

(No Model.)

2 Sheets—Sheet 1.

M. S. TYLER.  
WAGON RUNNING GEAR.

No. 379,619.

Patented Mar. 20, 1888.

Fig. 1

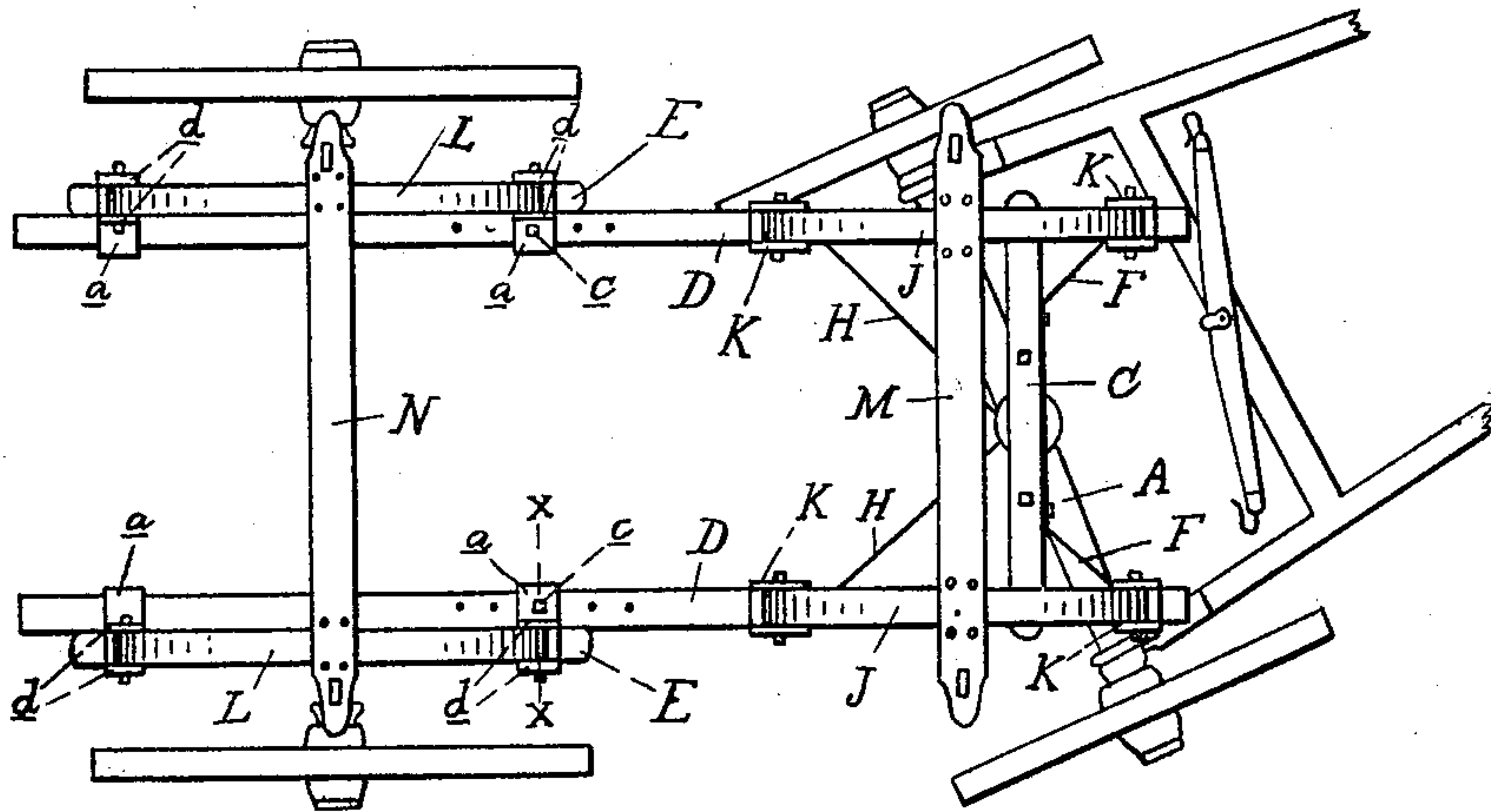
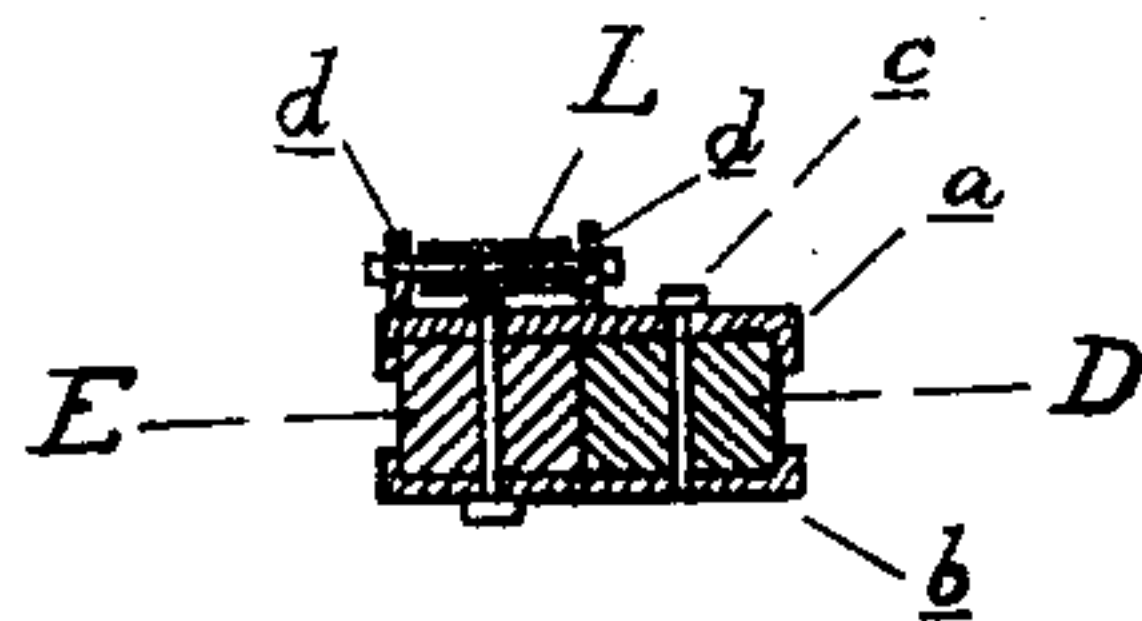


