(No Model.)

T. F. McKEE.

VEHICLE SPRING.

No. 476,062. Patented May 31, 1892.

Fig. 1.

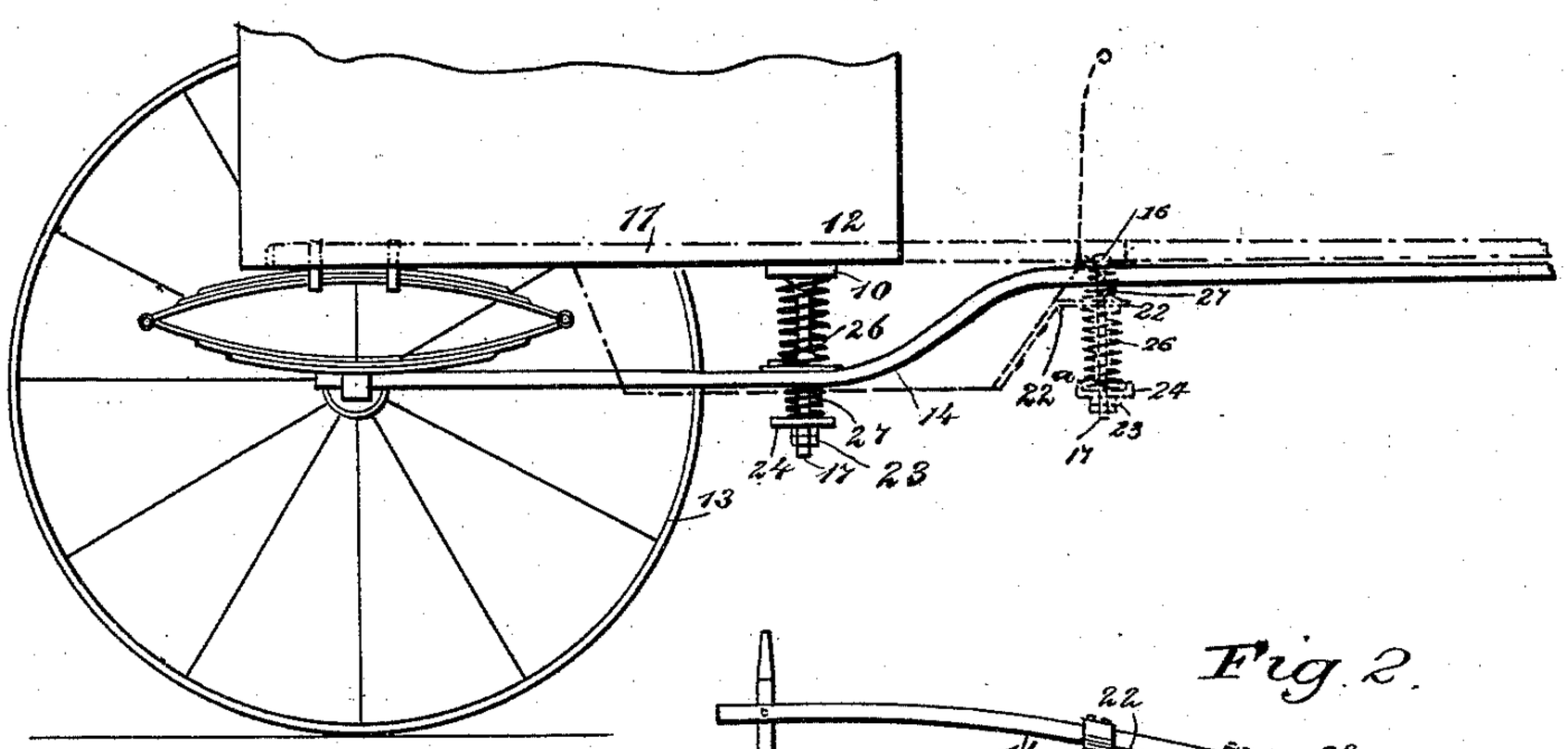


Fig. 2.

