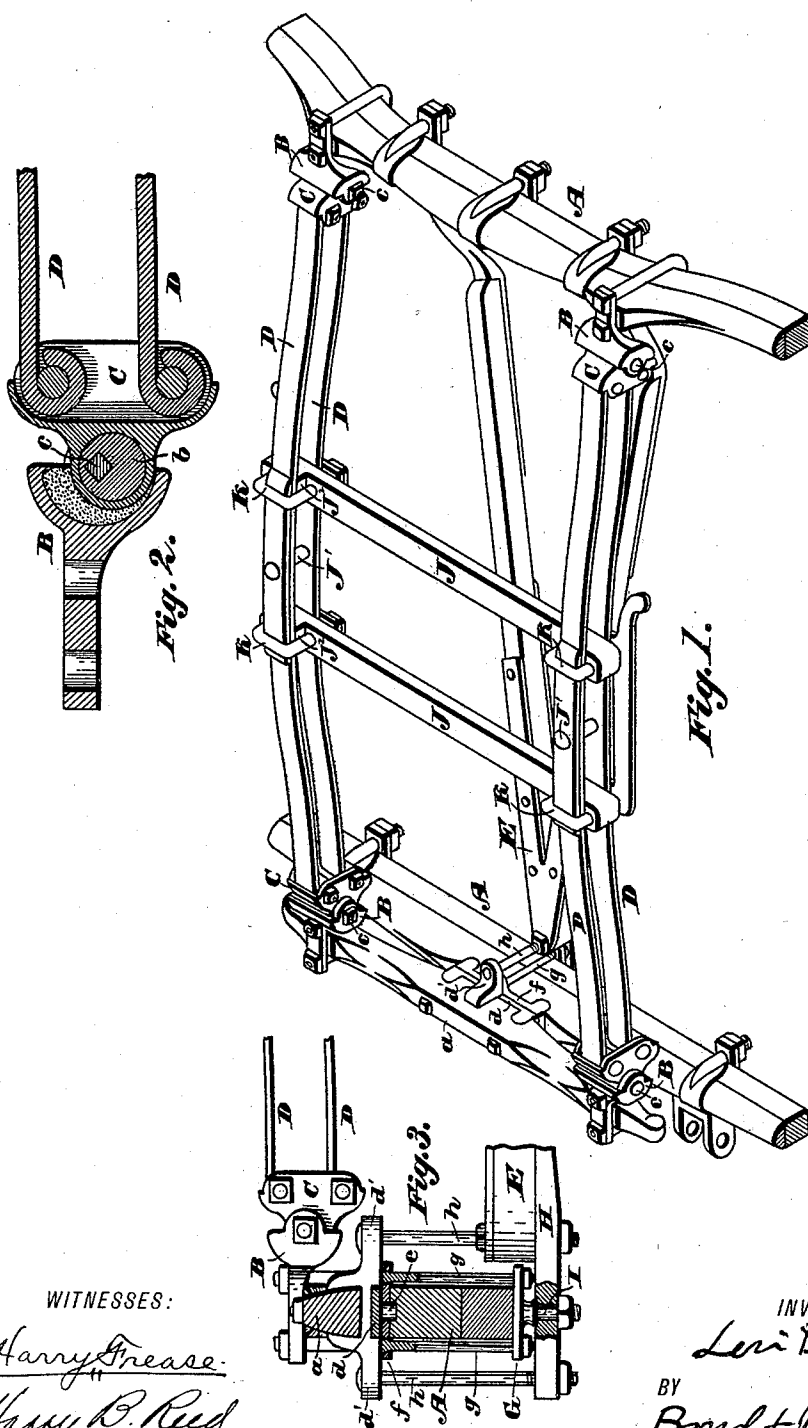


(No Model.)

L. PENTZ.
VEHICLE SPRING.

No. 390,250.

Patented Oct. 2, 1888.



WITNESSES:

Harry Grease.
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UNITED STATES PATENT OFFICE.

LEVI PENTZ, OF CANTON, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 390,250, dated October 2, 1888.

Application filed December 22, 1887. Serial No. 258,756. (No model.)

