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ANTIFRICTION COUPLING CARRIER.

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1,166,600.

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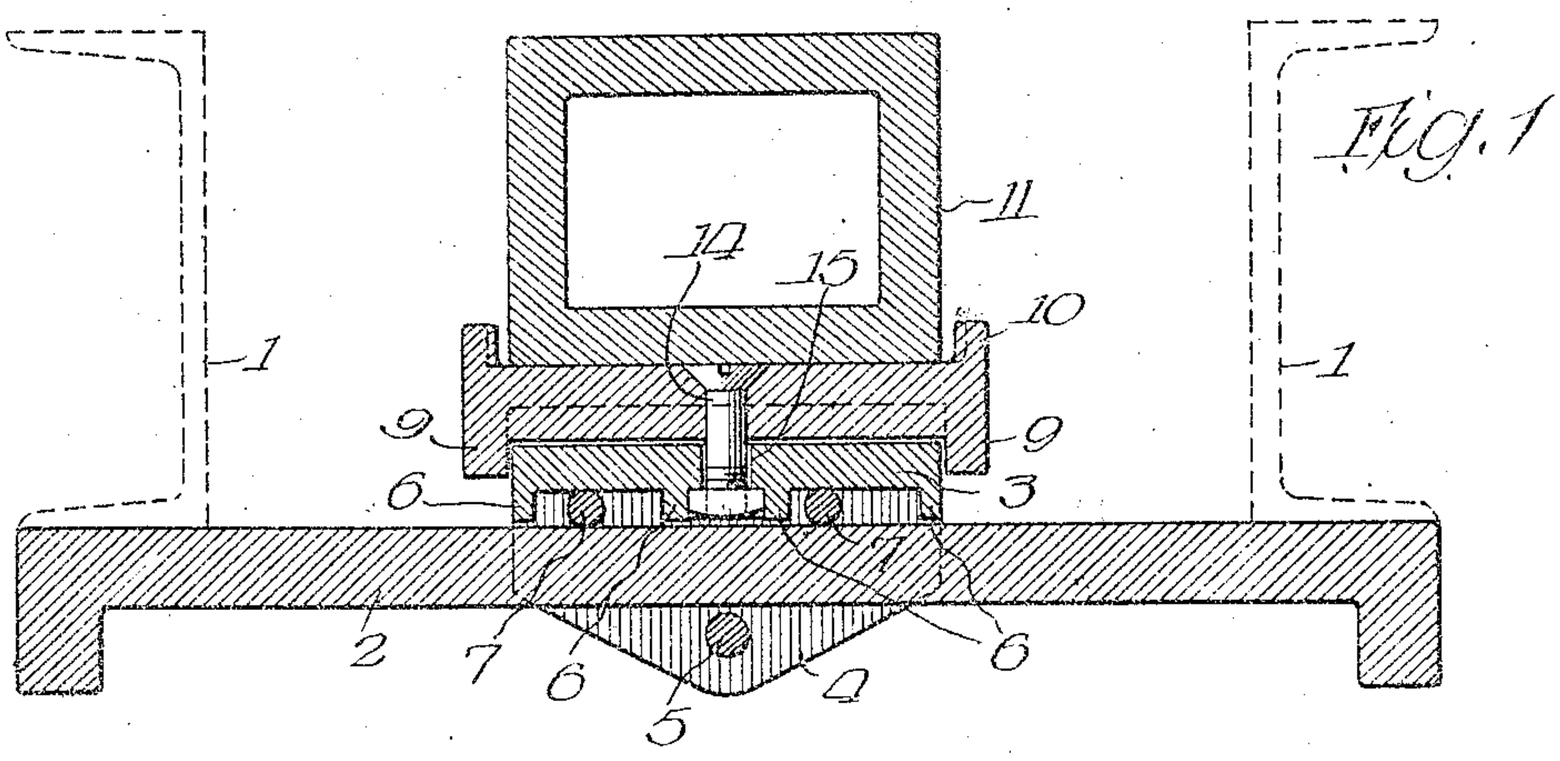


