H. L. SCHROEDER.

TRUCK COUPLING.

APPLICATION FILED OCT. 29, 1917.

1,287,459.

Patented Dec. 10, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

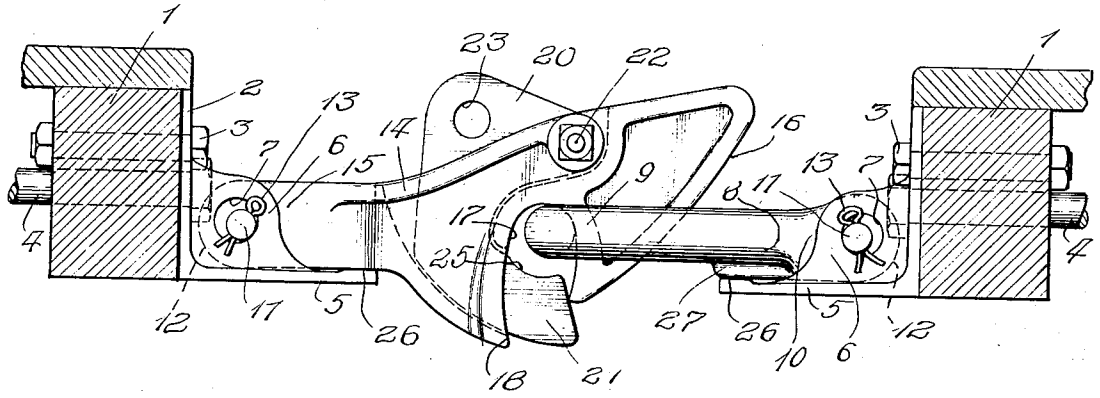
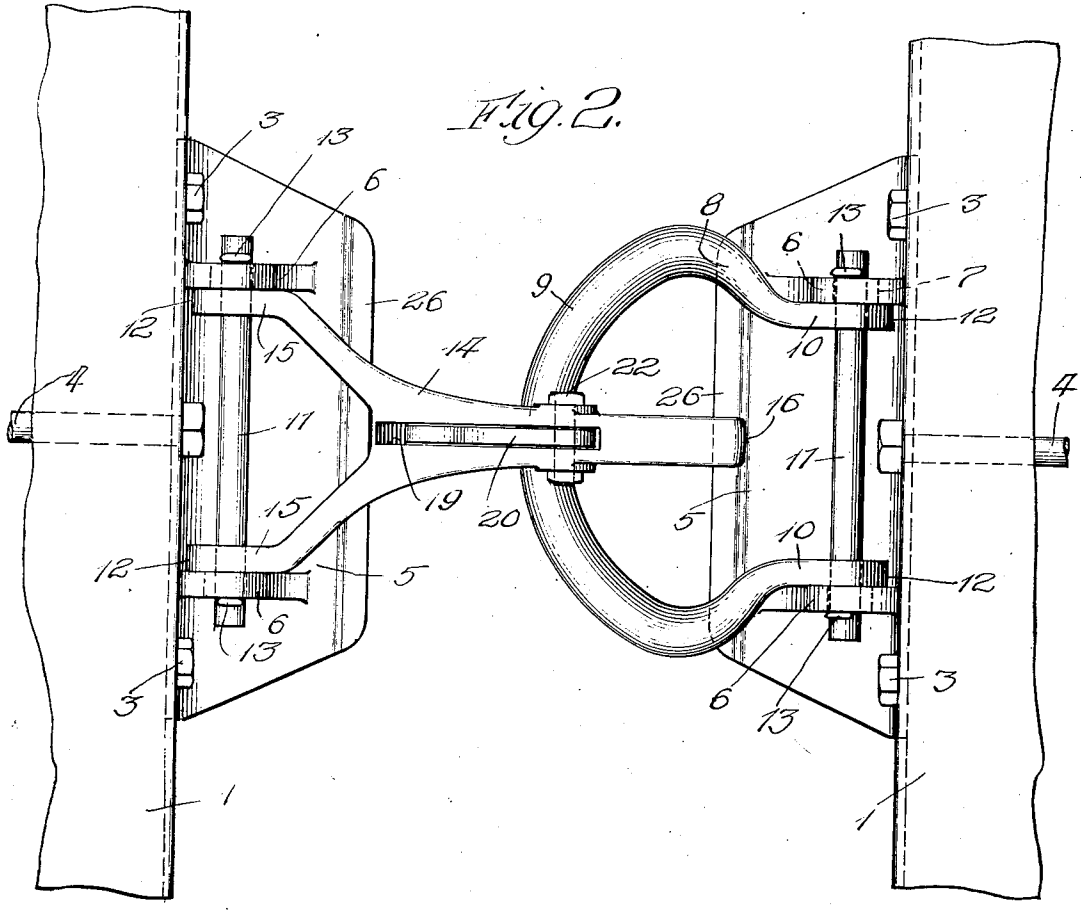


