

(No Model.)

A. L. GARFORD.  
VELOCIPED SADDLE.

No. 467,402.

Patented Jan. 19, 1892.

*Fig 1.*

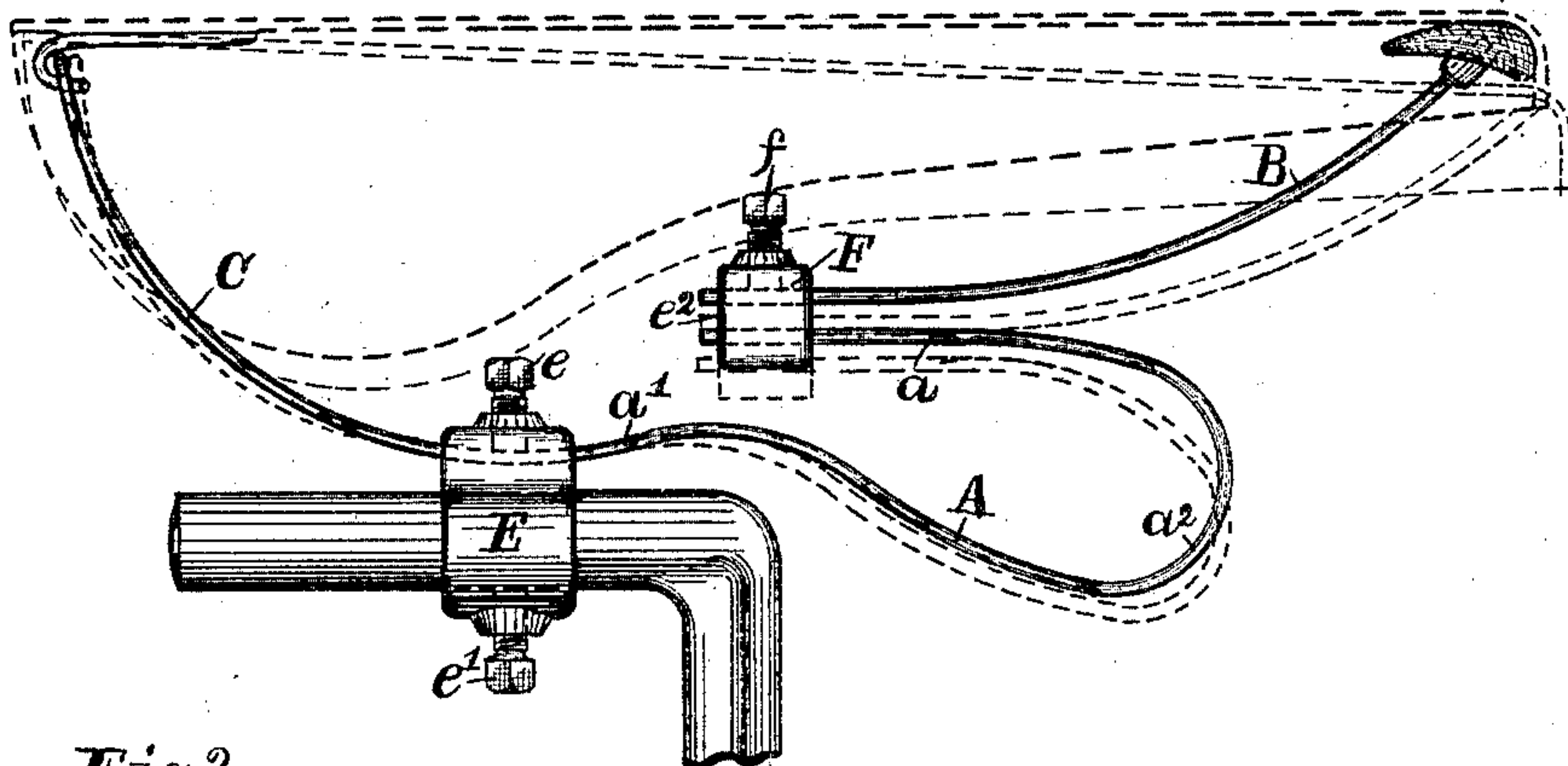
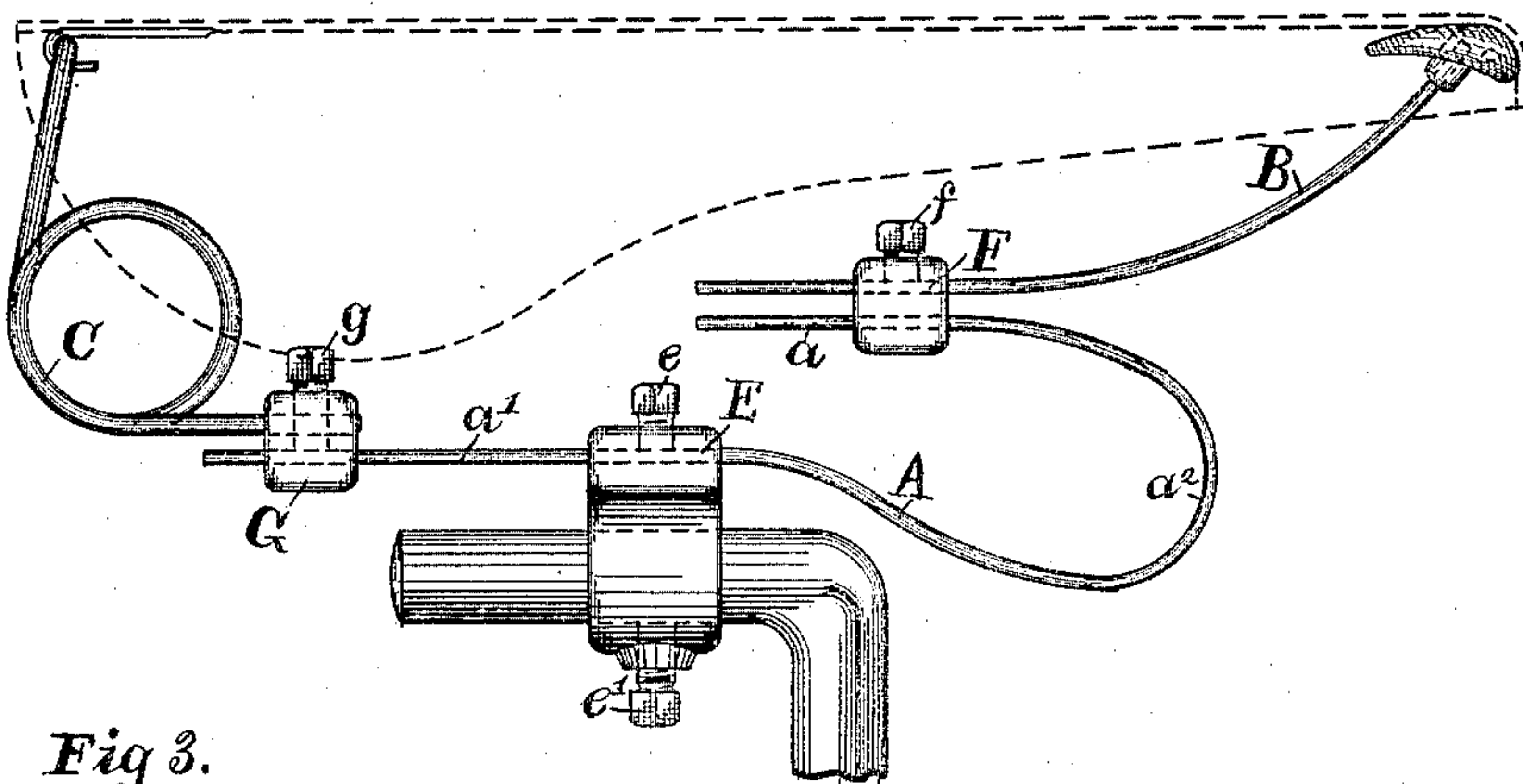
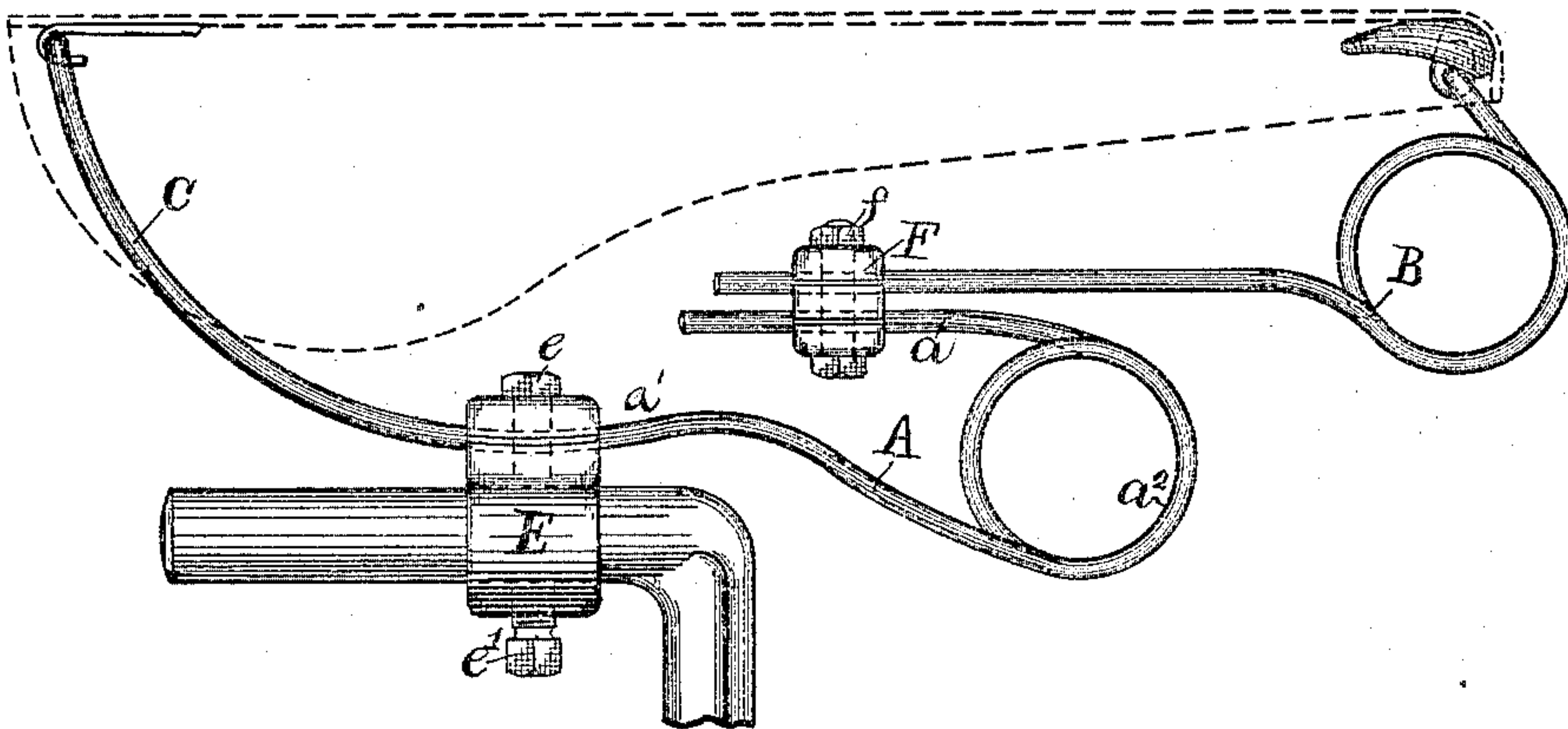


