

(No Model.)

S. A. BAILEY.
Vehicle Spring.
No. 239,136. Patented March 22, 1881.

Fig. 1.

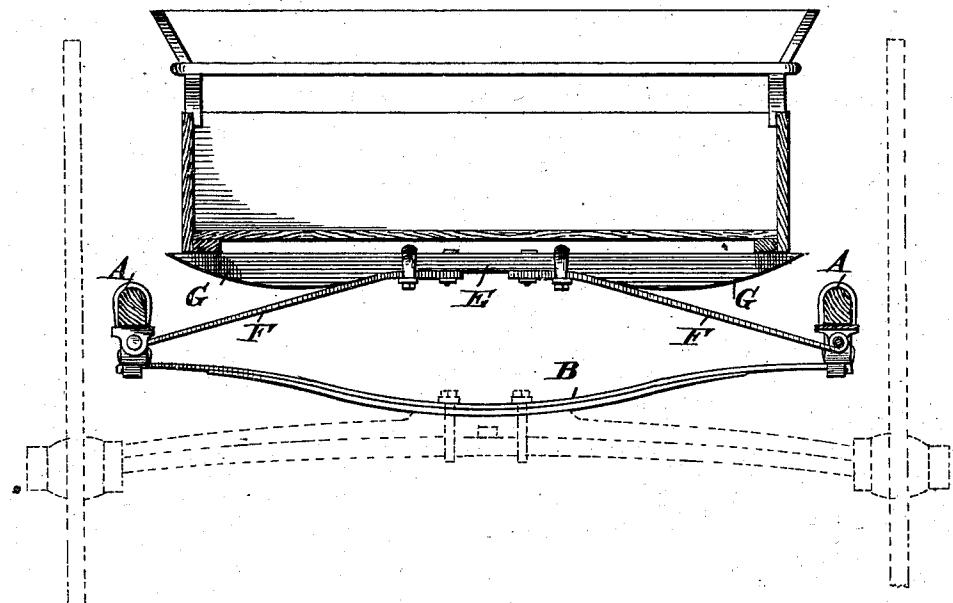
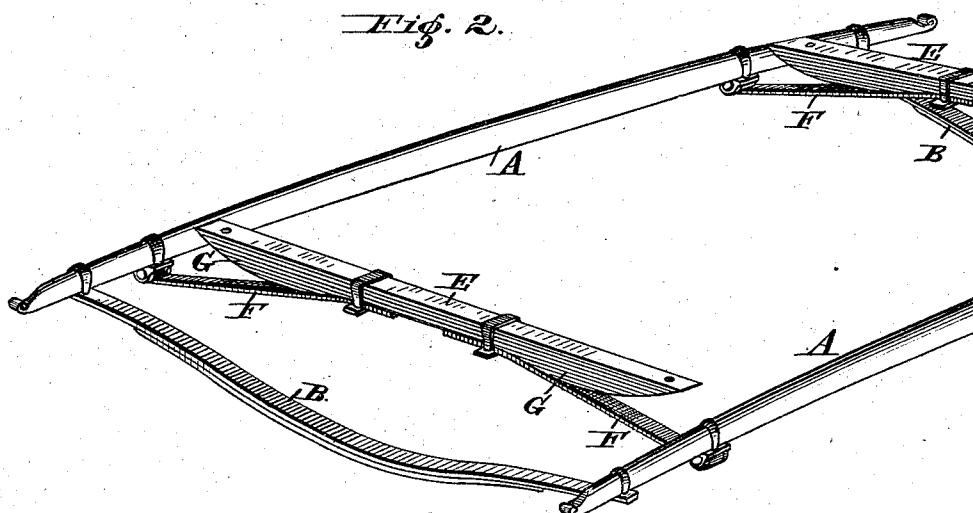


Fig. 2.



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UNITED STATES PATENT OFFICE.

SELDEN A. BAILEY, OF WOONSOCKET, RHODE ISLAND.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 239,136, dated March 22, 1881.

Application filed September 30, 1880. (No model.)

To all whom it may concern:

Be it known that I, SELDEN A. BAILEY, a citizen of the United States, residing at Woonsocket, Providence Plantations, and State of Rhode Island, have invented certain new and useful Improvements in Vehicle-Springs; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

15 This invention relates to springs of side-bar vehicles.

The half-elliptic spring is the spring usually adopted for supporting the vehicle-body in connection with the side bars, in which case, 20 when the vehicle is unevenly loaded or traveling on inclined ground, the body is apt to lop down on one side. Moreover, said springs lengthen and shorten to such an extent, when the body falls and rises, as to create a lateral 25 strain upon the side bars.

The object of this invention is to provide springs which will maintain an even carriage of the vehicle-body, which will preserve a uniform, or substantially uniform, length under 30 varying pressures, which, when composed of single leaves, will be essentially cumulative and graduate themselves to the varying pressures brought upon them, which may be readily applied to bodies of different widths, and which 35 will allow the body to sit lower than the springs now in use in this connection.

The invention consists in the combination, with the side bars and the vehicle-body, of a series of springs arranged in pairs transversely 40 to the vehicle-body, the springs of each pair being attached at their inner ends to and inclined from the central portion of a spring bar or follower fastened to the bottom of said body, said follower being provided with two 45 curved projections, which projections come in contact with said springs and cause the same to conform to them in such a manner as to prevent lengthening and avoid shortening of the springs, and impart stiffness and strength 50 thereto.

Figure 1 is a transverse section of a side-bar vehicle embodying this improvement. Fig. 2 is a perspective view of the side bars and their connecting-springs.

The side bars, A A, are supported in the usual manner, near their ends, by means of horizontal or half-elliptic springs B B, which rest upon and are clipped to the hind axle and bolster, respectively. Four springs, F F F F, are interposed between the vehicle-body and the side bars. These springs are arranged in pairs underneath the front and rear ends of the body. The inner ends of each pair of springs are attached, by means of screws, bolts, clips, or otherwise, to a spring bar or follower, 60 E, on either side of its center. From, at, or near such points of attachment these springs are slightly bent, and incline downward toward or to their outer ends, which latter are clipped or otherwise connected to the side 70 bars. Each of the followers E is provided with two curved projections, G G, on its under side, between its center and its ends.

The operation is as follows: When the body is pressed down by the weight of its load the 75 projections G G come in contact with the springs F F, and afford lateral support to the body, preventing its lopping down on one side. Under sufficient pressure the springs are bent in conformity with the curvature of the projections. This bending or curving of the springs F F prevents undue expansion thereof, and avoids the bending and straining of the side bars. The areas of contact between the projections and the springs increase as 80 the pressure is increased, and the springs are strengthened or stiffened in proportion to the weight of the load. Thus the advantages of elasticity for light loads and strength for heavy 85 loads is secured without the duplication or multiplication of the leaves of the springs. Hence the weight is reduced and an important saving effected in quantity of spring material and cost of springs.

The projections G may be formed upon or 95 attached directly to the bottom of the body.

The springs may be lengthened or shortened to suit bodies of different widths by simply separating their inner ends more or less when adjusting them upon the bar or body.

I claim—

In a side-bar vehicle, the combination of the side bars, A A, the vehicle-body provided on its bottom, near its ends, with the followers E 5 E, each having a seat and two curved projections, G G, apart from each other and from the center, and the steel-strap springs F F, having horizontal upper ends and straight downwardly-inclined bodies, the said parts

being arranged and operating substantially as described.

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

S. A. BAILEY.

Witnesses:

GEO. W. CATE,
TIMOTHY P. MORRILL.