

No. 610,614.

Patented Sept. 13, 1898.

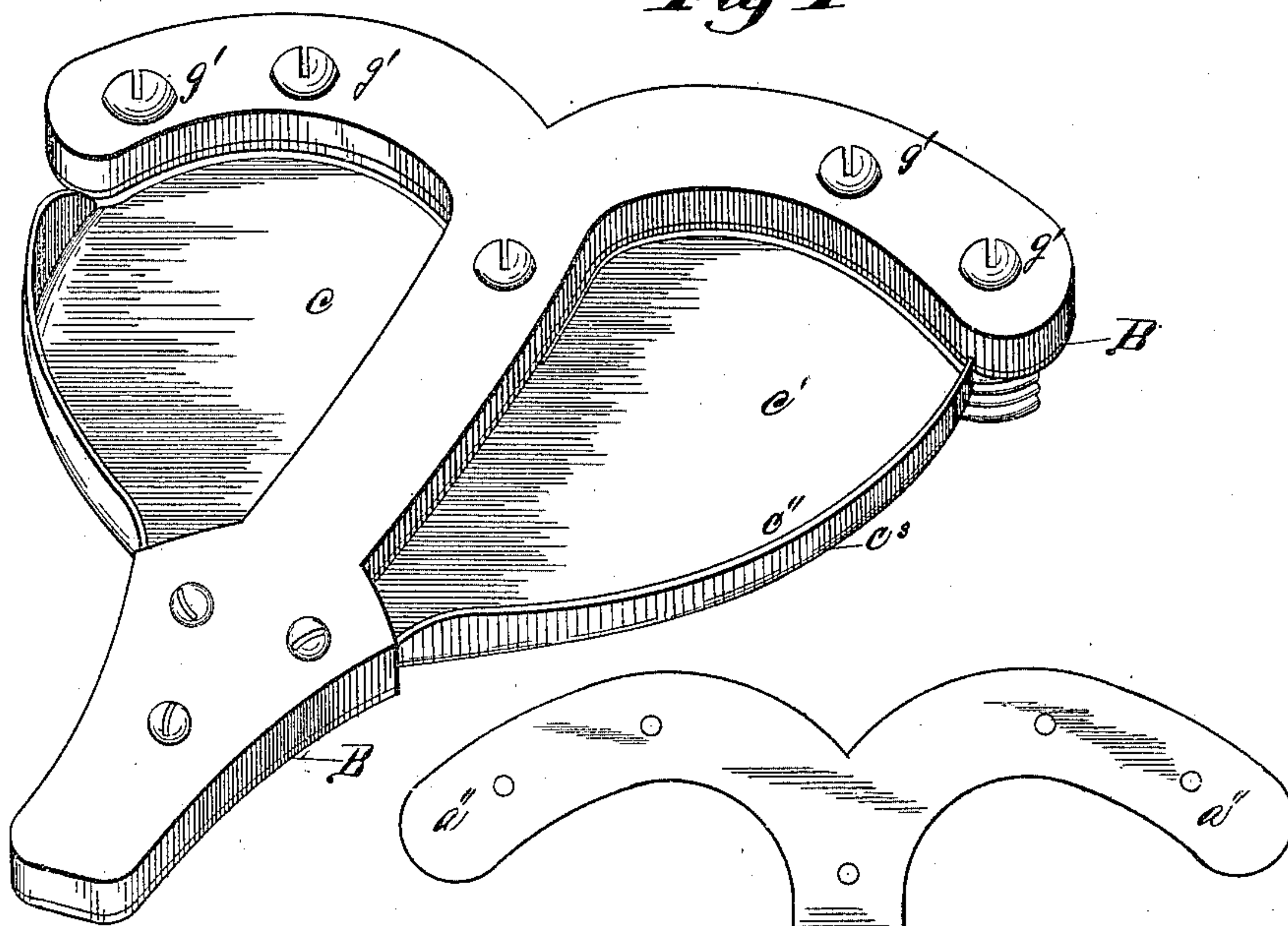
W. S. SMITH.  
BICYCLE SADDLE.

(Application filed Dec. 10, 1896.)

