W. J. REGAN.

DRAFT APPLIANCE FOR RAILWAY VEHICLES.

APPLICATION FILED MAY 8, 1915.

1,155,097.

Patented Sept. 28, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

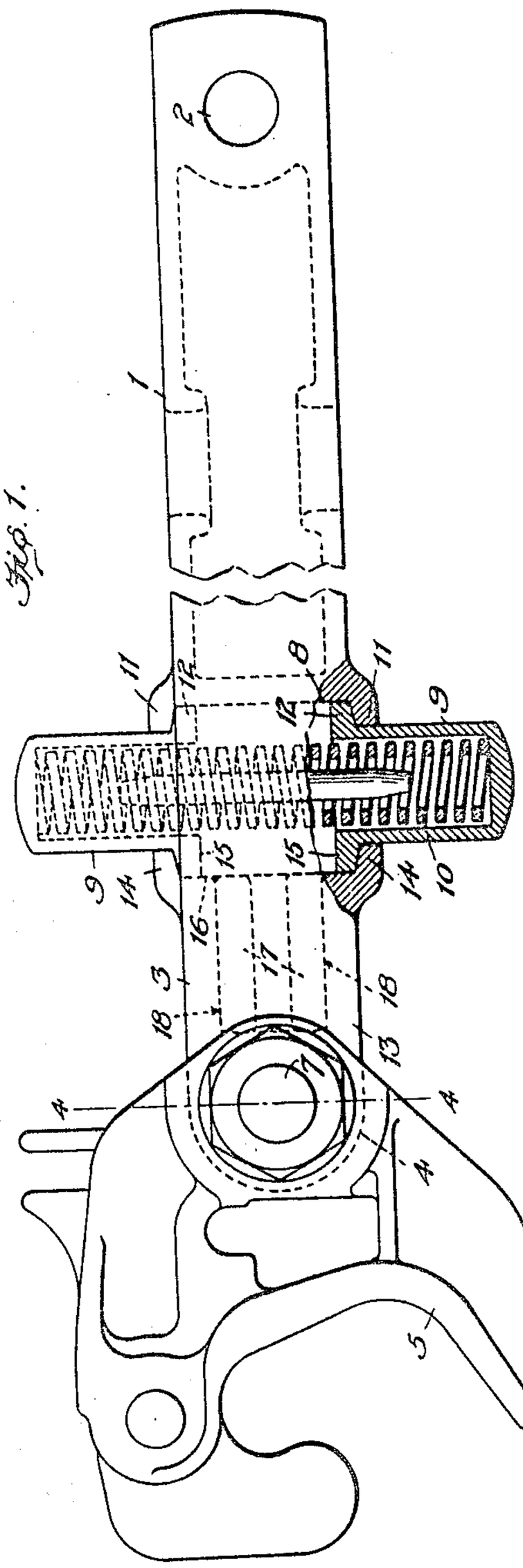
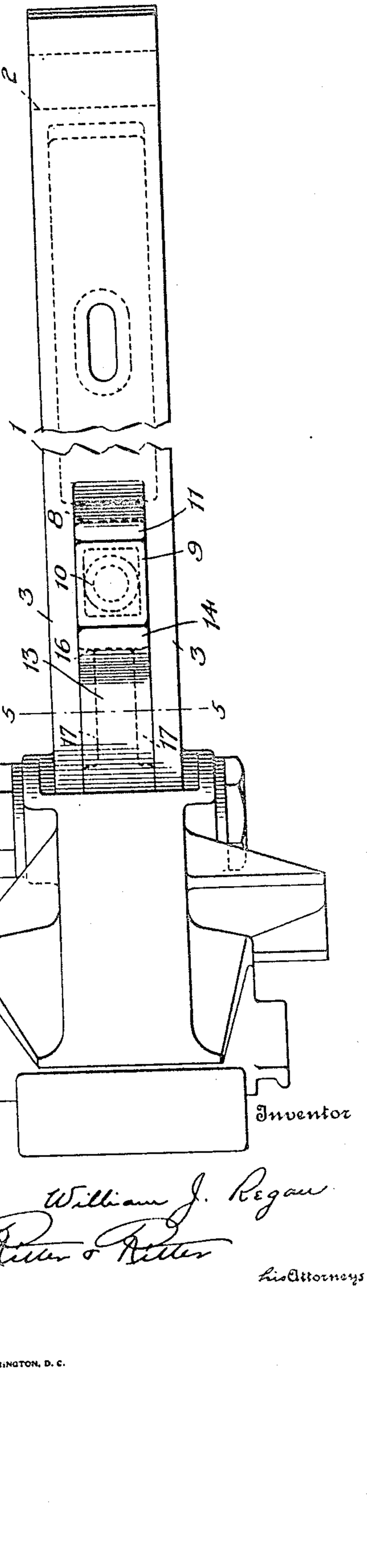


Fig. 2.



