Aug. 22, 1933. A. J. BAZELEY 1,923,137

UNCOUPLING MECHANISM FOR CAR COUPLERS

Filed Feb. 25, 1928 3 Sheets-Sheet 1

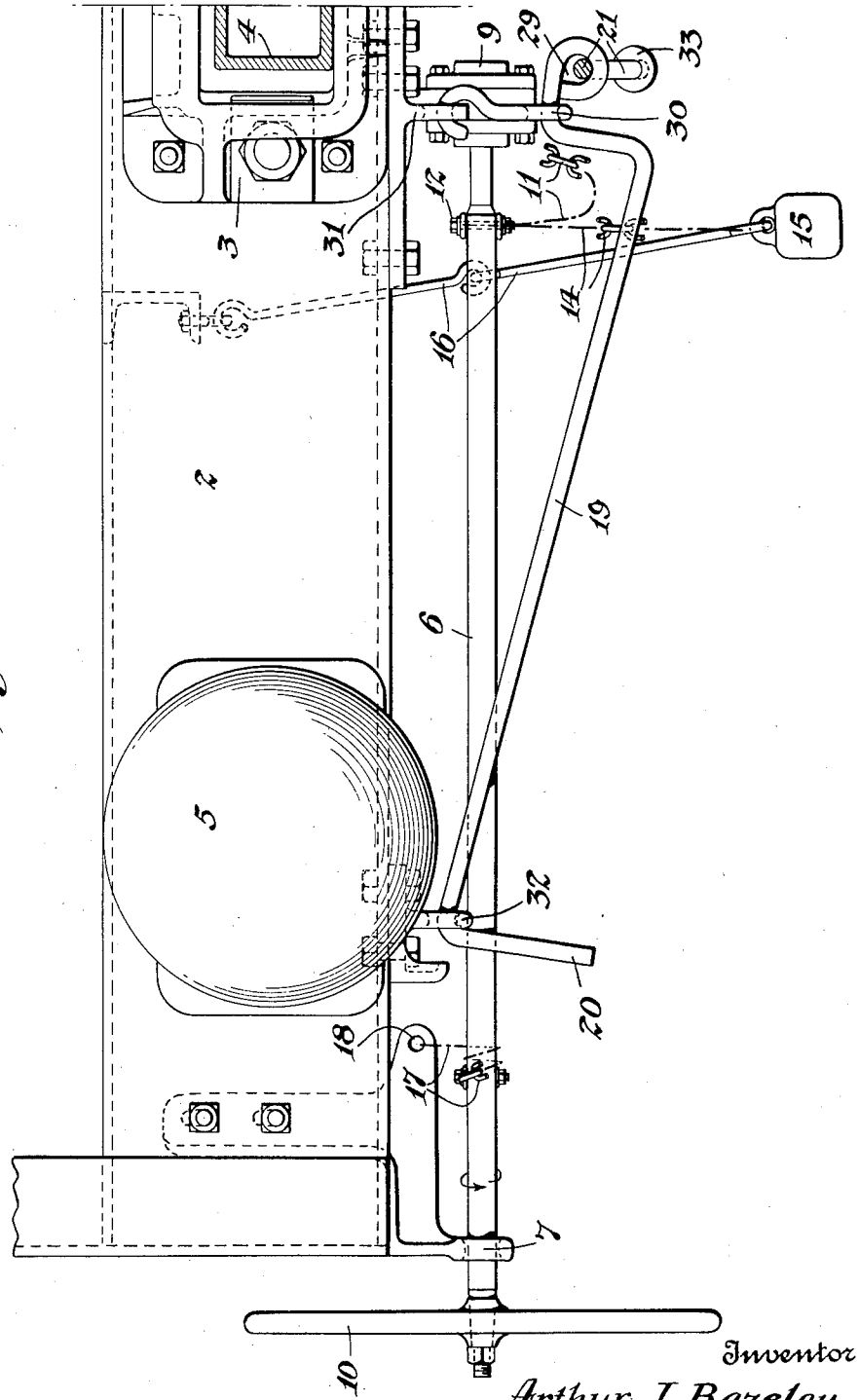


Fig. 1.

