

J. M. MILLER.
Vehicle-Spring.

No. 227,915.

Patented May 25, 1880.

Fig. 4.

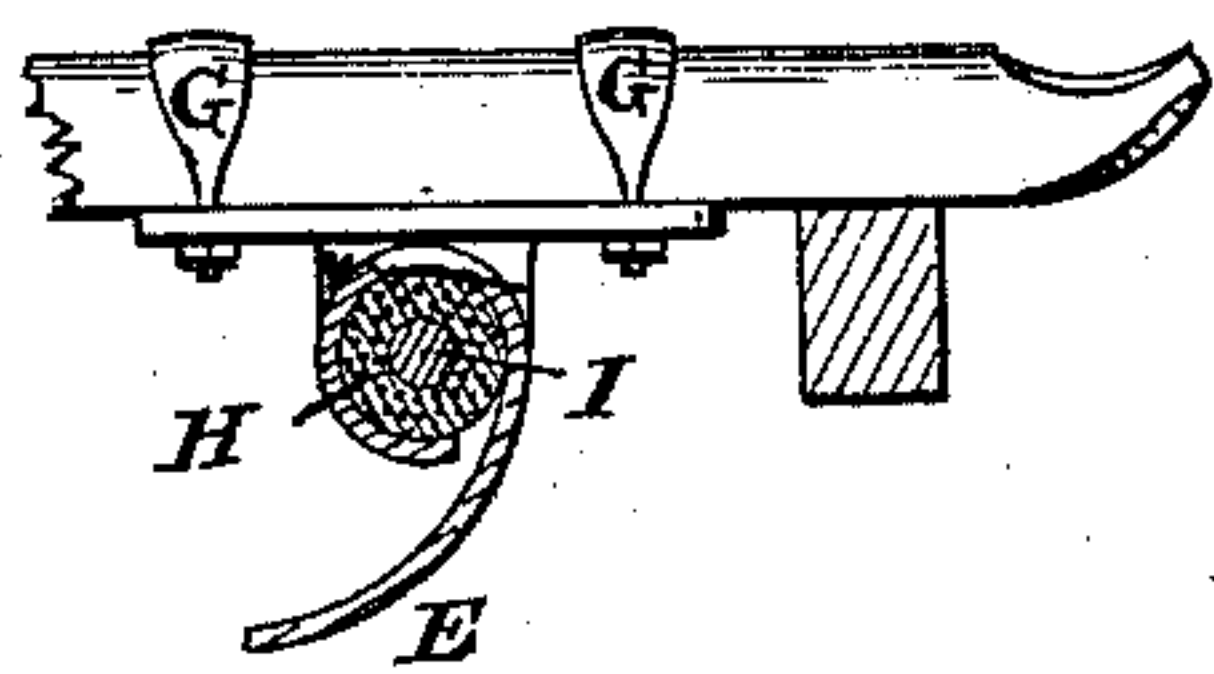


Fig. 1.

