W. W. GRIER.

Fifth-Wheel for Carriages.

No. 200,712. Patented Feb. 26, 1878.

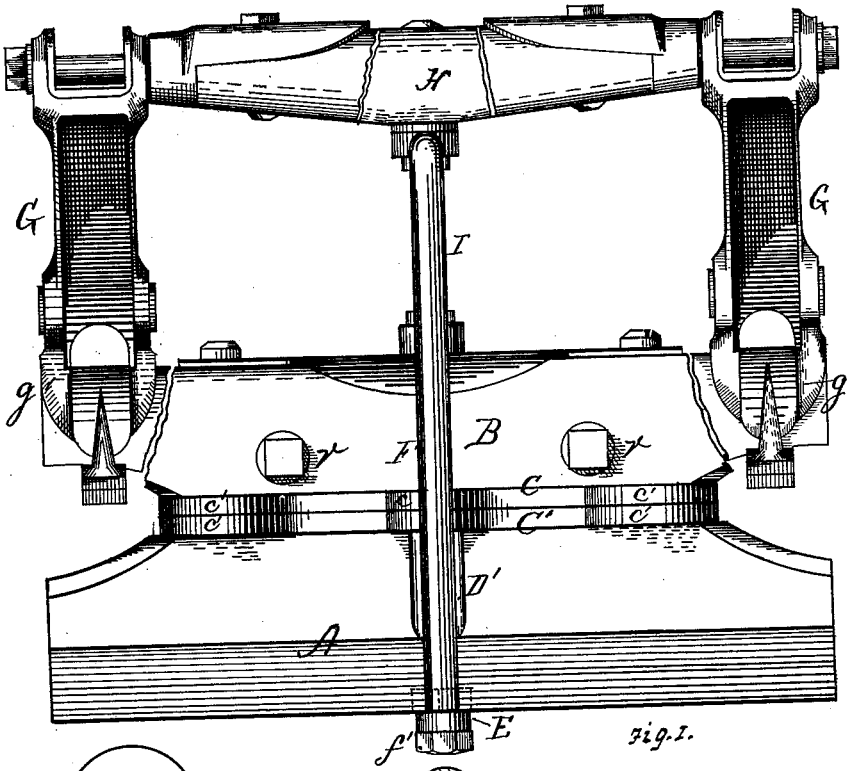

fig. 1.

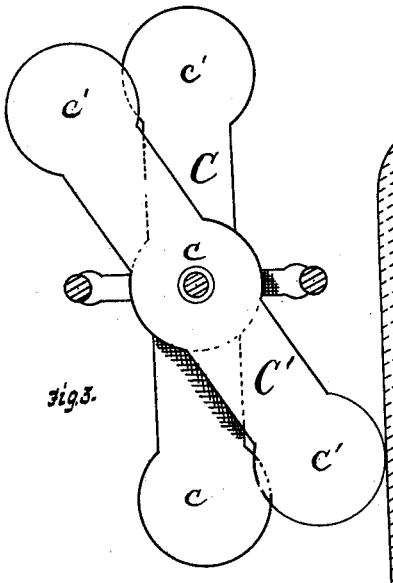

fig. 3.

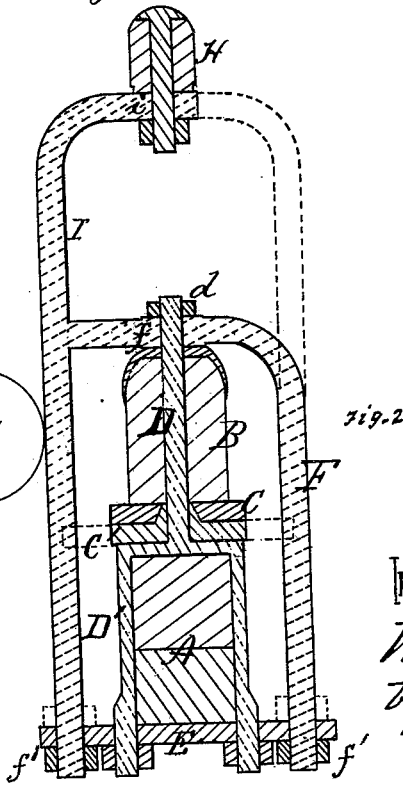

fig. 2.

Witnesses.

John. K. Smith

John F. Best

Inventor.

William W. Grier

by Bakewell & Kerr

Attys

UNITED STATES PATENT OFFICE.

WILLIAM W. GRIER, OF HULTON, PENNSYLVANIA.

IMPROVEMENT IN FIFTH-WHEELS FOR CARRIAGES.

Specification forming part of Letters Patent No. **200,712**, dated February 26, 1878; application filed January 12, 1878.

To all whom it may concern:

Be it known that I, WILLIAM W. GRIER, of Hulton, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Fifth-Wheels; and I 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 rear elevation of devices embodying my invention, together with so much of an axle, head-block, and spring-bar as is necessary to show their use. Fig. 2 is a transverse section of the devices, and an axle, head-block, &c.; and Fig. 3 is a detached view of the fifth-wheel plates.

Like letters refer to like parts wherever they occur.