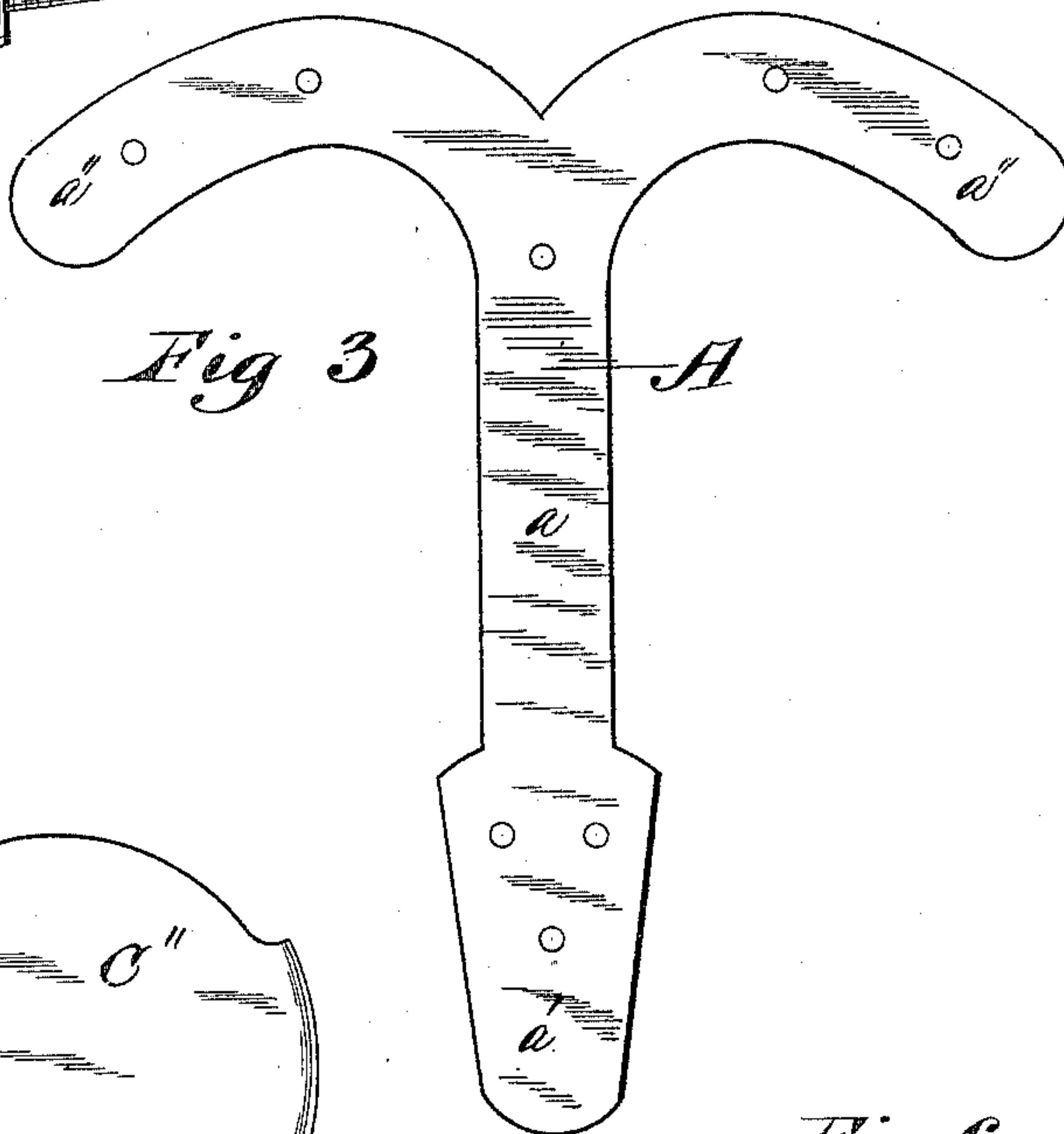
(No Model.)

