

(No Model.)

2 Sheets—Sheet 1.

L. M. DEVORE.
BICYCLE SADDLE.

No. 597,055.

Patented Jan. 11, 1898.

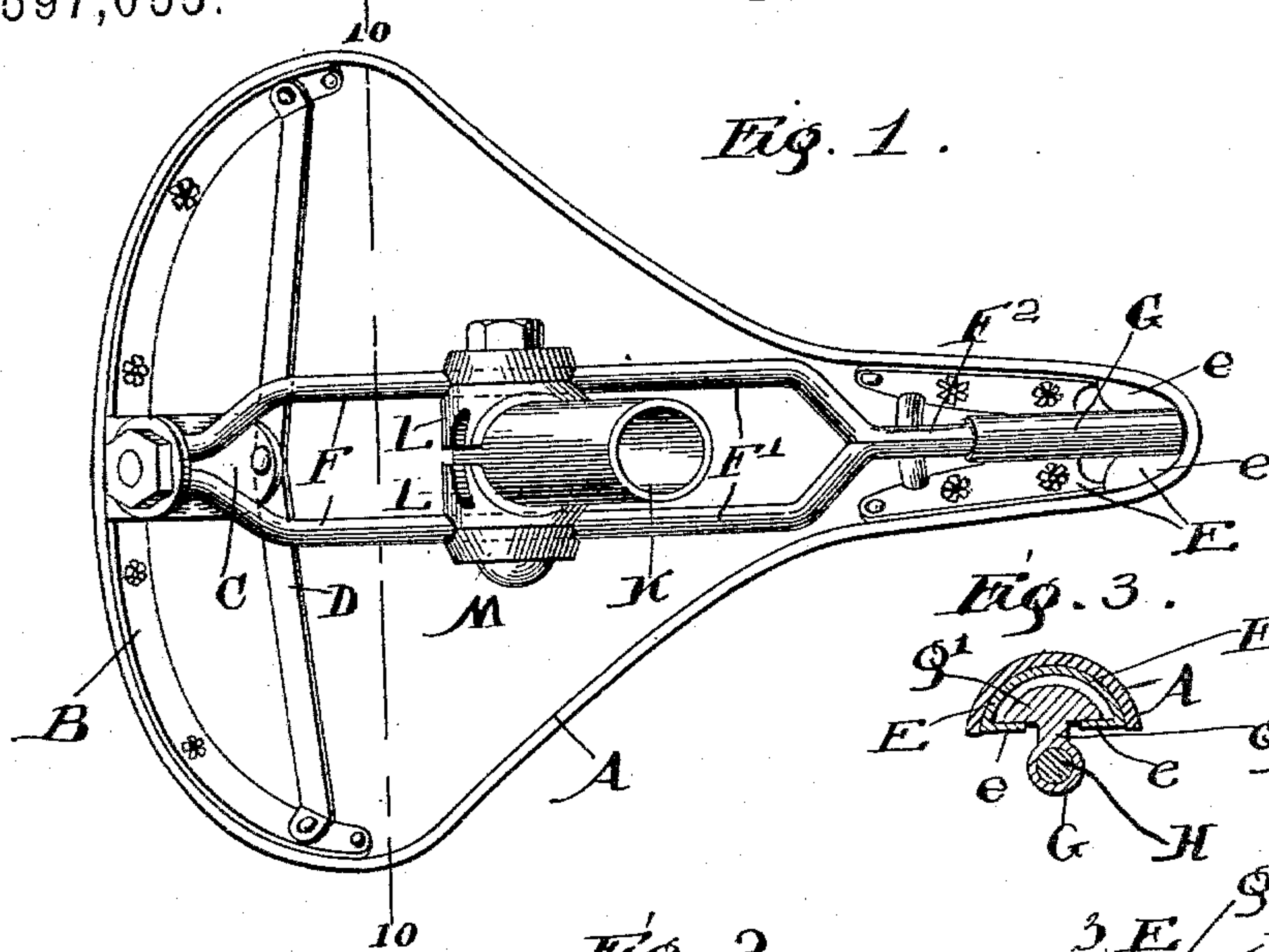


Fig. 1.

