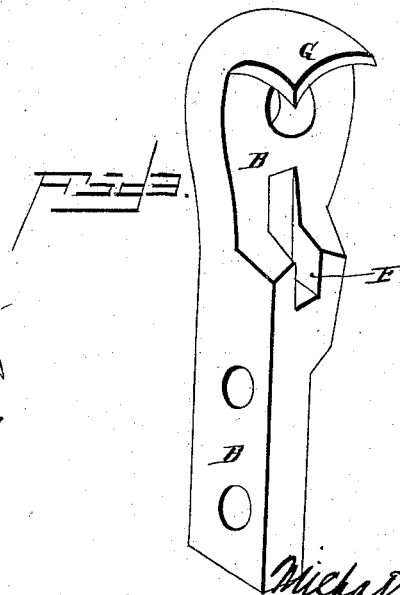
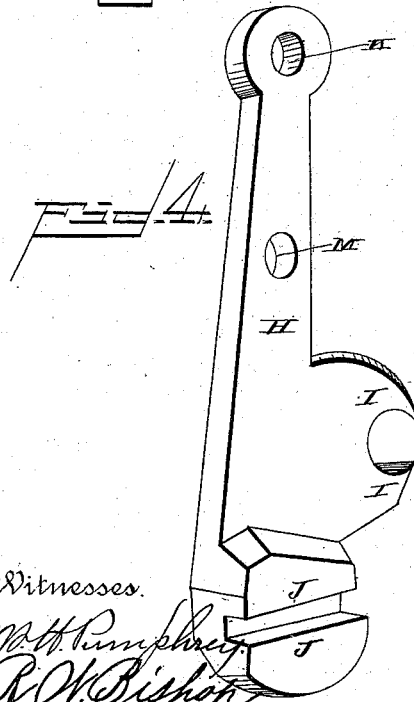
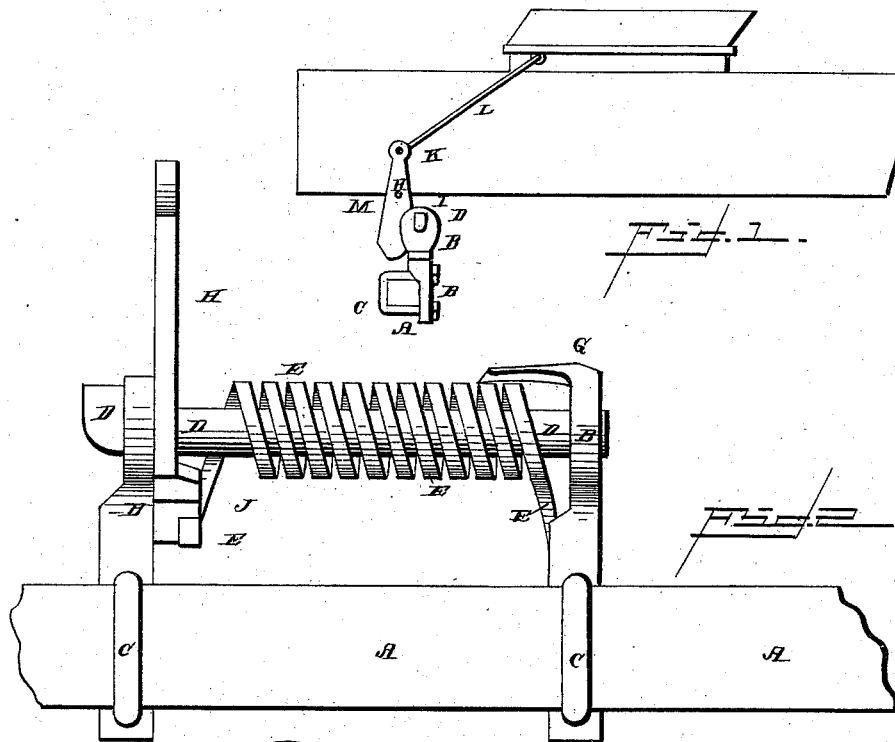


(No Model.)

