(No Model.) 2 Sheets—Sheet 1.

P. REILLY.

CENTER PLATE FOR RAILWAY CARS.

No. 599,150. Patented Feb. 15, 1898.

Fig. 1.

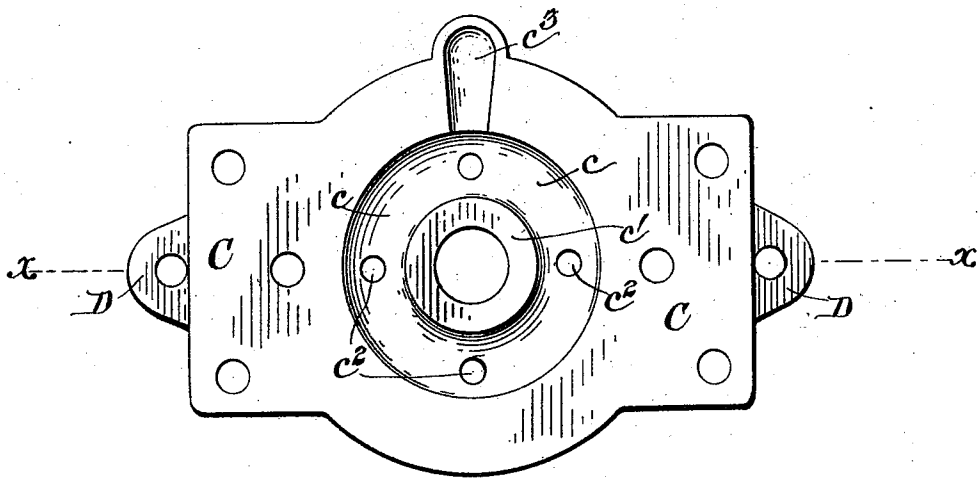
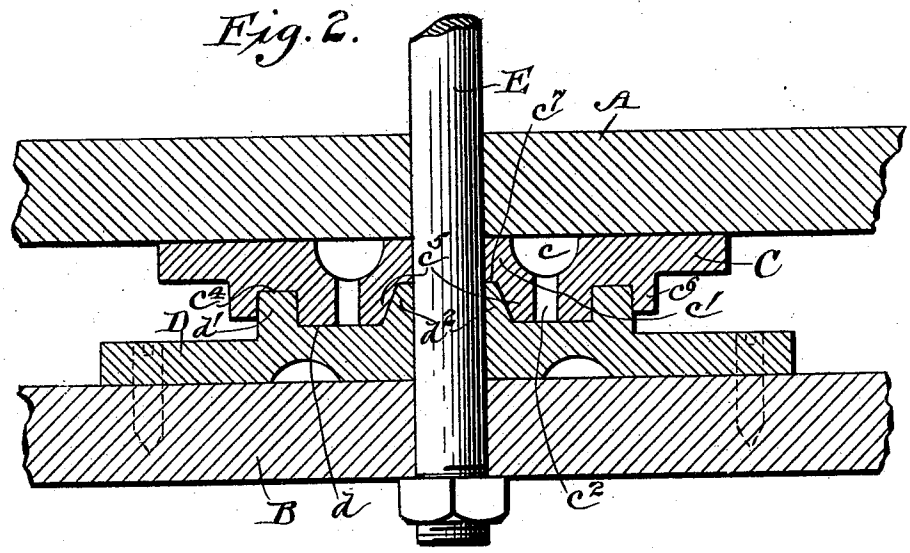


Fig. 2.



