C. T. CROCKER.

ELECTRIC CABLE COUPLING.

APPLICATION FILED JUNE 30, 1915.

1,200,317.

Patented Oct. 3, 1916.

Fig. 2.

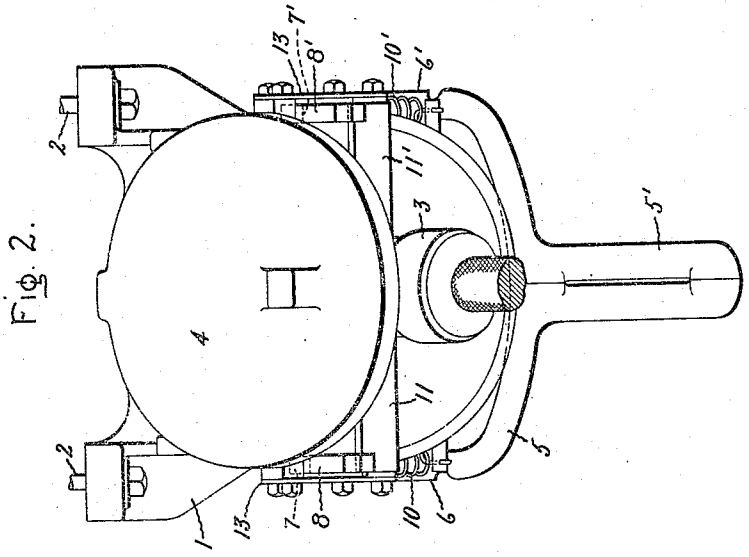
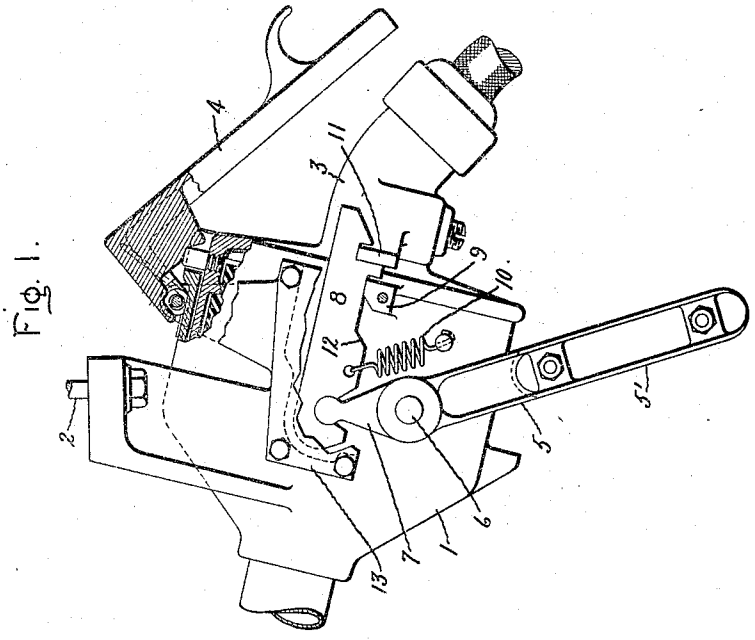


Fig. 1.



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His Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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ELECTRIC-CABLE COUPLING.

1,200,317. Specification of Letters Patent. Patented Oct. 3, 1916.

Application filed June 30, 1915. Serial No. 37,153.

To all whom it may concern:

Be it known that I, CLARENCE T. CROCKER, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Electric-Cable Couplings, of which the following is a specification.

This invention relates to an improvement in electric cable couplers of the type commonly used on railway trains for connecting the electric conductors between cars.

The invention relates particularly to an improvement of that type of electric couplers disclosed in the Patent No. 774,611 issued to F. J. Sprague, November 8, 1904, and its object is to provide means for readily engaging or disengaging the contacts of such couplers.

In couplers of the type disclosed in the above mentioned patent, especially such couplers as are provided with a multiplicity of plug and socket contacts, it has been found difficult for the trainmen to readily seat the plug in the socket so as to force the contacts into proper engagement, and the trainmen sometimes find it necessary to drive the plug member into place by means of a coupling pin or other implement. It is then difficult to disengage the coupling members. My invention provides means whereby the contacts of the two coupling members may be easily forced into and out of engagement.

For a better understanding of my invention reference may be had to the accompanying drawing in which—

Figure 1 is a side view partly in section of a pair of mating couplers, and Fig. 2 is an end view of same.

