

(No Model.)

J. S. MUNN.
SPRING FOR VEHICLES.

No. 259,648.

Patented June 13, 1882.

Fig. 1.

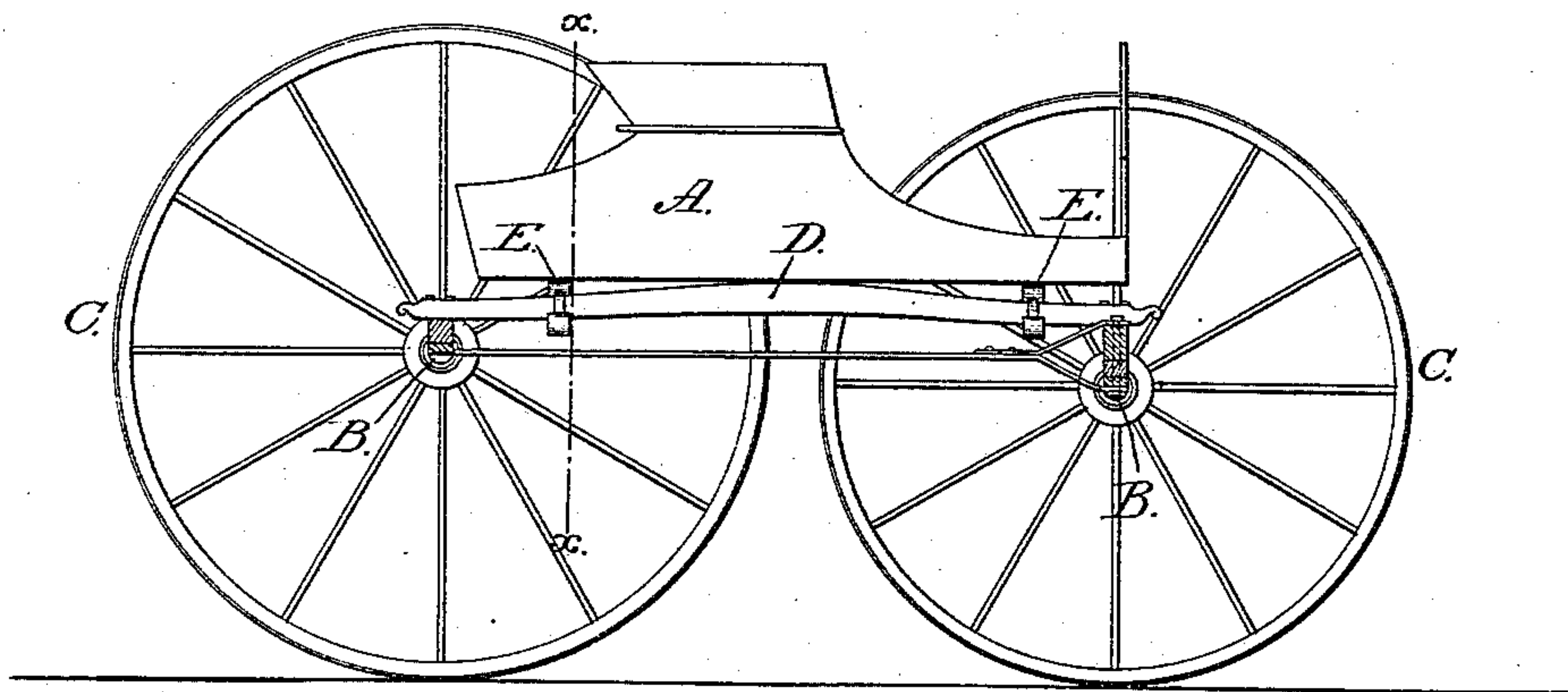
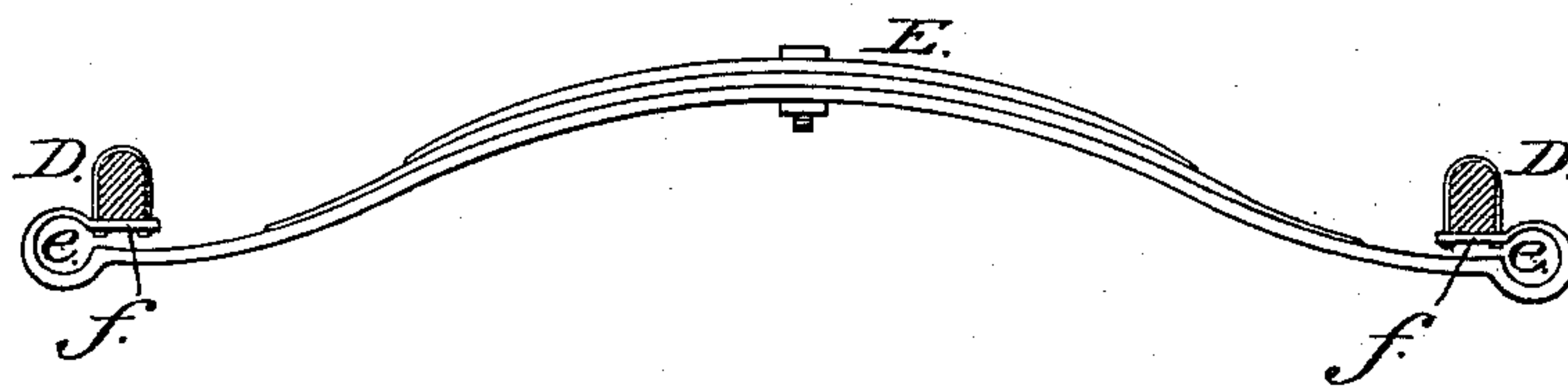


