(No Model.)

A. DODDS & C. D. THOMSON.

BICYCLE SADDLE.

No. 554,337. Patented Feb. 11, 1896.

Fig. 1.

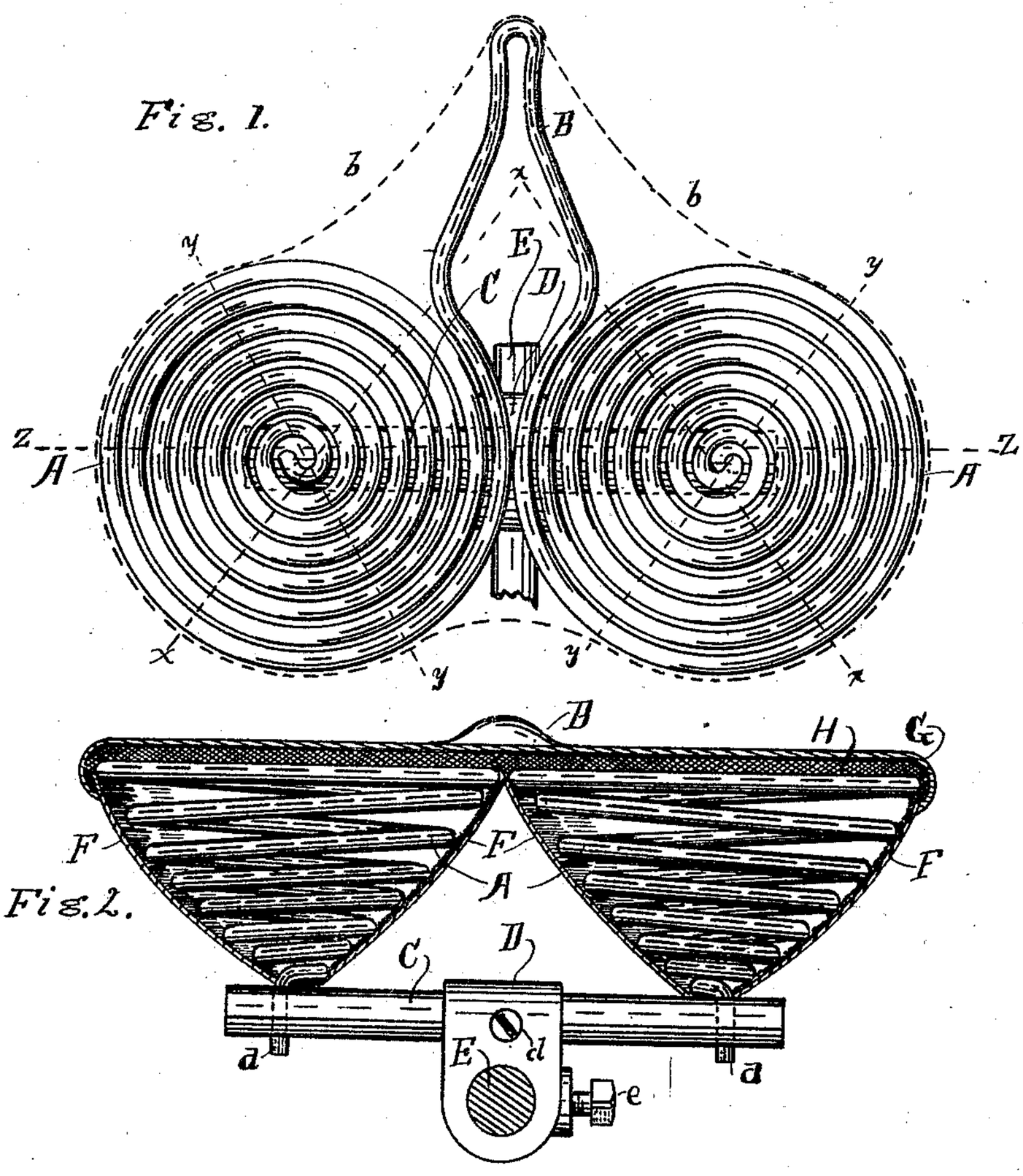


Fig. 2.

Fig. 3.

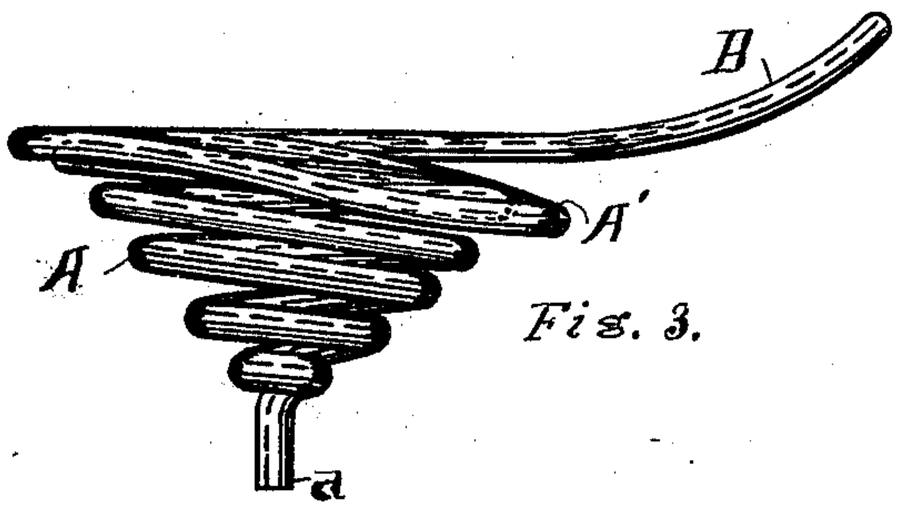
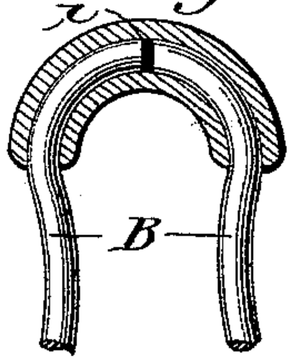


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALEXANDER DODDS AND CHARLES D. THOMSON, OF GRAND RAPIDS, MICHIGAN.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 554,337, dated February 11, 1896.

