(No Model.)

# B. A. TREAT.

## SPRING VEHICLE.

No. 360,787. Patented Apr. 5, 1887.

Fig 1

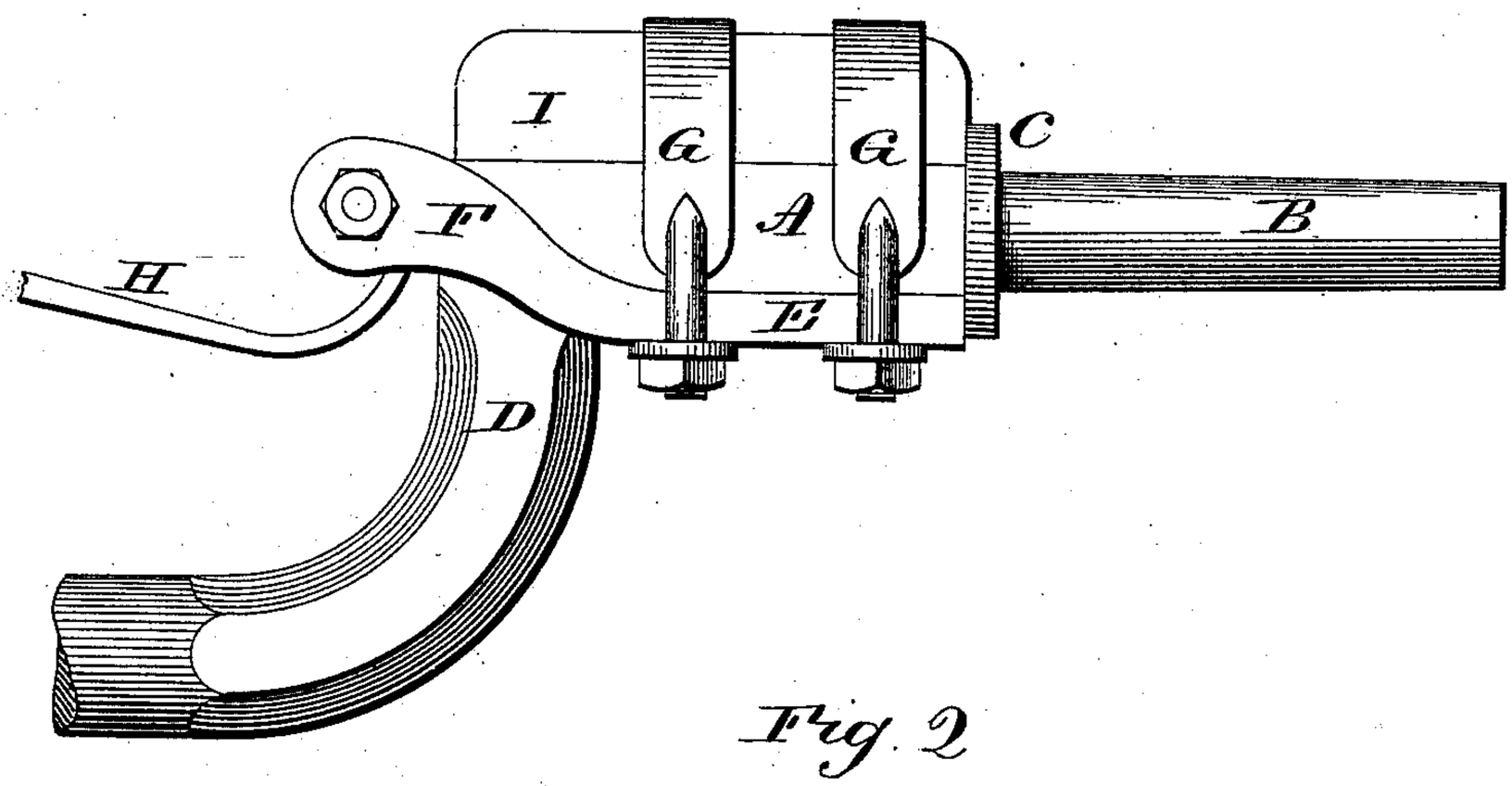



Fig. 2

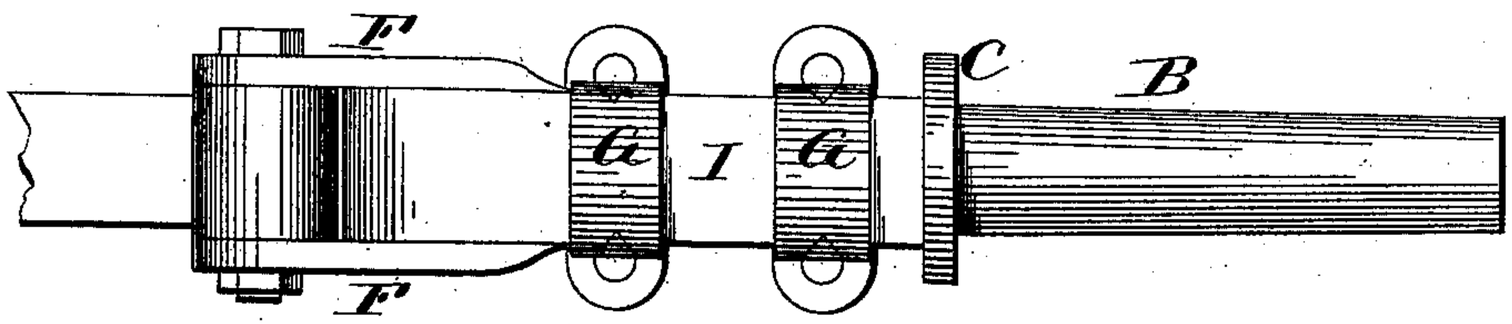
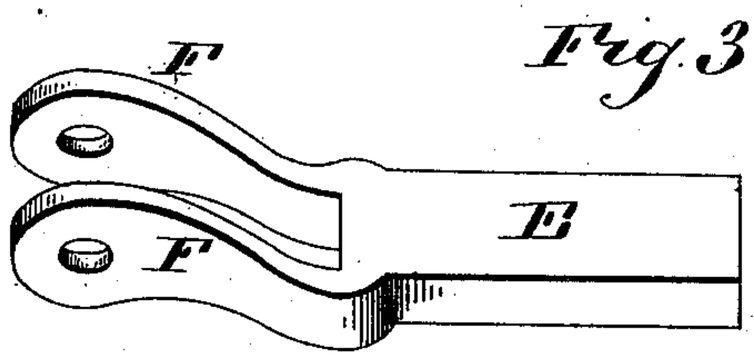



Fig. 3

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# UNITED STATES PATENT OFFICE.

BRYANT A. TREAT, OF WALLINGFORD, CONNECTICUT.

## SPRING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 360,787, dated April 5, 1887.

Application filed January 24, 1887. Serial No. 225,250. (No model.)

*To all whom it may concern:*

Be it known that I, BRYANT A. TREAT, of Wallingford, in the county of New Haven and State of Connecticut, have invented a new Improvement in Spring-Vehicles; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of one end portion of an axle with the improvement applied; Fig. 2, a top view of the same; Fig. 3, a perspective view of one of the spring-plates detached.

This invention relates to an improvement in that class of spring-vehicles in which downward bends are made on the axles between the wheels, and so that the spring may hang within the bends, and thereby permit the body of the carriage to hang lower than it can do on straight axles. In a common construction of this class of vehicles a plate is arranged at each end of the axle, extending inward over the bend, and to the end of this plate the corresponding end of the spring is hung. The plates are secured to the axles by clips. The transverse strain upon these plates is so great that they are frequently thrown out of place or line of the axle, the plate depending upon the clips to hold them in proper alignment.

The object of my invention is to more firmly hold the plate than can be done by the clips alone.

To this end my invention consists in arranging the plate beneath the axle, and between the collar and bend, with a pair of arms extending from the inner end, one each side the axle, and to a point beyond the bend, the spring being hung to the said arms. The arms taking a bearing against the respective sides of the axle, take all the transverse strain for the support of the springs, and entirely relieve the clips from such transverse support.

