April 5, 1932. H. W. WALLIN 1,852,384

COASTER AND TRACK THEREFOR

Filed May 13, 1931 2 Sheets-Sheet 1

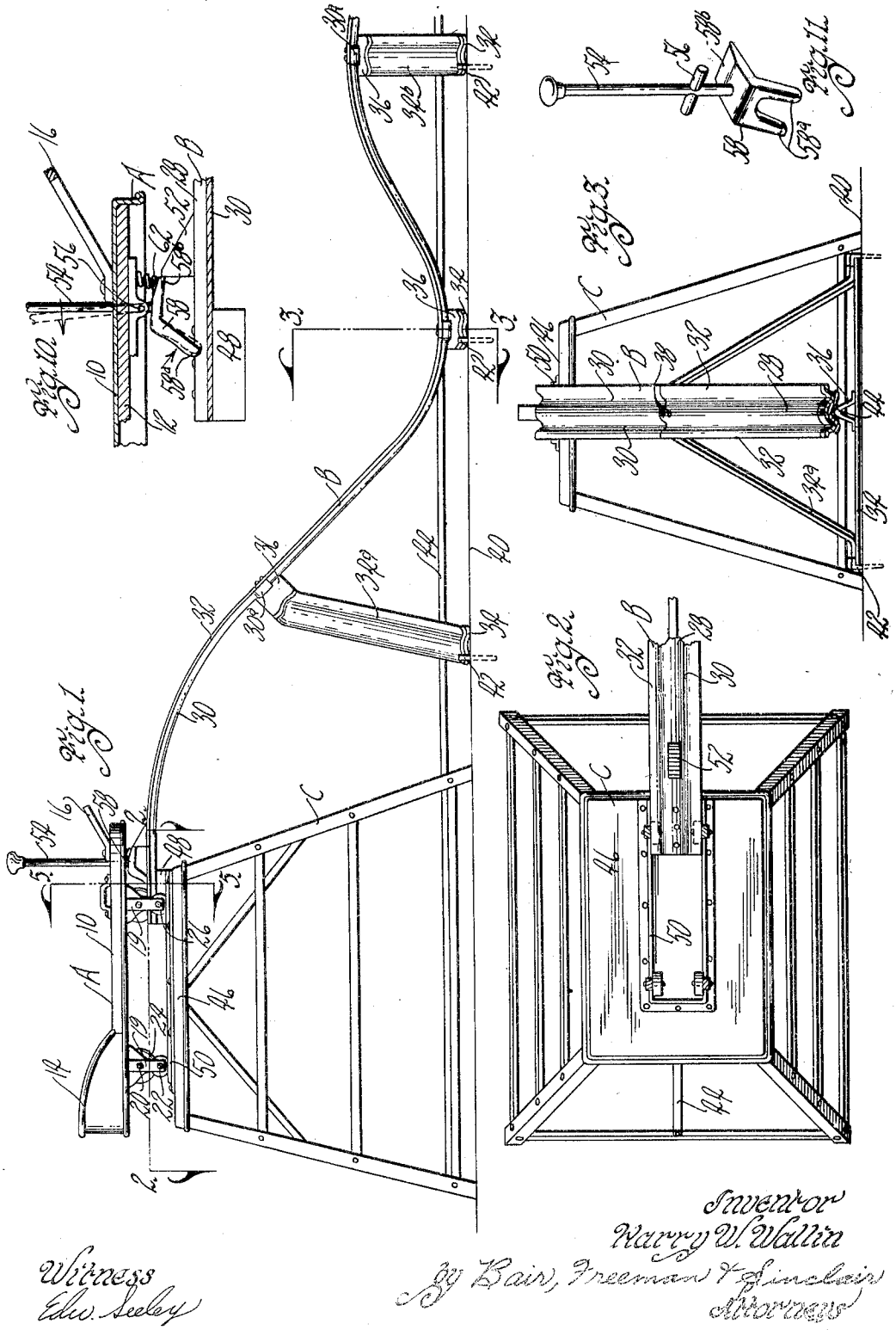

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Fig. 4.