Fig. 1

Fig. 3

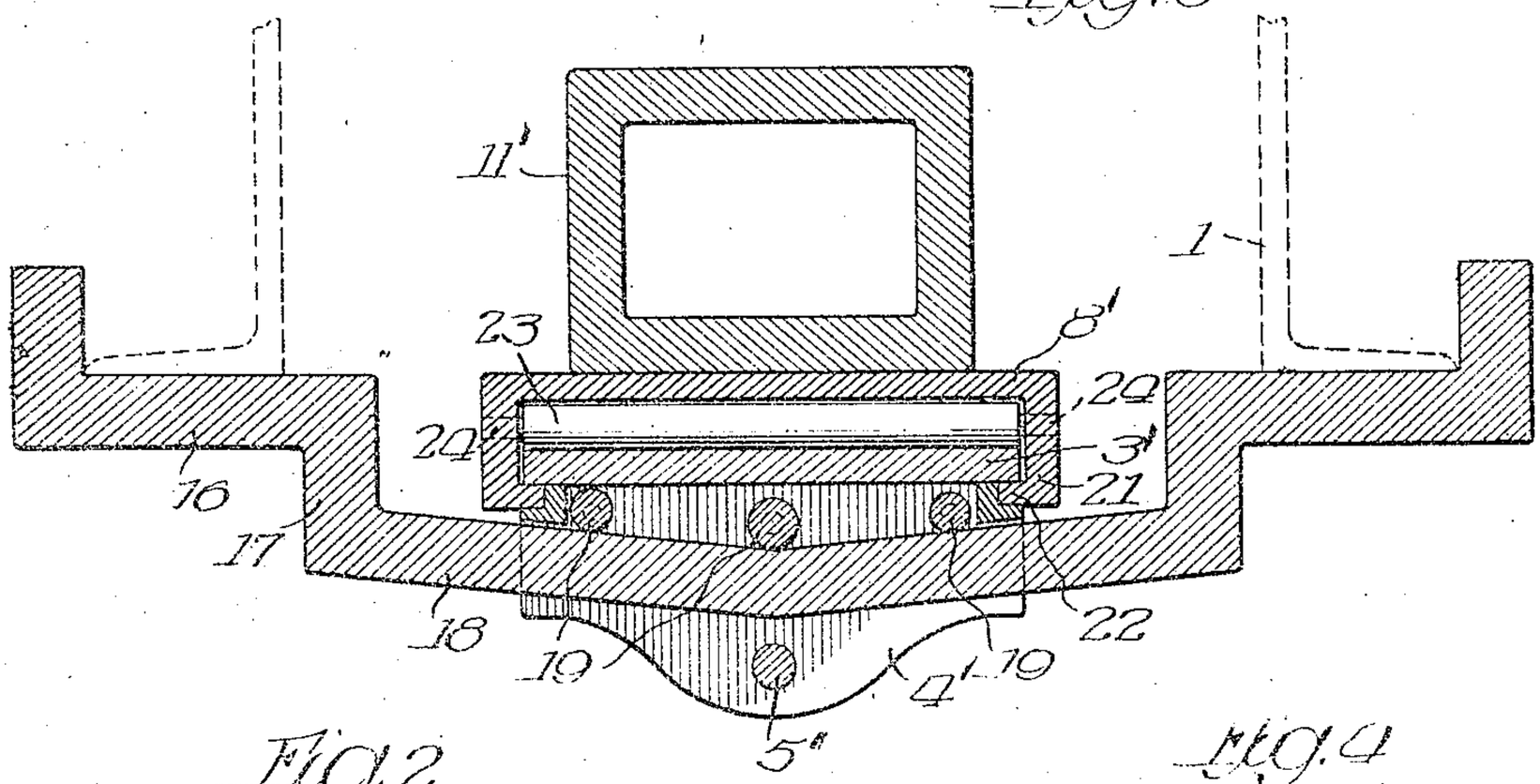
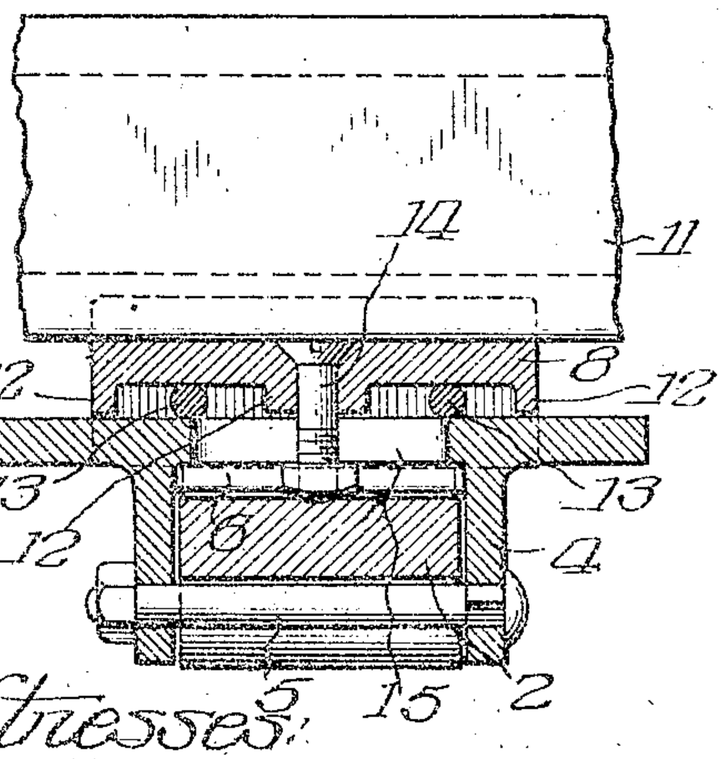
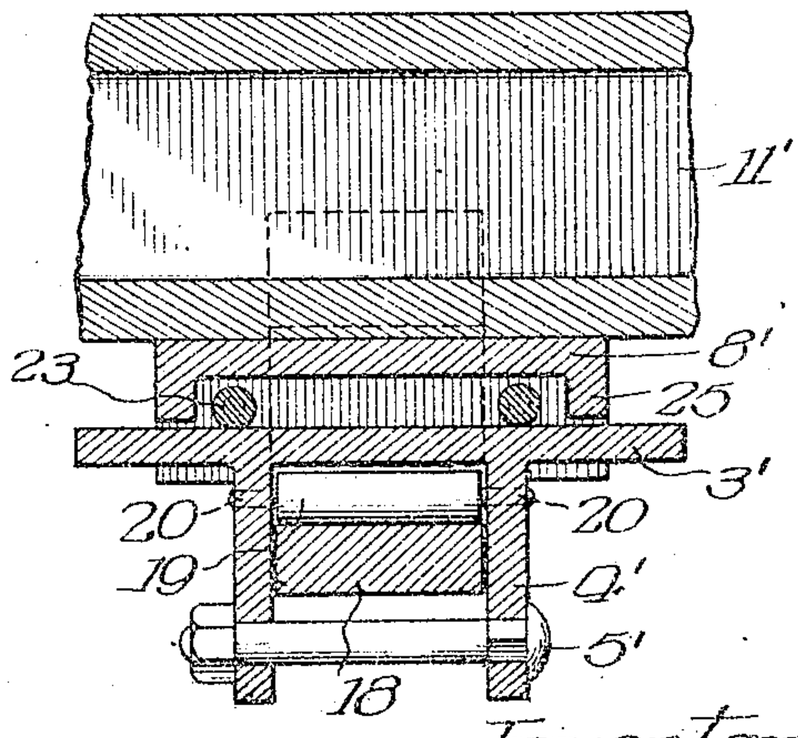


Fig. 2

Fig. 4





Witnesses:

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UNITED STATES PATENT OFFICE.

