(No Model.) 2 Sheets—Sheet 1.

H. BERGFELS.

BICYCLE SADDLE.

No. 517,538. Patented Apr. 3, 1894.

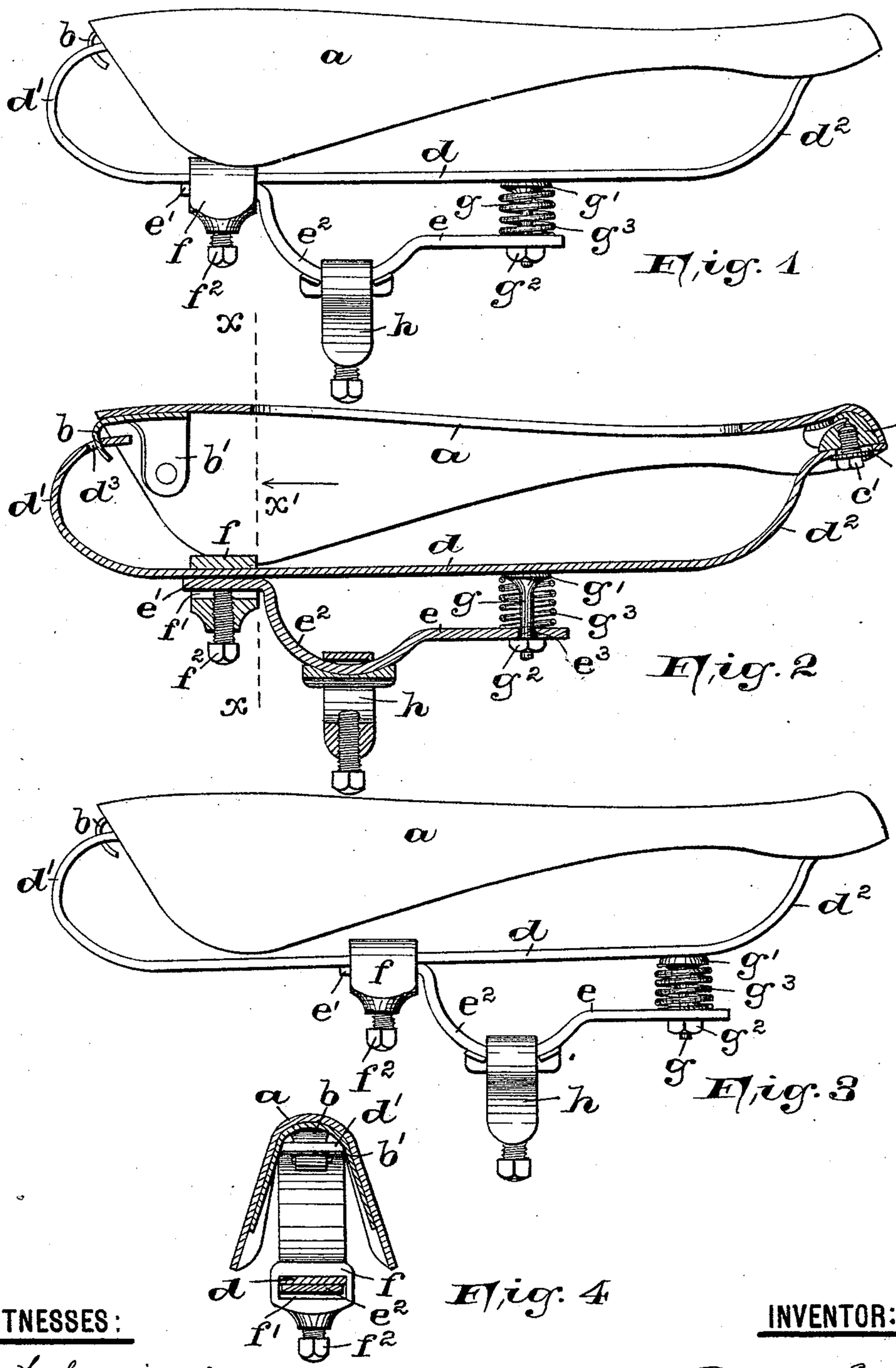

Fig. 1

Fig. 2

Fig. 3

Fig. 4

WITNESSES:

Wm. H Bamfield Jr.

Philip Henry Ward

INVENTOR:

Henry Bergfels,

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WASHINGTON, D. C.

(No Model.)

2 Sheets—Sheet 2.

H. BERGFELS.

BICYCLE SADDLE.

