(No Model.)

H. A. LERCH.

BICYCLE SADDLE.

No. 589,661. Patented Sept. 7, 1897.

Fig. 1.

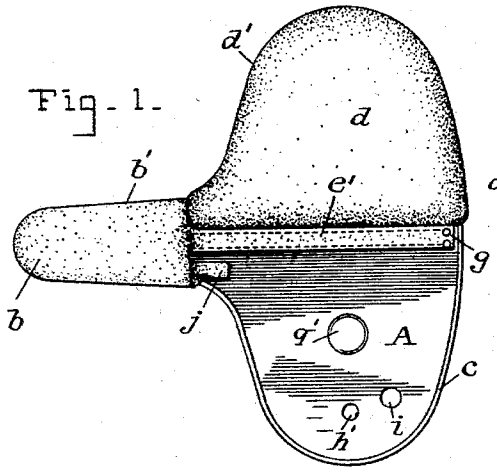


Fig. 2.

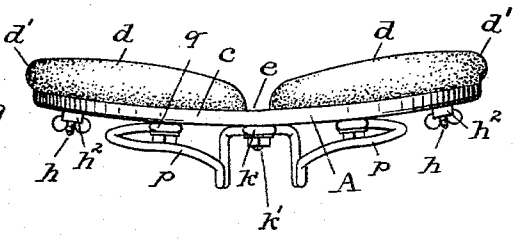


Fig. 3.

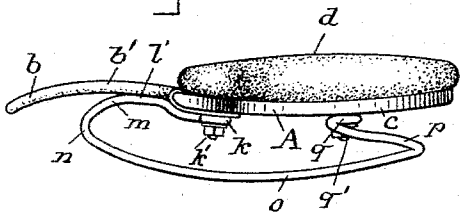


Fig. 4.

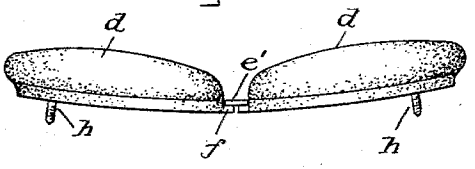


Fig. 5.

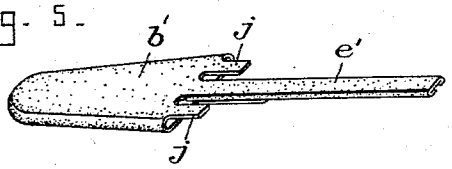


Fig. 6.

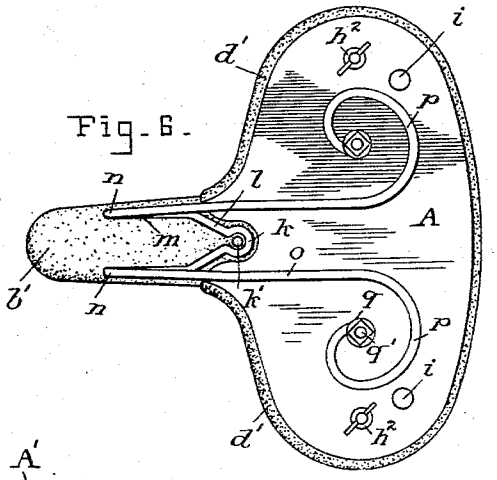


Fig. 7.



WITNESSES:

Lee I. Van Horn.

Charles B. Mann Jr.

INVENTOR:

Harry A. Lerch

By Chas B. Mann

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARRY A. LERCH, OF BALTIMORE, MARYLAND.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 589,661, dated September 7, 1897.

Application filed December 10, 1896. Serial No. 615,087. (No model.)

To all whom it may concern:

Be it known that I, HARRY A. LERCH, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification.

This invention relates to improvements in the construction of saddles for bicycles.

The objects of the invention are to provide a saddle which shall have a seat-plate with a depressed horn and concaved on its upper surface in a direction transverse or crosswise of the horn—that is, slightly higher at its two outermost side edges and therefrom inclining or curving down to the center—and which shall have two pads or cushions so arranged as to insure that the hard rim of the seat-plate will not come in contact with any part of the body of the rider.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of the bicycle-saddle, one pad only being in position. Fig. 2 is a rear end view of the same. Fig. 3 is a side view. Fig. 4 is a rear end view of the two cushions, showing that each has at its central edge a flange which is flush with the bottom of the cushion, said flanges being adjacent each other and forming the bottom of the central depression. Fig. 5 is a view of the sheath for the horn and the center piece which covers the pad-flanges. Fig. 6 is a bottom view of the saddle. Fig. 7 is a section view of a seat-plate without upturned rim-flange.