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ANTIFRICTION COUPLING-CARRIER.

1,166,600. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed February 18, 1915. Serial No. 9,001.

To all whom it may concern:

Be it known that we, DANIEL P. KELLOGG and HENRY W. WATKINS, citizens of the United States, both residing at Los Angeles, in the county of Los Angeles and State of California, have jointly invented certain new and useful Improvements in Antifriction Coupling-Carriers, of which the following is a specification.

This invention relates in general to railway draft rigging and more specifically to an anti-friction carrier to support the shank of the coupler.

In railway cars, as usually constructed, the coupler shank is slidably supported on a carrier iron secured to the sills of the car. The constant movement of the coupler, when the car is in use, rapidly abrades the shank at its point of contact with the carrier iron so that it becomes weakened and unfit for use and the entire coupler must frequently be replaced, although the parts other than the shank may be still in good condition.

It is the object of our invention to provide means for supporting the coupler shank so that it is not subjected to abrasion, whereby the life of the coupler is materially prolonged.

Other objects and advantages of our invention will be apparent as it is better understood by reference to the following specification taken in connection with the accompanying drawings in which—

Figure 1 is a vertical section through a portion of a car body on a line transversely thereof showing our invention installed; Fig. 2 is a vertical section through the device on a line normal to the line of Fig. 1; Fig. 3 is a vertical section similar to Fig. 1, showing a slightly different form of our invention, and Fig. 4 is a vertical section similar to Fig. 2 of the form of our invention shown in Fig. 3.

Referring to Figs. 1 and 2 of the drawings, 1 indicates the sills of a car and 2 a carrier iron secured in any suitable manner to the sills. Slidably mounted upon the carrier iron 2 is a plate 3 having side flanges 4 extending downwardly on either side of the carrier iron 2 to prevent sidewise movement of the plate 3 with respect to the carrier iron. A bolt 5, passing through the flanges 4, holds the plate 3 in coöperative relation with the carrier iron 2. The plate 3 is provided with downwardly extending ribs 6 which act as retainers for the anti-friction rollers 7 loosely mounted between the plate 3 and the carrier iron 2. As will be readily understood, the plate 3 is movable longitudinally of the carrier iron 3 and frictional contact between the plate and the carrier iron is prevented by the rollers 7. A plate 8 is superposed upon the plate 3 and is provided with downwardly extending flanges 9 to engage the plate 3 and prevent movement with respect thereto of the plate 8 in a direction longitudinally of the carrier iron 2 and with upwardly extending flanges 10 to engage the sides of the coupler shank 11 and hold it in proper relation therewith. The flanges 10 are slightly cut away at either end of the plate 8, as indicated in dotted lines in Fig. 1, to allow for slight angular movements of the coupler shank 11 with respect thereto. The plate 8 is provided with downwardly extending ribs 12, which act as retainers for the anti-friction rollers 13, loosely mounted between the plates 8 and 3. A bolt 14 is disposed in a suitable opening in the plate 8 and passes through a slot 15 in the plate 3, whereby the plate 8 is held in coöperative relation with the plate 3, the movement of the plate 8 with respect to the plate 3 being limited by the length of the slot 15. It will be understood that the plate 8 is movable with respect to the plate 3 in a direction normal to the longitudinal axis of the carrier iron 2 and that frictional contact between the plates 8 and 3 is prevented by the rollers 13.

The operation of the device will, it is thought, be apparent without further description of the structure thereof. When the car is in use the coupler shank 11 moves both longitudinally and transversely with respect to the car body. When the coupler shank 11 moves longitudinally of the car plate 8 will roll upon the plate 3, the movement being, however, limited by the slot 15 coöperating with the bolt 14. When the coupler shank 11 moves transversely with respect to the car body, the plate 3 will roll upon the carrier iron 2, the movement in this case being limited by the sills 1. It will be understood, therefore, that by the use of our invention all abrasion due to frictional contact between the coupler shank and the carrier iron is eliminated and that, therefore, the wear which has been an inherent defect in draft rigging as heretofore constructed is obviated.

