Dec. 31, 1963 F. C. KULIEKE, JR 3,115,973

UNCOUPLING ARRANGEMENT FOR A RAILWAY DUMP CAR

Filed Feb. 16, 1962 2 Sheets-Sheet 1

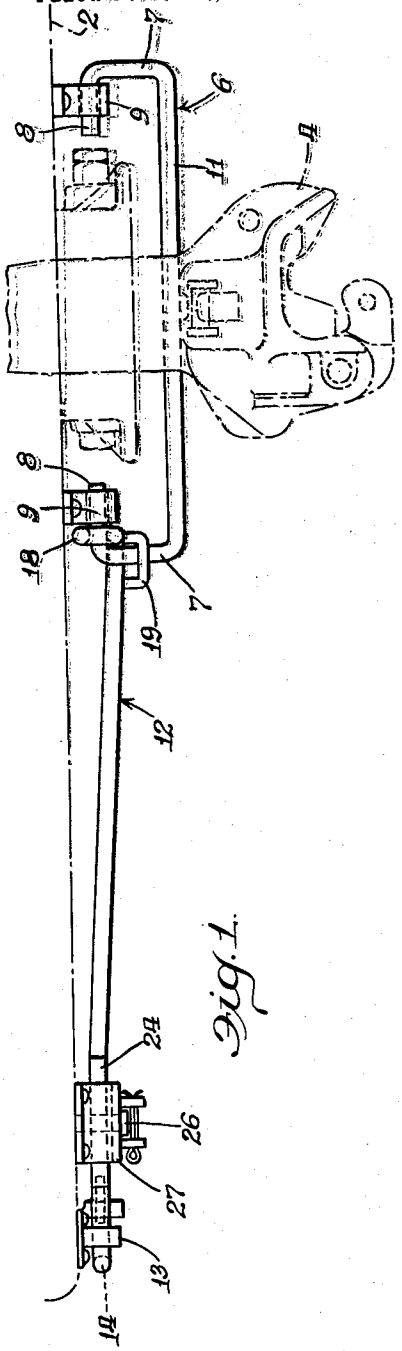


Fig. 1.

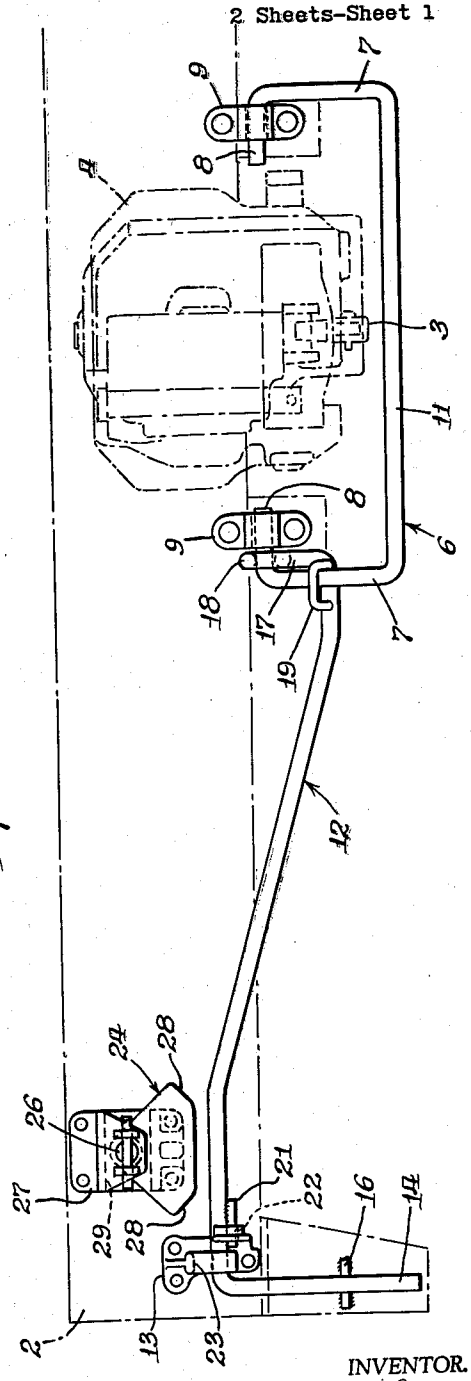


Fig. 2.

