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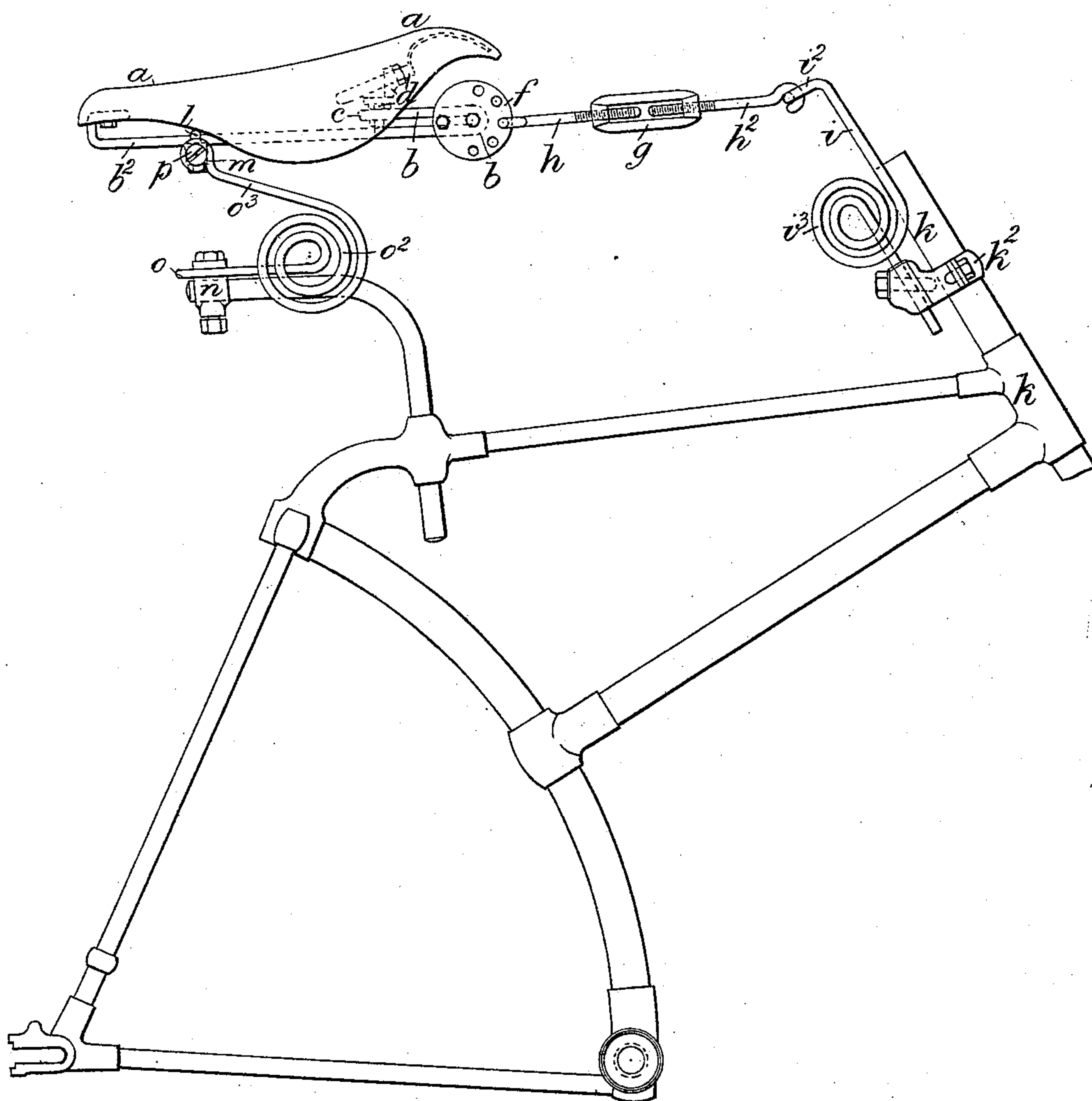
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J. A. LAMPLUGH.
BICYCLE SEAT.

No. 446,355.

Patented Feb. 10, 1891.

