Feb. 12, 1935. E. P. KINNE 1,990,699

COUPLER

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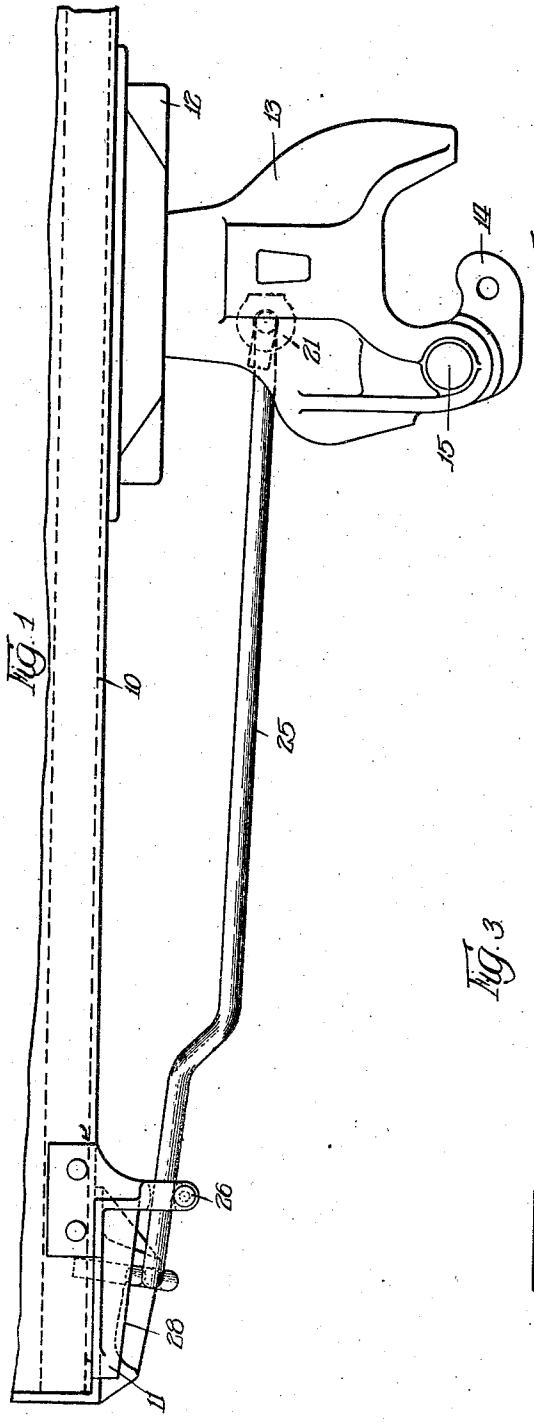


Fig. 1

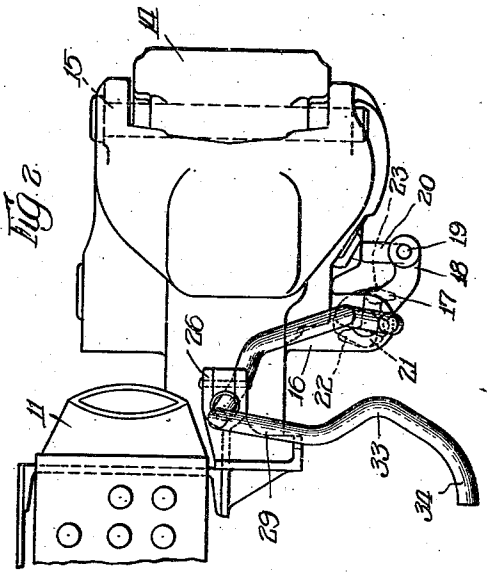


Fig. 2

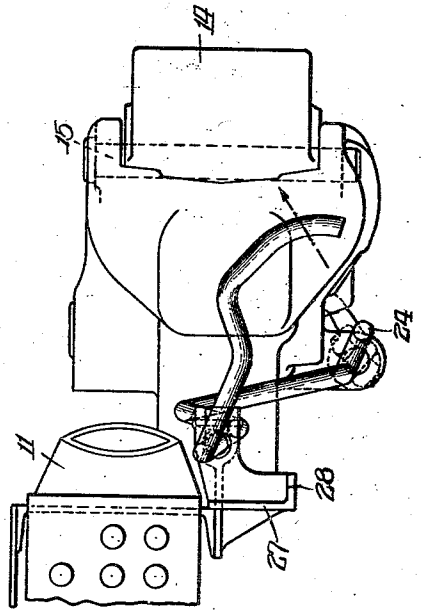


Fig. 3

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COUPLER

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2 Claims. (Cl. 213—167)

This invention pertains to coupler mechanism, and more particularly to means for operating a coupler from the side of the car.

An object of the invention is to improve the operation of couplers, and more particularly standard A. R. A. type couplers in a manner whereby the coupler can always be operated positively and easily through the medium of an operating rod.

Another object is to provide simple, reliable, efficient and inexpensive coupler operating mechanism having cooperating parts whereby a maximum operating force may be transmitted to the lock for facilitating the operation of the coupler.

Still another object is to provide coupler operating mechanism which will fulfill all requirements of service and manufacture and in which the operating handle will always seek a position such that there will be no tendency to disrupt the parts nor to have any interference with the relative movement of the coupled cars or cooperating parts.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation, as will be more fully described and particularly pointed out in the specification, drawing and claims appended hereto.

