A. A. LORIMOR.

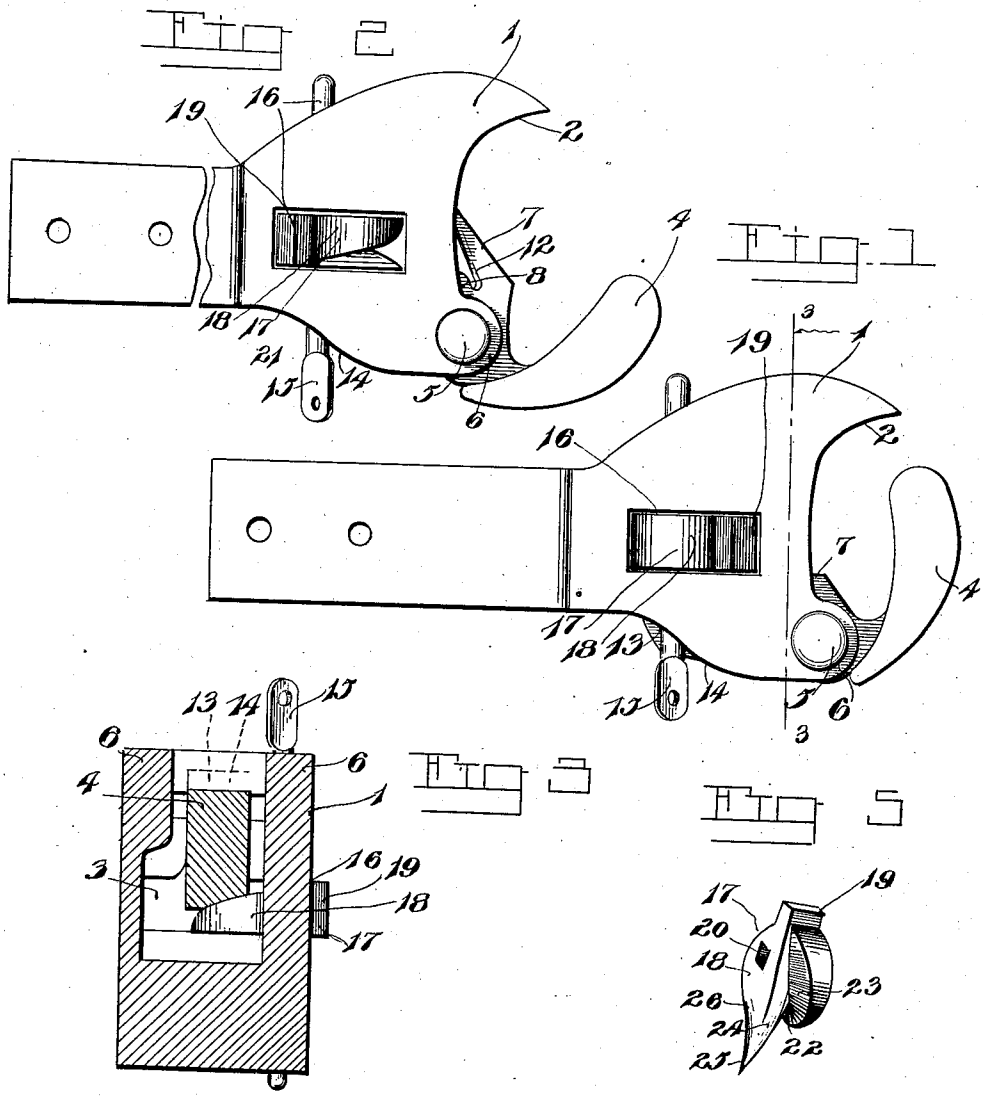
CAR COUPLING.

APPLICATION FILED DEC. 20, 1910.

1,025,071.

Patented Apr. 30, 1912.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

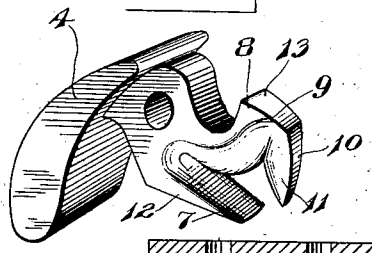


Fig. 5.