2 Sheets—Sheet 1.

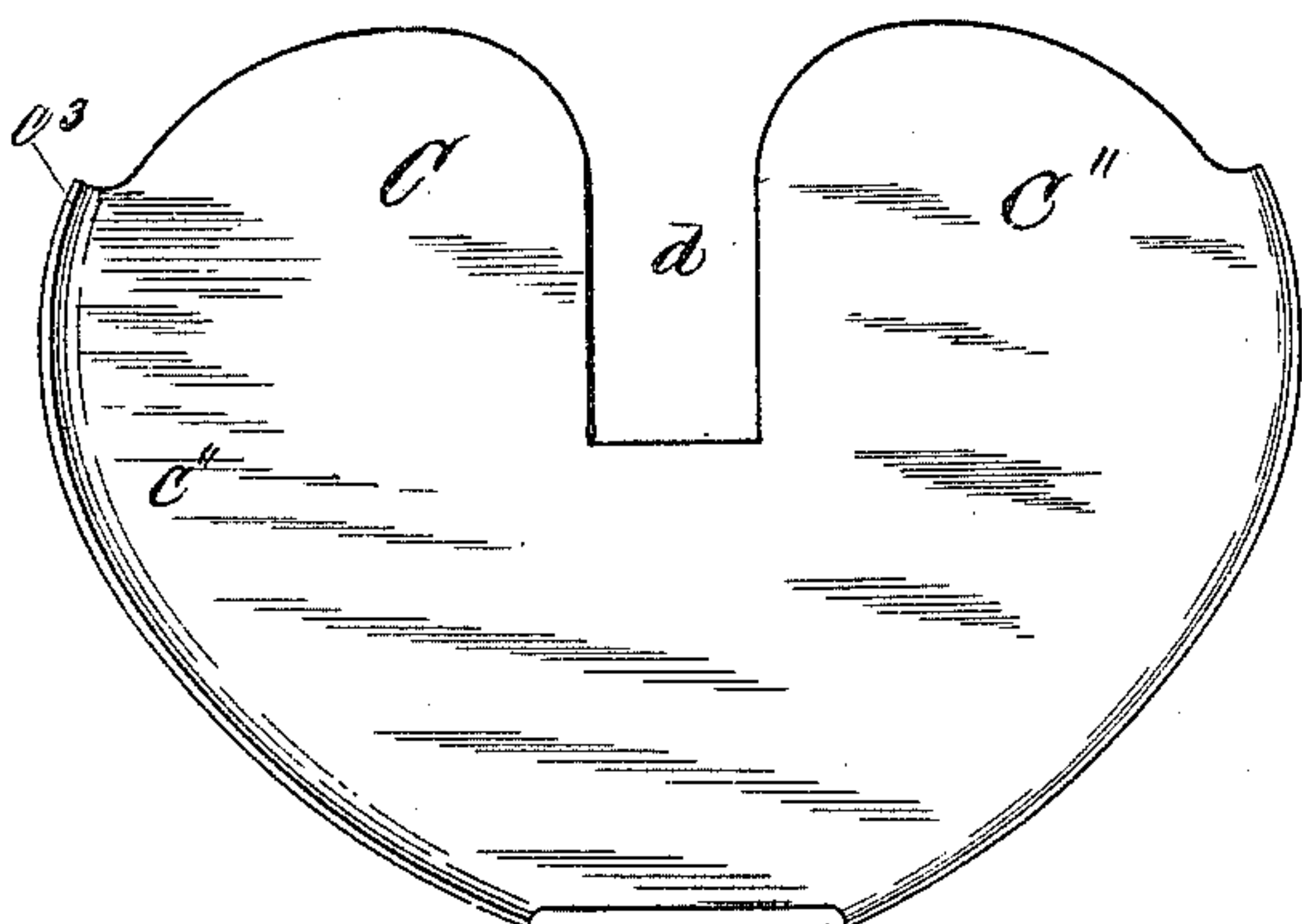
*Fig 1*



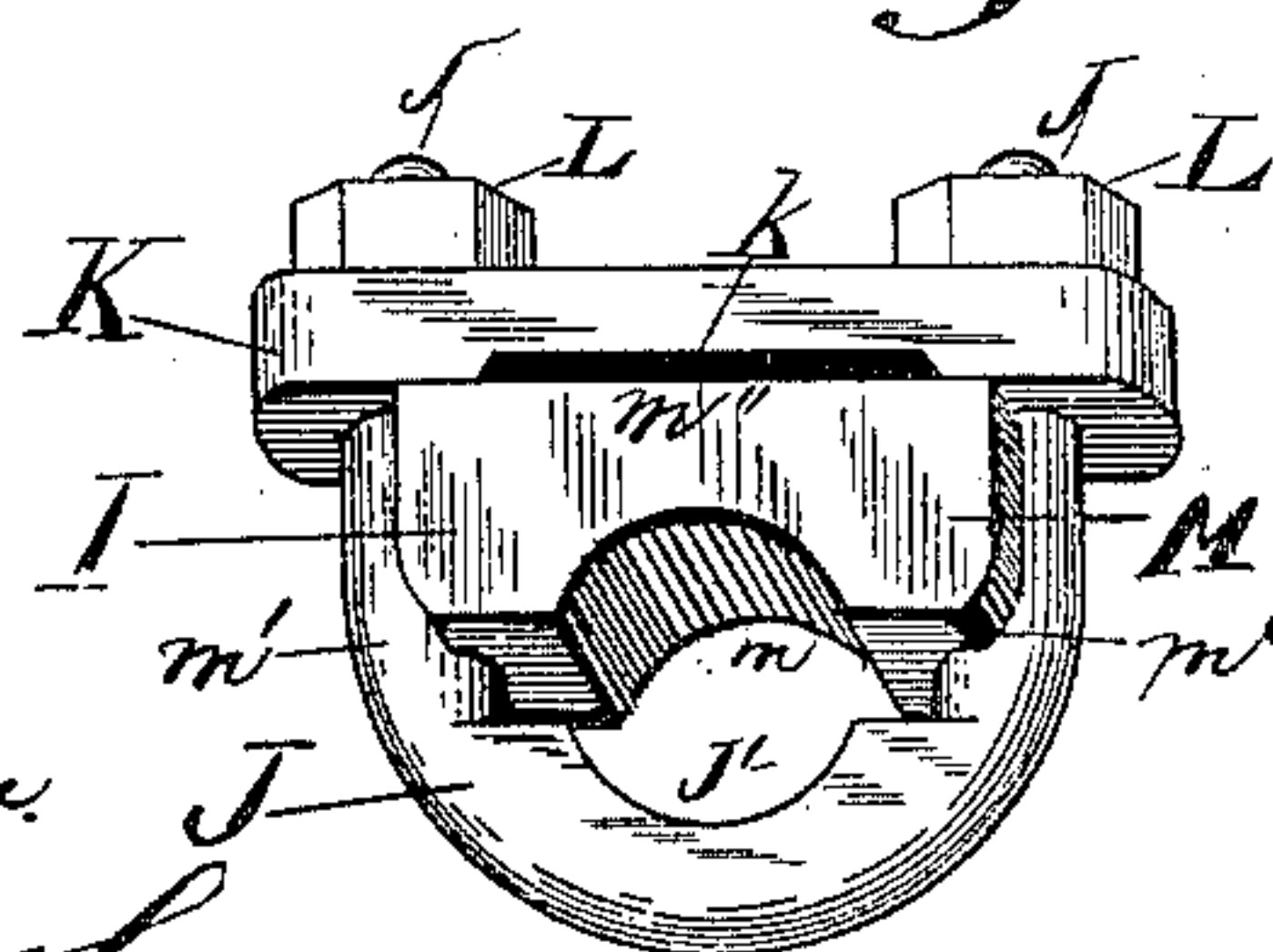
*Fig 3*



*Fig 4*



*Fig 6*



Witnesses.

*A. B. Pollock.*  
*A. B. Pollock.*

Inventor: *J. W. S. Smith*  
by *C. R. Riches*  
his attorney

No. 610,614.

