

(No Model)

E. B. JARVIS.  
BICYCLE SADDLE.

No. 584,637.

Patented June 15, 1897.

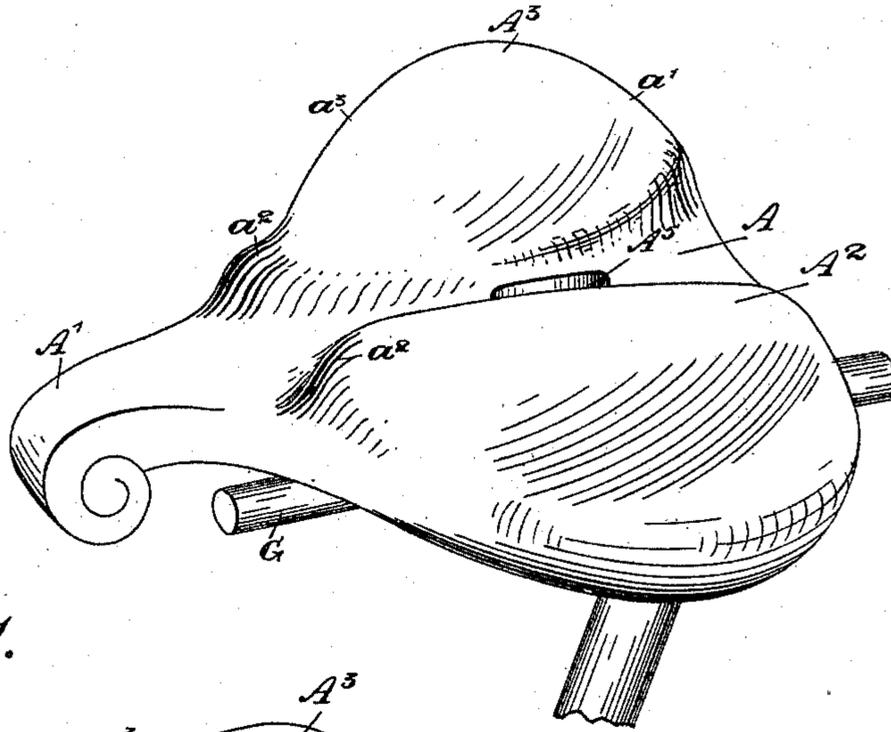


Fig. 1.

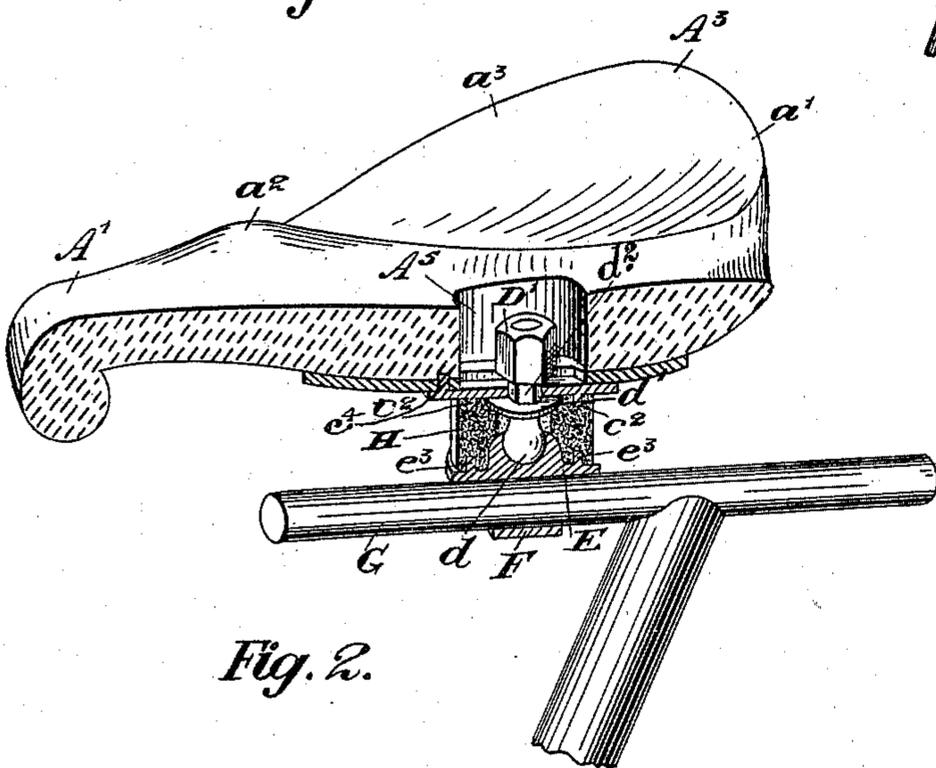


Fig. 2.

