

C. W. REYNOLDS.
 RUNNING GEAR.
 APPLICATION FILED NOV. 20, 1912.

1,102,356.

Patented July 7, 1914.

3 SHEETS-SHEET 1.

Fig. 1.

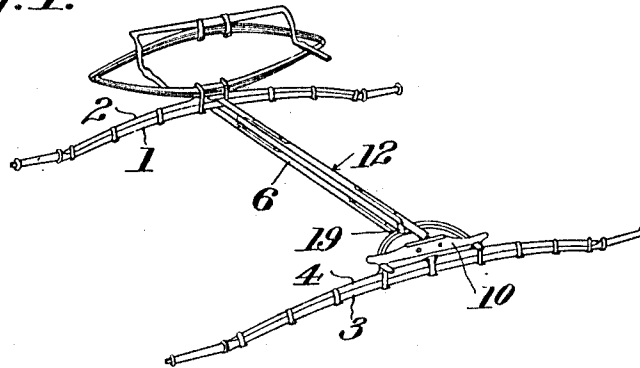


Fig. 2.

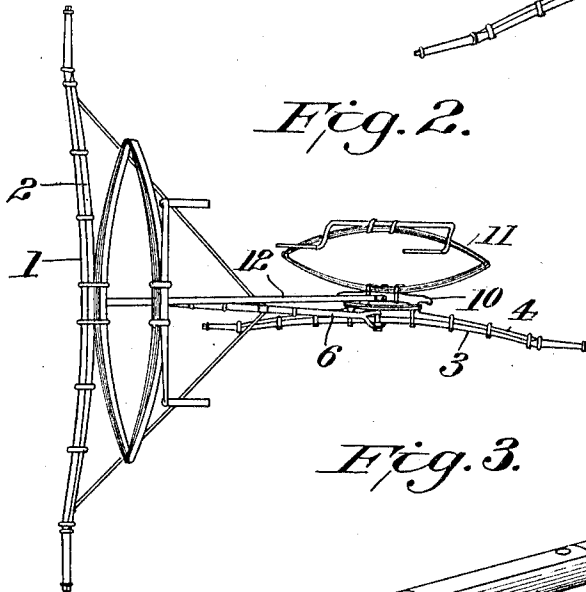


Fig. 3.

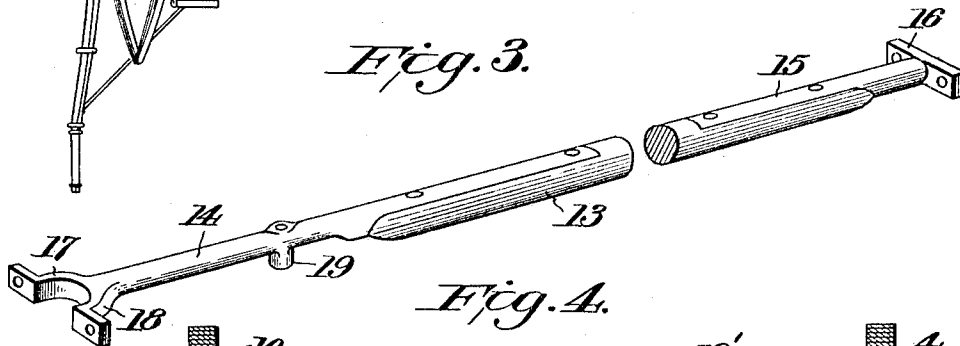
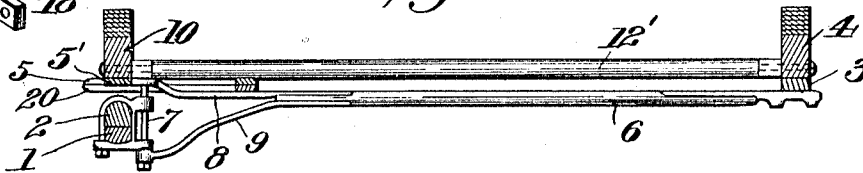


Fig. 4.



