(No Model.)

C. C. SPENCER.

TWO WHEELED VEHICLE.

No. 382,839. Patented May 15, 1888.

Fig. 1.

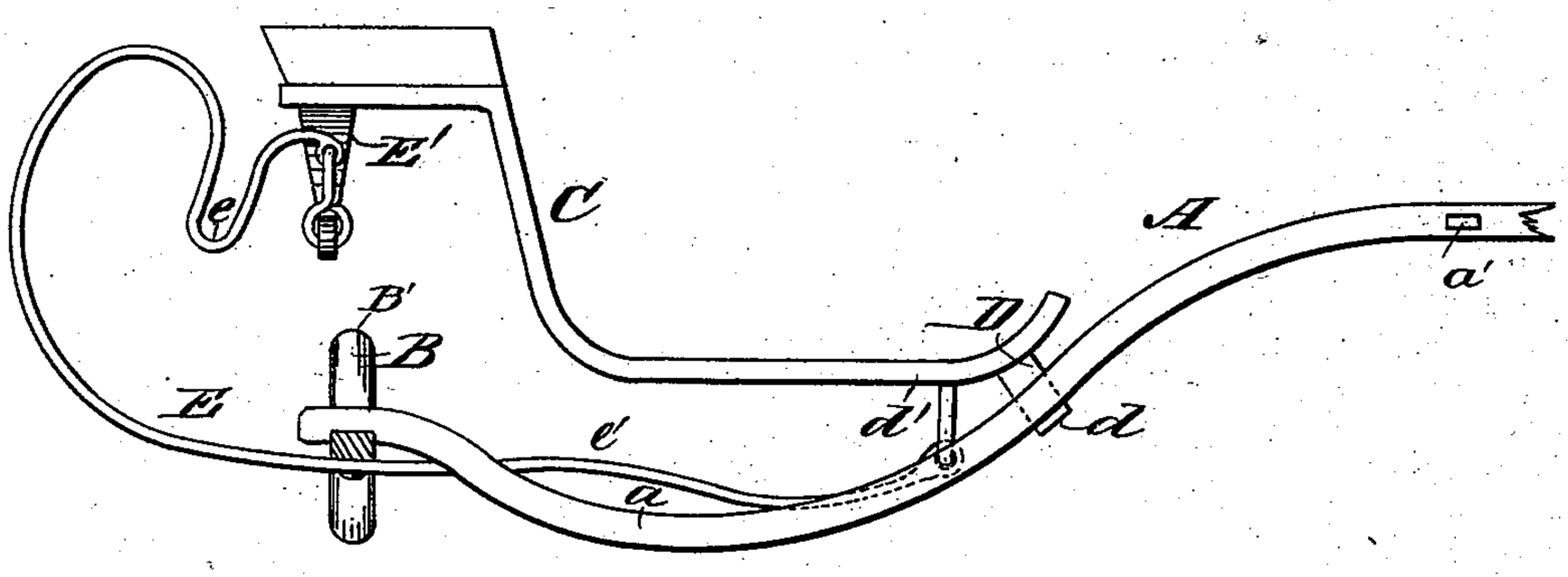


Fig. 2.

