

(No Model.)

2 Sheets—Sheet 1.

F. DOUGLAS.
BICYCLE SADDLE.

No. 469,629.

Patented Feb. 23, 1892.

Fig. 1.

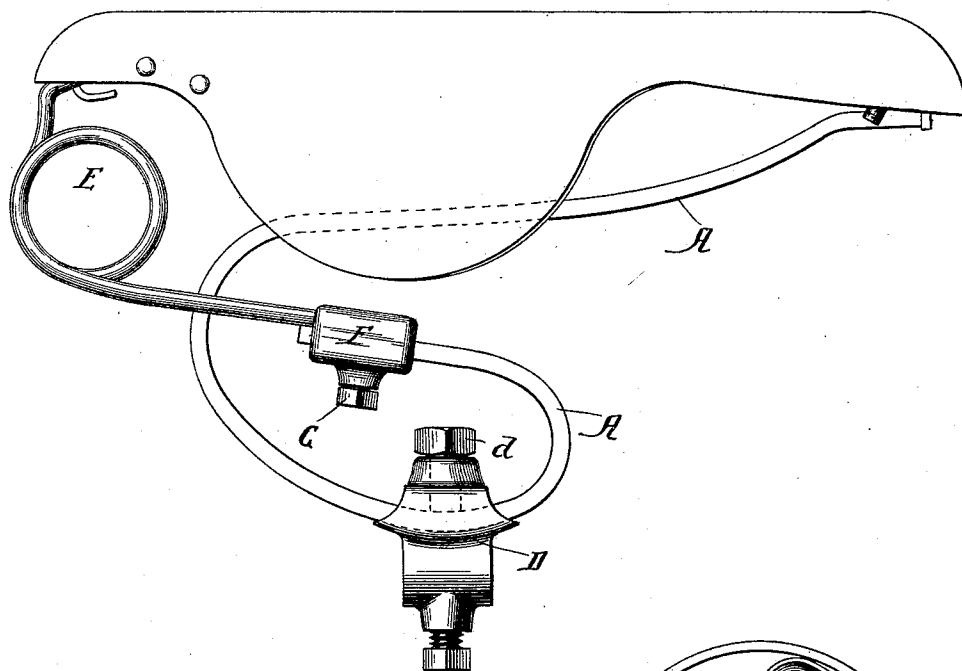
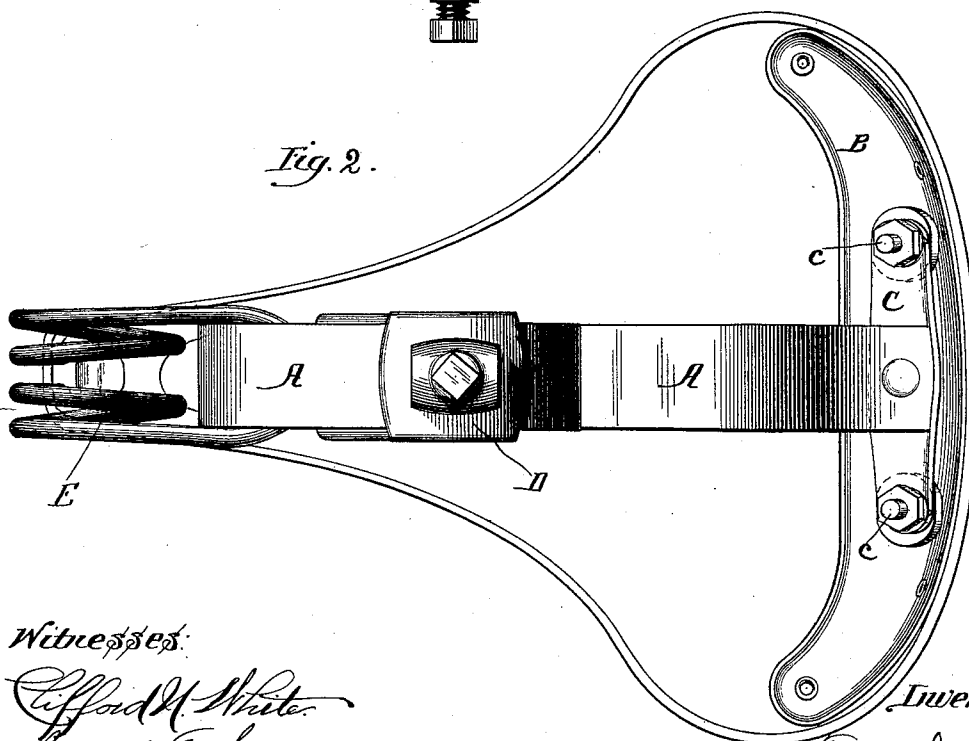


