April 19, 1938. E. E. McKEIGE 2,114,720

TOY TRAIN

Filed Dec. 27, 1935 2 Sheets-Sheet 1

Fig. 1.

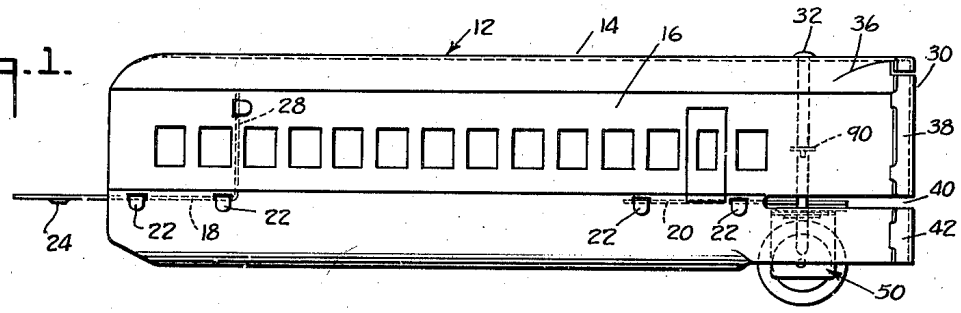


Fig. 2.

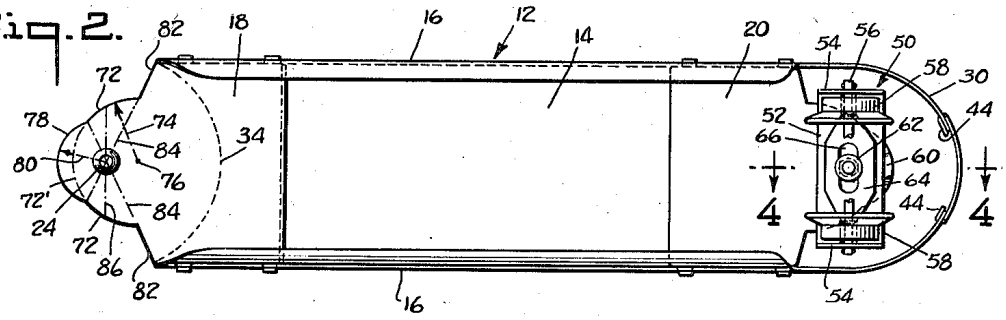


Fig. 3.

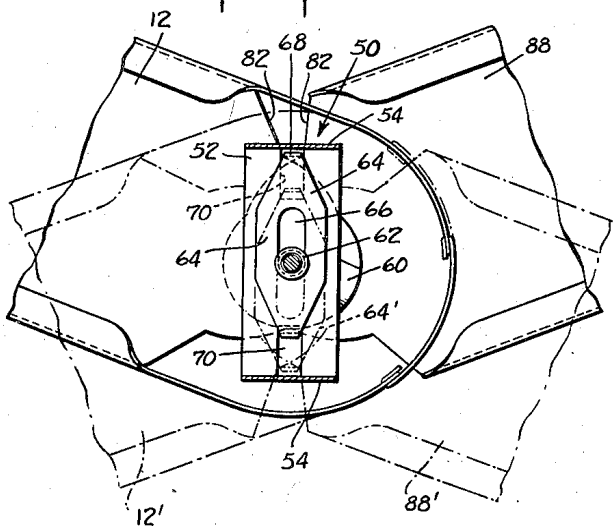
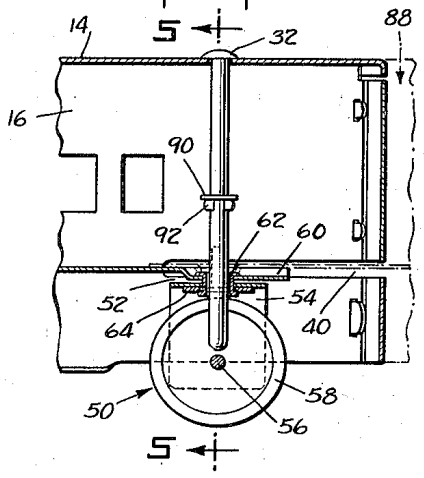


Fig. 4.



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Filed Dec. 27, 1935 2 Sheets-Sheet 2

Fig. 5.