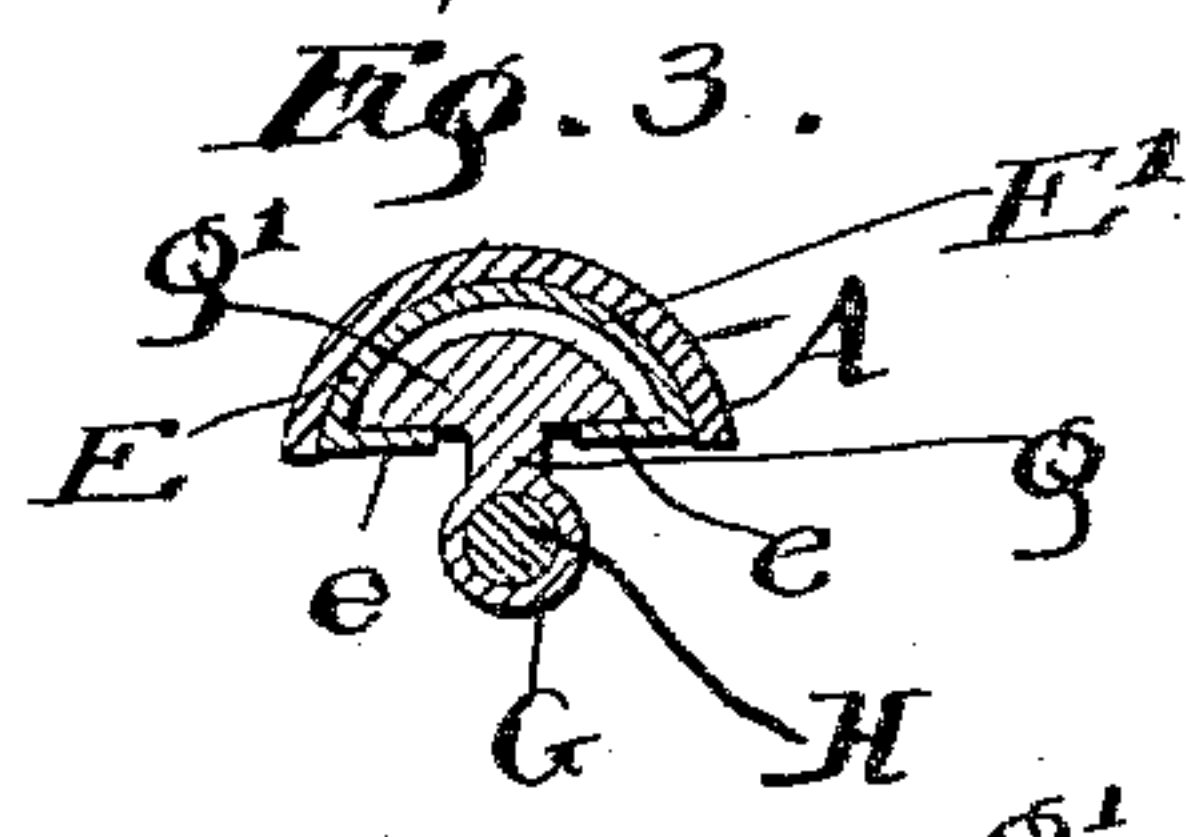


Fig. 3.

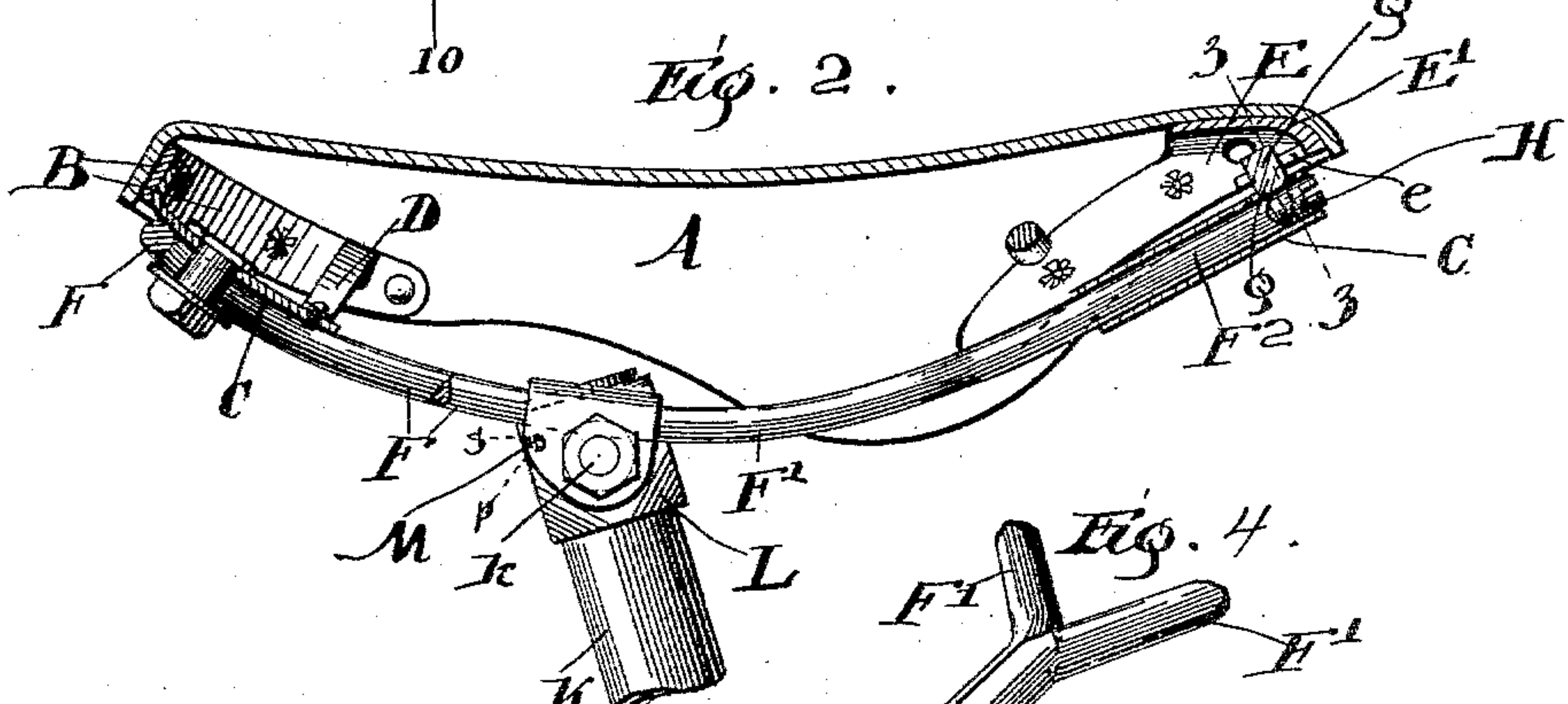


Fig. 2.

