

J. R. McGuire.

Fifth Wheel.

N^o 69,233.

Patented Sept. 24, 1867

Fig. 1.

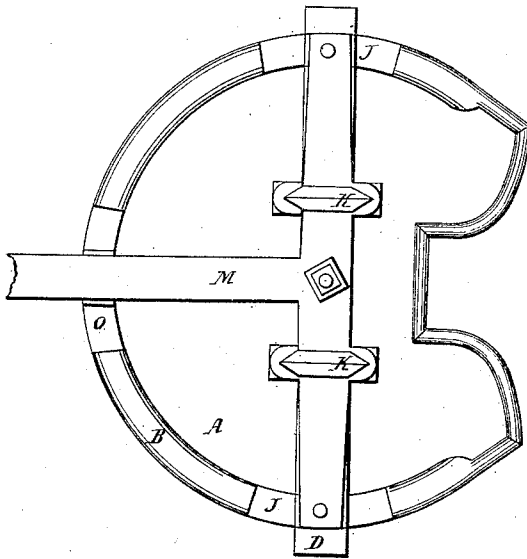


Fig. 4.

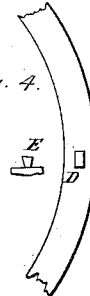


Fig. 5.

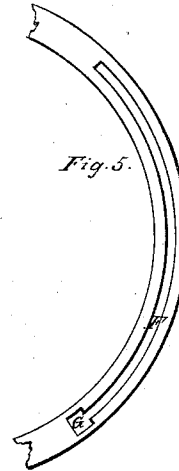


Fig. 2.

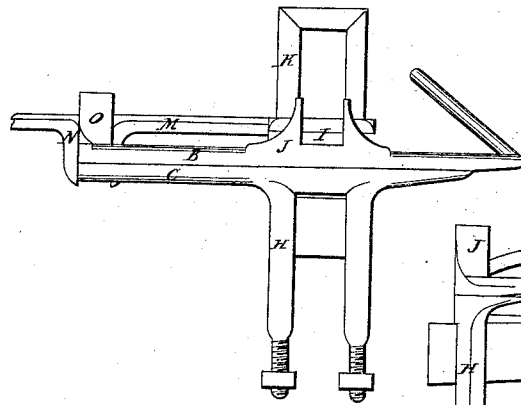
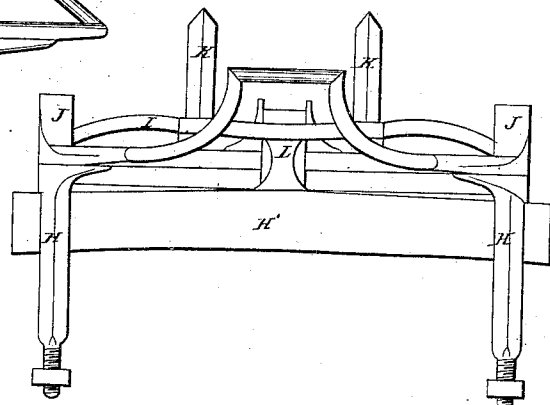


Fig. 3.



Witnesses.

E. E. Waite
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United States Patent Office.

JOSEPH R. McGUIRE, OF WARREN, OHIO.

Letters Patent No. 69,233, dated September 24, 1867.

IMPROVEMENT IN CARRIAGE-CIRCLE

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. R. McGUIRE, of Warren, in the county of Trumbull, and State of Ohio, have invented certain new and useful Improvements in a Carriage-Circle; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of the circle.

Figure 2 is a side view.

Figure 3 is a view of the front.

Figures 4 and 5 are detached sections.

Like letters of reference refer to like parts in the several views.

