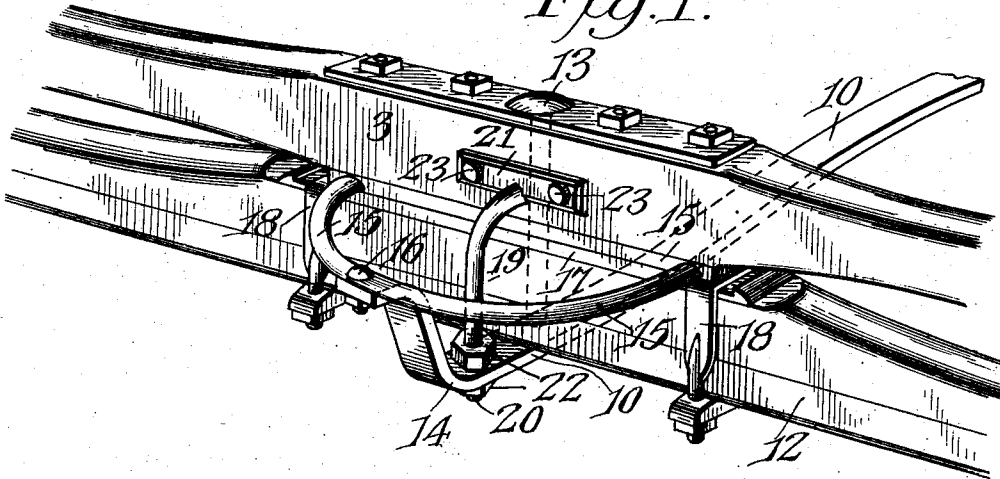


W. L. MANNING.  
 SPRING GEAR FOR VEHICLES.  
 APPLICATION FILED DEC. 9, 1909.

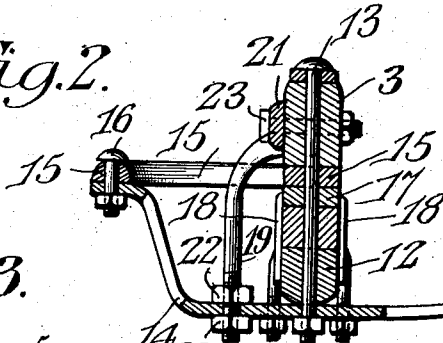
992,569.

Patented May 16, 1911.

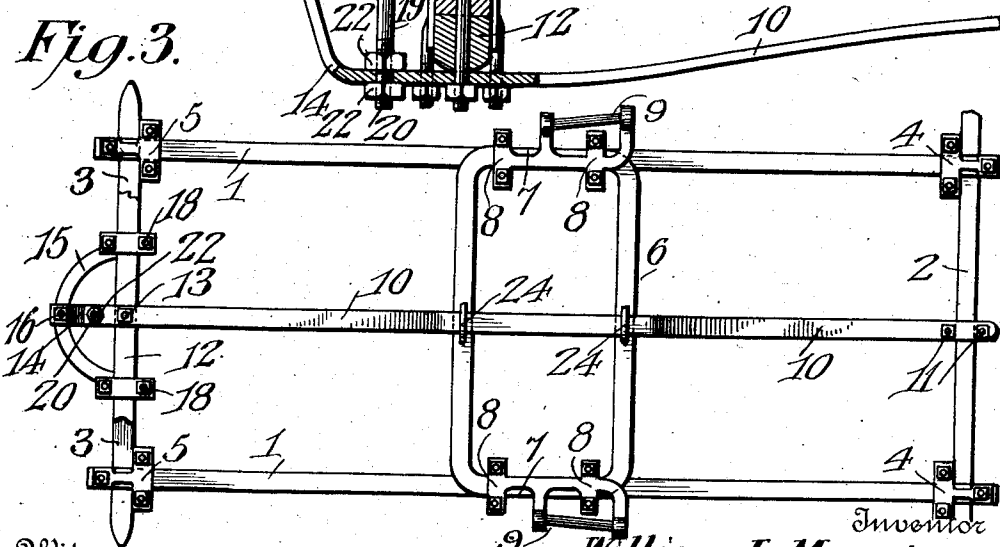
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM L. MANNING, OF WILSON, NORTH CAROLINA.

SPRING-GEAR FOR VEHICLES.

992,569.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed December 9, 1909. Serial No. 532,234.

## *To all whom it may concern:*

Be it known that I, WILLIAM L. MANNING, a citizen of the United States, residing at Wilson, in the county of Wilson and State of North Carolina, have invented a new and useful Spring-Gear for Vehicles, of which the following is a specification.

The present invention relates to spring gear for buggies and other vehicles.