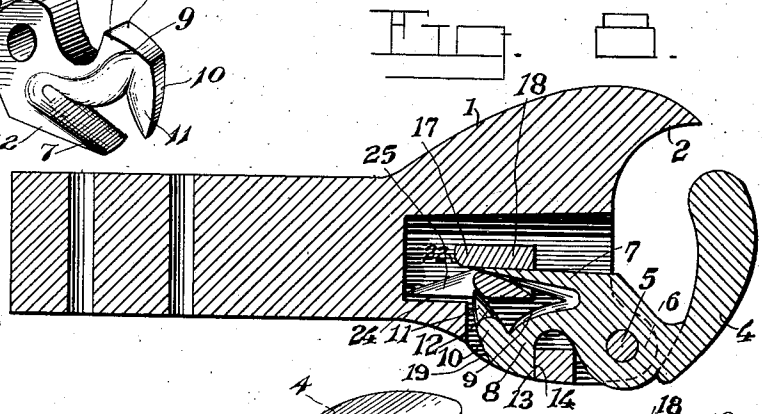
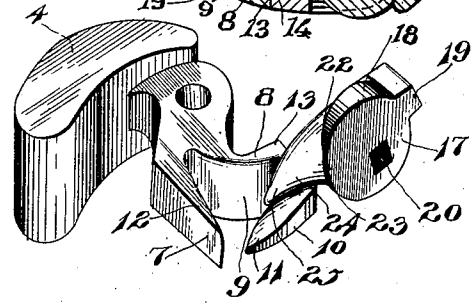


Fig. 6.



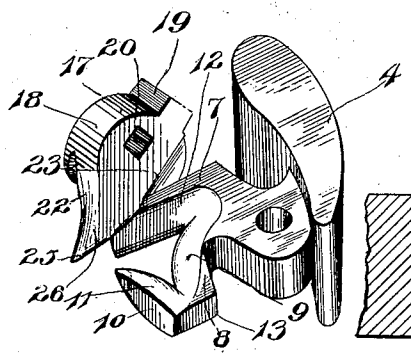
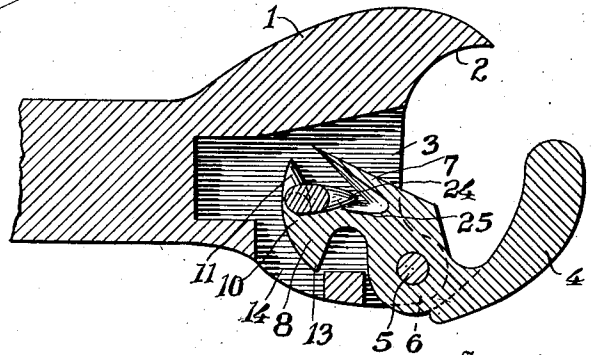


Fig. 7.

Fig. 8.



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UNITED STATES PATENT OFFICE.

ALVA A. LORIMOR, OF CHAMA, NEW MEXICO.

CAR-COUPLING.

1,025,071. Specification of Letters Patent. Patented Apr. 30, 1912.

Application filed December 20, 1910. Serial No. 598,295.

To all whom it may concern:

Be it known that I, ALVA A. LORIMOR, a citizen of the United States, residing at Chama, in the county of Rio Arriba and State of New Mexico, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

This invention relates to car couplers and more particularly to the Janney type.

The object of the invention is the provision of improved means for throwing the knuckle to open and closed position and for utilizing the same means for locking it in closed position automatically.

A further object of the invention is the provision of a coupler which may be readily opened without requiring slack between the car, as is necessary in most types of couplers.

A further object of the invention is the provision of means for throwing the knuckle to closed position and at the same time automatically locking the knuckle in closed position.

Further objects of the invention will appear as the following specific description is read in connection with the accompanying drawing which forms a part of this application, and in which:

Figure 1 is a top plan view showing the coupler in closed position. Fig. 2 is a similar view showing it in open position. Fig. 3 is a section taken on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of the knuckle removed from the coupler body. Fig. 5 is a perspective view of the locking dog removed from the coupler body. Fig. 6 is a detail perspective view of the knuckle and locking dog removed from the body and arranged in relative position when the knuckle is in full open position. Fig. 7 is a similar view showing the relative positions of the knuckle and locking dog when the coupler is in closed position.