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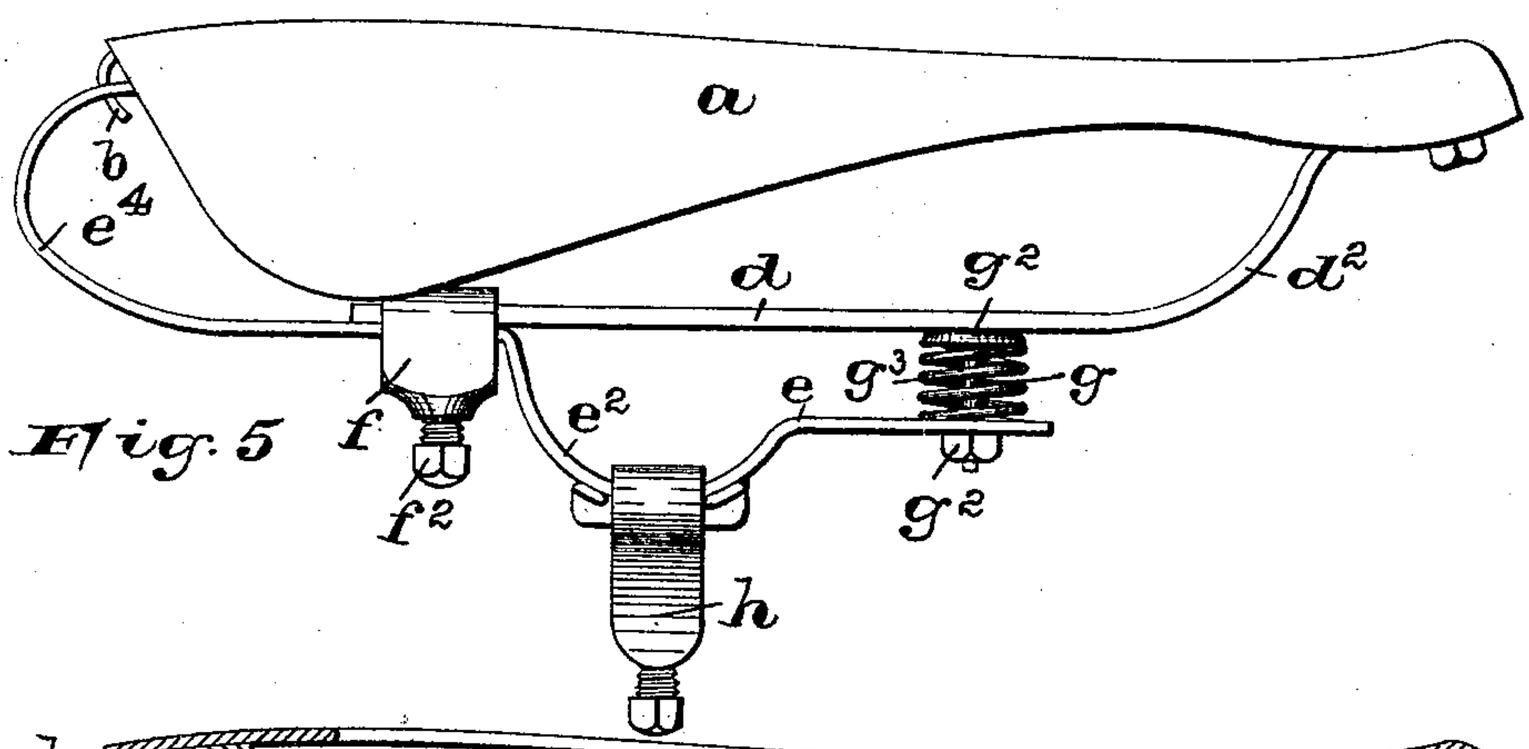

