

A. M. WORDEN.  
Running-Gears for Vehicles.

No. 151,069.

Patented May 19, 1874.

Fig 1.

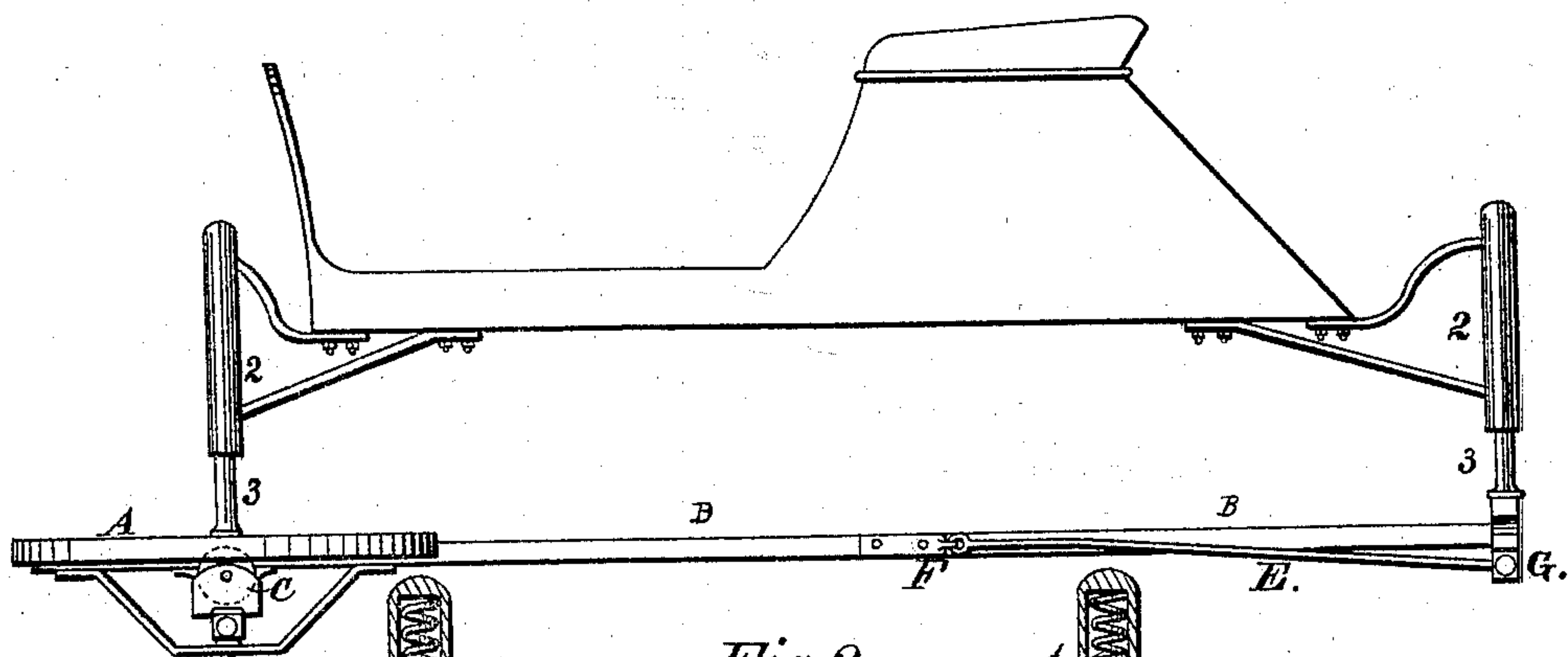


Fig 2.