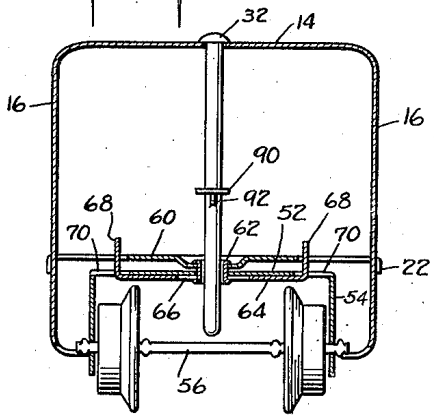


Fig. 6.

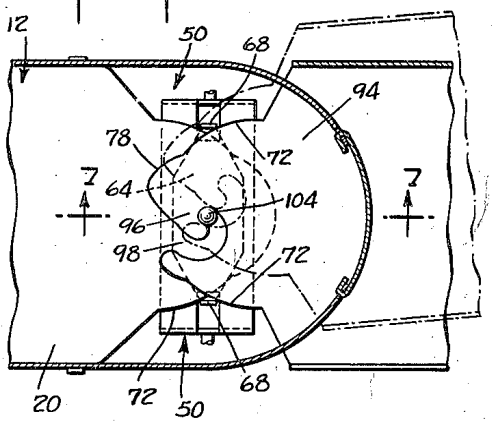


Fig. 8.

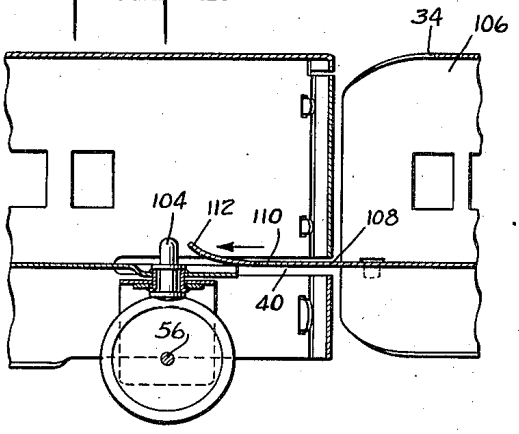


Fig. 7.

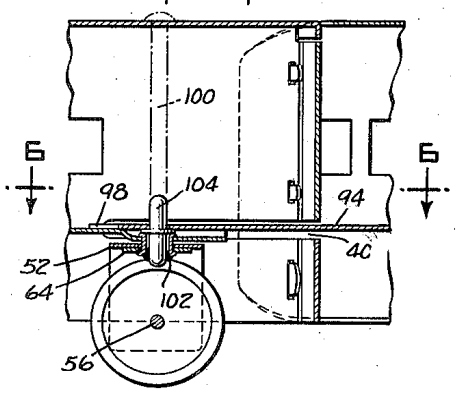


Fig. 9.

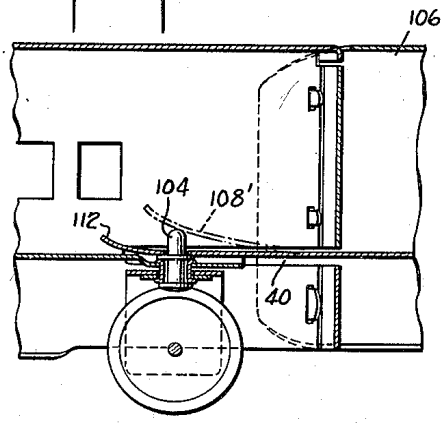
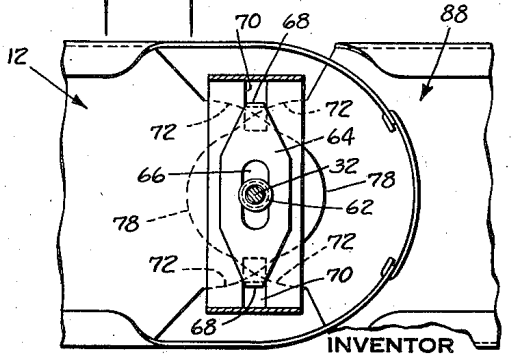


Fig. 10.



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Patented Apr. 19, 1938 2,114,720

UNITED STATES PATENT OFFICE

2,114,720

TOY TRAIN

Edward E. McKeige, Girard, Pa., assignor to Louis Marx & Company, Inc., New York, N. Y., a corporation of New York

Application December 27, 1935, Serial No. 56,311

22 Claims. (Cl. 46—218)

This invention relates to toy trains.