Inventor
Arthur J. Bazeley
By his Attorney
Clarence Speer

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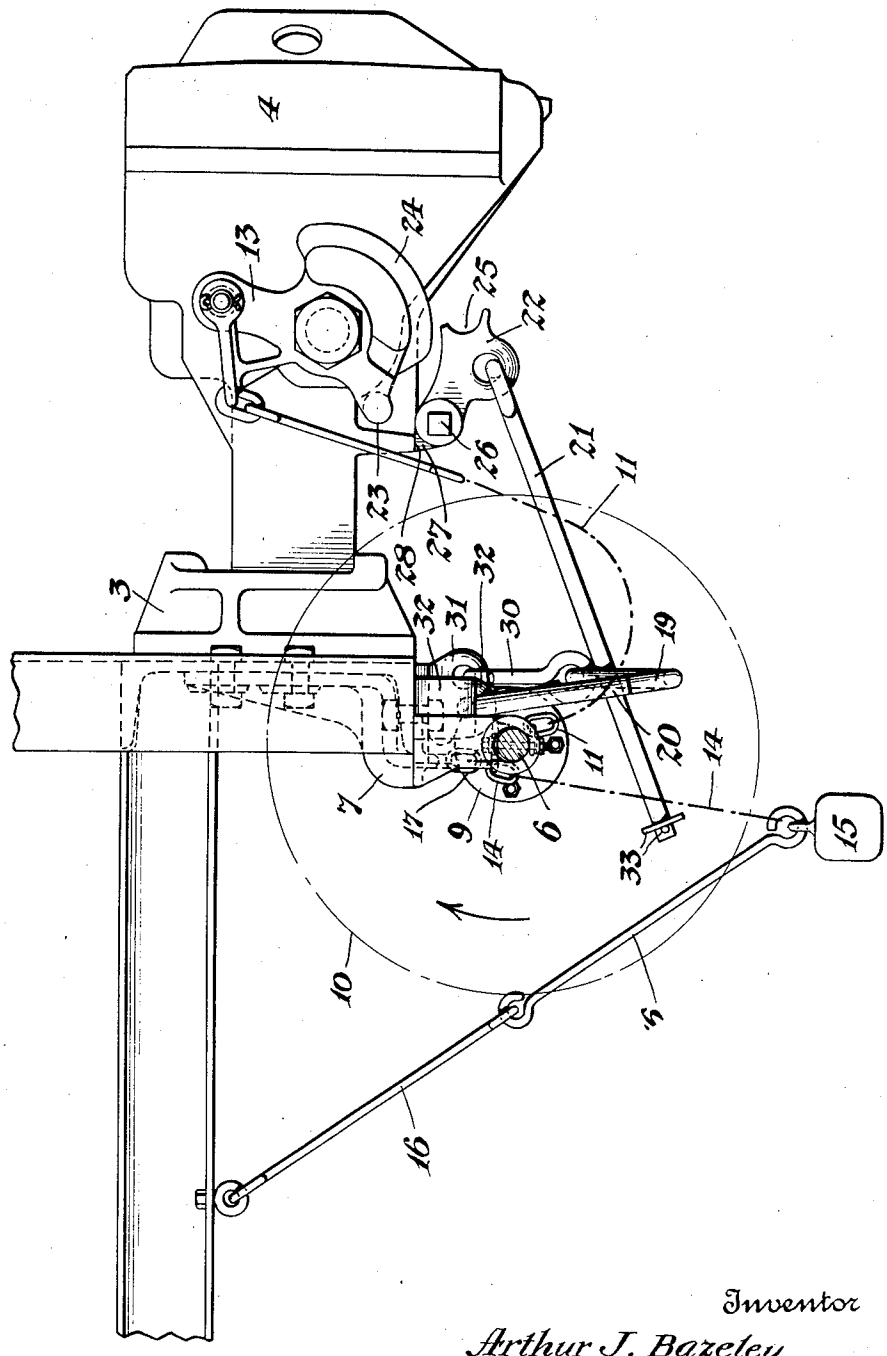


Fig. 2.

