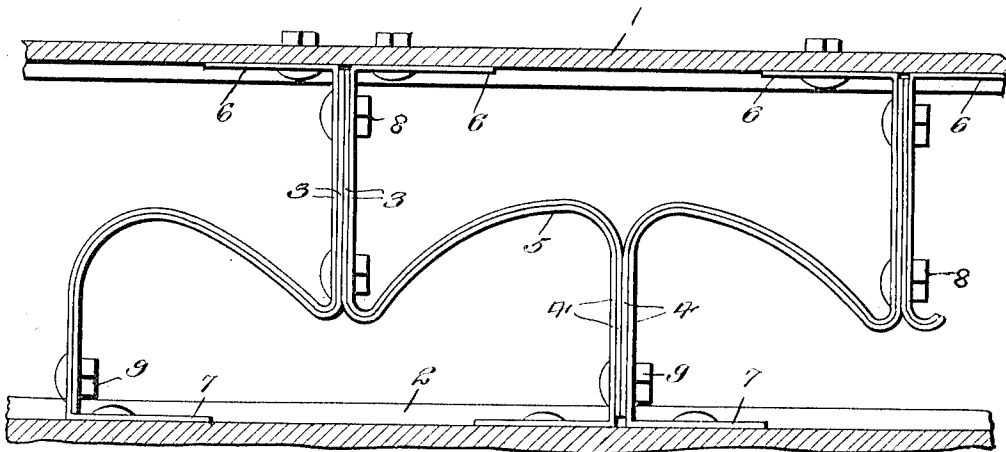


E. L. DEVORE.
SPRING FOR VEHICLES.
APPLICATION FILED JUNE 8, 1911.

1,064,057.

Patented June 10, 1913.



Inventor
E. L. Devore

Witnesses
Richard Bishop
R. H. Bishop

By

Hamsey, Attorneys.

UNITED STATES PATENT OFFICE.

ESPY L. DEVORE, OF AURELIA, IOWA.

SPRING FOR VEHICLES.

1,064,057.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed June 8, 1911. Serial No. 632,067.

To all whom it may concern:

Be it known that I, ESPY L. DEVORE, citizen of the United States, residing at Aurelia, in the county of Cherokee and State of Iowa, have invented certain new and useful Improvements in Springs for Vehicles, of which the following is a specification.

The present invention relates to cushioning springs for vehicle bodies, wagon and other seats, baby carriages, beds, couches, etc., and the invention aims to provide a novel form of spring of this type as well as to provide such an arrangement of the springs between two members to be cushioned as will adapt the upper one of the members to properly yield when pressure is applied to it at any point.

The invention contemplates the novel arrangement between a fixed member and a movable member to be cushioned with respect thereto, of a series of springs of the peculiar form embodying the present invention, in such manner that pressure upon the movable member at any point in its length will affect all of the springs, compressing some and expanding others, thereby securing a more perfect cushioning effect than would otherwise be the case.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing which shows a side elevation of an automobile chassis illustrating the arrangement of the springs of the present invention between the rails thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

In the drawing, the numeral 1 indicates the upper rail of the chassis which is of the ordinary channel form and 2 designates the bottom rail which is also of the ordinary form.

While the springs of the present invention are illustrated as arranged between the channel-rails of a chassis, it will be readily understood that they are not limited to such application and may be as readily arranged between any similarly-related fixed and movable members such as the body frame and seat of a couch, or the frame and body of a baby carriage.

Each of the springs embodying the present invention includes a stem 3, a stem 4, and an intermediate portion 5, the latter be-

ing of cyma form. The stems 3 and 4 project upwardly and downwardly from the intermediate portion. In arranging the springs between the members 1 and 2, they are assembled in pairs. The attaching ears 6 of the stems 3 are secured to the channel-rail 1 and the said stems 3 are detachably secured together, by suitable bolts 8. Assembled in this manner, the springs of each pair are relatively reversed and the attaching ears 7 projecting from the stems 4 are secured to the channel-rail 2. These stems 4 are secured together by bolts 9 and may be disconnected as in the case of the stems 3. Thus, the stems 3 of the springs of each pair are secured together and the stems 4 of the adjacent springs of the adjacent pairs are also secured together, a continuous series of springs being produced.

It will be observed that the bends between the intermediate portions of the springs and their stems 4 are less acute than the bends between their said intermediate portions and their stems 3 so that the connected stems 3 of the springs of each pair, in receiving the downward thrust of the channel-rail 1, transmit this thrust directly to the less acute bends between the intermediate portions of the springs and their stems 4. It will be understood that when one end of the rail 1 is depressed, one of the springs immediately beneath its said end will be compressed as will also the spring or springs immediately adjacent thereto, although to less degree, and the opposite end of the rail 1 will be elevated to a greater or less degree thereby expanding the springs located therebeneath. Due to the fact that the bends between the intermediate portions of the springs and their stems 4 are less acute than those between their said intermediate portions and their stems 3, and expansion of any of the springs due to upward pull being exerted upon their stems 3 must be laterally against the adjacent springs, greater resistance will be offered to the upward movement by the last mentioned end of the rail 1 than to the downward movement of its first mentioned end. It is because of this fact that depression of either end of the rail 1 will affect all of the springs.

Only one spring of each set is provided with the ears 6 and 7 which are disposed in overlapped relation throughout their entire lengths and held together by means of the bolts 8 and 9, one or more of the leaves

being removable for the purpose of adjusting the tension of the spring. This construction is clearly shown in the drawings.

It will be understood that if desired certain of the springs of the series may consist of several leaves, whereas other springs will embody but a single leaf so that certain portions of the vehicle may be supported to yield less readily to weight.

Having thus described the invention what is claimed as new is:—

The combination with upper and lower spaced members to be cushioned, of a series of springs arranged between the same and comprising leaves having intermediate portions of cyma form and terminal straight

portions forming oppositely projecting stems, the straight portions of adjacent springs being secured together, the extremities of the straight portions of some of the leaves being extended laterally and secured respectively to the upper and lower spaced members and the straight portions of the other leaves terminating short of said laterally extended extremities.

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

ESPY L. DEVORE. [L. s.]

Witnesses:

J. A. JOHNSON,

A. C. MEIER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."