Fig. 5



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Inventor:  
Morris S. Tyler.  
By J. W. Robertson,  
Att'y.

(No Model.)

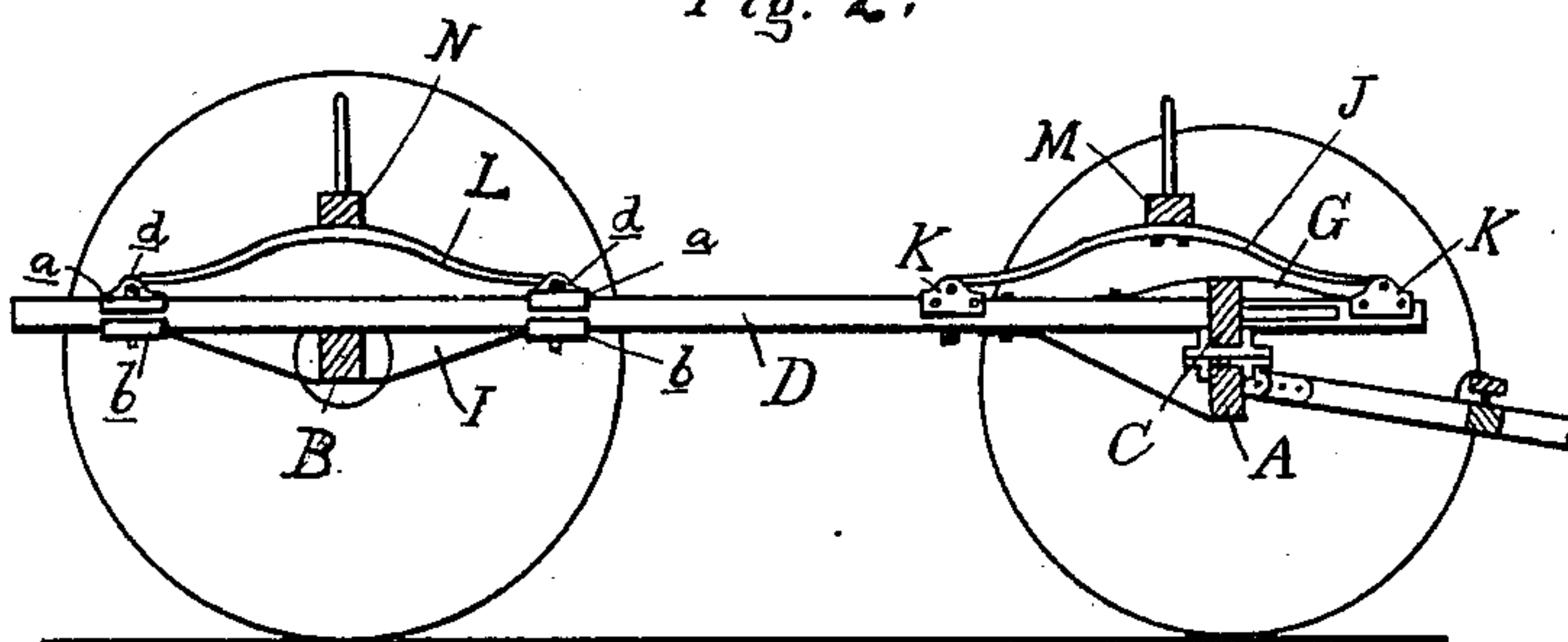
2 Sheets—Sheet 2.