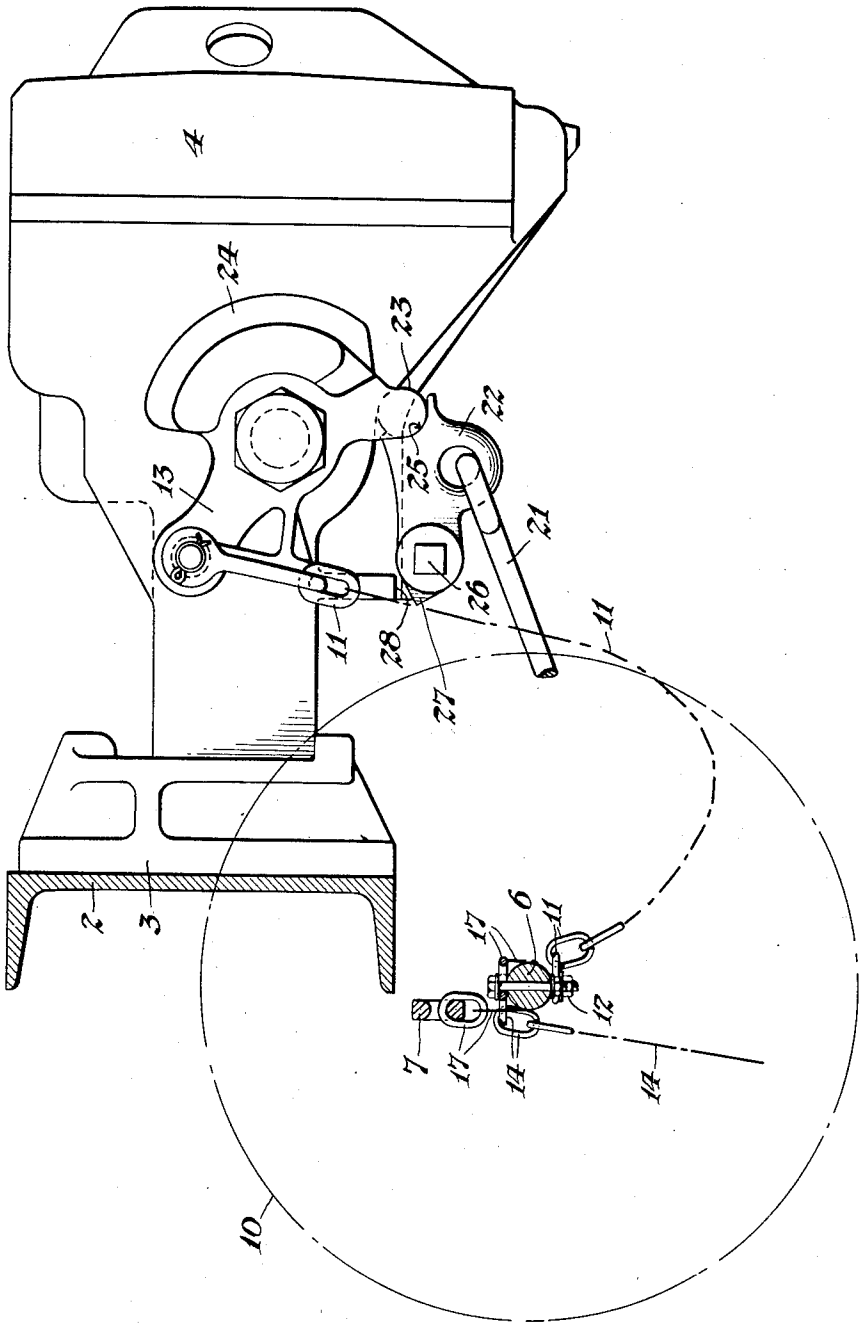
Inventor
Arthur J. Bazeley
By his Attorney
Clarence Spear

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UNCOUPLING MECHANISM FOR CAR COUPLERS

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Fig. 3.



