

(No Model.)

W. F. CORNELIUS.
SEAT FOR BICYCLES.

No. 453,039.

Patented May 26, 1891.

Fig. 1.

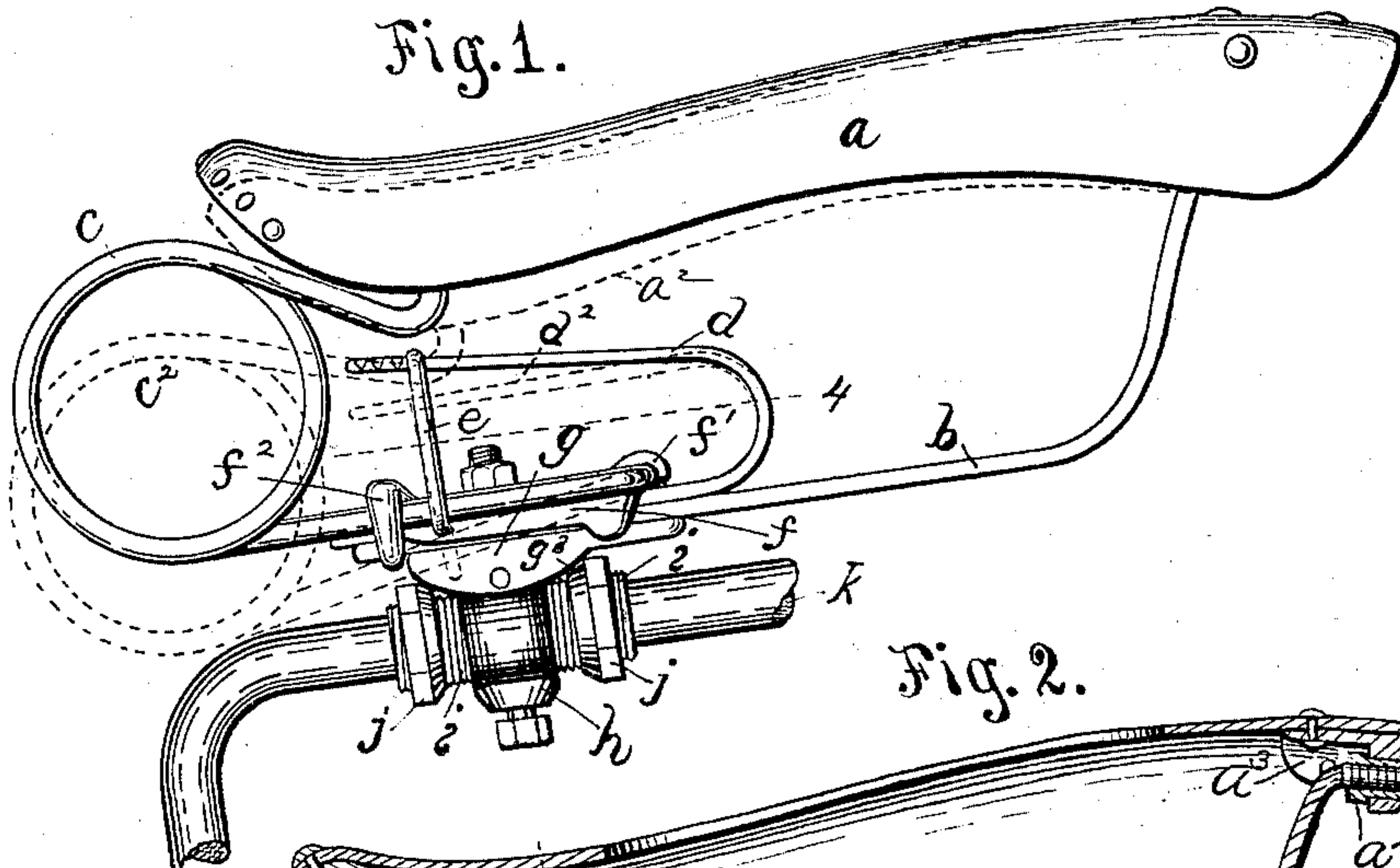


Fig. 2.