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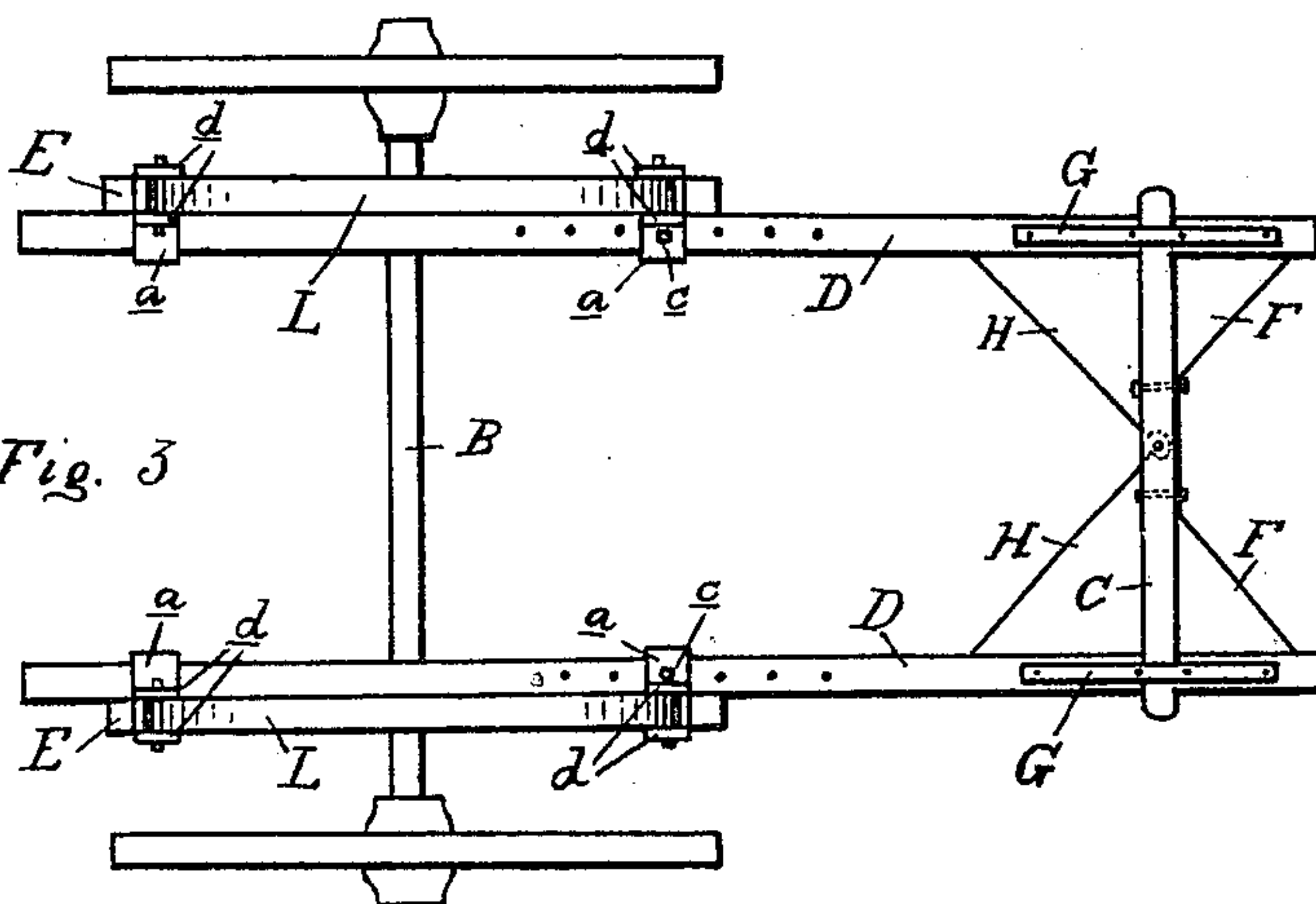
