(No Model.) 2 Sheets—Sheet 1.

W. S. BULETT.

ROAD CART.

No. 397,776. Patented Feb. 12, 1889.

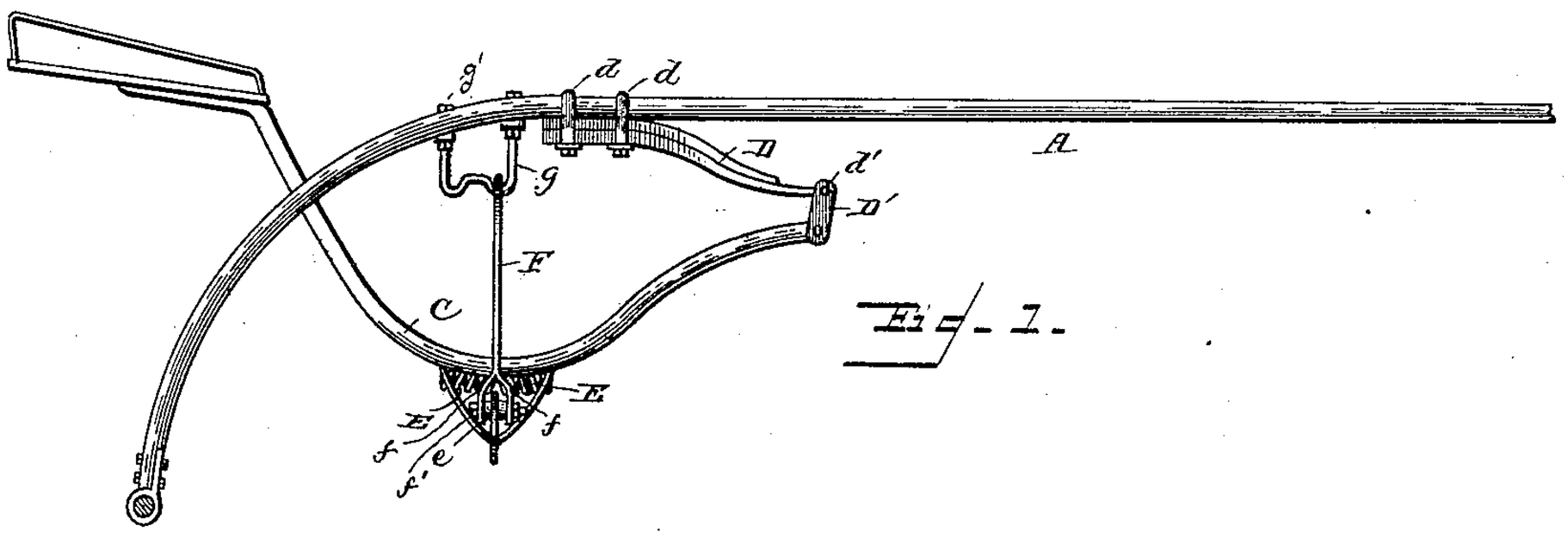

Fig. 1.

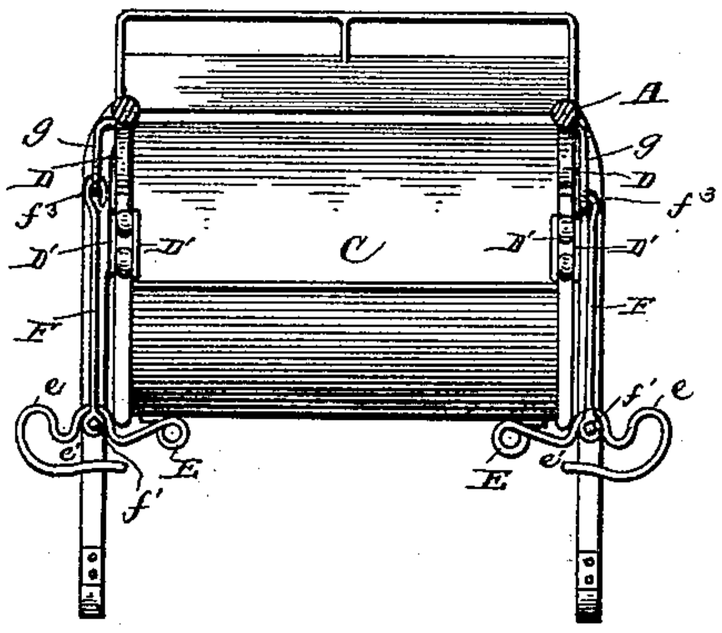

Fig. 2.