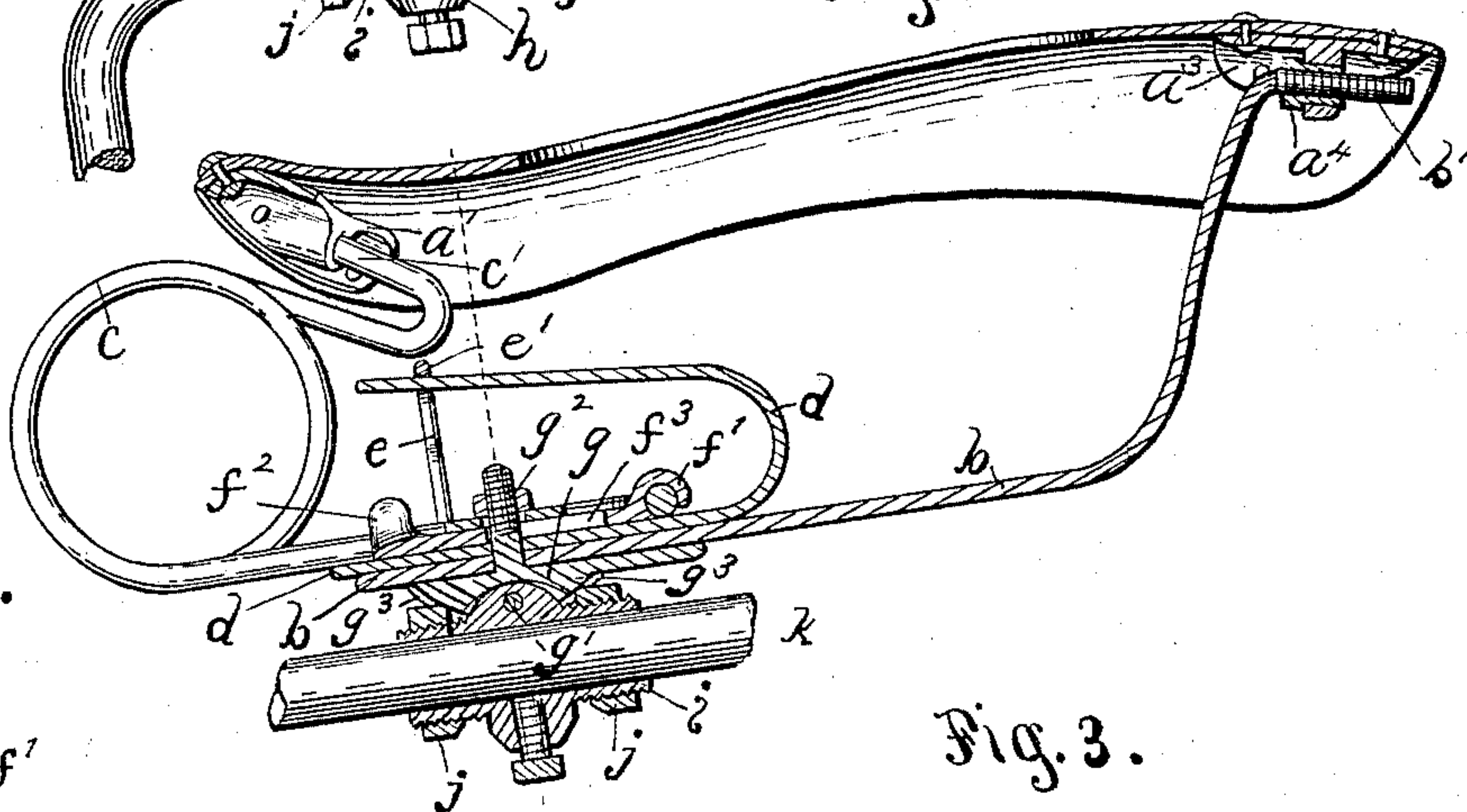


Fig. 4.