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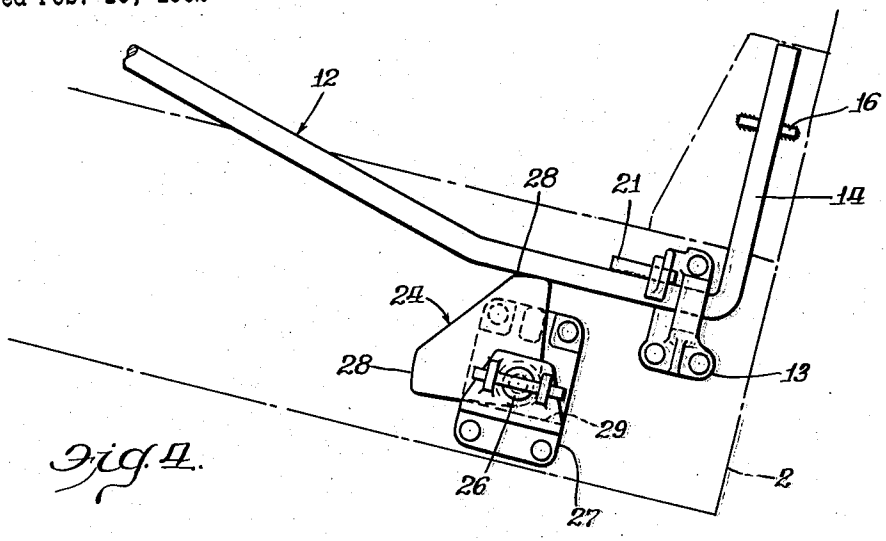
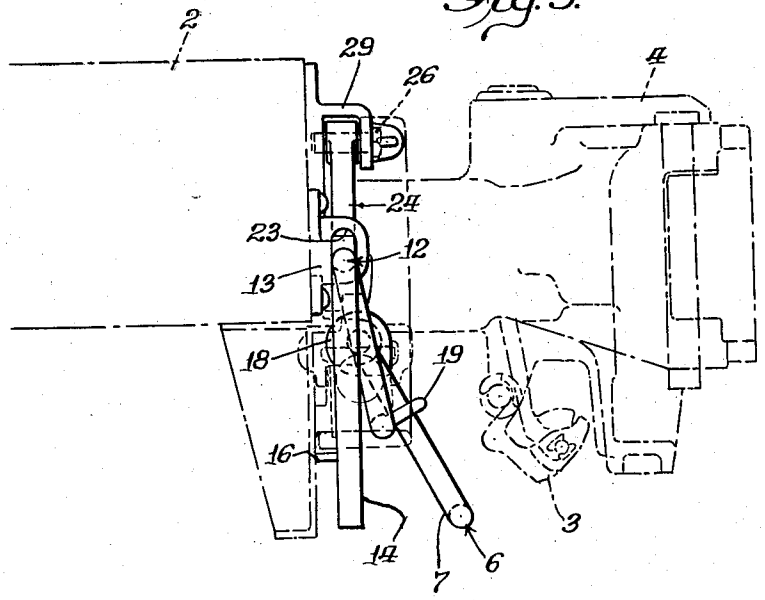


Fig. 4.

Fig. 3.



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United States Patent Office 3,115,973 Patented Dec. 31, 1963

3,115,973

UNCOUPLING ARRANGEMENT FOR A RAILWAY DUMP CAR

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Filed Feb. 16, 1962, Ser. No. 173,651
4 Claims. (Cl. 213—166)

This invention relates to an uncoupling mechanism for rotary dump railway cars.

As conventional rotary dump railway cars are provided at one end thereof with couplers adapted to rotate relative to their cars, it is necessary to provide an uncoupling mechanism which is not connected to the coupler.

It is, therefore, an object of the invention to provide an uncoupling mechanism operable to actuate a rotary locklift lever of a conventional bottom operating coupler without being connected thereto, to thereby permit rotational movement of the car and uncoupling mechanism relative to the coupler when the car is being rotated to an inverted position to discharge the contents therefrom.

Another object of the invention resides in the provision of an uncoupling mechanism comprising a generally U-shaped member journaled at its ends on the car and connected to the inboard end of an operating rod journaled at its outboard end on the car, the rod being manually rotated to pivot said U-shaped member upwardly to engage and actuate a rotary locklift lever to unlock a conventional bottom rotary operating coupler.

A further object of the invention resides in the provision of an uncoupling mechanism which is relatively simple and inexpensive in construction and reliable in operation.

The invention embodies other novel features, details of construction and arrangement of parts which are hereinafter set forth in the specification and claims and illustrated in the accompanying drawings, forming part thereof, wherein:

FIGURE 1 is a top plan view illustrating an uncoupling mechanism embodying features of the invention;

FIGURE 2 is a front elevation of the structure shown in FIGURE 1;

FIGURE 3 is an end elevation of the uncoupling mechanism;

FIGURE 4 is a fragmentary view in front elevation showing the operating rod held in fixed position by a safety latch when the car is rotated to its inverted dumping position.

Referring now to the drawings for a better understanding of the invention, the uncoupling mechanism is shown as mounted on a railway dump car 2 to actuate a rotary locklift lever 3 of a conventional bottom rotary operating coupler 4 mounted for rotational movement relative to the car.

The uncoupling mechanism is shown as comprising a generally U-shaped member 6 formed from a length of round rod stock to provide side sections 7 having inturned end portions 8 journaled in bearings 9 secured to the car 2 on opposite sides of the coupler 4, the side sections being interconnected by a lever engaging section 11.