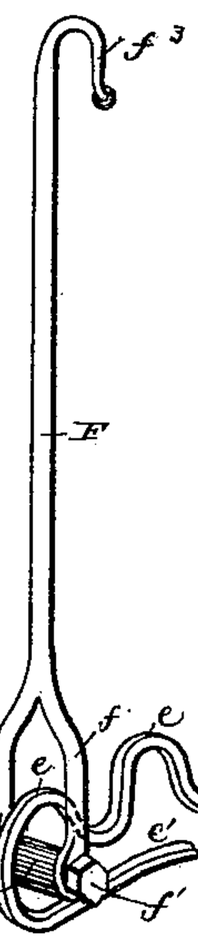

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

W. S. BULETT.

ROAD CART.

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Fig. 4.

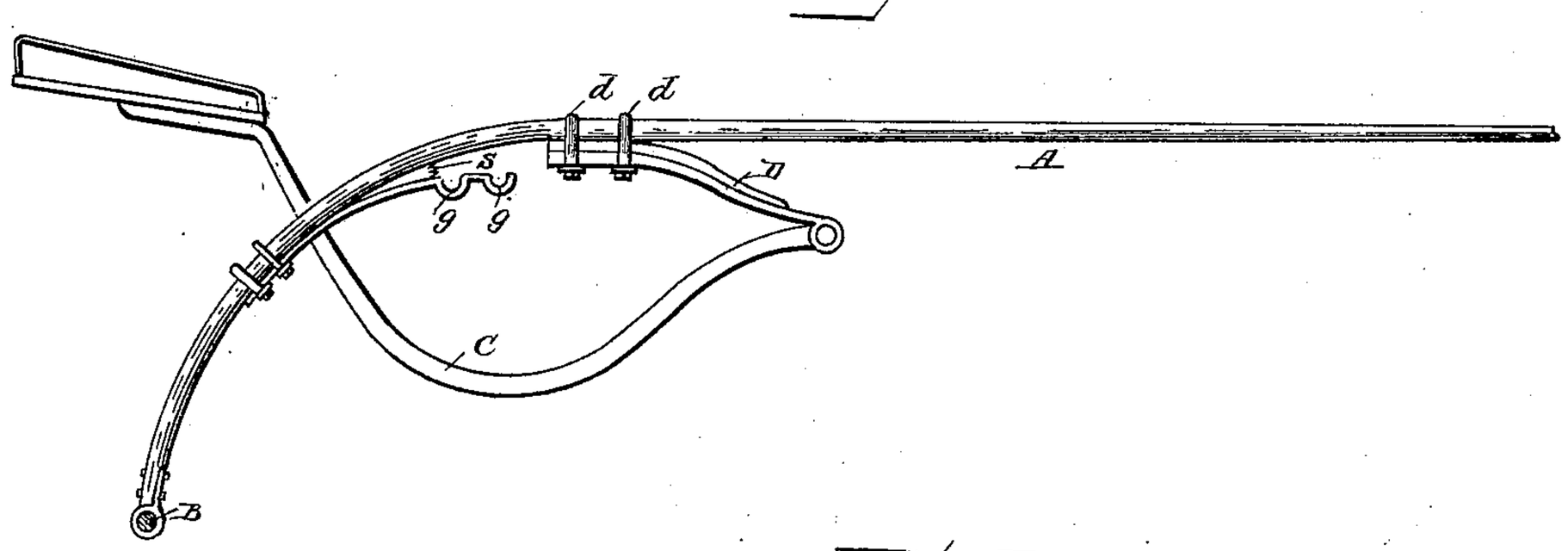


Fig. 5.

