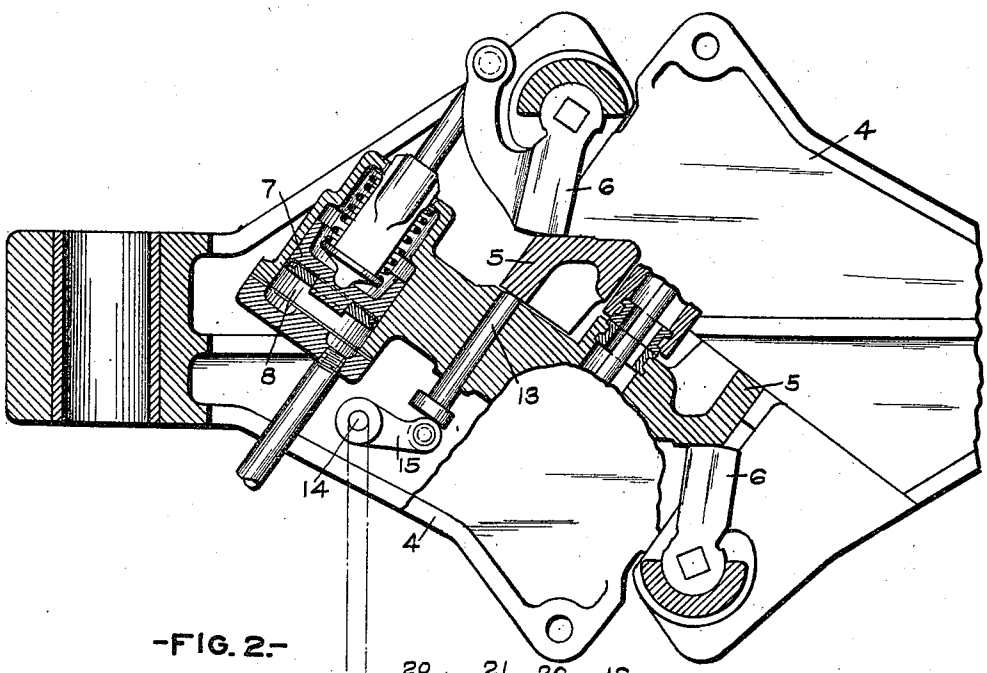
May 1, 1923. 1,453,817

H. H. WESTINGHOUSE

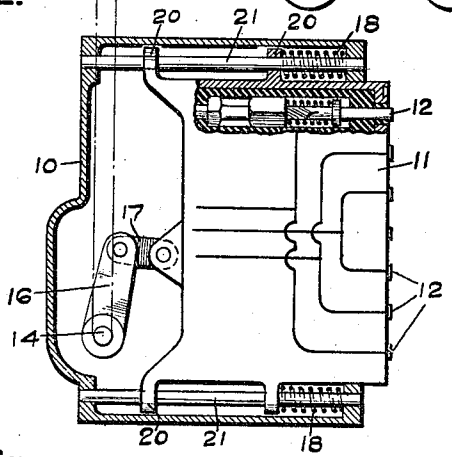
ELECTRIC COUPLING FOR CARS

Filed July 5, 1918

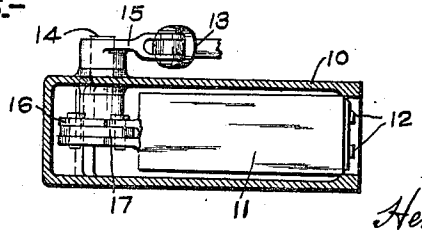
-FIG. 1.-



-FIG. 2.-



-FIG. 3.-



INVENTOR
Henry H. Westinghouse.
by Edward A. Wright
Atty.

Patented May 1, 1923. 1,453,817

UNITED STATES PATENT OFFICE.

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

ELECTRIC COUPLING FOR CARS.

Application filed July 5, 1918. Serial No. 243,350.

To all whom it may concern:

Be it known that I, HENRY HERMAN WESTINGHOUSE, of the borough of Manhattan, in the city, county, and State of New York, have invented a certain new and useful Improvement in Electric Couplings for Cars, of which improvement the following is a specification.