Fig. 1.



Witnesses;—

Richard Sherrett

Arthur J. Powell

Inventor;—

James Alfred Lamplugh

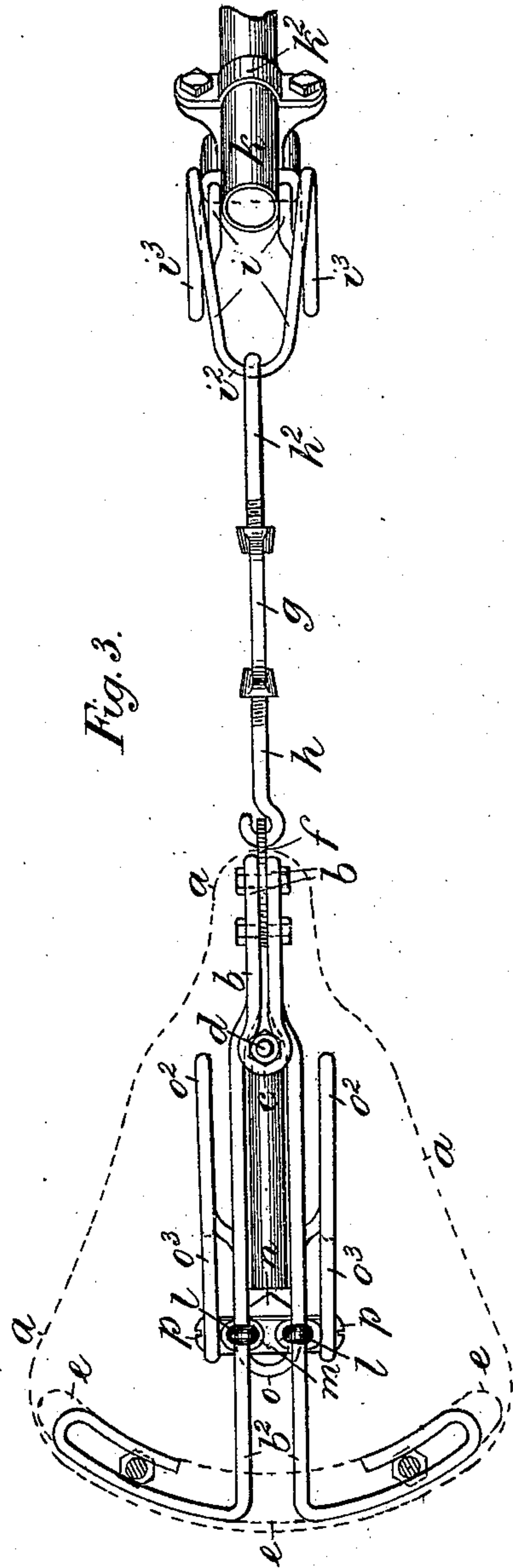
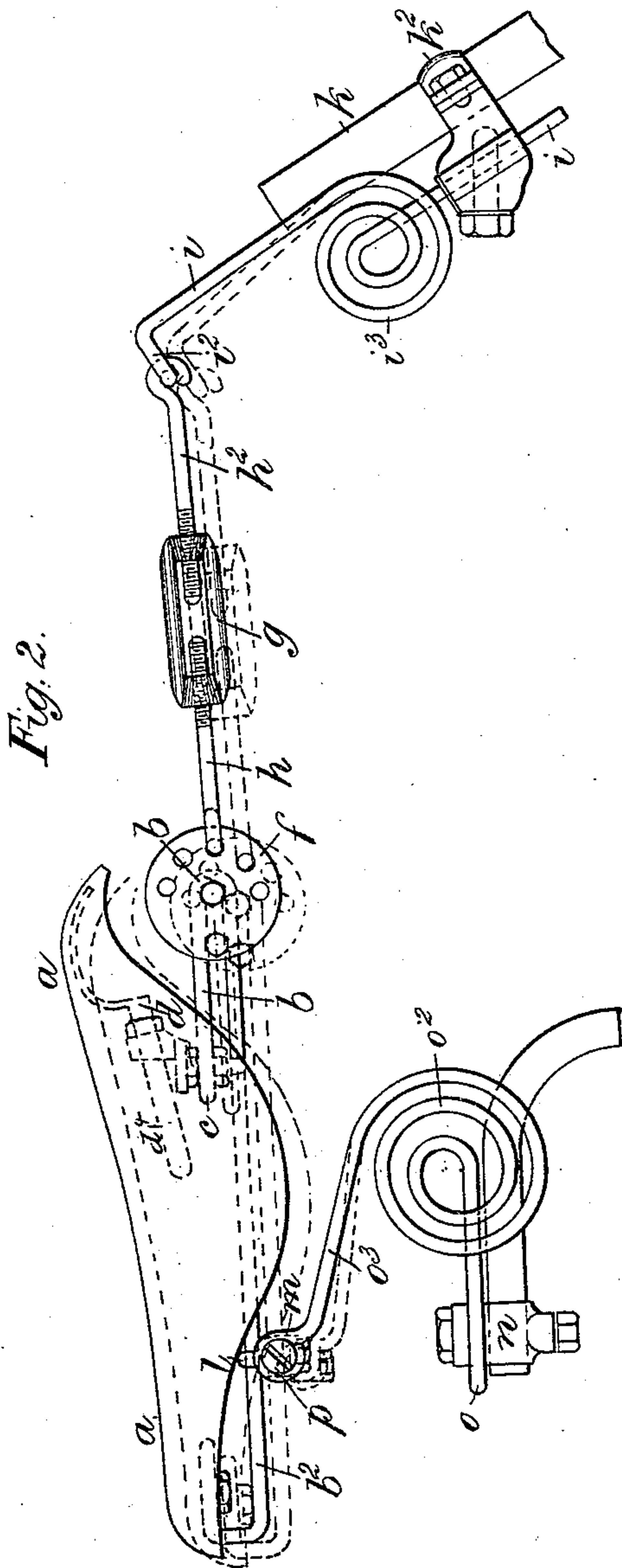
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Witnesses:-