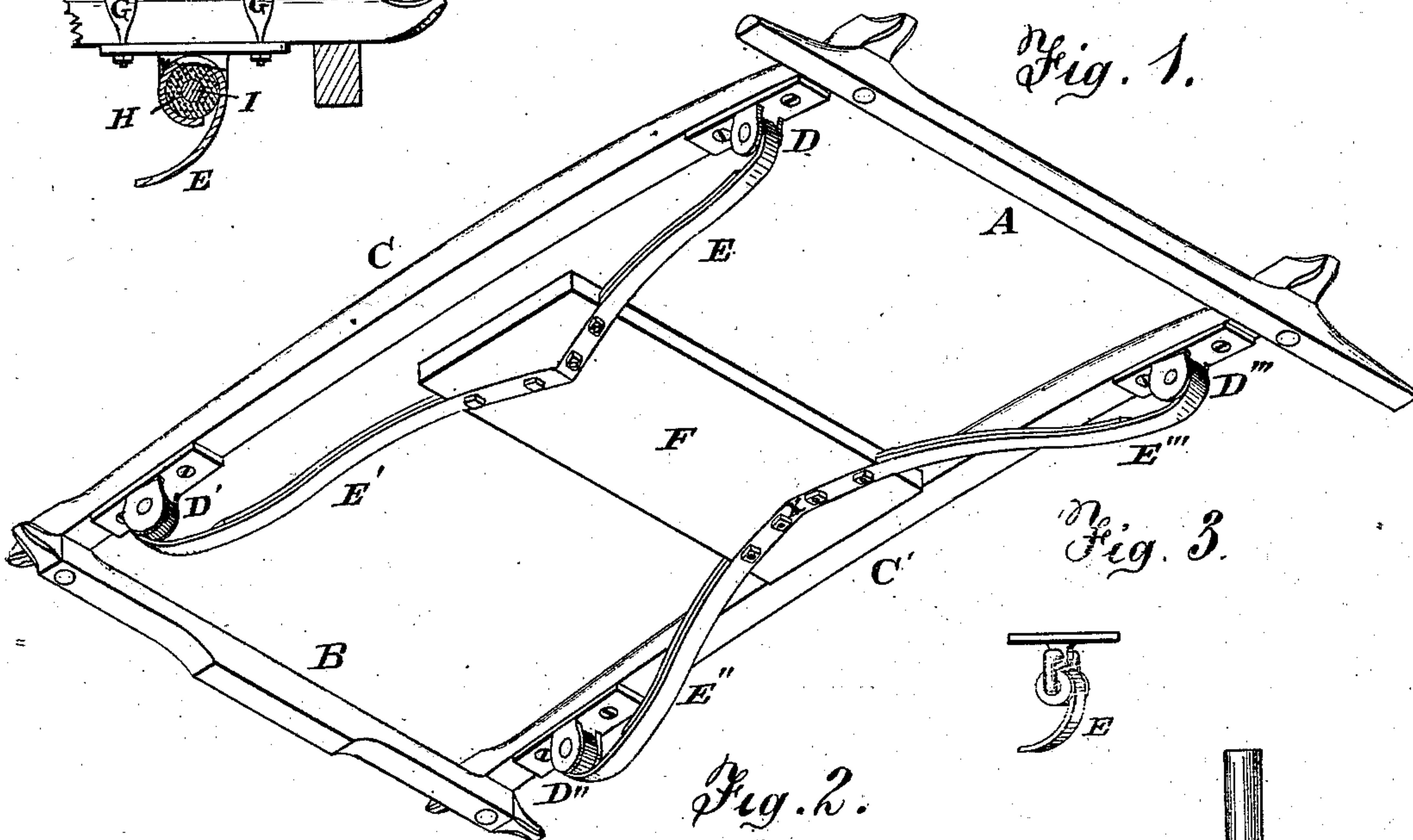
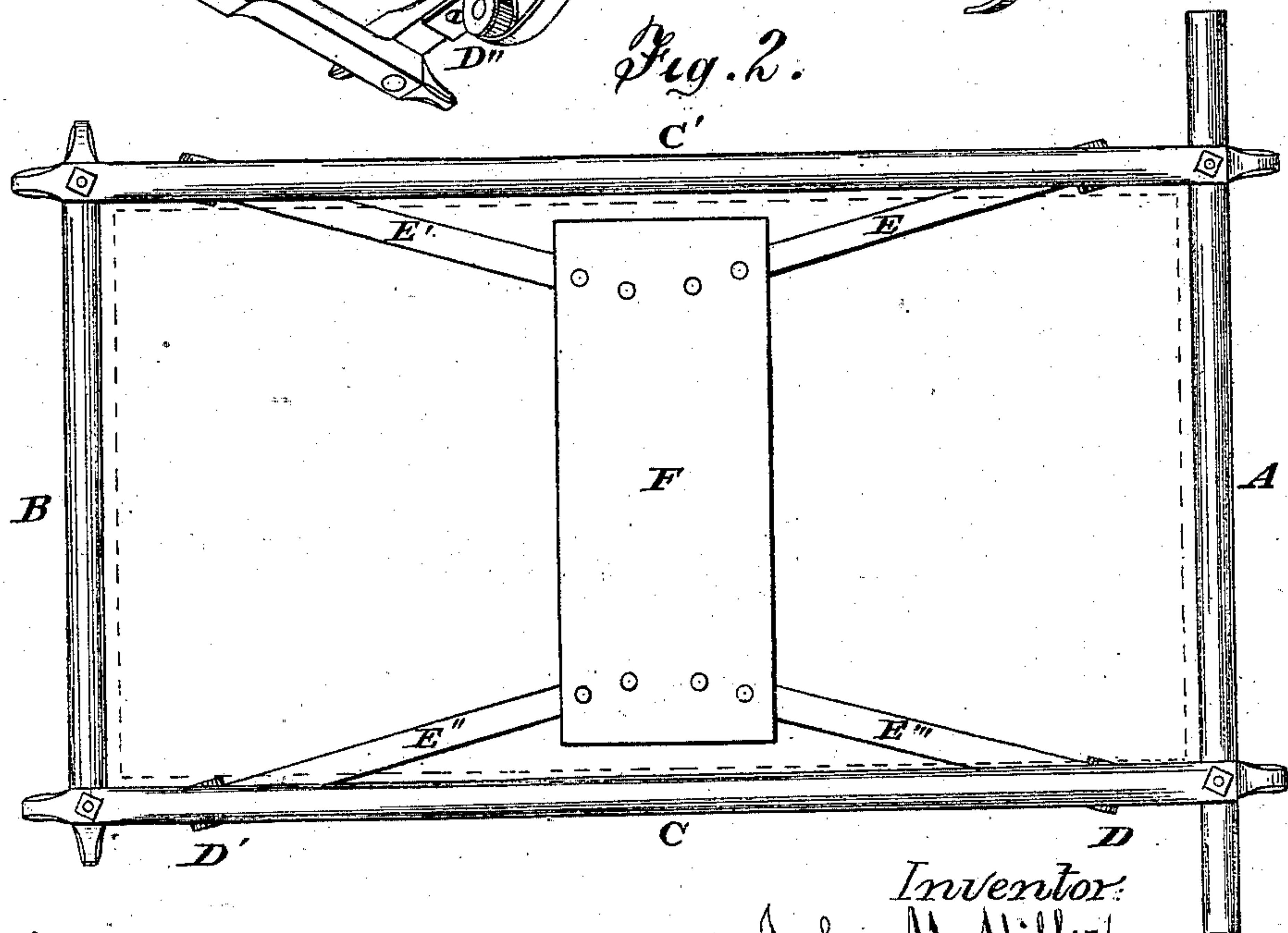