Inventor

William J. Regan

By Ritter & Ritter

His Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

W. J. REGAN.

DRAFT APPLIANCE FOR RAILWAY VEHICLES.

APPLICATION FILED MAY 8, 1915.

1,155,097.

Patented Sept. 28, 1915.

2 SHEETS—SHEET 2.

Fig. 3.

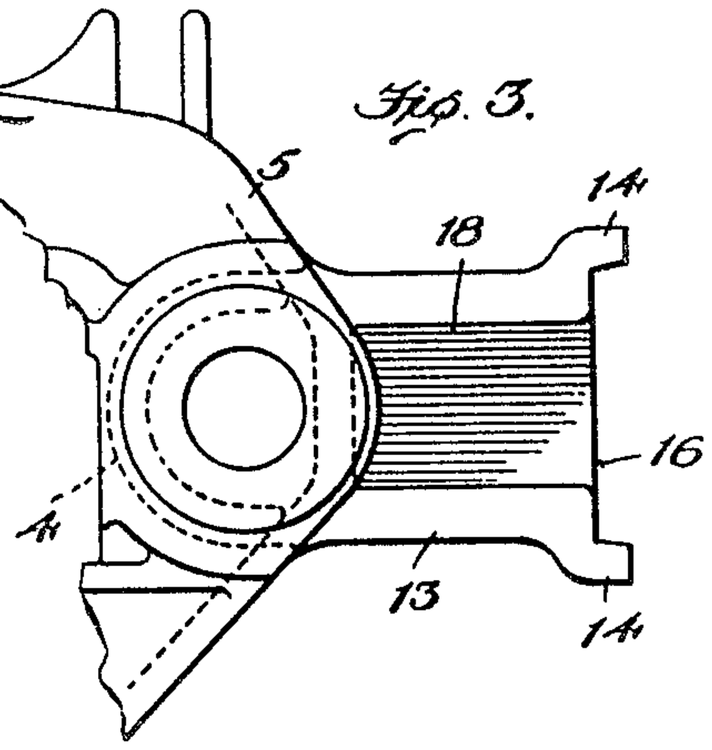


Fig. 4.

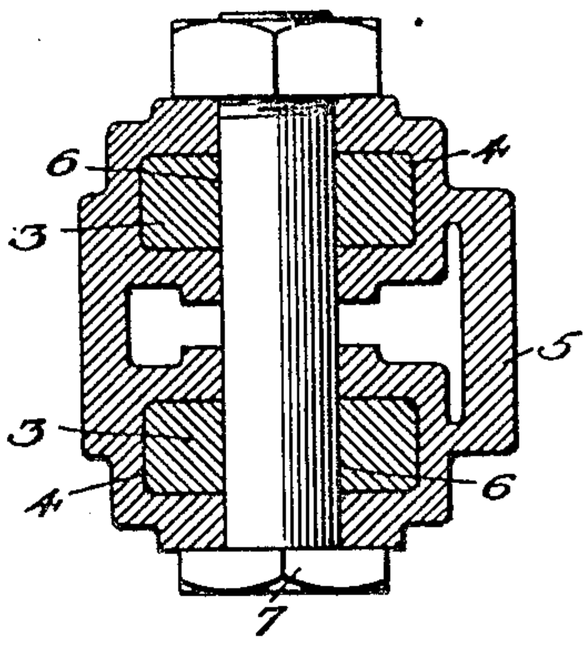


Fig. 6.

