

(Model.)

G. W. COOPER.
Spring Brace for Vehicles.

No. 239,452.

Patented March 29, 1881.

Fig. 1

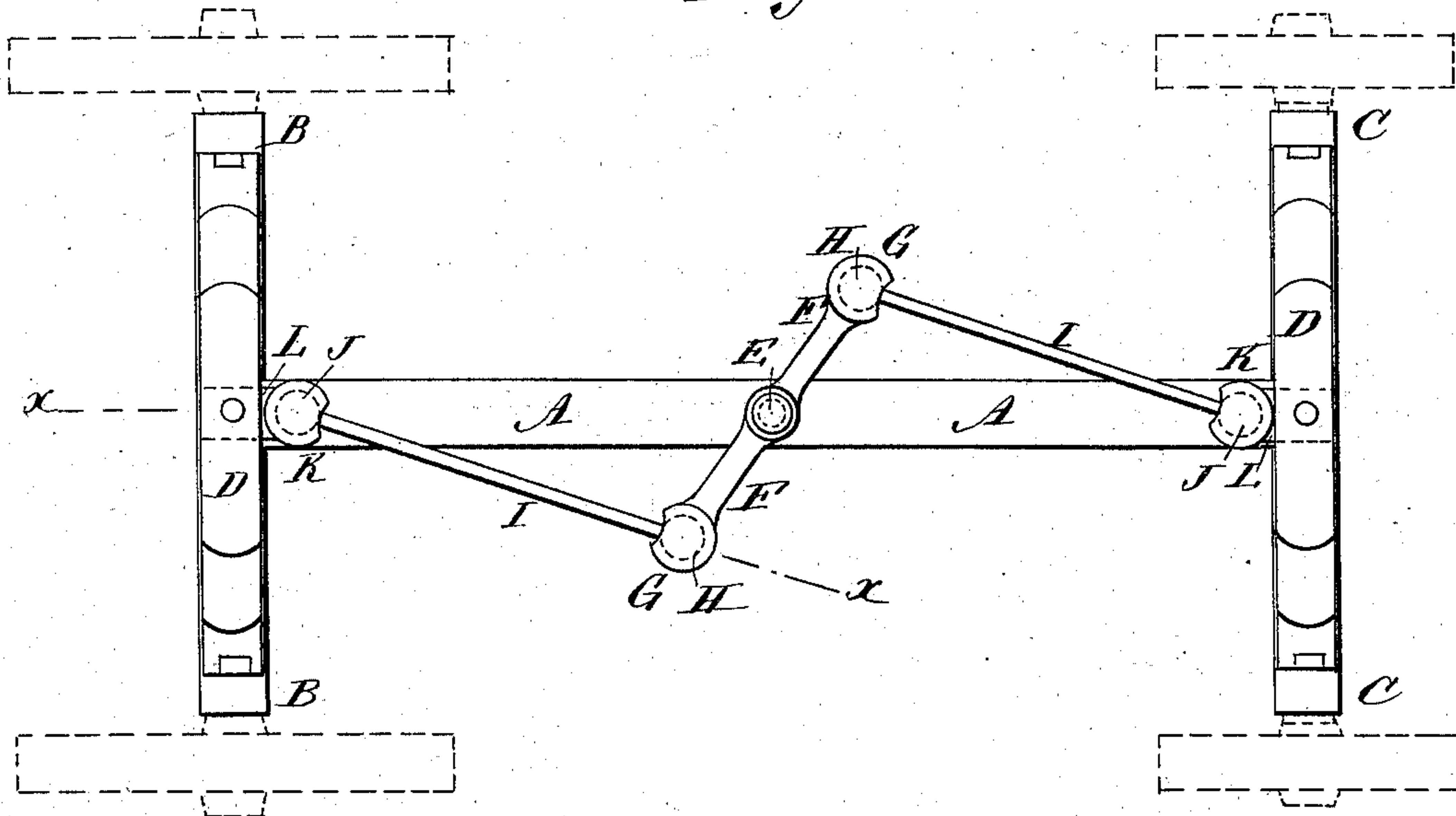
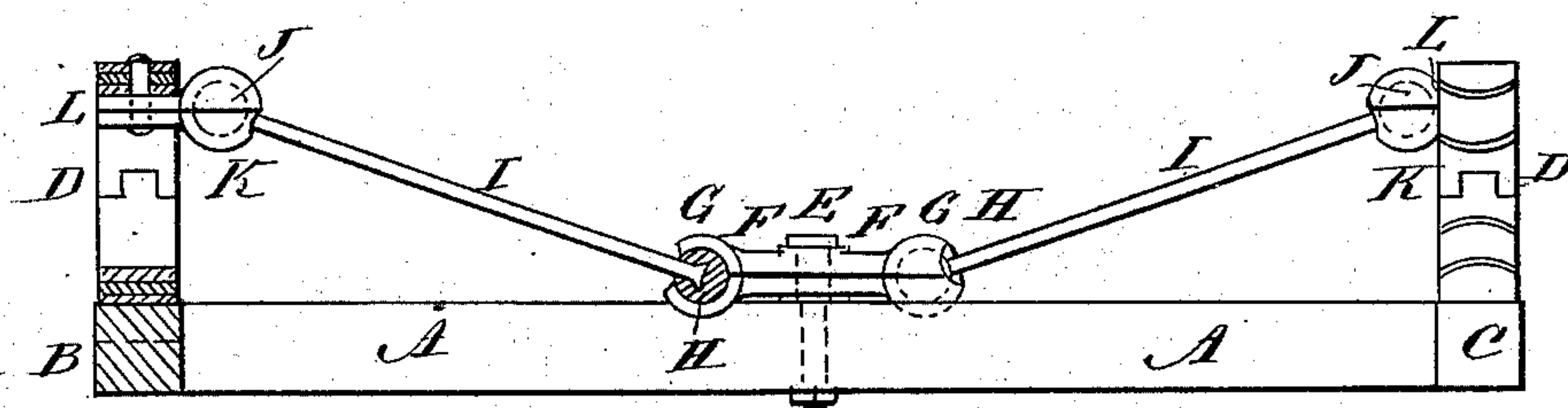