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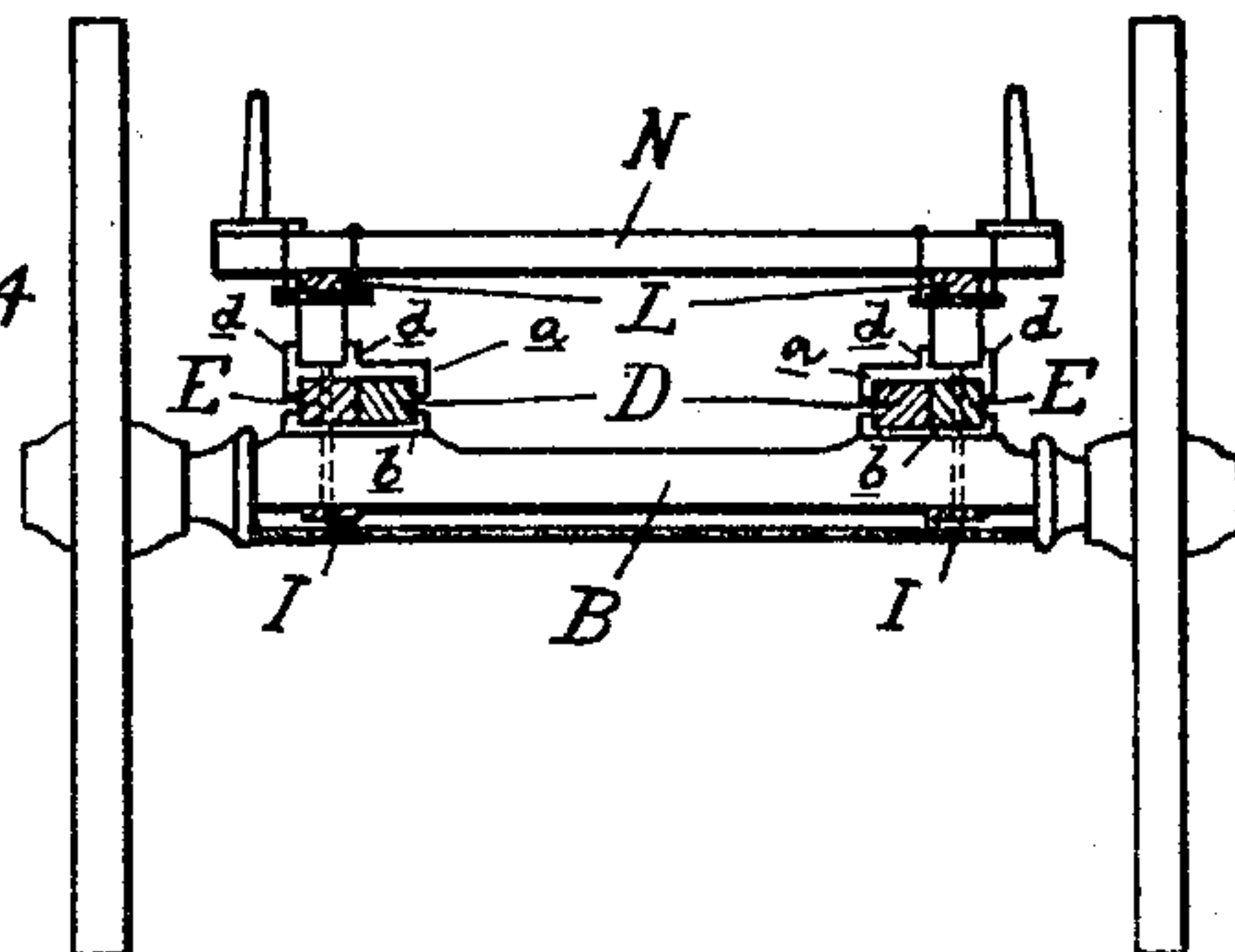
*Fig. 2.*



