

(No Model.)

2 Sheets—Sheet 1.

F. J. LARKIN.
VEHICLE SPRING.

No. 284,214.

Patented Sept. 4, 1883.

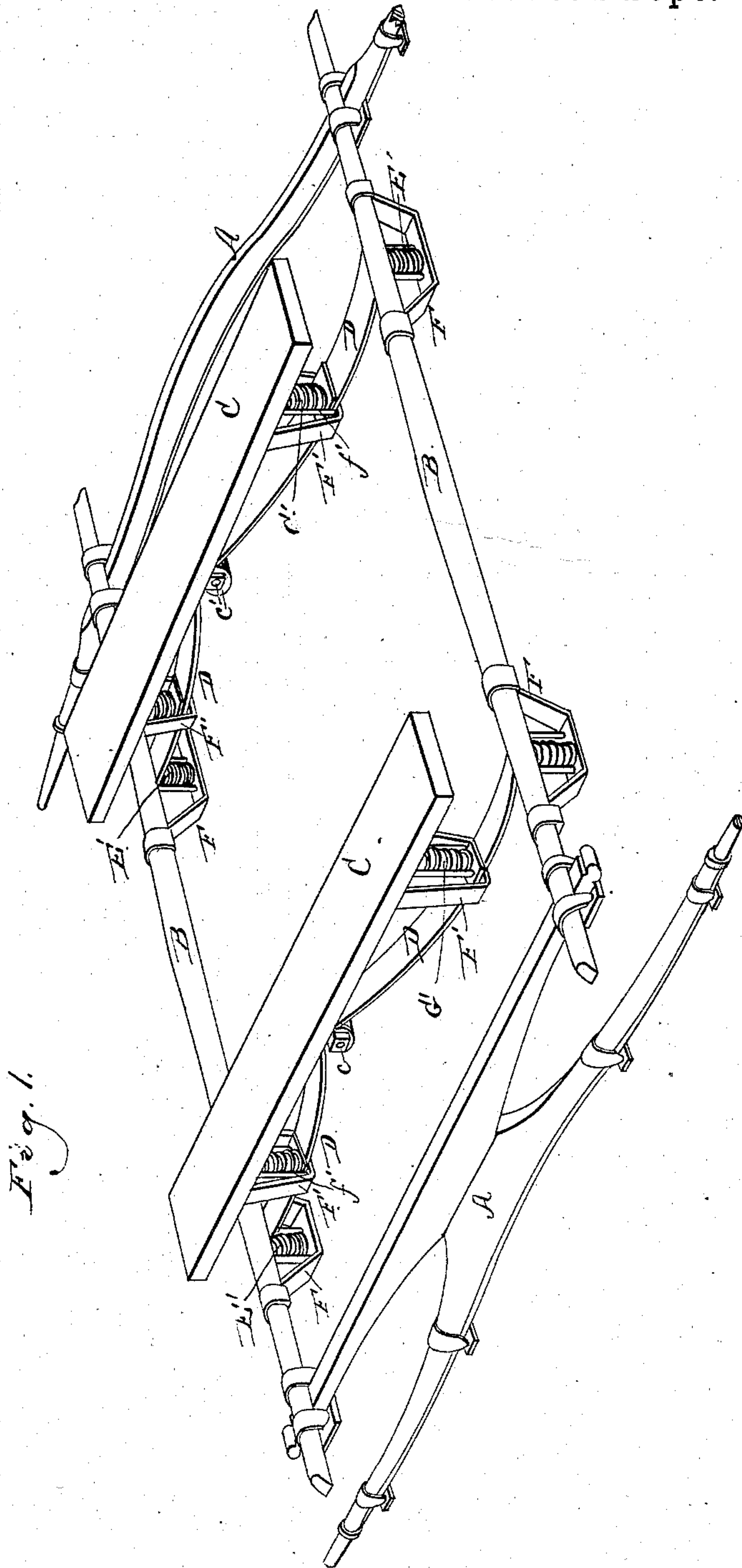


Fig. 1.

Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK J. LARKIN, OF CHICAGO, ILLINOIS.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 284,214, dated September 4, 1883.