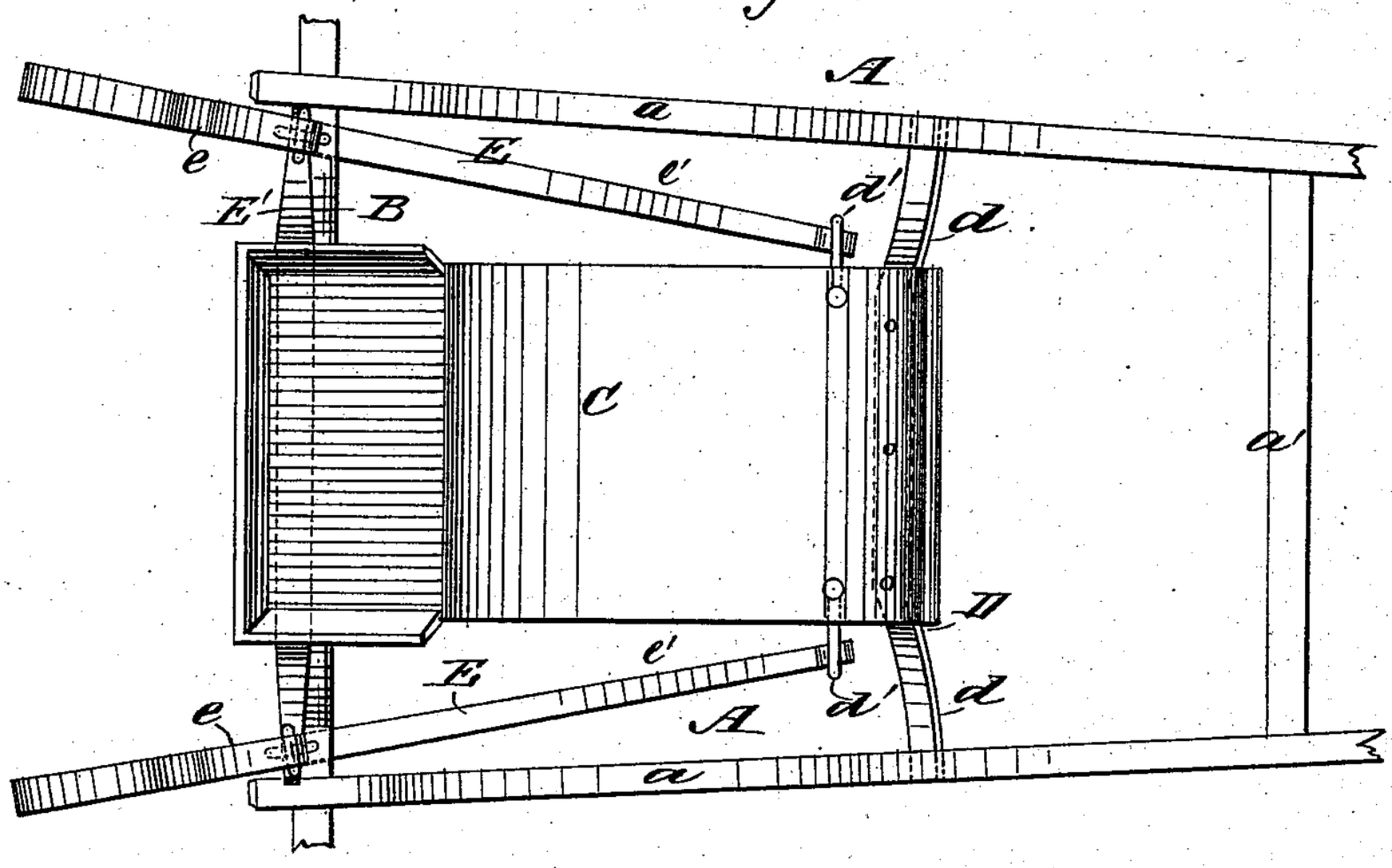
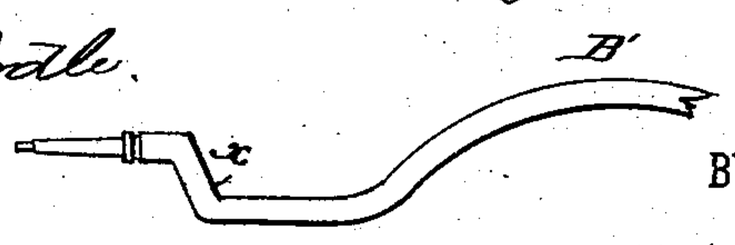


Fig. 3.



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CHARLES C. SPENCER, OF CORTLAND, NEW YORK.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 382,839, dated May 15, 1888.

Application filed December 2, 1887. Serial No. 256,779. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. SPENCER, of Cortland, in the county of Cortland and State of New York, have invented a new and Improved Two-Wheeled Vehicle, of which the following is a full, clear, and exact description.

