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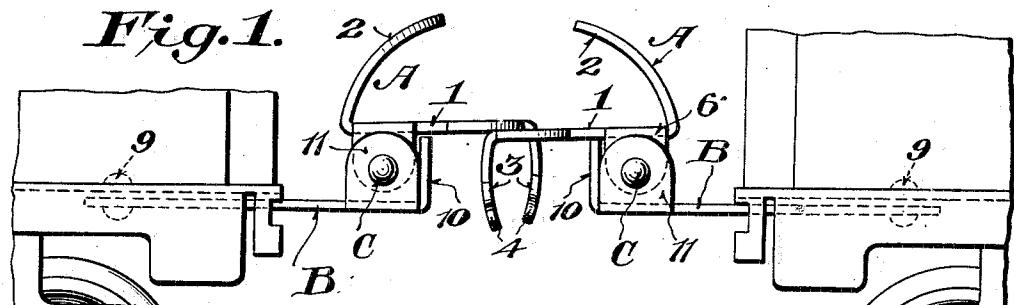
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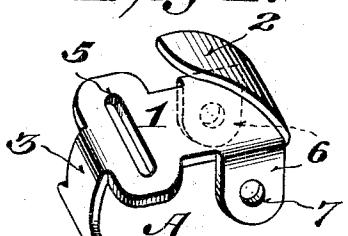
COUPLER FOR TOY CARS

Filed Sept. 18, 1931

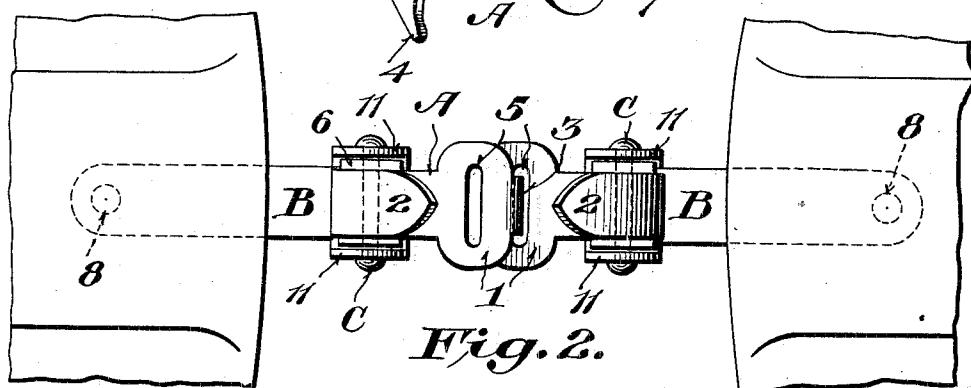
*Fig. 1.*



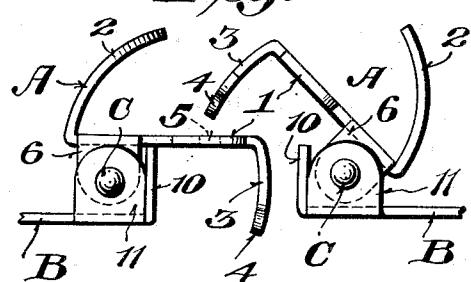
*Fig. 4.*



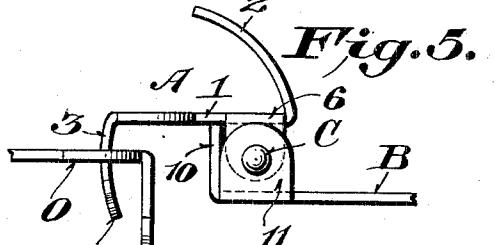
*Fig. 2.*



*Fig. 3.*



*Fig. 5.*



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## UNITED STATES PATENT OFFICE

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## COUPLER FOR TOY CARS

Application filed September 18, 1931. Serial No. 563,616.

This invention relates to toy railroads, and has particular reference to a novel improvement in car couplers for connecting the cars in train formation.

To that end the invention contemplates a coupling device for toy trains that will permit of the coupling of one car to another car; a car to a locomotive; or a locomotive to a locomotive. In that connection, the invention has in view a coupler of the manual type, using as few parts as possible, and these parts being of strong and substantial construction, thereby to successfully withstand the severe handling to which toys of this type are sometimes subjected.

Another object of the invention is to provide a universal coupler, or one that does not require a male and female coupler at each end of a car or locomotive. That is to say, the invention has in view a coupler which is identical in every respect and on being attached to a car or locomotive will readily couple with another car or locomotive, without the necessity of turning the car or locomotive end for end in order to successfully engage the couplers.

Another object of the invention is to provide a simple, strongly constructed coupler which has a low assembly cost and which a child or person totally unfamiliar with toy train operation or construction can successfully, easily and readily complete the coupling and uncoupling operation without instruction and without removing the car or locomotive from the track. Many couplers on toy trains are of such complicated mechanical construction that considerable skill is required to successfully couple and uncouple a car or locomotive without removing same from track and carefully studying the construction and operation of the particular type of coupler.

