

H. H. WESTINGHOUSE.
INTERLOCK FOR A COMBINED CAR AND ELECTRIC COUPLING.
APPLICATION FILED JUNE 25, 1910.

1,063,631.

Patented June 3, 1913.

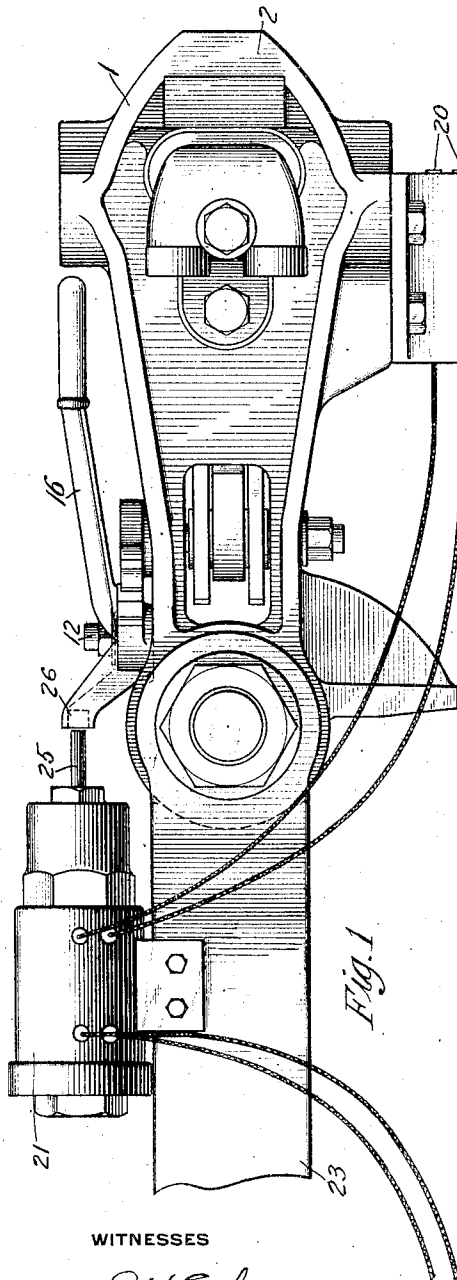


Fig. 1

WITNESSES

J. M. Eicher
A. M. Clements

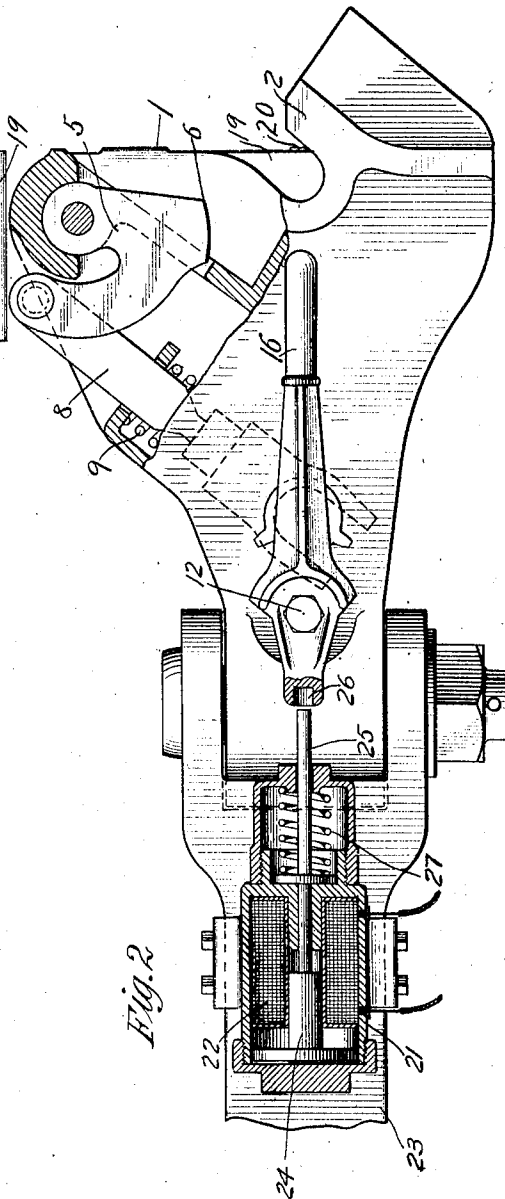


Fig. 2

INVENTOR

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UNITED STATES PATENT OFFICE.

