

No. 639,748.

Patented Dec. 26, 1899.

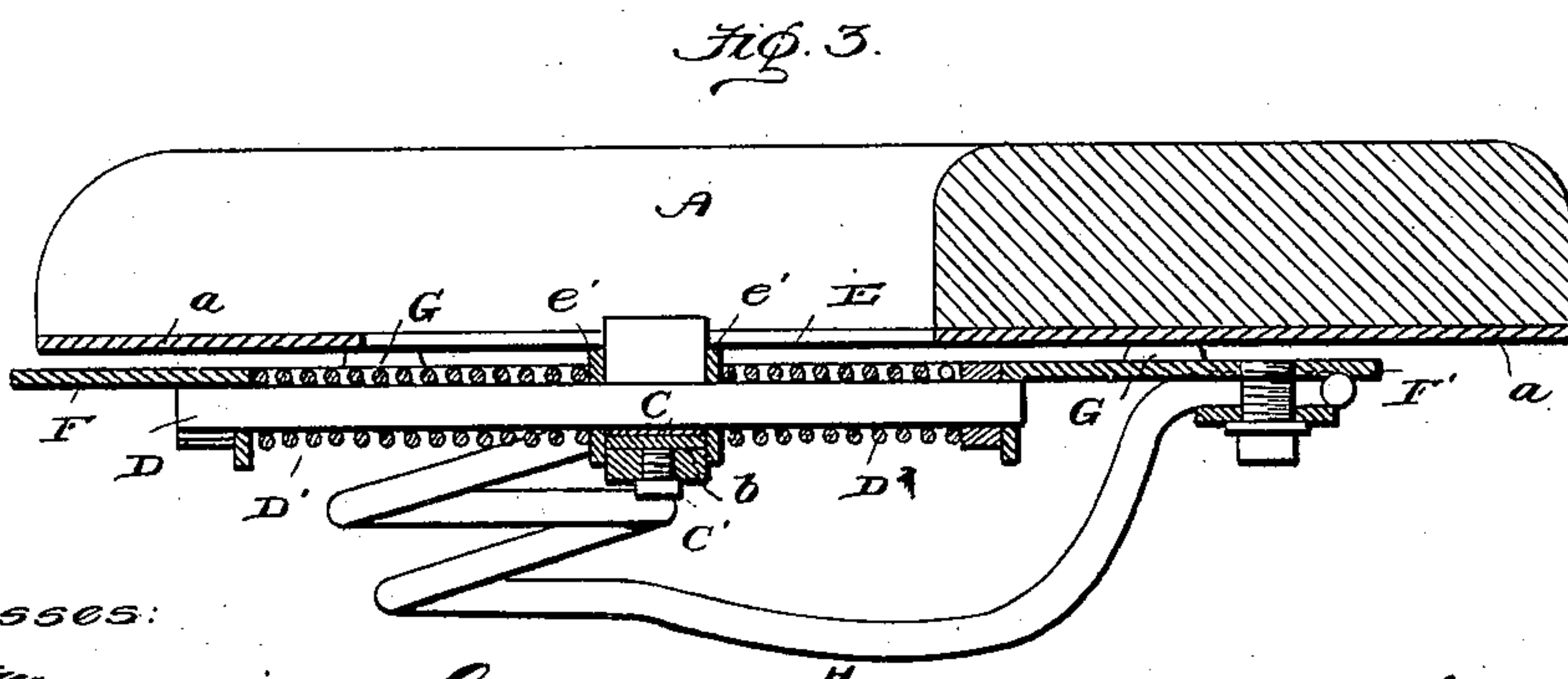