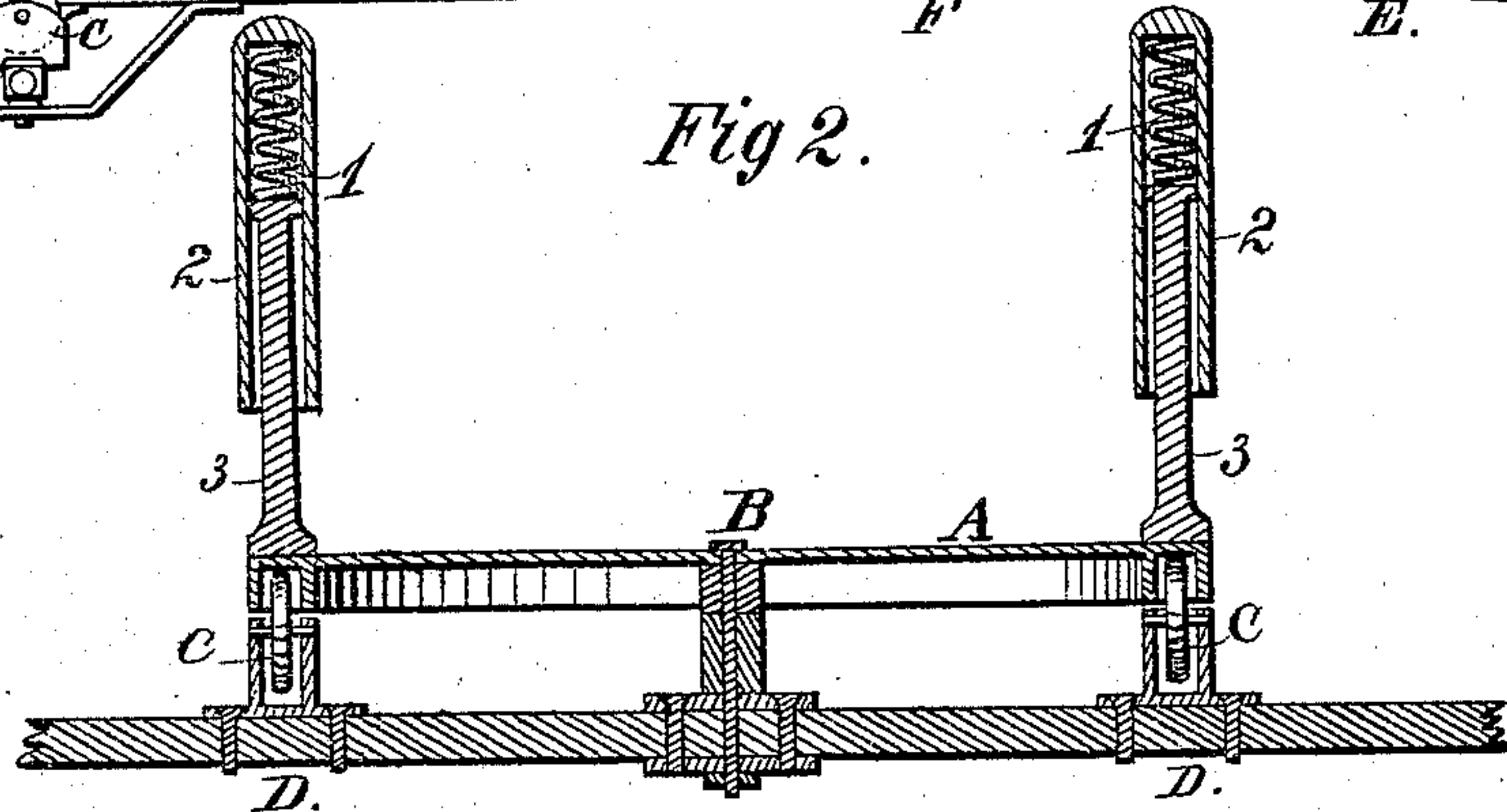
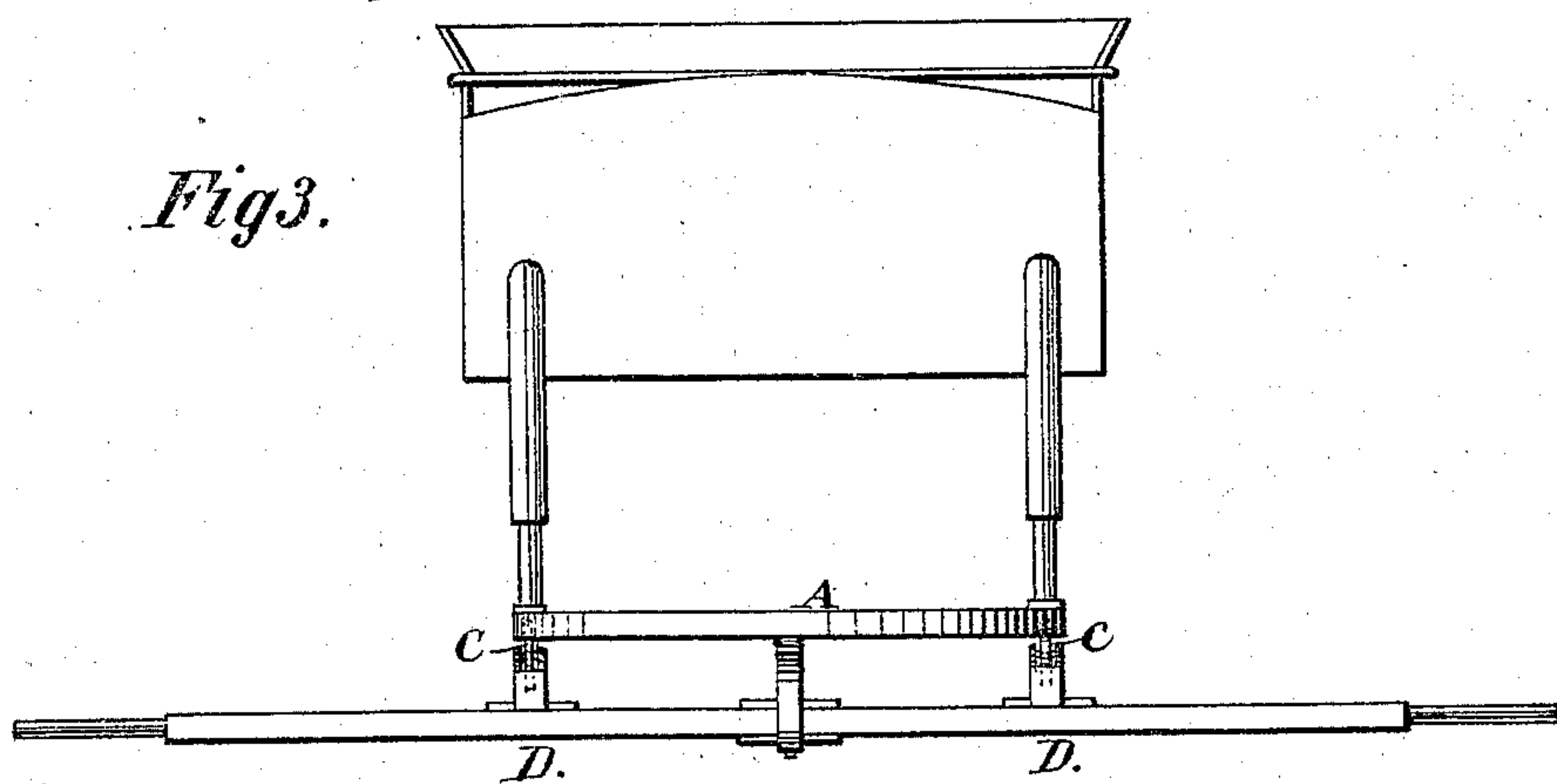