Fig. 2.



Witness:

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2 SHEETS—SHEET 2.

Fig. 3.

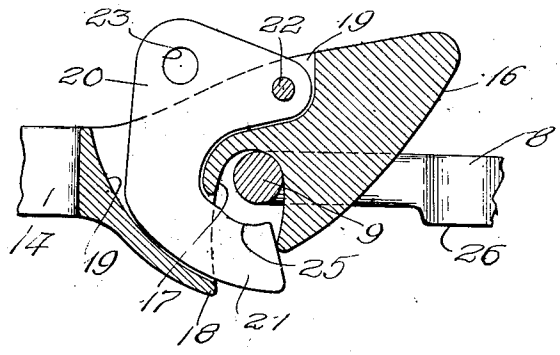


Fig. 4.

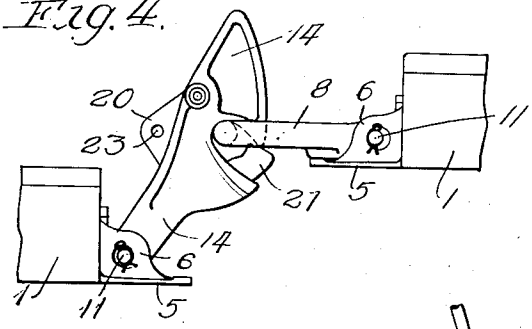


Fig. 5.

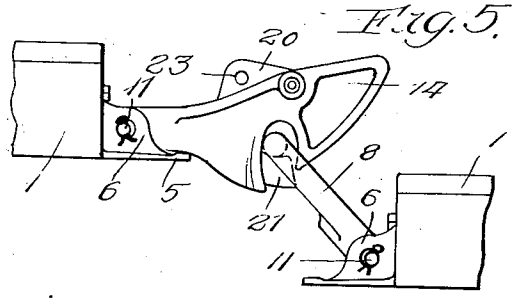


Fig. 6.