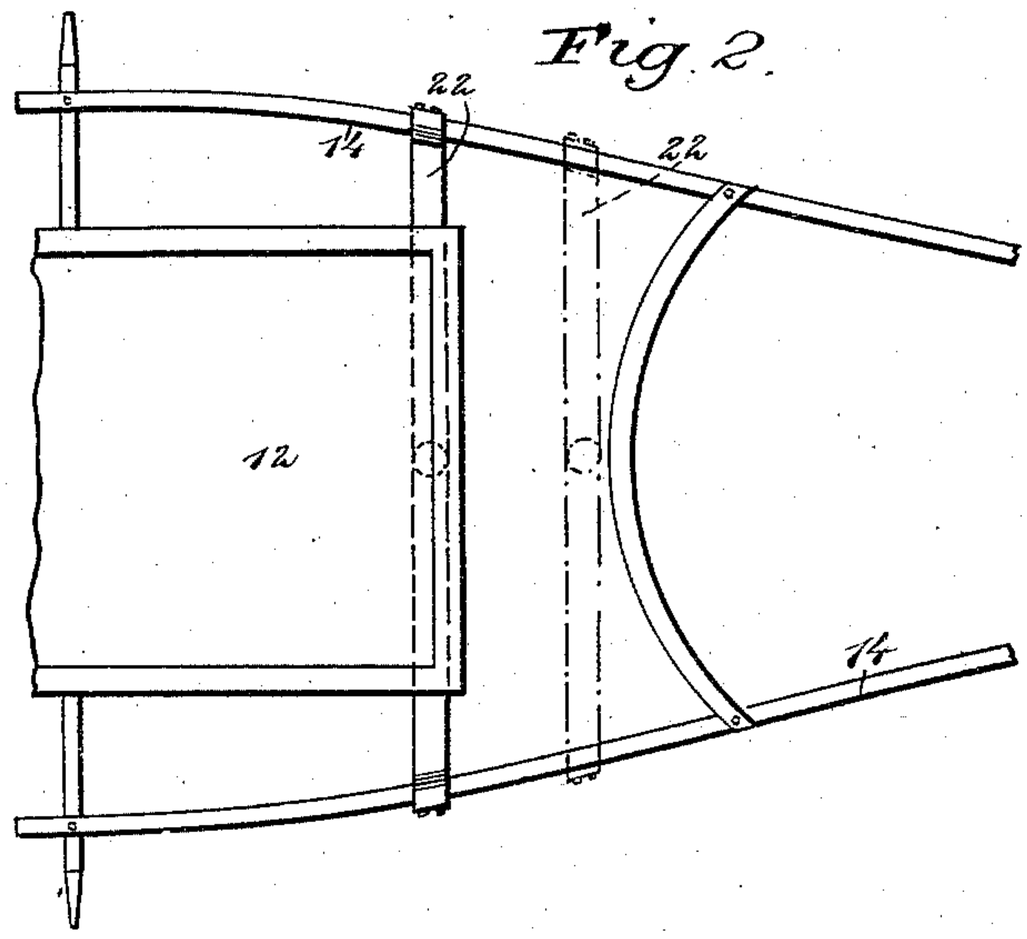
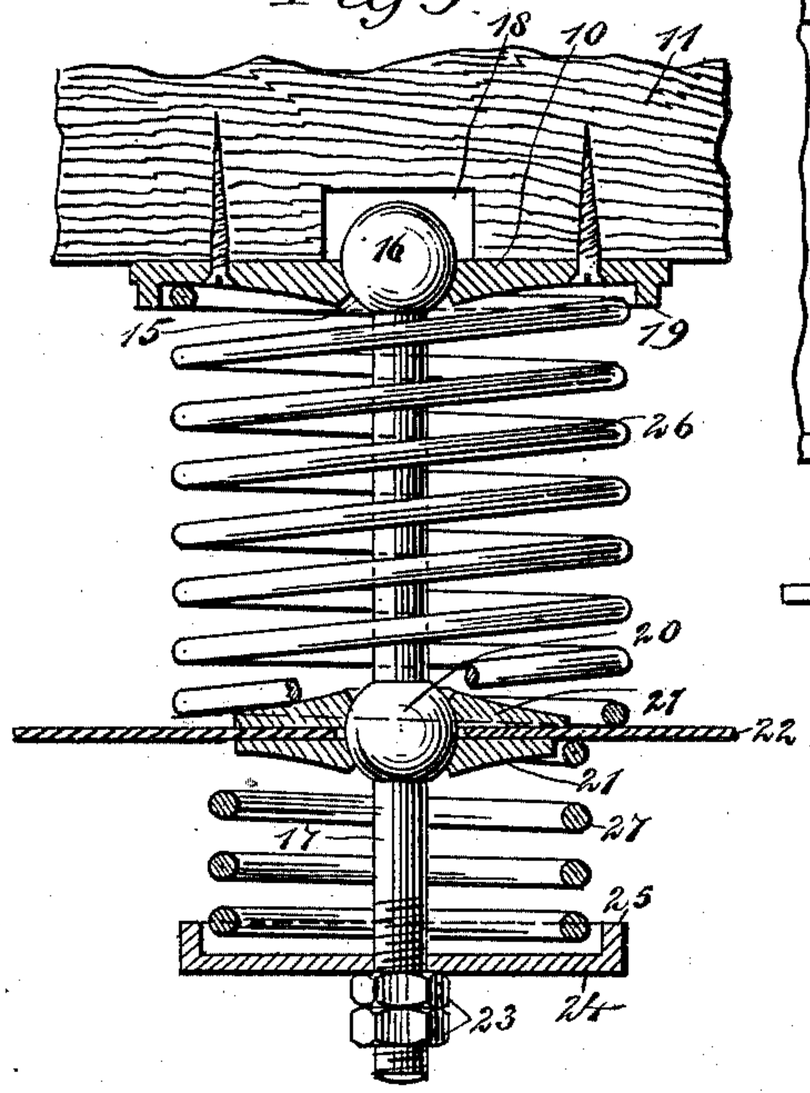


Fig. 3.