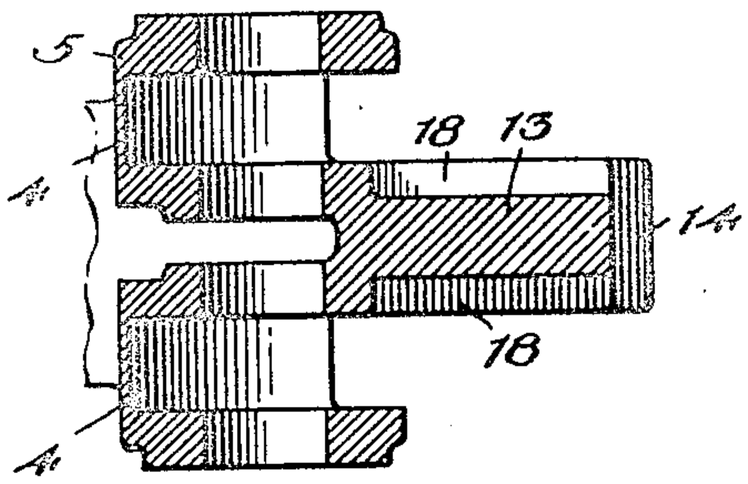


Fig. 5.

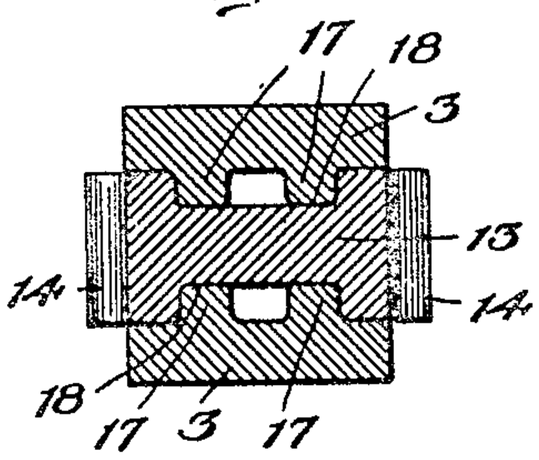


Fig. 7.

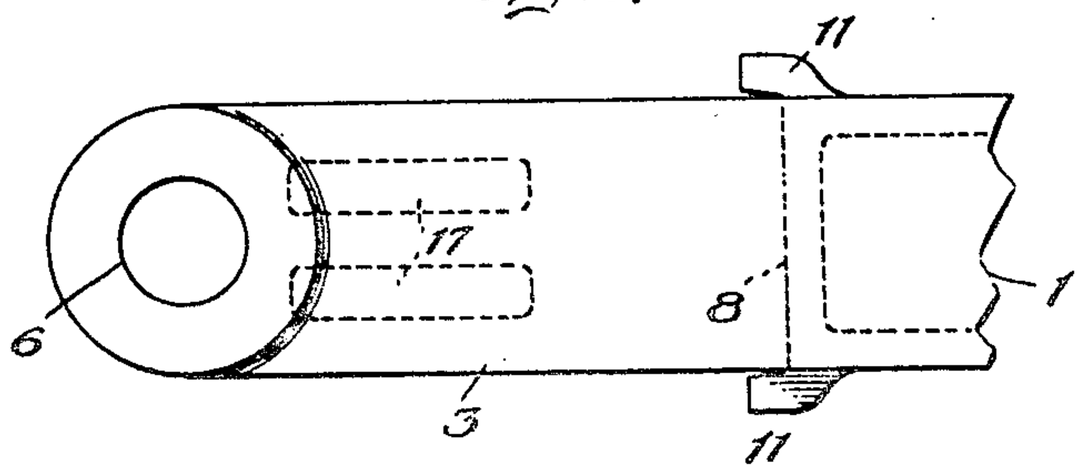
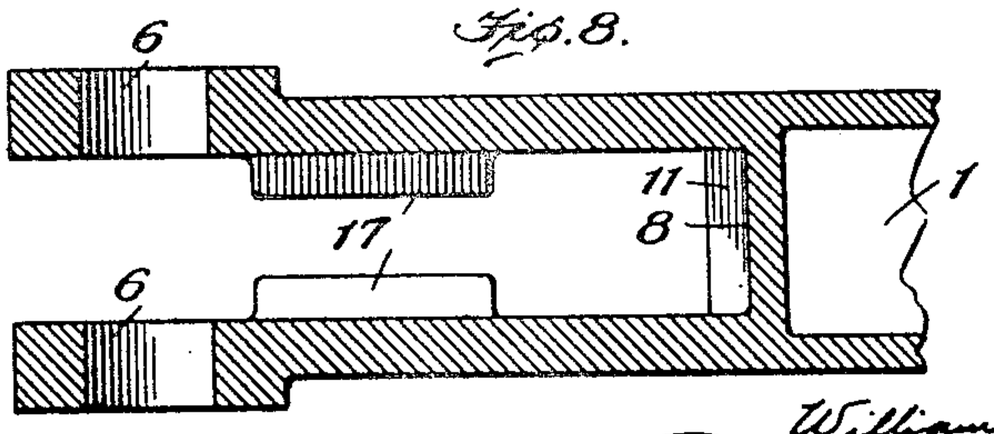


Fig. 8.