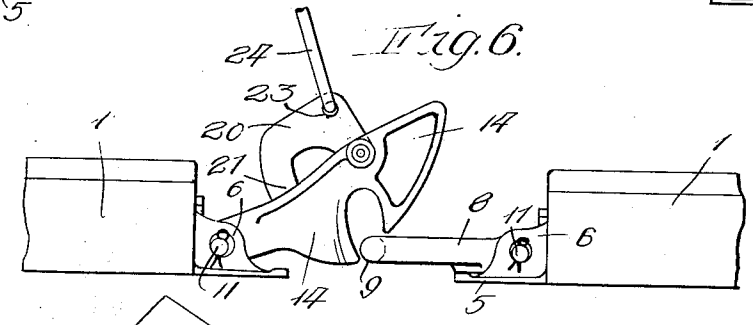
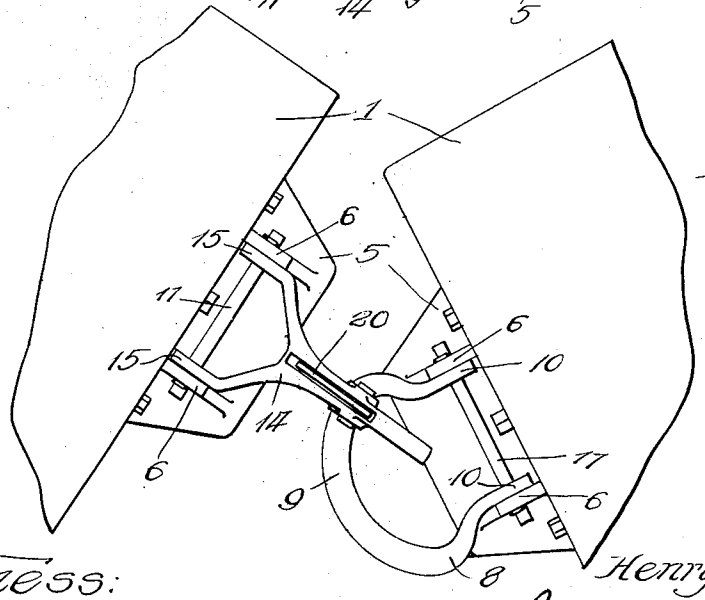


Fig. 7.



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UNITED STATES PATENT OFFICE.

HENRY L. SCHROEDER, OF CHICAGO, ILLINOIS.

TRUCK-COUPLING.

1,287,459. Specification of Letters Patent. Patented Dec. 10, 1918.

Application filed October 29, 1917. Serial No. 198,914.

To all whom it may concern:

Be it known that I, HENRY L. SCHROEDER, 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.

This invention relates to a coupling for cars, trucks and the like, connected in trains, and the principal objects are: to provide a new and improved construction of this kind which is coupled upon impact, but uncoupled only by first unlocking and then raising one of the coupling members; to insure that the members are normally held in coupling position; to relieve the truck proper of the strain in drawing a train of trucks; to prevent accidental uncoupling, particularly during movement over an uneven surface; and to relieve the pivots of each coupling member from impact in one direction. Other objects will appear hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of a coupling constructed in accordance with the principles of this invention and applied at the ends of adjacent trucks; Fig. 2 is a plan view of the same; Fig. 3 is a sectional view; Figs. 4 and 5 are views showing the positions of the coupling elements when one truck is higher than the other; Fig. 6 is a view showing the uncoupling operation; and Fig. 7 is a plan view showing how adjacent trucks may be coupled at a considerable angle with respect to each other.

At each end of a truck, represented in the drawings by the numeral 1, a supporting member 2 is secured by means of bolts 3. These supporting members at opposite ends of each truck are connected by means of a rod 4 with nuts at the outer ends, which transmits the strain between these supporting members 2 when a number of trucks are connected together in a train. Each supporting member is formed with a shelf 5 which extends forwardly, and with lugs 6 connecting the upright portion and the shelf 5 and formed with pivoting perforations 7.

Attached to the supporting member 2 at one end of each truck, is a link 8 which has a rounded outwardly extending portion 9, substantially in the form of a semi-circle and parallel perforated ends 10 through which a pivoting bar 11 extends, the bar also extending through the perforations 7 of the lugs 6 and being substantially less in diameter than these perforations 7, so that the extremities 12 of these perforated ends will abut the upright portion of the supporting member 2 before the rear side of the pivoting bar 11 engages the rear side of the perforations 7. The object of this construction is to take the impact of the coupling members away from the pivoting bars when the trucks are bumped together. The pivoting bars are commonly held in place by cotter pins 13 positioned at the outer sides of the lugs 6, the ends 10 being positioned inside of the lugs.