In fig. 1, A is the circle, and which is constructed in two sections, B C, fig. 2. These sections are connected to each other by a dowel, D, fig. 4, a side view of which is shown in the small figure E, in which it will be observed that the pin is dove-tailed in shape. This pin is made to fit in a corresponding groove, F, fig. 5, cut in the upper side of the lower sections C, and in which it slides, as the two sections may be made to turn upon each other. It will be obvious that in consequence of the dove-tail character of the pin it cannot be pulled out of the groove without turning it so as to bring it to the square opening G at the end of the groove, through which it can be withdrawn or inserted, as the case may be. The purpose of thus connecting the two sections will hereafter be shown. This wheel is attached to the axle-tree H by means of the clips H', fig. 3. It will be observed that these clips are not made separate from the wheel, but are made as a part of the lower section C, the clips and section being all in one place. I, fig. 3, is the cross-rail, the extreme ends of which rest upon the section B, between the cheeks of the stays J upon this rail, and between the stays is placed the bolster of the carriage, and which is secured in place by the clips K. L, fig. 1, is the king-bolt. It will be observed that this bolt does not pass through the axle-tree, but is secured to the top of the same in a fixed, rigid manner. The upper end of the bolt passes loosely through the centre of the cross-rail, and is supported by and turns upon the same, as will hereafter be shown. M, fig. 1, is the reach, on the under side of which is constructed a stay, N, between the cheeks of which both sections of the wheel are embraced, and thereby kept in close and exact relation to each other. The reach also is made to pass between the cheeks of the stay O, fig. 2, constructed upon the top side of the upper section, and are thus doubly locked together, giving thereby great strength and durability to the structure. The ordinary way of securing the lower section of the circle to the axle-tree is by bolts. The objection to this mode of fastening is, that the holes made in the circle for the reception of the bolts necessarily weaken the circle at that point by so much of the iron being cut out for the hole; hence it is very liable to break, and which circles often do; but by constructing a clip on the circle, as above described, this is obviated, and the strength of the circle is nowise lessened, but, on the contrary, is much stronger, as the material of the clip adds to the thickness of the circle. This manner of fastening also adds to the strength of the axle-tree, for the reason that no holes are bored through it for the reception of the circle-bolts. The two sections of the circle as ordinarily made often become displaced. The upper section, in consequence of the great strain exerted upon it by the swaying of the carriages, slips over and away from the lower section, so that they do not touch and turn upon each in close and exact relation, and not unfrequently the back part of the top section is forced entirely away from the lower one, thus seriously impairing the usefulness and proper action of the circle; but connecting the two sections by means of the dowel-pin and groove, as above described, prevents any possible displacement of the sections, as they cannot slip backward or forward, but are at the same time allowed to play freely in a circle. The two sections are still further restrained from being displaced by the stay N, constructed on the under side of the reach, as shown in fig. 2, in which it will be seen that both sections are embraced by the stay, and which thus contributes to restrain any displacement of the sections, as before remarked. So, also, by thus locking the circle and reach together by the stays, as shown in fig. 2, the draught upon the king-bolt is very much reduced, as the weight of the hind part of the carriage is drawn by the stays N and circle. The king-bolt being secured to the top of the axle-tree, the latter, therefore, is not weakened by having a hole bored through it for its reception, as is the case when constructed in the ordinary way; hence the application of this circle contributes to the

strength and durability of a carriage. Another advantage of this circle is that the bolster and spring are secured upon the cross-rail by means of the clips K, thereby dispensing with the use of bolts for that purpose, as the bolt-holes necessarily weaken both the spring and bolster, and the bolster being braced by the stays J, between which it is arranged, gives to the whole circle a strength and durability of structure far surpassing those in ordinary use.

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

1. The dowel-pin D and groove F, when constructed and arranged in relation to each other in the manner and for the purpose substantially as described.
2. Section C, when constructed with clips H, in combination with section B, constructed with clips J O, in the manner as and for the purpose substantially as set forth.
3. The reach M, when constructed with stays N, in combination with the cross-rail I and king-bolt L, when constructed and arranged in the manner as and for the purpose set forth.

JOSEPH R. McGUIRE.

Witnesses:

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JOSEPH PAIRTREE.