Fig. 2.



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Inventor:

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Attorneys

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Fig. 3.

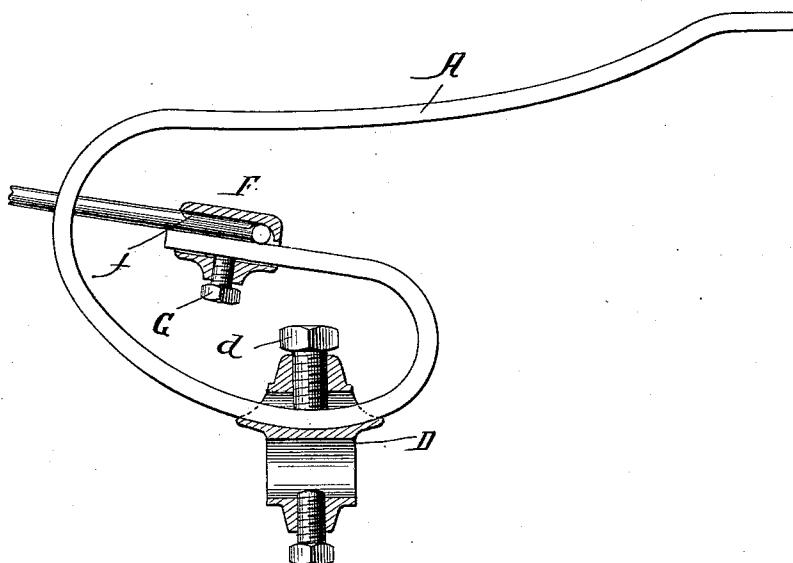
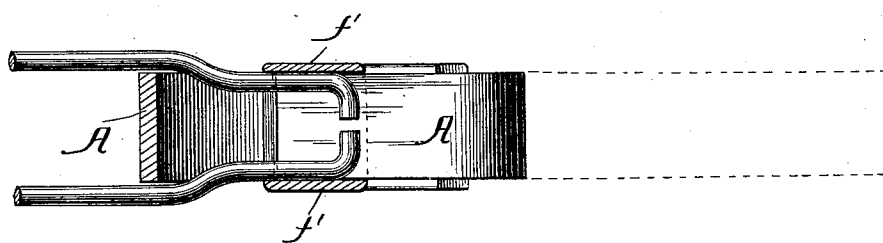


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK DOUGLAS, OF CHICAGO, ILLINOIS.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 469,629, dated February 23, 1892.

Application filed October 5, 1891. Serial No. 407,774. (No model.)

To all whom it may concern:

Be it known that I, FRANK DOUGLAS, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification.

The object of my invention has more particular reference to the attachment of the springs to the saddle-leather, to the seat-post stud, and to each other; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 represents a side elevation of a bicycle-saddle. Fig. 2 represents a plan view of the saddle viewed from the underside. Fig. 3 shows a side elevation of portions of the springs and vertical portions of the seat-post stud and front spring-clamp, and Fig. 4 shows a plan view of the front and rear springs at the point where they are attached together with the top of the front spring-clamp shown at Fig. 3 removed.