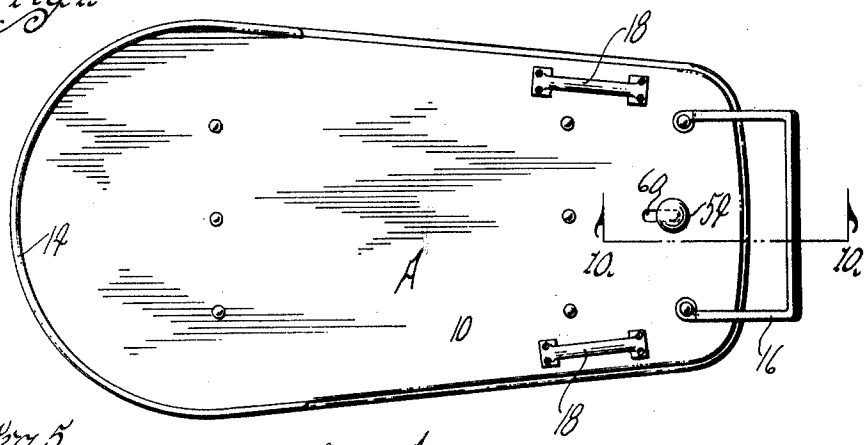


Fig. 5.

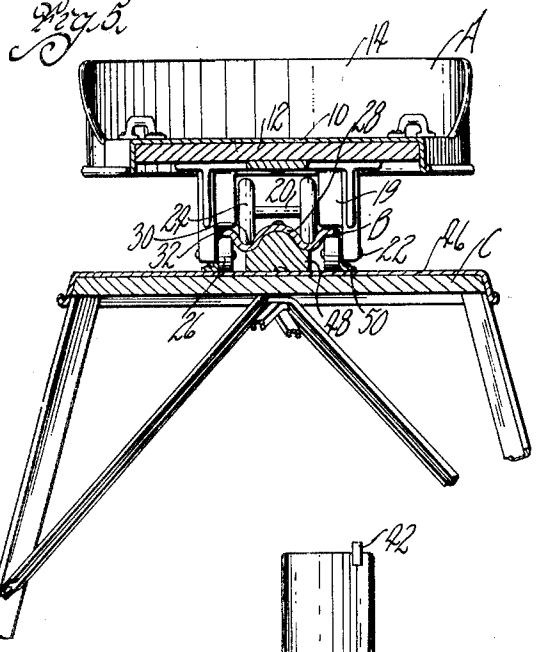


Fig. 7.

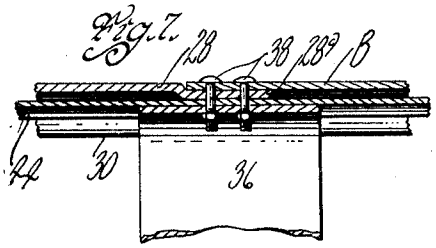


Fig. 8.

Fig. 6.

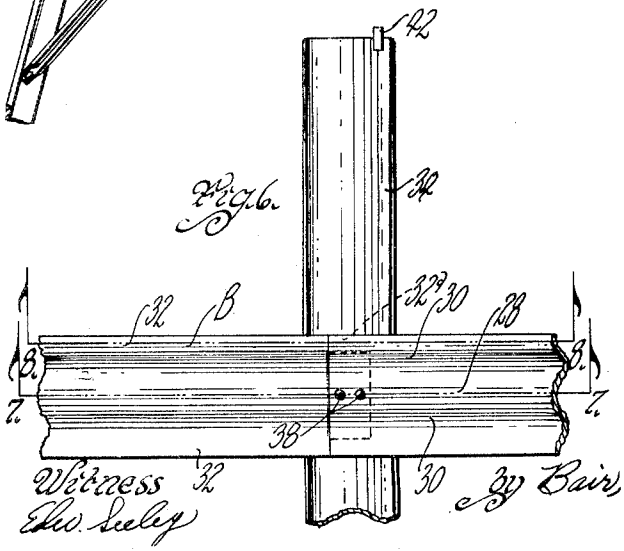
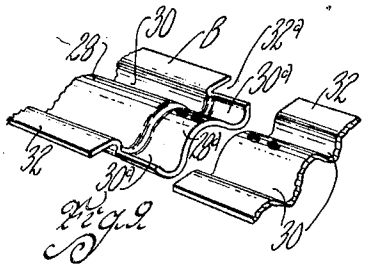


Fig. 9.