WITNESSES

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INVENTOR

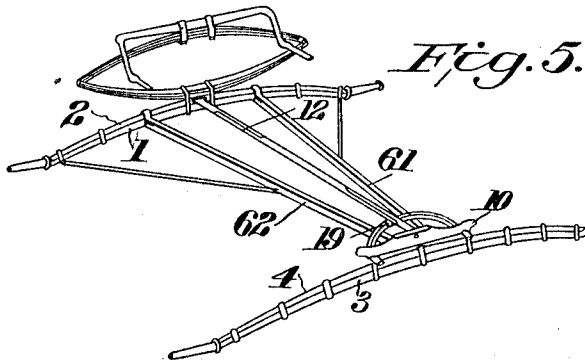
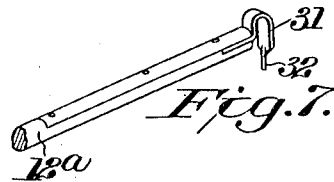
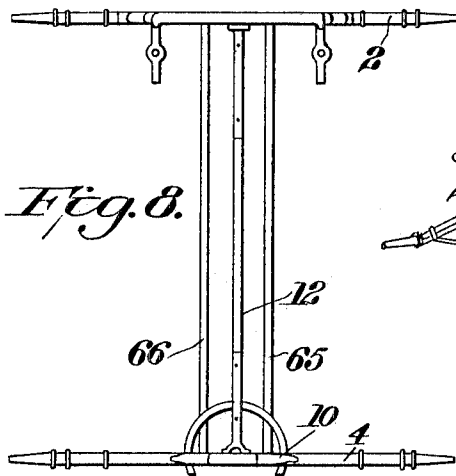
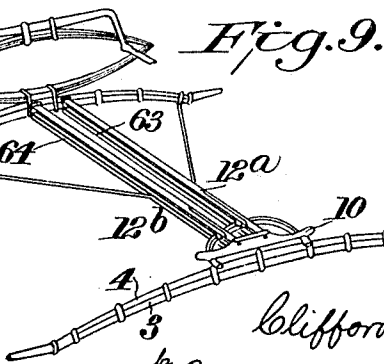
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2 SHEETS—SHEET 2.



WITNESSES
C. H. Walker
R. J. Hulsizer

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UNITED STATES PATENT OFFICE.

CLIFFORD W. REYNOLDS, OF FREEPORT, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO FRANK E. WILCOX AND ONE-FOURTH TO LESTER E. HICKOK, BOTH OF MECHANICSBURG, PENNSYLVANIA.

RUNNING-GEAR.

1,102,356.

Specification of Letters Patent.

Patented July 7, 1914.

Application filed November 20, 1912. Serial No. 732,580.

To all whom it may concern:

Be it known that I, CLIFFORD W. REYNOLDS, a citizen of the United States, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Running-Gear, of which the following is a specification.

My invention relates to running gear for carriages and buggies and has for its object to provide bracing means, between the rear axle and the fifth-wheel, in addition to the reach connection heretofore used; to provide such bracing means having a certain degree of resiliency both for transverse and torsional strains; to provide means whereby the fifth-wheel members are prevented from opening up when the front wheels strike a high crossing, drop into a depression, or strike a rut; and to so arrange the parts that the end thrust, exerted when the vehicle is suddenly stopped, acts on so short a leverage that its effect is practically neutralized. These and other objects which will appear from the succeeding description, I attain by the construction illustrated in the accompanying drawing in which:—

Figure 1 is a perspective view of the running gear, with the front springs omitted; Fig. 2 is a perspective view showing the relation of the parts when the front axle is turned at an angle to the rear axle; Fig. 3 is a perspective view of one form of the additional reach rod; Fig. 4 is a partly sectional view of the running gear, and showing another form of additional reach-rod; Figs. 5 and 6 are perspective views of modifications; Fig. 7 is a perspective view of the rear end of one of the auxiliary reach rods shown in Fig. 6; Fig. 8 is a plan view of another modification; and Fig. 9 is a perspective view of another modification.

Referring to the drawings, the rear axle is, as usual, made of a metal section 1 and a wood section 2, and the front axle of a metal section 3 and a wooden section 4. The fifth wheel has an upper member which comprises the usual semi-circular bearing part 5, cross-bar 5' (shown in cross-section in Fig. 4) connected to the part 5, and the wooden head block 10, secured to and carried by these parts. The reach-rod 6 is connected to the cross-bar 5' by a bar 8, and the bar 9 also connected to the reach-rod 6 has at its lower

end a bearing for the king-bolt 7. The front springs 11 are secured to the head block 10 in the usual way. The lower member 20 of the fifth wheel is secured to the front axle in the usual manner. These parts have not been illustrated in detail, as they relate to features of construction well known to those skilled in the art, and no claim of novelty therefor is made herein. I provide, however, an additional upper reach-rod 12, extending from the wood of the rear axle to the head block at the front axle. This reach-rod 12 may be made in a variety of ways. Thus in Fig. 3, it has been shown as consisting of a wooden rod 13 (preferably of hickory) having at each end ironed sections 14 and 15. The section 15 has a cross-bar 16, provided with suitable openings by means of which it can be bolted to the wood of the rear axle; and the portion 14 has flanged arms 17, 18, provided with openings for the bolts by which it can be secured to the wood head block 10 (Fig. 1). The iron 14 is also provided, underneath, with a spool or lug 19, arranged to bear down upon or be secured, as by a bolt, to the upper member 5 of the fifth wheel. The arm 8 of the lower reach-rod 6 supports the lower member 20 of the fifth wheel from below, and the upper member 5 is backed up by the spool or lug 19 on the upper reach 12, so that any strains upon these members are taken up by the resilient upper or lower reach-rods.