It is customary to pivot the wheeled trucks of toy trains to facilitate running on curves. The truck is ordinarily left free to assume its own running direction, but this has the disadvantage of necessitating the use of at least four wheels on each truck, and, further, of causing bad derailment once a tendency to derail begins, as where the track is not perfectly smooth.

The primary object of my invention resides in the provision of truck guide means to guide the truck to a running direction intermediate that of the preceding and succeeding cars, and more particularly to combine such means with a truck having only two wheels. I find that this improvement reduces the cost of manufacturing the toy, and at the same time results in improved high-speed operation without derailment. Another advantage of the improved toy is that it is easier to place on the rails or track because there is no tendency for the individual trucks to spin around to positions entirely out of alignment with the track. Moreover, the train may be run on the floor or other surface without using a track at all. This is of value with spring-wound toys and also with so-called "pull" trains, that is, trains which are drawn along by a string.

A more particular object of my invention resides in its application to streamline toy trains in which a single truck is used in common with the preceding and succeeding cars. This truck is preferably disposed with its pivot aligned with the coupling pin or coupling center between the two cars. In accordance with my invention the truck, while comprising only two wheels disposed at the ends of an axle extending transversely of the cars, is at all times automatically positioned to assume a running direction intermediate the direction of the cars, that is, the axle is disposed at an angle bisecting the angle between the cars.

Another object of my invention is to facilitate the coupling together of the successive cars in a streamline train. Still another object is to generally improve the toy streamline train disclosed in my prior Patent No. 2,019,690, issued November 5, 1935.

To the accomplishment of the foregoing and other objects which will hereinafter appear, my invention consists in the toy train elements and their relation one to the other, as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawings in which:

Fig. 1 is a side elevation of an intermediate car in a streamline train, said car embodying features of my invention;

Fig. 2 is an inverted plan view thereof;

Fig. 3 is an enlarged inverted plan view showing coupled adjacent car ends and a truck common thereto;

Fig. 4 is a section taken in elevation in the plane of the line 4—4 in Fig. 2;

Fig. 5 is a transverse section taken in elevation in the plane of the line 5—5 in Fig. 4;

Fig. 6 is a horizontal section showing a hook type coupling means, said section being taken in the plane of the line 6—6 in Fig. 7;

Fig. 7 is a section taken in elevation in the plane of the line 7—7 of Fig. 6;

Fig. 8 is a similar section taken through a modification and showing a preliminary step in the coupling of the adjacent car ends;

Fig. 9 shows the car ends in coupled relation; and

Fig. 10 is an inverted plan view similar to that shown in Fig. 3 but with the cars in aligned rather than angular relation.

My invention is described as applied to a toy train of the general type disclosed in my prior Patent No. 2,019,690 heretofore referred to, said train comprising a locomotive car having front and rear trucks followed by intermediate cars each having a rear truck only, and terminated by an end car which also has a rear truck only. All of the trucks except the first truck in the locomotive car and the last truck in the end car, may be considered to be intermediate trucks; and my invention is directly applicable to and will be described in connection with the said intermediate trucks.

Referring to the drawings and more particularly to Figs. 1 and 2 thereof, I show an intermediate car 12 which comprises roof and side walls 14 and 16. The side walls are spaced apart at the forward end by a coupling plate 18, and at the rear end by a truck support plate 20, said plates being secured to the side walls by appropriate tongue and slot connections 22. The forward end of the coupling plate preferably projects beyond the end of the car and is perforated or cut away at 24 to receive a coupling pin. The rear end of the plate is bent upwardly to a point near the roof of the car, thus forming a lateral partition 28 which serves to greatly strengthen and rigidify the car structure.

The rear end 30 of the car is patterned convexly to conform to the surface of a cylinder having a vertical axis. An elevatable coupling pin 32 is provided, said pin being accessible at the roof

of the car and being located at the center or axis of cylindrical surface 30. The forward end of the car is open to receive the convex or vestibule end of a preceding car, said convex end being like the end 30. I prefer to cut away the roof of the car on an arc, indicated by the dotted line 34 in Fig. 2, said arc preferably being struck around coupling hole 24 as a center. In other words, the open end of the car is patterned concavely to a vertical cylindrical pattern adapted to mate with the convex end of the next car, the coupling hole 24 being so located as to receive the coupling pin of the preceding car.