My invention relates to the construction of fifth-wheels for vehicles, and to the connections therefor; and consists, first, in combining a saddle-clip and extended yoke with the king-bolt clip, the saddle-clip embracing the head-block in such manner that any lost motion due to the wear of the fifth-wheel plates may be taken up by adjustment of the saddle-clip; and, second, in combining, with the saddle-clip, king-bolt clip, and its adjuncts, a brace-arm extending to the spring-bar, to counteract the surge of the body when the motion of the vehicle is suddenly arrested or accelerated.

The subject-matter of the first nature of invention is applicable to various classes of vehicles, while the subject-matter of the second is especially applicable to that class of vehicles wherein the springs are attached above and to the head-block, as in the "Dexter" and others well known to the trade.

I will now proceed to describe my invention, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A represents the front axle; B, the head-block, and C C′ the fifth-wheel plates, connected, respectively, to the head-block and axle. The plates C C′ have a central opening for the passage of the king-bolt, and are expanded centrally and at the extremities to form increased bearing-surfaces *c c′*. These enlarged ends, as well as the enlarged center, materially increase the distance through which the two plates can move or rotate upon each other without permitting the head-block to rock on the axle, and thus prevent the ridging and rapid destruction of the fifth-wheel plates. D represents the king-bolt, provided with a clip, D′, by means of which and yoke E it is secured to the axle.

F represents a bolster-clip or saddle-clip, which rests above and on the head-block B, inclosing both it and the axle. It is sufficiently wide to allow free play of the axle with which it moves without the clip binding on the head-block. Saddle-clip F has a central opening or eye, *f*, through which the upper end of the king-bolt D passes, and is held by a nut, *d*, the lower or free ends of saddle-clip F being passed through eyes in the extended ends of yoke E, and the whole secured by nuts *f′*. If desired, a second set of nuts or jam-nuts (shown in dotted line, Fig. 2) may be employed to prevent the forcing of the fifth-wheel plates too closely together.

In some styles of vehicle the springs are supported upon the head-block, being connected by links G, said links clipped below to the head-block, as at *g*, or in other suitable manner, and strengthened and stayed by what is termed a "spring-bar," as shown at H. In such a construction there is a tendency of the body and springs to surge when the vehicle is suddenly stopped, or the wheels strike an impediment. For this class of vehicles I extend the saddle-clip F to form one or more brace-arms, I, with an eye, *i*, through which a bolt is passed to connect the brace-arm to the spring-bar.

In putting the parts together the king-bolt is first clipped to the axle by the extended yoke. The saddle-clip is then slipped upon the bolster or head-block, the upper end of the king-bolt passing through the eye or slot in the center of the saddle-clip, and the free ends of the saddle-clip passing through the holes in the extended yoke of the king-bolt clip. Three nuts are then applied—one to the free end of the king-bolt, and two to the free ends of the saddle-clip—and the nuts tightened to bring the fifth-wheel plates as close together as is required.

It will be noticed that the saddle-clip, which is thus rigidly connected to the axle, moves

with the axle and king-bolt, so that the nut of the king-bolt moves with the parts, and not over a fixed surface, as heretofore. This prevents the loosening or displacement of the king-bolt nut, and as there is no motion in the nuts of the saddle-clip except with the parts, there is no liability of their becoming loosened. If from wear of the fifth-wheel plates lost motion should occur, it can be taken up readily by tightening the three nuts before mentioned. The eye of the brace-arm I is sufficiently large to permit the arm to swivel on the bolt passing through the spring-bar, and the brace-arm I, being rigid, will prevent the swaying or surging of the springs and vehicle-bed.

In some cases—as, for instance, on heavy vehicles, or those used on rough roads—it may be found desirable to duplicate brace-arm I, or make it a continuous arch, as indicated in dotted line, Fig. 2, and also to brace the saddle-clip F by extending the center circle of the lower fifth-wheel plate or friction-plate, as is also indicated in dotted line, Fig. 2. When this fifth-wheel is used with a perch vehicle the spring may be secured to the head-block under and by the saddle-clip, and the perch secured by braces extending to bolts *r r*.

The advantages of my devices, in addition to those before recited, are simplicity, symmetry, and durability.

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

1. In a fifth-wheel for vehicles, the combination, with the axle and head-block, of the king-bolt and head-block or saddle-clip, both rigidly secured to and moving with the axle, substantially as and for the purpose specified.

2. In a fifth-wheel for vehicles, the combination, with the axle and head-block and spring-bar, of the king-bolt clip and saddle-clip provided with a brace-arm, the saddle-clip rigidly secured to the axle and the brace-arm connected to the spring-bar, so as to swivel on the spring-bar, substantially as and for the purpose specified.

3. In a fifth-wheel, the combination of the saddle-clip, the clip king-bolt, and the extended yoke common to both saddle-clip and king-bolt clip, substantially as specified.

4. In a fifth-wheel, the saddle-clip provided with the spring-bar brace-arm, substantially as and for the purpose specified.

In testimony whereof I, the said WILLIAM W. GRIER, have hereunto set my hand.

WILLIAM W. GRIER.

Witnesses:
F. W. RITTER, Jr.,
JOHN K. SMITH.