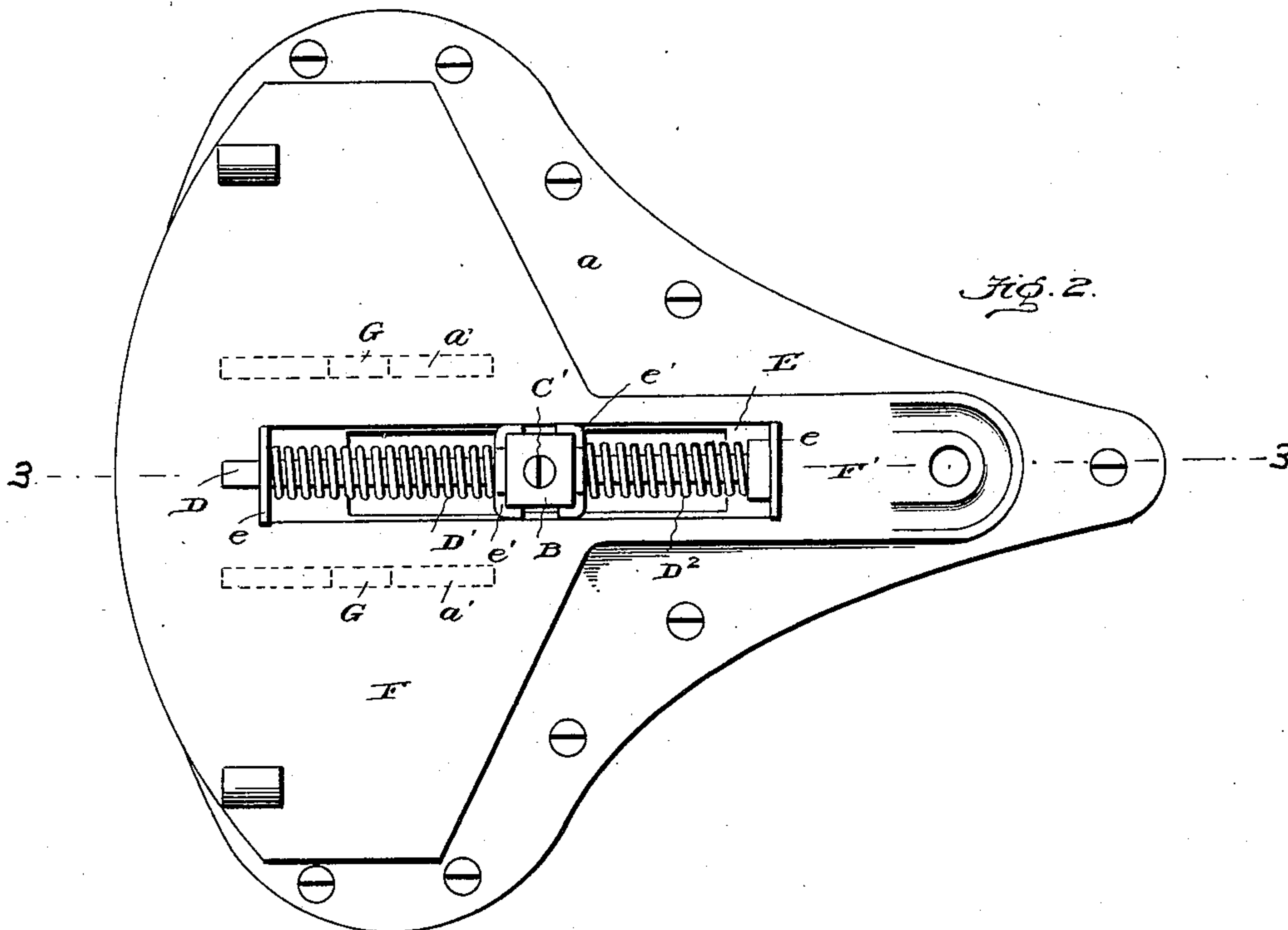
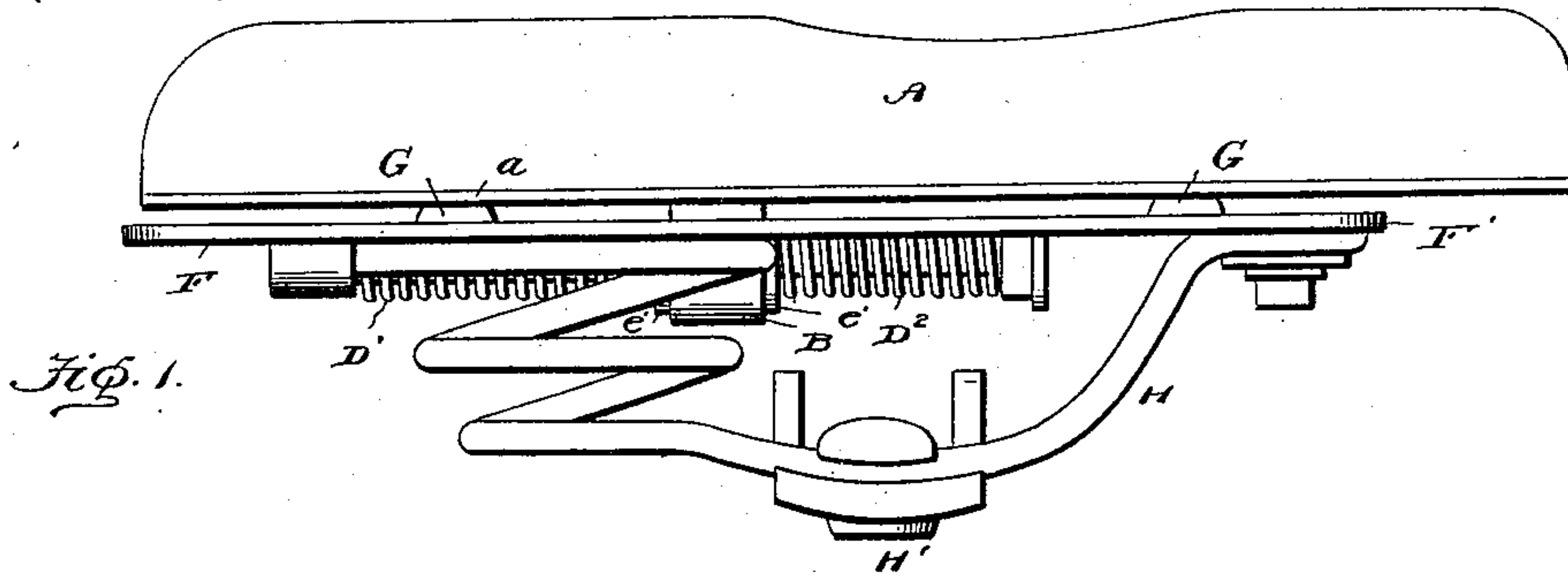
E. E. MALLORY & C. S. STONER.