Fig 3.



Witnesses.

John F. Kirby,  
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AMASA M. WORDEN, OF SOUTH BEND, INDIANA.

## IMPROVEMENT IN RUNNING-GEARS FOR VEHICLES.

Specification forming part of Letters Patent No. **151,069**, dated May 19, 1874; application filed October 6, 1873.

*To all whom it may concern:*

Be it known that I, AMASA M. WORDEN, of the city of South Bend, in the county of St. Joseph and State of Indiana, have invented certain Improvements on Buggies, Wagons, Carriages, and all vehicles of a kindred nature, which improvements are herein set forth, as follows:

My improvements relate more particularly to the gearing of such vehicles; and the object of my invention is to obtain, by a novel construction and arrangement of the parts, lightness, economy of material, and avoiding, as far as possible, friction and wear.

Reference being had to the drawings, Figure 1 represents a side view of the body of a buggy supported by my gearing. Fig. 2 is a front elevation in section of the fore axle with friction-wheels attached thereto, and the fifth-wheel or circle, showing the groove in which the friction-rollers run, and the posts or fellies secured thereto, and also the cases containing the coiled springs. Fig. 3 is a front elevation of the parts shown in section in Fig. 2.

A denotes the fifth-wheel or a circle, flat, flanged, or grooved on the under side, and secured firmly to the reach, and having the posts or followers 3 3 secured upon the upper side thereof, as shown in Fig. 2. C C denote friction-rollers, attached to the axle, by clips or otherwise, at D D, and fitting in the groove on the under side of the circle A, as shown in Fig. 2. B denotes the reach, swiveled to the hind or rear axle, and having braces E hinged thereto at F, so that the hind axle-tree may turn on the reach at G, preventing the twist

of the reach or boxes. 1 and 2 denote a coiled spring, with its case or covering. The springs 1 1, made of any suitable metal, and of proper strength, are confined within metallic or other suitable cases, and bearing on posts or followers 3 3, which may be attached to the fifth-wheel, or axle-tree, or bolsters, as the nature of the vehicle may demand. These springs are intended to support the body or corners of the box of the vehicle. The cases 2 2 are secured to the body of the vehicle by two braces or arms, as shown in Fig. 1. These cases are made with an opening in the lower end to admit of the passage of the posts 3 3 through them, and the openings are made sufficiently large to allow the free play of the cases upon the posts.

I do not claim to be the first to have invented the application of friction-wheels to fifth-wheels of vehicles to lessen friction; nor do I claim to have first invented the use of coiled springs in hanging carriage-bodies.

What I claim, and desire to secure by Letters Patent, is—

1. The combination of the circle A, friction-wheels C C, posts 3 3, and springs 1 1, with their cases 2 2, combined to operate substantially as described.

2. The fifth-wheel composed of the circle A and friction-rollers C C, combined to operate substantially as described.

AMASA MESIAH WORDEN.

Witnesses:

JOHN F. KIRBY,  
T. G. TURNER.