*Fig. 3*



*Fig. 4*



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# UNITED STATES PATENT OFFICE.

MORRIS S. TYLER, OF LANSING, MICHIGAN.

## WAGON RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 379,619, dated March 20, 1888.

Application filed July 1, 1887. Serial No. 243,126. (No model.)

*To all whom it may concern:*

Be it known that I, MORRIS S. TYLER, of Lansing, in the county of Ingham and State of Michigan, have invented new and useful Improvements in Wagon Running Gears; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in wagon running-gear; and the invention consists in the construction and arrangement of parts, as hereinafter described, and specifically pointed out in the  
15 claims.

Figure 1 is a plan view. Fig. 2 is a central longitudinal section. Fig. 3 is a plan with the front gear, front springs, and bolsters removed. Fig. 4 is a cross-section through the rear axle.

20 Fig. 5 is a cross-section on line *xx* in Fig. 1.

In the accompanying drawings, which form a part of this specification, A and B are the front and rear axles, respectively.

25 C is a head-block, to which the front axle is pivotally secured in any suitable manner.

30 D are two parallel reach-bars, which are fixedly secured to the under side of the front bolster and project in front thereof, as shown, and extend rearwardly and loosely rest upon the rear axle.

35 E are two parallel spring-bars centrally secured to the rear axle and extend lengthwise of the wagon and at such distance apart as to admit of the reach-bars to pass to the inside of them and permit of adjustable connection between each respective pair. This adjustable connection is made in the following manner: To the front and rear side of each of the bars E are secured top and bottom plates, *a*  
40 *b*, which loosely embrace the adjoining reach-bars, so as to form combined guides and bearings, and by means of adjusting-pins *c* and corresponding holes in the reach-bars the latter are extensibly secured to the rear gear of  
45 the wagon.