In Figs. 3 and 4 we have shown a slightly

different form of our invention in which the carrier iron 16 is provided with downwardly extending portions 17 and a portion 18 inclined downwardly from either side toward the center. In this form of our invention the plate 3′ is provided with downwardly extending flanges 4′ and a bolt 5′ is disposed therethrough to hold the plate in cooperative relation with the portion 18 of the carrier iron 16, as in the form previously described. The rollers 19 are journaled at 20 in the flanges 4′ and therefore remain in their proper relative positions regardless of the inclined surface of the carrier iron. The plate 8′ is provided with downwardly extending flanges 21 to prevent movement thereof with respect to the plate 3′ in the direction of the longitudinal axis of the carrier iron and is further provided with inwardly extending flanges 22 which engage beneath the plate 3′ and hold the plate in proper coöperative relation therewith. The rollers 23 are journaled at 24 in the flanges 21 and are, therefore, always retained in their proper relative positions. The plate 8′ is, however, provided with downwardly extending ribs 25 on its two sides to further protect the rollers 23. The coupler shank 11′ rests, as in the preceding form, upon the plate 8′. The operation of this form of our invention is identical with that of the form previously described, except that the portion 18 of the carrier iron 16, having inclined faces, tends automatically to center the coupler shank whenever it has been moved from its central position and the downwardly extending portions 17 of the carrier iron 16 act as stops to limit the movement of the plate 3′ longitudinally of the carrier iron.

It will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing any of its material advantages, the forms hereinbefore disclosed being merely preferred embodiments thereof.

We claim:

1. In a device of the character described, the combination of a carrier iron, a coupler shank, and an anti-friction carrier supported on said carrier iron and comprising a pair of superposed plates and anti-friction means disposed between said plates and between the lower of said plates and said carrier iron.

2. In a device of the character described, the combination of a carrier iron, a coupler shank, and an anti-friction carrier, supported on said carrier iron and comprising a pair of superposed plates, antifriction rollers disposed between the lower of said plates and said carrier iron with their longitudinal axes normal to the longitudinal axis of said carrier iron and anti-friction rollers disposed between said plates with their longitudinal axes normal to the longitudinal axes of said first-mentioned rollers.

3. In a device of the character described, the combination of a carrier iron, a coupler shank, and an anti-friction carrier, supported on said carrier iron and comprising a pair of superposed plates, anti-friction rollers disposed between said plates and between the lower of said plates and said carrier iron, and means to maintain said plates in coöperative relation and said lower plates in coöperative relation with said carrier iron.

4. In a device of the character described, the combination of a carrier iron, a coupler shank, and an anti-friction carrier, supported on said carrier iron and comprising a pair of superposed plates, anti-friction rollers disposed between said plates and between the lower of said plates and said carrier iron, and means to limit the movement of said plates with respect to each other and said carrier iron.

5. In a device of the character described, the combination of a carrier iron, a coupler shank, and an anti-friction carrier, supported on said carrier iron and comprising a pair of superposed plates, anti-friction rollers disposed between said plates and between the lower of said plates and said carrier iron, means to maintain said plates in coöperative relation and said lower plates in coöperative relation with said carrier iron, and means to limit the movement of said plates with respect to each other and said carrier iron.

6. In a device of the character described, the combination of a carrier iron, a coupler shank, and an anti-friction carrier, supported on said carrier iron and comprising a pair of superposed plates, antifriction rollers disposed between the lower of said plates and said carrier iron with their longitudinal axes normal to the longitudinal axis of said carrier iron, anti-friction rollers disposed between said plates with their longitudinal axes normal to the longitudinal axes of said first-mentioned rollers, and means to maintain said plates in coöperative relation and said lower plates in coöperative relation with said carrier iron.

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