

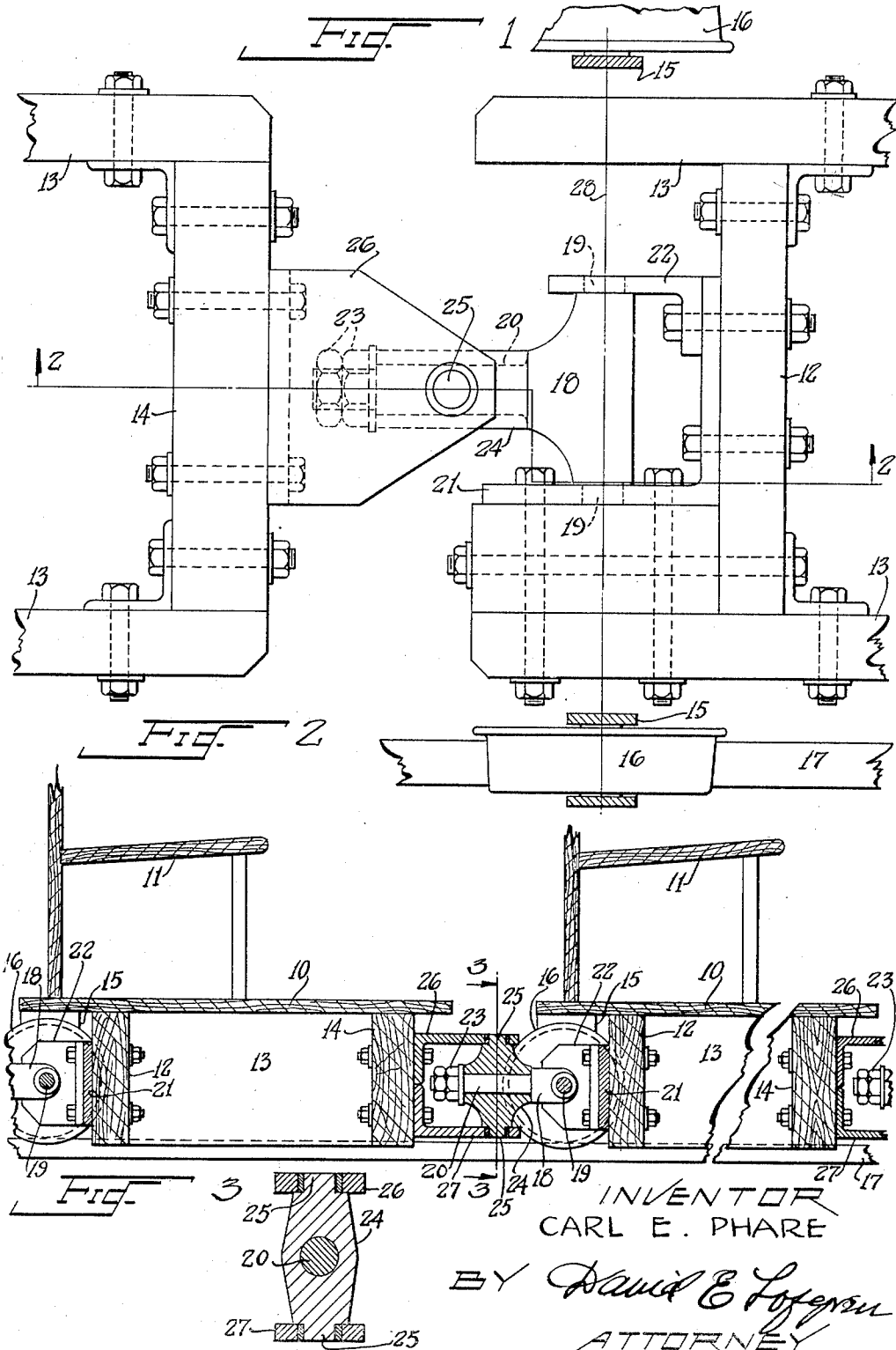
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UNIVERSAL COUPLING BETWEEN SECTIONS OF COASTER CARS

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UNIVERSAL COUPLING BETWEEN SECTIONS OF COASTER CARS

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This invention is directed to an improvement in couplings designed primarily for use for providing a universal connection between cars employed as coaster cars and the like in amusement parks.

The primary object of the invention is the provision of a universal coupling of this type which, when in position, will absolutely prevent any possibility of separation of the cars and yet will permit relative play between the cars necessary in the particular use to prevent a leading car through its movement having a tendency to derail a following car.

