No. 865,259. PATENTED SEPT. 3, 1907.

G. W. LOEFFLER.

VEHICLE SPRING.

APPLICATION FILED MAR. 2, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

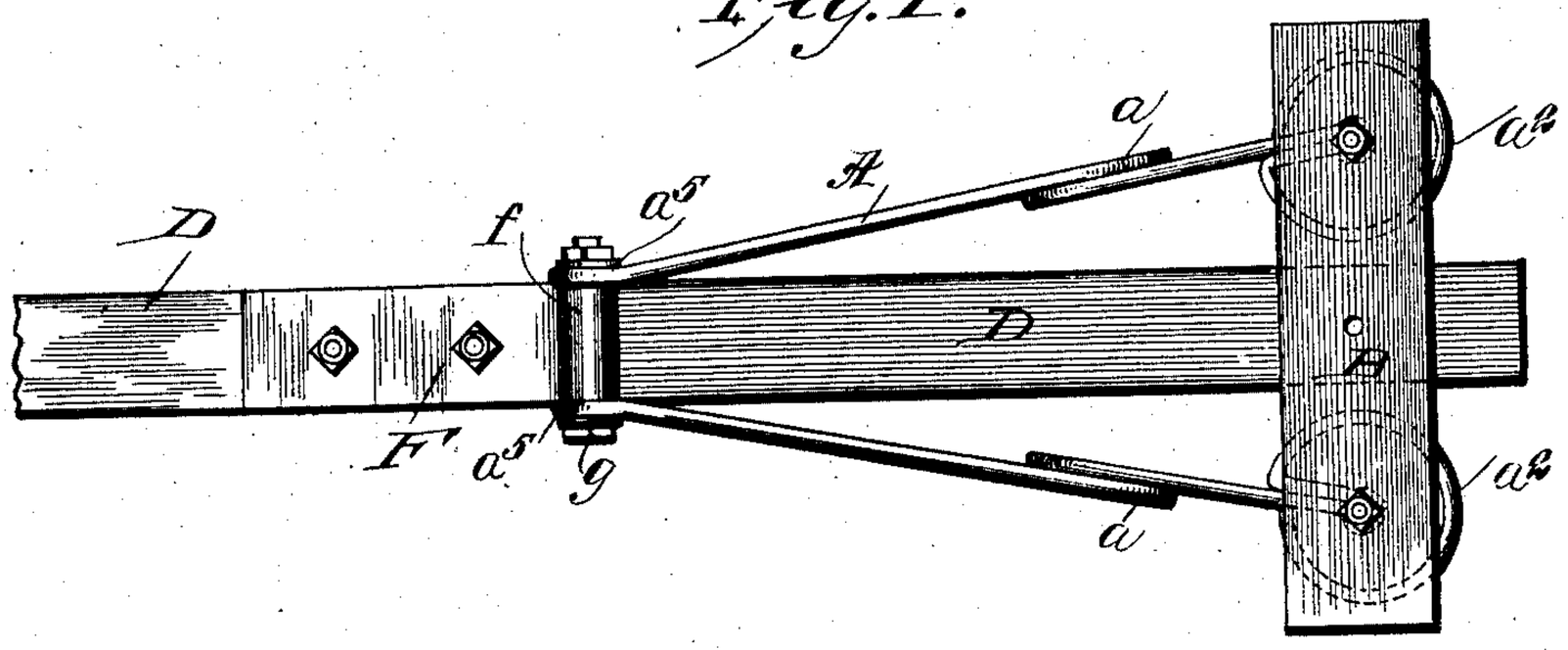


Fig. 2.