SADDLE.

(Application filed May 26, 1899.)

3 Sheets—Sheet 1.

(No Model.)



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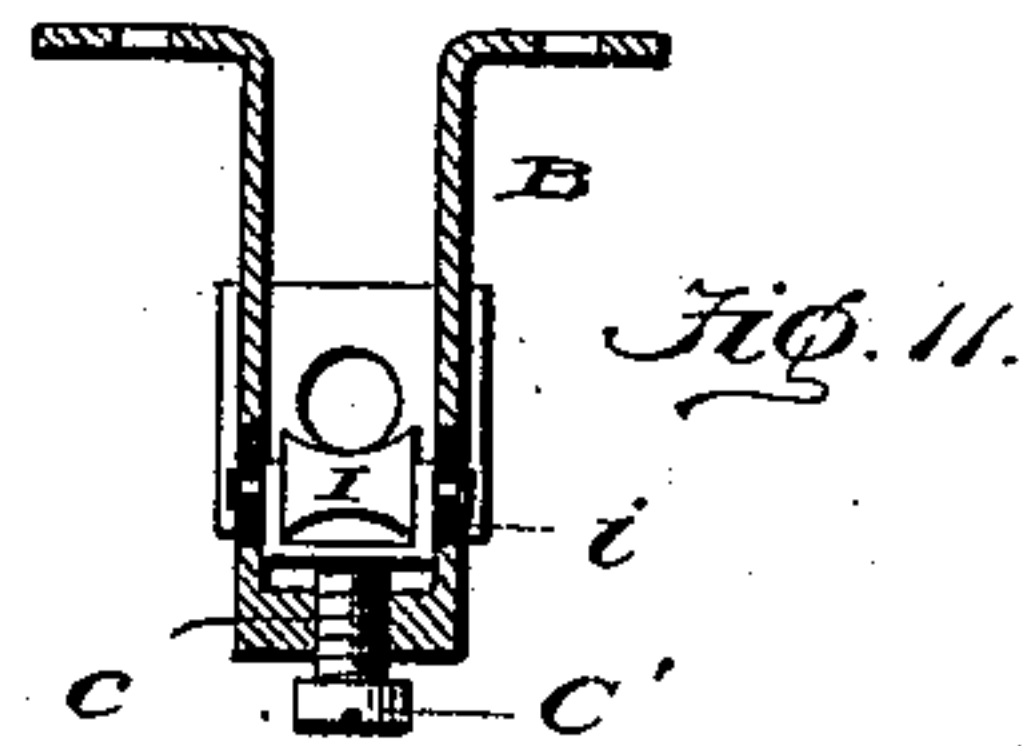