Fig 2.



*Fig 3.*



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## VELOCIPED-SADDLE.

SPECIFICATION forming part of Letters Patent No. 467,402, dated January 19, 1892.

Application filed May 28, 1891. Serial No. 394,372. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR L. GARFORD, a citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Velocipede-Saddles, of which the following is a full, clear, and exact description.

My invention relates to saddles for bicycles, tricycles, and like vehicles; and it consists in the construction and combination of parts hereinafter described, and pointed out definitely in the claims.

The objects of my invention are to provide an easy-riding saddle which will take up the vibration of the wheels, to provide means in a saddle for adjusting the same to accommodate riders of different weights and with different styles of riding, to provide improved means with which the saddle may be adjusted toward the front or rear of the machine while preserving substantially the same degree of elasticity, to provide a saddle which may be so adjusted that the movement of the rider when the springs bend under his weight will be downward and rearward, as in the saddle which is patented in my patent, No. 431,573, dated July 8, 1890, or up and down, as in the so-called "hammock-saddles," according to the fancy of the rider, and, finally, to provide a strong, light, and durable saddle.

In the drawings, Figures 1, 2, and 3 are side views of three forms of saddles in which my invention may be embodied.

I will now proceed to describe in detail the saddles shown in the drawings in which my invention is embodied, although I do not wish my claims limited to the details of construction shown and described to any greater extent than is expressly specified therein.

Referring to the drawings, A represents a bent spring having the two arms  $a$   $a'$  and the bent part  $a^2$ , which connect said two arms. In the simplest construction, as shown in Fig. 1, the springs are flat springs, and the spring A is therefore substantially U-shaped. If this spring be made of round wires, the bent part  $a^2$  may take the form of a coil, as shown in Fig. 3. The lower arm  $a'$  is slidable through a clamp E, which may be secured thereto at any point by means of the set-screw

e. This clamp E is provided with means—as a hole through its lower part and the set-screw  $e'$ —by which it may be secured to the part of the machine intended to support the saddle, as the common L-saddle support.