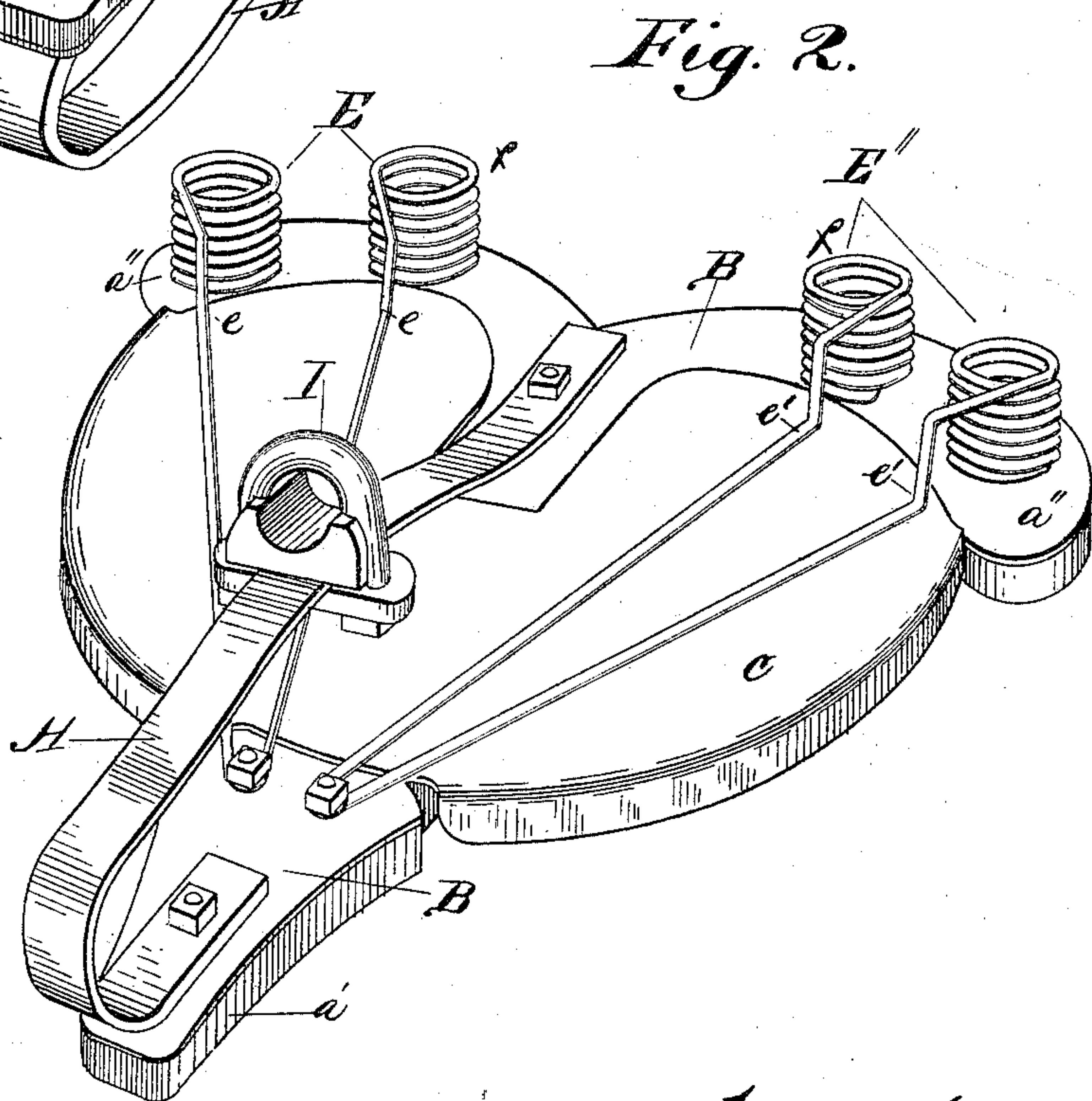
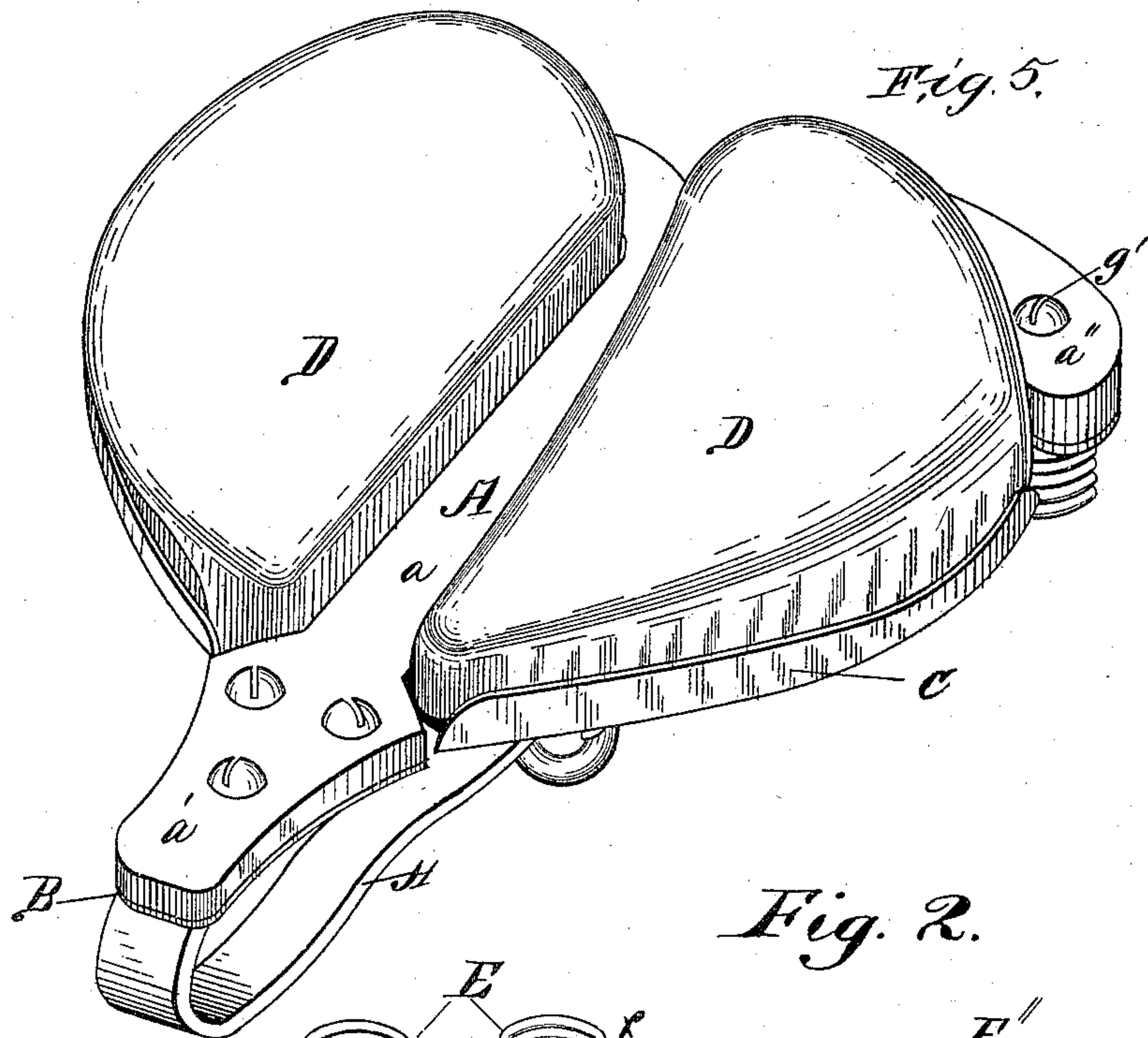
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BICYCLE SADDLE.