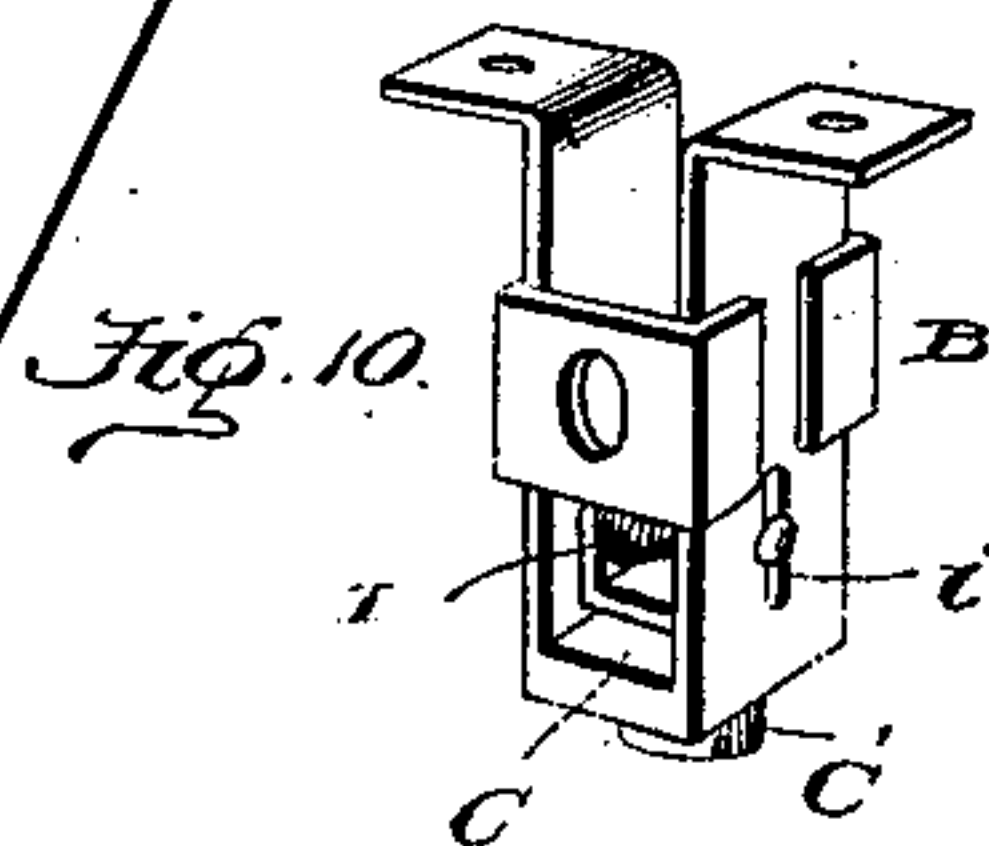
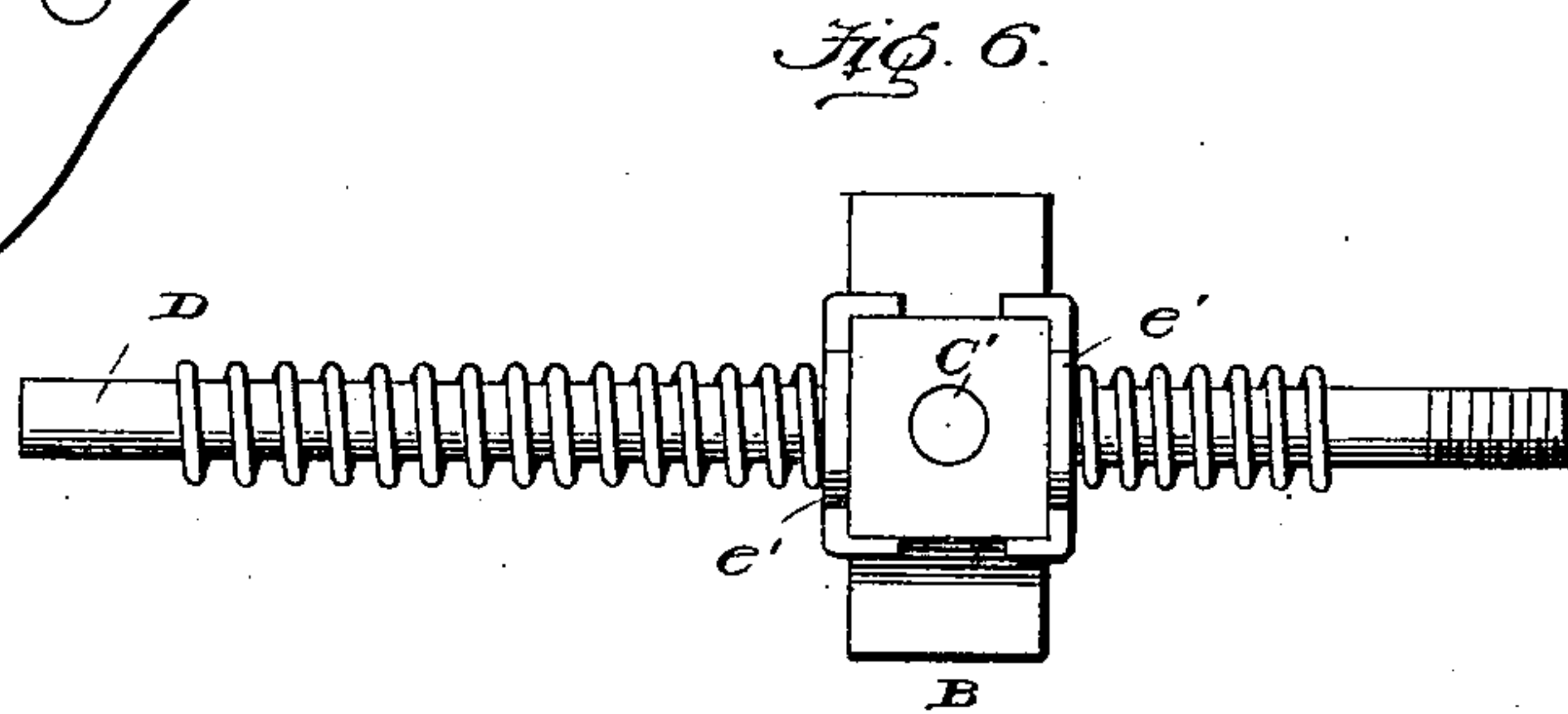
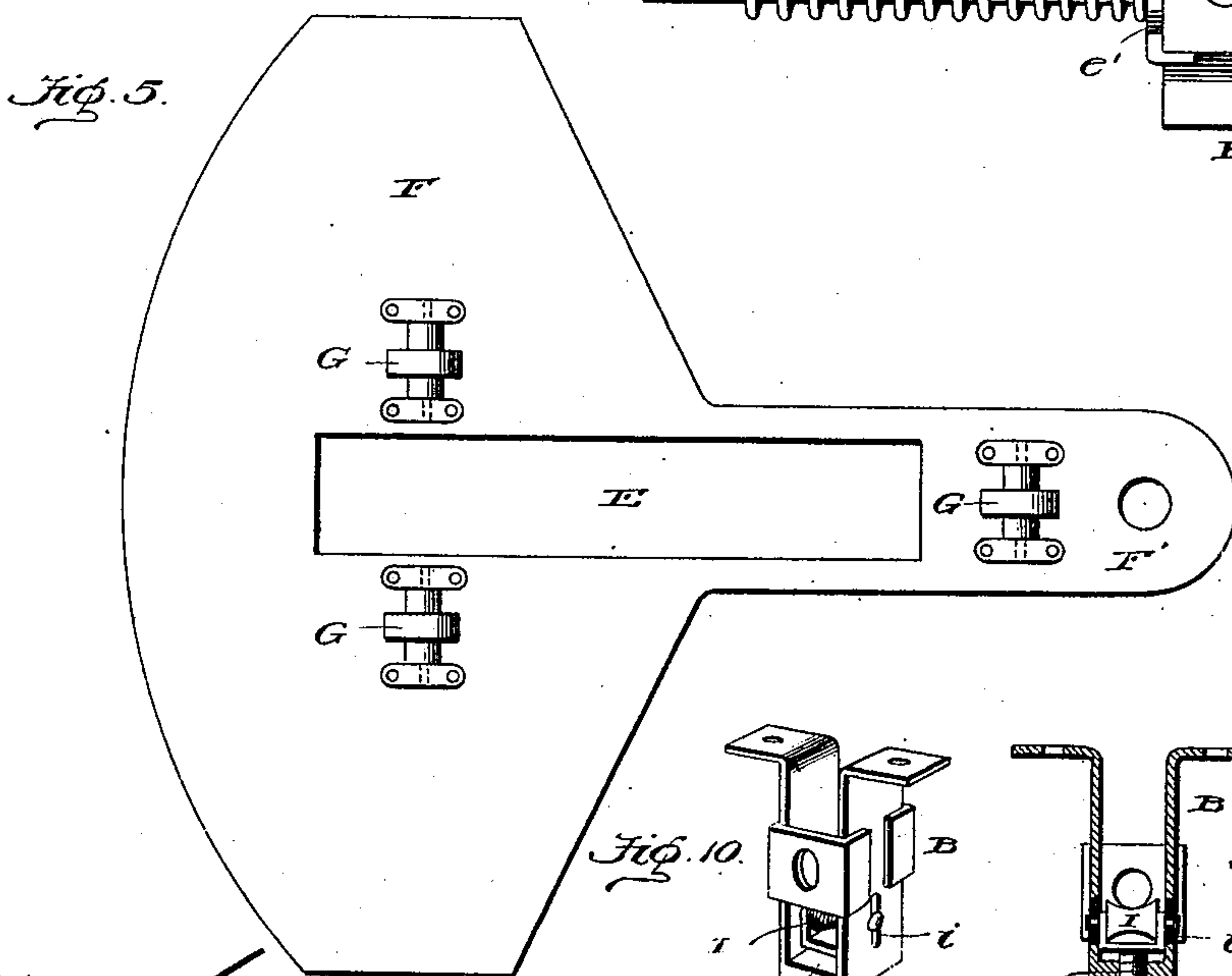