In illustrating the invention I show only one bend of the axle, both ends being alike.

A represents the axle, constructed at its outer ends with the usual arms, B, and collars C. The downward bend D in the axle is made in the usual manner, and is a short distance from the collar. The spring-support consists of a plate, E, (see Fig. 3,) corresponding in width to the width of the axle, and in length should correspond substantially to the distance between the collar C and the bend beneath the axle. At its inner end the plate is constructed with two arms, F F, formed as a part of the plate, corresponding in thickness to the width of the axle, and of a length so that when applied to the under side of the axle they will extend inward beyond the bend, or to the point where it is desirable to attach the spring.

The spring-plate is set beneath the axle, the two arms passing inward and upward, one each side the axle, as seen in Figs. 1 and 2. It is secured in place by the usual clips, G G. The spring H is hung to the arms F in the usual manner for hanging springs of this character.

The clips sustain the spring-plate against the weight suspended thereon; but the arms F F bear against the axle and resist any transverse strain which may be brought upon the spring. Because the arms hold the plate against transverse movement, it is impossible for the plate to be thrown out of its proper position.

The arrangement of the spring-plate below the axle permits the application of a wood top, I, directly to the axle, and gives it the appearance of the usual wood-capped axle.

I claim—

The combination of the bent axle and spring of a carriage, with a plate, E, hung beneath the axle outside the bend, the said plate constructed with arms F F, extending inward, one each side the axle, the spring hung between said arms, substantially as described.

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Witnesses:

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