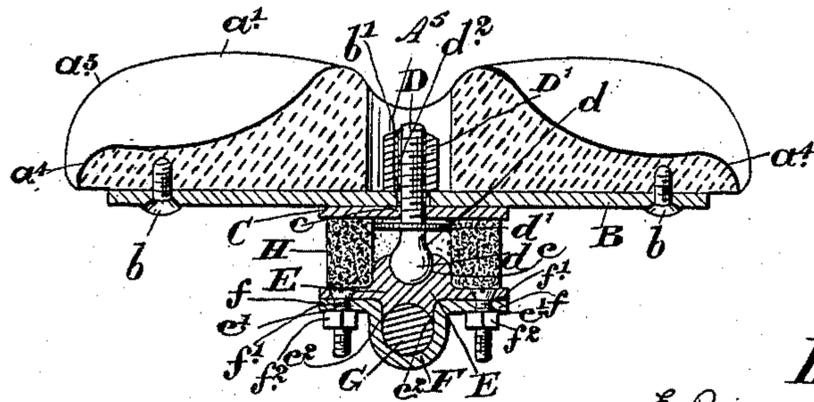


Fig. 3.

Witnesses.

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Inventor:

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# UNITED STATES PATENT OFFICE.

EDGAR BEAUMONT JARVIS, OF TORONTO, CANADA.

## BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 584,637, dated June 15, 1897.

Application filed July 8, 1896. Serial No. 598,469. (No model.) Patented in Canada July 22, 1896, No. 53,105.

*To all whom it may concern:*

Be it known that I, EDGAR BEAUMONT JARVIS, architect, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification.

This invention has been patented in Canada July 22, 1896, No. 53,105.

My invention relates to improvements in bicycle-saddles; and the object of the invention is to design a saddle in which the rider will be securely and comfortably retained on his seat and yet will be flexible enough to allow of it following the motion of the body sufficiently so as to entirely relieve any friction, rubbing, or pressure being exerted upon the sensitive portions, which is so commonly incident to saddles at present in use; and it consists of the details of construction as will be hereinafter described, and particularly pointed out in the claims.

Figure 1 is a perspective view of my saddle. Fig. 2 is a longitudinal sectional perspective view showing the manner in which the saddle is supported upon the saddle-bar. Fig. 3 is a cross-section through the saddle and universal-joint support.

In the drawings like letters of reference indicate corresponding parts in each figure.

Heretofore in saddles at present in use there has been much injury caused to the rider by the concussion, friction, or pressure upon the sensitive portions of the body. This to a great extent was caused by the saddle being provided with a raised ridge throughout the center and especially toward the front, which was formed in a long horn which was convex and had a great tendency to seriously and injuriously affect the tender portions of the body.

It is with the intention of getting rid of this horn, producing a seat which will conform to the buttocks, providing free ventilation between the buttocks, maintaining the parts likely to be injuriously effected entirely clear from any danger of contact, and allowing of a limited freedom of movement of the body without friction or pressure that my invention is chiefly designed.

The saddle may be made of wood or metal, papier-mâché pulp, or any other suitable ma-

terial, so as to form a solid seat without any supplemental cushion except what may be formed by covering it with leather or any other suitable yielding or flexible material, which must be made to conform with the shape.

I shall now describe the construction of the saddle and the manner in which it is supported on the saddle-bar.

A is a central depression or channel which extends from the rear to the front, where a depressed truncated projection or horn A' is formed with a downwardly-curved front end similar to the head of a violin.

A<sup>2</sup> are ridges forming the sides of the depression A and curved from front to rear to conform to the inner curve of the buttocks next the pelvis. The front portions a<sup>2</sup> of the ridges A<sup>2</sup> are slightly higher than the major portion of the ridges, and the back of the saddle a' is substantially on a level with the ridges except at the outer end a<sup>3</sup>, which is curved downwardly and forwardly. From the ridges the laterally-extending portions A<sup>3</sup> are concaved or merged gradually downwardly from the ridge into a concavo depression which has a slight rise at the outer side, so that it will conform to the shape of the buttocks. The saddle is then brought with a nicely-rounded curve a<sup>4</sup> to the bottom edge, which will not form any ridge which will have a tendency to make it uncomfortable under the thigh. The saddle is in reality formed from an imprint in clay taken from the buttocks and pelvis.

B is a plate which extends from side to side of the saddle near the rear end thereof and is secured in position by screws b. The plate B may be a spring-plate and have the central portion at any desired distance from the central portion of the saddle, but I prefer making it a plate which lies flat against the bottom of the saddle, which it will be noticed is flat from side to side at this point.

C is a washer which is situated beneath the plate B and provided with a central hole c.

D is a bolt which has a ball-shaped end d with a shoulder d', which is designed to abut the washer C. The bolt D extends through a slot b' in the plate B into a longitudinal slot A<sup>5</sup>, made in the central depression or channel A of the saddle. The bolt D has a flat-

tened side  $d^2$ , which abuts corresponding flat sides of the slot  $b'$  and hole  $c$ , so as to prevent the bolt from turning.

