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PLASTIC TRUCK

2,987,851

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2 Sheets-Sheet 1

Fig. 1

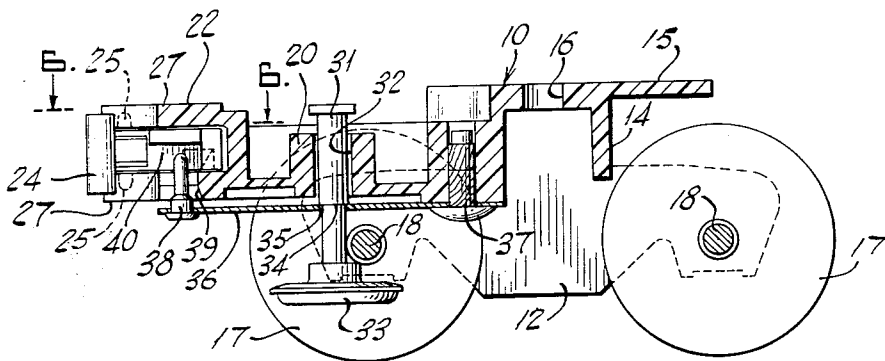
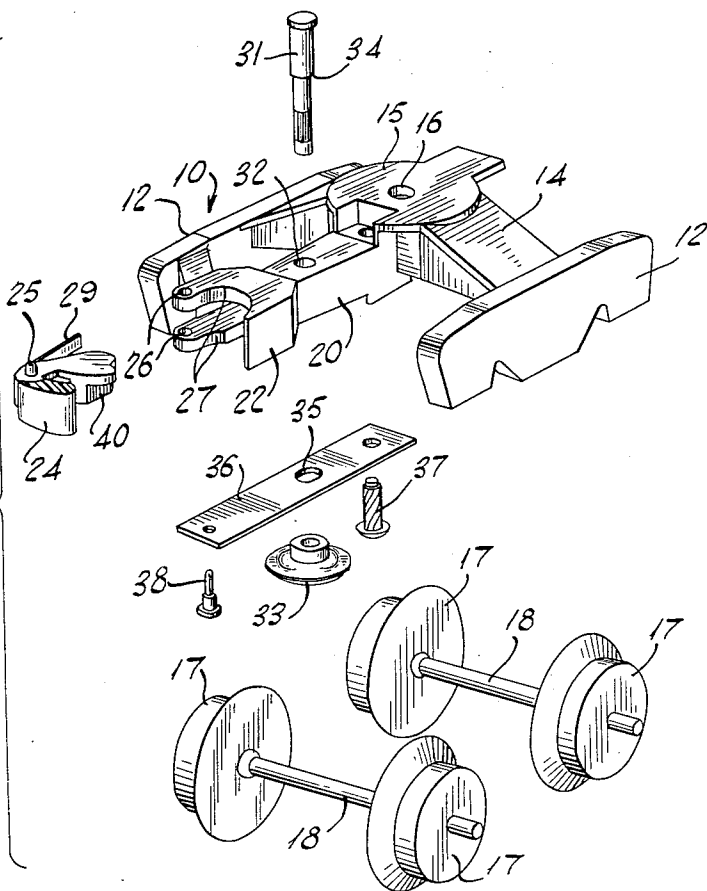