The car body is preferably formed of a single piece of sheet metal which is bent to inverted U or trough shape, thus forming the roof and side walls 14 and 16 of the car. The sheet metal blank is incised at 36, (Fig. 1) thus facilitating patterning the ends of the side walls on the desired cylindrical pattern. The end or rearmost portion of the car end or vestibule is closed by added pieces of sheet metal, one piece, marked 38, being disposed above a horizontal slit 40 in the car end, and the other piece 42 being disposed below the slit 40. These pieces are secured in place by appropriate tongue and slot connections 44. It will be understood that the slit 40 is adapted to receive the coupling plate of the succeeding car and to afford turning or angularity of one car with respect to the other.

The truck 50 is simple in form and comprises a strip of sheet metal bent to inverted U-shape, thus forming a top wall 52 and side walls 54 in which a single axle 56 is journaled. This axle carries flanged wheels 58 and is appropriately pinched or keyed within the wheels to hold the same in desired spaced relation. (See Fig. 5.)

The truck 50 is pivotally mounted on a rearward extension 60 of truck support plate 20, by means of a suitable eyelet 62, said eyelet being dimensioned to receive the lower end of the coupling pin 32. With this arrangement, the truck swivels about an axis concentric with the coupling axis between successive cars. The truck carries a truck guide 64, said truck guide being oscillatable with but transversely slidable on the truck. The truck guide lies beneath the top 52 of the truck and is supported in place by eyelet 62 which passes through a slot 66 in the truck guide.

As is more clearly shown in Figs. 3 and 5, the outer ends of truck guide 64 are turned upwardly to form guide lugs 68 disposed at either side of the extension 60 of the truck support plate. The top wall 52 of the truck is cut away or slotted at 70 to receive the guide lugs 68.

It may be explained that the overlapping coupled plates, that is, the coupling plate 18 and the truck support plate 20, which may be generically referred to as spacer plates, are so shaped as to cooperate with the aforesaid guide lugs 68 with a view to positioning the truck guide and with it the truck in desired angular relation. Referring to Fig. 2, the end or coupling portion of plate 18 is curved on an arc 72 struck on radius 74 about a center 76 displaced inwardly from the coupling center 24. The tip of the plate may be terminated in numerous ways, as by continuing arc 72, as shown in dotted lines at 72', but I prefer to provide an end portion 78 struck by a relatively small radius 80 on coupling center 24. It will be understood, however, as the description proceeds, that the shape of this end portion 78 is relatively unimportant. Within arc 72 the plate is flared outwardly, as indicated at 82. The arrangement is such that angularly related lines 84 are equal in length to transverse line 86, all of said lines passing through the coupling center. Furthermore, this length is approximately equal to the distance between the aforesaid guide lugs 68. The truck support extension 60 on plate 20 is shaped in a similar manner.

The way in which these parts function to steer the truck is best explained with reference to Figs. 3 and 10 of the drawings. Referring to Fig. 10, it will be observed that with the successive cars 12 and 88 in alignment, as when running on a straight track, the guide lugs 68 are disposed on opposite sides of the overlapping plates and are restrained against oscillation about coupling pin 32. This is so because the arcs 72 intersect to form V-shaped notches in which lugs 68 are received. Differently expressed, arcs 72 are so directed that the plates increase in dimension at either side of the coupling pin, hence any attempted oscillation of the truck guide 64 is prevented by the fixed distance between the guide lugs 68. Inasmuch as guide lugs 68 ride in the slots 70 of the truck, the truck is maintained in the transverse position shown.

When the cars swing to angular relation, as shown in solid lines in Fig. 3, the truck guide 64 moves sidewardly from its centered or symmetrical position shown in Fig. 10 to the position shown in Fig. 3 in which eyelet 62 is located at one end of slot 66. One of the guide lugs 68 is confined between the edges 82 of the cars, thus effectively preventing oscillation of the truck guide. The truck guide and truck are thus fixed, with the axle approximately bisecting the angle between the cars. It will be understood that the increase in dimension of the coupled plates near the edges 82 is accommodated by a corresponding decrease in dimension at the opposite sides of the plates, as was explained in connection with Fig. 2, reverting to which, it will be remembered that the dimension 84 is approximately equal to the dimension 86. In fact, as a rough approximation, it may be said that the variable distance varies between the small and large radii 80 and 74, and that the distance between the guide lugs 68 has a mean value or is approximately equal to the sum of the small and large radii. This definition is not exactly correct because the large radius is struck from a center 76 displaced from the coupling center 24.