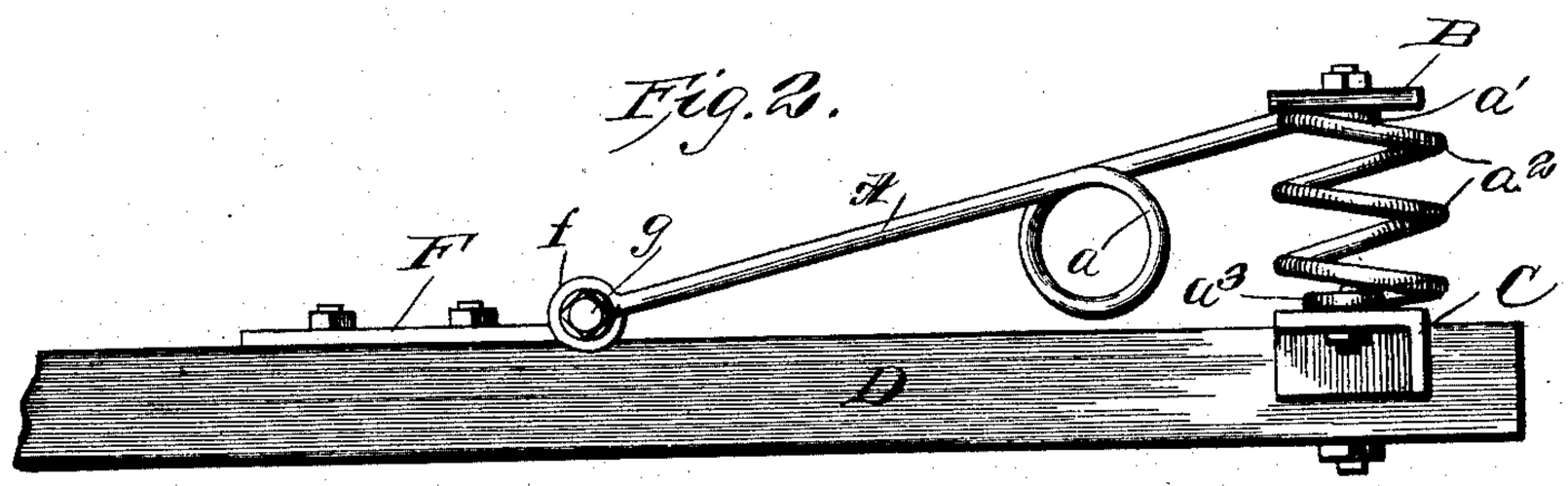
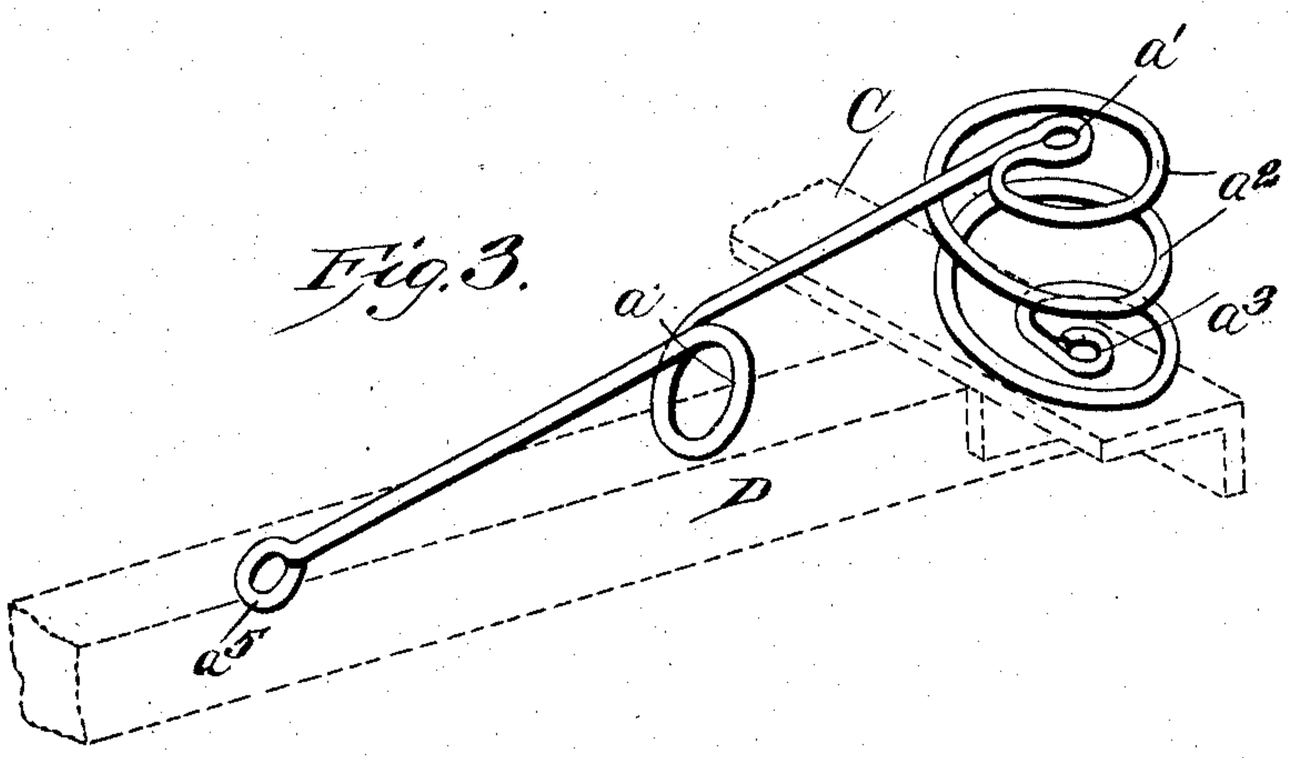