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THOMAS F. McKEE, OF BLOOMVILLE, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 476,062, dated May 31, 1892.

Application filed August 24, 1891. Serial No. 403,546. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. MCKEE, of Bloomville, in the county of Seneca and State of Ohio, have invented a new and Improved Vehicle-Spring, of which the following is a full, clear, and exact description.

My invention relates to improvements in vehicle-springs, and especially to that variety of springs which are adapted for use on two-wheeled vehicles—such, for instance, as road-carts. An objection to these vehicles is that when constructed in the ordinary manner they jolt badly when driven over an uneven road, and the motion of the horse is transmitted to the vehicle-body to the great discomfort of the riders.

The object of my invention is to obviate these difficulties by producing a spring attachment for connecting the front end of the vehicle-body with the shafts, which attachment will take up or absorb the movements of the horse and running-gear, so that the body will move smoothly and easily along.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken side elevation of a road-cart provided with my improved spring attachment. Fig. 2 is a broken plan view of the same. Fig. 3 is an enlarged detail view, partly in section, of the attachment, showing the manner in which the spring is secured to the vehicle-body.

The attachment is provided with a fastening-plate 10, which is secured to the under side of the front sill 11 of the vehicle-body 12, if the body happens to be a box-body, and this body is mounted in wheels 13, and the vehicle is provided with the usual shafts 14. The plate 10 is provided with a central aperture 15, the upper side of which is concaved, so that the round head 16 of the king-bolt 17 will fit nicely therein, and the aperture is large enough so that the king-bolt may swing in any direction. The sill 11 is recessed, as shown at 18, above the plate 10, so as to provide room for the free movement of the head 16 of the king-bolt, and the king-bolt is thus secured to the fastening-plate by a ball-joint. The plate 10 has on the under side near the edge a depending flange 19, which forms a central seat to receive the carrying-spring, as described below. The king-bolt 17 extends downward through another ball 20, through which it may move vertically, and this ball is held in clamping-plates 21, which plates are secured to a cross-bar 22, extending from shaft to shaft beneath the front end of the vehicle-body. If desired, these clamping-plates 21 and the fastening-plate 10 may be made in two pieces, so that as the joint wears the abutting faces of the plates may be filed off so as to maintain a perfect fit on the ball. The lower end of the king-bolt 17 is threaded and provided with nuts 23, by means of which a plate 24 may be adjusted on the king-bolt, and this plate is provided on the upper side with an annular flange 25, thus forming a seat for the adjusting-spring. A spiral carrying-spring 26 is placed around the king-bolt between the fastening-plate 10 and the clamping-plates 21, and this spring has its upper end secured in the seat of the fastening-plate, so that it may not be easily displaced.

Around the lower end of the king-bolt is an adjusting-spring 27, which is placed between the under side of the clamping-plates 21 and the plate 24, and the tension of the springs may be adjusted by means of the nuts 23. The lower spring 27 has a tendency to counteract the reaction of the spring 26, and serves as a cushion, so that the front end of the vehicle-body will be in reality provided with a double spring, which prevents it from being moved violently up or down. It will be understood that this spring provides for all necessary movement of the vehicle-body in relation to the shafts, and the rear end of the vehicle-body may be supported on any of the ordinary forms of springs.

In Figs. 1, 2, and 3 I have shown the spring attachment as applied to a piano-box road-cart; but where a phaeton-body is used, as shown in dotted lines at 12^a in Fig. 1, the springs are inverted. The fastening-plate 10 is secured to the under side of the cross-bar 22, which in this case is placed immediately

behind the singletree, as shown in dotted lines in Fig. 2, and the body 12ª is secured to the clamping-plates 21 by means of a strap 22ª, extending from the ends of the body between the clamping-plates, as shown by dotted lines in Fig. 1.

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

1. The vehicle-spring herein described, comprising an attaching-plate having a socket, a bolt extending through the socket and having a ball working therein, a spring encircling the bolt, a second attaching-plate through which the bolt freely passes, and a second spring on the bolt between said second plate and a plate on the lower end of the bolt, substantially as set forth.

2. A spring attachment for vehicles, comprising an apertured fastening-plate adapted to be secured to a vehicle, a king-bolt attached to the fastening-plate by a ball-joint, clamping-plates adapted to be secured to a support and connected with the king-bolt by a ball-joint, a spiral spring arranged between the clamping-plates and the fastening-plate, and an adjusting-spring arranged between the clamping-plates and a plate on the free end of the king-bolt, substantially as described.

3. The combination, with the vehicle-body, the vehicle-shafts, and the cross-bar on the shafts, of an apertured fastening-plate secured to the body and provided with a seat on the under side, a king-bolt secured to the fastening-plate by a ball-joint, clamping-plates secured to the cross-bar and to the king-bolt by a ball-joint, a spiral spring held between the clamping-plates and the fastening-plate, a flanged plate mounted adjustably on the free end of the king-bolt, and a spring arranged between the flanged plate and the clamping-plates, substantially as described.

THOMAS F. McKEE.

Witnesses:
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