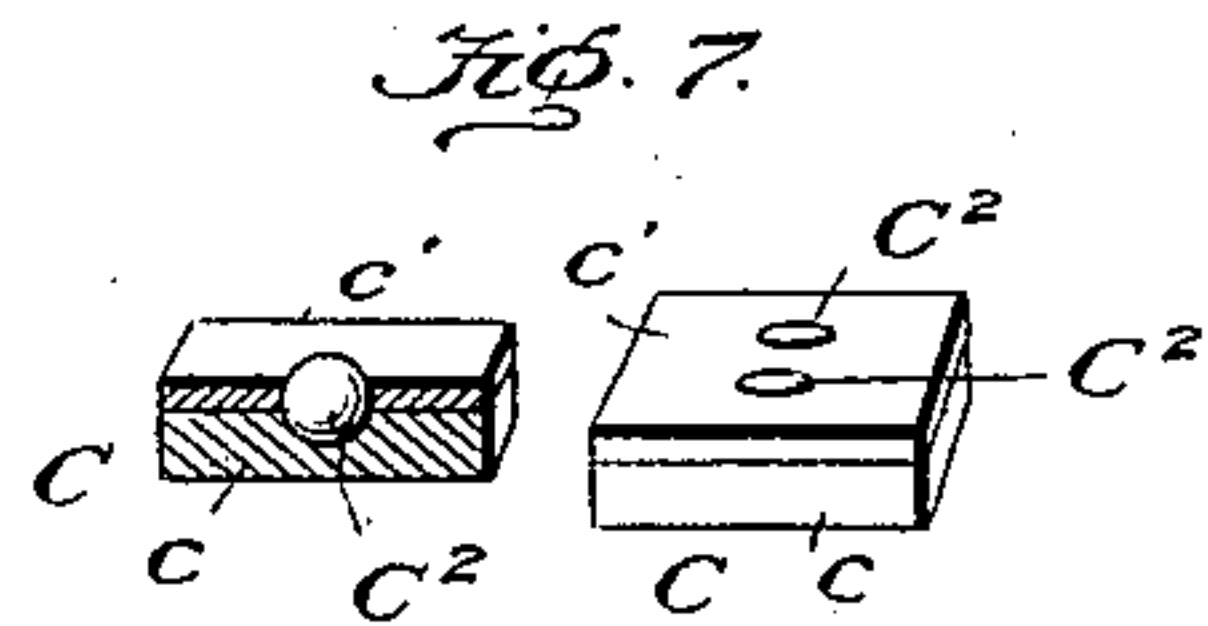
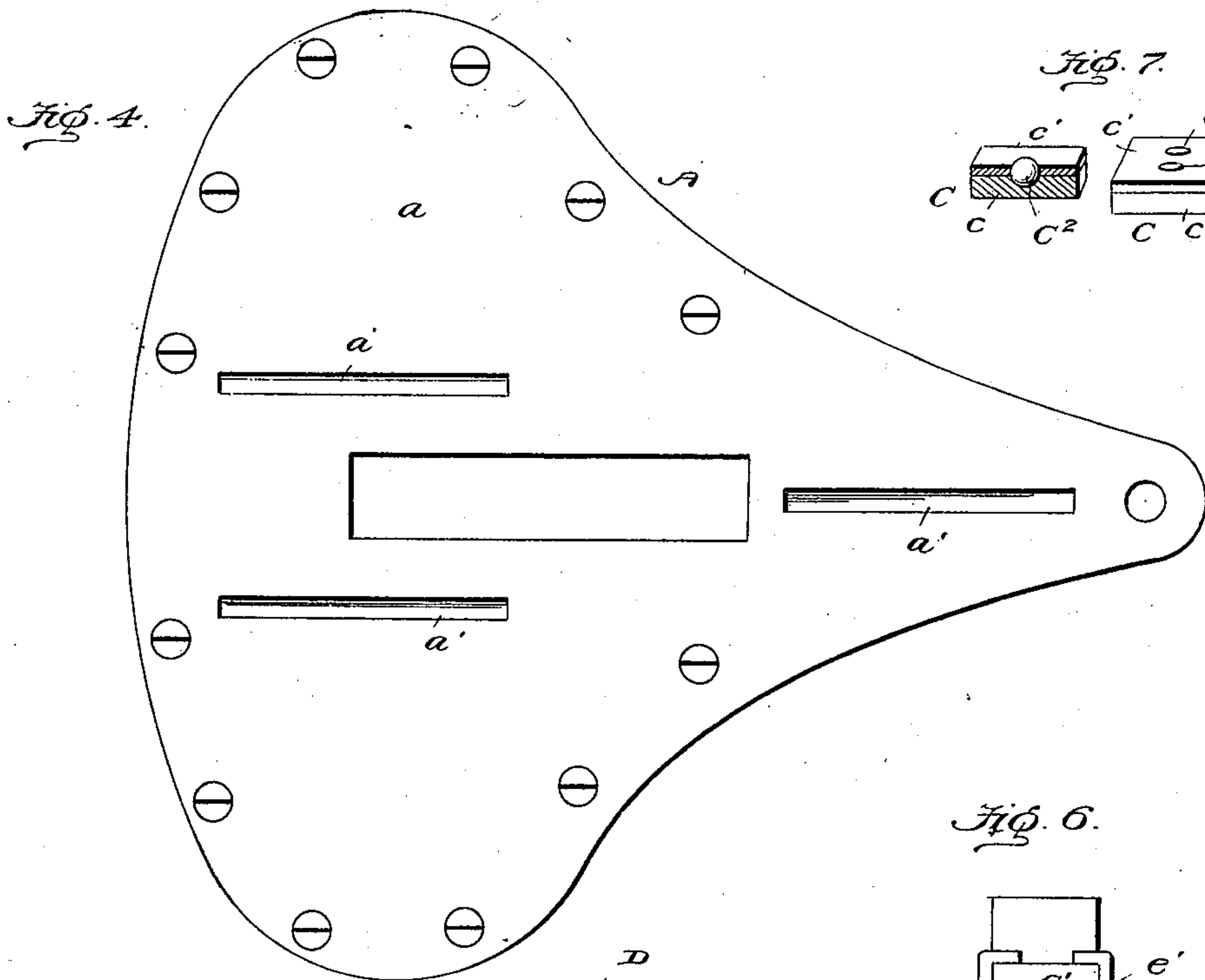
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3 Sheets—Sheet 2.