Referring more particularly to the drawing, 1 represents the head of the coupler which is provided with the usual recessed knuckle face 2 and which has a recess 3 leading inwardly therefrom which is adapted to receive the knuckle tail of the knuckle 4. This knuckle is hinged upon a vertically positioned pin 5 which passes through ears 6 in the coupler head. The knuckle tail is provided with a rearwardly extending part 7 which is adapted to be engaged when in unlocked position by the knuckle of the connecting coupler, so as to throw the knuckle to partially closed position. An extension 8 projects from the knuckle tail alongside of the part 7 and is provided with a cam surface 9 and a finger 10 having a cam surface 11. The inner side of the operating finger is also provided with a cam 12 and the extension 8 has an extension 13 thereon which when the knuckle is in closed position, projects through an aperture 14 in the casing and takes the strain off the connecting pin 5. A transverse operating rod 15 is journaled in the coupler head and extends across an opening 16 in which the locking dog 17 is arranged to operate. This locking dog consists in a substantially circular body 18 having a weighted extension 19 and a squared opening 20 arranged eccentrically to the body to receive the squared portion 21 of the operating shaft 15.

The body of the locking dog is provided with a cut away portion 22, one wall of which is provided with a cam surface 23 and the other wall of which is provided with a cam surface 24 which merges into a similar surface on an extension finger 25, the opposite face of this finger being also provided with a cam surface 26. When the coupler knuckle is in closed position, the part 7 lies in the cut away portion 22 and has its outside surface engaged by the cam face 23 of the locking dog 17. When the locking dog is rotated the cam face 24 of the finger 25 engages the cam face 12 of the operating tongue and forces it outwardly to substantially half open position. A relative movement in opposite directions of the cars will then fully open the coupler so that they may be readily separated. In the open position of the knuckle the cam surface 9 is engaged by the cam surface 26 and the knuckle thereby readily started in its closing movement until the finger comes into contact with the cam surface 11 on the finger 10. This movement continues until the cam surface 26 rides off of the finger 11 at which time the outer face of the locking tongue 7 is covered by the wall of the kerf 22 and upon further rotating movement of the dog, the cam surface 23 is brought into engagement with the outer face of the tongue 7 and the extension 13 forced into the aperture 14. The weighted extension on the dog is thrown passed the center in each complete operation and therefore holds the locking dog in operated position. When the cam face 23 is against the outer surface of the locking

tongue 7, the knuckle is locked in closed position and cannot be opened until the locking dog is rotated to open the same. The cam surfaces 12 and 24 working against each other make the knuckle very easy to open under almost all conditions, while these surfaces working against each other also make the closing of the knuckle by the coacting coupler just as easy. The opening and closing of the knuckle by the operating shaft is also rendered very easy and positive when the cam surface 23 engages the face 12 of the operating tongue 7. The coupling may be thrown to full open position by operating the shaft with a quick snappy movement. This, however, can only be accomplished when the coupler is not coacting with a similar one on an adjoining car or when there is no strain on the coupler.

Having thus described the invention, what is claimed is—

1. A car coupler comprising a head, a knuckle pivoted thereto and having a tail, a member carried by the head rotating on a horizontal axis, a cam finger upon the rotating member, said operating finger traveling in a path to engage a portion of the knuckle tail and adapted to throw the knuckle tail to partially open position in a predetermined movement of the rotating member, said finger adapted to engage another portion of said knuckle tail for throwing the knuckle to partially closed position upon the reverse movement of the rotating member, means carried by the rotating member for completing the closing movement of the knuckle and to lock the same in closed position, and a counter weight carried by the rotating member for holding the same in locking position.

2. A car coupler comprising a head, a knuckle pivoted thereto and having a tail with a lateral finger, a member carried by the head and rotating at right angles to the axis of movement of the tail, a cam finger carried by the member and moving in a path to engage said tail to throw the knuckle to partially open position, said finger adapted to engage the lateral finger to throw the knuckle to partially closed position, a second cam carried by the rotating member for engaging the tail to complete the closing movement of the knuckle and to lock the same in closed position, and a weight on the rotating member for holding the same in either position.

In testimony whereof I affix my signature in presence of two witnesses.

ALVA A. LORIMOR.

Witnesses:
F. W. BROAD,
D. J. RUSK.