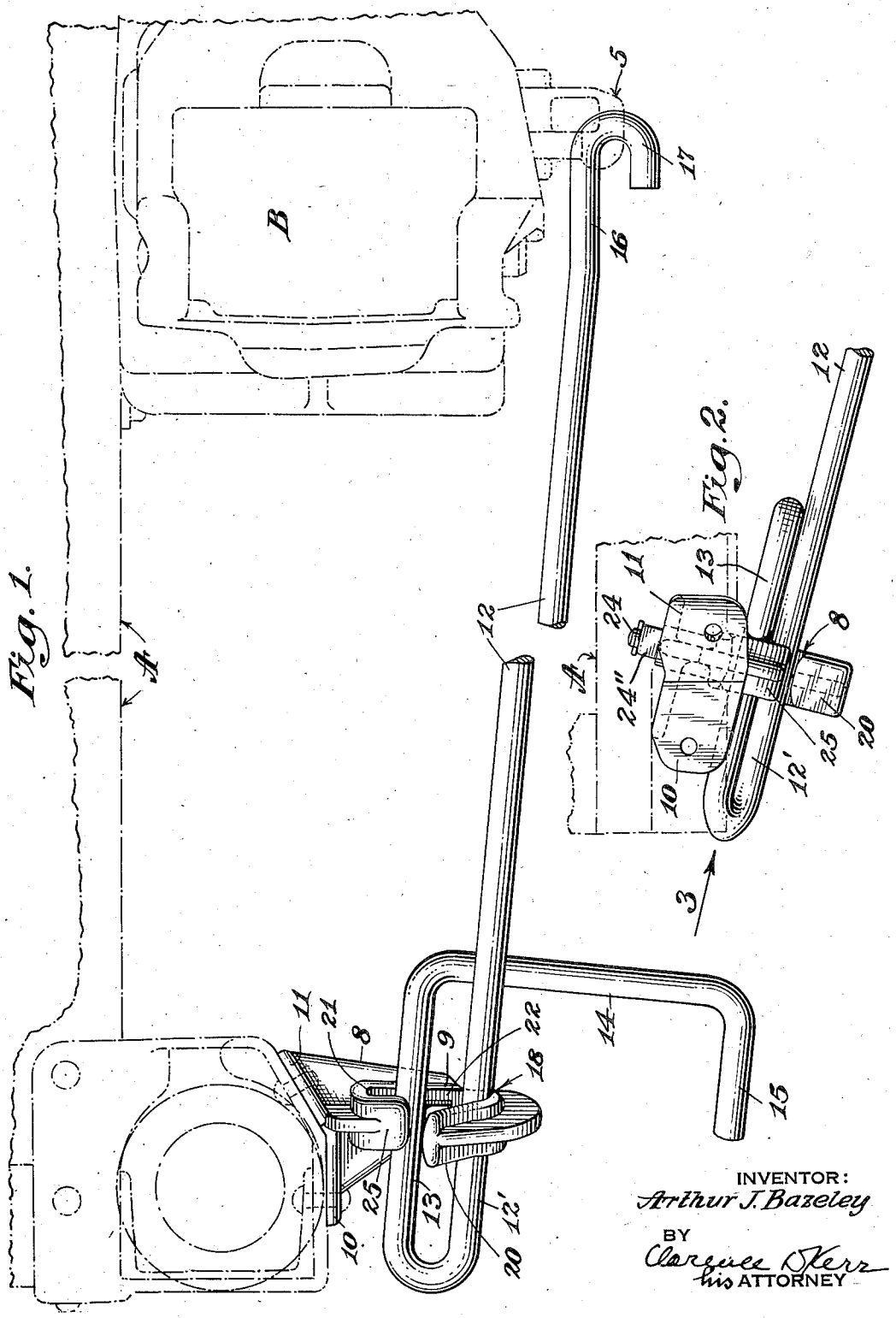
May 26, 1936. A. J. BAZELEY 2,041,807

UNCOUPLING MECHANISM

Filed May 25, 1934 3 Sheets-Sheet 1



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Fig. 3.