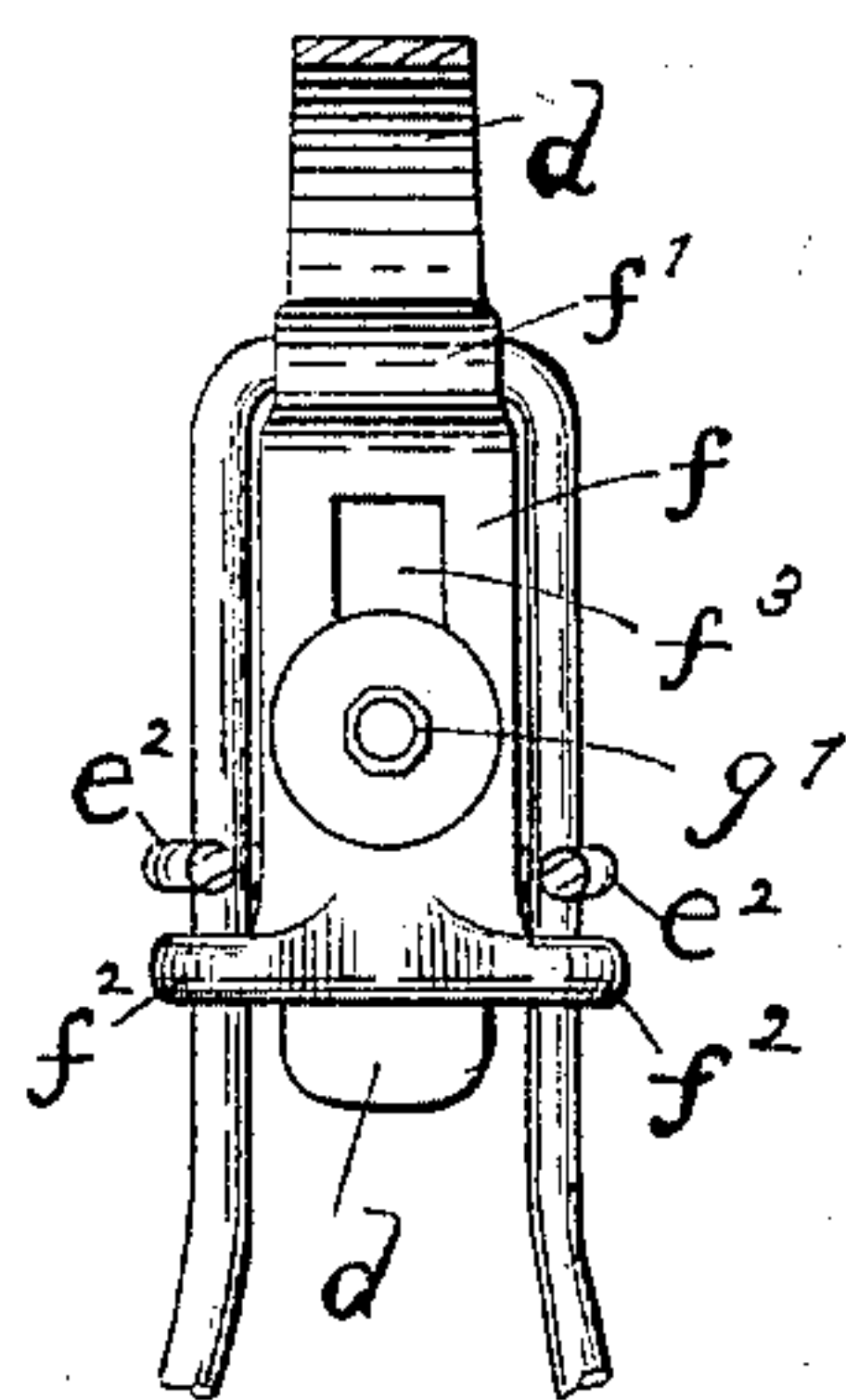


Fig. 5.

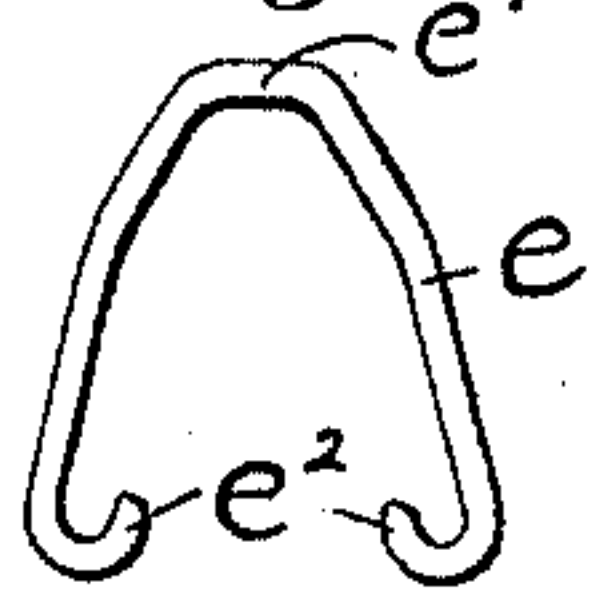


Fig. 6.