Application filed January 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. LARKIN, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Wagon-Springs, of which the following is a specification, to wit:

This invention relates to an improvement in side-bar vehicles; and it consists in the combination of the usual side-bar frame, with cross-blocks supported upon bars or springs hinged in the center and acting upon coiled springs secured in hangers from the under sides of the bed-blocks and side bars, substantially as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of my invention applied to a side-bar frame. Fig. 2 is an end elevation of the same; Fig. 3, a cross-section through one of the supporting-bars and hangers; Fig. 4, a detailed perspective view of one of the spring-hangers. Figs. 5 and 6 are perspective views of reverse sides of the bearing-plate, and Fig. 7 a similar view of one of the small journal-blocks applied to this plate.

A represents the axles of a vehicle, upon which the side bars, B B, are supported in the usual or any desired manner.

C C represent the cross-blocks which support the bed of the vehicle between the side bars, at either end, and to the center of these blocks, on their under sides, are secured clips *c c*, each provided with a small pin, *c'*, upon which are hinged the inner ends of the two springs or bars D D, extending from this point across the vehicle in opposite directions. The outer ends of these bars are supported upon plates E, resting on one or more coiled springs, E', in a hanger, F, depending from the side bars, B B. The plates E are provided with one or more circular recesses or sockets, *a*, on the under side, in which the ends of the coiled springs E' are socketed; and the upper side is formed with a longitudinal recess, *a'*, in which is journaled a small friction-roller, *e*, upon which the spring-bar D

rests and slides. The plates E on either end are also provided with small castings E², secured on their upper side, in which is journaled a second roller, *e'*, which rests upon the upper side of the spring-bar D; and the hangers F are provided with two vertical guide-rods, *f f*, secured in the hanger at their lower ends, and at the upper in a plate fixed to the side bar. These rods pass through holes in the plates E and serve to guide them in their vertical movement. The outer ends of the blocks C C are also furnished with hangers F', provided with a plate, G, resting upon the upper side of the spring-bars D, and constructed with springs G', blocks G², guide-rods *f' f'*, and rollers *g g'*, in all respects similar to the hangers F on the side bars. When weight is placed upon the vehicle, the spring-bars are depressed at the inner ends, where they turn easily upon their pivot-pin in the clips *c c*, and the outer ends then slide outward between the rollers in hangers, and the weight acts to compress the springs G' upward and the springs E' downward, as will be readily seen by reference to the drawings.

Any desired number of springs E' G' may be used in the hangers, and are evenly compressed by the plates E G, while the friction-rollers allow the spring-bars D D to play freely back and forth. To prevent the rattling usual when such rollers are used and enable me to fit them closer to the bars D, I construct these friction-rollers of rubber.

It is obvious that the bars D may be made rigid, if desired; but when formed of spring metal they add an additional spring to that of the coils E' G'.

The device is strong and economical of construction, very easy in motion, and does not produce any unpleasant rattling.

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

1. In a side-bar vehicle, the plate E, provided with two rubber rollers, between which the spring-bar D has a free endwise play, in combination with the guide-rods *f f*, spring or springs E', and hanger F, secured to the frame, substantially as and for the purpose set forth.

2. In a side-bar vehicle, the two spring-bars

D D, hinged to a clip in the center of the cross-block C C, in combination with the hangers F', depending from the ends of the cross-blocks, and provided with guide-rods *f' f'*, plate G, 5 having rollers *g g*, between which the spring-bar passes, and springs G', adapted to be compressed upward, and a similar hanger, F, upon the side bar, provided with plate E, springs E', guides *f f*, and rollers *e e'*, between which the 10 outer ends of the bars D play, substantially as and for the purpose set forth.

3. In a side-bar vehicle, a plate, E, recessed upon one side for the socketing of the springs E' and upon the other for the journaling of 15 a rubber roller, *e*, and provided with blocks grooved to form journals for a similar rubber roller, *e'*, in combination with the hanger F, supporting-springs E', and guide-rods *f f*, whereby the ends of the spring-bars are given 20 both a vertical and an endwise motion, but

held firmly against rattling, substantially as shown and described.

4. A side-bar vehicle consisting, essentially, of the axles A, side bars, B, cross-blocks C, transverse spring-bars D, hinged at their in- 25 ner ends to clips on the under sides of the cross-blocks, and hangers F F', secured to the side bars and cross-blocks, and each provided with anti-friction rubber rollers, between which the spring-bars D play, plates E G, and 30 coiled springs E' G', one adapted to be compressed downward and the other upward, all constructed, combined, and arranged to operate substantially as described and shown.

In testimony whereof I affix my signature in 35 presence of two witnesses.

FRANK J. LARKIN.

Witnesses:

J. E. STEVENSON,
FRANK JOHNSON.