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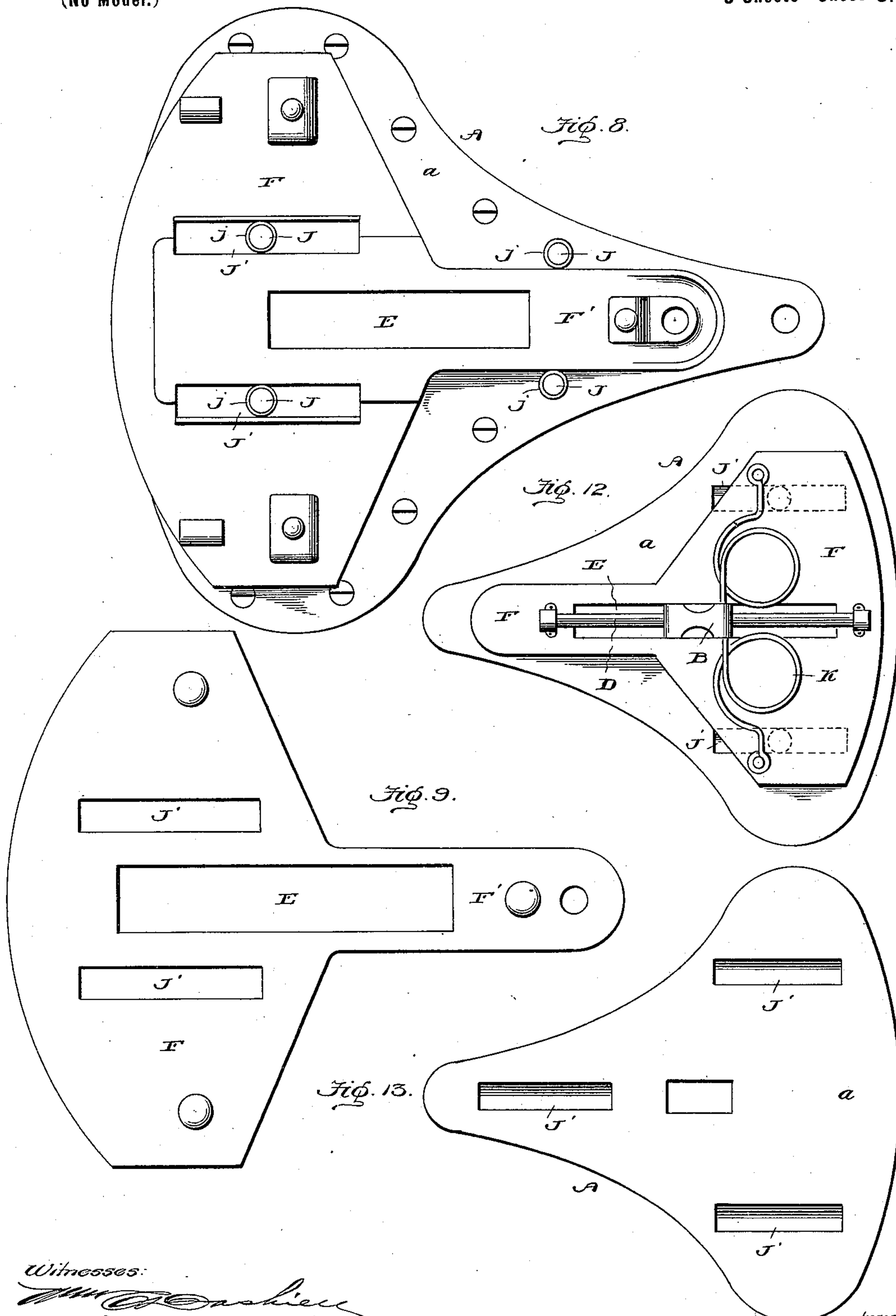
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(Application filed May 26, 1899.)