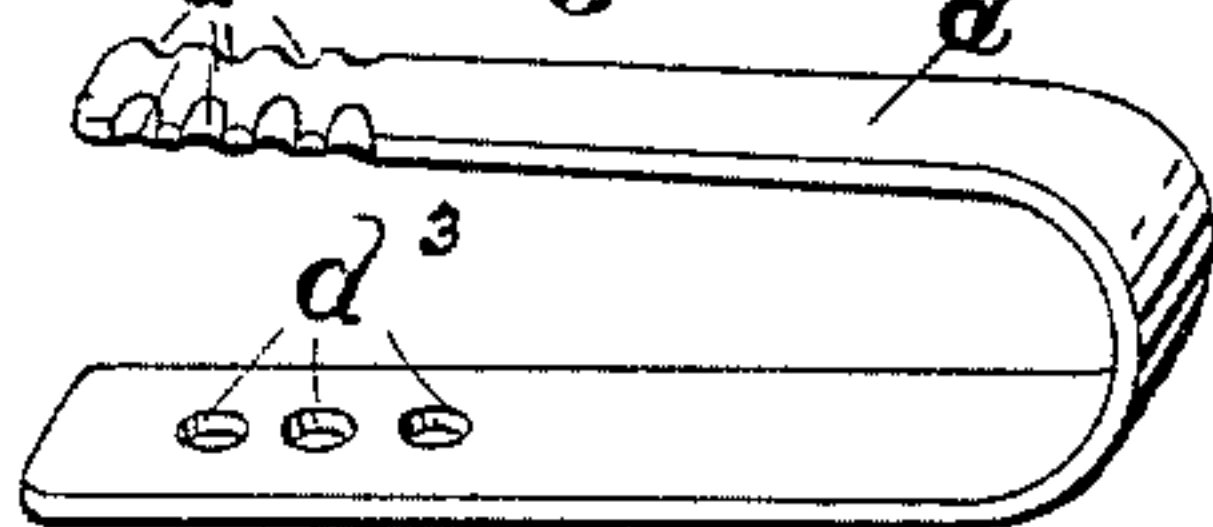
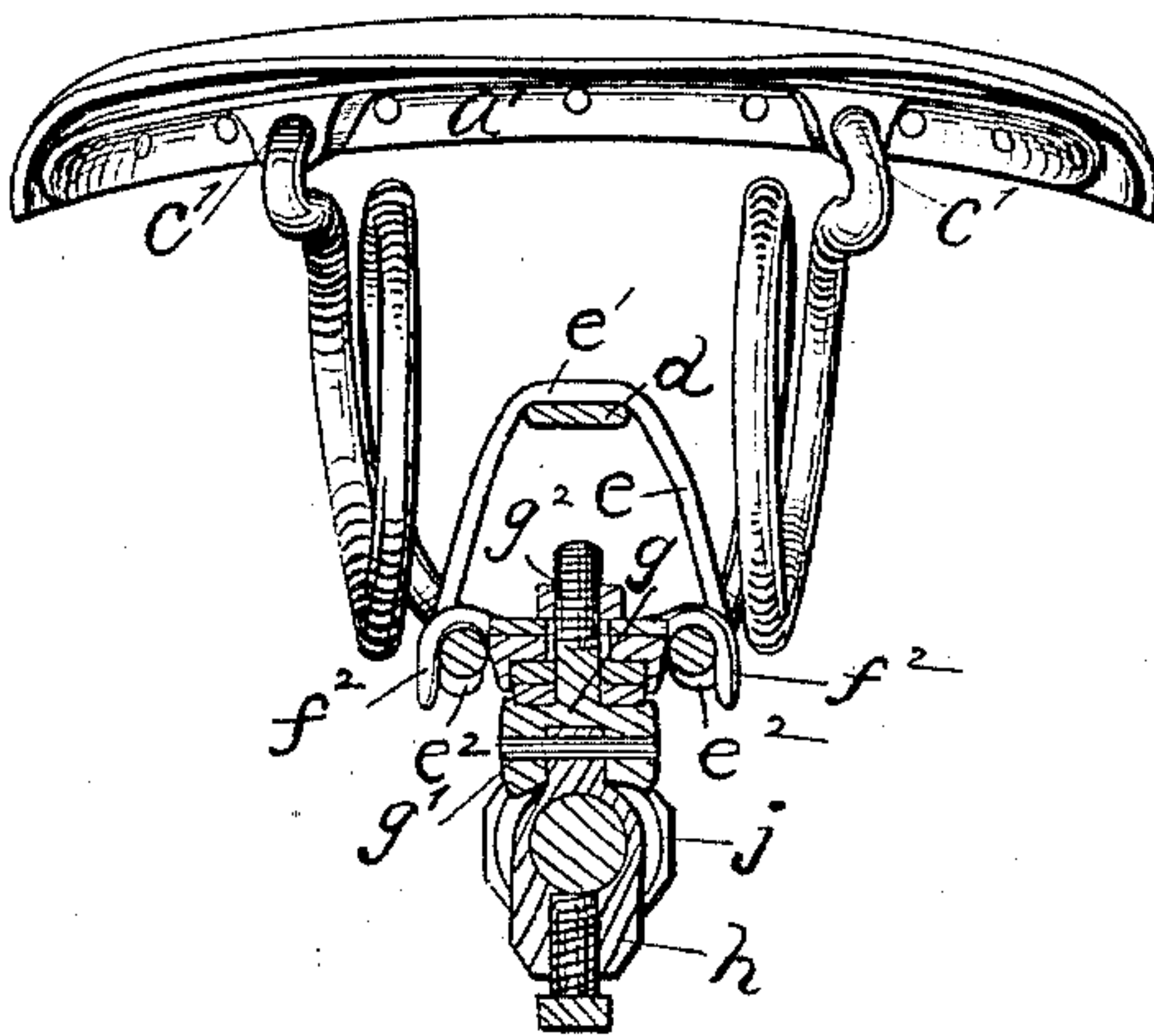


