No. 844,898. PATENTED FEB. 19, 1907.

L. J. SIMMERS.

RUNNING GEAR FOR VEHICLES.

APPLICATION FILED OCT. 27, 1905.

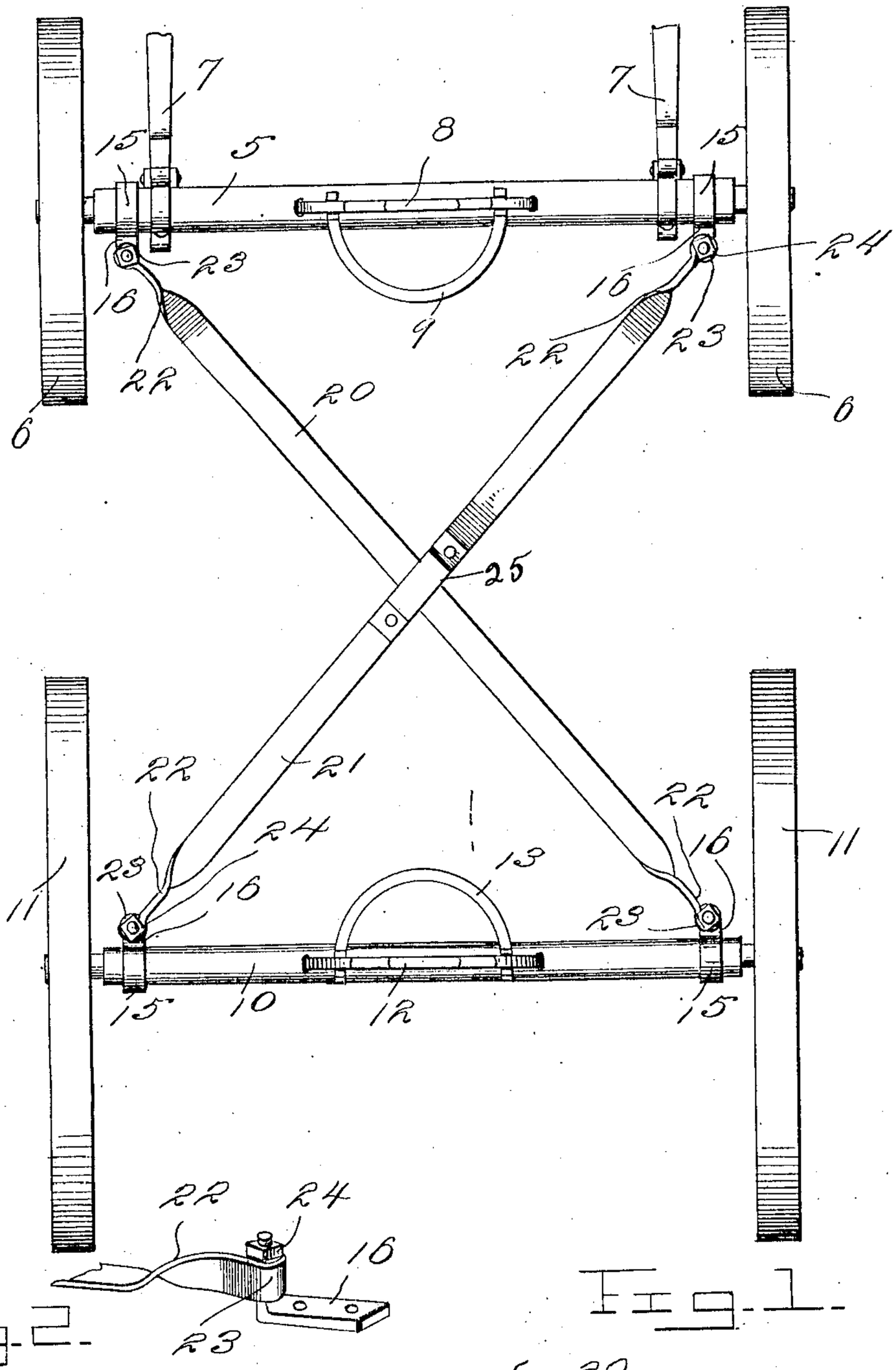

Fig. 1.

Fig. 2.

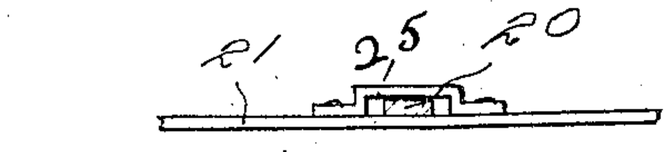

Fig. 3.