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UNITED STATES PATENT OFFICE

HARRY W. WALLIN, OF DES MOINES, IOWA

COASTER AND TRACK THEREFOR

Application filed May 13, 1931. Serial No. 537,079.

The object of my invention is to provide a coaster and track therefor which is simple, durable and comparatively inexpensive to manufacture.

A further object of my invention is to provide a coaster especially adapted for children's playgrounds, with a track therefor of irregular shape somewhat like the "roller coaster" in amusement parks.

More particularly it is my object to provide a coaster having supporting wheels and auxiliary wheels and to provide a track with the top and bottom of which the supporting wheels and the auxiliary wheels coact so as to prevent displacement of the coaster from the track as it travels thereover.

A further object is to provide an economically manufactured track made of a strip of sheet metal and corrugated to give it sufficient strength so that it will support considerable weight even when the sections thereof are as long as three or four feet, whereby the sections can be supported at their joints by ties.

A further object is to provide a corrugated track with upwardly opening grooves to receive the supporting wheels of the coaster whereby lateral movement of the coaster with respect to the track is prevented, and to provide the auxiliary wheels of the coaster mounted on brackets which extend downwardly from the base of the coaster outside of the track.

Still a further object is to provide a starting stand for the coaster with one end of the track connected therewith and to provide on the starting stand, guide means to engage the auxiliary wheels of the coaster to guide the coaster into a position of proper engagement with the track.

A further object is to provide brake means on the coaster which is pivotally arranged and spring urged to non-braking position, a starting lug being provided on the track to be engaged by the brake means so that the coaster cannot travel from the starting stand and along the track except after the braking means has been moved slightly toward braking position for disengaging it from the starting lug.

A further object is to provide ties for the track which are so connected with the track that they do not interfere with the auxiliary wheels of the coaster which engage the under surface of the track.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a coaster and track therefor embodying my invention.

Figure 2 is a sectional view on the line 2—2 of Figure 1 showing a plan view of the starting stand.

Figure 3 is a sectional view on the line 3—3 of Figure 1 showing the track in section and a front elevation of the starting stand.

Figure 4 is a plan view of the coaster.

Figure 5 is an enlarged sectional view on the line 5—5 of Figure 1 showing the coaction of the coaster with the track and with the starting guides on the starting stand.

Figure 6 is a plan view of a portion of the track and a tie therefor.

Figure 7 is an enlarged sectional view on the line 7—7 of Figure 6 illustrating part of the joint between sections of the track.

Figure 8 is an enlarged sectional view on the line 8—8 of Figure 6 showing another portion of the joint.

Figure 9 is a perspective view of adjacent ends of two sections of the track showing them separated.

Figure 10 is an enlarged sectional view on the line 10—10 of Figure 4, showing the brake mechanism and its engagement with the starting lug when the coaster is on the starting stand; and

Figure 11 is a perspective view of the brake lever and brake shoe.

On the accompanying drawings I have used the reference character A to indicate a coaster and B to indicate the track therefor. The coaster A consists of a base 10, suitably reinforced by a board 12 and having a seat

back 14. At the front of the coaster A I provide a heel rest member 16 and spaced from the front end, I provide hand holds 18 for the convenience of the user when riding on the coaster.

Downwardly extending brackets 19 are secured to the board 12 and support axles 20 and stub shafts 22. Supporting wheels 24, preferably of ball bearing construction with composition rims, are rotatably mounted on each shaft 20. Auxiliary wheels 26, also preferably of ball bearing construction, are mounted on the stub shafts 22.

The track B is made of sheet metal which is longitudinally corrugated to provide a central downwardly opening groove 28 and a pair of upwardly opening grooves 30 on opposite sides thereof. The edge portions of the track B, as indicated at 32, may be made of any desired shape and on the drawings they are shown as outwardly extending flanges. The supporting wheels 24 are adapted to coact with the upwardly opening grooves 30 and the auxiliary wheels 26 are adapted to coact with the under surfaces of the flanges 32. Thus lateral movement of the coaster A relative to the track B is prevented and also upward movement of the coaster relative thereto is prevented, because of the wheels 26.