Fig. 5

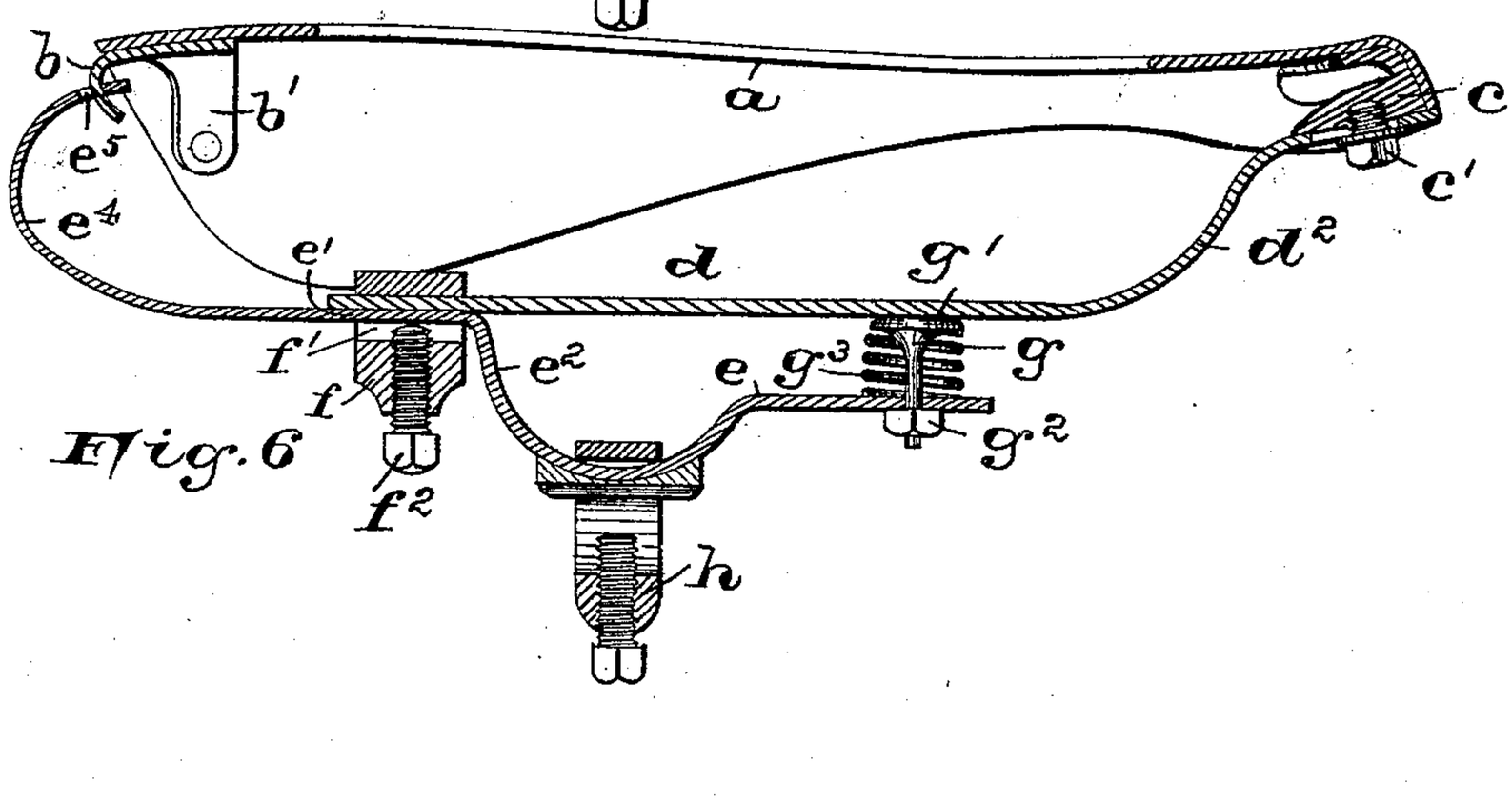

Fig. 6

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UNITED STATES PATENT OFFICE.

HENRY BERGFELS, OF NEWARK, NEW JERSEY.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 517,538, dated April 3, 1894.

Application filed June 26, 1893. Serial No. 478,778. (No model.)

To all whom it may concern:

Be it known that I, HENRY BERGFELS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bicycle-Saddles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a light and elastic bicycle saddle, and in which the saddle springs are primarily designed to be adjustable, one with the other, so that they are readily adapted for the support of varying loads.

The invention consists in certain novel features of construction and combinations of parts, such as will be hereinafter more fully described and finally embodied in the clauses of the claim.

The several novel features of my invention and the advantages arising from their use conjointly or otherwise, will be apparent from the following description.

In the drawings herewith accompanying, in which similar letters of reference are employed to indicate corresponding parts in each of the several views:—Figure 1 is a side elevation of a saddle embodying my invention, the parts of the same being adjusted to best adapt the saddle for the support of a light-weight rider. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a view similar to that illustrated in Fig. 1, with the parts adjusted to best adapt the saddle for the support of a heavy-weight rider; and Fig. 4 is a cross-section, taken on line x in Fig. 2. Fig. 5 is a side view of a saddle in which the supporting parts are of a slightly modified form of construction, but the same still embodying the principle of my invention; and Fig. 6 is a vertical section of the said saddle illustrated in Fig. 5.