10 The object of the present invention is to improve the construction of side spring gear for buggies and other vehicles, and to provide a simple and comparatively inexpensive construction, adapted to add to the life  
15 of side spring gear, and to the strength thereof, as well as to the appearance of the finished gear.

Another object of the invention is to provide a construction adapted in event of the  
20 breakage of the king bolt to prevent the front axle from becoming disconnected from the running gear and dropping the body of the vehicle.

With these and other objects in view, the  
25 invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various  
30 changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

35 In the drawing:—Figure 1 is a perspective view of a portion of a running gear, constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a reverse  
40 plan view of the running gear.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the embodiment of the invention illustrated in the accompanying drawing, the running gear comprises side springs 1, extending from the rear axle 2 to the front  
45 bolster 3 and secured by clips 4 and 5 to the said parts. The springs are also connected  
50 intermediate of their ends by a transversely disposed bracing frame 6 of oblong form, consisting of parallel transversely disposed bracing bars and integral terminal connecting  
55 portions 7, which are secured to the springs by clips 8 for the attachment of the rub irons 9.

The spring gear is equipped with a central longitudinal bowed spring 10, secured at its rear end by a clip 11 to the rear axle, and extending therefrom to the front axle 12 and  
60 pierced by the king bolt 13, which pivotally connects the front axle with the bolster and with the central spring 10. The central longitudinal spring 10 has its front portion 14 extended in advance of the front axle and  
65 bent upwardly and forwardly. This extended portion 14 consists of a lower inner horizontal portion and an upper outer horizontal portion, which is arranged beneath and secured to a D-wheel 15 by a bolt 16.  
70 The D-wheel, which is disposed horizontally, is of the ordinary construction, and it extends forwardly from the front bolster 3, being secured to the lower face thereof.  
75 The axle is provided at its upper face with a bearing plate 17, receiving the D-wheel and secured at its ends by clips 18 to the front axle.

The forwardly extending portion 14 of the spring 10 is also connected at an intermediate point with the bolster by an approximately T-shaped bracket 19, consisting of a rod having a threaded lower end 20 and curved rearwardly at its upper portion and provided with a head 21. The lower threaded  
80 end 20 pierces the inner horizontal part of the extended portion of the spring and receives a pair of nuts 22, arranged at and engaging the upper and lower faces of the spring. By this construction the lower  
85 portion of the bracket is securely fastened to the extended portion of the spring in advance of the front axle. The head 21 of the bracket is in the form of a narrow horizontal plate, which is secured to the front  
90 face of the bolster 3 by horizontal bolts 23. In event of breakage of the king bolt 13, the bracket 19, the extended front portion 14 and the D-wheel 15 will prevent the front  
95 axle from pulling out, and there will be no liability of the axle permitting or causing  
100 the body of the vehicle to drop to the ground. The bracket 19 will afford a fulcrum or bearing for the axle until the broken king bolt is replaced by a new bolt.  
105

The central longitudinal spring is secured at points intermediate of its ends to the bracing frame by clips 24. The improvements herein shown and described are applicable to various types of side spring gear,  
110 and the king bolt may be located either centrally or in rear of the front bolster and the

front axle. Also the front end of the central longitudinal spring may be connected to the bottom, front or top of the D-wheel. The particular construction of the front end of the central longitudinal spring, and its arrangement with relation to the D-wheel and the bracket are adapted to prevent the racking of the front axle while in use. Also the construction provides an increased bearing over the bearing plates ordinarily employed on side spring gear.

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

1. A spring gear of the class described including front and rear axles, a front bolster, side springs, a D-wheel secured to and extending in advance of the front bolster, and a central longitudinal spring connected with the rear axle and passing beneath the front axle and extending in advance of the same and connected with the D-wheel.

2. A spring gear of the class described including front and rear axles, a front bolster, side springs, a D-wheel secured to and extending in advance of the front bolster, a central longitudinal spring connected with

the rear axle and passing beneath the front axle and extending in advance of the latter and having its front end connected with the D-wheel, and a bracket located in advance of the axle and connecting the extended front end of the spring with the bolster.

3. A spring gear of the class described including front and rear axles, a front bolster, side springs, a D-wheel secured to the bolster and extending in advance of the front axle, a central longitudinal spring connected with the rear axle and passing beneath the front axle and extending upwardly and forwardly therefrom and secured to the lower face of the front portion of the D-wheel, a bracket secured to the bolster and extending downwardly therefrom to the extended portion of the central spring and connected with the latter, and a king bolt piercing the bolster, the front axle and the central spring.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM L. MANNING.

Witnesses:

GEO. HACKNEY,  
THOS. J. HACKNEY.