No. 684,350. Patented Oct. 8, 1901.

# W. I. BUNKER.

## SPRING FOR BICYCLE SADDLES.

(Application filed Mar. 13, 1899.)

(No Model.)

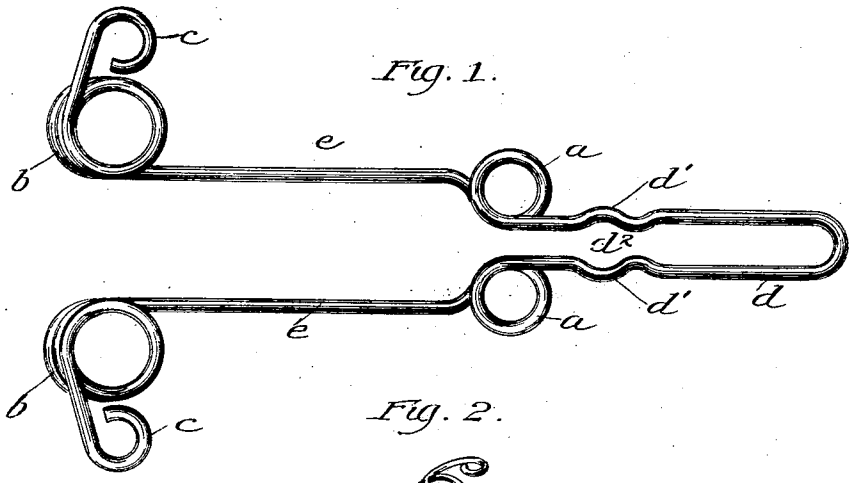



Fig. 1.

Fig. 2.

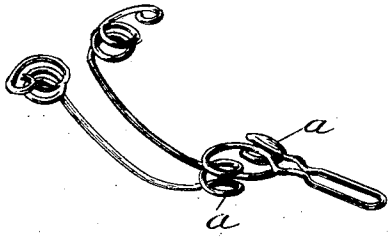
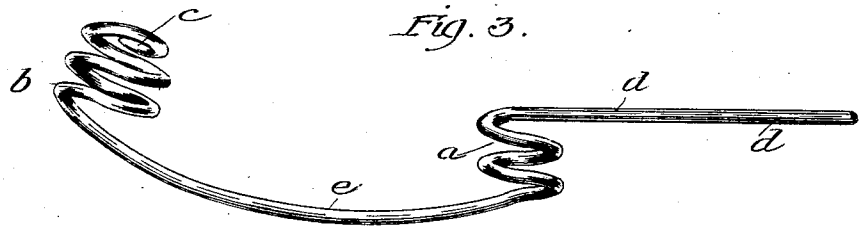



Fig. 3.




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# UNITED STATES PATENT OFFICE.

WILLIAM I. BUNKER, OF LAGRANGE, ILLINOIS.

## SPRING FOR BICYCLE-SADDLES.

SPECIFICATION forming part of Letters Patent No. 684,350, dated October 8, 1901.

Application filed March 13, 1899. Serial No. 708,907. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM I. BUNKER, a citizen of the United States, residing at Lagrange, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Springs for Bicycle-Saddles, of which the following is a specification.

My invention relates to that class of springs which are adapted to be attached to bicycle-saddles and connected to the frame of a bicycle by means of a clip or similar mechanism.

The object of the invention is to provide a simple, economical, and efficient saddle-spring; and the invention consists in the features and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a saddle-spring constructed in accordance with my improvements; Fig. 2, a perspective view of the same, and Fig. 3 a side elevation of a saddle-spring.

In constructing a saddle-spring in accordance with my improvements I preferably take a piece of steel spring-wire and bend it so as to form the two helical coils at the front portion thereof and the two helical coils *b* at or near the rear portion. I then bend the ends of it so as to provide loops *c*, which can be used for the purpose of securing the spring to a saddle-plate by means of bolts, screws, or the like. The spring is then bent so as to form the loop *d* at the front portion thereof with the curved portions *d'*, that form a substantial enlarged opening $d^2$, through which a third securing-bolt may be fastened. It will be noticed that when the spring is given its ultimate shape, as shown in the drawings, the front and rear loops *c* and *d* are at the upper portion of the helical coils, while the portions *e*, that connect the front and rear coils together, are at the lower portions of the helical coils and at each side of a central longitudinal line and the securing-loops *c* at the upper portion thereof.

The advantages incident to a spring constructed in accordance with my improvements are, first, that the parts are made of one single piece of wire; second, the greatest elasticity possible is obtained from a single piece of wire; third, the different bendings are so arranged that the spring may be easily secured in position, and, fourth, the spring is very simple and economical to manufacture and efficient in operation.

I claim—

1. In a bicycle-saddle, a spring bent at its middle to form a loop, and comprising two limbs extending in a horizontal plane, approximately parallel with each other, and each bent to form vertical elastic coils between the front and rear portions of the saddle, substantially as described.

2. A saddle-spring support formed of a single piece of wire bent to have the two side bars of the support and front and rear coil-springs, each side bar having a coil-spring at the terminal point of each end, each front coil-spring upwardly extended from its end of the bar and each rear coil-spring upwardly extended from its end of the bar with the two rear springs disconnected one from the other, substantially as described.

3. A saddle-support made from a single piece of metal and consisting of two side bars, each bar having at its front end and its rear end a cushioning coil-spring, and an integral elongated loop connecting said bars, extended forward from the front springs for the support of an extended saddle-nose or nose-plate and provided with a point of attachment for the saddle immediately in front of said springs, substantially as described.

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