(No Model.)

R. DAWES.

FIFTH-WHEEL FOR VEHICLES.

No. 421,166. Patented Feb. 11, 1890.

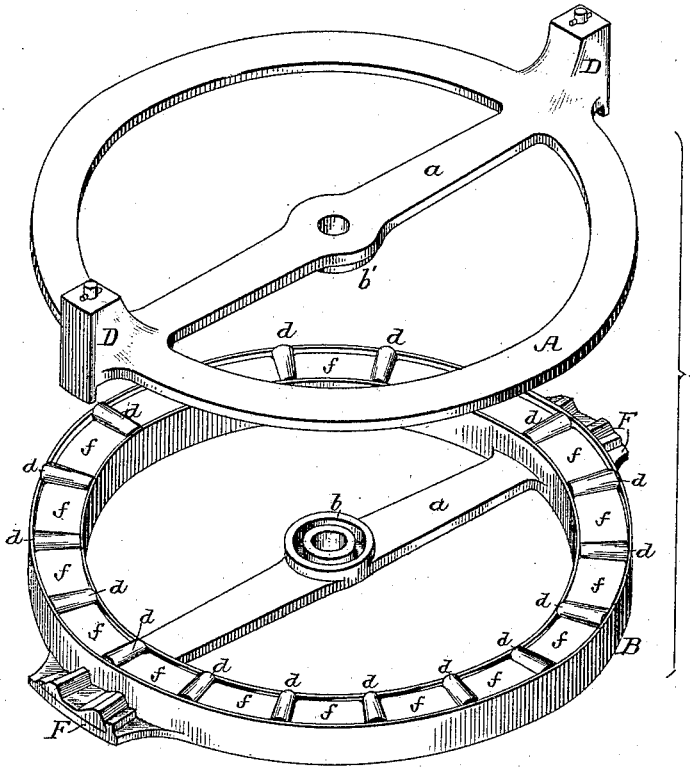

FIG. 1

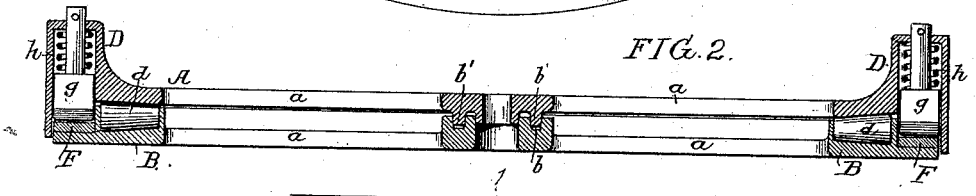

FIG. 2.

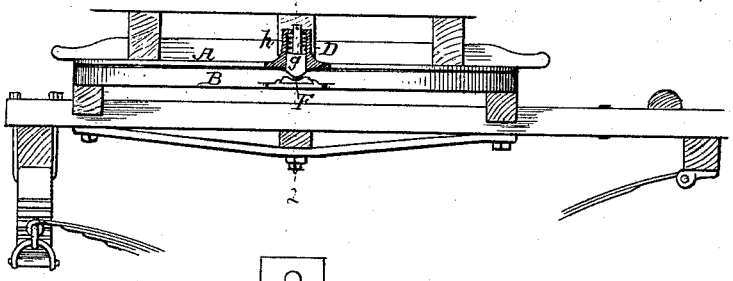

FIG. 3.

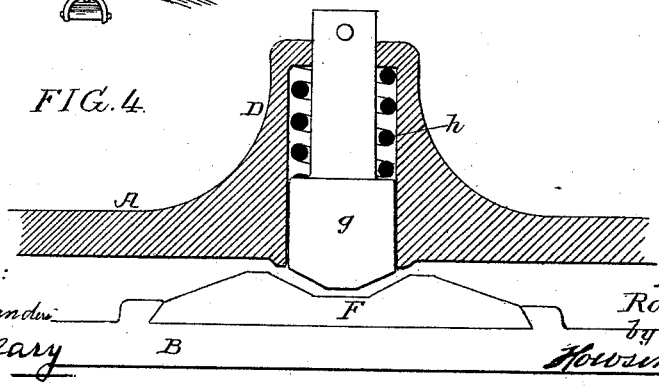

FIG. 4.