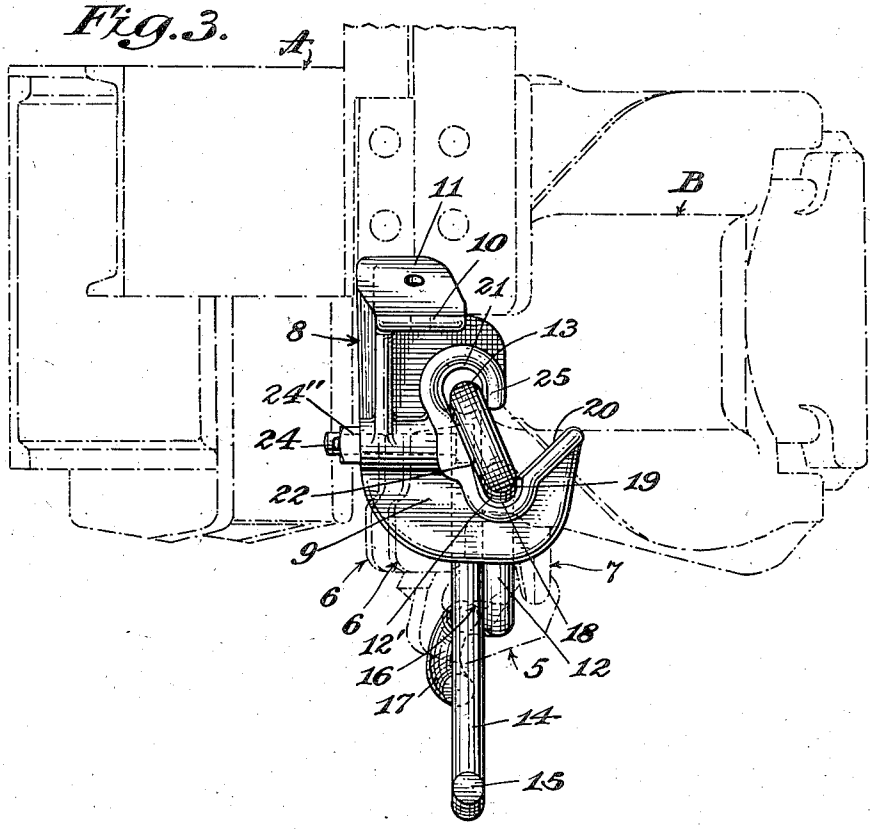
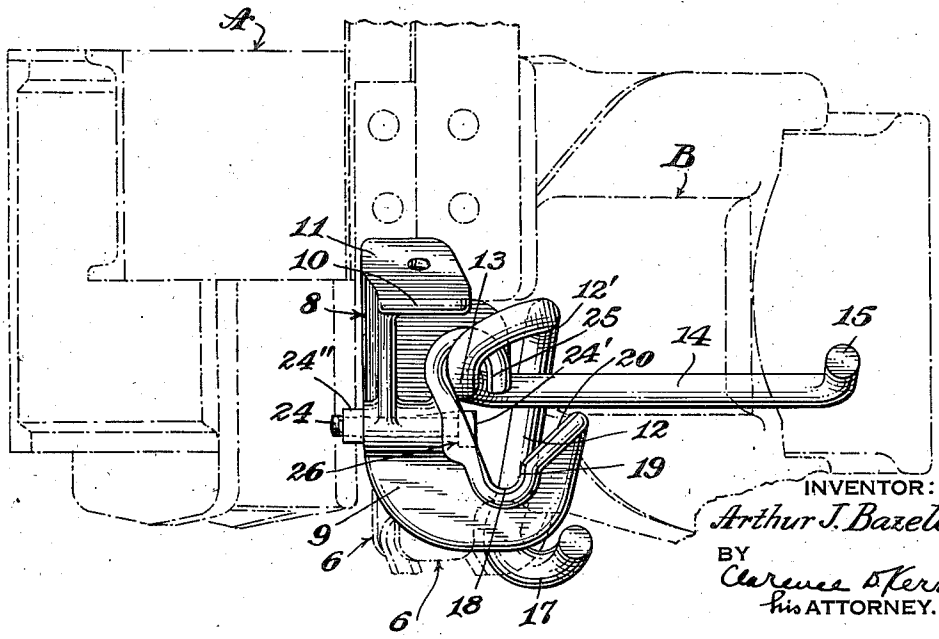


Fig. 4.