Referring again to Fig. 3, the operation is, of course, generally similar when the cars turn in opposite direction. The cars then assume the broken line positions 12' and 88', and the truck guide 64 moves to the broken line position 64'. In either case, the truck is moved to a running direction intermediate the directions of the cars. It will be seen from inspection of Figs. 3 and 10 that because guide lugs 68 are given an appreciable width instead of being made in the form of slender pins, the distance therebetween is necessarily somewhat greater than the theoretical distances indicated in connection with Fig. 2.

As so far described, the coupling means is generally like that described in my Patent No. 2,019,690, except for the provision of a motion-limiting washer 90 and stop key 92, best shown in Fig. 4, these operating to prevent complete removal and possible loss of the coupling pin. However, the coupling means may be improved to entirely eliminate the necessity for an elevatable coupling pin, and such improved coupling means is illustrated in Figs. 6 and 7 of the drawings. Referring to these figures, the closed car end is

like that previously described, in comprising a truck 50 pivotally mounted on a truck support plate 20 and having a suitable truck guide 64 with guide lugs 68. The coupling plate 94 on the open car end is quite different, however, in that the leading end thereof is cut to form a coupling hook 96. Considered more specifically, the arcs 72 and 78 are struck on small and large radii with displaced centers, just as previously described, but the forward part of arc 78 is cut away to form a spiral approach 98 leading to the coupling center. The entrance to path 98 is enlarged and so shaped that the cars may be coupled together by simply pushing plate 94 forwardly into the end of car 12.

The guide lugs 68, besides functioning as heretofore described to steer the truck, fulfill an additional function in that they tend to hold the cars in coupled relation. The manner in which this takes place will be evident from inspection of Fig. 6, for the end of coupling plate 94 comes between guide lugs 68 as it is being pressed forwardly, and the guide lugs are necessarily sprung apart somewhat during the coupling operation because of the sideward displacement of one coupling plate relative to the other. When the parts have been hooked together, these guide lugs tend to prevent accidental uncoupling.

While a complete or full-length coupling pin 100 may be used, as shown in broken lines in Fig. 7, the lower end of this pin may be soldered, as is indicated at 102, for it is unnecessary to elevate the pin. Because of this fact, the upper part of the pin serves no important function and may, if desired, be eliminated, thus leaving only a short or stub pin 104, as is clearly shown in Fig. 7, said stub pin being permanently soldered in place, or riveted, or otherwise fastened.

When using a stub pin, it is also possible to couple the cars together by permitting the coupling plate of the rear car to ride upwardly over the top end of the coupling pin on the forward car. Such an arrangement is illustrated in Figs. 8 and 9 of the drawings, referring to which it will be seen that the forward car is generally similar to that previously described and includes a short or stub coupling pin 104. The succeeding car 106 is provided with a coupling plate 108 having a coupling hole 110 like that described in the first figures of the drawings. In this case, however, the forward end or tip 112 of the coupling pin is bent upwardly somewhat, and the top end of stub pin 104 is preferably rounded so as to facilitate coupling the parts together. The truck guide lugs 68 (not shown in Figs. 8 and 9) are additionally useful in helping guide the plate 108 to proper position, particularly if the lugs are made higher than the coupling pin.

It will be understood that by simply moving car 106 forwardly against the preceding car, the coupling plate 108 will be elevated first to the broken line position 108' shown in Fig. 9, and will then drop over the coupling pin 104, as shown by the solid line position in Fig. 9. This coupling operation is, of course, facilitated if the adjacent ends of the cars are elevated somewhat during the coupling operation. Uncoupling of the cars may be similarly aided. During normal operation, the cars rest in horizontal position on the track, and there is accordingly no danger of accidental or undesired uncoupling of the cars. It should be understood that while the modification of Figs. 8 and 9 has not been shown in plan, the ends of the overlapping plates are preferably shaped to cooperate with the truck guide in order to properly steer the truck. Specifically, the overlapping ends may be shaped exactly as previously described in connection with Figs. 2 and 3 of the drawings, it being only the tip portion of the plate, which anyway serves no useful steering function, that is turned upwardly as is indicated at 112, to facilitate the coupling operation.

While the description has been directed to the intermediate car, it will be understood that the couplings and truck guide mechanisms disclosed are applicable to any intermediate truck, including that at the rear end of a locomotive car. In other words, the closed or convex car end shown in Figs. 3 through 10 may be on an end car as well as an intermediate car, and the same applies to the open car end. The first and last trucks in the entire train may be either fixed in position or provided with four wheels in order to be self-steering.