Fig. 2.



Witnesses:

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SPRING FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 259,648, dated June 13, 1882.

Application filed April 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, J. SIDNEY MUNN, a citizen of the United States of America, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Springs for Side-Bar Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to side-bar vehicles, and has for its object to provide an easier and more elastic support for the body than is obtained by the simple interposition of the ordinary forms of semi-elliptic springs now in use; also, to dispense with the employment of shackle-links and their bolts. By my improvements I am enabled to remove an objectionable feature in this class of springs that use shackle-connections—to wit, the rattle or noise—that is very disagreeable and annoying to the occupant of the vehicle.

My invention consists in the transverse spring having elastic circular ends terminating above the upper side of the spring in horizontal rests or supports for the side bars, as an improved article of manufacture.

My invention further consists in the combination, with the side bars as a support for the body, of semi-elliptic springs whose ends are finished each with circular elastic curves terminating above the upper side of the spring in rests for the attachment of the side bars thereto by clips.

In the accompanying drawings, Figure 1 is a side elevation of a wagon fitted with my improved spring; and Fig. 2 is a transverse section, on an enlarged scale, in line *x x* of Fig. 1.

The letter A represents the wagon-body, B the axles, and C the wheels. The ends of the side bars, D, are connected by suitable springs, in the customary manner, with the front and rear axles.

The letters E E represent my improved springs interposing between the body and side bars as a support for the former. These springs (see Fig. 2) are mainly semi-elliptical in form, having one or more leaves in the central portion thereof; but their ends are drawn out each in a single thickness, and

turned first slightly downward, and then upward and inward, in a circular form, as at *e e*, terminating in a straight portion, *f f*, which serves as a point of attachment for the side bar, against the under side of which it is secured. The circular ends of the springs are made very elastic, so as to yield to the end, thrust of the central semi-elliptical portion with a gentle equable resiliency, and, being made in one piece with the body of the spring, they are wholly noiseless in movement, although capable, because of their form, of the necessary freedom in play for effective operation.

The springs are secured centrally to the body of the wagon by bolts in the usual manner, and the flat portions *f f* of the circular ends *e e* are secured to the side bars by bolts or clips, as shown in Fig. 2. The elastic circular ends allow the springs to lengthen or shorten beneath the superimposed load, according to its exigencies, but without jar, concussion, or undue strain, and resiliency of the curved ends acts in conjunction with that of the main body of the spring to produce a perfect elastic bearing and support for the body.

By this construction I am enabled to produce a neat and cheap transverse spring for the trade without the objectionable features attending other springs of this class.

What I claim is—

1. As an improved article of manufacture, the transverse semi-elliptic spring with its ends curved to nearly complete circles and bent inwardly parallel with the body of the spring, affording horizontal rests or supports for the side bars of a vehicle, as shown.

2. The combination, with the side bars of a vehicle, of the transverse semi-elliptic springs E, whose ends, projected unbroken in length, each is in a circular portion, *e*, curved slightly downward, then upward and inward, terminating in the supports *f* for the attachment of the side bars by the clips, substantially as shown.

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

J. S. MUNN.

Witnesses:

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