Inventor

William J. Regan

By Rector & Rector

his Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM J. REGAN, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO THE McCONWAY & TORLEY COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

DRAFT APPLIANCE FOR RAILWAY-VEHICLES.

1,155,097. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed May 8, 1915. Serial No. 26,772.

To all whom it may concern:

Be it known that I, WILLIAM J. REGAN, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Draft Appliances for Railway-Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to couplers for railway cars or other railway vehicles and more especially to those couplers which are normally maintained in the longitudinal axis of the car by means of centralizing devices which permit the couplers to swing or shift laterally when the cars upon which they are mounted are passing around curved track.

The primary object of the invention is to provide a durable and efficient device of the character indicated that shall afford means whereby the centralizing mechanism may be mounted on the stem of the coupler in a manner permitting it to be readily disassembled and reassembled in case it becomes necessary to make repairs.

A further object of my invention is to provide a construction in which the coupler head and coupler stem are detachably united in a simple and efficient manner.

Stated generally, both these objects are accomplished in a single structure by detachably and interlockingly connecting the coupler head and coupler stem and by providing yielding coupler centralizing means which are retained in assembled position by coöperating portions of the said head and stem.

In the drawings illustrating my invention, the scope whereof is pointed out in the claims, Figure 1 is a plan view of a coupler embodying the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a detail plan view of the rear portion of the coupler head. Fig. 4 is a section on the line 4—4, Fig. 1. Fig. 5 is a section on the line 5—5, Fig. 2. Fig. 6 is a detail view in vertical section of the rear portion of the coupler head. Fig. 7 is a plan view of the forward end of the coupler stem; and Fig. 8 is a view in vertical central section of the forward end of the coupler stem.

The stem 1 of the coupler is preferably formed as a single casting having at its rear end an aperture 2 adapted to receive a tail pin by which the coupler may be connected to the draft rigging devices in a well-known manner. To the rear of the centralizing devices the stem of the coupler is, as shown, preferably of hollow, box-like form, while forwardly of said centralizing devices the stem 1 is bifurcated, forming upper and lower arms, plates or bars 3 that are adapted to enter correspondingly shaped pockets or recesses 4 with which the coupler head 5 is provided. Near their outer ends, which are preferably somewhat thickened, the arms 3 are provided with vertically alined perforations 6 which are adapted to receive a bolt 7 that passes through corresponding perforations in the coupler head, the coupler stem 1 and head 5 being thereby connected.

At the forward end of the box-like portion of the stem 1 said stem is preferably provided with a transversely extending wall or face 8 which, as will presently appear, serves to guide the spring-boxes or followers 9 when the spring 10 is compressed upon a lateral displacement or swinging movement of the coupler. On each side of the coupler stem, adjacent to the guiding face 8 thereof, are lugs 11 which are preferably made integral with the stem 1 and extend or project forwardly beyond the face 8. These lugs are adapted to overlappingly engage the corresponding flanges or lugs 12 that project rearwardly from the respective spring-boxes 9, to thereby limit the extent of separation or outward movement of the spring-boxes. As shown particularly in Fig. 1, the engaging faces of the lugs 11 and 12 are preferably correspondingly inclined.

In order to maintain the spring-boxes 9 in assembled position with respect to the stem 1, as well as to provide means for effectively preventing the coupler head 5 from rotating about the bolt 7 by which it is connected to the stem 1, the coupler head 5 is preferably fashioned with a short, rearwardly extending shank or projection 13 which is adapted to occupy the space between the upper and lower arms 3 of the coupler stem 1. The inner end of the projection 13 is formed at its sides with rearwardly extending lugs or stops 14 which preferably have inclined inner faces and which engage and overlap the corresponding flanges or lugs 15 on the forward sides of the respective

spring-boxes 9 in the same manner and for the same purpose that the lugs 11 on the stem 1 overlappingly engage the flanges 12 on the rear sides of the spring-boxes, as previously explained. The spring-boxes 9 are thus maintained in assembled relation on the stem 1 in a manner permitting them to be readily removed and replaced, as will be readily apparent.