$D'$  is a nut which is screwed onto the top of the bolt, so as to hold the shoulder  $d'$  against the washer  $C$ . The nut  $D'$  may be of course gotten at by a key through the slot  $A^5$ , so as to loosen the same and move the saddle longitudinally upon the washer  $C$  to procure the proper position suitable to the rider.

$E$  is a plate provided with a socket  $e$ , into which the ball  $d$  of the bolt  $D$  fits. The plate  $E$  is formed of suitable material, preferably malleable cast-iron, so that the socket may be bent around the ball to retain the ball and socket together. The plate  $E$  is also circular.

$F$  is a metal strap, and  $G$  the saddle-bar around which the strap  $F$  fits, such strap being provided with laterally-extending offsets  $f$ .

$e'$  are bolts which are preferably cast or otherwise have their heads securely fastened in the plate  $E$ . The bolts  $e'$  extend through holes  $f'$  in the offsets  $f$ , and the strap is secured tightly to the bar, so as to prevent the saddle from turning, by such bolts and the nuts  $f^2$ .

It will of course be seen that the bolts may be long enough to accommodate different sizes of saddle-bars  $G$ . It will also be seen that I preferably provide downwardly-extending projections  $e^2$  from the plate  $E$ , so as to form a more secure grip upon the post  $E$ .

Although I describe the strap  $F$  with bolts  $f$  as the means for securing the socket-plate  $E$  to the bar  $G$ , it will of course be understood that any other suitable means might be employed, such as making the plate  $E$  solid with a longitudinal hole for the saddle-bar in it and securing such plate to the saddle-bar by means of a set-screw extending through any suitable portion of the casting thus formed.

$c^2$  are teats formed in a circle beneath the plate  $C$ .

$e^3$  are upwardly-extending teats formed in a circle on the top of the plate  $E$  directly underneath the teats  $c^2$ .

$e^4$  is a teat extending from the washer into the plate  $B$ . These teats serve to insure the saddle always assuming its proper position, thus obviating any friction on the leg which would otherwise occur.

$H$  is a cylindrical cushion-spring made of rubber or other suitable material of like quality, which is provided with holes at the top and bottom, into which the teats  $c^2$  and  $e^3$  respectively fit, so as to retain the cylindrical cushion-spring in position—that is, to prevent of its lateral displacement.

By a saddle such as I describe it will be seen that the ridges  $A^2$ , taken in conjunction with a downwardly-curved concavo depression, serve to maintain the rider securely on his seat from lateral displacement, and the raised portion  $A^2$  of the ridges  $A$ , taken in connection with the raised portion  $A'$  at the rear, serve to retain the rider from forward or

rearward displacement, the buttocks being snugly ensconced in the concavo depressions in the lateral extensions  $A^3$ . Complete ventilation is afforded by the depression or channel  $A$ , while the tender parts are entirely free from any contact on account of the depressed horn  $A'$ . The body being practically one with the saddle on account of its peculiar formation is permitted of a limited movement as the rider operates the pedals on account of the universal joint with the spring-support surrounding the same, which I find in practice makes the saddle much more comfortable than those at present in use.

Although I describe the ball part of the joint as connected to the saddle and the socket portion connected to the saddle-bar, it will, of course, be understood that these might be reversed without departing from the spirit of my invention.

An important advantage which cannot be overestimated in the construction of my saddle is the fact of the peculiarly-formed depressed downwardly-curved truncated horn  $A'$ . It will be seen from the construction of this horn, as hereinbefore described, taken in connection with the resiliency given to the saddle by means of the spring surrounding the joint, that a rider, should an accident occur, can readily slip off the horn and front, which will, of course, give and thereby serve to prevent such rider from being injured.

Another advantage also rises from the construction of my saddle, as it will be seen that the center of gravity of the rider will always be in the same relative position in reference to the center of bearing of the joint, the saddle having a circular oscillating movement in any direction to which motion is imparted to it by the motion of the body or any movement the machine may take over uneven ground.

What I claim as my invention is—

1. In combination the saddle, the plate extending across the bottom of the same, the washer situated underneath the plate the ball portion of the joint connected to the washer and plate, the circular socket-plate, means for connecting it to the saddle-bar, and a cylindrical rubber spring surrounding the joint and teats in the washer and socket-plate extending into holes in the top and bottom respectively of the rubber spring as and for the purpose specified.

2. In combination the saddle, the cross-plate secured underneath the same, the longitudinal slot extending through the saddle, the longitudinal slot in the plate, the washer, the bolt extending through the washer and slots in the plate and saddle, the nut screwed onto the top of the bolt, the ball at the bottom, the socket-plate, means for securing it to the saddle-bar and the spring surrounding the joint as and for the purpose specified.

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Witnesses:

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E. R. CASE.