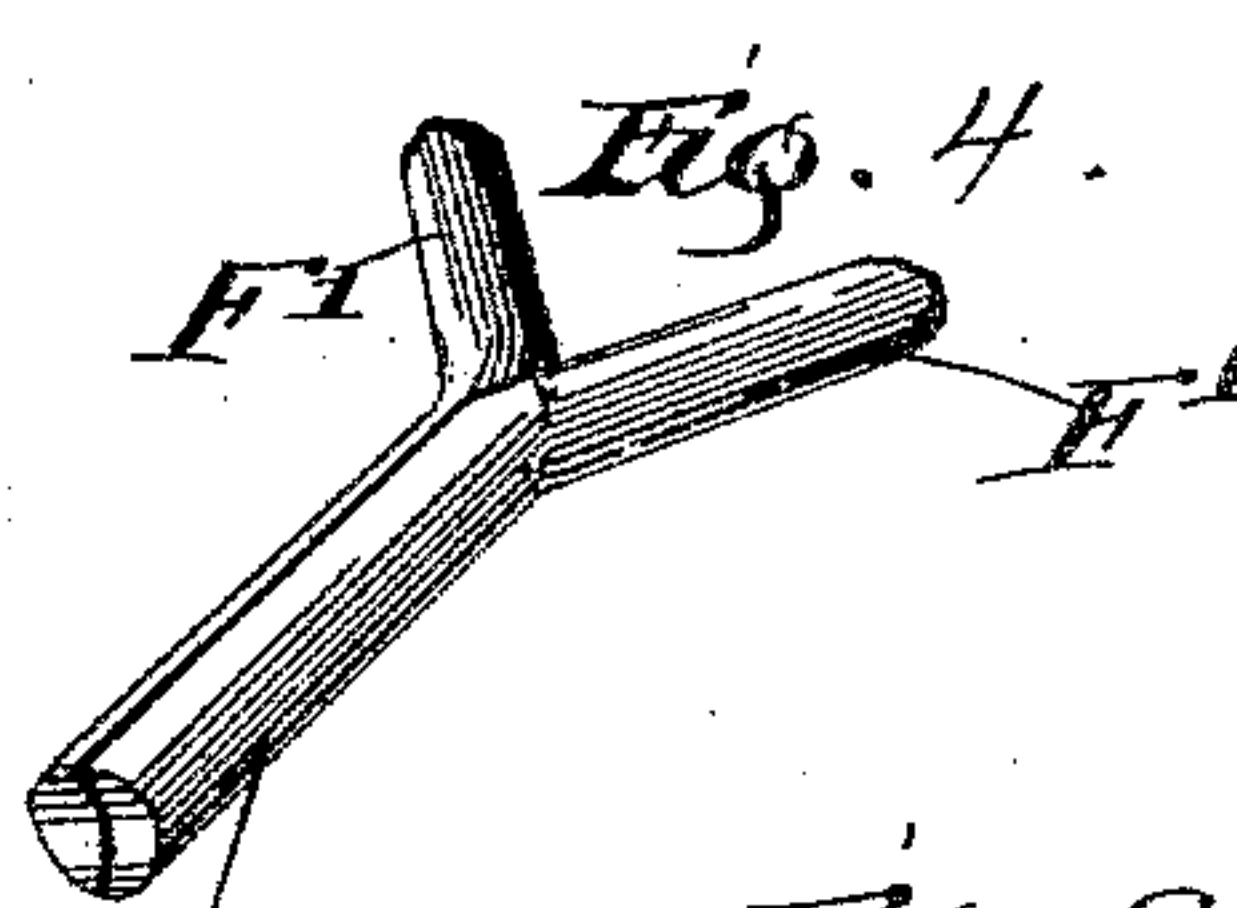


Fig. 4.

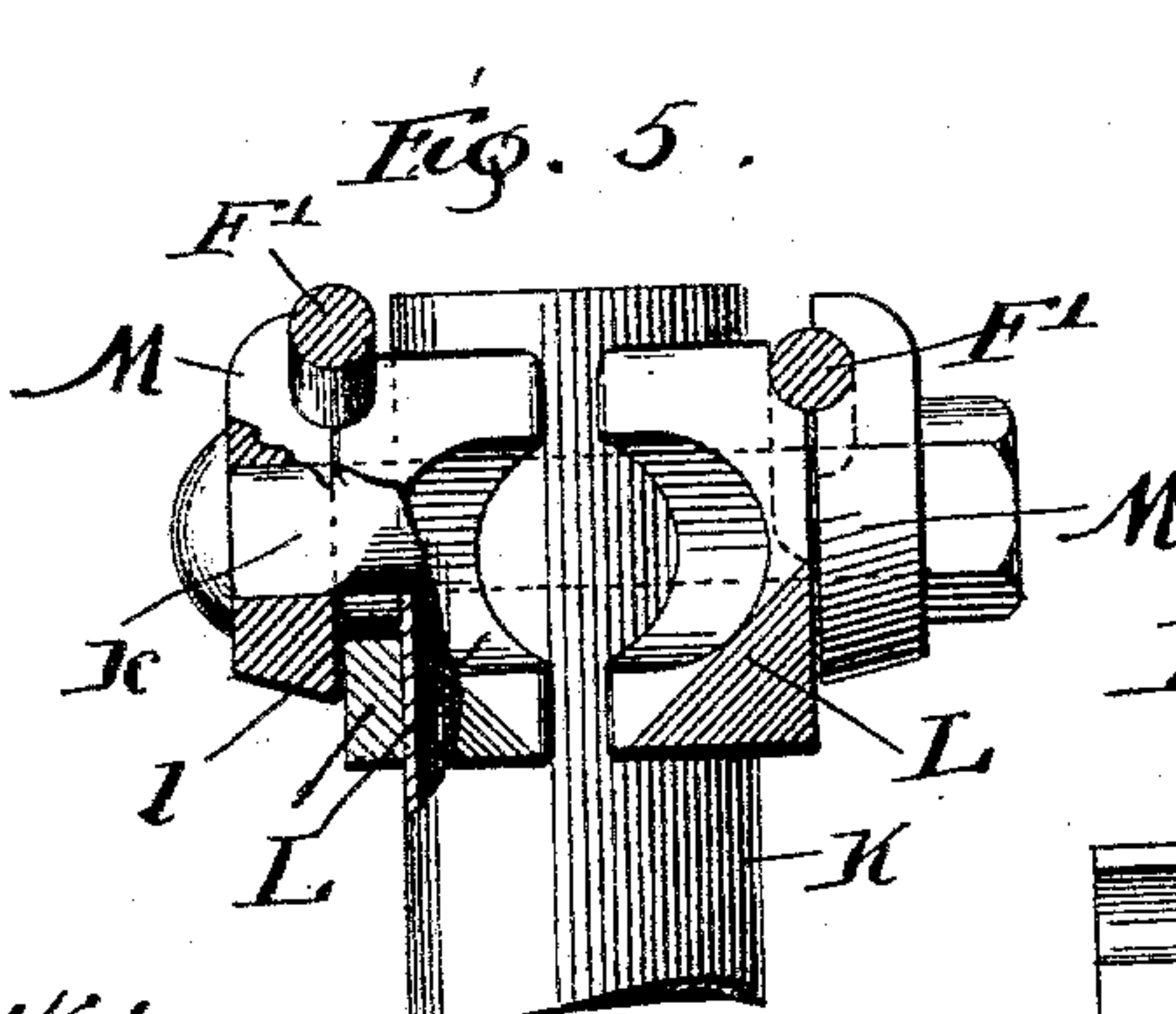


Fig. 5.