(Application filed Dec. 10, 1896.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses.

R. A. Sydney  
H. B. Pliska

Inventor  
W. S. Smith.  
by C. S. Riches  
his attorney



# UNITED STATES PATENT OFFICE.

WILLIAM S. SMITH, OF TORONTO, CANADA.

## BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 610,614, dated September 13, 1898.

Application filed December 10, 1896. Serial No. 615,227. (No model.) Patented in Canada January 22, 1897, No. 54,704.

*To all whom it may concern:*

Be it known that I, WILLIAM SANFORD SMITH, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Saddles for Bicycles or other Foot-Propelled Vehicles, (for which Letters Patent of Canada, No. 54,704, were issued on January 22, 1897;) and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to certain new and useful improvements in saddles for bicycles and other foot-propelled vehicles; and the object of the invention is to so construct the saddle that it will provide a seat of sufficient rigidity to enable the rider to propel the vehicle and of sufficient flexibility and resiliency to relieve the rider of that common and uncomfortable sensation known as "jarring;" and the invention consists, essentially, of an independent seat-plate located below the saddletree and sustained by elastic supports connected to the under side of the saddletree, the whole device being hereinafter more fully set forth, and more particularly pointed out in the claims.

In the drawings, Figure 1 represents a perspective view of a skeleton saddle, looking at it from the top. Fig. 2 is a similar view looking at it from the bottom. Fig. 3 is a plan view of the saddletree. Fig. 4 is a plan view of the seat-plate. Fig. 5 is a perspective view of the upholstered saddle. Fig. 6 is a perspective view of the clip.

Like letters of reference refer to like parts throughout the specification and drawings.

A represents the saddletree, consisting of a stem *a*, terminating at one end in a horn *a'* and at the opposite end in two outwardly-branching curved arms *a'' a''*. The inner edge of each of the arms *a'' a''* is concaved, while the outer edge of each of the said arms is convexed. While not confining myself to any particular material for the saddletree A, I prefer to make it of wood strengthened, when necessary, by a metallic plate B, fastened to its under side.

C represents the seat-plate, located below the saddletree A and preferably independent

of any direct connection with it, the middle of the plate C being vertically below the middle of the stem *a*. The seat-plate C, as shown in the drawings, is substantially heart-shaped (in plan) and consists of two pockets or recesses *c c'*, each adapted to receive a seat-pad D. The pockets *c c'* forward of the middle portion of the plate are united and at the rear of the said middle portion are separated by a space *d* slightly greater in width than the width of the stem *a*. The back of each of the pockets *c c'* is curved to correspond with the curvature of the inner edges of the arms *a'' a''*. The pockets *c c'* and the connection between them at the forward end of the seat-plate C are made integral. Each of the pockets or recesses *c c'* consists of a bottom *c''* and an upwardly-turned flange *c<sup>3</sup>* at the outer edge of the pocket. Within the pockets or recesses *c c'* are the seat-pads or cushions D, made of any suitable material.

E E' represent two sets of elastic supports connected to the saddletree and adapted to sustain the seat-plate C. Each of the supports E E' consists of a substantially V-shaped arm *e e'*, respectively connected at the front end to the under side of the horn *a'* of the saddletree A. The end of each of the arms *e e'* is coiled to form a helical spring *f*. The springs *f* are each connected to the under side of the arms *a'' a''* in their proper relative position. Each of the V-shaped arms is connected to the horn *a'* of the saddletree by means of a bolt and nut *g*, and the springs *f* are similarly connected by means of bolts and nuts *g'* to the under side of the arms *a'' a''*. Connected to the under side of the saddletree A is the saddle-spring H, which may be of any suitable shape.

I represents the clip for fastening the saddle to the saddle-post. The clip I consists of a substantially U-shaped bracket J, the ends *j* of which extend above the saddle-spring H, a yoke K above the spring H, through which pass the ends *j*, nuts L, screwed on the ends *j*, and a movable block within the bracket J below the spring H, the under side of the block M having a semicircular recess *m*, corresponding with a similarly-shaped recess *j'* in the bracket J. The top of the saddle-post passes through



the recesses  $m j'$ , and by tightening the nuts L the block is forced against the top of the saddle-post with sufficient pressure to rigidly connect the saddle-spring to the saddle-post.

5 By so arranging the clip that the tightening-nuts L are above the saddle-spring it is possible to bring the saddle-spring close to the top of the saddle-post. The movable block M is provided with flanges  $m'$  to embrace the  
10 sides of the U-shaped bracket J to maintain the block M in its proper position when moving vertically to embrace the saddle-post. The yoke K is recessed to form a seat  $k$  for the saddle-spring H. By providing the yoke  
15 K with a seat  $k$  the possibility of side motion on the part of the clip is practically avoided.

