J. A. BILZ.

Fifth-Wheel for Vehicles.

No. 216,551. Patented June 17, 1879.

Fig. 1.

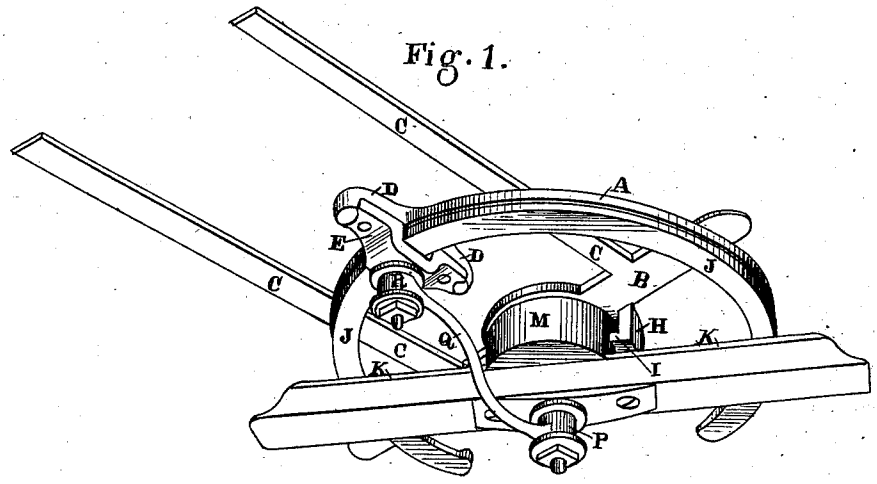


Fig. 2.

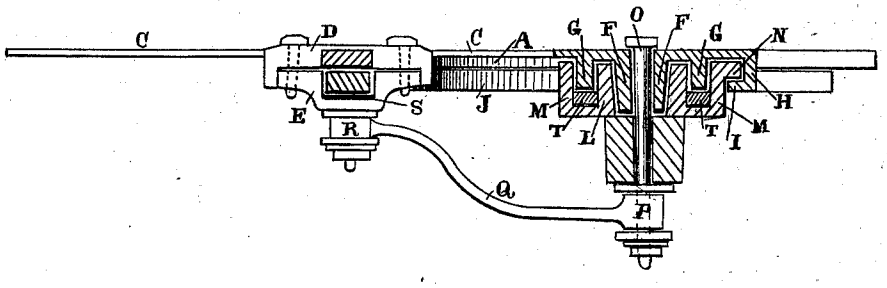
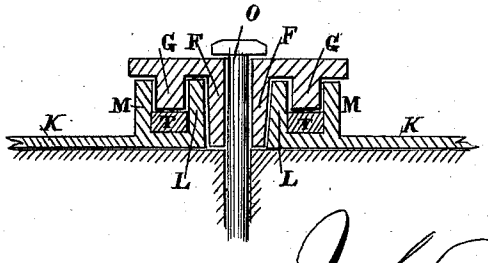


Fig. 3.



Witnesses

Geo. H. Strong

Frank A. Brooks

Inventor

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UNITED STATES PATENT OFFICE.

JOHN A. BILZ, OF PLEASANTON, CALIFORNIA.

IMPROVEMENT IN FIFTH-WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. **216,551**, dated June 17, 1879; application filed March 24, 1879.

To all whom it may concern:

Be it known that I, JOHN A. BILZ, of Pleasanton, county of Alameda, and State of California, have invented a Self-Sustaining Coupling for Vehicles; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to an improved coupling for vehicles; and it consists in a novel construction of the circle upon which the forward axle turns to give direction to the vehicle. This circle is cast or formed in one piece with the extensions which are fastened to the vehicle. It is constructed with a novel king-bolt connection, which cannot be broken or uncoupled; and it is braced and steadied, so that the bolster cannot be tipped over. Elastic cushions relieve wear and prevent rattle and noise.

It also consists in certain details of construction, which will be more fully described by reference to the accompanying drawings, in which—

Figure 1 is a view of my coupling detached. Fig. 2 is a section. Fig. 3 is a view of the cap with its cushion.

A is the upper part of my circle, which is cast in one piece with the cross-bar B and the extensions C, which serve to secure it to the vehicle-body. The back part of the curve A has projections D cast upon it, with downwardly-projecting lugs, to guide and retain the cap E in place.

A hub or boss, F, projects downward from the center of the bar B, this being the center of the circle; and a flange, G, surrounds this hub at a sufficient distance to leave a space into which a similar but smaller flange from the other part of the circle will fit. At a little distance in front of this flange is a segment, H, having a curved overhanging lip, I, for a purpose to be more fully described hereinafter.

The lower circle, J, is cast or formed with a bar, K, and the two circular flanges L and M are formed on the center of this bar, so as to fit within and outside of the flange G, respectively, as shown.

The front edge of the flange M has a projection, N, which passes beneath the lip I when the circles are placed together, and they are thus locked and prevented from separating. A pin or bolt, O, passes through the hub F and down through the bolster; but this bolt receives no strain, as the hub F, flanges G and H upon the upper circle, and the flanges L and M upon the lower circle fit into each other, so as to take all the side strain.

The lip I of the upper flange, fitting over the projection N of the lower one, locks the two together, so that it is impossible to separate them. The cap E fits over the two circles at the rear, and is bolted to the lugs D, so as to hold the two together. A plate is secured to the lower part of the axle, and a projection, P, receives one end of a brace, Q, while the other end fits a similar projection, R, below the cap E. Nuts at each end hold this brace in place, and its effect is to steady the axle and prevent it from being tipped over by strains upon it.

In order to prevent noise and rattle, I fit a rubber or other elastic bearing, T, into the space between the flanges L and M of the lower circle, and the flange G of the upper one rests upon this bearing. An elastic bearing, S, is also fitted into the cap E, and the lower circle moves upon it.

This mechanism is compact, strong, and noiseless. It can only be separated by taking off the brace Q and cap E, and then turning the circles upon each other until the projection N is disengaged from the lip I, when they may be separated.

When the lip and projection are engaged it will be seen that no king-bolt will be needed, nor any other fastening.

I am aware that a single cup has been formed upon the lower part of the circle to receive a projection from the upper one, and to receive oil as a lubricant, and I do not claim, broadly, such a construction; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The circle A, with the hub F, ring G, and segment H, with its lip I, in combination with the circle J, having the rings L and M, and the projection N, whereby the two parts of the circle are locked so as to turn upon each other, substantially as herein described.

2. The circles A and J, with their concentric and interlocking rings F G H and L M, in combination with the elastic cushions T and S within the rings, and cap E, substantially as and for the purpose herein described.

3. The circles A and J, with their concentric interlocking rings and cap, as shown, in combination with the brace Q, extending from the cap E to the bolt O, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN A. BILZ.

Witnesses:
FRANK A. BROOKS,
CHAS. G. YALE.