(No Model.)

3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

ERNEST E. MALLORY AND CLINTON S. STONER, OF WEST UNITY, OHIO,
ASSIGNORS OF SEVEN-TWELFTHS TO H. CORTEZ MILLER AND JOHN
MILLER, OF SAME PLACE.

SADDLE.

SPECIFICATION forming part of Letters Patent No. 639,748, dated December 26, 1899.

Application filed May 26, 1899. Serial No. 718,434. (No model.)

To all whom it may concern:

Be it known that we, ERNEST E. MALLORY and CLINTON S. STONER, citizens of the United States, residing at West Unity, in the county of Williams and State of Ohio, have invented certain new and useful Improvements in Saddles; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in saddles especially designed for use with bicycles, &c.; and its object is to provide a movable saddle-seat having both vertical and longitudinal spring, whereby jarring and strain upon the body of the rider are reduced to the minimum.

To these ends the invention consists in providing a seat which is mounted upon a bed-plate, having a spring of ordinary construction connecting it with the saddle-post clamp. Said seat is provided with suitable bearings, whereby it will readily move longitudinally upon the bed-plate, and springs are also provided for gradually overcoming the sliding motion of the seats.

The invention also consists in the further novel constructions and combinations of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of our invention, and in which—

Figure 1 is a side elevation of our invention. Fig. 2 is a bottom plan view with the supporting-spring removed. Fig. 3 is a longitudinal section on line 3 3, Fig. 2. Fig. 4 is a bottom plan view of the seat detached. Fig. 5 is a top plan view of the bed-plate detached. Fig. 6 is a detail view of the rod, its spring and guide detached. Fig. 7 is a view of the bearing-plate detached from said guide. Fig. 8 is a bottom plan view of a modified form of saddle-seat. Fig. 9 is a top plan view of the bed-plate therefor. Fig. 10 is a detail view of a modified form of guide for the rod. Fig. 11 is a transverse section therethrough. Fig. 12 is a bottom plan view of a saddle having a modified form of spring. Fig. 13 is a bottom

plan view of the saddle-seat of said modified form.

Referring to said figures by letters of reference, A is the saddle-seat, of any desired form, provided with a metal plate or bearings a , which is channeled longitudinally, as at a' , for the purpose hereinafter described. Depending from and rigidly secured to the seat A, at or near the center thereof, is a guide B, preferably socketed at its lower inner end, as at b , for the reception of a bearing-plate C, substantially as shown in Figs. 3 and 7, and vertically adjustable by means of a screw C' in the end of said guide. Said plate is formed of two sections c and c' , suitably clamped together, as by screws, and retaining therebetween one or more balls C^2 , which project through one of the plates c' and are adapted to bear upon a rod D, slidably mounted in said guide B and detachably secured at each end to a downwardly-turned flange or lip e , formed at each end of a slot E, running longitudinally of a bed-plate F and through which said guide B projects. Said rod D is preferably provided at either side of the guide B with coiled springs D' D^2 , the opposite ends of which are adapted to bear upon the flanges or lips e and the washers e' binding against the guide B. The rear spring D^2 is preferably stronger than the front spring D' .

Secured within and projecting above the upper surface of bed-plate F are rollers G, so disposed as to register with and travel in the channels a' , formed in the bottom a of the seat. These rollers G form a bearing for the saddle-seat resting thereupon, and as they are seated in the channels a' nothing but longitudinal movement of the seat is permitted thereby.

Suitably secured to the bottom of bed-plate F is a supporting-spring H of desired construction, having a clamp H' for attaching the same to the saddle-post.

The operation of the saddle will be obvious. When the bed-plate F is suddenly moved forward or rearwardly, as results when riding over an uneven surface, the seat A will travel back or forth upon the rollers G, the rod D bearing on the balls C^2 within the guide B.

This backward-and-forward movement is gradually overcome by the springs D' and D^2 , and all jarring is thereby reduced to the minimum. Any vertical jarring will of course be regulated by the supporting spring or springs H. As greater pressure is exerted against the rear spring D^2 at all times than against the front spring D' , owing to the continual backward pressure exerted by the rider, said spring D^2 is, as before stated, preferably constructed to receive a greater strain than the forward spring D' . It will also be seen that in the event of wear upon the rollers G and the balls C^2 the bed-plate F and the bottom a of the seat may be adjusted closer together by means of the screw C' .