My invention relates to an improvement in two-wheeled vehicles, and has for its object to provide means whereby the horse motion common to vehicles of this class will be overcome, and wherein a pleasant vertical motion will be obtained, and wherein, also, the vehicle will be easy of ingress and egress.

The invention consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the vehicle. Fig. 2 is a plan view of the same, and Fig. 3 is a partial side elevation of the axle.

In carrying out the invention, A represents the side bars of a road-cart or similar vehicle, which are secured at their rear ends in any suitable manner to the axle B. The said axle B, to the rear of its spindles, is dropped downward about three inches, as shown at *x*, and provided with an upwardly-curved central arched portion, B′, the highest point of the arch being at a greater elevation than the ends adjacent to the spindles. The upper edges of the side bars, a short distance from their ends, are concaved, as shown at *a*, and made to extend below the axle. From the point *a* the side bars are gradually curved upward, being comparatively straight at their connections with the front bar, *a′*. The rear ends of the side bars are secured to the lower horizontal portion, *x*, of the axle, whereby they are brought within and below the hub of the wheel.

Between the side bars, and slightly above the same, a phaeton-like body, C, is supported by means of a transverse front spring, D, having downwardly-curved ends *d*, which ends are secured to the side bars, the body of the spring being attached to the under forward portion of the vehicle-body C, as illustrated in dotted lines in Fig. 2.

The rear of the vehicle-body is supported in position by means of longitudinal side springs, E, which springs are located within the side bars, and are positively attached near their rear ends to the axle, and at their forward ends by a link or bolt connection, *d′*, to each side of the vehicle-body, at or near its front. The side springs, E, project rearwardly beyond the axle, and are curved upward nearly in a plane with the seat at the top, then downwardly to form a U-shaped bend, *e*, and upwardly again to a shackle-connection with the ends of a semi-elliptic spring, E′, attached to the under side of the seat. Between the axle and the forward end of the springs E the latter are provided with an upward curve or convexity, *e′*, the said convexity being produced in that portion of the springs E parallel with or facing the concavity in the side bars.

By reason of the peculiar curve of the side springs, as above set forth, an easy vertical motion is imparted to the body, the U-bend in the rear particularly serving to counteract any horse motion.

The vehicle may be hung lower than illustrated, and the front spring may be substituted by short leather or metal springs attached, respectively, to the side springs, E, and to the body of the vehicle at or near its front.

If found advisable, the central portion of the axle, which is shown as arched, may be made straight without departing from the spirit of the invention.

When a vehicle is provided with the springs above described, all horse motion is intercepted and dispensed with by the springs and effectually prevented from communication with the body, and the formation of the spring insures easy and agreeable riding even upon rough roads.

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

1. The combination, with a vehicle-body and a semi-elliptic spring attached to said body, of longitudinal side springs having their forward ends attached at the front of said body and their rear ends curved upward, provided with a U-shaped bend, and secured to the said semi-elliptic spring, substantially as herein shown and described.

2. The combination, with a vehicle-body, a semi-elliptic spring attached to said body, and the axle, of longitudinal side springs secured to the axle, having their forward ends linked to the body at its front and their rear ends curved upward, provided with a U-shaped extremity and linked to the said semi-elliptic spring, substantially as shown and described.

3. The combination, with a vehicle-body, a semi-elliptic spring attached to said body beneath the seat, and an axle having its body dropped below the plane of its ends, of longitudinal side springs attached to the axle within and below its ends, having their forward ends linked to the body at its front and their rear ends curved upward, provided with a U-shaped extremity and linked to the said semi-elliptic spring, substantially as shown and described.

4. The combination, with a vehicle-body, a semi-elliptic spring attached to the seat of the body, the axle, and side bars, of springs attached to said side bars and the body, longitudinal side springs secured to the axle, having their forward ends linked to the front sides of the body and their rear ends curved upward, provided with a downwardly-inclined U-shaped end, and linked to the extremities of the semi-elliptic spring, substantially as shown and described.

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Witnesses:
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