It is believed that the mode of constructing and using, as well as the many advantages of my improved train construction, will be apparent from the foregoing detailed description thereof. The truck, instead of being freely pivoted and consequently easily derailed, is automatically guided to a running direction intermediate the directions of the cars. This improvement in turn makes it possible to use a two-wheel instead of a four-wheel truck, which change is economical and also improves the operating characteristics of the toy train. Furthermore, this automatically steered truck construction is useful for inexpensive pull trains which are not run on a track and which therefore could not use the ordinary four-wheel truck construction. It should also be noted that the car construction is improved for rigidity and strength, and that the coupling operation is greatly facilitated. Some children find it difficult to center the lift pin at its lower end when lowering the pin, and this difficulty is overcome when using the stub pin couplings here disclosed.

The underlying principle of the operation of the truck guide may be explained by emphasizing that the important parts of the truck guide are the guide lugs. These may be relatively movable, as by using separate pins slidably mounted directly on the truck and drawn together by a light pull spring. In such case the overlapping ends of the coupling plates need not maintain a constant spacing and therefore may have straight side edges, parallel or convergent, because the pins, and with them the truck axle, will at all times approximately bisect the angle between the cars. The truck guide shown may have one lug only, and be moved against the coupling plates by a spring. The special shaping of the coupling plates heretofore described is preferred merely because with a constant spacing the guide lugs may be formed on a single piece, and no spring is needed. In this aspect, one lug replaces a spring and functions to hold the other lug against the coupling plates.

Because the foregoing and numerous other changes may be made, it will be apparent that while I have shown and described my invention in preferred forms, many modifications may be made in the structures disclosed, without departing from the spirit of the invention, defined in the following claims.

I claim:

1. In a toy train, cars coupled at adjacent ends, a pivotally mounted wheeled truck common to said coupled car ends, said truck having only

two wheels mounted on a single axle extending transversely of the cars, and means on the cars associated with said truck for guiding the same to a position with the axle approximately bisecting the angle between the cars.

2. In a toy train, streamline cars coupled end to end, one of said car ends being patterned convexly to a vertical cylindrical pattern, the end of the other car being open to mate therewith, the convex car end including a wheeled truck common to both cars, said truck having only two wheels, and means on said cars associated with said truck for guiding the same to a running direction intermediate the directions of the cars.

3. In a toy train, streamline cars coupled end to end, one of said car ends being patterned convexly to a vertical cylindrical pattern, the end of the other car being open to mate therewith, the convex car end including a wheeled truck common to both cars and pivotally related to said cars on an axis coinciding with the center of coupling of said car ends, said truck having only two wheels disposed at the ends of an axle extending transversely of the cars, and means on said cars associated with said truck for guiding the same to a position with the axle approximately bisecting the angle between the cars.

4. In a toy train, successive cars coupled at adjacent ends by means including overlapping coupling plates, a wheeled truck common to both car ends, said truck having only two wheels, and means including a truck guide mounted on said truck and cooperating with the overlapping ends of the coupling plates for holding the truck in desired position, said overlapping ends being so shaped and said truck guide being so related thereto as to guide the truck to a running direction intermediate the longitudinal axes of the cars.

5. In a toy train, successive cars coupled at adjacent ends by means including overlapping spacer plates, a coupling pin pivotally connecting said plates together, a wheeled truck common to both car ends and pivotally related thereto at the coupling pin, said truck having only two wheels at the ends of an axle extending transversely of the cars, and means including a truck guide mounted on said truck and cooperating with the overlapping ends of the spacer plates for guiding the truck to a position approximately bisecting the angle between the cars.

6. In a toy train, successive cars coupled at adjacent ends by means including overlapping spacer plates, a coupling pin pivotally connecting said plates together, a wheeled truck common to both car ends and pivotally related thereto at the coupling pin, said truck having only two wheels at the ends of an axle extending transversely of the cars, and means for guiding the truck to a running direction intermediate the directions of the cars, said means including truck guide lugs oscillatable with but transversely slidable on said truck, the overlapping ends of the spacer plates being so relatively shaped as to locate the guide lugs and consequently the truck in desired position.

7. In a toy train, successive cars coupled at adjacent ends by means including overlapping spacer plates, a coupling pin pivotally connecting said plates together, a wheeled truck common to both car ends and pivotally related thereto at the coupling pin, said truck having only two wheels at the ends of an axle extending transversely of the cars, and means for guiding the truck to a position with the axle approximately bisecting the directions of the cars, said means including a truck guide oscillatable with but transversely slidable on said truck and having upstanding guide lugs, the ends of the spacer plates being curved on arcs struck from centers displaced inwardly of the coupling pin, the distance between the guide lugs being approximately equal to the transverse width of said spacer plates at the coupling pin.