A further object of the invention is to provide a coupler which will couple perfectly with a number of other types of couplers already on the market thus obviating any necessity for changing the couplers on an old type car or locomotive to conform with the present device.

A still further object of the invention is to

provide a coupler which will not buckle when pushing cars around a curve; that is to say, it is proposed to provide a coupler which will transmit the pushing force of the locomotive from one car to another through the rigid coupling itself rather than cause the coupling to break at the point of connection and move to one side so that the pushing force is imparted by car to car contact if there is enough play in the couplings to permit the force to result in a side thrust that has a tendency to derail the cars. When cars are being pulled the couplers of course readily stay in proper alignment, but when cars are being pushed there is always a tendency in couplers heretofore constructed for the parts to break alignment and move to one side or the other at the point of connection of one car with another. The present construction however, obviates that objection and provides a coupling which will not buckle on curves when cars are being pushed or being pulled.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangements of parts herein-after more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a side elevation of the ends of two cars coupled together with the coupler constituting the present invention.

Figure 2 is a top plan view of the construction shown in Figure 1.

Figure 3 is a detail view of mating couplers in uncoupled relation.

Figure 4 is a perspective view of the pivoted gravity latch constituting a part of the present coupler.

Figure 5 is a view illustrating the manner of coupling one of the couplers of the present invention with an odd type of coupling now in general use.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

In its general organization the present coupler includes a pivoted gravity latch designated generally as A; a shank unit designated as B and a pin unit C for connecting the latch and the shank. In practice the couplers are respectively attached to the opposite ends of two cars or a car and a locomotive in such a way that each piece of rolling stock will be equipped at each end with a complete coupler, thereby permitting the ready coupling of one car to another.

Referring first to the gravity latch unit A it will be observed that the same includes a body section 1 provided at one end with an upturned forwardly curved handle portion 2 while the other end is provided with a depending hook or keeper shank 3 formed at its lower end with the outwardly projecting ears 4. The body 2 is provided adjacent the hook 3 with a transverse keeper slot 5 for receiving the hook 3 of a mating coupler. Also adjacent the upturned handle 2, the body 1 is provided with the down-turned ears 6 provided with openings 7 for receiving the coupling pins C, as will presently appear.

The coupler shank B is provided at its inner end with an opening 8 for receiving a suitable fastening 9 for freely pivoting the shank to the bottom of the car so that it may swing in a horizontal direction. The outer or forward end of the shank is turned upwardly as indicated at 10 so that the upper edge of the upturned portion may constitute a rest or supporting ledge for the pivoted latch member when the latter is in its normal position. The sides of the body of the shank adjacent the upturned abutment wall 10 are formed with the upstanding ears 11 so spaced as to receive therebetween the downturned ears 6 of the latch member A. The ears 11 are provided with a suitable opening so that when the latch member and shank are in assembled relation the coupling pin C may be inserted to hold them together and form the axis and support for the pivoted latch gravity member A.

The handle 2 is formed upwardly in such a manner that it is easily and always readily accessible under all operating conditions and when it is desired to couple two cars or a locomotive and a car together, the two couplers are caused to approach each other, the latch unit A of one coupler being swung upwardly by means of the handle on the pivot pin C. At the moment of engagement the coupler handle 2 is released by gravity causing the hook or keeper shank 3 of the raised or elevated coupler to fall into the transverse keeper slot 5 of the opposite coupler. For uncoupling, the handle 2 is manipulated so as to withdraw the hook or keeper shank 3 from the slot 5, thus simply and expeditiously effecting uncoupling.

When the couplers are engaged the ears 4 on the hook 3 form a natural obstacle to

the accidental release or disengagement of the couplers. Furthermore these ears positively insure a coupling engagement when a train is backing up since this operation usually forces a coupler upward and might thus effect uncoupling. On the other hand, the ears 4 do not interfere with the manual operation of coupling or uncoupling inasmuch as they are rounded at the corners and easily disengaged from a keeper slot of another coupler. In connection with the upturned ears 11 on the shank B of the coupler, it may be pointed out that the spacing of the ears 11 is such that the latch A will have sufficient clearance to properly engage an opposite coupler and allow clearance between itself and the opposite coupler so that the ordinary operation of a train in either a forward or backward direction will not cause the couplers to drag and possibly derail the car or locomotive.

The present type of coupler is more effective and easier to operate than couplers employing springs and the like, and furthermore since no springs are required the usual objections incident to such parts are avoided.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claim.

I claim:

A coupler for toy cars comprising a shank member adapted to be pivoted at one end to the car body and formed at the other end with an upturned abutment wall and upturned side walls adjacent thereto, said side walls providing pivot ears, and a gravity latch pivoted in said ears and comprising a body adapted normally to rest upon said abutment wall, said body being turned downwardly at its front end to provide a coupling hook and turned upwardly at its other end to provide a handle, and said body being further provided adjacent the coupling hook with a slot and adjacent the handle with downturned pivot ears.

In testimony whereof I hereunto affix my signature.

EARL D. BOISSELIER.

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