

(No Model.)

2 Sheets—Sheet 1.

L. M. SMITH.  
ROAD CART.

No. 454,157.

Patented June 16, 1891.

Fig. 1.

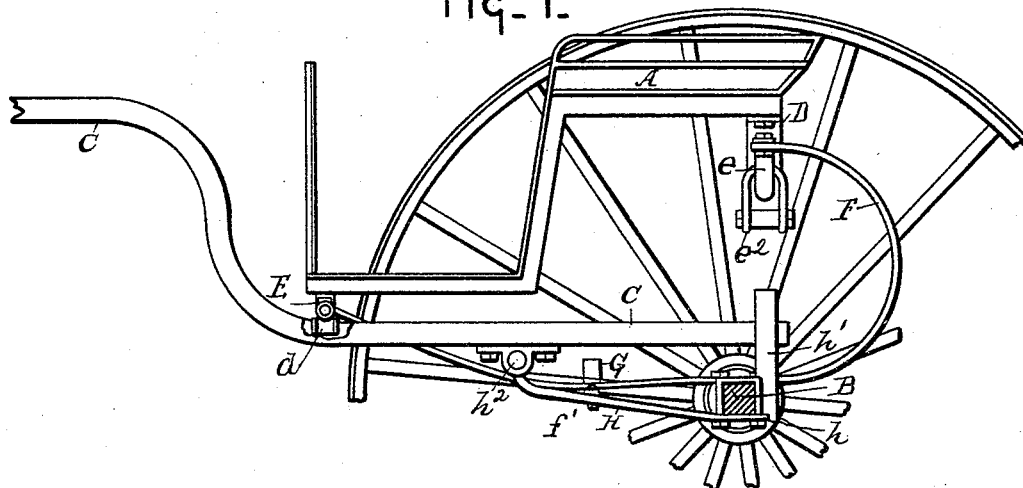
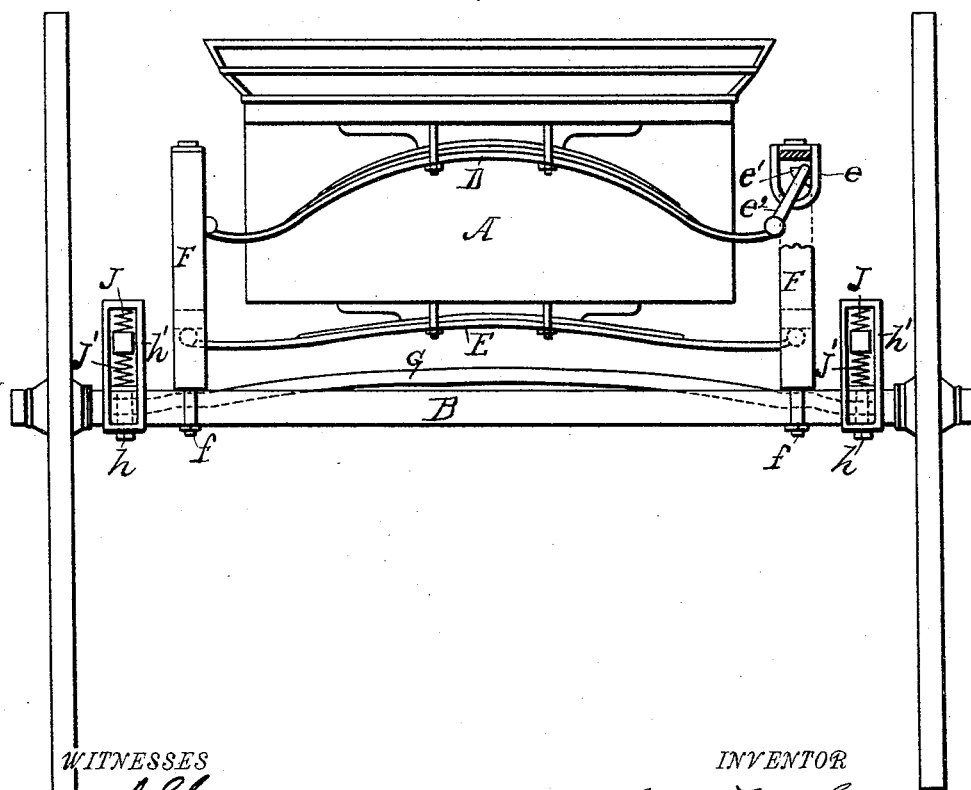


Fig. 2.



