(No Model.)

J. McCRUDDEN.

VEHICLE SEAT.

No. 422,431. Patented Mar. 4, 1890.

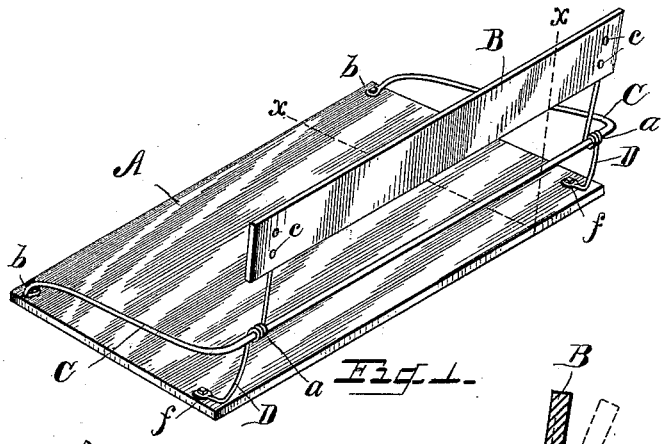

Fig. 1.

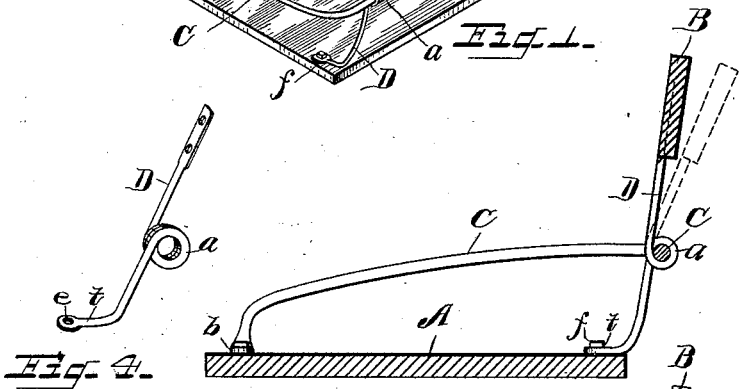

Fig. 4.

Fig. 2.

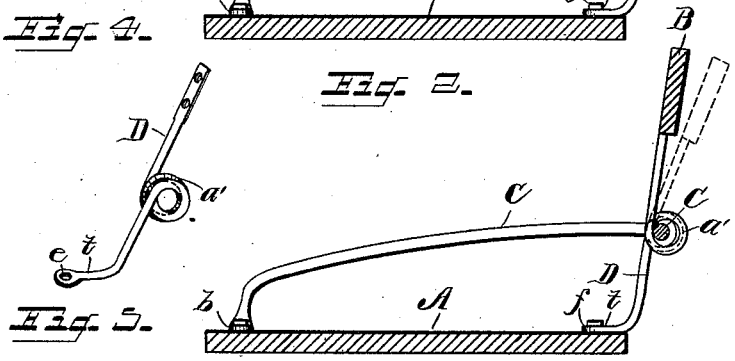

Fig. 5.

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES MCCRUDDEN, OF FLINT, MICHIGAN, ASSIGNOR TO THE FLINT ROAD CART COMPANY, OF SAME PLACE.

VEHICLE-SEAT.

SPECIFICATION forming part of Letters Patent No. 422,431, dated March 4, 1890.

Application filed November 25, 1889. Serial No. 331,570. (No model.)

To all whom it may concern:

Be it known that I, JAMES MCCRUDDEN, a citizen of the United States, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Vehicle-Seats; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to spring-backs for vehicle-seats; and it consists in forming a coiled spring in the vertical brace-irons that support the back of the seat. Said spring environs and supports the rear horizontal portion of the seat-rail, and affords a simple, cheap, and substantial spring for the back of the vehicle-seat, as will be hereinafter more fully set forth, and the essential features of the device pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is an isometrical view of a vehicle-seat having my improved spring-back attached thereto. Fig. 2 is a cross-section on dotted line $x\,x$ of Fig. 1. Fig. 3 is a view of same, showing a modification of the coiled spring. Figs. 4 and 5 are details showing the spring brace-irons.

As indicated in the drawings, A represents the seat-bottom; B, the back-rest or lazy-back of the seat; C, the seat-rail, and D the spring brace-irons.

The central portion of the brace-irons D is formed into a coiled spring a. A foot t is formed on the lower end of said brace-irons, having a hole e therein, as shown in Figs. 4 and 5, by means of which said irons are bolted to the seat-bottom A, as shown at f in Figs. 1, 2, and 3. The upper ends of the brace-irons D are provided with holes, and by bolts or rivets are secured to the lazy-back B of the seat, as shown at c in Fig. 1. The rear horizontal portion of the seat-rail C passes through the coiled spring a of the brace-irons D D, and the ends of said rails are bent downward and secured at b to the seat-bottom A. (See Fig. 1.) By this arrangement of parts the rear portion of the seat-rail C is supported in the coiled springs a of the brace-irons D D, and the brace-irons are in turn held in their vertical position by said seat-rail, which forms a lateral brace for said irons, and the upper ends of the brace-irons, to which the lazy-back B is attached, are allowed to spring back, as shown by dotted lines in Figs. 2 and 3, thus affording a yielding back to the vehicle-seat.

When irons of light weight are used for the braces D D, the springs are formed in a small coil, so as to fit tightly around the metal seat-rail C, (see Figs. 2 and 4,) causing said springs, when pressure is placed against the lazy-back B, as in leaning against said back by the occupant of the seat, to contract upon the seat-rail, thus preventing the back of the seat from springing back too far, as will be readily understood; but for heavy work, where larger irons are used, the coil of the series next to the upwardly-extending portion of the braces D is formed on a larger circle, as shown at a' in Figs. 3 and 5, affording the resistance of the spring only against pressure on the seat-back, which is necessary, in the use of larger irons, to give sufficient spring to the back of the seat.

This improved spring-back may be applied to vehicles of all classes, and is especially adapted for road-carts, the yielding nature of the back overcoming to a great extent the effect of the horse motion. In both the forms of coils herein shown a portion of the series of coils encircling the seat-rail C is fitted snugly around said rail to prevent any rattling of parts. It will also be observed that the foregoing forms a durable, cheap, and yielding seat-back.

Having set forth the essential features of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the seat-rail C, a set of lazy-back-supporting braces coiled near their central portion one or more times around said seat-rail, the lower ends of said braces adapted to be attached to the seat-bottom, their upper ends adapted to support a lazy-back, substantially as specified.

2. In combination with the seat-bottom of a vehicle, the horizontal seat-rail C, a set of spring-metal braces having their lower ends

attached to the seat-bottom, their central portion formed into a coiled spring which encircles the seat-rail, and having upwardly-extended portions coupled to and supporting a lazy-back, for the purposes set forth.

3. In combination with the metal seat-rail C, the set of spring-metal brace-irons coiled two or more times near their longitudinal center around the seat-rail, and having the coil next to the upwardly-extending portions of greater diameter, the upwardly-extending portions of the braces adapted to support a lazy-back, their lower ends adapted to be attached to the seat-bottom, substantially as specified.

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

JAMES McCRUDDEN.

Witnesses:
JOHN J. CARTON,
J. DALLAS DORT.