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UNITED STATES PATENT OFFICE.

ROBERT DAWES, OF PHILADELPHIA, PENNSYLVANIA.

FIFTH-WHEEL FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 421,166, dated February 11, 1890.

Application filed May 24, 1889. Serial No. 311,953. (No model.)

To all whom it may concern:

Be it known that I, ROBERT DAWES, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Fifth-Wheels for Vehicles, of which the following is a specification.

One object of my invention is to so construct a fifth-wheel for vehicles as to materially lessen the friction due to the swinging of the lower movable part under the upper fixed part, a further object being to prevent accidental movement of the shafts or pole either to the right or left from a central line without, however, materially interfering with such movement when it is desired to turn the front truck. These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the two parts of a fifth-wheel constructed in accordance with my invention, the parts being separated from each other in order to more clearly illustrate their construction. Fig. 2 is a transverse section of the fifth-wheel on the line 1 2, showing the parts of the fifth-wheel fitted to each other. Fig. 3 is a side view, partly in section and on a smaller scale, of the fifth-wheel and the parts of the vehicle carrying the same; and Fig. 4 is an enlarged section of part of the device.

A represents the upper ring of the fifth-wheel, and B the lower ring of the same, the upper ring A being attached to the framework at the front of the vehicle and the lower ring being attached to the spring structure of the front axle and to the shafts or pole, as usual, both rings having a central cross-bar *a*, and the cross-bar of the lower ring having an annular bearing *b* for the reception of an annular rib *b'* on the cross-bar of the upper ring, as shown in Fig. 2.

The lower ring B has a circumferential groove for the reception of a number of journalless anti-friction rollers *d*, which serve as supports for the upper ring, as shown in Fig. 2, these anti-friction rollers being retained in their proper circumferential position in respect to each other by means of interposed filling pieces or blocks *f*, preferably of wood, which, with the rollers, are retained radially in the groove of the ring, but are free to move circumferentially therein with the rollers when the lower ring is swung in one direction or the other.

The rollers *d* are slightly beveled, the inner end being the smallest, as required by the lower surface speed necessary for this portion of the roller, owing to its being nearer to the axis of rotation or vibration, so that the rollers provide an anti-friction bearing for the upper ring, while the interposed filling pieces or blocks permit the use of a much smaller number of rollers than would be required if said rollers entirely filled the lower ring.

At each end of the cross-bar *a* of the upper ring is a box D, in which is guided a bolt *g*, acted upon by a spring *h*, tending to force the bolt downward, and at the opposite sides of the ring B are recessed lugs F, the recesses in the lugs and the opposite ends of the same being beveled, and the lower ends of the bolts *g* being correspondingly beveled, as shown in Fig. 4. When the pole or shaft is in a central position, the bolt occupies a position in the recess of the lug and serves to prevent accidental or unintentional movement of the pole or shaft either to the right or left, such as might be caused by one or other of the wheels of the front truck striking an obstruction, the pole or shaft being thus prevented from striking and chafing the sides of the draft animal or animals of the team.

Owing to the bevel of the locking-bolts and of the recesses to which they are adapted, however, the front truck can be readily turned on its axis when sufficient lateral pressure is imparted to the shafts or pole, so that no material obstruction is met with in the ordinary turning operations.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination of the upper ring of the fifth-wheel with the lower grooved ring, a series of radially-disposed and journalless anti-friction rollers therein, and filling-pieces interposed between said anti-friction rollers, substantially as specified.

2. The combination of the upper ring with its cross-bar and central bearing and the lower grooved ring with its journalless anti-friction rollers, filling-pieces, and cross-bar, the latter having a central bearing adapted

to receive that of the upper ring, substantially as specified.

3. The combination of one of the rings of the fifth-wheel having lugs with beveled recesses with the other ring having opposite beveled spring-bolts for engaging with said recesses, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT DAWES.

Witnesses:
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