Fig. 3.



WITNESSES

E. P. Callaghan.

Geo. L. Brock.

INVENTOR

GUSTAV W. LOEFFLER

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ATTORNEYS

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Fig. 4.

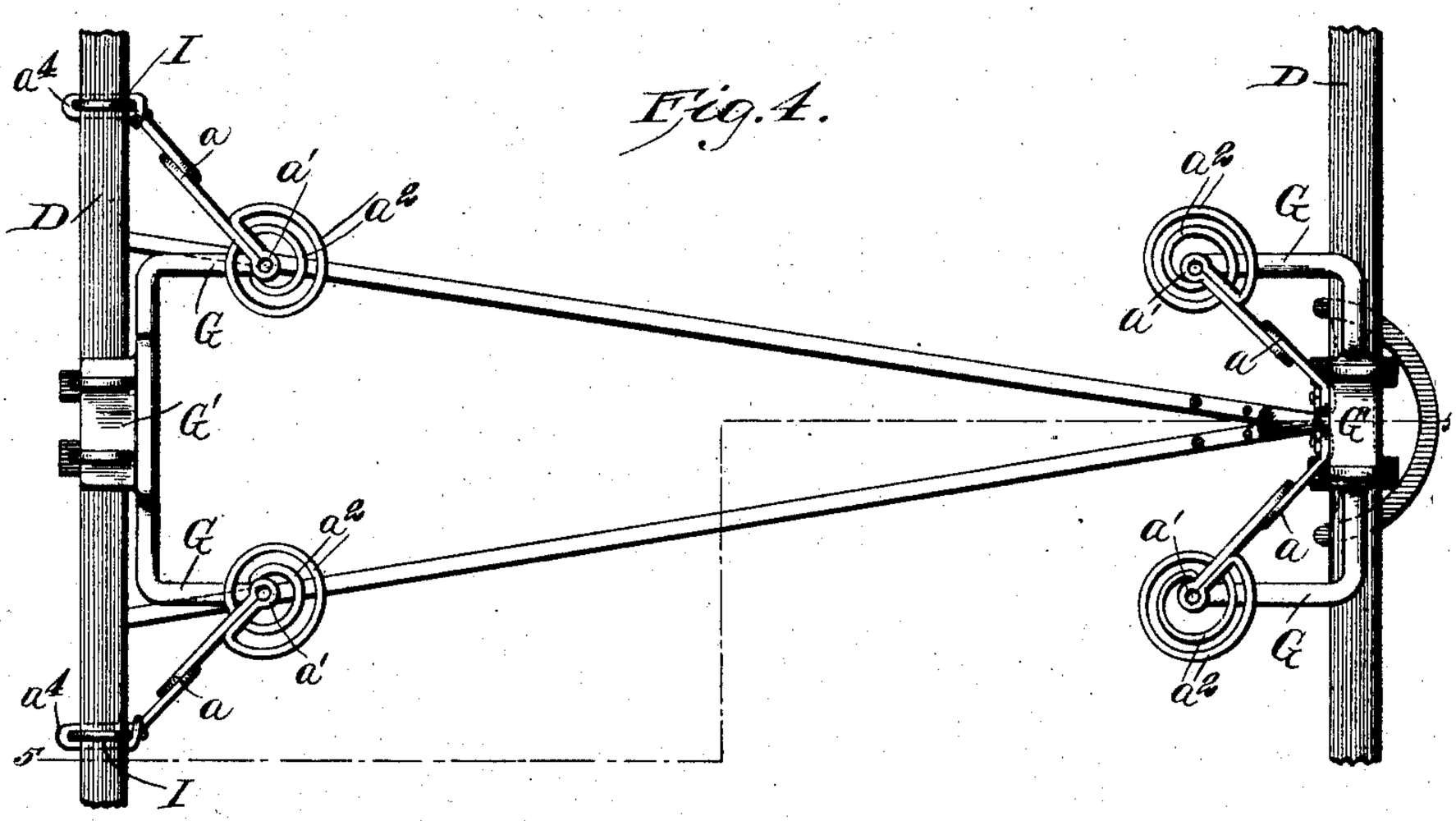


Fig. 5.