This invention relates to electric couplings for cars and has for its object to provide an improved coupling of the type having a movable electric portion adapted to be projected out at the end of the car for making electrical connection with the corresponding circuits of the adjoining car. One of the features of my invention comprises an improved mechanical connection actuated by the coming together of the two counterpart coupler heads in the act of coupling the cars together, for projecting the movable portion of the electrical coupler. According to another feature my improvement is designed for use in connection with a car coupler of the rigid lock vertical plane type in which the coupler heads are provided with interlocking hook-shaped projections which engage each other by a laterally inclined or diagonal movement in the act of coupling, and it comprises a yielding tappet member mounted in the coupler head and a mechanical connection actuated by said tappet member for projecting the movable electrical portion of the coupler.

In the accompanying drawings Figure 1 is a diagrammatic horizontal section of a coupling embodying my improvement; Fig. 2 a diagrammatic horizontal section of the electric portion of the coupler with the contacts in the projected position; and Fig. 3, a vertical section of the electric portion of the coupler showing the electric contacts in retracted position.

According to the construction shown the car coupler 4, is of the rigid lock type having hook-shaped projections 5, each adapted to engage a corresponding inclined surface of the counterpart coupler and be rigidly clamped together by spring actuated locking levers 6, which may be released by fluid pressure admitted to pistons 7, in cylinders 8. Beneath the car coupler is suspended the electric portion of the coupler, comprising a casing 10, containing the movable member or slide 11, carrying electric contacts 12, which are adapted to engage corresponding contacts of the counterpart coupler when the slides carrying said contacts are projected or extended outward, as indicated in Fig. 2.

For the purpose of automatically projecting the electric contacts by the coming together of the couplers, there is provided a pin or tappet member 13, slidably mounted in the coupler head 4, in a direction parallel with the laterally inclined or diagonal face of the couplers said tappet being adapted to be engaged and pushed in by the counterpart coupler as indicated in Fig. 1. A shaft 14, is provided with a crank arm 15, at its upper end for engaging the tappet, and with another crank arm 16, at its lower end in the casing of the electric portion and connected by a link 17, with the slide 11. The slide is normally held in its retracted position by the springs 18. Each electric circuit is bifurcated or branched at its end and connected to two contact terminals 12, carried on the movable contact carrier or slide 11, one at the right and the other at the left of the center line as clearly indicated in Fig. 2. The contact carrier may be provided with lugs 20, mounted to slide on guides or rods 21, within the casing.

When two couplers approach each other for coupling, the last part of the diagonal movement of the coupler projection 5, operates to depress the pin or tappet 13, thereby turning crank 15, shaft 14, and crank 16, to extend the carrier or slide 11, outward against the springs 18, so that the electric contact terminals engage the terminals of the counterpart coupler with a butt contact for establishing electrical communication between the corresponding circuits on the adjoining cars.

When the couplers are released by admitting fluid to the unlocking cylinders 8, and the cars separated, the springs 18, serve to promptly withdraw the slides 11, within the casings of the electric portion of the coupler.

It will now be seen that I have provided a simple and compact device for automatically operating the electric contacts of the

coupler and that said contact terminals will be protected within the casing when not in use.

What I claim is:

1. The combination with a car coupler, having a projection, of an electric coupler suspended beneath the car coupler, and having a movable electric contact carrier, a yielding tappet movably mounted in the car coupler adapted to be engaged by the projection of a counterpart coupler, and a mechanical connection from said tappet for projecting the contact carrier.

2. The combination with a car coupler, of an electric coupler suspended therefrom, and having a movable electric contact carrier, a yielding tappet movably mounted in the car coupler head, a shaft having a crank arm actuated by said tappet and another crank arm for projecting the contact carrier.

3. The combination with a car coupler having a projection, of an electric coupler suspended beneath the car coupler, and having a movable electric contact carrier, a yielding tappet movably mounted in the car coupler adapted to be engaged by the projection of a counterpart coupler, guides for said carrier, a spring for retracting the carrier, and a positive mechanical connection actuated by the tappet for projecting said carrier.

4. The combination with a car coupler having a laterally inclined coupling face and adapted to engage a counterpart coupler with a diagonal movement in the act of coupling, and a yielding tappet mounted in the car coupler to move in the same diagonal direction, of an electric coupler having a movable electric contact carrier, and a mechanical connection operated by the tappet for projecting the contact carrier.

5. The combination with a car coupler having a laterally inclined coupling face and adapted to engage a counterpart coupler with a diagonal movement in the act of coupling, and a tappet mounted to slide in said car coupler in the same diagonal direction, of an electric coupler casing suspended beneath the car coupler and containing a movable slide carrying electric contacts, and a mechanical connection operated by the tappet for projecting the contact slide.

In testimony whereof I have hereunto set my hand.

HENRY HERMAN WESTINGHOUSE.