M. BALTES.
WAGON SPRING.

No. 382,290.

Patented May 8, 1888.



Witnesses.

W. H. Humphrey
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Inventor.

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By *his* Attorneys.

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UNITED STATES PATENT OFFICE.

MICHAEL BALTES, OF PLEASANT PRAIRIE, WISCONSIN.

WAGON-SPRING.

SPECIFICATION forming part of Letters Patent No. 382,290, dated May 8, 1888.

Application filed July 29, 1887. Serial No. 245,620. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL BALTES, a citizen of the United States, residing at Pleasant Prairie, in the county of Kenosha and State of Wisconsin, have invented a new and useful Improvement in Wagon-Springs, of which the following is a specification.

My invention is an improvement in carriage and wagon springs; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation showing my improved spring applied to a carriage. Fig. 2 is a front elevation of the spring detached. Fig. 3 is a detail perspective view of one of the clip-arms, and Fig. 4 is a detail perspective view of the lever.

Referring to the drawings by letter, A designates the axle of a carriage or wagon, to which at proper distances apart are secured the clip arms B, by means of the clips or U-shaped bolts C. These clip-arms project upward from the axle, and in their upper ends I secure a bolt or rod, D, which extends between the same, and around which the spring E is coiled. One of the clip-arms B is provided with a notch, F, in which one end of the spring E is secured, and at its end this clip arm is provided with the inwardly-projecting cap or flange, G, which fits around or over the spring, so as to prevent its uncoiling to such an extent as to draw the end from the notch F.

H designates a lever provided with a notched offset, I, which fits around the bolt D, and thereby fulcrums the lever on the same. The lower end of this lever is provided with the lugs J, between which the end of the spring is inserted, and the extremity of this end of the spring is made hook-shaped or bent around one of the said lugs to prevent withdrawal. In its upper end the lever is provided with an opening, K, in which one end of a rod, L, is secured, the other end of the rod being secured to the seat. A short distance below this opening K the lever is provided with an opening, M, for the attachment of the floor of the carriage.

From the foregoing description it will be seen that the entire carriage or wagon body is supported by the springs, and the weight of the same taken off the axles, thus relieving the horse as well as the driver of the jar caused by irregularities in the road-bed. Should a spring break, the carriage-body will

not be precipitated to the ground, but its descent will be limited by the lever, which will rotate only until it is stopped by the axle. Two springs are provided for each axle, one near each end, and the carriage-body is supported between them, as shown.

The device is cheap, simple, and efficient, and broken parts can be easily replaced.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the wagon-axles, the springs mounted thereon, the levers connected to the springs, the wagon-body secured to the levers, the seat, and the rods L, connecting the seat with the levers, substantially as specified.

2. The combination, with the axle, of the clip-arms, the spring coiled around the said rod and having one end connected to one of the clip-arms, the lever having a notched offset, I, engaging the rod D, and having one end of the spring secured to its lower end, and the wagon-body and seat having independent connections with the lever, as set forth.

3. The combination of the axle, the clip-arms secured thereto, one of said clip-arms being provided with the notch F, and the inwardly-projecting cap or flange G, the rod D, secured between the clip-arms, the spring coiled around the rod D, and having one end fitted in the notch F, and the lever fulcrumed on the rod D and adapted to be secured to the wagon-body and seat, and having one end of the spring secured to its lower end, substantially as set forth.

4. The combination of the axle, the clip-arms secured thereto, the rod D, secured between said clip-arms, the lever fulcrumed on said rod and provided with the lugs J at its lower end, the spring coiled around the rod D, and having one end secured to one of the clip-arms and its other end fitted between and secured to the lugs J of the lever, and the wagon-body and seat having independent connections with the lever, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MICHAEL BALTES.

Witnesses:

NICKOLAS BALTES,
OTTO MICHELSON.