8. In a toy train, successive cars coupled at adjacent ends by means including overlapping spacer plates, a coupling pin pivotally connecting said plates together, a wheeled truck common to both car ends and pivotally related thereto at the coupling pin, said truck having only two wheels at the ends of an axle extending transversely of the cars, and means for guiding the truck to a running direction intermediate the directions of the cars, said means including upstanding guide lugs on said truck, the overlapping ends of the spacer plates being so shaped as to locate the guide lugs and consequently the truck in desired position, each of said plates having convergent end portions which only partially overlap, the aforesaid lugs being disposed at the intersections of the edges of the end portions.

9. In a toy train, successive cars coupled at adjacent ends by means including overlapping spacer plates, a coupling pin pivotally connecting said plates together, a wheeled truck common to both car ends and pivotally related thereto at the coupling pin, said truck having only two wheels at the ends of an axle extending transversely of the cars, and means for guiding the truck to a running direction intermediate the directions of the cars, said means including a truck guide oscillatable with but transversely slidable on said truck and having upstanding guide lugs, the overlapping ends of the spacer plates being so relatively shaped as to locate the guide lugs and consequently the truck in desired position, each of said plates having a tip or end portion curved on a small radius and an adjacent portion curved on a large radius, followed by outwardly flared edges, the distance between the aforesaid guide lugs being approximately equal to the sum of the small and large radii.

10. A toy streamline railroad car comprising sheet metal bent to form roof and side walls, one end of said car being open, and the other end being convexly formed to conform to a curved portion of a cylinder, stiffening and coupling plates extending transversely between the sides of the car at the open and closed ends, the plate at the closed end being provided with a pivotally mounted wheeled truck and a coupling pin concentric therewith, said truck having only two wheels, the coupling plate at the other end projecting outwardly from the open end of the car and being provided with a coupling hole, said truck including a truck guide having means cooperating with said coupling plate to guide the running direction of the truck.

11. A toy streamline railroad car comprising sheet metal bent to form roof and side walls, one end of said car being open, and the other end being convexly formed to conform to a curved portion of a cylinder, stiffening and coupling plates extending transversely between the sides of the car at the open and closed ends, the plate at the closed end being provided with a pivotally mounted wheeled truck and a coupling pin concentric therewith, said truck having only two wheels disposed on a single axle extending transversely of the car, and including transversely

slidable truck guide lugs disposed on either side of the end of the coupling plate, the coupling plate at the other end projecting outwardly from the open end of the car and being provided with a coupling hole located on a center line corresponding to the axis of the aforesaid cylinder, and said coupling plate being so shaped as to control the position of the truck guide lugs and truck.

12. A toy streamline railroad car comprising sheet metal bent to form roof and side walls, one end of said car being open, and the other end being convexly formed to conform to a curved portion of a vertical cylinder, stiffening and coupling plates extending transversely between the sides of the car at the open and closed ends, the plate at the closed end being provided with a pivotally mounted wheeled truck and a coupling pin concentric therewith, said truck having only two wheels disposed on a single axle extending transversely of the car, the coupling plate at the other end projecting outwardly from the open end of the car and being provided with a coupling hole located on a center line corresponding to the axis of the aforesaid cylinder, the ends of said plates being curved on arcs struck from centers located inwardly of the coupling pin and hole, said truck including a transversely slidable truck guide having upstanding lugs disposed on either side of the end of the truck support plate.

13. In a toy streamline articulated railroad train, coupled car ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the mating end of the other car being open, the convex car end including a truck support plate extending between the sides and secured thereto, a stub coupling pin fixed on said plate, a single truck common to both cars pivotally mounted on said truck support plate at said pin, the mating end of the other car being provided with a coupling plate projecting out of the car and adapted to overlie the truck support plate, the end of said coupling plate having means to receive the coupling pin.

14. In a toy streamline articulated railroad train, coupled car ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the mating end of the other car being open, the convex car end including a truck support plate extending between the sides and secured thereto, a coupling pin, a single truck common to both cars pivotally mounted on said truck support plate at said pin, the mating end of the other car being provided with a coupling plate projecting out of the car and adapted to overlie the truck support plate, the end of said coupling plate being shaped to form a convergent passage leading to a hook adapted to be hooked on said coupling pin.