Fig. 2

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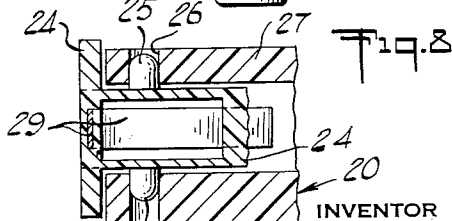
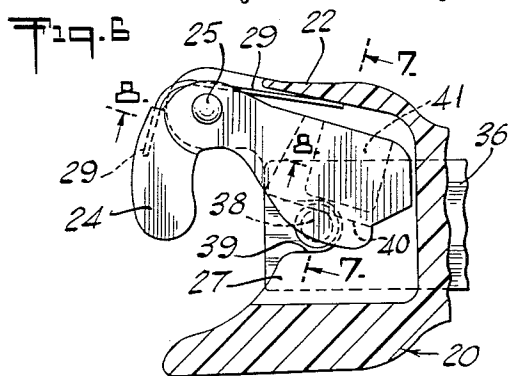
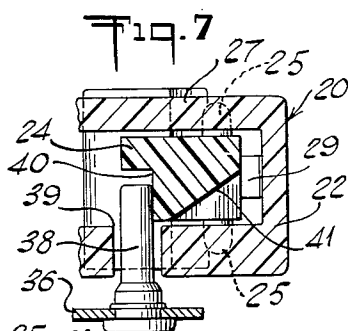
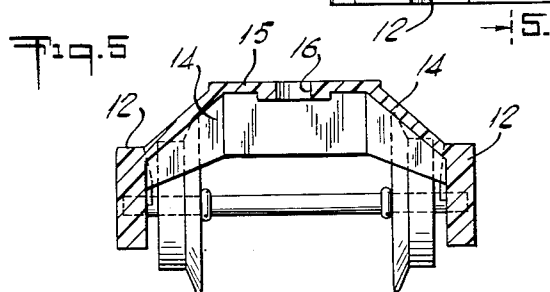
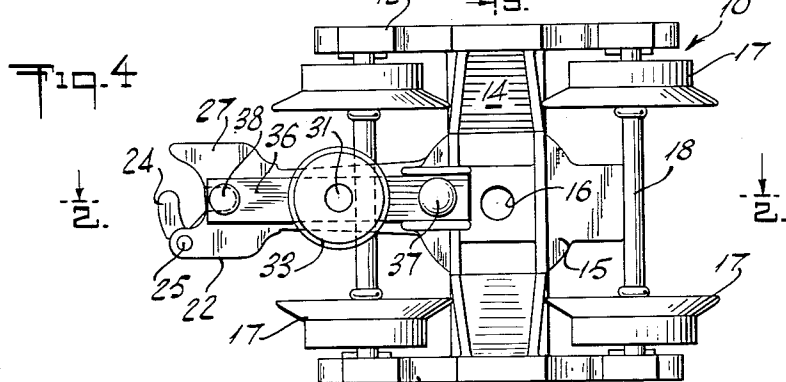
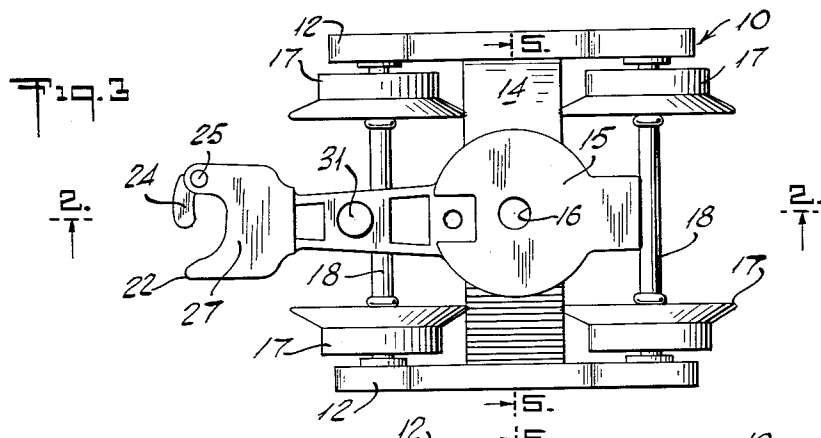
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PLASTIC TRUCK

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2 Claims. (Cl. 46-218)

This invention relates to model railways and more particularly to a truck for model railway cars.

It is an object of the present invention to provide a model railway truck having a coupler that is adapted to be automatically moved to a locked position in response to engagement therewith of another similar coupling so as to provide means for automatically connecting a plurality of model railway cars together.

Another object of the present invention is to provide a model railway truck having an automatically engageable coupler that is provided with electromagnetic means for selectively opening the coupler knuckle so as to permit the disconnection of any number of model railway cars from a central control location.

A still further object of the present invention is to provide a model railway truck of the above type having extremely simple locking and unlocking means for controlling the movement of the coupler knuckle so as to facilitate the connection and disconnection of model railway cars in a simple and efficient manner.

Other objects of the invention are to provide a model railway truck bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is an exploded perspective view of a model railway truck made in accordance with the present invention;

FIGURE 2 is a longitudinal cross sectional view taken along line 2-2 of FIGURE 3;

FIGURE 3 is a top plan view of the assembled truck;

FIGURE 4 is a bottom plan view of the truck shown in FIGURE 3;

FIGURE 5 is a transverse cross sectional view taken along line 5-5 of FIGURE 3;

FIGURE 6 is an enlarged cross sectional view taken along line 6-6 of FIGURE 2;

FIGURE 7 is a fragmentary transverse cross sectional view taken along line 7-7 of FIGURE 6; and

FIGURE 8 is an enlarged transverse cross sectional view taken along line 8-8 of FIGURE 6.

In accordance with the present invention, a model railway truck has been provided that includes an integrally formed one piece side frame, bolster, and coupler assembly, in which a coupler knuckle is mounted for selective movement between an open and a closed position, such movement being controlled by an extremely simple electromagnetic responsive assembly for effectively providing for a selective locking and unlocking of any number and type of model railway cars.