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Fig. 5.

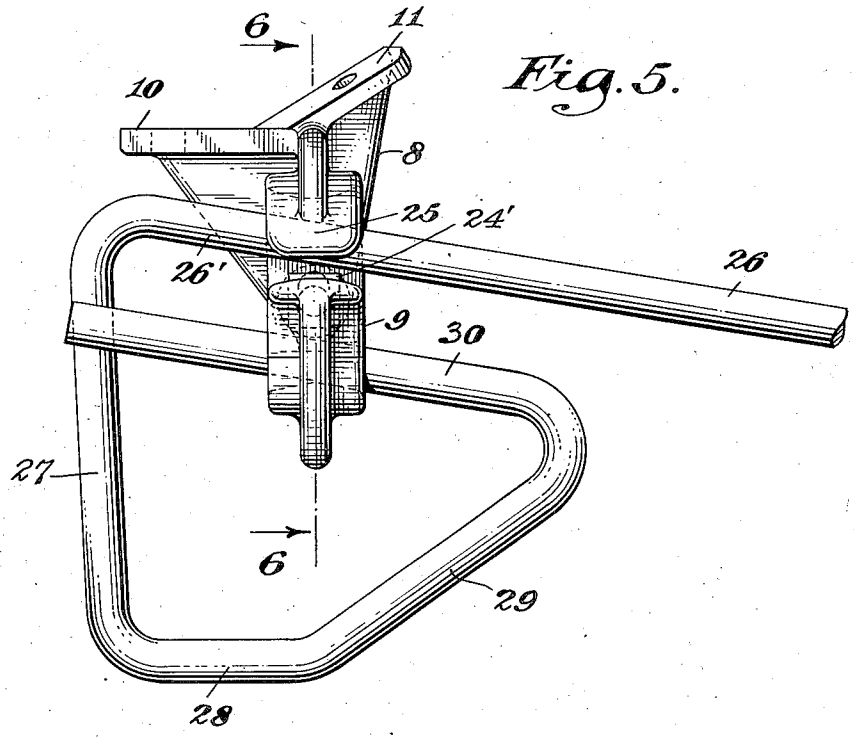
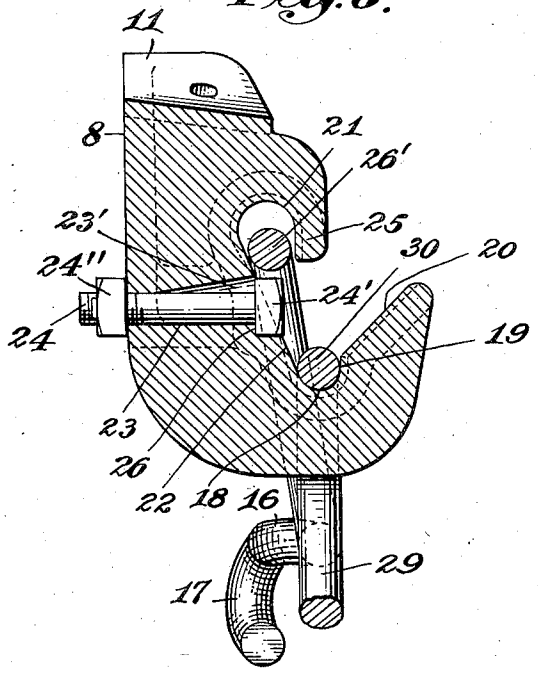


Fig. 6.