The saddle seat-plate A may be made of thin metal, either stamped up or cast. It has a horn-point *b* at the front, which is slightly curved and depressed or downward-pointing. The plate is broad in the direction transverse or crosswise of this horn and on top is concaved or slightly higher at its two outermost side edges and lower at its center midway between said side edges. The crosswise concave shape shown is much more comfortable and satisfactory to the rider. On its top this plate is a plain surface without recesses or depressions of any kind. In Figs. 1, 2, and 3 the plate is shown to have an upward-bent rim or thin flange *c* extending all around but terminating at each side where the horn-point joins.

Upon the seat-plate are two unconnected pads or cushions *d*, separated by a longitudinal depression *e*, extending along the center. Each pad or cushion has along its central edge a flange *f*, which is flush with the bottom of the cushion. The flanges of the two cushions project toward each other and are adjacent and form the bottom of the said central depression. The outer edges *d'* of each cushion are flush with or may project over or beyond the rim or edge of the seat-plate, so that in looking down upon the saddle only the two cushions are seen, the seat-plate being completely covered. The projecting cushion edges *d'* will shield the body of the rider from contact with the hard edges of the seat-plate. The metal horn-point *b* is first cushioned or wrapped with suitable felt and then is incased or covered with a sheath *b'*, separate from the cushions and made of leather or other suitable material. A center piece *e'* connects with this sheath and extends along the center depression between the two cushions and covers the said two flanges *f* on said cushions. At its rear end this center piece is secured by one or more rivets *g*, which pass through the seat-plate. Thus the center piece confines the sheath on the horn-point and also by bearing on the flanges *f* of the two cushions keeps them down to the plate at the center. Each cushion has a screw-bolt *h* attached to its bottom near the side edge, and said screw-bolt projects downward through a hole *h'* in the seat-plate, and a nut h^2 on the under side serves to tighten it.

The pads or cushions may be filled with a wood block, a cork block, or be stuffed with any suitable material or may be made to hold air. For this latter each cushion would have a valved neck which would project downward. A hole *i* is in the seat-plate to accommodate such neck.

The sheath *b'* has on top at its open end two rearward-pointing tangs *j*, one at each side of the center piece *e'*. These tangs take under the front part of the cushions, which thereby hold the tangs down and conceal the open end of the sheath.

This saddle is mounted on a spring formed of a rod of wire of suitable size bent at its center to form an eye *k*, and then each of the two portions slightly spread apart at *l* and then extending parallel forward and also

slightly downward, as at *m*, under the horn-point, both parallel parts curve, as at *n*, downward and back and extend parallel, as at *o*, toward the rear. At the rear each part curves away from the other and makes a partial coil *p*, which is bent upward and terminates in an eye *q*. This spring thus has three eyes—the front center eye *k* and the two rear and side eyes *q*—which are triangularly disposed. A bolt *k'* secures the front eye to the seat-plate, and bolts *q'* secure the rear eyes. These bolts have very thin heads, which take closely down upon the top surface of the seat-plate.

The seat-plate at the front thus bears on the eye *k*, and the highest part of the spring at *l'*, and at the rear bears on the two eyes *q*. The plate nowhere else touches the spring. There is a resiliency in the forward and slightly-downward part *m*, also in the entire length of the two parallel parts *o* and in the rear coils *p*. The intention is to have this spring so stiff that under ordinary movement of the bicycle on fair roads the yield of the spring would not be observable; but on very rough roads and when moving over a deep gutter or when striking an obstruction the spring will yield sufficiently to save the rider from discomfort and the bicycle from undue strain.

In Fig. 7 is shown a section of a seat-plate A' sufficiently stiff to obviate the necessity for any upturned rim or flange.

Having thus described my invention, what I claim is—

1. A bicycle-saddle having in combination a sheet-metal seat-plate provided at the front with a horn-point curved downward and said plate having a plain top surface free of recesses; two unconnected pads or cushions secured on said top surface and separated by a longitudinal center space and each cushion provided along its central edge with a flange flush with the bottom of the cushion—the flanges of the two cushions projecting toward each other; and a sheath separate from the cushions and incasing the said horn-point and having on top an attached center piece which extends from the said sheath and overlaps the said two flanges on the cushions, as set forth.

2. In a bicycle-saddle the combination of a seat-plate having at its front a horn-point; and a spring supporting said seat-plate—said spring consisting of a wire rod having a central eye, *k*, bolted to the front of said plate back of the horn, and the wire rod thence extending parallel forward under the horn-point and slightly downward at, *m*, and both parallels curved back at, *n*, and the two parallel parts, *o*, extending toward the rear, and at the rear each part curving away from the other into a coil, *p*, which terminates in an eye, *q*, bolted to the rear part of the seat-plate, as shown and described.

In testimony whereof I affix my signature in the presence of two witnesses.

HARRY A. LERCH.

Witnesses:
CHAS. B. MANN, Jr.,
CHAPIN A. FERGUSON.