Richard Kerrett

Arthur J. Powell

Inventor:-

James Alfred Lamplugh

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Fig. 5.

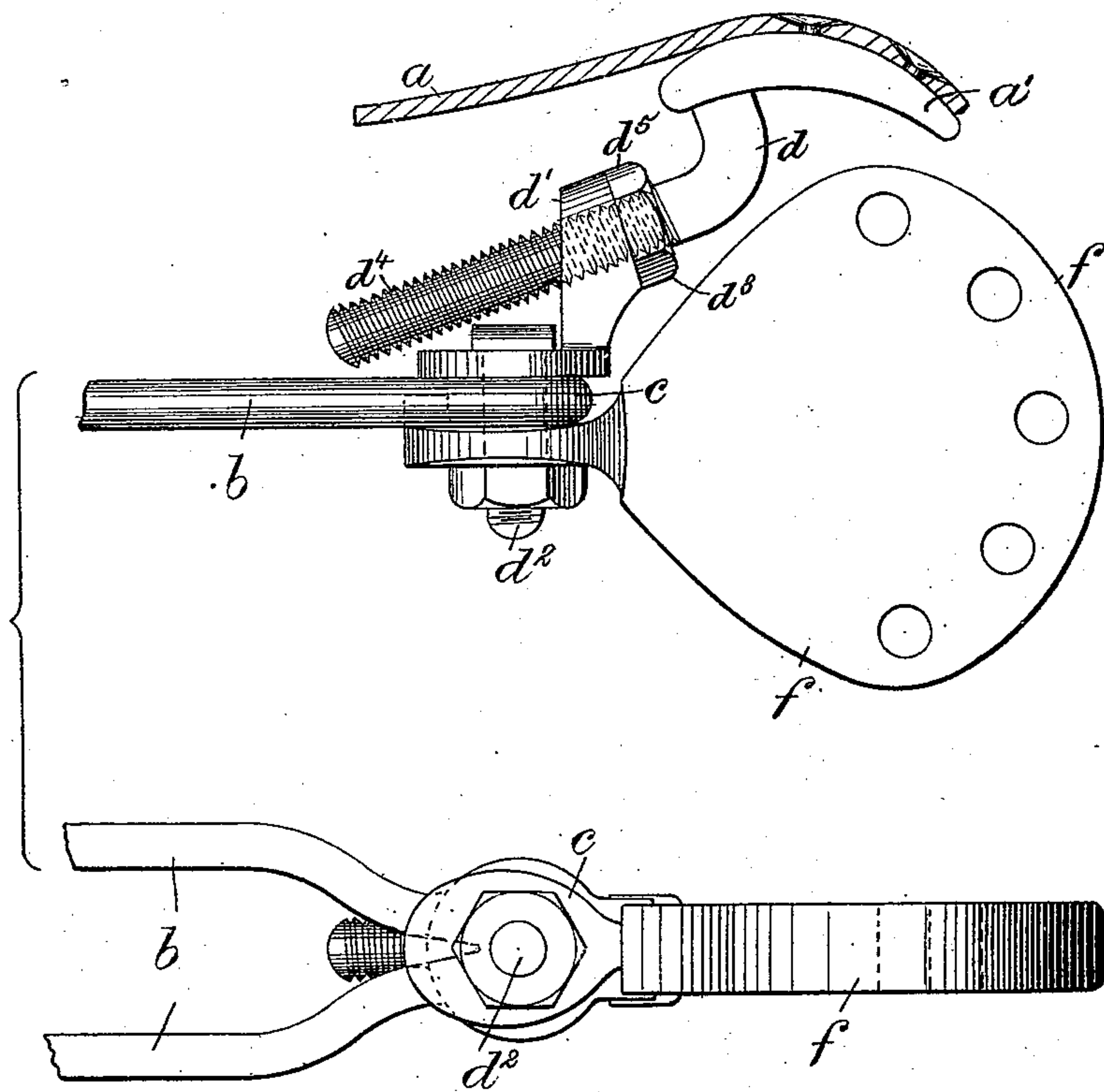
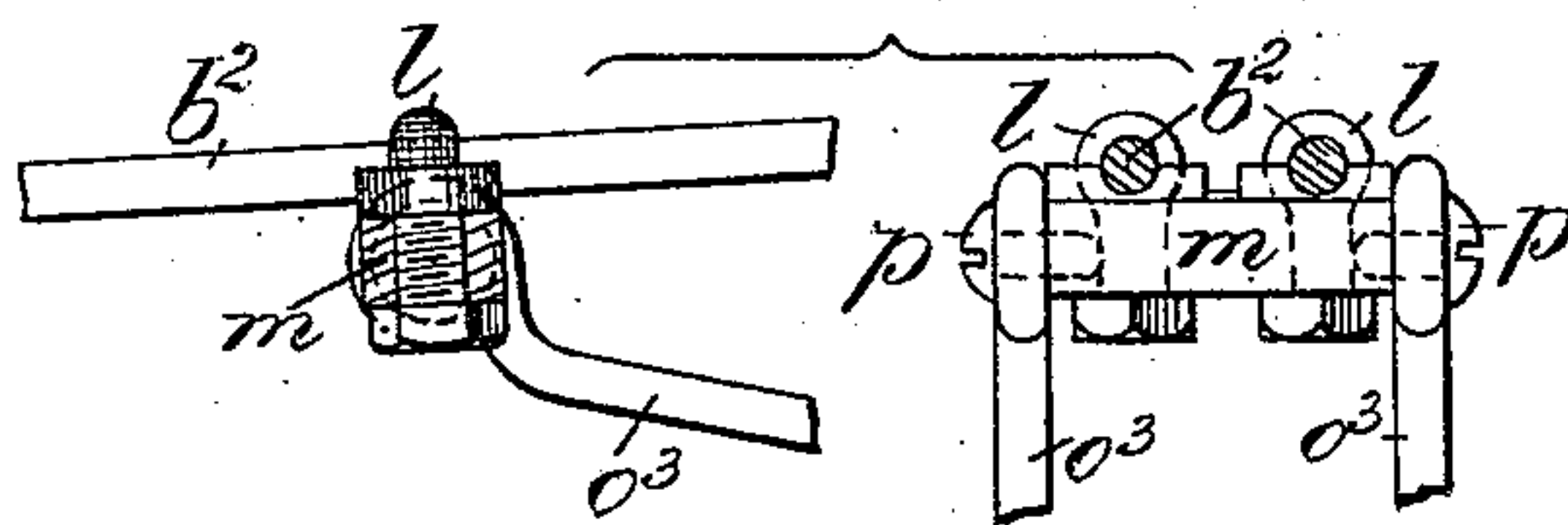