The action of the saddle is as follows: In riding over a smooth surface there is no action or practically no action on the part of  
20 the seat-plate; but the moment that a rough or uneven surface is reached the seat-plate C and supports E E' yield sufficiently to relieve the rider of the vibration developed during the progress of the vehicle, the springs  
25 and seat-plate having sufficient strength and resiliency to return to their normal position when the cause of the vibration has ceased. By uniting the pockets  $c c'$  the motion of one pocket is transmitted to the other, and by this  
30 means both pockets are caused to move unitedly, thus equalizing the action of the supports E E'. In the event of the breakage of one of the supports E or E' the downward movement of the seat-plate will be arrested  
35 by coming into contact with the saddle-spring H. The seat-pads or cushions elevate the rider sufficiently above the saddletree A to prevent any portion of the saddletree coming into contact with the genital organs either  
40 when the seat-plate is in its normal position or in its depressed position.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

45 1. A bicycle-saddle consisting of a seat-plate, a saddle tree or frame having at its rear end branching or diverging arms extending one in rear of each side of the seat-plate, said seat-plate being independent of the saddle-  
50 tree and elastic supports secured at their front ends to the saddle tree or frame, and diverging rearwardly and secured to the arms of the frame.

2. A bicycle-saddle consisting of a saddle  
55 tree or frame, of a seat-plate independent of said frame and supported below the latter by spring-supports the rear ends of which are secured to the rear arms of the frame, while their forward ends are secured to the front  
60 end or horn of the saddletree.

3. A bicycle-saddle consisting of a saddle-  
tree, an independent seat-plate, elastic sup-  
ports sustaining the seat-plate connected to  
65 the saddletree, each support consisting of a substantially V-shaped frame connected at

the V end to the horn of the saddletree, and a coiled spring integrally formed with the outer end of each arm, the upper ends of the springs connected to the saddletree, substantially as specified.

4. A bicycle-saddle consisting of a saddle-  
tree, an independent seat-plate, elastic sup-  
ports sustaining the seat-plate connected to  
the saddletree, each support consisting of a  
substantially V-shaped frame connected at  
75 the V end to the horn of the saddletree, a coiled spring integrally formed with the outer end of each arm, the upper ends of the springs connected to the saddletree, and seat-  
80 pads supported by the seat-plate, substantially as specified.

5. A bicycle-saddle consisting of a saddle-  
tree, substantially T-shaped, comprised of a  
stem, and two outwardly-branching arms at  
the rear end of the stem, a seat-plate located  
85 below the saddletree, the rear of the seat-plate shaped to correspond with the inner edge of the said arms, an upwardly-turned flange surrounding each side of the seat-plate to form pockets for the seat-pads, and springs  
90 connected to the arms and stem of the saddletree, to sustain the seat-plate substantially as specified.

6. A bicycle-saddle consisting of a saddle-  
tree, substantially T-shaped, comprised of a  
95 stem, and two outwardly-branching arms at the rear end of the stem, a seat-plate located below the saddletree, the rear of the seat-plate shaped to correspond with the inner edge of the said arms, an upwardly-turned  
100 flange surrounding each side of the seat-plate to form pockets for the seat-pads, springs connected to the arms and stem of the saddletree, to sustain the seat-plate, and seat-pads supported by the seat-plate, substantially as  
105 specified.

7. A bicycle-saddle consisting of a saddle-  
tree, substantially T-shaped, comprised of a  
stem and two outwardly-branching curved  
arms at the rear of the stem, an independent  
110 seat-plate below the saddletree consisting of two pockets integrally united at their forward end, elastic supports connected to the under side of the saddletree to sustain the seat-  
115 plate, each support consisting of a substantially V-shaped arm connected at the V end to the horn of the saddletree, and a coiled spring integrally formed with the outer end of each arm, the upper end of the springs  
120 connected to the under side of the outwardly-branching arms of the saddletree, substantially as specified.

8. A bicycle-saddle consisting of a saddle-  
tree, substantially T-shaped, comprised of a  
125 stem and two outwardly-branching curved arms at the rear of the stem, an independent seat-plate below the saddletree consisting of two pockets integrally united at their forward end, elastic supports connected to the under  
130 side of the saddletree to sustain the seat-



plate, each support consisting of a substantially V-shaped arm connected at the V end to the horn of the saddletree, a coiled spring integrally formed with the outer end of each  
5 arm, the upper end of the springs connected to the under side of the outwardly-branching arms of the saddletree, and seat-pads

supported by the seat-plate, substantially as specified.

Toronto, November 20, 1896.

W. S. SMITH.

In presence of—

M. A. WESTWOOD,

C. H. RICHES.