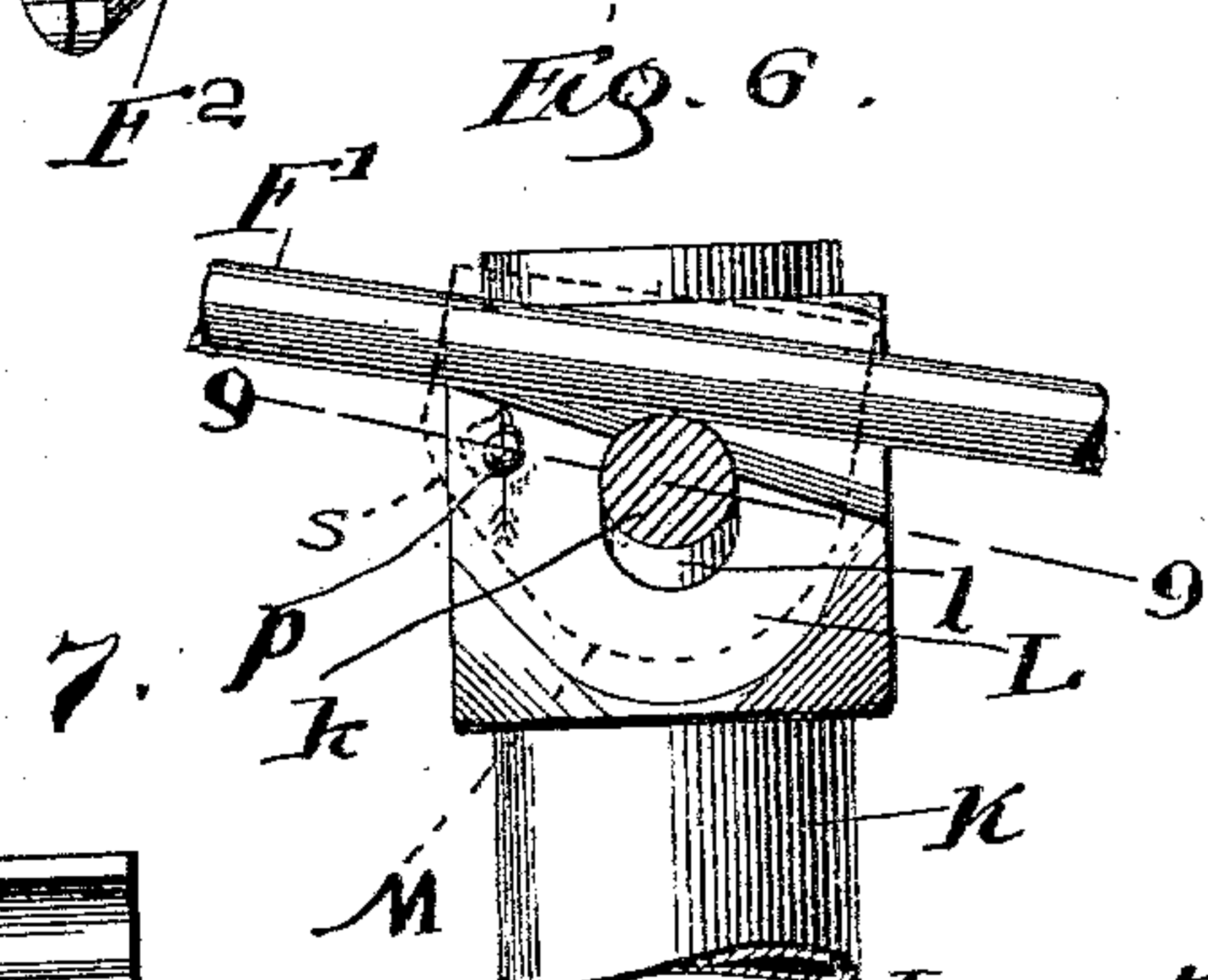
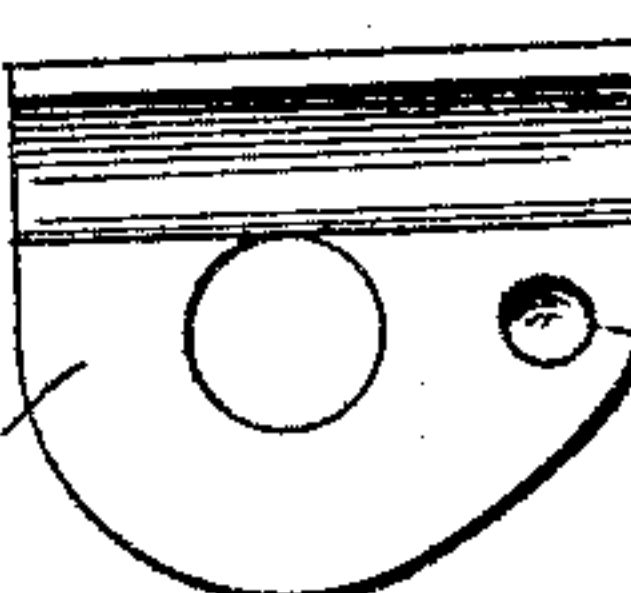


Fig. 6.

Fig. 7.