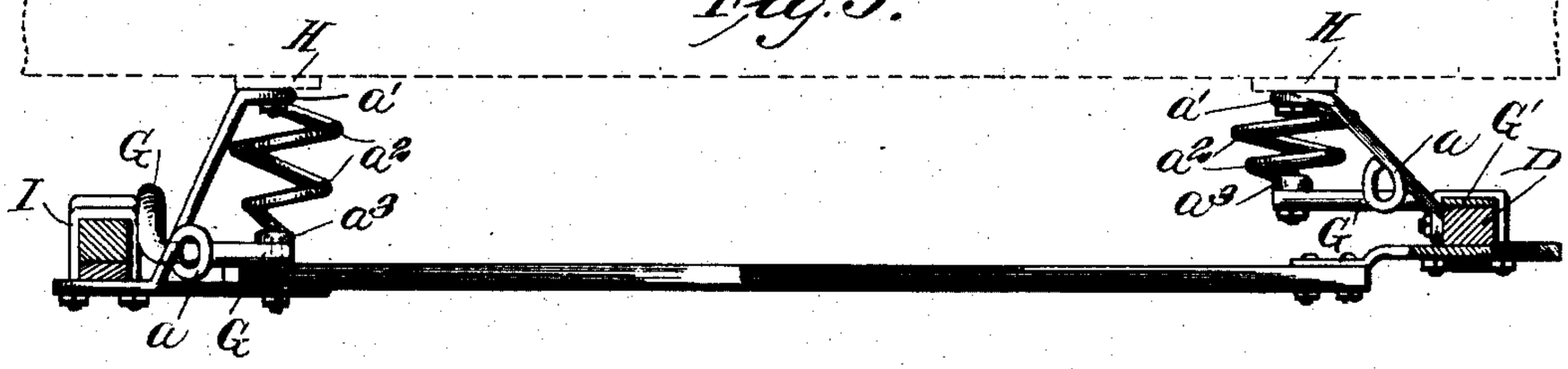
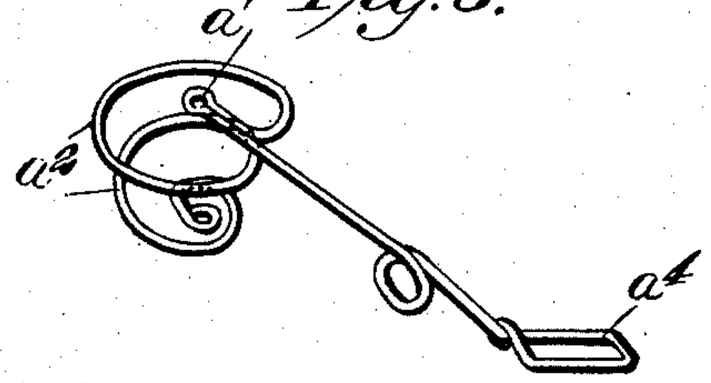


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

GUSTAV W. LOEFFLER, OF TAMPA, FLORIDA.

VEHICLE-SPRING.

No. 865,259. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed March 2, 1907. Serial No. 360,131.

To all whom it may concern:

Be it known that I, GUSTAV W. LOEFFLER, a citizen of the United States, and a resident of Tampa, in the county of Hillsboro and the State of Florida, have invented a new and useful Improvement in Vehicle-Springs, of which the following is a specification.

The springs embodying my invention are formed of a steel bar or rod, a portion of which is formed into a head consisting of a series of horizontal spiral coils, and a part extending therefrom, said part having an intermediate vertical coil, and the ends of the bar so formed provided with means for attaching to the vehicle body and axle respectively.

My invention therefore consists of certain novel features of construction, arrangement, and combination of parts as will be hereinafter fully described and pointed out in the claims, reference being had to the accompanying drawings, in which

Figure 1 is a top plan view showing manner of securing the springs to an axle and bolster-plate. Fig. 2 is a side view of same. Fig. 3 is a perspective view of one of the members of the spring device. Fig. 4 is a top plan view showing another application of my springs for supporting a buggy body. Fig. 5 is a sectional elevation of the same taken on line 5—5 of Fig. 4, and Fig. 6 is a perspective view of a spring member showing a modified form of inner end of same.