Referring now more in detail to the drawing, a model railway truck 10 made in accordance with the present invention is shown to include a pair of side frames 12, a bolster 14, and center plate 15 which is formed in a single piece, together with a coupler arm 20. As is well known to those skilled in the art, the center plate 15 is provided with a vertical bore 16 for rotatably receiving the downwardly depending king pin of the railway car for providing pivotal movement therebetween during operation along the railway tracks. The axles 18 and integrally connected wheels 17 are journaled upon the side frames 12, as is also well known.

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The free end of the coupler bar 20 is provided with a coupler head 22 that is partially defined by a pair of vertically spaced plates 27 that provide a housing for a rotatably mounted knuckle 24 that is supported for rotation about the longitudinal axes of integral pivot pins 25 which are rotatably received within axially aligned bores 26 in the plates 27. A leaf spring 29 secured at one end to the knuckle 24 and at the opposite end biased against the coupler head 22 to normally urge the knuckle 24 toward an open position, in which open position the head is adapted to receive a mating knuckle of another railway truck, following which the knuckle 24 is rotated to a closed position thus connecting the cars together in a conventional manner.

An armature pin 31 is slidably received within a vertical bore 32 in the coupler bar 20 and through a central opening 35 in a spring plate 36 that is secured to the bottom of the bar 20 by means of a drive pin 37 at the inner end thereof.

The mid portion of the armature pin 31 is provided with a downwardly facing shoulder 34 of slightly larger diameter than the opening 35 in the spring plate 36, whereby downward movement of the aperture 31 is operative to effect a downward movement of the outer end of the spring plate 36. A lock pin 38 is secured to the free end of this spring plate 36 and extends upwardly through an opening 39 in the bottom of the coupler head 22 into the path of movement of the knuckle 24. As is more clearly shown in FIGURE 7, one side of the knuckle 24 is provided with a flat locking abutment surface 40 which engages the normally upwardly extended pin 38 so as to prevent rotation of the knuckle to an open position. Immediately adjacent to this locking surface 40 is an inclined cam surface 41 along which the lock pin 38 is adapted to ride during movement of the knuckle from an open to a closed position, the pin 38 automatically dropping into engagement with the lock surface 40 upon movement of the knuckle to the fully closed position.

The lower end of the armature pin 31 carries an armature plate 33 which is responsive to energization of an electromagnet along the railway track. In response to the energization of the electromagnet, the armature 33 is drawn downwardly against the action of the spring plate 36, because of the abutment of the shoulder 34 therewith. During this downward movement, the lock pin 38 is retracted from its locking position behind the lock surface 40 of the knuckle, thereby permitting the knuckle 24 to rotate to the open position under the action of the spring 29. In order to return the knuckle to the locked position, it is only necessary to rotate it about its pivotal connection to a fully closed position, at which point the lock pin 38 will automatically secure the knuckle in such locked position until the next downward movement of the armature 33.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. A truck for a model railway train comprising a one-piece member including: a central substantially cylindrical portion having a flat and substantially circular car supporting top bearing face and including an opening in said face adapted to receive a kingpin of a railway car, a hollow bolster member sloping downwardly from each side of said cylindrical portion, longitudinally extending wheel supporting side frames formed at the outer ends of each of said bolster members, said frames having laterally aligned openings adapted to receive an axle of a wheel and axle set, and a coupler portion extending longitudinally outwardly from said cylindrical portion and terminating at

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its outer end in a substantially U-shaped coupler head, said coupler portion including an opening therethrough a knuckle releasing member, pin means connected to said knuckle releasing member and extending into the opening of said coupler portion to secure said knuckle releasing member to said coupler portion, and a knuckler assembly pivotally supported on one leg of said coupler head of said one-piece member and including a portion engageable with said knuckle releasing member when in a closed position.

2. A truck for a model railway train comprising a one-piece member including: a central substantially cylindrical portion having a flat and substantially circular car supporting top bearing face and including an opening in said face adapted to receive a kingpin of a railway car, bolster members sloping downwardly and extending laterally outwardly from each side of said cylindrical portion, longitudinally extending wheel supporting side frames formed at the outer ends of said bolster members and having laterally aligned openings adapted to receive an axle of a wheel and axle set, and a coupler portion extending longitudinally outwardly from said cylindrical portion and terminating at its outer end in a substantially U-shaped coupler head; a knuckler assembly pivotally supported on

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one leg of said coupler head, said coupler portion having longitudinally spaced openings, a resilient knuckle actuating member, a pivot pin member secured to one end of said resilient member and extending into one of said coupler openings to hold said resilient member to said coupler portion, a pin member connected to the other end of said resilient knuckle actuating member and extending into said U-shaped coupler head for releasably holding said knuckler in closed position, and an armature member reciprocable in the other of said openings and connected to said resilient member for moving said resilient member to release said knuckle.

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