WITNESSES

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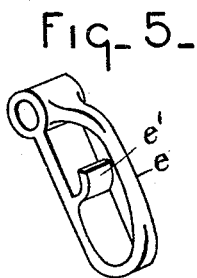
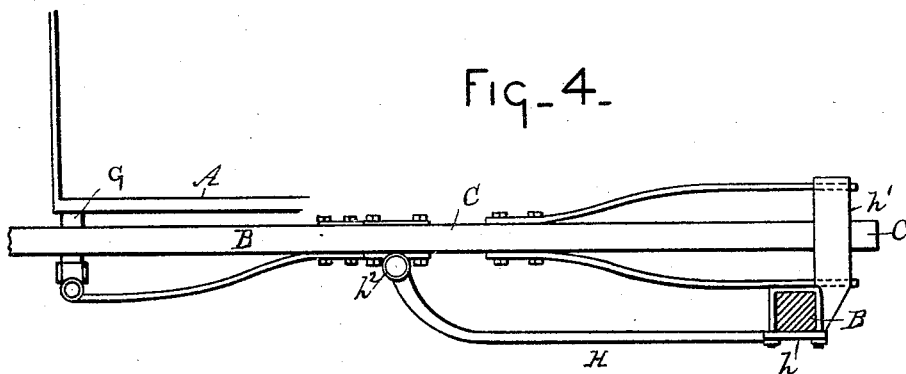
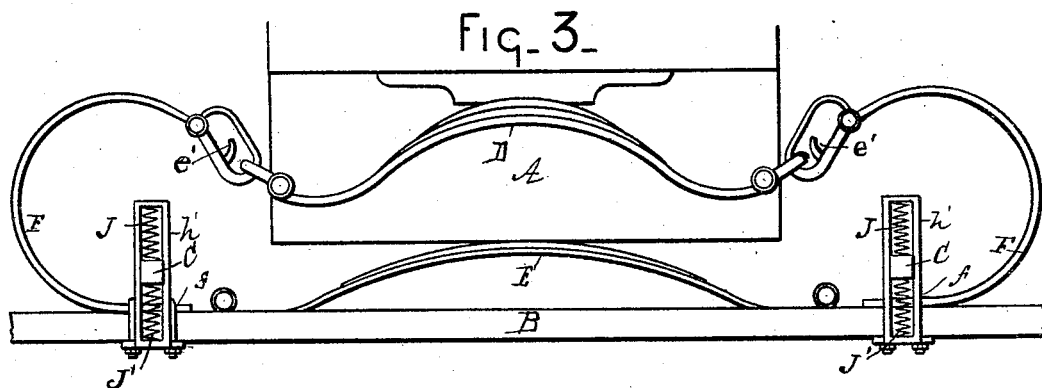
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# UNITED STATES PATENT OFFICE.

LORING M. SMITH, OF ROMEO, MICHIGAN.

## ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 454,157, dated June 16, 1891.

Application filed June 19, 1890. Renewed May 18, 1891. Serial No. 393,077. (No model.)

*To all whom it may concern:*

Be it known that I, LORING M. SMITH, a citizen of the United States, residing at Romeo, county of Macomb, State of Michigan, have  
5 invented a certain new and useful Improvement in Road-Carts; and I 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 pertains to make  
10 and use the same, reference being had to the accompanying drawings, which form a part of this specification.

In the drawings, Figure 1 is a side elevation of the road-cart embodying my invention.  
15 Fig. 2 is a rear elevation of the same. Fig. 3 shows a variation in the form of the rear springs. Fig. 4 shows a portion of the shafts and axle, illustrating a variation in the construction. Fig. 5 is a part in detail.