An operating rod 12 is journaled adjacent its outboard end in a bearing bracket 13 secured to the car 2, the outer end of the rod extending downwardly to provide a handle 14 normally in abutting engagement against a stop member 16 on the car. The inboard portion of the rod 12 extends downwardly and across the adjacent side section 7 and thence upwardly at 17 along the inner side of said section to terminate at an eye portion 18 mounted on the adjacent inturned end portion 8. The side section 7 is connected to the rod 12 by means of a U-shaped member 19 welded at its end to the rod.

A key 21 is secured on the rod 12 for engagement in a keyway 22 formed on the bearing bracket 13 to prevent accidental rotational movement of the rod. The bracket 13 is formed with an elongated bearing aperture 23 to permit the rod to be manually raised to disengage the key 21 from the keyway 22 and then rotated to unlock the coupler.

To prevent accidental rotation of the operating rod 12 during rotary dumping movement of the car, a latch 24 is pivotally suspended at 26 on a latch bracket 27 secured to the car. The latch 24 is normally spaced above the rod 12, as shown in FIGURE 2, and is formed with end surfaces 28 movable into abutting engagement with the rod, as shown in FIGURE 4, responsive to rotational movement of the car. It will be noted that gravitational pivotal movement of the latch is limited in either direction by abutting engagement of the latch against the top wall 29 of the latch bracket 27.

In the operation of the uncoupling mechanism thus shown and described, the operator lifts the rod 12 to raise the key 21 out of the keyway 22 and then rotates the rod to pivot the member 6 upwardly to engage and actuate the rotary locklift lever 3 to thereby unlock the coupler. During rotary dumping movement of the car, the coupler 4 is held against rotational movement with the car by the mating coupler on an adjacent car.

When the car is in its normal upright position, the key 21 is engaged in the keyway 22 in the bracket 13 and prevents accidental rotational movement of the rod 12. During rotation of the car, the latch 24 pivots by gravity to engage the rod and maintain the key 21 in the keyway 22.

While the invention has been shown in but one form, it will be obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit of the invention and the scope of the depending claims.

I claim:

1. In a rotary dump railway car, a coupler mounted for rotation relative to the car and provided with a rotary locklift lever, a generally U-shaped member journaled at its ends on said car for upward pivotal movement to engage and actuate the locklift lever, an operating rod journaled on said car and having its inboard end connected to said member for common rotational movement, and a handle depending from the outboard end of said rod, means to prevent accidental rotational movement of said rod when the car is in its normal upright position, and other means coacting with said first mentioned means to prevent accidental rotational movement of said rod when the car is rotated to its inverted dumping position.

2. In a rotary dump railway car, a bottom operating coupler mounted for rotation relative to the car and provided with a rotary locklift lever, two bearings secured to the car on opposite sides of the coupler, a generally U-shaped member having inturned end portions journaled in said bearings, a bearing bracket secured to the car, an operating rod journaled in said bearing bracket and having its inboard end connected to said member for limited universal movement, a handle depending from the outboard end of said rod adapted to be manually operated to pivot said member upwardly to engage and actuate the rotary locklift lever to unlock the coupler, said member having a side section normal to its adjacent end portion, said rod having an eye portion mounted on said adjacent end portion, and a U-shaped member on said rod engaging said side section.

3. In a rotary dump railway car, a bottom operating coupler mounted for rotation relative to the car and provided with a rotary locklift lever, two bearings secured to the car on opposite sides of the coupler, a generally

U-shaped member having inturned end portions journaled in said bearings, a bearing bracket secured to the car, an operating rod journaled in said bearing bracket and having its inboard end connected to said member for limited universal movement, a handle depending from the outboard end of said rod adapted to be manually operated to pivot said member upwardly to engage and actuate the rotary locklift lever to unlock the coupler, said member having a side section normal to its adjacent end portion, said rod having an eye portion mounted on said adjacent end portion, a U-shaped member on said rod engaging said side section, means including a key on said rod engaged in a keyway in said bearing bracket to prevent accidental rotational movement of said rod when said car is in its normal upright position, and a safety latch pivotally mounted on said car and coacting with said means to prevent accidental rotational movement of said rod when the car is rotated to its inverted dumping position.

4. In a rotary dump railway car, a bottom operating coupler mounted for rotation relative to the car and provided with a rotary locklift lever, two bearings secured to the car on opposite sides of the coupler, a generally U-shaped member having inturned end portions journaled in said bearings, a bearing bracket secured to the car, an operating rod journaled in said bearing bracket and having its inboard end connected to said member for limited universal movement, a handle depending from the outboard end of said rod adapted to be manually operated to pivot said member upwardly to engage and actuate the rotary locklift lever to unlock the coupler, said member having a side section normal to its adjacent end portion, said rod having an eye portion mounted on said adjacent end portion, a U-shaped member on said rod engaging said side section, means including a key on said rod engaged in a keyway in said bearing bracket to prevent accidental rotational movement of said rod when said car is in its normal upright position, and a safety latch coacting with said means to prevent accidental rotational movement of said rod when the car is rotated to its inverted dumping position, said latch being pivotally mounted on the car for gravitational movement into abutting engagement with said rod responsive to rotation of the car to its inverted position to prevent movement of said key from its keyway and accidental rotation of said rod.

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