with the trolley and the next arm 6 comes into position in time to receive the next trolley, the catch 30 having again entered the recess 31. This catch 30 by entering the recess anchors the arm 6 against angular movement due to the impact of the trolley against the buffer 20, and the force of the impact on the arm 24^a is taken by the spring 26, the arm 24^a sliding in the block 25.

In the modification shown in Fig. 5, the mechanism for jumping the trolley across the gap takes the form of a single armed element 33 under the control of a weight 34 or if desired a spring, the arm 33 in this case merely vibrating to and fro across the gap in the manner of a pendulum. As the trolley rolls down the incline, it engages against the end of the arm 33, the impact carrying the arm 33 with the trolley engaged thereon across the gap 2^b, and swinging the weight 34 upwardly. Directly the trolley is freed from the end of the arm 33, the weight 34 restores the arm to the ver-

tical receiving position for the next trolley. This latter form of the invention is particularly suitable where the apparatus is designed as a toy.

The second portion 1^a of the incline may terminate in a gentle upward sweep to arrest the movement of the trolleys gradually, and a series of gaps may be provided in the track across each of which the players are carried by armed devices such as mentioned.

The sides of the track are preferably built up to imitate the scenery usual in a skeeing district, such as snow covered slopes and the like.

I claim:

1. An amusement apparatus, comprising, an inclined track, a gap in the track, a trolley adapted to run down the track, and a pivoted armed element adapted to carry the trolley across the gap by an angular vertical sweep.

2. An amusement apparatus, comprising, an inclined track, movable flexible elements on the track, a gap in the track, a trolley adapted to be carried down the track by the flexible elements, a pivoted armed element adapted to carry the trolley across the gap by an angular sweep and transfer it to the continuation of the track beyond the gap.

3. An amusement apparatus, comprising, an inclined track, movable chains on the track, a gap in the track, a trolley adapted to be carried down the track by the chains, and a pivoted armed element adapted to carry the trolley across the gap by an angular sweep.

4. An amusement apparatus, comprising, an inclined track, movable chains on the track, stops on the chains, a gap in the track, a trolley adapted to be carried down the track by the chains, an abutment on the trolley engaging the stops on the chain, whereby a series of trolleys may be spaced and timed in their flight down the track, and a pivoted armed element adapted to carry the trolley across the gap by an angular sweep.

5. An amusement apparatus, comprising, an inclined track, a gap in the track, a trolley adapted to run down the track, and an armed wheel adapted to carry the trolley across the gap by an angular sweep.

6. An amusement apparatus, comprising, an inclined track, a gap in the track, a trolley adapted to run down the track, a stop mechanism on the track adapted to arrest the trolley from running down the track, a releasing device for the stop, and a pivoted armed element adapted to carry the trolley across the gap by an angular vertical sweep.

7. An amusement apparatus, comprising, an inclined track, a gap in the track, a trolley adapted to run down the track, a stop mechanism on the track adapted to arrest the trolley from running down the track, a releasing device for the stop, said release being operated by the engagement of the trolley with a pivoted armed element, and a pivoted armed element adapted to carry the trolley across the gap by an angular sweep.

8. An amusement apparatus, comprising, an inclined track, a gap in the track, a trolley adapted to run down the track, a pivoted armed element adapted to carry the trolley across the gap by an angular sweep, and a resilient buffer on the arm to take the impact of the trolley.

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

HENRY BERESFORD MOORE.

Witnesses:

A. J. DAVIES,

T. WATSON.