Between the stops 14 the projection 13 is preferably formed with a transversely extending vertical face 16 forming a guide for the spring-boxes which contacts with the forward faces of the lugs 15 when the spring boxes 9 reciprocate during lateral movements of the coupler.

The coupler stem 1 and the projection 13 extending rearwardly from the coupler head 5 are preferably interlocked by a splined or tongue and groove connection. For this purpose it is preferred, as particularly illustrated in Fig. 5, to form the inner faces of each of the arms 3 for the coupler stem with a plurality of longitudinally extending ribs or lugs 17, and to fashion the upper and lower faces of the projection or shank 13 with similarly extending channels or recesses 18 that are adapted to receive and engage corresponding pairs of the ribs 17 in an interlocking manner.

In assembling the device the spring-boxes 9 are slipped upon the ends of the spring 10 and these parts are together assembled on the coupler stem 1 with the rear flanges 12 of the spring-boxes extending behind the corresponding stops or lugs 11 with which the stem is provided. The coupler head 5 is then placed in assembled position on the stem, the rearwardly projecting shank 13 extending between the upper and lower arms 3 of the stem with the ribs or splines 17 of the latter extending into the corresponding channels or grooves 18 in the rearwardly extending projection 13 of the coupler head, and the lugs or stops 14 at the rear end of the shank 13 having overlapping engagement with the outer faces of the flanges 15 at the forward sides of the spring-boxes 9. The bolt 7 is then passed through the openings therefor in the coupler head and stem, and the nut is applied to it.

When in service a lateral movement of the coupler in either direction from its normal or central position will entail a compression of the spring 10 between the spring-boxes or followers 9, one of said spring-boxes through the engagement of the lugs 11 and 14 of the stem therewith being shifted laterally with the coupler stem, while the other spring-box is prevented from retreating by engaging the inner face of the carry iron or other like abutment in the car. When the force causing the lateral displacement of the coupler from its normal position ceases to act, the expansion of the spring will restore the coupler to its centralized position.

While the device can be very readily taken apart for repairs, it will be seen that the centralizing mechanism is firmly held in place in a simple manner without the necessity of employing bolts or rivets, and that the coupler head and coupler stem are rigidly and strongly connected, the connecting bolt 7 being in quadruple shear.

I claim:

1. In a draft appliance for railway vehicles, the combination with a coupler head having a rearwardly extending projection and a plurality of rearwardly opening pockets, there being a pocket above and a pocket beneath said projection, of a coupler stem having arms extending into said pockets and having interlocking connection with said projection, means passing through said arms and projection for connecting said coupler head and coupler stem, and coupler centralizing means maintained in assembled position by said stem and said projection.

2. In a draft appliance for railway vehicles, the combination with a coupler head having a rearwardly extending projection, of a coupler stem rigidly connected to said head, and centralizing means for yieldingly controlling the position of said head and stem, said centralizing means being maintained in assembled position by said stem and said rearwardly extending projection of said head.

3. In a draft appliance for railway vehicles, the combination with a coupler stem and a coupler head having a rearwardly extending projection, of a spring, and relatively movable followers engaging the opposite ends of said spring and projecting outwardly beyond the corresponding sides of said stem, said followers being adapted to be engaged and guided by said stem and said rearwardly extending projection of said head.

4. In a draft appliance for railway vehicles, the combination with a coupler head having a rearwardly extending projection provided with rearwardly extending stops, of a coupler stem rigidly connected to said head and having forwardly extending stops, followers projecting outwardly beyond the corresponding sides of said stem and adapted to have overlapping engagement with said stops, and a spring interposed between said followers.

5. In a draft appliance for railway vehicles, the combination with a coupler head having rearwardly extending stops formed with inclined faces, of a coupler stem rigidly connected thereto and having forwardly extending stops formed with inclined faces, followers projecting beyond the corresponding sides of said stem and having inclined faces which respectively engage the inclined

faces of the stops of said stem and head, and a spring interposed between said followers.

6. In a draft appliance for railway vehicles, the combination with a coupler head having a rearwardly extending projection which is channeled longitudinally and having a pocket below and a pocket above said projection, of a coupler stem having arms extending into said pockets, said arms having lugs on their inner faces which form a splined connection with said rearwardly extending projection of said head, and means for connecting said head and stem.

In testimony whereof I affix my signature.

WILLIAM J. REGAN.

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