No. 755,516. PATENTED MAR. 22, 1904.

H. MILLER & G. L. RIEDEL.

FIFTH WHEEL FOR VEHICLES.

APPLICATION FILED NOV. 28, 1903.

NO MODEL.

Fig. 1.

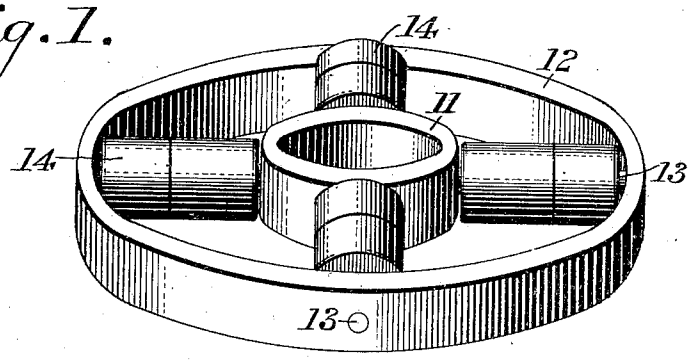


Fig. 2.

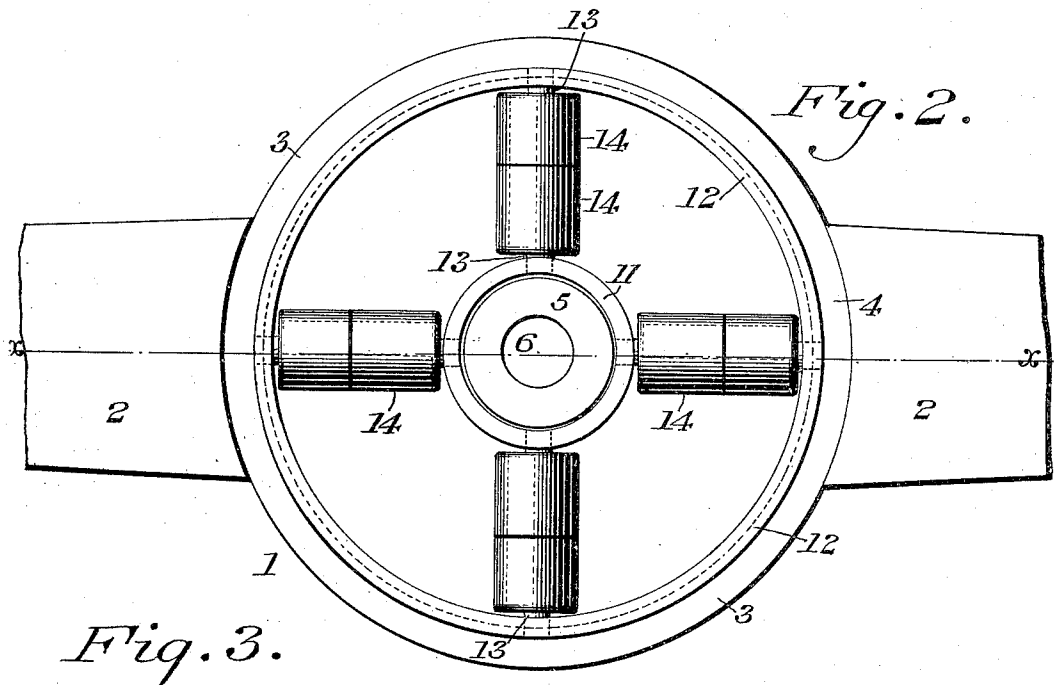
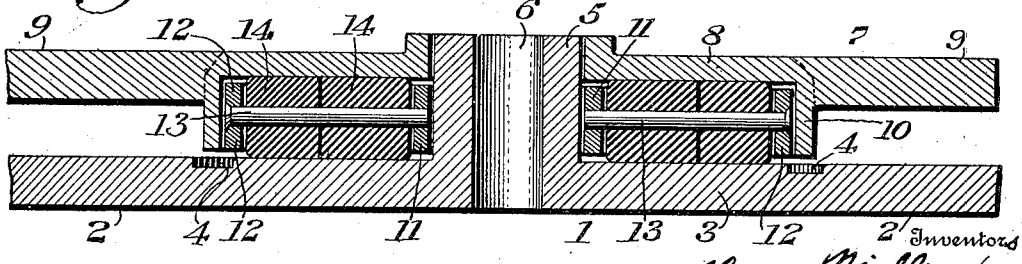


Fig. 3.



Witnesses

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No. 755,516. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

HARRY MILLER AND GEORGE L. RIEDEL, OF PHILADELPHIA, PENNSYLVANIA.