Witnesses
A. Middlepart
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UNITED STATES PATENT OFFICE.

LEMUEL J. SIMMERS, OF FITZGERALD, GEORGIA.

RUNNING-GEAR FOR VEHICLES.

No. 844,898. Specification of Letters Patent. Patented Feb. 19, 1907.

Application filed October 27, 1905. Serial No. 284,761.

To all whom it may concern:

Be it known that I, LEMUEL J. SIMMERS, a citizen of the United States, residing at Fitzgerald, in the county of Irwin, State of Georgia, have invented certain new and useful Improvements in Running-Gear for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to running-gears for vehicles, and more particularly such vehicles as buggies and surries and other like passenger-vehicles.

The object of the invention is to provide a running-gear wherein both the front and rear axles will be pivoted to turn upon the king-bolts and so connected that they will be simultaneously swung when the vehicle is to be turned to the right or the left, the connections between the axles being such that there will be the greatest freedom of movement.

A further object of the invention is to provide a structure wherein if a wheel sinks into a hole during the progress of the vehicle such wheel will be relieved of its load, so that it will readily pass out of the hole.

Other objects and advantages of the invention have reference to the specific details of structure and will be understood from the following description.

In the drawings forming a portion of the specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view showing the structure embodying the present invention. Fig. 2 is a detail view showing one of the clips and the manner of attaching a coupling-spring thereto. Fig. 3 is a side elevation of the lower coupling-spring, with its guide.

Referring now to the drawings, there is illustrated a running-gear including a front axle 5, provided with wheels 6 and shafts 7 in the usual manner and connected with the front body-spring 8 through the medium of the usual fifth-wheel 9. The rear axle 10 has the usual rear wheels 11 and is connected with the rear body-spring 12 through the medium of a fifth-wheel 13 instead of being rigidly connected, as usual. Both the front and rear axles are secured to their axletrees through the medium of clips 15. The lower plates 16 of the front-axle clips project from beneath the axles in a rearward direction, while the corresponding lower plates of the rear-axle clips project from beneath the axle in a forward direction, the projecting end portions of the plates being turned upwardly and rounded to form pivot-bearings, for a purpose that will be presently explained, and having their extremities threaded.

In the place of the usual reach-bar there are employed two coupling-springs 20 and 21, each of which is given a quarter-twist at one end, as illustrated at 22, and has its extremity bent to form an eye 23. The eyes at opposite ends of each coupling-spring are engaged over the pivot-bearings of diagonally opposite plates 16, so that one of these coupling-springs lies above the other, the eyes being held against accidental disengagement from the pivots by means of nuts 24, engaged with the threaded extremities of the pivots. The lower coupling-spring 21 is provided with a guide-strap 25 of substantially U shape, that extends over the spring 20, so that either spring may have freedom of movement against the face of the other spring, while separation of the springs will be prevented.

With this construction it will be seen that when the front axle is turned or swung in one direction the rear axle will be swung in the opposite direction with the same angular movement, so that the vehicle will turn very short, and under all conditions of use the rear wheels will absolutely track the front wheels. Furthermore, when one wheel sinks below the plane touched by the other wheels the coupling-spring connected adjacent to such wheel will yield and by reason of its elasticity will tend to lift the wheel. Furthermore, it will be noted that the said wheel will be relieved in large part from any load. Furthermore, the rear wheels may have independent vertical movement when either passes over an obstruction, the same as does the ordinary front wheel without tending to tilt the body of the vehicle, so that extreme comfort is assured.

What is claimed is—

A running-gear for vehicles comprising front and rear axles provided with wheels; an axletree upon each axle; a fifth-wheel upon each axletree; a pair of clips connecting each axle and its respective tree, each clip including a bottom plate projecting at one end from beneath the axle and terminating in an upwardly-bent portion forming a pivot; a pair of flat resilient coupling-springs, each

having its ends given a quarter-twist and terminating in eyes adapted to receive said pivots, one eye of each coupling-spring fitting over the pivot at one end of the front axle and the other eye over the diagonally opposite pivot on the rear axle; and a guide-strap carried by one of said coupling-springs and extending over the other, to allow a limited lateral movement of said springs with respect to each other, said springs forming the sole means of connection between said axles.

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

LEMUEL J. SIMMERS.

Witnesses:
GEO. H. CHANDLER,
R. M. PARKER.