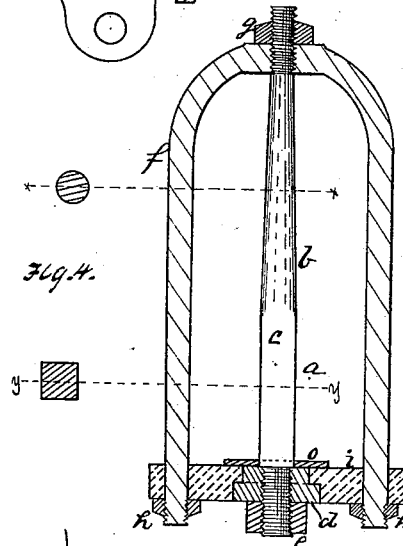
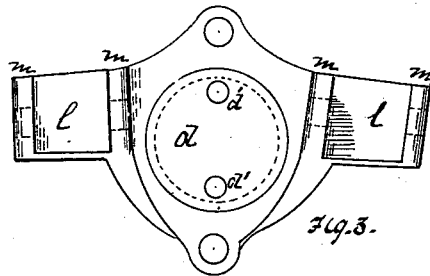
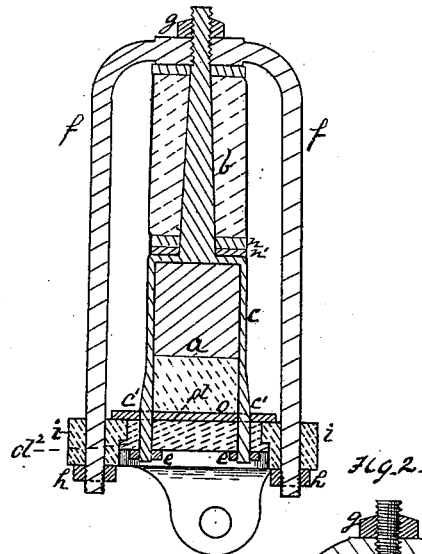
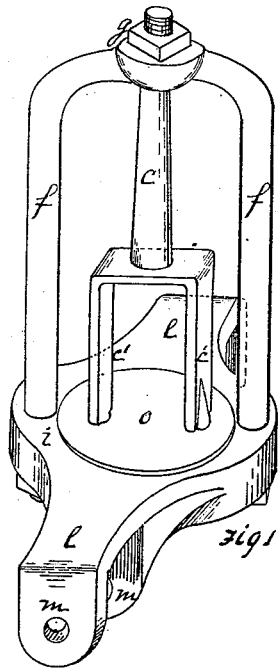


W. W. GRIER & H. BARR.

Fifth-Wheel for Vehicles.

No. 217,611.

Patented July 15, 1879.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

WILLIAM W. GRIER AND HORATIO BARR, OF HULTON, PENNSYLVANIA.

## IMPROVEMENT IN FIFTH-WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. **217,611**, dated July 15, 1879; application filed June 5, 1879.

*To all whom it may concern:*

Be it known that we, WILLIAM W. GRIER and HORATIO BARR, of Hulton, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Fifth-Wheels for Vehicles; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of our improved fifth-wheel. Fig. 2 is a vertical cross-section, showing its attachment to the head-block and axle. Fig. 3 is a bottom view, and Fig. 4 is a view of a modified form of our invention.

Like letters of reference indicate like parts in each figure.

Our invention relates to the construction of fifth-wheels for vehicles; and consists, briefly stated, in, first, the combination of a saddle-brace, a king-bolt, and a yoke for each, the yoke of the king-bolt being encircled by and turning within the other; second, the combination of a saddle-brace, a clip king-bolt, and a yoke for each, the yoke of the king-bolt being encircled by and turning within the other; third, the combination of a clip king-bolt, a spring-hanger, and a yoke for the clip king-bolt circling within the hanger; and, fourth, in details of construction.