In the drawings, which illustrate an embodiment of the device and wherein like reference characters are used to designate like parts—

Figure 1 is a top plan view showing the application of a coupler embodying the invention to a railway car, the same showing the coupler in top plan;

Figure 2 is a fragmentary side elevation of the coupler and coupler mechanism illustrated in Figure 1, showing the knuckle in locked position; and

Figure 3 is a side elevation of the coupler and coupler mechanism illustrated in Figure 2, showing the position of the handle in full knuckle throw position.

The car end sill 10 may be provided with the usual appliances, such as the push pole pocket 11, striking casting 12 and associated mechanism associated with the coupler 13, said coupler being provided with the usual knuckle 14 pivoted as at 15 to the coupler head. In this case the coupler is of the rotary bottom lift type, being provided with depending lugs 16 providing a support for the rotor or member 17 supporting and controlling movement of the lifter 18 pivoted as at 19 to the link 20, the link operating the knuckle 14 in the usual manner. The rotor is provided with an eye 21 having upstanding and depending shoulders 22 and 23 for cooperation with hook portions 24 of the operating rod 25. An upward movement of the outer end of the lifter 18 releases the coupler anti-creep and upon further movement raises the knuckle lock. The coupler used for illustration is shown in my Patent No. 1,639,300 of August 16, 1927.

In this case, the operating rod is operatively connected at its inner end to said member 17 and is rotatably supported adjacent its outer end in a bearing 26 provided on the bracket 27 secured to the end sill 10 of the car. This bracket is provided with a cam portion or abutment 28. It is to be understood that the rod is adapted to slide in the bearing to follow the movement of the coupler.

The handle 29 of the operating rod 25 has a portion 33 extending in an outboard direction from the bracket in order to form an offset portion and lend weight to tend to return the rod in a clockwise direction into engagement with abutment 28 for preventing oscillation of said rod to prevent release of said coupler anti-creep. The handle is curved as at 34 to provide conditions of greater safety for the operator in case he should stand in front of the handle to eliminate any chances of his getting pinched between the rod and an opposite car. Further, the bent portion also permits and facilitates easier handling of the coupler mechanism as the handle can be grasped in a lower position and the full operative position is relatively low.

It will be appreciated that substantially greater force is necessary to release the lock and throw the knuckle (which takes place as the handle approaches the full throw position) than is required at the beginning of the uncoupling operation. In order that the operator may apply a maximum operating force, the lower grip portion 34 of the handle 29 has its extremity inclined rearwardly and so disposed and arranged that when grasped by an operator facing the handle, the pull on the handle will be substantially normal thereto, as shown by the arrow on Fig. 3 of the drawing. The lower portion 34 may comprise separate rearwardly inclined portions so that when the operator grabs the upper inclined portion his hand naturally slides to the lower inclined portion as the handle is moved to full knuckle throw position to facilitate operation of the device.

In operation it will be seen that the handle is moved upwardly from the position illustrated in Figure 2, coupler locked position, to the position

illustrated in Figure 3, causing the rod to rotate in the counterclockwise direction whereby the hook portions 24 of the rod move to contact the shoulders 22 and 23, imparting rotation to the rotor to thereby lift the link 20 in an upward position through the lifter arm 18, moving the knuckle mechanism to control movement of the knuckle 14. Release of the handle permits the same, due to loose connection between the rod and rotor, to move in a clockwise direction to a position of inoperativeness where it will be unobtrusive and will not be dangerous.

It is to be understood that I do not wish to be limited by the exact embodiment of the device shown, which is merely by way of illustration and not limitation, as various and other forms of the device will of course be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a railway car, the combination of a coupler provided with a movable lock and an anti-creep, an abutment on said car, operating mechanism for said lock, said mechanism comprising a member for transmitting operating movements to said lock, and an operating rod provided with a handle having an offset portion, said operating rod being rotatably supported adjacent said handle and being operatively connected at its inner end to said member, said handle comprising a portion adapted to be disposed in engagement with said abutment and a lower grip portion formed in said offset portion, said offset portion providing weight normally tending to urge said first named portion into engagement with said abutment for preventing oscillation of said rod to prevent release of said coupler anti-creep, said lower grip portion having its extremity inclined rearwardly and so disposed and arranged that when grasped by an operator facing said handle, pull on the handle will be substantially normal thereto.

2. In a railway car, the combination of a coupler provided with a movable lock and an anti-creep, an abutment on said car, operating mechanism for said lock, said mechanism comprising a member for transmitting operating movements to said lock, and an operating rod provided with a handle having an offset portion, said operating rod being rotatably supported adjacent said handle and being operatively connected at its inner end to said member, said handle comprising a portion adapted to be disposed in engagement with said abutment and a lower grip portion formed in said offset portion, said offset portion providing weight normally tending to urge said first named portion into engagement with said abutment for preventing rotation of said rod to prevent release of said coupler anti-creep, said lower grip portion having separate rearwardly inclined portions below the offsetting means, the lower of said portions being so disposed and arranged that when grasped by an operator facing said handle, pull on the handle will be substantially normal thereto.

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