To all whom it may concern:

Be it known that I, LEVI PENTZ, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is an isometrical view. Fig. 2 is a longitudinal section of the spring-connection. Fig. 3 is a transverse section through the front axle at its center, showing the front end of the reach and one set of springs properly located.

The present invention has relation to vehicle-springs; and it consists in the different parts and combination of parts, hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the axles, which are constructed in the ordinary manner.

To the rear axle A and to the bolster *a* are securely attached the sockets B, said sockets being located and adjusted substantially as shown in Fig. 1. To the sockets B are bolted the heads or blocks C, and to the said heads or blocks are attached the ends of the springs D, substantially as shown in Fig. 2. The heads or blocks C are each provided with the ferrule *b*, said ferrule being located substantially as shown in Fig. 2. The apertures through which the connecting-bolts *c* pass are located to one side of said ferrules for the purpose of forming eccentric movement as the springs D vibrate, thereby lengthening and shortening the coupling of the springs D without changing the distance of the axles A, thereby permitting said axles to be securely held the desired distance apart by means of the reach E. The reach E is formed in two pieces, if desired, said pieces being located substantially as illustrated in Fig. 1; or, if preferred, this reach may be formed of a single piece. To the bottom or under side of the bolster *a* is securely attached the metal plate *d*. This plate is provided with the extensions

or arms *d'*, which are for the purpose herein-after described. The plate *d* is also provided with the pin *e*, which is preferably formed integral with said plate. This pin *e* extends through the plate *f*, as illustrated in Fig. 3. To the bottom or under side of the front axle is attached the bar G, said bar being held in proper position by means of the clamping-bolts *g*. The top or upper ends of the clamping-bolts *g* extend through the plate *f*. The heads of said clamping-bolts are so adjusted that they will not interfere with the movements of the axle A or bolster *a*. For the purpose of securely binding or clamping the bolster *a* and the front axle A together the clamping-bolts *h* are provided. Said clamping-bolts *h* pass through the extensions or arms *d'* and the reach-iron H. The inner clamping-bolt, *h*, passes through the front end of the reach E, substantially as illustrated in Figs. 1 and 3. The plate or bar G is provided with the pin or bolt I, which passes through the reach-iron H, substantially as illustrated in Fig. 3. This bolt I and the pin *e* form the pivotal connection between the front axle A and the bolster *a*.

It will be seen that as the springs D vibrate the heads C can turn or rock on the ferrules *b*, thereby lengthening and shortening the coupling of said springs D, in addition to the change of length produced by the eccentric ferrules *b*.

The springs D are formed in pairs, and are located one above the other, substantially as shown in Fig. 1, said springs being held the desired distance apart by the cross-bars J and the rivets J'. The cross-bars J are securely held in proper position by means of the clamping-clips K, as illustrated in Fig. 1. If desired, rubber or like elastic material may be placed between the sockets B and the blocks C, as illustrated in Fig. 2, said elastic material being for the purpose of preventing rattling.

It will be seen that by my peculiar manner of attaching the springs D to the vehicle proper I am enabled to provide what is known as "side-bar springs," and at the same time connect the axles A together with a reach, thereby causing the wheels to properly track. The cross-bars J are provided with the shoulders J', which are for the purpose of setting the top of said cross-bars below the top of the springs D.

Having fully described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The springs D, attached to the heads or blocks C, and the sockets B, having attached
5 thereto the eccentric ferrules *b*, substantially as set forth.

2. The springs D, formed in pairs and attached to the pivotally-connected heads or blocks C, the sockets B, provided with the ferrules *b*, the reach E, and the axles A, substantially as and for the purpose specified.
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3. The springs D, formed in pairs, and one of each pair located one above the other, and the ends of said springs attached to the heads
15 or blocks C, said heads or blocks being pivot-

ally attached to the sockets B, and the reach E, connected to the axles A, substantially as and for the purpose specified.

4. The heads or blocks C, having attached thereto the springs D, the sockets B, provided
20 with elastic packing, and the ferrules *b*, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LEVI PENTZ.

Witnesses:

H. H. PENTZ,

CHARLIE PENTZ.