In making my improved bicycle-saddle I employ, preferably, a broad flat spring A for the rear spring of the saddle. I attach the rear end of this spring to the cantle B of the saddle by riveting or otherwise securely attaching it to a plate C, secured by bolts *c c* to the cantle. I prefer to arrange washers between the plate C and the cantle of a form to fit the cantle on one side and to present a smooth flat surface for the attachment of the plate at the other. These washers hold the plate a sufficient distance from the cantle to permit it to have a certain resiliency or springiness to make the saddle more easy and less liable to jarring in its action. The spring A is carried forward under the saddle and bent back through a slot in the seat-post stud D and then again turned forward a desired distance to afford a free end for the attachment of the rear ends of the front spring. As the spring A where it passes through the seat-post stud is curved, the position of the saddle may be adjusted by moving the spring back and forth in the slot of the stud, as may be desired, to give the preferred pitch to the saddle. The spring may be held in the slot at the desired point by means of a set-screw or bolt *d*. The forward spring E of the saddle may be attached to the saddle-leather in any desired manner. I prefer to make the forward spring double

and to give it a turn, as shown in Figs. 1 and 2 of the drawings, to add to its resiliency or springy capacity. The rear ends of the spring are carried back, so as to straddle or embrace the spring A intermediate its attachment to the saddle-cantle and the seat-post stud and held in a clamp F, which is preferably provided with a groove to receive the ends and hold them in the position shown in Fig. 4. The metal forming the inner walls of the groove is shown at *f* in Fig. 3, and the groove is made preferably of a depth to inclose or receive about half the diameter of the ends of the spring. The sides *f'* of the clamp clasp or embrace the forward end of the spring A at its sides with sufficient closeness to hold such spring from lateral movement, but at the same time permit the clamp to be moved back and forth along it as desired. By adjusting the clamp F, and with it the ends of the spring E, forward or backward on the end of the spring A the saddle-leather can be stretched or relaxed, so as to give it the desired tension or tautness that may be desired to suit the tastes of different riders. When the clamp has been moved to the proper position, it may be secured and held in place by means of the set-screw or bolt G. By bringing the spring A through the seat-post stud and forward so as to form a place on its free end for the attachment of the rear ends of the front spring the saddle ends of the front and rear springs A and E will yield or give under the weight of the rider, so that the greatest flexibility is secured, and so that under such weight as the saddle ends thus yield or give the leather is more tightly stretched to prevent it from sagging too much when the bicycle is in use. The increased flexibility of the front spring results largely from the fact that the free end of the rear spring by being carried through the seat-post stud and clamped to it is practically added to the length of the forward spring, giving to it a flexibility that could not be secured were the front spring attached to the rear spring at a point intermediate its attachment to the rear cantle of the saddle and the seat-post stud.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a bicycle-saddle, a rear saddle-spring

extended forward of the seat-post stud and then back, passing through the seat-post stud and forward again to afford a free end for the attachment thereto of the rear ends of the forward saddle-spring, substantially as described.

2. In a bicycle-saddle, a rear saddle-spring extended forward of the seat-post stud and then back, passing through the seat-post stud and forward again to afford a free end for the attachment thereto of the rear ends of the forward saddle-spring, in combination with a front saddle-spring having its rear end adjustably attached to the front end of the rear spring, substantially as described.

3. In a bicycle-saddle, a rear saddle-spring passing through the seat-post stud and forward to afford a free end for the attachment thereto of the rear ends of the forward saddle-spring, in combination with a front saddle-spring having its rear ends arranged to straddle the rear saddle-spring intermediate its point of attachment to the saddle-cantle and the seat-post stud and adjustably attached to the free end of the rear spring, substantially as described.

4. In a bicycle-saddle, the combination of a

rear saddle-spring passing through the seat-post stud and forward to afford a free end for the attachment thereto of the rear ends of the forward saddle-spring, a front saddle-spring having its rear end adjustably attached to the front end of the rear spring, a clamp for attaching such ends, provided with grooves in which the rear ends of the front springs lie, sides embracing the edges of the front spring, and a set-screw for holding the parts together at a desired point, substantially as described.

5. In a bicycle-saddle, the combination of a flexible plate secured to the saddle-cantle, a rear saddle-spring secured to such plate at its rear end and passing through the seat-post stud and forward to afford a free end for the attachment thereto of the rear ends of the forward saddle-spring, and a front saddle-spring having its rear end adjustably attached to the front end of the rear spring, substantially as described.

FRANK DOUGLAS.

Witnesses:

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