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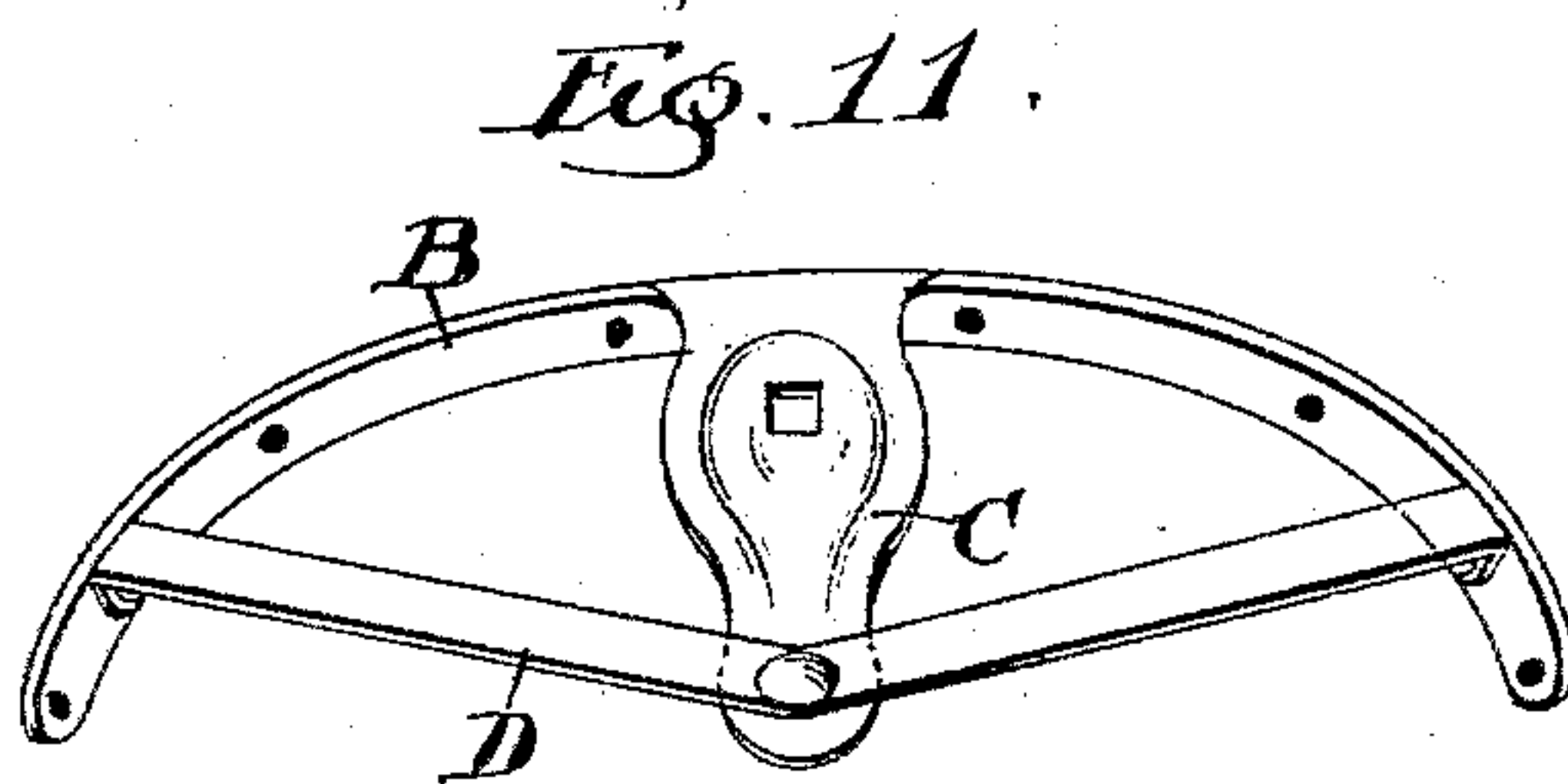
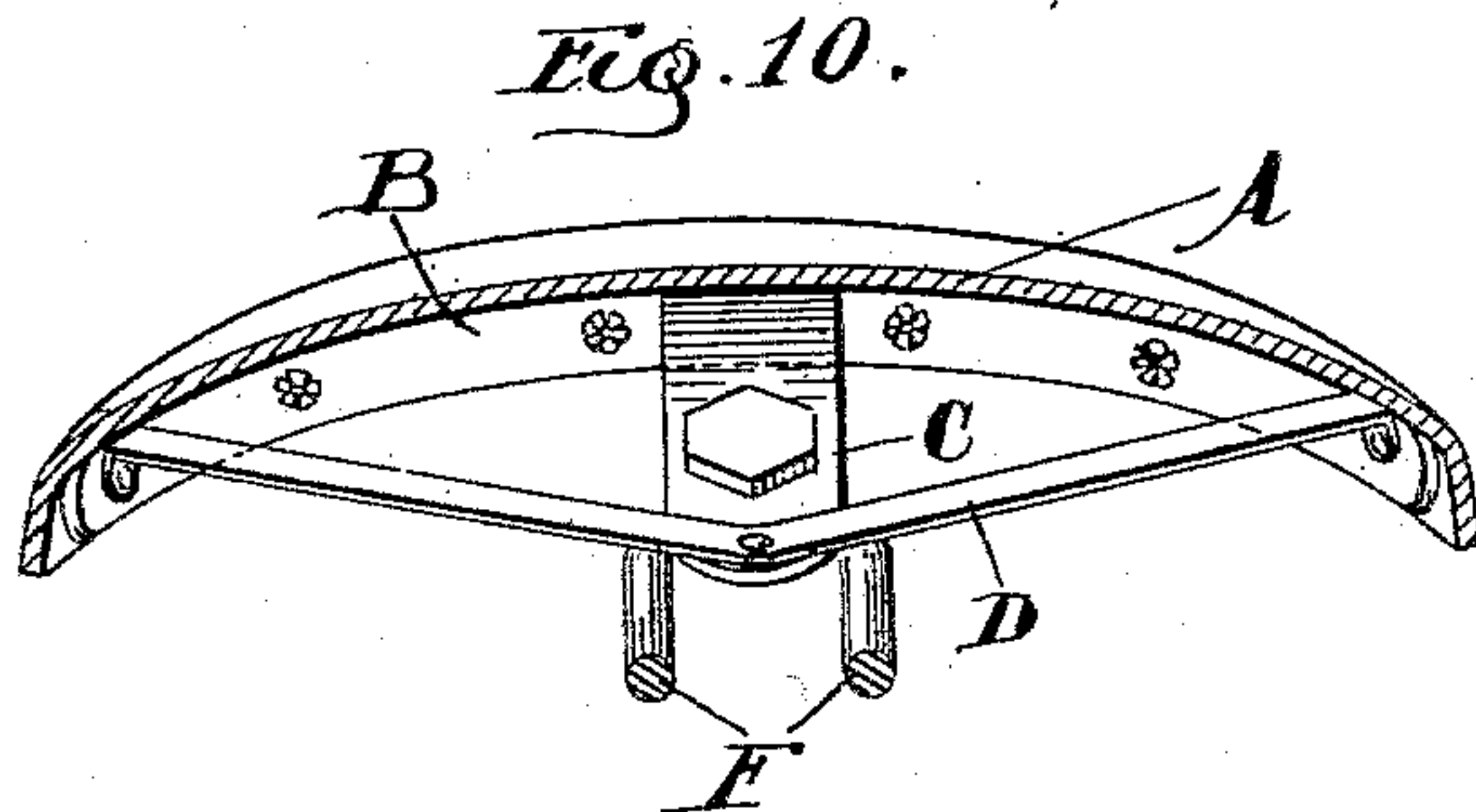