As principally illustrated, our invention is especially adapted for use with no-perch vehicles having springs running to and attached at the center of the front axle; and we will therefore describe such form first.

The front axle of the vehicle is shown at *a*, and the head-block at *b*. Passing through the head-block and surrounding the axle is a clip king-bolt, *c*, which, at the lower end, is attached to a circular yoke, *d*, by means of nuts *e*, the arms *c'* of the clip passing through suitable holes *d'* in the yoke *d*, and being threaded for the reception of the nuts. At its upper end the king-bolt is threaded and passes through a hole in saddle-brace *f*, and is there secured by a nut, *g*. The saddle-brace *f* incloses the head-block *b* and axle *a*. Secured to it by nuts *h* on its two ends is a yoke, *i*, having a circular opening, in which the king-bolt yoke *d* turns. The yoke *d* has a shoulder or flange, *d<sup>2</sup>*, around

its lower edge, which fits in a corresponding recess in the lower side of the yoke *i*.

At two opposite sides of the yoke *i* are extensions *l* of the same, which, being provided with lugs *m*, suitably tapped, constitute means of attachment for hanging or fastening the forward ends of the center springs of the gear.

It is evident that the plate can easily be changed to form means for the attachment of a single center-spring. This adaptation constitutes this plate at once a saddle-brace yoke and a spring-hanger.

Between the head-block *b* and the axle *a* are placed the ordinary friction-plates *n n'*, and between the axle *a* and the spring-bolt yoke *d*, and extending beyond the edges of the latter, is a thin circular metallic disk, *o*, which is designed to cover the working-edges of the two yokes *d* and *i*, and to prevent dirt and other extraneous matter from getting between them and interfering with their proper working.

In putting our improved fifth-wheel in place, the king-bolt *c* is put on the axle *a*; the metallic disk *o* and king-bolt yoke *d*, with the yoke *i* between them, placed on the ends *c'* of the bolt *c*; the friction-plates placed on the head-block and front axle; the head-block put in place; and, lastly, the saddle-brace *f*, the parts all being secured together by the nuts mentioned.

The removal is a very simple operation. By unscrewing the five nuts *g e e h h*, all of which are exposed and accessible, the parts may be removed with ease and celerity. This is a very important advantage of our improved construction, as it is frequently necessary to remove or take the fifth-wheel apart, and in all of the other constructions known to us this is not only difficult and tedious, but necessitates a removal of other parts of the gear. All wear and looseness can be taken up or compensated for by turning up the nuts.

Instead of using a clip king-bolt, we can use a straight one, as illustrated in Fig. 4, the portion passing through the axle being of square or other shape which will prevent turning, the upper part being round; or it may be of any desired practicable form. In this case the turn-plate *d<sup>2</sup>* is used as an equivalent of the yoke *d*.

This fifth-wheel can be used equally well

with perch-vehicles—the perches, one or more, as the case may be, being attached to the saddle-brace *f*. In such case the spring-hanging attachments are omitted.

Among the advantages of the described construction of fifth-wheel are its cheapness, ease of action, strength, durability, lightness, neatness, and beauty of appearance.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of a saddle-brace, a king-bolt, and a yoke for each, the yoke of the king-bolt being encircled by and turning within the other, substantially as and for the purposes set forth.

2. The combination of a saddle-brace, a clip king-bolt, and a yoke for each, the yoke of the king-bolt being encircled by and turning within the other, substantially as and for the purposes set forth.

3. The combination of a clip king-bolt, a spring-hanger, and a yoke for the clip king-bolt circling within the hanger, substantially as and for the purposes set forth.

4. The combination, with a saddle-brace and king-bolt, each having an independent yoke and one yoke circling within the other, of a mud plate or cap covering and protecting the bearings of the yokes, substantially as specified.

In testimony whereof we, the said WILLIAM W. GRIER and HORATIO BARR, have hereunto set our hands.

WILLIAM W. GRIER.  
HORATIO BARR.

Witnesses:

JOHN BURKE,  
JNO. K. SMITH.