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILBUR F. CORNELIUS, OF INDIANAPOLIS, INDIANA.

SEAT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 453,039, dated May 26, 1891.

Application filed November 22, 1890. Serial No. 372,370. (No model.)

To all whom it may concern:

Be it known that I, WILBUR F. CORNELIUS, a resident of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Seats for Bicycles.

The objects of my invention are to construct a bicycle-saddle that is adjustable for heavy and light riders to higher or lower position, and to any forward or backward inclination desired, and one that has in addition to the above features that of an auxiliary spring coming into action only when extremely rough roads are traversed or abrupt obstacles are crossed in an otherwise smooth road, thus reducing or absorbing the effect of such extreme vibrations till no unpleasantness need be felt where my invention is used; and I hereby declare that a full, clear, and exact description of my invention is embraced in and may be fully understood by reference to the following specification and drawings.

In the accompanying drawings, Figure 1 is a side view of my invention. Fig. 2 is a longitudinal vertical sectional view through line 2. Fig. 3 is a vertical transverse section through line 3. Fig. 4 is a section on line 4. Fig. 5 is a tension-adjusting link. Fig. 6 is a perspective view of an adjustable auxiliary tension-spring.

a is the pad or covering of the saddle. *b* is a spring supporting the front end of said cover *a*.

c is a spring supporting the rear end of seat. *d* is an auxiliary spring adapted to render the saddle more elastic under certain conditions, as described farther on. *e* is an adjusting-link coupling said spring *d* to *c*. *f* is a guard-plate by which the said springs *b*, *c*, and *d* are embraced and all secured to the rocking plate *g* by the upwardly-projecting threaded pin and nut *g*². Said plate *g* is movably attached to stock *h* by a pin *g*¹, so as to permit of its being inclined forwardly or backwardly, so that any position of seat may be secured in the vertical longitudinal plane of movement that may be desired, said adjustment being accomplished by means of externally-screw-threaded sleeves *i*, with which stock *h* is provided, one projecting forwardly, the other backwardly and carrying the taper-

ing adjusting-nuts *j*. It will be seen that when both said nuts *j* are drawn tightly against the lower tapering or rounded end surfaces *g*³ of *g* the seat is firmly held in a relative position. Again, that when it is desired to incline the seat in either direction from that it is necessary only to loosen one and tighten the other after it when the seat will be inclined farther toward the former. Thus any desired position may be secured and retained by the adjustment of said nuts.