15. In a toy streamline articulated railroad train, coupled car ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the mating end of the other car being open, the convex car end including a truck support plate extending between the sides and secured thereto, a coupling pin, a single truck common to both cars pivotally mounted on said truck support plate and pin, said truck having only two wheels, truck guide means on said truck including upstanding lugs at either side of the truck support plate, the mating end of the other car being provided with a coupling plate projecting out of the car and adapted to overlie the truck support plate, the end of said coupling plate being shaped to form a hook adapted to be pushed between said lugs and hooked on said coupling pin, the convex car end being horizontally slit at the truck support plate to receive the coupling plate and to accommodate turning movement thereof.

16. A toy streamline railroad car comprising a single piece of sheet metal pressed downwardly to form roof and side walls, a truck support plate near one end thereof extending across said body between the side walls thereof, a truck pivoted on said truck support plate, and a coupling plate extending across the other end of the car between the side walls thereof, one end of said coupling plate projecting out of the car for coupling the same to an adjacent car, and the other end of said plate being bent upwardly and secured to the side walls of the car in order to brace the same.

17. In a toy streamline articulated railroad train, cars coupled at their adjacent ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the mating end of the other car being open, whereby said cars abut in end to end relation, the convex car end including a truck support plate extending between the sides of the car and secured thereto, a single truck for both cars pivotally mounted on said truck support plate, said truck having only two wheels, the mating end of the other car being provided with a plate projecting out of the car and overlapping the aforesaid truck support plate, a coupling pin for pivotally coupling said plates at the center of oscillation of the truck, and means to guide the truck to a running direction intermediate the directions of the car, said means including truck guide means mounted on the truck and cooperating with the overlapping ends of the aforesaid plates.

18. In a toy streamline articulated railroad train, cars coupled at their adjacent ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the mating end of the other car being open, whereby said cars abut in end to end relation, the convex car end including a truck support plate extending between the sides of the car and secured thereto, a single truck for both cars pivotally mounted on said truck support plate, said truck having only two wheels, the mating end of the other car being provided with a plate projecting out of the car and overlapping the aforesaid truck support plate, a coupling pin for pivotally coupling said plates at the center of oscillation of the truck, and means to guide the truck to a running direction intermediate the directions of the cars, said means including truck guide lugs oscillatable with but transversely slidable on the truck, the overlapping ends of the plates being so relatively shaped as to locate the guide lugs and consequently the truck in desired position.

19. In a toy streamline articulated railroad train, coupled car ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the adjacent end of the other car being shaped to mate therewith, the convex car end including a truck support plate extending between the sides and secured thereto, a fixed coupling pin, a single truck common to both cars pivotally mounted on said truck support plate at said pin, the mating end of the other car being provided with a coupling plate projecting out of the car end and adapted to overlie the truck support plate, the end of said coupling plate being cut away to form a convergent

passage adapted to be slid on the coupling pin and to be anchored thereto.

20. In a toy train, successive cars coupled at adjacent ends by means including overlapping spacer plates, a wheeled truck common to both car ends, said truck having only two wheels, means including a truck guide lug transversely slidably mounted on said truck and cooperating with the overlapping ends of the coupling plates at one side thereof for guiding the truck to a running direction intermediate the directions of the cars, and means to hold said guide lug against the side of the coupling plates.

21. In a toy streamline articulated railroad train, coupled car ends, one of said car ends being patterned convexly and the end of the other car being open to mate therewith, the convex car end including a support plate extending between the sides and secured thereto near the bottom of the car, a stub coupling pin fixed on said plate and projecting upwardly therefrom, wheels common to both cars mounted on one only of said car ends, the mating end of the other car being provided with a coupling plate projecting out of the car near the bottom thereof and adapted to overlie and rest upon the aforesaid support plate, the end of said coupling plate receiving the coupling pin.

22. In a toy streamline articulated railroad train, coupled car ends, one of said car ends being patterned convexly to a vertical cylindrical pattern, the mating end of the other car being open, the convex car end including a support plate extending between the sides and secured thereto near the bottom of the car, a stub coupling pin fixed on said plate and projecting upwardly therefrom, wheels common to both cars mounted on said convex car end, the mating end of the other car being provided with a coupling plate projecting out of the car near the bottom thereof and adapted to overlie and rest upon the aforesaid support plate, the end of said coupling plate being apertured to receive the coupling pin, and the convex car end being horizontally slit or cut away to receive the projecting coupling plate.

EDWARD E. McKEIGE.