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES ALFRED LAMPLUGH, OF BIRMINGHAM, ENGLAND.

BICYCLE-SEAT.

SPECIFICATION forming part of Letters Patent No. 446,355, dated February 10, 1891.

Application filed October 21, 1890. Serial No. 368,823. (No model.)

To all whom it may concern:

Be it known that I, JAMES ALFRED LAMPLUGH, of Birmingham, England, a subject of the Queen of Great Britain, have invented
5 certain new and useful Improvements in Supporting the Saddles or Seats of Safety Bicycles, Tricycles, and other Velocipedes; and I do hereby declare that the following is a full, clear, and exact description of the invention,
10 which will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object so to support the saddles or seats of Safety bicycles, tricycles, and other velocipedes having steering-posts that they shall possess an elasticity
15 superior to that of the saddles or seats of bicycles, tricycles, and other velocipedes at present constructed.

I will describe my invention in connection
20 with a Safety bicycle. I support the leather of the seat or saddle upon a foundation consisting of a strong wire or rod bent at its middle into a loop, to which the front of the saddle leather or cover is rigidly connected
25 by a tension-hook taking into the said loop. The doubled wire extends under the leather or cover at a short distance below it, its ends turning outward and being fixed to the curved plate riveted to the rear of the saddle. The
30 front of the foundation carries a circular disk having a series of holes arranged concentrically, with any one of which an adjusting swiveling link may be hooked. The said swiveling link has at each end a hook, the
35 shanks of which hooks are screwed, one with a right-hand screw-thread and the other with a left-hand screw-thread. The shanks of these hooks screw into correspondingly-screwed
40 holes in the swiveling link and virtually lengthen or shorten the connection between the front of the foundation of the saddle and a vertical spring, hereinafter described, connected to the steering-post of the Safety bicycle. One of the said screw-hooks engages
45 with the vertical spring connected to the steering post or head of the velocipede by an attachment which permits of its vertical adjustment. The said spring consists of a steel wire bent at its middle into a loop, the
50 branches of the said wire being coiled into two vertical parallel coils, their ends taking

into an adjustable clip fixed on the steering-post. The upper end or loop of the spring is bent into a horizontal plane, and the said screw-hook of the swiveling link hooks into
55 the said loop of the spring. In consequence of the curvilinear figure of the said loop the motion of the steering post or head does not affect the tension of the saddle and its appliance, nor is the steering interfered with
60 by the tension on the saddle. Upon the parallel arms of the wire foundation of the saddle eyebolts slide, the said eyebolts passing through a cross bar or shaft situated underneath the parallel arms of the wire foundation
65 hereinbefore described.

On the horizontal top of the L-pin of the velocipede is a sliding socket which carries the spring to which the rear of the saddle is connected. This spring consists of a doubled
70 wire, in which are formed parallel coils near the doubled part of the wire. These coils terminate in horizontal arms which are bent into the form of circular eyes or hooks, which eyes or hooks are secured by means of screw-
75 pins to the cross-bar described. By means of the circular disk at the front of the saddle, with which the other screw-hook of the swiveling link is engaged, the normal height of the front of the saddle can be adjusted.
80

I will now proceed to describe, with reference to the accompanying drawings, the manner in which my invention is to be performed.