FIFTH-WHEEL FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 755,516, dated March 22, 1904.

Application filed November 28, 1903. Serial No. 182,968. (No model.)

To all whom it may concern:

Be it known that we, HARRY MILLER and GEORGE L. RIEDEL, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Fifth-Wheels for Vehicles, of which the following is a specification.

Our invention relates to a fifth-wheel for coaches, wagons, and other vehicles.

It comprises novel means for diminishing friction and for securing a bearing-surface of suitable diameter.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a perspective view of the antifriction portion of our device. Fig. 2 represents a plan view of the lower portion of the wheel with the antifriction device in position. Fig. 3 represents a section through the line x x, Fig. 2.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the lower section of a fifth-wheel provided with arms 2 2, adapted to engage with an axle, bolster, spring-head, or other portion of the running-gear. Between said arms 2 2 is a transom-plate 3, between which and the arms are sector-shaped grooves or depressions 4. Rising from the center of the plate or wheel portion 3 is a circular boss 5, through which passes an an axial aperture 6 for the reception of a king-bolt. The upper section 7 of the fifth-wheel has a transom-plate 8, corresponding in diameter to the plate or wheel portion 3, and arms 9 9, corresponding to the arms 2 and adapted to be secured to the body of the vehicle or to springs attached thereto. Around the plate 8 is a depending flange 10, which incloses a chamber existing between said transom-plates, the function of which will hereinafter appear. Interposed between the plates 3 and 8 and freely occupying said chamber is an antifriction device consisting of a pair of concentric collars 11 and 12, radial pins 13 whose ends are connected with said collars 11 and 12, and rollers 14 mounted on said pins and occupying the space between said collars, it being noticed that said pins, and accordingly said rollers, are disposed at intervals, so as to equalize the support of said antifriction device on the lower transom-plate 3 and equalize the support of the upper transom-plate on said rollers. We have shown two rollers on each pin, and it is obvious that in this way less friction is caused than if a single roller was employed, as the one nearer the outer periphery of the wheel must rotate at a greater speed than the one nearer the center. In a fifth-wheel of greater size it might be advantageous to employ a still greater number of rollers on each of the pins 13.

It will be seen that when the parts are assembled as shown in Fig. 3 the plates or fifth-wheel sections 3 and 8 are separated by the rollers 14, which are free to rotate therebetween. It will also be seen that the collars 11 and 12 are free to follow the motion of the rollers as much as or as little as the movement of the vehicle requires. In other words, there are no parts in frictional contact except where rolling surfaces are employed. The function of the flange 10, as will be seen, is to protect the roller-bearings from dust and mud. In case the vehicle is greatly cramped the flange 10 may be temporarily received in the groove 4 to prevent any engaging of the parts which might cause an overturning of the vehicle.

It will be seen that in case of the breaking of a roller or any working part the king-bolt may be removed, the upper section of the wheel raised, and an entirely new antifriction device inserted in place of the one damaged, or, if desired, any one of the pins 13 may be driven out and a new roller 14 inserted in the place of the one injured, or if after long wear grooves should be cut in the plates 3 and 8, so that the flange 10 was in danger of contacting with the plate 3, a new device containing rollers of greater diameter could be substituted for the old one.

It is evident that various changes may be made by those skilled in the art which will come within the scope of our invention, and

we do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described our invention, what we claim as new, and desire to obtain by Letters Patent, is—

1. A fifth-wheel comprising upper and lower transom-plates, an intervening loose antifriction device, and a vertically-arranged boss on one of said plates, the other plate freely encircling said boss, said device consisting of concentric collars and rollers mounted thereon, said rollers being located at intervals within said collars and the inner collar freely encircling said boss.

2. A fifth-wheel comprising upper and lower sections, a boss on one of said sections apertured to receive a king-bolt, an aperture in the other section adapted to encircle said boss and a detachable antifriction device comprising concentric collars one of which is adapted to freely encircle said boss, a plurality of radial pins connecting said collars and rollers freely movable on said pins, said pins and rollers being located at intervals in the space between said collars.

3. A fifth-wheel comprising upper and lower sections, a chamber between said sections, a boss on one of said sections apertured to receive a king-bolt, an aperture in the other section adapted to encircle said boss and a detachable antifriction device comprising concentric collars, a plurality of radial pins connecting said collars and rollers freely movable on said pins, and a concentric flange on one of said sections adapted to surround said chamber within which said device is freely contained, said pins and rollers being located at intervals in the space between said concentric collars.

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