While we have described our device as employing a ball-bearing C^2 for the rod D, a concave roll, as I, (shown in Figs. 10 and 11,) may be employed. The shaft of this roller is slidably mounted in vertical slots i in the sides of the guide, and the roll may be adjusted by means of a screw, as C^2 , adapted to bear upon a yoke i' , bearing upon the shaft of the roller and slidably mounted in said guide. Instead of employing rollers upon the upper surface of the bed-plate balls may be substituted therefor, as shown in Fig. 9, and bear in channels formed in the seat-bottom a , as shown in Fig. 13.

In Figs. 8 and 9 we have shown another form of saddle in which the bottom of the seat is not channeled, but is provided with preferably four pins J, upon which are mounted rollers j . Two of these pins are adapted to project through and the rollers thereon bear against the sides of longitudinal slots J' , formed in the bed-plate, while the remaining two pins bear upon opposite sides of the forwardly-projecting or tongue portion F' of the bed-plate. The bed-plate F may be provided with balls or rollers which travel upon the bottom of the seat, the movement of said seat being guided by the pins and their rollers.

In Fig. 12 is shown a spring K, which may be substituted for the springs D' D^2 . This spring is secured at opposite ends to the bottom of the bed-plate F, preferably near the sides thereof, and passes through the guide B. The spring is coiled intermediate the guide and each end, as shown, this construction forming a simple, but effective, cushion for the seat.

While we have shown and described our improved saddle as constructed with a rigid seat, it will be obvious that other forms of seats may be employed, if desired.

In the foregoing description we have shown the preferred form of our invention; but we do not limit ourselves thereto, as we are aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and we therefore reserve the right to make such changes as fairly fall within the scope of our invention.

Having thus fully described our invention,

what we claim, and desire to secure by Letters Patent, is—

1. In a saddle, the combination of the slotted bed-plate, the seat, movable bearings therefor interposed between, and contacting with, the bed-plate and the under surface of the seat, a guide secured to the seat and projecting through the slotted plate, and a rod rigidly secured to the plate, said guide slidably mounted upon the rod, substantially as described.

2. In a saddle, the combination of the longitudinally-slotted bed-plate, the seat, movable bearings therefor interposed between, and contacting with, the plate and the under surface of the seat, a guide secured to the seat and projecting through the slotted plate, a rod rigidly secured to the under surface of the plate, said guide slidably mounted upon the rod, and means for gradually and automatically controlling the movement of the seat upon its plate, substantially as described.

3. In a saddle, the combination of the longitudinally-slotted bed-plate, the seat, movable bearings therefor interposed between, and contacting with, the bed-plate and the under surface of the seat, a guide secured to the seat and projecting through the slotted plate, a rod rigidly secured to the under surface of the plate longitudinally thereof, said guide slidably mounted thereon, and coiled springs mounted on the rod for gradually and automatically controlling the movement of the seat and its guide, substantially as described.

4. In a saddle, the combination of the longitudinally-slotted bed-plate, the seat mounted, and movable, thereon; bearings between said seat and plate; a guide secured to the seat and projecting through said slot; flanges on the plate at each end of said slot; a rod longitudinal of the slot and rigidly secured at each end to the flanges, said rod suitably mounted in the guide, and coiled springs mounted upon said rod intermediate the guide and flanges, substantially as described.

5. In a saddle, the combination of the slotted bed-plate, rollers secured thereto, a seat mounted upon and contacting with the rollers and movable longitudinally thereon, a guide secured to the seat and projecting through and slidable in the slotted plate, and a rod secured to the under surface of the plate, said guide slidably mounted thereon, substantially as described.

6. In a saddle, the combination of the slotted bed-plate, rollers secured thereto, a channeled seat mounted on the rollers, said rollers adapted to travel in the channels, a guide secured to the seat and projecting through the slotted plate, a rod secured to the under surface of the plate, said guide slidably mounted thereon, and bearings within the guide and contacting with the rod, substantially as described.

7. In a saddle, the combination of the longi-

5 tudinally-slotted bed-plate; rollers thereon; the seat mounted on said rollers; the guide secured to the seat and projecting through said slot; a rod secured to the under surface of the bed-plate; said guide slidably mounted thereon; and an adjustable bearing for said rod in said guide, substantially as described.

10 8. In a saddle, the combination of the longitudinally-slotted bed-plate; the seat movable thereon; the guide secured to the seat and projecting through said slot; a rod secured to the bed-plate and slidably mounted in the guide; adjustable plates secured in said guide; and balls retained between, and projecting through one of, said plates and adapted to bear upon said rod, substantially as described.

15 9. In a saddle, the combination of the slotted bed-plate; the rollers secured thereto;

the channeled seat mounted on the rollers, 20 said rollers traveling in the channels; a guide secured to the seat and projecting through the slot in the bed-plate; flanges on said plate at each end of said slot; a rod secured to the flanges and slidably mounted in the guide; 25 an adjustable bearing, in said guide, for the rod; coiled springs mounted on the rod intermediate the guide and flanges; and means for connecting said bed-plate and a saddle-post clamp, substantially as described. 30

In testimony whereof we affix our signatures in presence of two witnesses.

ERNEST E. MALLORY.
CLINTON S. STONER.

Witnesses:

GEORGE C. RINGS,
WM. A. HOLLINGTON.