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE W. COOPER, OF PULASKI, IOWA.

SPRING-BRACE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 239,452, dated March 29, 1881.

Application filed February 3, 1881. (Model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON COOPER, of Pulaski, in the county of Davis and State of Iowa, have invented a new and useful Improvement in Spring-Braces for Vehicles, of which the following is a specification.

Figure 1 is a plan view of my improvement. Fig. 2 is a side elevation of the same, partly in section, through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to brace the springs of buggies and other vehicles against the forward and rearward pitching of the vehicle-bodies.

This invention relates to the class of spring-braces in which the springs are connected with the reach by jointed braces; and it consists in constructing the braces with ball-and-socket joints to give the braces freedom of movement in every direction without employing loose joints.

A represents the reach, B the head-block, C the rear axle, and D the springs, of a vehicle, all of which parts are constructed in the ordinary manner.

To the center of the reach A is pivoted, by a bolt, E, the center of a bar, F, upon the ends of which are formed or to them are attached ball-sockets G, to receive balls H formed upon or attached to the inner ends of the rods I.

In the application of my invention illustrated in the drawings the bar F is represented in two parts, and this construction I prefer, as being simple and easily applied, but do not limit myself to that particular construction, as the sockets may be secured in various ways.

The adjacent edges of the sockets G upon the opposite sides of the bar F are recessed or

notched to form slots to receive the rods I and allow the said rods to work freely.

Upon the outerends of the rods I are formed, or to them are attached, balls J, which work in corresponding sockets K, formed upon or attached to short bars L, which are bolted to the centers of the upper parts of the springs D.

The balls H J are preferably made of brass or other suitable anti-friction metal, to prevent friction and wear between them and the sockets G K, but may be made of any suitable material. The other parts of the improvement are made of iron.

With this construction the springs D are held erect against any forward or rearward pitching of the vehicle-body, while being allowed to play up and down freely. With this construction, also, the sockets G K will hold oil to keep the joints lubricated, so that the said joints will work without noise.

With this construction, also, the parts of the sockets G K are held together without any other fastenings than the bolts that fasten the bars F L, upon which the said sockets are formed to their supports.

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

1. A spring-brace constructed, substantially as herein shown and described, with ball-and-socket joints, whereby the brace will be free to move in any direction, as set forth.

2. In a spring-brace, the combination, with the rods I, of the ball-and-socket joints H G, substantially as herein shown and described.

GEORGE WASHINGTON COOPER.

Witnesses:

J. E. HESKETT,
GEO. NORRIS.