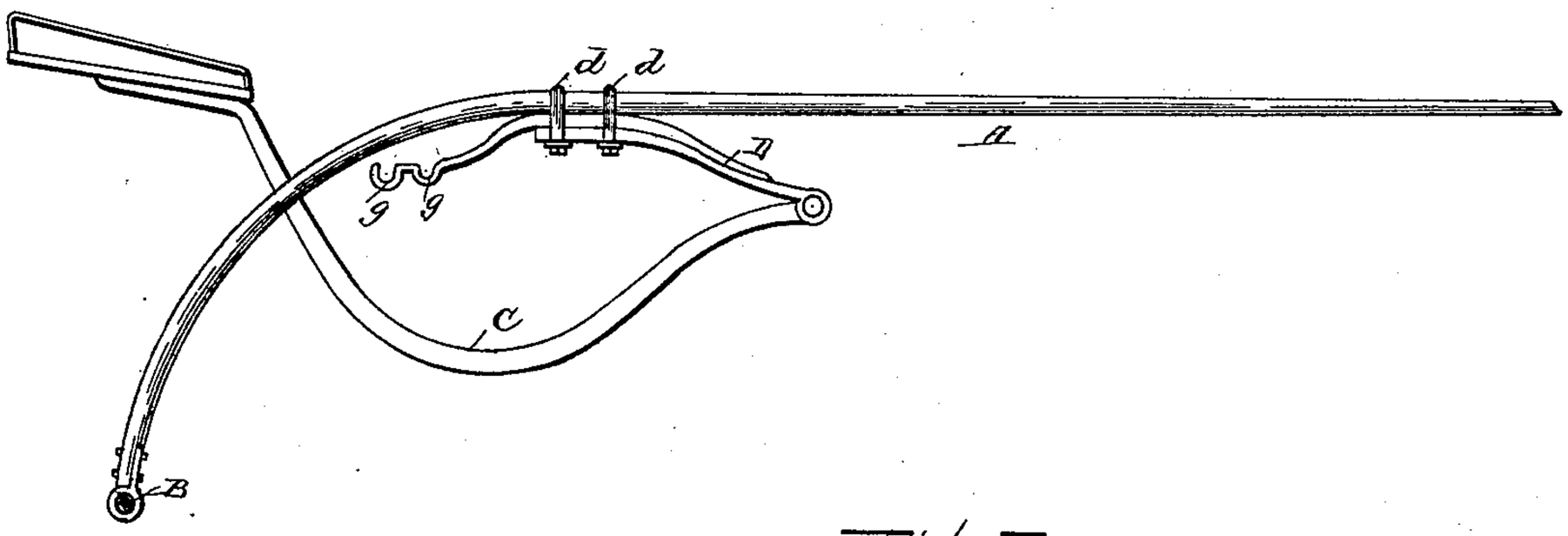
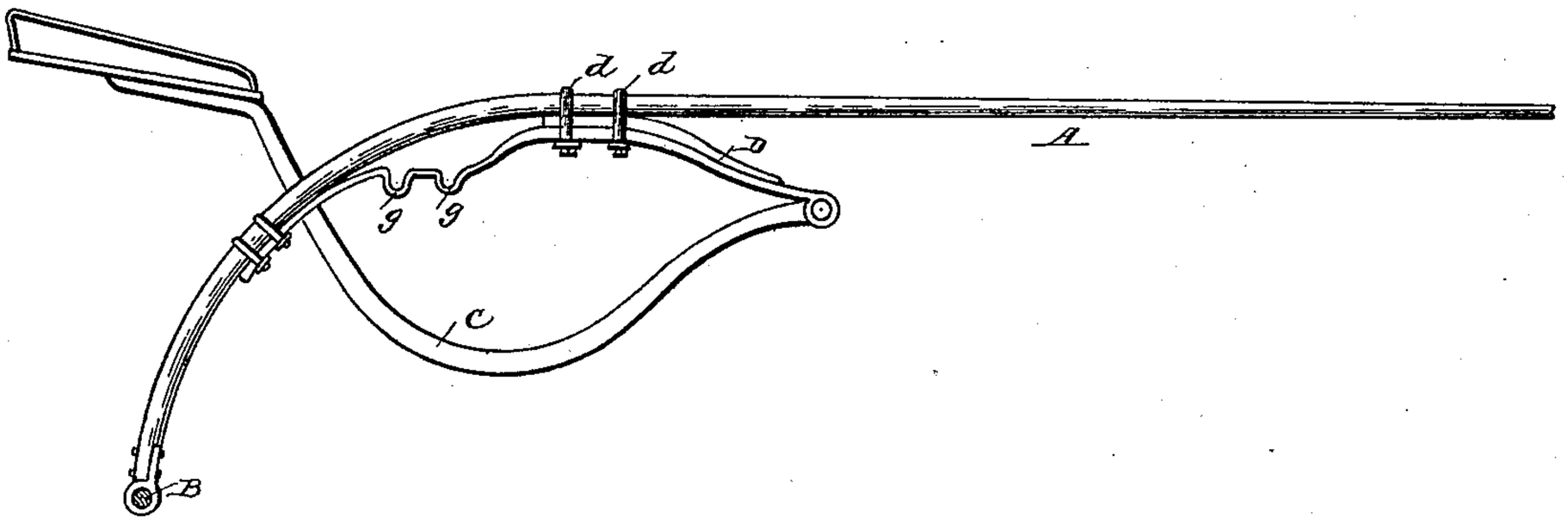