20 In carrying out the invention, A represents the body, B the axle, and C the shafts, of my road-cart.

I have illustrated my invention in connection with what is known as the "phaeton-  
25 cart" and double-bent shafts—that is, a cart in which the shafts adjacent to the side of the body are horizontal, the horizontal portion terminating adjacent to the axle.

D is a semi-elliptic spring attached to the  
30 rear portion of the body and supporting the same.

F is a C-spring, there being one for each side of the vehicle, rigidly engaged by a suitable clip at  $f$  to the axle, the forward portion  
35 extending horizontally from the axle to a point adjacent to the end of the semi-elliptic spring E, with which it is suitably connected, while the rear portion curves upward and forward in the form of a C to a point adjacent  
40 to the end of the semi-elliptic spring D, where the two are connected together. The forward end of the C-spring is connected to the semi-elliptic spring E by what is known as the "barrel-shackle"  $d$ , while the rear end has  
45 the shackle  $e$  engaged to it. This shackle  $e$  is formed, as shown in Fig. 5, with one or more hooks  $e'$  projecting from the inner face of it and engaged to the C-spring F by a suitable bolt. A loop  $e^2$  on the end of the cross-spring  
50 D may be made either to engage this hook  $e$  or to rest on the shackle, thus providing an adjustment for the rear portion of the body.

G is a cross-piece extending between the arms H and rigidly engaged thereto, to which the horizontal portion of the C-spring F is en- 55 gaged, as at  $f'$ .

H is an arm rigidly engaged at  $h$  to the axle, the rear portion extending upward in the form of a loop  $h'$ , as shown in Fig. 2, while the forward portion extends out horizontally 60 and is pivoted to the shafts at  $h^2$  adjacent to where the cross-bar G is attached. Playing freely in the loop  $h'$  of the arm H is the end of the shaft.

J J' are coil-springs, one located above and 65 the other beneath the shaft, so that while the end of the shaft may have a free vertical motion it will be cushioned by the springs.

It is of course obvious that instead of the coil-springs, as shown, I might employ leaf- 70 springs, such as illustrated in Fig. 4, they serving the same purpose as the coil-springs. It will be seen that by this construction what is popularly termed "horse motion" is almost entirely done away with, since, the end of the 75 shafts being free to play up and down, the up-and-down motion of the horse is not transmitted to the body of the vehicle and a far easier riding-cart is produced than has heretofore been the case. 8c

In Fig. 3 is shown a variation in the position of the C-springs. The latter instead of extending rearwardly and upward, as in Figs. 1 and 2, are extended laterally and upward, and the forward end of the body is suitably 85 engaged with the shafts. This manner of attaching the C-springs is of course the equivalent of the first named and would be contemplated by my invention.

What I claim is— 90

1. In a road-cart, the combination, with the axle, the body, and springs supported on said axle for sustaining the body, of arms secured to and extended forward from the axle, a cross-bar extended between said arms and 95 rigidly secured thereto, the shafts pivoted to the forward ends of said arms and having their rear free ends terminating above the axle, and springs bearing on the rear ends of said shafts to cushion the same in their vertical motion, substantially as described. 100

2. In a road-cart, the combination, with the axle, arms rigidly engaged thereto and extending forward therefrom, and shafts pivoted to

said arms at their forward ends and the free ends of the shafts terminating adjacent to the axle, of springs located above and beneath the free ends of said shafts and adapted to  
5 bear on the same, whereby the motion of the free ends is cushioned, substantially as described.

3. In a road-cart, the combination, with the axle and the arms H, engaged to said axle and  
10 having the upright loops  $h'$ , of the shafts pivoted to the forward ends of the arms H, the rear ends of the shafts playing in said loops, and coil-springs located in said loops above and beneath said free ends, substantially as  
15 described.

4. In a road-cart, the combination, with the body and the axle, of the semi-elliptic springs D and E, the C-springs F, the arms H, secured to the axle and provided at their rear ends with upright loops  $h'$ , the shafts C, piv- 20  
oted to said arms and having their rear ends engaged in said loops, and the springs J J' to cushion the rear ends of the shafts, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses. 25

LORING M. SMITH.

Witnesses:

W. H. CHAMBERLIN,  
MARION A. REEVE.