The sections of the track B are joined together as indicated in Figures 6, 7, 8 and 9. The grooves 28 and 30 have offset portions 28*a* and 30*a* adapted to extend under the end of the next adjacent section of the track. The flanges 32, however, are cut away or notched as indicated at 32*a* whereby a lap joint is provided in the grooves 28 and 30 and a butt joint is provided for the flanges 32. Thus the upper surfaces of the grooves 30 are smooth at the joint between the sections of the track for the supporting wheels 24 and the under surfaces of the flanges 32 are smooth for the auxiliary wheels 26.

A tie 34, 34*a* or 34*b*, as the case may be, is provided for each joint between the sections of the track B. The ties 34, 34*a* and 34*b* are corrugated in cross section and each one has a connector member 36 at its center connected with the groove 28 by bolts 38. The tie 34 is straight transversely of the track B, while the ties 34*a* and 34*b* are V-shaped for raising the portion of the track with which they connect for thus providing a track of irregular longitudinal contour. In Figure 1 the inclines of the track are proportionately steep, inasmuch as the ties are spaced close together to conserve space on the drawings, while as a matter of fact in actual practice they could be considerably farther apart so that the inclines of the track B would be less steep. For holding the ties 34, 34*a* and 34*b* against the ground surface 40, spikes 42 may be provided.

In connection with my coaster and track therefor, I provide a starting stand C. The stand C may be connected with the ties 34, 34*a* and 34*b* by a tie rod 44. The starting stand C has a top 46 with which one end of the track B is connected, a connector block 48 being provided to space the track above the top 46.

On the top 46 I provide a starting guide 50 which is merely an upstanding flange with which the auxiliary wheels 26 may coact for guiding the coaster to the proper position for coaction of the wheels thereof with the track, as will be obvious from an inspection of Figure 5.

On the track B I provide a starting lug 52. On the coaster A I provide a brake mechanism comprising a brake lever 54 pivoted at 56 and a brake shoe 58. The brake shoe 58 is of forked construction as shown in Figure 11 so that the ends 58*a* thereof may straddle the groove 28 and are positioned for engagement with the grooves 30 when the brake lever 54 is swung on the pivot 56. A slot 60 is provided in the base 10 for the brake lever 54 to extend through and a spring 62 coacts with the brake shoe 58 to normally engage the brake lever 54 with the front end of the slot 60. Thus the brake will remain in normally non-braking position as shown in Figure 10, but the lever 54 may be swung rearwardly for swinging the ends 58*a* of the brake shoe against the track B.

When the coaster A is on the starting stand C a forward projection 58*b* of the brake shoe 58 engages the starting lug 52 so that the coaster cannot be started to travel on the track B except when the brake lever 54 is moved slightly toward braking position as shown by dotted lines in Figure 10. When in the dotted line position, the portion 58*b* of the brake shoe will clear the lug 52 and the coaster A may then proceed to travel on the track B. Since the brake shoe 58 is forked, the arms 58*a* thereof will clear the starting lug 52 when the brake is in the dotted line position shown in Figure 10.

From the foregoing description it will be obvious that I have provided a coaster and track therefor which are of simple construction so that, from a manufacturing standpoint, they can be economically made and sold. It is safe for small children to play with, the brake being very effective to quickly stop the coaster whenever desired. The track B can be made as long and have as many "humps" as desired. The track B can be made of sheet metal and when corrugated in a manner similar to that shown on the drawings, is sufficiently strong to support one hundred and fifty or two hundred pounds on the coaster A. With slightly larger dimensions the device can be used in an amusement park and the track B can be arranged on a radius so as to return the coaster to the starting point.

I have provided an easily operated means

for aligning the coaster with the track when the coaster is placed on the starting stand C. The starting lug 52 provides a safety feature inasmuch as the coaster cannot proceed to travel on the track B except when the rider is ready whereupon he must move the brake lever 54 rearwardly before the coaster can be unlocked from the starting lug 52.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. In a device of the class described, a coaster, a track therefor, said coaster comprising a base, brackets thereon and extending downwardly therefrom, said track being longitudinally corrugated and wheels on said brackets to coact with upwardly opening grooves of said corrugated track.