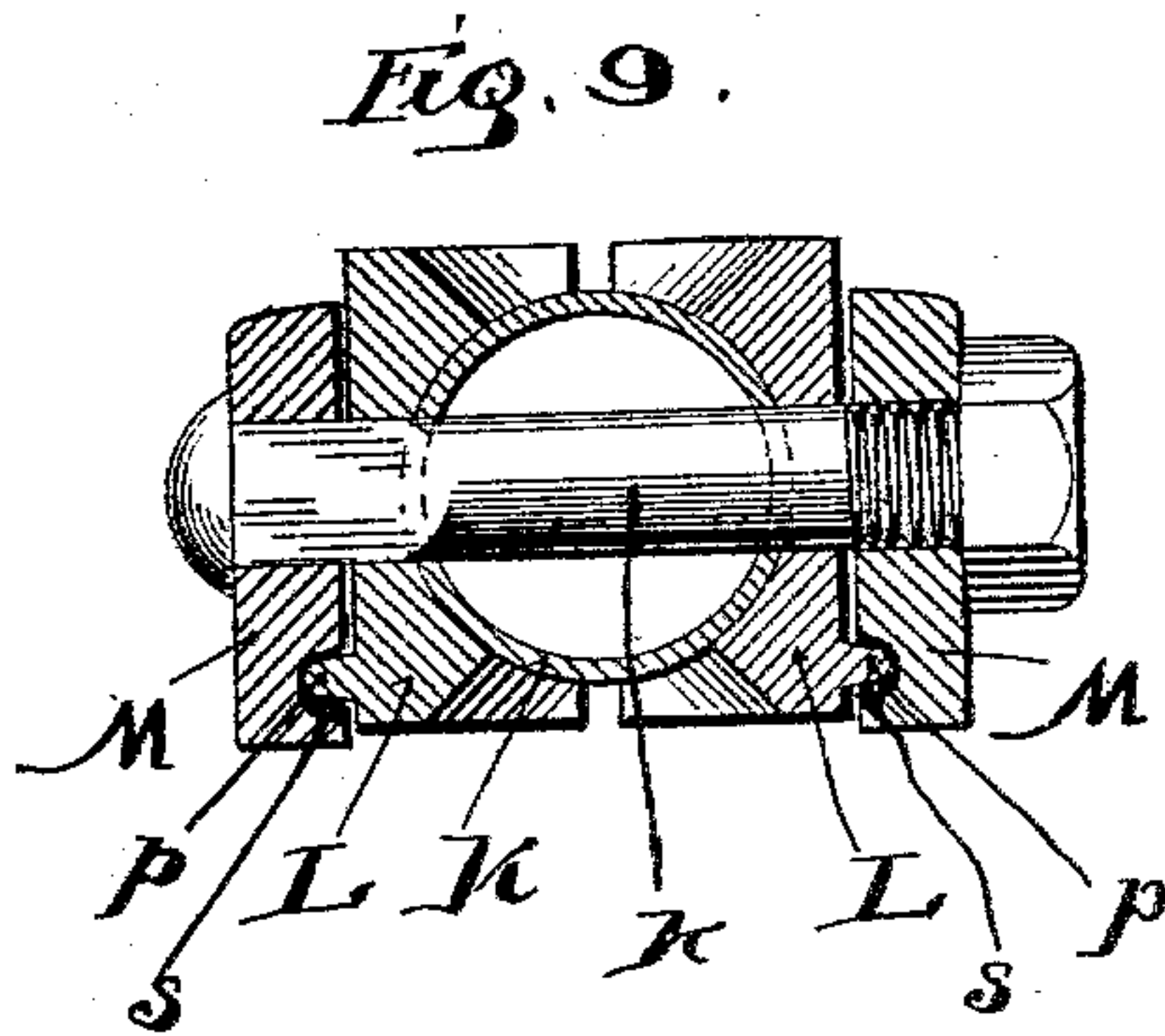
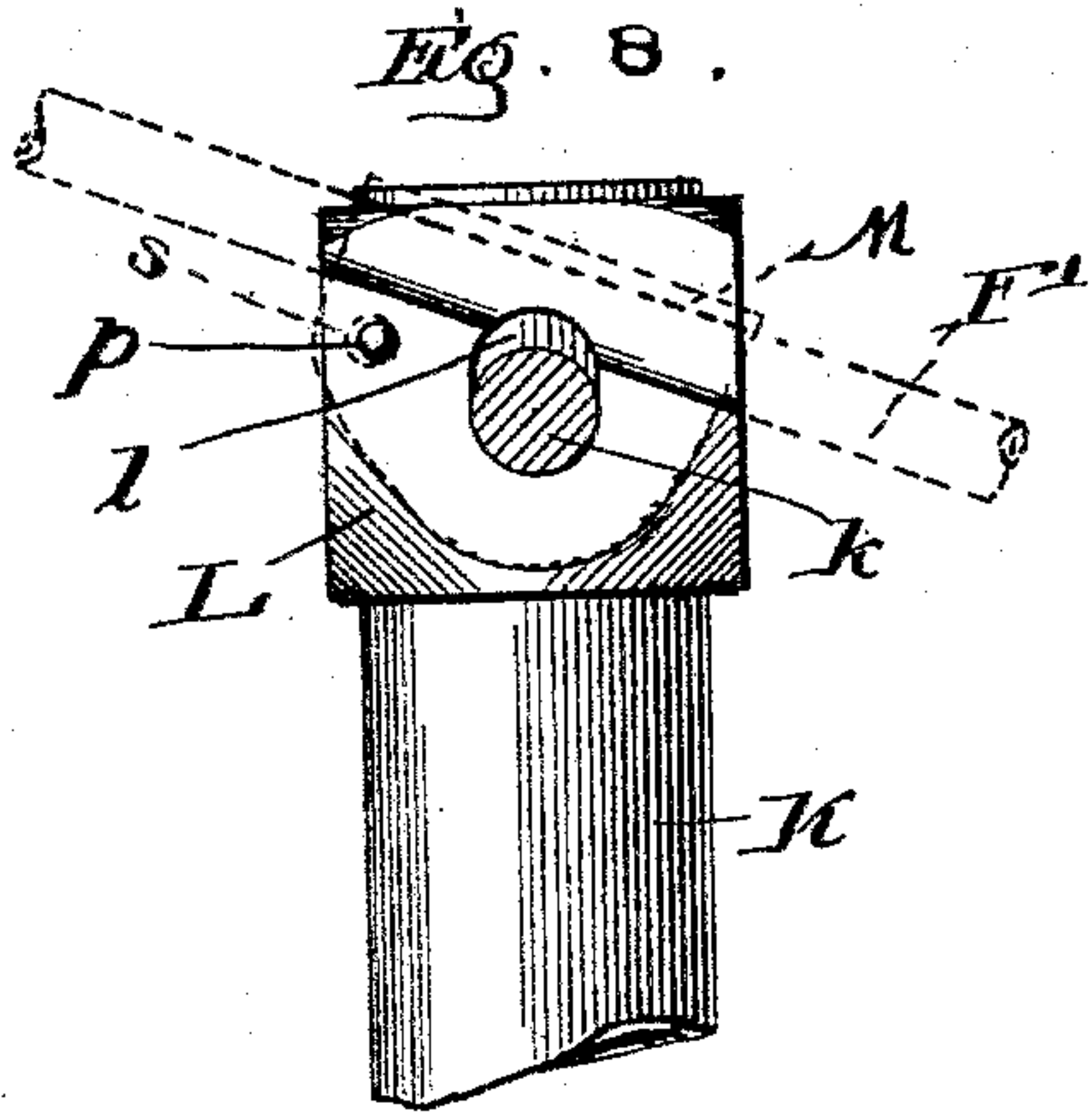
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L. M. DEVORE.
BICYCLE SADDLE.