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UNCOUPLING MECHANISM

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Application May 25, 1934, Serial No. 727,418

18 Claims. (Cl. 213—166)

This invention relates to uncoupling mechanisms for railway cars and has for an object the provision of new and improved uncoupling mechanism, simple in construction, reliable in action, and effectively prevented from accidental operation to uncoupling position. In this connection the invention includes supporting means cooperating with an uncoupling rod in a novel manner, whereby the parts may be assembled with facility, undesired actuation of the rod is precluded, and intended operation of the rod to uncoupling position may be expeditiously accomplished. A further object resides in provision of an uncoupling mechanism possessing the foregoing advantages and in which the uncoupling rod is at the same time supported for movement laterally with the coupler. The invention also provides a novel and efficient uncoupling mechanism which may be readily applied to car couplers of the rotary bottom—operated type. Other features and advantages of the invention will be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a view in front elevation of an uncoupling mechanism embodying my invention, with associated car and coupler structure, of conventional type, shown in dot-dash lines.

Fig. 2 is a top plan view illustrating the supporting bracket together with the adjacent portion of the uncoupling rod.

Fig. 3 is an end elevation of the uncoupling mechanism, viewed in the direction of the arrow 3 of Fig. 2.

Fig. 4 is a view similar to Fig. 3, but showing the uncoupling rod in knuckle thrown position.

Fig. 5 is a front elevational view showing the bracket on a slightly larger scale and illustrating in conjunction therewith a modified form of uncoupling rod.

Fig. 6 is a vertical sectional view on line 6—6 of Fig. 5.

Referring to the drawings there is indicated in dot-dash lines at A a portion of a conventional car structure in which is mounted in the usual manner a coupler B of known form. Said coupler includes a lever 5 (Fig. 3) pivoted at one end on a trunnion supported by lugs 6, 6, and connected at its other end to a link 7 for operating the coupler lock. These elements are well-known in the art, and further description thereof is unnecessary to an understanding of my invention.

In carrying out my invention I secure to the car a bracket 8, comprising a web 9 and flanges 10, 11 adapted to lie against corresponding portions of the car frame work and fastened thereto in any suitable way. This bracket cooperates with an uncoupling rod 12 having one end portion bent into the form of an elongated loop, the lower element of which is the portion 12' of said rod and the upper element of which loop is designated by the numeral 13. From the loop element 13 there extends downwardly the handle portion 14, which, as shown, is bent laterally at the lower end to provide a portion 15 adapted to be grasped by the operator. The opposite end of the rod 12 is first bent to provide a laterally extending portion 16 (Figs. 3 and 6) and is then bent into the form of a hook 17. The portion 16 is adapted to overlie the lever 5 and the hook 17 to extend downwardly through one side of said lever and thence to pass under the same, whereby said lever is operatively engaged by the rod portions 16, 17 as shown in Fig. 3.

The bracket 8 is provided with an upwardly facing recessed portion 18 which forms a bearing for receiving the lower loop portion 12' of the uncoupling rod when the latter is in the normal unoperated position, as shown in Figs. 1 and 3. The shoulder 19 of bearing portion 18 assists in preventing turning of the uncoupling rod into uncoupling position so long as said rod portion 12' is seated in said bearing. Extending upwardly and outwardly from shoulder 19 is a ledge 20.

Spaced above the bearing portion 18 is a downwardly facing recessed portion 21 of the bracket adapted to receive and form a bearing for the upper element 13 of the loop. A downwardly and outwardly inclined surface 22 of the bracket extends from the bearing portion 21 to the bearing portion 18. In the bracket there is further provided a hole 23 for the reception of a bolt 24 to maintain the uncoupling rod in position when once assembled. Said opening 23 is provided at its forward end with a flared portion 23', which permits the bolt to be readily inserted in said opening, despite the sloping ledge 20 which extends in front of the opening. In other words, the wider recess provided by the flared portion 23' permits the bolt 24 to be tipped slightly upwardly and passed into the opening 23.