Fig. 6.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM S. BULETT, OF DELTA, PENNSYLVANIA.

ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 397,776, dated February 12, 1889.

Application filed July 25, 1888. Serial No. 280,958. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. BULETT, a citizen of the United States, residing at Delta, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Road-Carts; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to two-wheeled vehicles, and its object is to provide a vehicle of this class in which the body is adapted to have the desired spring motion without imparting the same to the shafts, and in which the motion given to the latter by the horse is not conveyed to the body.

A further object of the invention is to have the body adjustable with relation to the weight of the occupant, to impart an easy motion to the vehicles.

A further object is to provide a vehicle of this character possessing advantages in point of simplicity, inexpensiveness, durability, and general efficiency.

In the drawings, Figure 1 is a side elevation of a vehicle embodying my invention. Fig. 2 is a front end elevation. Fig. 3 is a detail perspective view of the connection between the hanger and spring. Fig. 4 is a side elevation of a modified form of vehicle. Fig. 5 is a similar view of another modification. Fig. 6 is a similar view of a third modification.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the shafts of the vehicle, which are rigidly secured to an axle, B, mounted upon carrying-wheels.

C designates the body, pivotally secured at its front end at each side to the free end of a leaf-spring, D D, the latter being preferably secured at their other ends to the shafts by clips *d*. These springs are herein illustrated as projecting forwardly; but their position may be reversed, if desired. The connections between the body and these springs may also be link-connections, each consisting of two plates, D′ D′, provided with coincident perforations *d′*, through the upper ones of which and the spring passes a retaining-bolt, while another bolt is provided through the lower perforations and the metallic perforated piece extending from the body. At each side this body, near the front end and underneath the same, are secured springs E E, preferably substantially the same in construction as that covered by Letters Patent No. 373,171, granted to me November 15, 1887. The bearing ends are, however, preferably turned up to form bearings *e e*, and the end left inserted, as shown at *e′*, instead of closed bearings, as shown in the above-mentioned patent. Hangers F F are connected with these springs at their lower bifurcated ends, *f f*, by bolts *f′ f′* passing therethrough and under one of the bearings of each spring. These hangers are adjustable in the bearings of the springs, and are provided with rollers f^2 f^2, disposed upon the bolts *f′ f′*, said rollers being designed to lessen the wear on the bolts caused by the motion of the vehicle.