The invention is illustrated in the accompanying drawings, in which:

Figure 1 is a broken plan view showing the adjacent ends of interconnected cars of a train designed for track travel in an amusement park or the like.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a section on line 3—3 of Figure 2.

In the accompanying drawings, the details of the coaster car, aside from the specific features hereinafter described and claimed, may be of any conventional type. For the purposes of the present invention, such cars may be briefly defined as including a platform 10 on which the seats 11 are supported, the platform being mounted on cross braces 12 and 14 which connect side sills 13, the side sills having wheel supports 15 in which the wheels 16 are mounted to travel on tracks 17.

The universal coupling is made up of interrelated parts which are connected to the rear cross brace 12 of the leading car and the forward cross brace 14 of the following car. The coupling includes two members 18 and 24 connected for universal movement and each supported for rotation with relation to the respective cars to which they are connected.

An angle support 21 is secured to the rear cross bar 12 of the leading car and to the side sill 13 on one side of the car, this angle support being bolted directly to the cross brace 12 and to the side sill 13, there being a block interposed between the support and side sill to maintain the rigidity of the support. A

companion support 22 also of angle form is secured to the cross brace 12 of the leading car, this support being preferably fixed by means of one of the bolts used to secure the support 21.

The supports 21 and 22 as thus arranged provide spaced parallel portions projecting rearwardly from the cross brace 12, and the coupling member 18 is mounted for rotary movement in the support thus provided. This coupling member 18 includes a block-like element in which a pin 19 serving as an axle is arranged. The pin 19 extends in both directions beyond the block 18 and the projecting portions of the pin are mounted in openings in the respective supports 21 and 22, as clearly shown in Figure 1.

The forward brace 14 of the following car is provided with supports including angle members 26 and 27 bolted to the brace 14. These angle members have forwardly projecting spaced supporting parts and these parts are arranged in superimposed relation, and may if desired have convergent side edges, as indicated in Figure 1. A block 24 forming the cooperating member of the universal coupling is arranged between the supports 26 and 27 and terminally provided with trunnions 25 which are mounted for pivotal play in suitable bearing openings in the supports, all as clearly shown in Figures 2 and 3.

The block 18 includes a rod-like extension 20 which is designed to pass through an opening arranged centrally of the block 24, a wear plate or washer and securing and locking nuts 23 being arranged upon the rod 20 beyond the block 24 to maintain the connection.

From the foregoing description, it will be understood that the block 18 is mounted for swinging in a vertical plane due to the horizontal alignment of its trunnions 19, while the block 24 is mounted for rotary movement in a horizontal plane due to the vertical arrangement of its trunnions 25. The block 18 is also mounted for rotary movement with respect to the block 24 through the medium of the rod 20.

It will be apparent, therefore, that the cars

are connected against separation and can only be separated by the removal of the holding nuts 23. However, either car is permitted a substantially universal movement with respect to the other through the combined vertical, horizontal and rotary permissible movements of the universal coupling.

It will, of course, be understood that if the nuts 23 are tightened to a degree to prevent independent rotary movement of the rod 20, there is still a substantially complete universal connection or coupling between the cars owing to the mounting of the respective coupling parts for swinging movement in planes at right angles to each other.

The coupling as an entirety may be readily applied to any cars now in use merely by the application of the supports to the respective cross bars of such cars, and when so connected there is no possibility of any undue movement of either car tending to so influence the preceding or following car as to incur the possibility of derailment of said car.

What is claimed to be new is:

1. A universal coupling for coaster cars, including a horizontally arranged support fixed to one of the cars, a vertically arranged support fixed to the other of said cars, a block mounted in the first support for swinging in a vertical plane, a block mounted in the second support for swinging in a horizontal plane, a rod extending from the first block and through the second block, and means for securing the rod beyond the second block.

2. A support for coaster cars, including an angle iron support for one of said cars, a block mounted for swinging in a vertical plane in said support, a second support secured to the other of said cars and including vertically superimposed plates, a block having terminal trunnions mounted in the respective plates, and means for removably connecting the blocks, said means being integral with one of the blocks and passed through the other of said blocks and secured therebeyond.

3. A support for coaster cars, including an angle iron support for one of said cars, a block mounted for swinging in a vertical plane in said support, a second support secured to the other of said cars and including vertically superimposed plates, a block having terminal trunnions mounted in the respective plates, means for removably connecting the blocks, said means including a rod integral with one of the blocks and passed through and mounted for rotation in the other of said blocks, and securing nuts to prevent the separation of the rod from the block through which it passes.

In testimony whereof, I affix my signature.

CARL E. PHARE.