Figure 1 represents in side elevation a portion of the frame of a Safety bicycle, together
85 with a saddle or seat, the said saddle or seat being constructed and connected to or supported upon the frame of the Safety bicycle according to my invention. Fig. 2 represents in side elevation the saddle or seat and ad-
90 juncts for connecting the same to a Safety bicycle; and Fig. 3 is a plan of the same, the leather portion of the saddle or seat in Fig. 3 being represented in dotted lines. Fig. 4 represents separate views of the eyebolts by which
95 the saddle or seat is connected to the rear supporting-spring. Figs. 2, 3, and 4 are drawn to a larger scale than Fig. 1. Fig. 5 represents in elevation and plan of under side, drawn to a larger scale, a modified arrangement for
100 connecting the circular or adjustment disk with the front of the saddle.

The same letters of reference indicate the same parts in the several figures of the drawings.

The letter *a* indicates the saddle leather or cover, and *b* the supporting-foundation composed of a strong wire or rod bent at its front portion into an eye or loop *c*, through which extends a vertical bolt *d*², the upper headed end of which engages the base-plate of an upright bracket *d'*, having an orifice receiving the screw-threaded stem *d*⁴, Fig. 5, of a tension-hook *d*. The screw-stem is provided with a screw-nut *d*⁵, abutting the bracket *d'*, and at its front upwardly-projecting end the tension-hook is formed or otherwise provided with a rigidly-attached plate *a'*, which is properly curved or shaped to receive and be secured to the front end of the saddle leather or cover *a*. The front end of the saddle leather or cover is thus attached to the plate *a'*, which is rigidly connected to the tension-hook *d*, and the latter is carried by an upright bracket rigidly attached to an eye or loop *c* of the frame or foundation *b*, in which respects my invention differs from a tension-screw directly engaging the wire frame and pivoted to a shoulder at the front of the saddle leather or cover. The doubled wire of the wire foundation *b* extends under the leather *a* of the saddle at a short distance below it, its ends turning outward and being fixed to the curved plate *e*, riveted to the rear of the saddle. (See Fig. 3.)

The front of the foundation *b* has connected to it rigidly the circular disk *f*, having arranged around part of its circumference a series of equidistant holes, with any one of which holes the adjusting swiveling link *g* may be hooked.

Instead of connecting the circular disk *f* to the front of the wire foundation *b* of the saddle, it may be connected directly to the vertical bolt *d*², as represented in Fig. 5. The said swiveling link *g* has at each end a screw-hook *h* *h*², one of the said hooks being screwed with a right-hand screw-thread and the other being screwed with a left-hand screw-thread, which screws take into correspondingly-screwed holes in the ends of the link *g*. By turning the link *g* in one or other direction the screw-hooks *h* *h*², hooked, respectively, to the circular disk *f*, and the front spring *i* can be advanced out of or drawn in the said link *g*, so as virtually to lengthen or shorten the connection between the disk *f* and the spring *i*. The vertical spring *i* is attached to the socket *k* of the steering post or head by means of a clip *k*², fixed on the said socket *k*, which permits of its vertical adjustment. The said vertical spring *i* consists of a steel wire or rod bent at its middle into a loop *i*², the branches of the said wire being coiled at *i*³ into two vertical parallel coils, their straight ends taking into the adjustable clip *k*², hereinbefore described. The upper end or loop *i*² of the spring *i* is bent into a nearly-horizontal plane, and the screw-hook *h*² of the swiveling

link *g* hooks into the said loop *i*² of the said spring *i*.

The bicycle represented is of the kind known as a "socket-steering Safety bicycle," and the adjustable clip *k*² is connected to the socket of the steering-post. In this case the clip *k*² does not move with the steering-rod; but when the adjustable clip *k*² is connected to the steering-rod, instead of to the socket, or when the bicycle is a center-steering bicycle, the clip *k*² turns with the steering-rod. The curvature of the said loop *i*² permits of the motion of the steering-rod without obstruction or resistance, and the motion of the steering post or head of the Safety bicycle does not affect the tension of the saddle and its appliances.

Upon the parallel arms *b*² *b*² of the wire foundation *b* of the saddle eyebolts *l* *l* slide, the said eyebolts carrying a cross bar or shaft *m*. (See Fig. 4.)