No. 597,055.

Patented Jan. 11, 1898.



Witnesses:

Chas. O. Hurvey
M. L. Oshahan

Inventor:

Levi M. Devore
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UNITED STATES PATENT OFFICE.

LEVI M. DEVORE, OF FREEPORT, ILLINOIS.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 597,055, dated January 11, 1898.

Application filed April 2, 1896. Serial No. 585,914. (No model.)

To all whom it may concern:

Be it known that I, LEVI M. DEVORE, a citizen of the United States of America, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification.

My invention relates to improvements in bicycle-saddles, its object being to provide a light, strong, easy, and durable saddle having simple and effective means for adjusting its inclination and its bodily position with reference to the frame of the machine.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a bottom plan of a saddle and the saddle-post to which it is attached. Fig. 2 is a longitudinal vertical section of the saddle, showing its relation to the post. Fig. 3 is a transverse section through the line 3 3, Fig. 2, showing the connection of the spring and pommel-iron of the saddle. Fig. 4 is a perspective view of the ends of the spring. Figs. 5, 6, 7, 8, and 9 are detail views of the adjusting device for varying the bodily position and inclination of the saddle. Fig. 10 is a transverse section of the saddle through the line 10 10, Fig. 1, looking toward the cantle of the saddle; and Fig. 11 is a bottom plan showing the transverse cantle-brace at an angle somewhat different from that shown in Fig. 1.

In the views, A is the leather seat of a saddle of ordinary form, and B is the cantle of the saddle, formed, preferably, of sheet metal and conforming to the outline of the rear end of the leather seat, to which it is attached. A plate C is attached to the center of the cantle and projects forward and slightly downward therefrom, as shown in Figs. 1, 2, and 10, and to this plate is fastened a transverse brace D, whose ends are fastened to the cantle preferably quite near the ends thereof, as shown in the drawings, the ends of the brace being considerably higher than the center, so that it forms an inverted arch, as clearly indicated in Fig. 10.

To the front end of the seat A is fastened a pommel-iron E, made up of two branches fastened to the opposite edges of the front portion of the seat and integral with a cen-

tral portion E', having the form shown in cross-section in Fig. 3, this central portion being provided with two underhanging lips *e e*, as clearly shown in said figure and in Fig. 2.

To the plate C is bolted the rear end of a spring F, formed of a single steel wire bent at its center to form the rear end, which is fastened to the plate and extending forward in two parallel suitably-separated branches F', which converge at their front ends and have their contiguous faces flattened, so as to form together a single cylinder F², as clearly illustrated in Fig. 4. The cylinder F² is seated in a tube G, provided with an upwardly-projecting lug *g*, having a head *g'*, the lug being adapted to pass between the lips *e e* and the head to lie in the space above said lips, as shown in Figs. 2 and 3, the tube G being thereby held in suitable relation to the pommel in an exceedingly simple manner. A set-screw H lies within and engages the front end of the tube G and is adapted and intended to apply suitable tension to the leather seat by forcing the spring backward with relation to the pommel. In order to prevent accidental rotation of the screw, I have found it advisable to form a slight transverse notch in the end of the cylinder F², formed by the flattened ends of the spring, and to give the end of the screw a corresponding form, so that at each half-revolution it seats itself in the notched end of the spring and is thus secured against accidental displacement. It will readily be seen that the form of the ends of the spring not only permits them to be seated in the tube, which is a simple form of socket, but further permits the two members of the spring to rock freely together in either lateral direction, but absolutely prevents either of them from rocking or twisting independently of the other. The tension applied by the set-screw H gives the saddle any required degree of stiffness within the limits of resistance of the spring, and the arrangement of the spring and the arched brace B with reference to the cantle insures the application of force to all the parts of the cantle at the same time and in proper relative degrees. It is evident not only that the extension of the spring must push directly backward upon the center of the saddle, but that when vertical pressure is brought to bear upon the saddle the same will

be received mostly upon the cantle and rear half of the saddle. The ends of the cantle will therefore be depressed and thereby depressing the ends of the brace, thus evidently increasing the distance between its ends and thereby straining the leather seat equally in all directions at the same time, which is of great importance in bicycle-saddles.