2. In a device of the class described, a coaster, a track therefor, said coaster comprising a base, brackets thereon and extending downwardly therefrom, said track being longitudinally corrugated, supporting wheels on said brackets to coact with upwardly opening grooves of said corrugated track and auxiliary wheels thereon coacting with the under surface of said track.

3. In a device of the class described, a coaster, a track therefor, said coaster comprising a base, brackets thereon and extending downwardly therefrom, said track being longitudinally corrugated with a centrally located, downwardly opening groove, an upwardly opening groove on each side thereof and edge portions along the outer sides of said upwardly opening groove, said coaster having supporting wheels on the brackets thereof to coact with said upwardly opening grooves.

4. In a device of the class described, a coaster, a track therefor, said coaster comprising a base, brackets thereon and extending downwardly therefrom, said track being longitudinally corrugated with a centrally located, downwardly opening groove, an upwardly opening groove on each side thereof and edge portions along the outer sides of said upwardly opening grooves, said coaster having supporting wheels on the brackets thereof to coact with said upwardly opening grooves, and auxiliary wheels coacting with said edge portions, said auxiliary wheels being carried by portions of said brackets located outside of said edge portions of said track.

5. In a device of the class described, a coaster, a track therefor, said coaster comprising a base, brackets thereon and extending downwardly therefrom, wheels on said brackets to coact with said track, said track being longitudinally corrugated and comprised of sections, an end of one section having an offset portion overlapping the end of an adjacent section whereby a smooth surface is provided at the joints between said sections for said wheels.

6. In a device of the class described, a coaster, a track therefor, said coaster comprising a base, brackets thereon and extending downwardly therefrom, wheels on said brackets to coact with the top and bottom of said track, said track being longitudinally corrugated and comprising sections, an end of one section having an offset portion overlapping the adjacent end of another section whereby a smooth upper surface is provided for some of said wheels, a portion of the end of one section being cut away to provide a butt joint with the end of the adjacent section, whereby a smooth under surface is provided for others of said wheels.

7. In a device of the class described, a wheeled coaster, a track therefor, a starting stand for said coaster, one end of said track being connected therewith, said track extending downwardly at an incline therefrom and then outwardly therefrom and ties for said track transversely arranged relative thereto and having upstanding connecting means at their centers with which said track is connected.

8. In a device of the class described, a wheeled coaster, a track therefor, a starting stand for said coaster, one end of said track being connected therewith, said track extending downwardly at an incline therefrom and then outwardly therefrom, ties for said track and a tie rod connecting said starting stand with said ties.

9. In a device of the class described, a wheeled coaster, a track therefor, ties for said track comprising transversely arranged tie members of corrugated cross section having upstanding, centrally located connecting means attached thereto and to said track.

10. In a device of the class described, a wheeled coaster, a track therefor, a starting stand for said coaster, one end of said track being connected therewith, said track extending downwardly at an incline therefrom and then outwardly therefrom, and starting guides on said starting stand to engage the wheels of said coaster and guide them to proper position of engagement with said track.

11. In a device of the class described, a coaster, a track therefor, said coaster having supporting and auxiliary wheels engaging the top and bottom surfaces of said track, a starting stand for said coaster, said track having one end connected therewith and spaced thereabove, and starting guides on said starting stand aligned with said track and engaging the auxiliary wheels of said

coaster to guide the coaster toward proper engagement with the track for travel thereon.

12. In a device of the class described, a coaster, a starting stand therefor, a track for said coaster, said coaster having wheels for coaction with said track, said track having one end connected with said starting stand, pivoted brake means on said coaster and a starting lug normally engaged by said brake means when on said starting stand, said brake means when moved toward braking position effecting disengagement from said starting lug whereby said coaster may proceed to travel on said track.

13. In a device of the class described, a coaster, a starting stand therefor, a track for said coaster, said coaster having wheels for coaction with said track, said track having one end connected with said starting stand, a starting lug, means on said coaster normally engaging said starting lug whereby said coaster when on said starting stand is prevented from traveling on said track, and manually operated mechanism for disengaging said means from said starting lug.

HARRY W. WALLIN.