Application filed September 30, 1895. Serial No. 564,196. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER DODDS and CHARLES D. THOMSON, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification.

Our invention relates to improvements in the form and construction of bicycle-saddles for use on safety-bicycles, and its objects are, first, to provide a bicycle-saddle that will become perfectly adjusted to the varying positions of the legs of the operator when treading the pedals of a bicycle; second, to provide a bicycle-saddle that will maintain a uniform vertical variation or depression when in use upon an uneven track, and, third, to provide a bicycle-saddle that may be adjusted both laterally and longitudinally of the bicycle. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan of the supporting-springs with the cover shown in outline. Fig. 2 is an elevation of the same with the covering shown in section on the line *z z* of Fig. 1. Fig. 3 is a side elevation of the spring, showing the upper coil depressed toward the front of the saddle to accommodate the curvature of the leg of the operator; and Fig. 4 shows the pommel-support in two pieces and a sectional plan of a clip for supporting the same.

Similar letters refer to similar parts throughout the several views.

The frame or support of our saddle consists of two spiral coiled springs A, conical in form, and made from a single wire so bent that the spirals will stand side by side and the loop B will project considerably to one side of and at right angles with the center line *z z* of the coils to form a support for the pommel of the saddle.

We prefer that the coils A be slightly elongated upon the lines *x x* of Fig. 1, and correspondingly narrowed on the lines *y y* of said figure, which gives better form to the cover of the saddle.

When forming the spirals we leave a downwardly-projecting standard *a*, that is designed to pass through small apertures in the ends of the supporting-bar C for the purpose of supporting the saddle in said bar. This bar is in turn supported by passing through an aperture in the clip D and secured by a set-screw *d*, or other suitable device, so that it may be readily adjusted longitudinally in said clip to adjust the saddle laterally with the course of the bicycle. The clip D is secured to the standard E, which is an ordinary saddle-standard, in the usual manner, as by the set-screw *e*.

In Fig. 3 we show at A′ the upper coil of the spiral depressed, a form that we find very desirable as tending to adjust the form of the saddle to the natural curvature of the leg of the operator, and the pommel-support B curved upward, as the most desirable position that it can be made to assume.

The lower surface of our saddle may be covered with canvas, as F, or other suitable material, and for the seat we place, first, a layer or more of felt H and cover it with leather G or other suitable material, which covers the entire top of the saddle, including the pommel, as indicated by the dotted lines in Fig. 1.

We do not desire to have it understood that we restrict ourselves to the particular form of loop we have shown in our drawings, as other forms will answer the purpose as well; but we do desire to form our saddle support or spring of a single piece of spring-wire, substantially as shown, with the loop so formed that it will constitute the support for the pommel of the saddle, as with this construction, while each side of the saddle acts independently of the other and the pommel virtually independdently of the spirals and yet so balances them that all parts of the saddle work in unison, each individual spiral, while working independently of the other, is so balanced by the support C, the pommel-support B, and the saddle-covers F and H that its vertical action is uniform and readily adjusts itself to the weight and position of the rider.

Our sole object in coiling the spirals A outward with the loop or pommel-support B projecting from between them, instead of coiling them in with the loop projecting from the opposite direction, is to give the greatest possible degree of flexibility and ease of adjust-

ment to the cover at the points *b*, so that it will readily adjust itself to the position of the leg of the operator when working the pedals of a bicycle.

The object of forming the spirals of a single piece of wire will be fully attained if the two ends *i* of separate coils are securely connected by means of a clip I, as indicated in Fig. 4, to form the loop B to act in unison with the coils in the adjustment of the saddle.

It will be seen that the spirals are supported directly upon their vertical center and each acts independent of the other, and that the pommel-support acts equally independent of the coils.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a bicycle-saddle, two conical spiral springs formed of a single piece, the loop between said springs projecting therefrom to form a support for the pommel of the saddle, and the outer front portion of the upper coils of the springs slightly depressed, substantially as and for the purpose set forth.

2. In a bicycle-saddle, two conical spiral springs formed of a single piece and the loop between said springs fitted to form a support for the pommel of the saddle, standards projecting down from the springs, a supporting-bar fitted to receive said standards, and a clip to receive said bar and connect the saddle with the cycle-standard, and a cover for said saddle, substantially as and for the purpose set forth.

3. In a bicycle-saddle, two spiral springs formed from a single piece of wire bent to throw the spirals together side by side and the loop or bend in position to form the support for the pommel of the saddle, a suitable support for said springs on the bicycle; in combination with a pliable material, as felt, on top of the springs, and a cover over said pliable material, over the pommel of the saddle and under the springs, substantially as and for the purpose set forth.

4. In a bicycle-saddle, two conical springs, a bar and clip for securing said springs to the bicycle, a loop uniting said springs and forming a support for the pommel of the saddle, the outer front portion of the upper coil of said springs depressed, and a suitable covering for the saddle, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, September 26, 1895.

ALEXANDER DODDS.
CHAS. D. THOMSON.

In presence of—
I. J. CILLEY,
B. E. PARKS.