In the use of any saddle an important necessity is a simple and effective means for moving the saddle forward or back and changing its inclination and securing it firmly in any desired position. Means for this purpose are fully illustrated in Figs. 5, 6, 7, 8, and 9, in which K is a straight saddle-post. *k* is a bolt passing transversely through the saddle-post near its upper end. *L L* are two jaws lying on opposite sides of the saddle-post and conforming thereto, each of the jaws being formed with a vertical slot *l*, embracing the bolt *k* and permitting slight vertical movement of the jaw, and *M M* are two clamps mounted on the bolt *k* and in contact with the outer faces of the jaws *L L*, each jaw *L* being connected with the corresponding clamp *M* by means of an eccentric-pin *p* on the jaw entering a corresponding socket *s* in the clamp, as indicated in dotted lines in Fig. 2 and in the detail drawings Figs. 5, 6, 7, 8, and 9, the last-named drawings being a transverse section through line 9 9, Fig. 6. The two parallel branches *F' F'* of the central portion of the spring of the saddle lie between the clamps *M M* and the jaws *L L* of the adjusting device above described, and it is evident that the branches of the spring may be moved longitudinally when the parts of the adjusting device are loose, or they may be rocked about the bolt as an axis, thereby rocking the clamps *M M* about the bolt and at the same time giving to the jaws *L L* a slight longitudinal movement upon the seat-post by reason of the connection between the jaws and clamps formed by the eccentric-pins *p p* and their sockets.

Fig. 6 shows the saddle-spring in a very nearly horizontal position, while Fig. 8 shows the spring tilted to a greater angle. As the spring is moved from the position shown in Fig. 6 to that of Fig. 8 the clamps *M*, one of which is shown in dotted lines in both figures, will be swung about the bolt *k* as a center, thereby raising the jaws *L* slightly through the pin-and-socket connection between them, the diameter of the socket being slightly greater than that of the pin *p* to allow the socket a slight transverse movement with respect to the pin in its movement about the bolt as a center, the pin simply moving in a vertical direction. The motion of the socket with reference to the pin is so slight that a loose joint between the pin and socket is all that is necessary.

When the seat is in any desired position, the turning of the bolt *k* locks all the parts together, and it is evident that any rocking of the saddle upon the bolt *k* as an axis must

slide the jaws *L L* upon the seat-post as well as overcome any friction between the jaws and the clamps. This construction supplies a frictional resistance ample to secure the saddle at any desired inclination, and I have found in practice that it forms a perfectly secure adjustment for the saddle through any desired angle of position.

In Fig. 10 I have shown a saddle constructed exactly as shown in Fig. 1 except that the arched brace *D'* extends backward as well as laterally from its central point of support, so that its thrust is slightly backward instead of being wholly lateral, as in the form shown in Fig. 1. This slight difference in form adds to the effectiveness of the arched brace, but as I believe this element of the saddle to be broadly new I do not intend to limit the invention in this regard to either of these forms.

The flattening of the contiguous faces of the front ends of the spring evidently has the same effect whether the two members of the spring are formed in a single piece, as shown and described herein, or are separate pieces suitably attached at their rear ends to the rear end of the seat, and so far as that feature of my invention is concerned I do not intend to limit it to its use in a spring formed of a single piece.

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

1. In a saddle, the combination with the seat and a suitable pommel and cantle, of a spring interposed between the pommel and cantle and adapted to support the saddle and apply longitudinal strain to the seat thereof, and a transverse brace interposed between the ends of the cantle and lower at its center than at its ends, vertical pressure upon the spring being adapted to straighten the brace and thereby apply lateral pressure to the cantle.

2. The combination with the seat, *A*, of the pommel and cantle attached thereto, the plate *C*, extending forward from the pommel, the brace, *D*, extending laterally upward from said plate to the end portion of the cantle, and the spring attached to the plate, *C*, and the pommel, vertical pressure upon the spring being adapted to strain the brace, *D*, and thereby apply lateral pressure to the cantle.

3. The combination with the seat, the pommel and cantle, of the plate, *C*, attached to the cantle, the brace, *D*, extending laterally upward and slightly backward from a point of attachment on the plate, and the spring attached to the plate and pommel, vertical pressure on the spring being adapted to strain the brace and thereby apply slightly oblique lateral pressure to the cantle.

4. The combination with the seat and the cantle attached thereto, of the pommel attached to the front end of the saddle, the tubular bearing *G*, supported by the pommel and a spring formed of a single wire bent to form a loop and having its ends flattened to

form together a cylinder, the loop being attached to the cantle, and the cylinder formed by the ends of the spring being seated in the tube G.

5 5. The combination with the seat, the cantle and pommel attached thereto, and the tubular bearing G, supported by the pommel, of the spring formed of a single wire bent into a central loop, the arms F', F', and flattened
10 ends making up the cylinder F², and transversely notched as shown, and the set-screw H, seated in the end of the tube G, and beveled to conform to the notched ends of the spring, the loop of the spring being supported
15 by the cantle, the ends being seated in the tube G, and the set-screw being adapted to fix the tension of the saddle and being held against accidental rotation by its engagement with the notched ends of the spring.

20 6. The combination with the seat-post of a bicycle-saddle, of jaws claspings the same and having slight longitudinal movement thereon, clamps cooperating with the outer faces of the jaws and capable of rocking adjustment with reference thereto, and a bolt passing transversely through the clamps and the

saddle-post and holding the parts together, the jaws and clamps being adapted to engage the members of the spring of a bicycle-seat and the jaws and clamps being connected eccentrically with reference to the bolt, whereby the rocking of the clamps moves the jaws longitudinally upon the saddle-post. 30

7. The combination with the post, K, of the bolt, k, passing transversely through it, the
35 jaws, L, L, embracing the post and formed with slots, l, l, embracing the bolt and permitting limited longitudinal movement of the jaws on the post, and the clamps, M, M, pivoted on the bolt and cooperating with the
40 jaws, each clamp being connected with the corresponding jaw by an eccentric-pin, p, and socket, s, the jaws and clamps being adapted to embrace the members of the spring of a
45 bicycle-seat, and the rocking of the clamps being adapted to move the jaws longitudinally upon the seat-post.

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Witnesses:

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