The stock *h* is supported upon a seat-bar *k*, as is commonly used, and is held thereon by set screw *h*¹ at any desired point.

The spring *b* is secured at its lower end to the rocking plate, and at its front upper end it is provided with a threaded section *b*¹, upon which is an adjusting sleeve-nut *a*⁴, the sleeve of which passes through an eye in plate *a*³, said plate *a*³ being secured to front end of saddle-covering. Thus to adjust spring to a higher tension the nut *a*⁴ is turned forward toward the point end of screw-section *b*¹, and for a lower tension it is turned in the opposite direction, and when said spring *b* is adjusted spring *c*, which terminates at *c*¹ *c*¹ in sockets in plate *a*¹, which latter is secured to the rear end of saddle-covering holding it to shape, is also adjusted, being connected to spring *b* through covering *a*. Spring *c* being made preferably of one continuous wire, forming the coils at each side, as seen in Fig. 3, and terminating at *c*¹ *c*¹, as described, is held at its central bend by the curved end *f*¹ of plate *f*, admitting of oscillation of said spring thus hinging at this point. It will be seen that the natural tendency of said spring *c*, resulting from the action of the front spring *b* and the weight of the rider, is to be elevated or raised at the points at which it is inserted into seat-plate *a*¹. Hence the branches lying under downwardly-projecting guards *f*², proceeding from rear end of plate *f*, press upwardly against said guards *f*². Now it is evident that spring *c* will resist, in proportion to the tension brought upon it by spring *b*, a certain strain given it by the rider before the branches of spring lying against guards *f*² would be forced downwardly, as seen by dotted lines *c*², corresponding to these points. When, however, said spring is thus forced downwardly, the

auxiliary spring d is adapted to add strength to spring c to resist the oscillation of the latter upon its axis at f' . Said spring d is provided with a series of notches d' , adapted
 5 to receive the adjusting-link e at point e' . Said link is adapted by two inwardly-projecting hooks e^2 to catch under the horizontal branches of c near guards f^2 . Now it is evident that if this link e is placed farther from
 10 or nearer to the fulcrum-point f' of spring c it will have, respectively, more or less effect upon said spring.

The plate f is provided with a longitudinal slot f^3 , so that in the event that enough tension cannot be secured by the adjustment provided at b' , the nut g^2 may be loosened and
 15 spring c , with plate f , drawn back and secured so that a very broad range of adjustment may be secured. The auxiliary spring
 20 d is also provided at d^3 with a series of holes, that it may be placed at any suitable distance to give the desired effect.

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

1. In a bicycle-saddle, a flexible covering, a plate having an eye, an internally-threaded sleeve-nut adapted to rest in said eye of said plate, said plate being secured to said covering
 30 ing near the front end of the latter, a central underlying spring rising near its front end and being provided with a longitudinal round section threaded to fit into said sleeve-nut, all combined to operate substantially as and
 35 for the purposes set forth.

2. In a bicycle-saddle, the combination comprising a flexible seat-covering, a spring attached at one end thereto at or near the rear end of said covering, said spring being hinged at its opposite extremity at a relatively fixed
 40 point, and guards at a point lying between said extremities, all to operate as specified.

3. In a seat for bicycles, a flexible seat-covering, a spring attached by one end thereto at or near the rear end of said covering, said
 45 spring being hinged at its opposite extremity at a relatively fixed point, guards lying at a point between said extremities, an auxiliary spring secured beneath the former said spring, and connecting-link to couple the two said
 50 springs together, all to operate substantially as and for the purposes set forth.

4. In a bicycle-seat, a stock h , adapted to be secured on seat-bar k , externally-threaded sleeves on said stock, adjusting-nuts threaded
 55 to match said sleeves and adapted by tapering edges to fit against rocking plate, a rocking plate pivotally connected to said stock by a pin, and being tapered at front and back ends, against which said nuts are adapted to
 60 bear, providing means for angular adjustment of saddle, all combined to operate substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto subscribed my name this 18th
 65 day of November, 1890.

WILBUR F. CORNELIUS.

Witnesses:

VINSON CARTER,
 J. M. LEATHERS.