HENRY H. WESTINGHOUSE, OF NEW YORK, N. Y., ASSIGNOR TO THE WESTINGHOUSE AIR BRAKE COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

INTERLOCK FOR A COMBINED CAR AND ELECTRIC COUPLING.

1,063,631.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed June 25, 1910. Serial No. 563,887.

To all whom it may concern:

Be it known that I, HENRY H. WESTINGHOUSE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Interlocks for Combined Car and Electric Couplings, of which the following is a specification.

This invention relates to car coupling mechanism and more particularly to such mechanism having means for making electric contacts for connecting up electric circuits through the train. In electric circuits of this character which carry heavy currents or high voltage it is important that the circuits should not be broken by the separation of the cars when the circuits are energized since the violent arcing which may then occur at the contact points is liable to damage the equipment and render the couplings unfit for service. The switch for opening these train line circuits should therefore be thrown before the car couplings are unlocked for permitting the separation of the cars, but this is sometimes neglected by the trainmen with the result that the couplings may be released and the cars pulled apart with the current on the circuits, resulting in injurious arcing at the contacts of the couplings.

The object of this invention is to overcome this difficulty by the provision of means for preventing the inadvertent releasing or unlocking of the car couplings which would permit the separation of the cars, so long as said electric circuits remain energized, and according to the preferred construction, my invention comprises an electric interlocking device governed by the current in the train line circuits for locking the latch operating mechanism of the coupler.

In the accompanying drawing I have illustrated my invention in connection with the type of car coupling covered by prior Westinghouse Patent No. 708,747 of September 9, 1902, but it is understood that it is not limited to this particular design of coupler since it may be applied to any suitable or preferred type of coupling mechanism.

Figure 1 shows one form of my invention in side elevation, and Fig. 2 is a plan showing the electric interlocking device in horizontal section.

The car coupler as herein shown is of the type shown in prior Patent No. 708,747 and further covered in prior application Serial No. 519,323 filed September 24, 1909, in which the coupler head 1 is provided with projections 2 adapted to engage and interlock with corresponding projections on a counterpart coupling head.

For locking the members of the coupling together a pivoted latch 5 may be provided having a portion 6 adapted to engage with the projection of the counterpart head. The latch 5 may be operated by means of a rod 8, spring 9, and a cam mechanism or any suitable form of connection with shaft 12 and hand lever 16.

Any suitable or preferred form of electric coupling mechanism 19 having one or more contacts 20 for connecting a corresponding number of electric circuits through the train, may be provided. The coupler latch lever 16 normally occupies a position in line with the coupler or draw bar when the latch is in its locked position, and must be turned through a certain angle in one direction or the other for releasing the latch to permit the separation of the coupler heads.

According to my improvement an electric locking device 21, having a coil or coils 22 adapted to be energized by the current of the circuits passing through contact points 20, may be mounted in any suitable position, as for instance on the draw bar 23.

The core 24 of the coils 22 operates a locking means or rod 25 which is adapted to engage a recess or notch 26 on handle 16 and lock the same in its normal position with the heads coupled together.

As long as there is current flowing in the circuits of the contacts 20 or any of them, the electric locking device 21 is energized and the rod locks the handle 16 against movement so that it is impossible for a person to release the coupler to permit a separation of the cars until the switch (not shown) for opening the train line circuits has been thrown. It will be seen therefore, that when it is desired to uncouple the cars it is first necessary to throw the switch for opening the electric circuits through the coupler contact points, whereupon the locking device is deenergized, so that the locking rod may then be withdrawn, for instance

by spring 27, and the coupler lever then turned to release the same and permit the separation of the cars. In this way all arcing at the contact points of the electric coupling is avoided.

Any desired form of electric coupling may be employed and it will also be apparent that any suitable or preferred arrangement of connection may be provided for controlling the electric locking device when the train line circuits are energized.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a coupling mechanism for cars, means for coupling an electric train line circuit, and locking means controlled by the current in said circuit for preventing the release of the coupler.

2. In a coupling mechanism for cars,

automatic means for coupling electric train line circuits, means for manually releasing the coupler and an electric locking device adapted to be operated by the current in said circuits for preventing the release of the coupler when said circuits are energized.

3. In a coupling mechanism for cars, automatic means for coupling train line circuits, a manually operated latch for the coupler, and an electric locking device controlled by current in said circuits for preventing the operation of the latch to release the coupler when said circuits are energized.

In testimony whereof I have hereunto set my hand.

HENRY H. WESTINGHOUSE.

Witnesses:

E. A. WRIGHT,

A. M. CLEMENTS.