E. FITZGERALD.

TRUCK COUPLING.

APPLICATION FILED DEC. 8, 1915.

1,206,100. Patented Nov. 28, 1916.

Fig. 2.

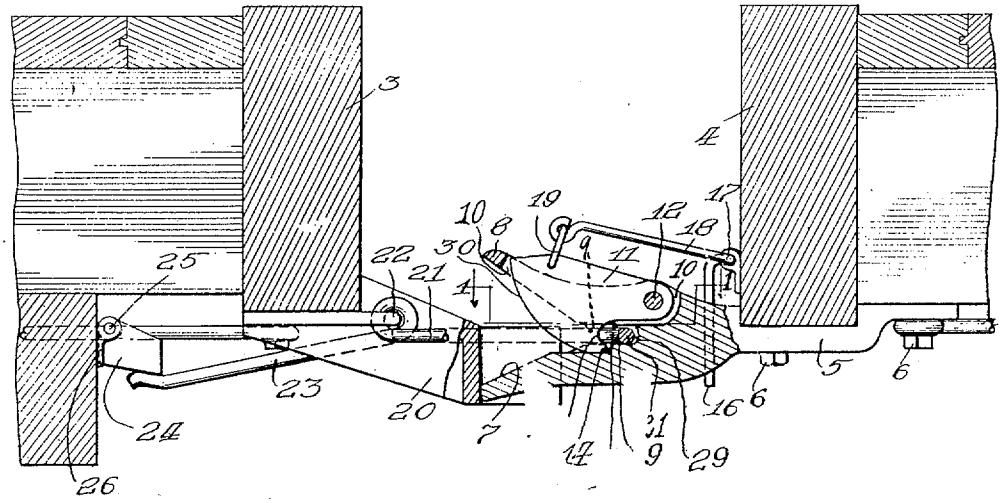
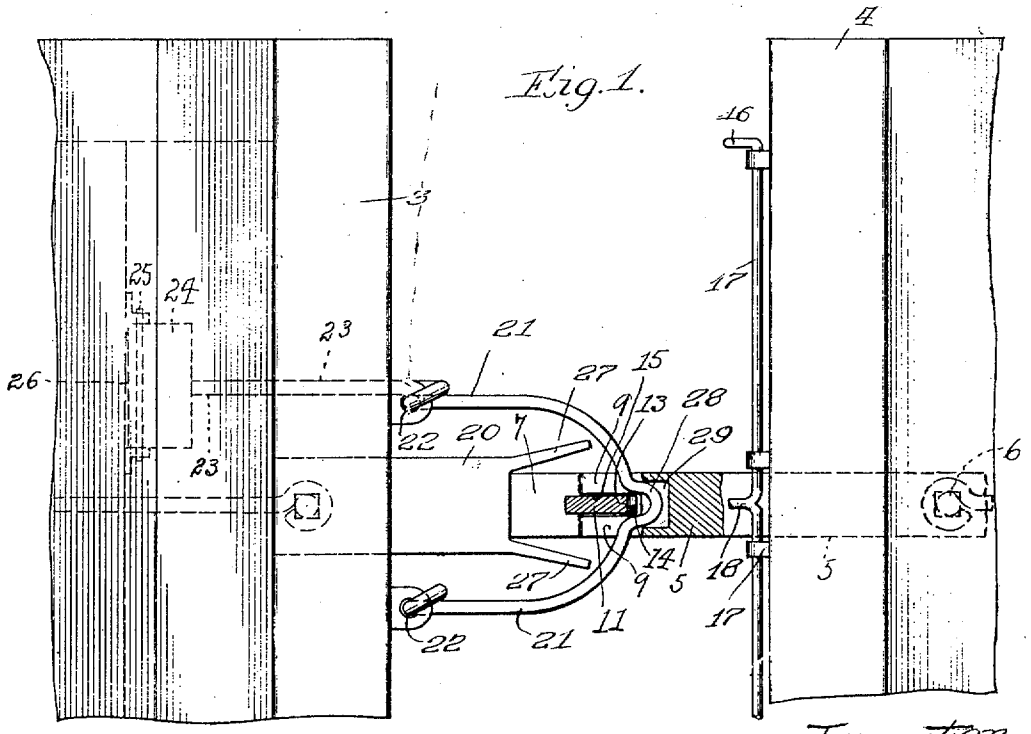


Fig. 1.



Witness:
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UNITED STATES PATENT OFFICE.

EDWARD FITZGERALD, OF CHICAGO, ILLINOIS.

TRUCK-COUPLING.