A latch 14 is formed with forked extremities 15 which are pivoted in the lugs 6 of the supporting member 2 at the other end of each truck with the same pivoting construction as provided for the link 8, and both the latch and the link are normally supported in a horizontal position by the projecting shelf 5 of each supporting member 2. The outer end 16 of the latch is inclined downwardly and at the lower end of the inclined portion is a hook 17 of which the rear side 18 is lower than the front side, which is the end of the inclined portion. In the latch is a recess 19 which extends from above the hook 17 and opens into the hook from the inner side thereof, so that a locking member 20 provided with a tongue 21 can be mounted on a pivot 22 above the hook 17 in such a position that the tongue will close the outer end of the hook by gravity. The upper side of this locking member 20 is provided with a perforation 23 in which can be inserted the finger of an operator, or a hook 24, as shown by Fig. 6, for withdrawing the tongue 21 from the opening of the hook when desired. This tongue is formed in its upper edge with a notch 25 for engaging the link 8 in some positions.

In operation, two adjacent trucks may be coupled by simply moving them together, the latch of one engaging the link of the other upon the inclined portion 16 of the latch, so that the latch will ride up over the link until the link engages the end or tongue 21 of the locking member 20 of the latch, whereupon the locking member will be rotated upwardly until the link is engaged in the hook 17, whereupon the latch will fall and the tongue 21 will assume the locking

position below the link. Of course to cause this automatic coupling operation the two adjacent ends of the trucks to be coupled must be on substantially the same level, so that the link of one will engage the inclined surface 16 of the latch of the other. For more accurately alining the links and latches, the supporting members 2 may each be provided with a slight ledge 26 along the front of the shelf 5 and the latch or link may be formed with an abutment 27, either of which may be reduced to more accurately aline the parts. When two adjacent trucks are drawn on surfaces of different elevations, either the link or the latch of one truck will be raised with respect to the other. Both of these conditions are clearly shown in Figs. 4 and 5, in which it will be observed that even with the greatest differences in elevation, the locking member 20 will still serve to close the opening of the hook 17 so that there will be no danger of uncoupling. The uncoupling thereof is a double pivotal action, for the locking member 20 is first rotated about its pivot 22 to move it out of locking position, and then by the continued movement of the locking member 20, the latch 14 itself is raised out of engagement with the link, whereupon the trucks can be separated.

It will be observed that as both the link 8 and the latch 14 project a substantial distance from the front of the trucks, and as the outer end 9 of the link is in the form of a semi-circle, two adjacent trucks may be connected simply upon impact of the coupling members in any substantially radial direction with respect to the semi-circular extremity of the link. This is a great advantage for the reason that it is not necessary to aline the trucks in order to couple them, thus particularly adapting trucks of this kind for general use without requiring tracks, although of course they may be used on trucks which require tracks.

I claim:

1. In a truck coupling, a pivoted link, a pivoted latch having a recess forming a hook to engage the link, and a lock pivoted on the latch for holding the link in engagement with the hook.

2. In a truck coupling, a pivoted link, a pivoted latch having a recess forming a hook to engage the link, and a locking member pivoted in the latch and actuated by gravity for holding the link in engagement with the recess of the latch.

3. In a coupling, a pivoted link, a pivoted latch having a recess, and a locking member for holding the link in the recess pivoted in the latch and movable first to free the link from the locking member and then to raise the latch from engagement with the link.

4. In a coupling, a pivoted link, a pivoted latch, and separate supporting means for each comprising an angular member having a horizontal ledge to hold them both against movement below a predetermined horizontal position, the link or the latch being separately rotatable upwardly upon its pivot without disengagement from each other.

5. In a coupling, a link, a pivoted latch which is rotated upon engagement and has a recess which hooks over the link, and a locking member pivoted to the latch which closes the recess and must first be moved before the latch can be disengaged from the recess of the link.

6. In a coupling, a pivoted link, and an upwardly movable latch extending forwardly with a downwardly inclined under face which rides up on the link when these parts are brought together, and with a recess at the lower end of the inclined face having the rear edge of the recess below the front edge thereof to insure the engagement of the link therein and to prevent the movement of the link past the recess.