WITNESSES

H. Severance.

Geo. C. Sullivan

INVENTOR

Patrick Reilly

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

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

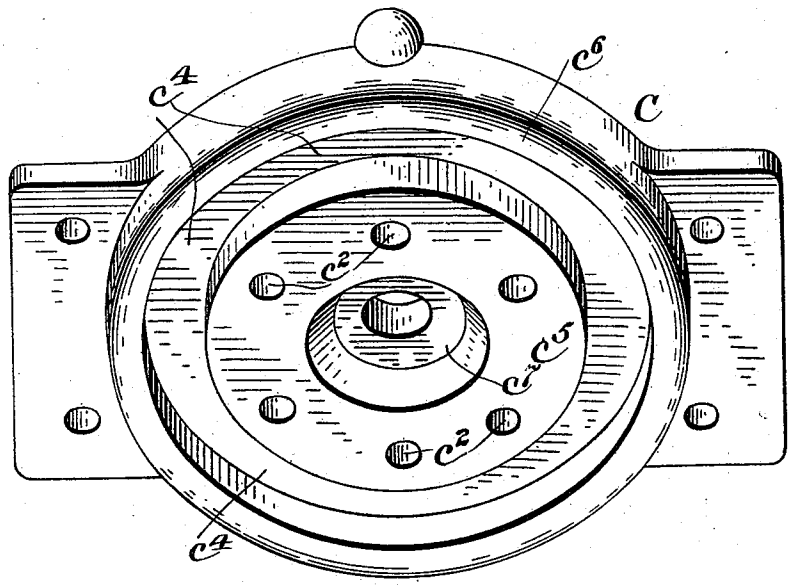
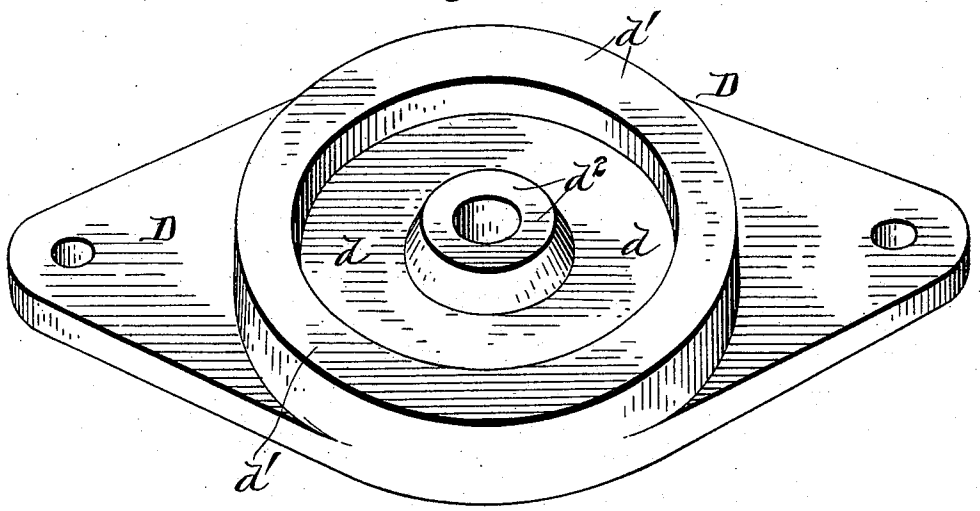


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

PATRICK REILLY, OF LIMA, OHIO.

CENTER-PLATE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 599,150, dated February 15, 1898.

Application filed December 16, 1897. Serial No. 662,204. (No model.)

To all whom it may concern:

Be it known that I, PATRICK REILLY, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented certain new and useful Improvements in Center-Plates for Railway-Cars; 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 center-plates for coupling the trucks of railway-cars to the car-body, by means of which the bearings are self-lubricated; and it consists of an upper or body plate and a lower or truck plate, the body-plate being provided on its upper surface with a depression or recess for the reception of a considerable quantity of oil and provided with oil-passages leading from the said depression to the lower or truck plate, an outer annular depression on the under side of said body-plate forming a peripheral flange or wall having a straight vertical inner face and an annulus, the annulus being provided with a socket, both the core and the annulus having flat bearing-surfaces, and the lower or truck plate being provided with an annular oil-recess having a comparatively deep peripheral flange or wall and a comparatively high central hub, both of which have flat bearing-surfaces, the upper and lower plates being provided with registering central passages for the reception of a king-bolt or other connecting means.

A constant and proper lubrication of the center-plate bearings of railway-cars is of the utmost importance in the economical operation of the cars, but the heavy weight of the cars on the trucks at the bearings of the center-plates and the close fitting of the parts has heretofore rendered it difficult to keep up the proper lubrication. As a result of lack of lubricant, the center-plates grind on each other and often become stuck together and rigid, and the truck consequently, when turning a curve, fails to follow the swing of the car and a derailment occurs. Further, when the truck does not turn readily in rounding a curve by reason of the friction at the center-plates the flanges of the wheels are worn down and made sharp at the edges in grinding against the inner edges of the rails, and the rails themselves are also worn by this contact. Also when the center-plates do not turn readily by reason of imperfect lubrication the timbers of the car and truck are naturally under much greater strain and the entire car is racked and strained to its great damage.

One of the most important features of my invention is that the bearing-surfaces between the two plates are flat and that a comparatively high outer flange or wall having a straight vertical inner surface and a comparatively high central hub are provided on the lower plate, which positively retain the oil and prevent its wasting or oozing out at the outer edges between the plates or leaking at the hub along the king-bolt, as is now commonly the case.

In the accompanying drawings, Figure 1 is a top plan view of the body center-plate, with the truck-plate in position beneath it. Fig. 2 is a vertical longitudinal section of the center-plates and bolsters, taken on the line $x\,x$ of Fig. 1, a portion of the king-bolt being shown. Fig. 3 is an inverted perspective view of the under side of the upper or body plate, and Fig. 4 is a perspective view of the lower or truck plate.