The upper ends of the hangers are hook-shaped, as shown at f^3 f^3, and each of said ends removably engages one of two bearings, *g g*, therefor in brackets G G. The brackets are preferably formed of metallic rods provided with bends in the horizontal portion forming the bearings, and the upper ends are bent at right angles to the vertical portions, and provided with securing-perforations *g′*, through which they are secured by bolts to the shafts or other suitable place.

By the foregoing construction, comprising the springs E, hangers, and brackets, the body is adapted for four adjustments, to accord with the weight of the occupant. For light weight the hangers are adjusted so that their upper ends engage the front bearings of the brackets the farthest point from the seat, and the lower ends engage the outer or greatest yielding bearing of the springs F. For each increase of weight the hangers are adjusted as follows: First, for heavy weight the upper ends of the hangers are transferred from the front bearings or to the point nearest the seat; second, for very heavy weight the upper ends of the hangers are returned to the front bearings of the brackets and the lower ends transferred to the inner or less yielding bearings of the springs E; and, third, for ex-

tra heavy weight (two persons) the hangers engage the rear bearings of the brackets and the inner bearings of the springs E. It will be obvious that by the foregoing adjustments the weight is readily equalized, thus insuring a smooth and easy motion to the vehicle. This construction also, in conjunction with the springs D, obviates the impartation of the motion given the shafts by the horse to the body.

In the modification illustrated in Fig. 4 the brackets are dispensed with and springs substituted. These springs are secured at one end to the shafts and provided at the free ends with the bearings *g g*. To strengthen these springs, coil-springs S may be provided, secured at one end to the shafts and at the other to said springs. The brackets are also dispensed with in the modification illustrated in Fig. 5. In this construction the springs D are constructed of two leaves, to the forward end of the lower one of which is connected the body, while the top leaf is provided with bearings *g g* at its rear free end, as shown.

Fig. 6 illustrates a modification in which the springs D are connected with the body at their free forward ends, while between their main secured portions and the rear secured ends the bearings *g g* are provided.

I do not wish to be understood as limiting myself to the exact construction herein shown and described, but reserve to myself the right to all such modifications as properly fall within the spirit and scope of my invention. For instance, the number of bearings provided upon the springs E and brackets (or their substitutes) may be increased, if desired or found preferable.

I claim as my invention—

1. The combination, in a two-wheel vehicle, with the body and shafts, of springs pivotally connected with the front end of the former and rigidly connected with the latter, and hangers connecting the body and shafts and adjustable in bearings therefor, substantially as set forth.

2. The combination, in a two-wheel vehicle, with the body and shafts, of springs pivotally connected with the front end of the former and rigidly connected with the latter, springs secured to the body and provided with bearings, and hangers adjustable in said bearings and adjustably connected with the shafts, substantially as set forth.

3. The combination, in a two-wheel vehicle, with the body and shafts, of springs secured to the latter and pivotally connected with the front end of the former, springs secured to the body and provided with bearings, bearings connected with the shafts, and hangers adjustable in said bearings, substantially as set forth.

4. The combination, in a two-wheel vehicle, with the body and shafts, of springs pivotally connected at their free ends with the front end of the body and having their other ends rigidly connected with the shafts, springs secured to the body and provided with bearings, brackets upon the shafts provided with bearings, and hangers connecting the body and shafts and adjustable in said bearings, substantially as set forth.

5. The combination, in a two-wheel vehicle, with the shafts, of the body pivotally connected therewith, springs secured to said body and provided with bearings at their outer ends, brackets provided with bearings, and hangers connecting the shafts and body adjustable in said bearings, substantially as set forth.

6. The combination, with the shafts, of the body pivotally connected therewith, springs secured to the body and provided at their outer ends with bearings, and hangers provided at their lower ends with rollers for adjustably engaging said bearings and at their upper ends with hooks for adjustably engaging bearings upon the shafts, substantially as set forth.

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

WILLIAM S. BULETT.

Witnesses:

J. REED LITTELL,

SCHUYLER DURYEE.