In said views a is a seat of strong leather, and which has secured on its under side, at the front a suitable hook b and at the rear a cantle c, which may be of any of the well-known forms of construction.

The ends of the main spring d, which may be of any suitable shape and form in cross-section, are provided with suitable bent-up or curved end-portions d' and d^2, which are respectively connected with the hook b and the cantle c.

As will be seen more especially from Fig. 2, the preferred means of fastening or connecting the ends of the main spring with the saddle a, is by a perforation or hole d^3 in the portion d', into which the hook b on the pommel b' is passed, and also the longitudinally slotted end d^4 of the portion d^2, by means of which and a bolt or pin c', said end is adjustably connected with the cantle c.

Of course, other means for connecting the ends of the spring d with the ends of the seat may be employed, and I therefore do not limit my invention herein set forth and claimed, to this special means of securing the ends of the spring d.

Arranged in sliding contact with the main spring d is a suitable clamp f having an opening f' and an adjusting set-screw f^2. As will be seen from Figs. 1, 2 and 3, projecting into said opening or socketed portion f' of the clamp f is the end e' of a suitable clamp-spring e, said end being adjustably secured to the under side or connected with said main spring d by means of the set-screw f^2. Said clamp-spring is preferably curved, as at e^2, and passes through a suitable clamping socket h, by means of which the complete saddle may be adjustably arranged on the saddle post of the velocipede. The rear end of said clamp-spring e is provided with a perforation e^3 in which is arranged a suitable post g which is provided on its upper end with a supporting disk or plate g', preferably of rubber or other suitable material. The lower end of said post, which is arranged in said perforation e^3 and extends beneath the under surface of said clamp spring e, is screw-threaded, as shown, and is provided with an adjusting nut g^2, while upon the upper surface of said spring e, between the same and said disk g' and encircling said post g, I have placed a coiled spring g^3. Said disk g' is preferably in normal contact with the under surface of said main spring d, and being preferably made of rubber, there can be no rattling of the parts, nor any scratching or marring of said spring

d, which is usually nickel-plated and highly polished. In lieu of the construction of adjustably connecting said springs d and e, in the manner illustrated in said Figs. 1, 2 and 3, said spring d may be made without the curved end-portion d', and the end e' of the spring e, which is secured in the opening f' of the socket f by means of the set-screw f^2, is formed with a curved portion e^4 provided at or near its free end with a perforation e^5, by means of which it is connected with the hook b, as will be seen from Figs. 5 and 6. Otherwise, the arrangement and construction of the two springs d and e, is similar to that illustrated in Figs. 1, 2 and 3.

The great advantage derived in my novel form of bicycle saddle, and the arrangement of its supporting springs, is the production of greater elasticity of spring, and owing to the adjustability of the spring e in connection with the spring d, to adapt the main spring to varying loads, the parts will not become unnecessarily strained or weakened, and a more comfortable riding saddle is the result. By the arrangement of the auxiliary spring g^3 the strain upon the main spring is greatly reduced, and when going over rough roads, there is little danger of snapping the curved portion d^2 of the main spring d.

Having thus described my invention, what I claim is—

1. A spring-support for bicycle saddles, comprising therein an upper and a lower part, arranged one above the other, said lower part carrying a post at its rear end, a disk or head on said post, and an auxiliary spring encircling said post, and said disk or head of said post bearing against said upper part of the spring support and means connected with said post to adjust the tension of said auxiliary spring, substantially as and for the purposes set forth.

2. In a bicycle saddle, the combination with the seat, of a main spring connected with the seat and an independent clamping spring e, adjustably connected with said main spring, a post on the rear end of said spring e, a disk or head on said post, an auxiliary spring encircling said post, and means connected with said post to adjust the tension of said auxiliary spring, substantially as and for the purposes set forth.

3. In a bicycle saddle, the combination with the seat, of a main spring connected with the seat and an independent clamp-spring e, adjustably connected with said main spring, a post on the rear end of said spring e, a disk g' on said post, in normal contact with said main spring, a spring g^3 encircling said post, and an adjusting screw on the lower end of said post, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 22d day of June, 1893.

HENRY BERGFELS.

Witnesses:
FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.