Fig. 3.



Fig. 2.



Attest.

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UNITED STATES PATENT OFFICE.

JOHN M. MILLER, OF CINCINNATI, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 227,915, dated May 25, 1880.

Application filed December 8, 1879.

To all whom it may concern:

Be it known that I, JOHN M. MILLER, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Side-Bar Vehicles, of which the following is a specification.

My invention relates to an improved spring-connection of the body with the carriage part of a side-bar buggy or wagon; and it consists of four plate-springs, which, being suitably coupled to the side bars, project obliquely inward and upward, and are firmly secured to a slab or cleat located at or near the center of the open rectangular frame, composed of the side bars and bolsters, to which slab or cleat the bed or body of the vehicle is bolted.

In the accompanying drawings, Figure 1 is an under-side perspective view of a vehicle-frame embodying my invention. Fig. 2 is a top view of the same. Fig. 3 represents the method of connecting my springs to the side bars by means of a shackle. Fig. 4 is an enlarged section of the spring-coupling.

A represents the rear, and B the front, bolster, and C C' the side bars, of a side-bar buggy.

Attached to the under side of the side bars, near to but a little within the bolsters, are four coupling-ears or hangers, D D' D'' D''', for the outer extremities of as many ogee plate-springs or systems of springs E E' E'' E''', which, extending obliquely inward and upward, have their inner extremities made fast to the under side of a slab or cleat, F, which supports and is firmly bolted to the bed or body of the vehicle. (Indicated by dotted lines in Fig. 2.)

For simplicity of illustration the attachment of the various members is shown as effected by screws or bolts; but any other customary or suitable means of attachment may be employed—such, for example, as clips G. (Shown in Fig. 4.)

Anti-rattlers H, of caoutchouc, may be placed around the pivots I of the couplings D D' D'' D''', as shown in Fig. 4.

For the smaller class of vehicles the springs or systems of springs of each side may consist of one or more continuous plates, extending from end to end, as shown at X, Fig. 1.

For the larger class, on the contrary, the attaching-slab may be much wider (or two slabs may be used) longitudinally of the frame,

and the springs be attached near its front and rear portions, respectively, and not in contact with one another.

Each spring or system is parallel to but considerably out of alignment with that diagonally opposite to it in the frame.

The slab F and its attached bed are sufficiently less than the inner opening of the frame A B C C', to permit of free vertical oscillation of such bed.

I am aware that it has been proposed to support the body of a vehicle upon a pair of springs crossing each other under the body and secured to the side bars or to the bolsters; but my device has marked advantages over such crossed arrangements of springs, in its far greater stability and freedom from rocking, with less necessity to adjust the load in order to preserve a proper equilibrium of the body, and, relatively to crossed springs, my device is simpler, stronger, more easily constructed, less liable to become clogged with mud, and more accessible for cleaning or repair.

I am also aware that it has been proposed to support the box of a farm-wagon by springs which diverge from the center of the box to the bolsters, on which they lie loosely, not being secured to them. In such arrangement the box simply rests by its springs upon, but is not attached to, the running-gear, and necessarily depends for lateral support on the ordinary stakes or upright projections from the bolsters.

I claim herein as new and of my invention—

The combination, with the frame A B C C' of a side-bar vehicle, and with the body-cleat F, of the four springs or spring systems E E' E'' E''', of which each spring or system extends obliquely inward and is parallel to but considerably out of alignment with that which is diagonally opposite to it in the frame, said springs being permanently coupled to the body-cleat near its ends and to the side bars, substantially as set forth.

In testimony of which invention I hereunto set my hand.

JOHN M. MILLER.

Attest:

GEO. H. KNIGHT,
J. L. LOGAN.