As shown in Fig. 4, the auxiliary reach-rod 12' consists of a bar of wood, such as hickory, having metal ferrules at each end and secured by bolts or screws to the wood 4, of the rear axle and to the head block 10 at the front axle. This auxiliary reach-rod may, however, be made entirely of metal rod or tubing, and integral or sectional, and it is to be understood that an auxiliary reach-rod so made is within the scope of my invention.

In Fig. 5, I have shown the auxiliary or upper reach-rod as applied to a running gear having two main reach-rods 61, 62.

In Figs. 6 and 9 still other forms are shown in which two auxiliary reach-rods 12^a and 12^b are used, each such auxiliary reach being mounted above corresponding main reach-rods 63, 64. The manner of mounting the auxiliary reach-rod, when this form of construction is used, is shown in Fig. 7, the

rod being provided at its rear end with a hook 31 fitting over the rear axle and having a depending portion 32, by means of which it can be clipped onto the rear axle in any desired manner. In Fig. 8 is shown still another form of running gear, in which a single auxiliary reach 12, mounted as shown in Fig. 1, is used, with double main reach-rods 65, 66, extending from the rear axle and connected to the fifth-wheel mechanism in any desired manner.

It is to be understood that my invention is applicable to all these various forms of running gear whether single or double main reach-rods, and single or double auxiliary reach-rods be used; and it is to be further understood that wherever in the claims a reach-rod has been referred to, that the use of several rods, in place of one, is intended to be protected as an equivalent construction. It will be noted that in all these constructions, the front and rear axles are rigidly, but resiliently, connected in such a manner that shocks or jars due to inequalities in the road are absorbed or taken up; so that not only is riding in the vehicle made more comfortable, but the mechanism, particularly the fifth-wheel, is adequately braced and supported to resist destructive or injurious strains. These strains are produced by the end thrust due to the forward momentum of the body portion when the vehicle is suddenly stopped. My improved result is obtained by changing the point of application of the end thrust from a point which, in the present constructions, is at or below the level of the fifth-wheel, to a point just above the fifth-wheel, the thrust being directly transmitted through the auxiliary reach 12 to the head block 10, which is a part of the upper member of the fifth wheel. As this head block is located immediately above the fifth-wheel, the leverage under which the end thrust acts is very small, and the resulting strains on the fifth-wheel mechanism are almost completely obviated.

I claim:

1. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod connecting the rear axle and the upper member of the fifth-wheel, and a separate reach-rod, independent of the main reach-rod, extending from the rear axle and connected to the same member of the fifth-wheel.
2. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod

connecting the rear axle and the upper member of the fifth-wheel, and a separate reach-rod extending from the wood of the rear axle and connected to the head block of the fifth-wheel.

3. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod connecting the rear axle and the upper member of the fifth-wheel, and a separate resilient reach-rod extending from the rear axle and connected to the same member of the fifth-wheel.

4. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod connecting the rear axle and the upper member of the fifth-wheel, and a separate resilient reach-rod extending from the rear axle and connected to the same member of the fifth-wheel, said auxiliary reach-rod bearing on said upper member.

5. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod connecting the rear axle and the upper member of the fifth-wheel, and a separate resilient reach-rod extending from the rear axle and connected to the same member of the fifth-wheel, said auxiliary reach-rod bearing on said upper member and said main reach-rod supporting the lower member of the fifth-wheel.

6. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod connecting the rear axle and the upper member of the fifth-wheel, and a separate resilient reach-rod extending from the wood of the rear axle and connected to the head block of the fifth-wheel, said auxiliary reach-rod bearing on said upper member and said main reach-rod supporting the lower member of the fifth-wheel.

7. A running gear comprising a rear axle, a front axle, a fifth-wheel, a main reach-rod system connecting the rear axle and the upper member of the fifth-wheel, and a separate reach-rod system, independent of the main reach-rod system, extending from the rear axle and connected to the same member of the fifth-wheel.

In testimony whereof I affix my signature in presence of two witnesses.

CLIFFORD W. REYNOLDS.

Witnesses:

ROBERT B. MITCHELL,
E. C. RAME.