7. In a coupling, a link, a pivoted latch with an inclined outer end for engaging the link and sliding up on it and a recess forming a hook at the bottom of the inclined portion, the rear side of the recess extending below the front side to insure the engagement of the link in the hook, and a locking member pivoted in the latch and extending across the opening of the hook from back to front.

8. In a coupling, a link, a pivoted latch with an inclined outer end for engaging and riding up on the link and with a hook at the bottom of the inclined end, and a locking member pivoted above and in front of the hook having a tongue which closes the opening of the hook by gravity.

9. In a coupling, a link, a pivoted latch having an inclined outer end with a recess forming a hook at the bottom of which the rear side extends below the front side, and a pivoted locking member having a tongue to close the hook which extends below the inclined end, the latch riding up on the link and the link striking and moving the said member to engage the link in the hook.

10. In a truck coupling, a link, a coöperating latch, and separate means for pivotally mounting the link and latch at opposite ends of a truck, said means comprising an angular member one portion of which is secured to the end of the truck and the other portion of which extends forwardly therefrom and has a ledge on the upper side of the projecting portion, the link and latch being pivoted adjacent the angular portion of said members so that the outer portion of the latch and link is normally held in a predetermined horizontal position by the said ledge, the latch having an inclined end to engage and slide up over the link.

11. In a truck coupling, a pivoted link having an outwardly rounded end embrac-

ing substantially a semi-circle, and a support for holding it normally in a horizontal position but permitting it to swing upwardly therefrom; a pivoted latch having an inclined end, with a support therefor to hold the latch normally in a horizontal projecting position but allowing it to swing upwardly; the latch being adapted to slide up on and engage the link in any substantially radial position within the semi-circular arc of the end of the link, when these parts are brought together.

12. A truck coupling comprising a support at each end of the truck which consists of an angular member one portion of which is upright and secured to the end of the truck and the other portion of which extends outwardly in a horizontal direction with a pair of spaced lugs formed integral therewith in the angle between the said portions, a pivot extending through the lugs, and a rotatable coupling member loosely mounted on the ends of the pivot outside of the lugs and normally supported in a horizontal position by the horizontal extending portion of the angular member.

13. A truck coupling comprising a support at each end of the truck comprising an angular upright portion attached to the truck end and a horizontally extending portion with spaced lugs formed integral with the member between the angular portion and each lug provided with a perforation, a pivoting bar extending loosely through the perforations of the lugs, and a rotatable coupling member pivoted on the bar and normally supported in a horizontal position by the extending portion of said supporting member, the perforations of the lugs being sufficiently large to permit the rotatable coupling member to engage the upright portion of the support thereby taking a thrust from the pivoting bar and the lugs.

14. The combination with a truck, of a coupling comprising a link, a latch, a separate pivoting means for the link and latch attached one at each end of the truck and comprising an angular support one portion of which is upright and secured to the truck end and the other portion of which extends in a horizontal direction therefrom, and a rod directly connecting the upright portions of said supporting members at the opposite ends of the truck for taking the strain between them, both the link and the latch being upheld in a predetermined horizontal position by the outwardly extending portion of their supports.

15. In a coupling, a link, a latch with a hook for engaging the link and a recess therein extending through the top of the latch and opening into the hook adjacent the open end thereof, and a locking member pivoted in the recess above the hook and movable through the top and having a tongue which extends by gravity across the open end of the hook.

16. In a coupling, a link, a recessed pivoted latch for engaging the link, and a locking member pivoted in the recess of the latch for confining the link with an apertured portion extending above the latch, the locking member being first disengaged from the link when the apertured portion is raised, and the latch being disengaged from the link about its pivot upon the continued raising of said apertured portion.

In testimony whereof I have signed my name to this specification, on this 24th day of October A. D. 1917.

HENRY L. SCHROEDER.