To assemble the rod in operative position in the bracket, the end portions 16, 17 of said rod are first hooked over and around the rotary uncoupling lever 5 and then the upper element 13 of the loop at the outer end of said rod is placed in the bearing portion 21 of the bracket, the rod then assuming the position shown in Fig. 4. Bolt 24 is then placed in position and the rod thereby locked in place. In this connection it

may be observed that the shortest distance from the head 24' of the bolt 24 to the jaw 25 of the bearing portion 21 is less than the diameter or thickness of the rod, whereby the latter is locked against withdrawal from the bracket so long as the bolt 24 is in the opening 23. The head of said bolt seats against a shoulder 26 at the front of said opening, and said bolt may be fastened in position by the nut 24'' which may be locked in place in any suitable or conventional manner.

When the handle 14 is released with the rod in the position shown in Fig. 4 the lower portion 12' of the loop drops into engagement with sloping ledge 20 on the bracket and slides down said ledge into the position shown in Fig. 3, due to the weight of the rod and its portion 14. In the position shown in Fig. 3 the loop portion 12' has dropped into engagement with the bearing recess 18 while the upper loop element 13 has dropped out of seating engagement with the upper bearing 21. At the same time, the jaw 25 overlaps said loop element 13, and the bolt head 24', in cooperation with said jaw, precludes removal of the rod from the bracket. Also in the position of the parts in Fig. 3 the vertical surface or shoulder 19 of the bearing portion 18 prevents the loop element 12' from moving forwardly and thus precludes the rod from swinging to uncoupling position. Sudden jolts that would tend to swing the handle 14 forwardly will thus have no effect upon the uncoupling rod and the latter therefore cannot cause undesired unlocking of the coupler.

To operate the rod to uncoupling position, the operator grasps the projection 15 of the handle portion 14 and lifts upwardly until the upper element 13 of the loop seats in the upper bearing 21, at which time the lower element 12' of said loop is clear of the shoulder 19. The handle 14 may now be swung forwardly to unlock the coupler. After the coupler is unlocked and said handle released, the uncoupling rod will assume its normal locked position, shown in Fig. 3, without further attention by the operator. If it is desired, in addition to unlocking the coupler, to throw the knuckle to open position the handle 14 is swung further forwardly to substantially the position shown in Fig. 4, where the knuckle is shown open; and, upon release, said handle and associated rod portions will descend into their normal Fig. 3 position when the knuckle is fully closed.

It will be observed that the portions 12', 13 form an elongated loop which seats slidably in the bracket 8 and permits the uncoupling rod to move laterally with lateral movements of the coupler.

In Figs. 5 and 6 there is shown in conjunction with the bracket 8 an uncoupling rod 26 of modified form. The end of this rod which engages the rotary unlocking lever of the coupler is the same as that of the rod 12, but the portion of the rod 26 which engages the bracket 8 is of modified construction. Thus said rod 26 is bent downwardly to form the portion 27, then laterally at 28, then upwardly and inwardly to provide the portion 29, and finally is bent outwardly to form the portion 30 which may extend in overlapping relation to the portion 27. The portion 30, and the portion 26' of the rod 26 immediately thereabove constitute upper and lower elements of an elongated loop portion of the rod, similar to elements 12' and 13 of the loop formed in rod 12; the element 30 cooperating with the lower bearing portion 18 of bracket 8 in the same manner as does said rod portion 12', and portion 26' cooperating with the upper bearing 21 in the same way as does element 13. At the same time, the elements 27—30 provide an effective operating handle no part of which projects into position for catching in the operators clothing or causing other possible damage.

The terms and expressions which I have employed are used as terms of description and not of limitation, and I have no intention, in the use of such terms and expressions, of excluding any equivalents of the features shown and described or portions thereof, but recognize that various modifications are possible within the scope of the invention claimed.