To hold the extensible reach-bars D more firmly to their intended parallelism, I preferably provide braces F from the front bolster to the forwardly-projecting ends of the reach-bars, and also braces H H, detachably secured  
50 at the pivotal point of the front axle, and, running rearwardly, are fixedly secured to the

reach-bars. Truss-straps G secure the outer ends of the bolster to the reach-bars, as shown. The spring-bars E are also preferably provided  
55 with truss-straps I.

J are semi-elliptic springs secured in the longitudinal direction of the wagon on top of the forward ends of the reach-bars by means of eared bearings or plates K, or in any other  
60 suitable manner; and L are similar elliptical springs secured in the longitudinal direction of the wagon upon the spring-bars E, the plates *a* being for that purpose provided with ears *d*. The front bolster, M, is supported upon the  
65 forward springs, and the rear bolster, N, is likewise supported by the rear springs.

In practice it will be seen that the reach-bars are by this construction extensibly secured and can be lengthened or shortened by  
70 engaging the adjusting and securing pins *c* into different adjusting-holes of the reach-bars. At the same time the reach-bars are well supported at different points, there being three  
75 such with the rear gear—one upon the axle and the other two upon the spring-bars E—through the medium of the plates *a b*. It will also be seen that the front and rear bolsters are supported on springs and at a very convenient height.  
80

What I claim as my invention is—

1. The combination, with the extension-rails in the front bolster and sliding on top of the rear axle, of two spring-rails secured lengthwise of the wagon upon the rear axle and provided with supporting and guiding plates for  
85 said rails, substantially as described.

2. In a running-gear for wagons, the combination, with the front gear and the extension reach-bars secured thereto, of a rear gear consisting of two parallel spring-bars secured to the axle lengthwise the wagon, and of laterally-projecting bearing-plates for said reach-bars secured to said spring-bars, substantially as described.  
95

3. In a running-gear for wagons, the combination, with the front gear and the extension reach-bars secured thereto, of a rear gear consisting of two parallel spring-bars secured to the axle lengthwise the wagon and provided  
100 with laterally-projecting supports for said reach-bars, substantially as described.

4. In a running-gear for wagons, the combination, with the front gear and the extension



reach-bars secured thereto, a rear gear consisting of two parallel spring-bars secured to the axle lengthwise the wagon, of laterally-projecting supports secured near the ends of said spring-bars to support and guide the rear ends of the reach bars, and adjusting and holding pins in the forward supports, substantially as described.

5 5. In a running-gear for wagons, the combination, with the parallel extension-reaches D, fixedly secured to the front gear, of the spring-bars E, secured to the axle of the rear gear lengthwise the wagon, the laterally-projecting guide and bearing plates *a b*, secured  
10 to the spring-bars, and the holding and adjusting pins *c*, all substantially as described.

6. In a running-gear for wagons, the combination of the head-block C, the parallel reaches D, fixedly secured thereto and projecting in front of the head-block, the braces F, extending from the front bolster to the projecting ends of the reaches, and the braces H, secured at one end at the pivotal point of the front axle and at the other end to the reaches,  
20 and trusses G, substantially as described.

25 7. In a running-gear for wagons, the com-

bination, with a front gear having two parallel extension reach-bars fixedly secured thereto, of two front bolster-springs secured upon the reach-bars, a rear gear having two rear bolster-springs supported on spring-bars secured upon the rear axle lengthwise the wagon, and laterally-projecting supports for the reach-bars secured to said spring-bars, substantially as described.

30 8. In a running-gear for wagons, the combination, with two parallel extension reach-bars fixedly secured to the front axle and adjustably to the rear axle, of semi-elliptic front bolster-springs secured to the reach-bars  
40 lengthwise the wagon, two parallel spring-bars secured to the rear axle lengthwise the wagon, laterally-projecting supports for the reach-bars secured to said spring-bars, and two rear bolster-springs secured lengthwise  
45 the wagon in upwardly-projecting ears of said supports, substantially as described.

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Witnesses:

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