1,206,100. Specification of Letters Patent. Patented Nov. 28, 1916.

Application filed December 8, 1915. Serial No. 65,644.

To all whom it may concern:

Be it known that I, EDWARD FITZGERALD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Truck-Couplings, of which the following is a specification.

My invention relates to couplings for trucks, cars and the like, and has for one of its objects the provision of a simple and efficient coupling of the character mentioned.

A further object is the provision of a coupling of the character mentioned which is easily coupled and uncoupled and one which will adjust itself to permit the trucks, cars, or the like to pass over uneven surfaces.

Other objects will appear hereinafter.

An embodiment of my invention is shown in the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a fragmental top view of the adjacent ends of two trucks equipped with my coupling with portions of the latter broken away; and Fig. 2 is a section of the two truck ends taken on line 2—2 of Fig. 1.

My invention is particularly adapted for use on trucks, such as are used in factories, warerooms, freight stations and the like, in which a number of trucks are drawn in a train. The invention, however, is capable of use on trucks or cars adapted for various other uses, as will be apparent.

Referring more particularly to the drawing, fragments of two adjacent truck ends 3 and 4 are arranged in substantial parallel relation or in such relation that the coupling elements of the truck ends may be brought into engagement. The truck end 4 is provided with a draw bar head 5 secured thereto by means of bolts 6, or their equivalent. The draw bar head 5 extends beyond the end of truck end 4 and has its outer end bifurcated. Near the point where the bifurcated portions 7 and 8 join there is provided a slot 9. At the end of the slot 9 the portions 7 and 8 diverge, providing inclined surfaces which are adapted to engage the bail portion of the coupling member on the truck end 3 and guide the bail into the slot 9. Since the trucks for uses enumerated above do not always pass over smooth surfaces the inclined surfaces of prongs 7 and 8 of the draw bar head serve as means for guiding the bail into proper position regardless of the inequality of the surfaces upon which the trucks may be resting.

The upper prong 8 is provided with a slot 10 in which is mounted a locking member 11. The locking member is pivoted to the draw bar head near the base of prong 8 on a pin or bolt 12. The locking member 11 is of sufficient weight to be held by gravity in the position indicated in Fig. 2, when in normal position. The locking member 11 is provided with a bail engaging portion 13 at the bight portion of the hook part of the locking member, and the point 14 of the hook portion of the locking member is adapted to extend beyond slot 9 and rest in a recess 15 in the upper surface of prong 7. With this arrangement the point 14 extends beyond the slot 9 and provides means whereby the bail cannot raise the locking member 11 when a strain is placed thereon. The surface of the hook portion of the locking member between the point 13 and the end of point 14 is substantially concentric with the pivotal point 12 of the locking member so that there is no tendency on the part of the bail when engaging the locking member to pass under the latter. On the other hand, since the surfaces between points 13 and 14 are substantially concentric with point 12 very little energy is required to lift the locking member 11 to free the bail to uncouple the cars. This may be accomplished even when pulling strain is on the coupling. The weight of the locking member 11 and the friction between the latter and the bail effectively hold the locking member in operative position.

When it is desired to unlock the bail member from the draw bar head, locking member 11 is raised by means of a hand lever 16 which is secured to the rod 17, and the latter is provided with a lever 18 connected to the locking member 11 by means of a connecting link 19. The rod 17 may be provided with a handle 16 at each end, when so desired, so that the coupling may be operated to uncouple the trucks from either side thereof. Only one lever 16 is shown.

The truck end 3 is provided with a bumper head 20 which is adapted to be engaged by the prong 7 of the draw bar head and limit the movement of the truck ends 3 and 4 toward each other. A bail 21 is pivoted to the truck end 3 as at 22. The pivotal connection of bail 21 is secured to the truck end 3 in any approved manner, or such as indicated. On one side of the bail 21 is an arm 23 which is adapted to extend

under the truck end 3 and engage a pivotally mounted weight member 24. The arm 23 is preferably of less weight than the bail so that the arm will be held against the member 24 by gravity. The member 24 is pivoted as at 25 to the truck end 3 and has a shoulder 26 which engages a portion of the truck end 3 to limit the downward movement thereof. It will therefore be seen that when pressure is exerted on the bail 21 in a downward direction the weight member 24 will yield upwardly thereby permitting downward movement of the bail. Upward movement of the bail is accomplished by overcoming gravity in the bail. It will be seen then that should the truck ends 3 and 4 be out of horizontal alinement the inclined surfaces of the prongs 7 and 8 will cause the bail to yield vertically until it engages slot 9 in the draw bar head.