In the drawing 1 indicates the socket member of a pair of completely separable mating couplers which member is adapted to be attached to a car body by means of the bolts 2; a plug member 3 is adapted for engagement with the socket member 1 and is held in place by means of a cover 4 on the socket member 1 which serves as a latch between the two coupler members, which are provided respectively with plug and socket contacts as described in the patent referred to above. In ordinary practice two of the plug members 3 are united by a length of cable for engaging and connecting the socket members 1 on the adjacent ends of two cars of a train. A yoke 5, the arms of which embrace and are pivoted on the socket member 1 at the points 6 and 6′, is provided at one or both ends with a projection or projections 7 and these projections are operatively connected to pawl or clutch members 8 and 8′, which are arranged for sliding engagement on the lugs 9 projecting from opposite sides of the socket member 1; the pawls 8 and 8′ being maintained in contact with the lugs 9 by the springs 10 and 10′. The pawls or clutches 8 and 8′ project beyond the socket member 1 and are provided near their outer ends with notches which engage the lugs 11 and 11′ on the plug member 3.

To disengage the contacts of the two coupler members the handle 5′ on the yoke 5 is moved to the left which causes the pawls 8 and 8′, sliding on the lugs 9, to force the plug member 3 outward until the inclined faces 12 on the pawls engage with the beveled faces of the lugs 9 which cause the pawls to be lifted out of engagement with the lugs 11 and 11′ on the plug member 3. The parts are so proportioned that this disengagement of the pawls 8 and 8′ from the lugs 11 and 11′ occurs after the contacts of the two coupler members become disengaged, after which the plug member 3 may be easily removed from the socket member.

When it is desired to couple the two members together the coupler member 3 is inserted in the coupler member 1 and pushed in until the lugs 11 and 11′ engage the beveled ends of the pawls 8 and 8′ thereby raising the pawls against the pressure of the springs 10 and 10′ until the lugs are engaged by the notches in the pawl members; this may be made to occur before or after the contacts of the two coupler members engage, then by moving the handle 5′ to the right as shown in Fig. 1, the plug member 3 with its contacts are forced into place.

As illustrated in the drawings the pawl members and the coöperating ends 7 and 7′ of the yoke member are inclosed and protected by the housing 13.

In accordance with the provisions of the patent statutes, I have described and illustrated my invention as embodied in a preferred form, but it is evident that the invention may be embodied in many different forms and I therefore aim, in the appended claims, to cover not only the specific arrangement of parts illustrated, but all modi-

fications thereof that do not depart from the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. An electric coupler comprising a pair of completely separable mating members provided with co-acting contacts, and means for forcing the contacts into engagement, said means comprising a clutch member mounted upon one of said mating members and adapted to engage the other mating member and a lever for operating said clutch member.

2. An electric coupler comprising a pair of mating members provided with co-acting contacts, and means for forcing the contacts into and out of engagement, said means comprising sliding pawls mounted on one of said coupler members, means for moving said sliding pawls, and projections on the second coupler member adapted to be engaged by said pawls.

3. The combination with a pair of mating couplers of the character described provided with co-acting contacts, of means for forcing the contacts into and out of engagement, said means comprising sliding pawls mounted on opposite sides of one of the coupler members, a yoke member and operating handle for operating said pawls and projections on opposite sides of the second coupler member adapted to be engaged by the pawls.

4. The combination with a pair of mating couplers of the character described provided with co-acting contacts, of means for forcing the contacts of the two couplers into and out of engagement comprising a yoke pivoted on one of the coupler members, a lug on each side of said coupler member, a pawl on each side of said coupler operatively connected to the ends of the yoke and arranged to slide on the lugs, lugs projecting from opposite sides of the second coupler member adapted to be engaged by said pawls, and a handle associated with the yoke for operating the pawls.

5. An electric coupler comprising a pair of mating members provided with co-acting contacts and means for engaging and disengaging the contacts comprising a yoke which is pivoted on and embraces one of the coupler members, lugs projecting from each side of each of the coupler members, a spring retracted pawl on each side of the coupler adapted for sliding movement on the lugs of the coupler member on which the yoke is mounted, one end of each of said pawls being operatively connected to each end of the yoke, and the opposite end of each of the pawls provided with a suitable notch for engaging the lugs projecting from opposite sides of the second coupler member, and a handle associated with the yoke for operating the pawls.

In witness whereof, I have hereunto set my hand this 28th day of June 1915.

CLARENCE T. CROCKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."