Inventor
Arthur J. Bazeley
By his Attorney
Clarence J. Lee

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UNCOUPLING MECHANISM FOR CAR COUPLERS

Arthur J. Bazeley, Cleveland, Ohio, assignor to National Malleable and Steel Castings Company, Cleveland, Ohio, a Corporation of Ohio

Application February 25, 1928. Serial No. 256,897

5 Claims. (Cl. 213—219)

My invention relates to uncoupling mechanisms for car couplers, and particularly to car couplers employed on railroads in process of equipping their rolling stock with automatic couplers. During the transition period it is necessary that a uniform practice be followed, particularly in the classification yards, and hence provision must be made for manual coupling of all cars in order that the car inspectors may be compelled to treat all cars alike, irrespective of the type of coupler, whether automatic or non-automatic, with which they are equipped. My invention accordingly has for its principal object mechanism for neutralizing the lock of an automatic coupler (i. e., means for holding such a lock in a non-operating position), which thereby renders it necessary to release the lock manually from the operation of such means before coupling can be effected. My invention also comprises various features which I shall hereinafter describe and claim.

In the accompanying drawings, Fig. 1 shows a partial end elevation of a railway vehicle equipped with my improved uncoupling mechanism, with the parts in normal position, the coupler itself not being shown for the sake of clearness of the other parts; Fig. 2 is a side elevation thereof, likewise with the parts in normal position, but showing the coupler; Fig. 3 is a side elevation similar to Fig. 2, but with the parts in position to hold the lock out of operation or in neutralized position.

Referring more particularly to the drawings, I have shown my invention applied to the end sill 2 of a railway vehicle which supports the usual coupler carrier and striking casting 3, the coupler 4 (shown in Figs. 2 and 3), and buffers 5, one of which is shown in Fig. 1.

An uncoupling rod or shaft 6 is supported near its outer end in a bracket casting 7, bolted to the end sill 2, and at its inner end is carried in a ball bearing housing 9 bolted to the under side of the end sill 2 near its center. Secured to the squared outer end of uncoupling rod 6 is a hand wheel 10. A chain 11, adapted to be wound up on the uncoupling shaft 6 to actuate the coupler lock retracting mechanism, is connected to the shaft at 12, and to the uncoupling lever 13. Also connected to the shaft at 12 is a chain 14 with counterweight 15 attached, which serves to return the parts to their original positions following uncoupling operations. In order to keep the counterweight 15 from swinging too far forward and oscillating back and forth, it is preferably secured directly to a fixed part of the car by links 16 or other suitable means.

A control chain 17 is secured to the operating rod 6 and wound around it in a direction opposite to that in which the operating chain 11 is intended to be wound. It is secured to the bracket 7, at 18, and is of such a length as to be taut when the parts are in their normal position as in Figs. 1 and 2. With this arrangement it is impossible to turn the operating wheel in the wrong direction. It also serves as a limit stop for the unwinding action induced by the counterweight 15.

The lock neutralizing mechanism, or means for holding the lock out of operation, comprises a lever 19 bent at its outer end to form a handle 20, a retainer rod 21, and a lock retainer 22. Uncoupling lever 13 has a rounded projection 23 adjacent its counterweighted portion 24 for engagement with a recess 25 in the lock retainer 22. The lock retainer 22 is pivoted to the coupler at 26, and has at its rear end a projection 27, which engages a shoulder 28 on the coupler 4 and prevents the retainer 22 from falling below the position shown in Fig. 2. The retainer rod 21 projects through an eye 29 formed in the neutralizing lever 19, which is suspended at its inner end by a link 30 supported from a bracket 31 secured to the car end sill 2, and is held at its outer end in another bracket 32.

The retainer rod 21 is normally free to slide in the eye 29 of the neutralizing lever 19, and thus to accommodate itself to the buffing and draft movements of the coupler with respect to the car. It is kept from disengagement with the eye 29 by a washer and pin 33.