On the horizontal top of the L-pin of the Safety bicycle is a sliding socket *n*, which carries the spring *o*, to which the rear of the saddle *a* is connected. This spring *o* consists of a doubled wire in which are formed parallel coils *o*². These coils *o*² terminate in nearly-horizontal arms *o*³, which are bent into the form of hooks or eyes, which eyes are fixed by screw-pins *p* *p* to the cross-bar *m*. By relaxing the eyebolts *l* *l* the position of the rear of the saddle with respect to the spring *o* may be adjusted.

I do not limit myself to the use of springs of the kind represented at *i*³ and *o*² for connecting the front and rear of the saddle with the steering-post or socket on the steering-post and with the L-pin of the bicycle, as other kinds of springs may be employed with like effect.

The normal height of the front of the saddle or seat *a* can be adjusted by engaging the screw-hook *h* of the swiveling link *g* with one or other of the holes of the circular disk *f*, hereinbefore described.

In order to reduce the amount of friction between the hook *h* of the swiveling link *g* and the circular disk *f*, the disk *f* may be made of a metallic foundation covered with strong leather or other non-metallic material, such as vulcanite or papier-maché. A disk *f*, made of a metallic foundation covered with leather, is represented in Fig. 5.

By the arrangement described and represented all the connections are capable of swiveling, and there is hence no rigidity or strain upon any of the parts, which change their position with riders of different weights, the saddle in its rising-and-falling motion moving in a plane parallel or nearly parallel to the plane occupied by it in its normal position. (See the dotted-line position, Fig. 2.)

The metallic foundation of the saddle may be dispensed with, in which case the rear of the leather seat is connected to the rear spring described, and the front of the seat is hooked to the swiveling link described.

The application of my invention to the supporting of saddles or seats of tricycles and other velocipedes having steering-posts differs in no essential respect from its application to the supporting of the saddles or seats of Safety bicycles, as hereinbefore described, and illustrated in the accompanying drawings.

Having now particularly described and ascertained the nature of my invention and the manner in which the same is to be performed, I declare that I claim as my invention of improvements in supporting the saddles or seats of Safety bicycles, tricycles, and other velocipedes having steering-posts—

1. The combination, in a saddle for bicycles and similar vehicles, of a wire or rod frame or foundation having an upright bracket connected with its forward end, and a tension-hook adjustable lengthwise the bracket and having a rigidly-attached plate at its front end, to which the saddle leather or cover is secured, substantially as described.

2. Connecting the front of the foundation of the saddle or seat with the steering-post, or a socket through which the steering-post passes, by means of a compound rod capable of being virtually lengthened or shortened by a swiveling link or its equivalent, one end of the said compound rod being hooked to a spring, preferably of the kind described and represented, carried by the steering-post or socket, and the other end being hooked in one of a series of holes made in a disk carried by and rigidly fixed to the front of the founda-

tion of the saddle, the several parts being constructed and arranged as hereinbefore described, and illustrated in the accompanying drawings.

3. Connecting the foundation of the saddle or seat with the L-pin on the frame of the bicycle or velocipede by means of a spring, made preferably of a strong wire or rod bent at its middle, parallel coils being formed in the doubled parts of the said spring, the bent or middle part of the said spring being connected to the sliding socket on the L-pin of the bicycle or velocipede, and the ends of the said spring being formed into hooks or eyes through which screw-pins pass, the said screw-pins taking into screwed holes in a cross-bar carried by eyebolts sliding or adjustable on the parallel arms of the wire foundation, as hereinbefore described, and illustrated in the accompanying drawings.

4. The combination, with the steering-post socket and the L-pin on the frame of a bicycle or other wheel, of an adjustable frame with which the leather or other seat is engaged, a convoluted spring connecting the front end of the adjustable frame with the steering-post socket, and a convoluted spring connecting the rear end of the adjustable frame with the L-pin, substantially as described.

JAMES ALFRED LAMPLUGH. [L. S.]

Witnesses:

RICHARD SKERRETT,
ARTHUR J. POWELL.