I claim:

1. In an uncoupling mechanism for railway car couplers, an uncoupling rod comprising an elongated loop portion at one end thereof, a bracket for supporting said rod, and having means providing a bearing for receiving one of the elements of said loop when said rod is in normal unoperated position, said bracket preventing uncoupling operation of said rod so long as said element is engaged with said bearing, and a bearing on said bracket spaced from the first mentioned bearing and adapted to receive the other element of said loop when the first mentioned element is disengaged from said first mentioned bearing.

2. In an uncoupling mechanism for railway car couplers, an uncoupling rod comprising an elongated loop portion at one end thereof, a bracket comprising a lower bearing for receiving one of the elements of said loop when the rod is in normal unoperated position, and constructed and arranged to prevent operation of said rod so long as the element is seated in said bearing, an upper bearing on said bracket adapted to receive the other element of said loop when the first mentioned element is disengaged from said lower bearing.

3. In an uncoupling mechanism for railway car couplers, an uncoupling rod having a loop portion at one end thereof, a bracket for supporting said rod and having a lower bearing portion slidably receiving the lower element of said loop, said bearing portion including a shoulder cooperating with said element to prevent operation of said rod to uncoupling position so long as said element is seated in said bearing portion, and an upper bearing portion on said bracket adapted to receive the other element of said loop when the first mentioned element is disengaged from said lower bearing portion.

4. In an uncoupling mechanism for railway car couplers, an uncoupling rod having a loop portion at one end thereof, a bracket for supporting said rod and having a lower bearing portion slidably receiving the lower element of said loop, said bearing portion being open at its top to enable said lower element to be disengaged therefrom upon upward movement of said element and said bearing portion being further adapted to prevent operation of said rod to uncoupling position so long as said lower element is engaged with said bearing portion, an upper bearing portion on said bracket open at its bottom and adapted to receive the upper element of said loop when the first mentioned element is disengaged from said lower bearing portion, and means preventing removal of said rod from said bracket.

5. In an uncoupling mechanism for railway car couplers, an uncoupling rod supporting bracket comprising an upwardly facing recessed bearing portion, a downwardly facing recessed

bearing portion above the first mentioned portion and spaced therefrom, a generally downwardly and outwardly inclined wall extending from the second to the first mentioned bearing portion, and an inclined ledge extending upwardly and outwardly from the top of the first mentioned bearing portion.

6. In an uncoupling mechanism for railway cars, a bracket comprising an upwardly facing recessed bearing portion, an uncoupling rod having a portion thereof seated in said bearing portion when said rod is in normal unoperated position, a downwardly facing bearing portion on said bracket spaced from the first mentioned bearing portion and adapted to provide a fulcrum for engagement with another portion of said rod when the first mentioned rod portion is disengaged from said upwardly facing bearing portion, and means intermediate said bearing portions for limiting the downward movement of said second mentioned rod portion and preventing removal of said rod from said bracket.

7. In an uncoupling mechanism for railway cars, a bracket comprising an upwardly facing recessed bearing portion, an uncoupling rod having a portion thereof slidably seated in said bearing portion, a downwardly facing bearing portion on said bracket spaced above the first mentioned bearing portion and adapted to provide a fulcrum for engagement with another portion of said rod when the first mentioned rod portion is disengaged from said upwardly facing bearing portion, said downwardly facing bearing portion including a jaw extending into position for overlapping said other portion of said rod when the first mentioned rod portion is seated in the first mentioned bearing portion.

8. In an uncoupling mechanism for railway cars, a bracket comprising an upwardly facing recessed bearing portion, an uncoupling rod having a portion thereof slidably seated in said bearing portion, a downwardly facing bearing portion on said bracket spaced above the first mentioned bearing portion and adapted to provide a fulcrum for engagement with another portion of said rod when the first mentioned rod portion is disengaged from said upwardly facing bearing portion, said downwardly facing bearing portion including a jaw extending into position for overlapping said other portion of said rod when the first mentioned rod portion is seated in the first mentioned bearing portion, and a retaining member removably seated in said bracket and extending beneath said other portion of said rod.