In carrying out my invention I construct the springs of a bar of steel A, having the coil *a* formed to give a lever action and at the outer end bend it back on itself to form an eye a^1 by which it is bolted to the under side of a plate B, as shown in Figs. 1 and 2, I then form the coils a^2 below the eye a^1, and form the extreme lower end into another eye a^3 by means of which it may be bolted to a plate C, of angle-iron which is to be bolted or otherwise suitably secured to the axle bed D, or other part of the running gear. At each end of the axle the springs are to be applied and consists of the two similar members like the one shown in Fig. 3, secured at their inner ends to the axle as shown in Figs. 1 and 2 by means of the plate F. The body of the vehicle rests on the plate B, it being understood that each axle is to be provided with a set of springs at or near its outer end, or the body may rest on bolsters resting on plates B.

As stated the inner ends of the springs are secured to the axle by plate F, said plate being secured to the axle and having its end turned back to form a tube *f* through which a bolt *g*, which also passes through the eyes a^5 at the inner ends of the springs, passes.

In Figs. 4 and 5 I have shown how my improvement may be applied to support a buggy body; in this embodiment of my improvement, the springs at the lower ends of their coils are bolted to the outer ends G, of a hanger G^1 which is bolted to the axles, said hangers projecting inwardly at their outer ends; the upper ends of the springs, that is, the eyes a^1, are secured to plates H, upon which the body of the buggy rests, as indicated by dotted lines in Fig. 5, while the inner ends, or the ends carrying the eyes a^5 are secured to the axle. In Fig. 6 I have shown a method of forming the eye at said end, and in this form the eye is formed by bending the end of the rod to form an elongated loop a^4, which lies under the axle, as shown in Fig. 4, and is clamped thereto by a clip I, secured to the axle by nuts in the usual way.

By forming the vertical coil *a* in the spring members between the end which is fastened to the axle and the head that is fastened to the plate B, which is to receive the bolster or spring bar, as the case may be, and disposing said coil at substantially a right angle to the plane of the soils a^2 I secure a double acting spring, said coil acting to give a lever action.

In the embodiment of my improvement shown in Figs. 4 and 5 in which the springs are secured to hangers G^1, the arrangement of the means of fastening the free end of the springs to the axle is varied. Thus at the front axle the said ends provided with the eye a^5 are bolted to the inside of the axle at or near the central portion thereof, the eye a^3 being secured to the end of inwardly projecting arms of the front hanger. At the rear axle the eye a^3 is also secured to the inwardly projecting arms of the rear hanger, but the free end of the spring is carried outwardly toward the wheel ends of the axle and clipped to the axle, as shown in Fig. 4, by the eye a^4, shown in Fig. 6. This arrangement of the springs and attachments gives desirable results.

I claim:

1. A vehicle spring comprising a head composed of horizontal coils a part extending from the same, and provided at its end with means for attachment to the running gear, said part provided with an intermediate vertically disposed spring coil, and means for attaching the head to the body of the vehicle.

2. A spring for vehicles comprising a continuous bar, bent to form an intermediate vertical coil, an eye at the outer end of said bar, a series of horizontal coils below said eye, and an eye at the lower end of said horizontal coils.

3. A vehicle spring consisting of a bar having at its inner end means for attachment to an axle, an intermediate vertical coil, a horizontally disposed eye at the upper end of the bar for attachment to a vehicle body or bar, a series of horizontal coils below said eye, and an eye at the lower end of said horizontal coils for attachment to the axle of the vehicle.

4. The combination with an axle, a bolster or plate, of a spring comprising a head composed of horizontal coils, a part extending from same and provided at its ends with means for attachment to the axle, said part provided with an intermediate vertical spring coil, and means for attaching the head to the said bolster or plate, and axle.

5. The combination with an axle and a body hanger, secured thereto, of a spring comprising a head composed of horizontal coils, a part extending from the same and provided at its end with means for attachment to the axle, said part provided with an intermediate vertically disposed spring coil, and means for securing the head member to the hanger ends and to the body of the vehicle.

GUSTAV W. LOEFFLER.

Witnesses:
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