The operation of my improved mechanism is as follows: The lock of the coupler is first retracted by turning the operating wheel 10 in a clockwise direction, so as to wind the operating chain 11 upon rod 6 and rotate the uncoupling lever 13 around in a counter-clockwise direction, thus retracting the lock. This action also raises counterweight 15 by winding up the counterbalance chain 14. With the wheel 10 held in such position, the handle 20 of the neutralizing lever 19 is raised. This action turns the neutralizing lever 19 and pinches retainer rod 21 in the eye 29 of the lever, so that the retainer rod is no longer free to slide with respect thereto, and causes the forward end of the retainer rod to rotate upwardly. As the forward end of the retainer rod 21 rises, it causes the lock retainer 22 to rotate about its pivot 26 into the position it occupies in Fig. 3. The hand wheel 10 is then released, allowing projection 23 of the uncoupling lever to seat in recess 25 of the lock retainer 22. The counterweight 15 restores the other parts to their normal positions. The vehicle can now

be shunted around without coupling until the operator again winds up the operating chain by means of hand wheel 10 to disengage the uncoupling lever 13 from the seat of its projection 23 in the lock retainer recess 25, thus allowing the retainer 22 to drop down to its normal position as in Figs. 1 and 2. The lock of the coupler is then free to function automatically to couple with the opposing automatic coupler.

My invention is of particular advantage, during the transition period, on railroads, such as the French State Railways, which require coupling under tension, because the couplers are set slightly back of the line of the buffer, to provide for the clearance required for coupling with a transition mechanism, or coupler of a different type, and with which locksetting arrangements are ineffective.

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 mechanical equivalents of the features shown and described, or portions thereof, but recognize that various structural modifications are possible within the scope of the invention claimed.

What I claim is:

1. In coupler operating mechanism, an uncoupling lever for raising the lock for uncoupling, means for actuating the uncoupling lever, a lock retainer movable with the coupler arranged to be rotated into engagement with the uncoupling lever to support the lock in non-operating position, and an operating rod flexibly secured to the car to permit it to move with the coupler in buff and draft and being adapted to bring the lock retainer into engagement with the uncoupling lever.

2. In mechanism for operating railway car couplers, an uncoupling lever for raising the lock for uncoupling, means for actuating the uncoupling lever, a lock retainer mounted on the coupler head, and means for causing the lock retainer to be shifted into engagement with the uncoupling lever for retaining the lock in non-operating position, said means comprising an operating rod connected to said retainer and a rockable member mounted on the car structure for movement with respect to the coupler and having sliding engagement with said operating rod.

3. In combination, a car coupler movable with respect to the car in buff and draft, coupler operating mechanism comprising an uncoupling lever for raising the lock for uncoupling, a retaining lever arranged to engage the uncoupling lever to make the lock ineffective, and separate actuating means for each lever, the actuating means for said retaining lever including members slidably connected, one of said members arranged so as to be movable longitudinally with said uncoupling lever when said levers are engaged to make the lock ineffective.

4. In combination, a car coupler movable with respect to the car in buff and draft, coupler operating mechanism comprising an uncoupling lever for raising the lock for uncoupling, a retaining lever arranged to engage the uncoupling lever to make the lock ineffective, said lever being in substantially the same plane as the uncoupling lever, and separate actuating means for each lever, the actuating means for said retaining lever including members slidably connected, one of said members arranged so as to be movable longitudinally with said uncoupling lever when said levers are engaged to make the lock ineffective.

5. In coupler operating mechanism a coupler movable with respect to a car in draft and buff and having a longitudinally slidable lock, an uncoupling lever pivoted on the side of the coupler for retracting the lock for uncoupling, means for actuating the uncoupling lever, a lock retainer mounted on the coupler head below said uncoupling lever, and means comprising an operating rod operable from the side of the car for causing the lock retainer to be lifted to engage the uncoupling lever and thereby render the lock non-operative.

ARTHUR J. BAZELEY.