9. In an uncoupling mechanism for railway car couplers, an uncoupling rod comprising an elongated loop portion at one end thereof, a supporting bracket comprising an upwardly facing recessed bearing portion in which one of the elements of said loop portion is received when the rod is in normal unoperated position, a downwardly facing bearing portion on said bracket receiving the other element of said loop portion and providing a fulcrum therefor when said rod is raised out of engagement with the first mentioned bearing portion, the second mentioned bearing portion having a jaw overlapping said other loop element when the first mentioned element is seated in the first mentioned bearing portion, a retaining element removably seated in said bracket and extending beneath said other loop element to a point spaced from said jaw portion by a distance less than the thickness of said element, and handle means on said rod for rotating the latter to uncoupling position when the first mentioned loop element is out of engagement with said first mentioned bearing portion.

10. In an uncoupling mechanism for railway car couplers, a bracket comprising an upwardly facing recessed bearing portion, an uncoupling rod having a portion thereof slidably seated in said bearing portion when said rod is in normal uncoupling position, a downwardly facing bearing portion on said bracket spaced above the first mentioned bearing portion and adapted to provide a fulcrum for engagement with another portion of said rod when the first mentioned rod portion is disengaged from said upwardly facing bearing portion, handle means on said rod for rotating the latter to uncoupling position when the first mentioned rod portion is disengaged from the first mentioned bearing portion, and an extension on said bracket projecting upwardly and outwardly for guiding the first mentioned rod portion into the first mentioned bearing portion during downward movement of the rod from uncoupling position.

11. An uncoupling mechanism as defined by claim 10, wherein the downwardly extending bearing portion includes a jaw extending into position for overlapping said other portion of the rod when the first mentioned rod portion is seated in the first mentioned bearing portion, said bracket having mounted therein a retaining element which extends under said other portion of said rod to a point spaced from said jaw by a distance less than the thickness of said rod.

12. In an uncoupling mechanism for railway car couplers, an uncoupling rod having one end thereof adapted to transmit a rotary movement to lock operating devices the opposite end of said rod having a loop portion, and a bracket having an upwardly facing recessed bearing portion in which the lower element of the loop is seated when the rod is in normal position, and a downwardly facing recessed bearing portion in which the upper element of said loop is seated during operation of the rod for uncoupling.

13. An uncoupling mechanism as defined by claim 12 wherein the first mentioned end of said rod comprises a portion for overlying the top of an element to be operated and a portion for extending downwardly along a side of said element and thence under the same.

14. An uncoupling mechanism as defined by claim 12 wherein the lower bearing portion comprises a surface arranged to prevent undesired swinging of the rod to uncoupling position so long as said lower element of said loop is seated in said lower bearing portion.

15. In an uncoupling mechanism for railway car couplers, a bracket having an upwardly facing recessed bearing portion and a downwardly facing recessed bearing portion above the first mentioned portion, an uncoupling rod having at one end an elongated loop comprising a lower portion seated in the first mentioned bearing portion of said bracket when said rod is in normal unoperated position, and an upper element engaged in the second mentioned bearing portion during movement of said rod for uncoupling, said rod having a downwardly extending portion, a laterally extending portion, and an upwardly extending portion connecting said upper and lower elements and extending below said bracket to provide a handle portion for operating said rod.

16. An uncoupling rod comprising a pair of angularly disposed portions, a third portion bent

substantially at right angles to one of said pair of angularly disposed portions, a fourth portion bent at an obtuse angle to said third portion and a fifth portion bent at an acute angle to said fourth portion and extending toward one of said pair of angularly disposed portions.

17. An uncoupling mechanism as defined by claim 16, wherein the opposite end of said rod is formed for engagement with a rotary uncoupling element.

18. In an uncoupling mechanism for railway car couplers, an uncoupling rod supporting bracket comprising an upwardly facing recessed bearing portion, a downwardly facing recessed bearing portion above the first mentioned portion and spaced therefrom, an inclined ledge extending upwardly and outwardly from the first mentioned bearing portion, said bracket having a bolt receiving opening between said bearing portions, said opening having a flared forward portion.

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