

J. KREHBIEL.
Vehicle-Spring.

No. 210,260.

Patented Nov. 26, 1878.

FIG. 1.

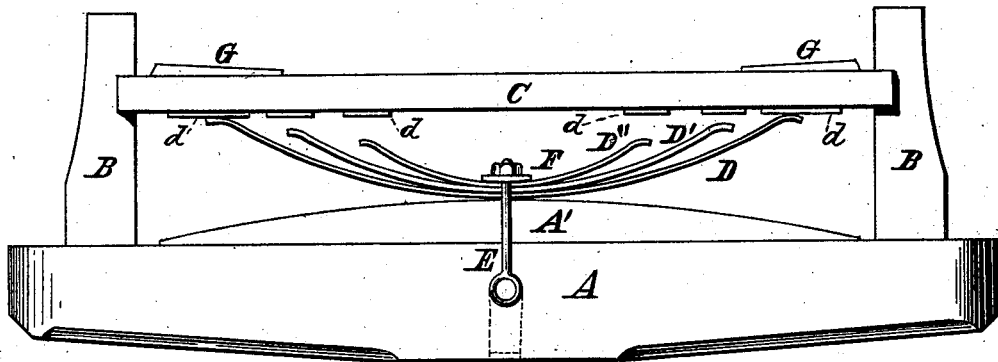
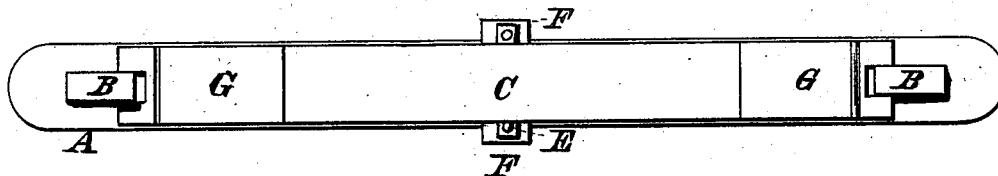


FIG. 2.



Witnesses:

McJ Stark.
R. C. Kenwick

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John Krehbiel, No. 2.
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atty.

UNITED STATES PATENT OFFICE.

JOHN KREHBIEL, OF WILLIAMSVILLE, NEW YORK.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **210,260**, dated November 26, 1878; application filed September 7, 1878.

To all whom it may concern:

Be it known that I, JOHN KREHBIEL, of Williamsville, in the county of Erie and State of New York, have invented certain new and useful Improvements on a Wagon-Spring Arrangement; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has special reference to a bolster-spring arrangement for lumber and other wagons; and it consists in the peculiar arrangement of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings heretofore referred to, Figure 1 is an elevation of a bolster for a wagon, provided with my spring arrangement. Fig. 2 is a plan of the same.

Like parts are designated by similar letters of reference in both figures.

A is the bolster, and B the stakes, of a wagon. They do not differ from those now in common use, my invention being applicable to all the various styles. Upon this bolster I fasten a curved bed-piece, A', in the usual manner; or I may construct the bolster and bed-piece of one piece of lumber, the latter method being preferable in new wagons, while the former is necessary in applying my device to existing vehicles.

Upon the bed-piece A' are placed a series of single-leaf springs, D D' D'', respectively, said springs being secured to the bed-piece by means of eyebolts E and a clip-plate, F.

The springs D D' D'' are of different length and curvature, and so arranged that the lowermost leaf is the longest, while the others are successively shorter.

Instead of the eyebolts E, I may secure the springs by means of the usual clips, as indicated in dotted lines in Fig. 1.

Between the stakes B is placed a spring-board, C, having notches on both ends to fit the said stakes, whereby said board is retained

in position. To the lower side of this spring-board I fasten a series of rubbing-plates, *d*.

The spring-board C rests upon the springs D; and, to avoid friction as much as possible, the said plates *d* are placed as described, so that the slightly-curved ends of said springs rest under the rubbing-plates *d*.

It will be readily understood that the leaf-spring D, being the longest, carries the spring-board until the wagon is loaded to depress the same sufficiently to reach the slightly shorter spring D', and finally the spring D''. In this manner the load is perfectly sustained by the springs and carried with a greater degree of elasticity than any other device with which I am acquainted.

It will be further observed that the springs D are plain leaf-springs, having no apertures, &c., to weaken them and cause breakage.

When a wagon provided with my set of springs is loaded, the springs will, when being deflected, bear upon the convex surface of the bed-piece A' in such manner that the heavier the load and the more the springs are depressed the further the springs will be supported by the said bed-piece, thus greatly increasing the carrying capacity of the springs without excessively bending them.

It is evident that any number of springs may be employed without departing from the spirit of my invention, I having shown and described a series of three leaf-springs because such a number will, in most cases, be found to be amply sufficient for all purposes.

Having thus fully described my invention, which, as will be plainly seen, can be carried into effect at but a trifling expense, but will considerably lessen the wear and tear of the vehicle, and relieve the horse or horses from the troublesome jolting when going over a rough road, &c., I claim as new and desire to secure by Letters Patent of the United States—

1. A wagon having its bolster A provided with the convex bearing-piece A', a series of independent differently-curved leaf-springs, D, and the spring-board C, the whole being

constructed and arranged in a manner substantially as and for the purpose specified.

2. The combination, with the bolster A and spring-board C, of a series of independent leaf-springs, D, said springs being arranged in relation to one another and the spring-board, as described, and secured to the bolster by the eyebolts or their equivalent E, as and for the object stated.

In testimony that I claim the foregoing as my invention I have hereto set my hand and affixed my seal in the presence of two subscribing witnesses.

JOHN KREHBIEL, M. D. [L. S.]

Attest:

MICHAEL J. STARK,
R. C. RENWICK.