At the outer end of bumper head 20 at each lateral edge thereof is an arm 27 adapted to engage the outer end of prong 7 to facilitate guiding the bail 21 into the slot 9. The bail 21 is provided with a short bent or kinked portion 28 at its central part which is adapted to engage a recess 29 in the drawbar head where the prongs 7 and 8 come together. The purpose of the bent portion 28 and recess 29 is to provide means on the bail and drawbar head to coöperate with the prong 7 and arms 27 to maintain the trucks in alining relations when the latter are going down grade, or when the trucks are being pushed from the hindermost truck of the train. Without a means for maintaining the trucks in alining relation they could not be guided under such circumstances due to the flexibility of the connections and the uneven surfaces over which the trucks are adapted to travel.

The bail is formed in such a length that the portion 28 will not quite reach the bottom of recess 29 so that there will be no danger in bending the bail out of shape through the movement of the truck ends toward each other. The upper surface of the prong 7 is such that the bail 21 will ride over the recess 15 on passing into the slot 9. It will therefore be seen that owing to the curved surface 30 of the outer end of locking member 11, that bail 21 will automatically ride over the upper surface of prong 7 and raise locking member 11 until the bail passes under point 14, when the locking member will drop by gravity until its point 14 rests in the recess 15 to lock the bail in the draw bar head. When a pulling strain is placed on the coupling, bail 21 will be brought upwardly against the lower surface of prong 8 in slot 9 owing to the fact that the pivotal point 12 is above the slot 9.

While I have illustrated and described the preferred form of construction of my invention I do not desire to be limited to the precise details set forth, but desire to avail myself of the variations and changes that may come within the scope of the appended claims.

What I claim is:

1. The combination with two trucks, of a draw bar head secured to one of the trucks and having a bail engaging slot therein; a bail pivoted to the other truck and adapted to engage said bail slot; a pivotally mounted weight member on one of the trucks having a shoulder limiting the pivotal movement of the member in one direction; and an arm on the bail engaging the weight member and adapted to raise the latter to permit the bail to swing downwardly below its normal position.

2. A truck coupling comprising a draw bar head having a slot extending inwardly from its outer end; a bail pivotally mounted and disposed in the slot of said head; a yieldably mounted weight member; an arm on said bail engaging the weight member and supporting the bail in substantially horizontal position when not in engagement with the draw bar head; and a catch locking the bail in the head.

3. A truck coupling comprising a draw bar head having a slot extending inwardly from its outer end; a pivotally mounted bail adapted to engage the slot of said draw bar head; an arm on the bail; a yieldable member engaging the arm and normally holding the bail in position to be engaged by the slot of the draw bar head; and locking means in the draw bar head adapted to lock the bail in the slot of said head.

4. A truck coupling comprising a draw bar head having a slot extending inwardly from its outer end; a bail in the slot of said head; locking means in the head for locking the bail in the slot; and a bumper head adapted to engage the draw bar head and limit the movement of the bail into the slot.

5. In combination, two trucks; a draw bar head on one of the trucks having two diverging prongs thereon and a recess between the bases of the prongs; a bail on the other truck having a portion engaging said recess; and a bumper head on the last mentioned truck engaging one of the prongs of the draw bar head and limiting the movement of the bail into said recess, said bumper head also having prongs on its outer end engaging a prong of the draw bar head and cooperating with the bail and said recess to hold the trucks in substantial alinement when said trucks are moving down a grade.

6. The combination with the adjacent ends of two trucks, of a drawbar head on one of the trucks having a recess therein; a bumper on the other truck; projections on the bumper adapted to engage the sides of the drawbar head; and a bail on the truck which has the bumper thereon, there being

a portion of the bail engaging said recess and coöperating with the drawbar head and said projections to maintain the trucks in alinement.

7. The combination with the adjacent ends of two trucks, of a draw bar head on one of the truck ends having a portion bifurcated providing upper and lower prongs, there being a recess in the draw bar head at the meeting point of said prongs; a bumper on the other of the truck ends adapted to engage the draw bar head to limit the movement of the truck ends toward each other; a bail disposed between the prongs and mounted on the truck end carrying the bumper head, a portion of the bail being adapted to engage the recess in said draw bar head; and arms on the lateral edges o. the outer end of the bumper head, the draw bar head being adapted to engage the bumper head and said arms and co-acting with said bail when the latter is in engagement with the recess in the draw bar head to maintain the trucks in substantial alinement.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 4th day of December A. D. 1915.

EDWARD FITZGERALD.

Witnesses:
ARTHUR L. SPRINKLE,
THOMAS COLSON.