

(No Model.)

G. PENNOYER.
CARRIAGE SPRING.

No. 252,326.

Patented Jan. 17, 1882.

Fig. 2.

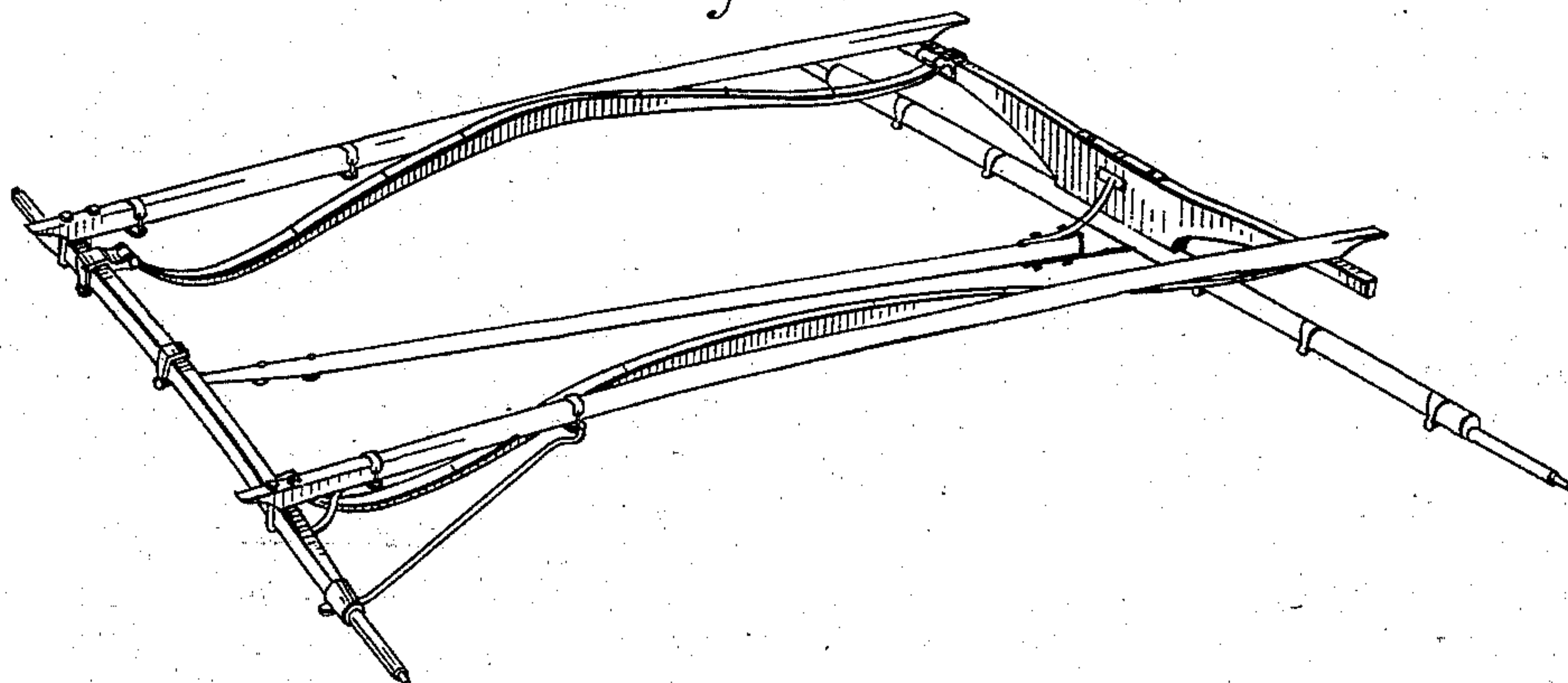
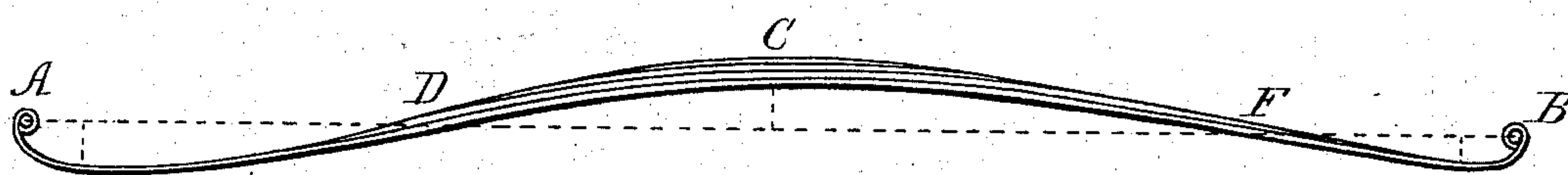


Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE PENNOYER, OF CHICAGO, ILLINOIS.

CARRIAGE-SPRING.

SPECIFICATION forming part of Letters Patent No. 252,326, dated January 17, 1882.

Application filed October 31, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE PENNOYER, a citizen of the United States, residing at the city of Chicago, in the State of Illinois, have
5 invented certain new and useful Improvements in Buggy - Springs, of which the following is the specification, reference being had to the accompanying drawings.

The nature and object of this invention are to
10 provide a spring for side-bar buggies that will give an easy, soft, and graceful motion to the body of the buggy, as against a short, jerking, or lateral motion as at present commonly experienced.

15 Figure 1 is a side view of my improved spring. Fig. 2 is a perspective view of the gearing of a buggy with my spring.

I make my spring of the material that springs are usually made of. The length of the spring
20 depends upon the character of the vehicle upon which it is used. The length of a spring for an ordinary buggy is from fifty-two to fifty-four inches, and in a spring of the above lengths the shape and form of the spring would be substantially as follows: In drawing a line directly
25 through the two eyes A to B, as the line of suspension, it would cross the spring twice, and the rear end of the spring—that is, the sweep from A to D—is below the line at its
30 greatest depth, the same as the sweep from D to F is above the line at its highest point, while the sweep at the front end of the spring, from F to B, below the line at its lowest point, is one-half the distance of the greatest departure from the same line of suspension of
35 both the other sweeps.

While I have been thus definite in mentioning the relative corresponding points in the construction of my spring, it is manifest that
40 a slight departure from this exact statement will not be a departure from the spirit of my invention.

I hang my spring at each end directly to the gear without the use of the intervening link
45 or equalizing-bar, as all the advantages of the

link or equalizing-bar are secured in this form of spring, and this form of the construction of a side spring enables me to hang the body of a side-bar buggy in such a way as to secure an easy, soft, and graceful motion to the body of
50 the buggy.

As it has been observed, the front end of the spring has only one-half the sweep below the line of suspension the rear end has. This serves a triple purpose. It enables me to
55 hang the body low. At the same time it is sufficiently high to swing over the axle in turning the buggy, and, also, which is of great importance, it makes the spring stronger at both ends. Were this end more curved, or
60 had a greater sweep in suddenly stopping or starting the buggy, it would be more liable to break, because it would be bending the spring in a reverse way, which would open the upset side of the metal, and the liability to break in
65 this event is very great. It also prevents the giving and taking or longitudinal swaying of the spring when the buggy is started, stopped, or in motion. This form of spring equalizes
70 itself—that is, when it is depressed by the incumbent weight the ends of the spring are not moved in opposite directions; but the movements of the spring are entirely in vertical lines; nor are the ends brought toward each other in the same movement.
75

I claim—

1. A buggy - spring the rear end of which having the sweep below the line of suspension and the sweep at the center above the line of suspension substantially equal, and the sweep
80 at the front end of spring substantially one-half the sweep at rear end and center, substantially as shown and described.

2. The combination of the above-described spring with a side-bar buggy.

GEORGE PENNOYER.

Witnesses:

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