B represents a spring, which is attached at its upper end to one end of the saddle-leather. The preferred means for making this attachment consists of the cantle, to which the leather is riveted, having a socket which receives the end of the spring. The lower end of the spring B is adjustably secured to the upper arm of the spring A by means of a clamp F, which is slidable on both springs and is adapted to be secured to both springs, thereby fastening them together by means of a set-screw  $f$ . In order to get the best effect from the parts of the two springs adjacent to the clamp F, a distance-block  $e^2$  is interposed between the two springs, as shown.

C represents a spring the upper end of which is attached to the saddle-leather. The attachment consists of a hook fastened to the leather and a hole in the spring, into which the hook catches. As the saddle is intended to be used, the spring C is attached to the front end of the seat and the spring B to the rear end. The lower end of the spring C is secured to that part of the lower leg  $a'$  of the spring A which is in front of the clamp E.

In the construction shown in Fig. 2 the lower end of the spring C is rigidly secured to a clamp G, which is slidable on the arm  $a'$ , and may be secured thereto by means of the set-screw  $g$ . With this construction we secure the widest range of adjustment, because both springs B and C may be moved forward or backward on the spring A. Either spring may be moved away from the other to take up slack in the leather, and the spring A may be moved forward or backward through the clamp E.

In the construction shown in Fig. 1 the spring C is an integral part of the spring A, being a forward and upward extension of its lower arm. This I now believe to be the best construction, for the reason that it is simpler, lighter, and more slightly than the others, while it is susceptible of enough adjustment to meet all ordinary requirements. As shown in Fig. 1, that part of the arm  $a'$  which is slidable through the clamp E is slightly curved,



whereby the tilt or inclination of the seat is varied as the position of the spring in the clamp is changed. The spring B (shown in Fig. 3) is a coiled-wire spring of the sort common in the so-called "hammock-saddle," although it is adjustable in the same manner and to the same extent as in the saddle shown in Fig. 1. When the spring A is carried backward as far as practicable and the clamp F is as far forward as practicable, substantially as shown in Fig. 1, the saddle is then most elastic, and the motion of the rider, as the springs bend under his weight, is downward and rearward. The dotted lines in this figure indicate substantially the relative position assumed by the springs under compression when adjusted as above described. When the spring A has been moved forward through the clamp E and the clamp F has been moved back on the springs A and B as far as practicable, substantially as shown in Fig. 2, the saddle is stiffest. If it is desired to move the saddle toward the front of the machine without sensibly affecting its elasticity, the spring A is moved forward through the clamp E and the clamp F is moved forward on the springs B and A. A contrary movement of the parts permits us to move the saddle toward the rear of the machine without materially altering the elasticity.

In the saddles shown in Figs. 1 and 2 when the center of gravity of the rider is rearward of the clamps E and F, his motion as the springs are compressed is rearward as well as downward. When his center of gravity is more or less exactly over said clamps or over a point between them, his motion will be principally up and down, as in the so-called "hammock-saddles."

It will be seen from the foregoing statement that the saddle above described may be placed in almost any desirable position relative to the pedals, and in any position it may have almost any desired degree of elasticity. When adjusted as shown in Fig. 2, it is adapted for use as a racing-saddle. As shown in Fig. 1, it is suited to the very lightest riders.

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

1. The combination of spring A and a clamp adjustably secured to the lower arm, whereby the same may be secured to the saddle-support, and a spring C, connected at one end to said lower arm and at its other end to the front end of the leather saddle, with a spring adjustably secured at one end to the upper arm of the spring A and suitably secured at its other end to the rear end of the saddle-leather, substantially as and for the purpose specified.

2. The combination of the spring A, a clamp adapted to adjustably secure the lower arm to the saddle-support, and a spring extending between and connected with said lower leg and saddle-leather, with a spring connected with the other end of said leather and a clamp slidable upon said spring and upon the upper arm of the spring A, whereby said springs may be connected, substantially as and for the purpose specified.

3. The combination of a spring A and a clamp adapted to secure the lower arm thereof to the saddle-support, a spring C, connected with said lower arm and with the front end of the saddle-leather, and a spring B, connected at one end with the rear end of the saddle-leather, and a clamp F, slidable on the spring B and the upper arm of the spring A, a distance-block interposed between said springs, and a set-screw for securing said clamp to said springs, substantially as and for the purpose specified.

4. The combination of a spring consisting of the following integral parts, to wit: the two arms  $a$   $a'$ , the curved part  $a^2$ , connecting said arms, and a part C, curving upward from the lower arm of said spring to the point above the upper arm thereof, with the clamp for adjustably securing the arm  $a'$  of said spring to the saddle-support, and a spring connected with the saddle-leather at one end and adjustably connected with the arm  $a$  at its other end, substantially as and for the purpose specified.

ARTHUR L. GARFORD.

Witnesses:

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CHARLES M. BRANEAU.