A in the drawings represents the body-bolster, secured to and forming a part of the car.

B is the truck-bolster.

C is the upper or body center plate.

D is the lower or truck center plate, and E is the pin, which holds the truck to the car.

The upper or body plate C is provided on its upper surface with a deep depression c, which forms a central hub c'. One or more oil-passages c^2 lead from the said depression c preferably through an annulus c^5, formed on the under side of the upper plate C, to the annular recess d, formed in the lower plate D. The recess c is made sufficiently large to hold a considerable quantity of oil—say half a pint—so that it will not require to be replenished, say, oftener than once a year under ordinary conditions. A channel c^3 leads from the outer edge of the upper plate to the recess or depression c, by means of which oil can be supplied to the depression without the necessity of returning the car to the shops and "jacking it up," as is now frequently

done. The upper plate C is formed on its under side with an outer annular depression c^4, forming a depending annulus c^5 and an outer depending or overhanging peripheral flange or wall c^6. The surface constituting the top of the annular depression is flat and the under surface of the annulus is made flat, and the peripheral surface of said annulus and the inner surface of the outer flange or wall c^6 are vertical, so that when the upper plate is in position on the lower plate the bearing-surfaces between the plates will be flat and the oil will be positively retained, the surplus oil being forced back through the oil-passages c^2 into the depression or recess c, the oil being only fed down to the lower plate as it is required. The annulus c^5 is formed with a socket c^7 to receive the hub d^2, formed on the lower plate D.

The lower plate D is formed on its upper surface with a comparatively deep annular depression d, forming a comparatively high outer peripheral flange or wall d' and a comparatively high central hub d^2. The upper surface of the outer flange or wall d' and the upper surface of the central hub d^2 are flat, so as to secure a flat bearing between the two plates, and the inner surface of the outer peripheral wall or flange is vertical and, being deep, positively retains the oil and prevents it from escaping at the outer edges between the plates, and the hub prevents it from wasting along the king-bolt. The depending or overhanging flange or wall c^6 of the upper plate partially incloses the peripheral flange or wall d' of the lower plate, the annular depression or recess d of the lower plate receives the annulus c^5 of the upper plate C, and the socket c^7 of the upper plate receives the hub d^2 of the lower plate.

The upper and lower plates are provided with means for securing them respectively to the car and to the truck and the pin E holds the truck to the car.

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

1. A center-plate for a car comprising in its construction an upper plate and a lower plate, the upper plate being formed on its upper surface with an oil depression or reservoir provided with one or more oil-passages which lead to the lower plate, and also formed with a vertical passage, the said upper plate being formed on its under side with an annular recess or depression forming an annulus and an outer peripheral depending flange, the said annulus being provided with a socket, the portion of the under side of the plate constituting the top of the annular depression being flat, and the inner surface of the outer flange and the peripheral surface of the annulus being vertical; the lower plate being provided on its upper surface with a comparatively deep annular depression forming a comparatively high annular wall or flange and a comparatively high central hub, the said hub being formed with a central passage and the portion of the lower plate constituting the bottom of the annular depression being flat, and the inner surface of the peripheral flange or wall being vertical, substantially as described.

2. A center-plate for a car comprising in its construction an upper plate C and a lower plate D, the upper plate being formed on its upper surface with an oil depression or reservoir c provided with one or more oil-passages c^2 which lead to the lower plate, an oil-supply channel c^3, a central hub c' formed with a vertical passage, the said upper plate being formed on its under side with an outer annular recess or depression c^4 forming an annulus c^5 and an outer peripheral depending flange c^6, the said annulus being provided with a central socket, the portion of the under side of the plate constituting the top of the annular recess being flat, the inner surface of the outer flange and the peripheral surface of the annulus being vertical; the lower plate being provided on its upper surface with a comparatively deep annular depression d forming a comparatively high annular wall or flange d' and a comparatively high central hub d^2, the said hub being formed with a central passage and the portion of the lower plate constituting the bottom of the annular depression being flat, and the inner surface of the peripheral flange or wall being vertical, a pin E for holding the truck to the car, and means provided on the plates for securing them in position, the construction and arrangement of the parts being such that the depending or overhanging flange on the under side of the upper plate partially incloses the outer peripheral flange or wall on the lower plate, the annulus on the under side of the upper plate rests in the annular depression in the lower plate, and the hub on the lower plate rests in the socket in the upper plate, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

PATRICK REILLY.

Witnesses:
W. E. REILLY,
C. A. KELLER.