

(No Model.)

2 Sheets—Sheet 1.

E. E. HARDY.
ADJUSTABLE HANDLE BAR FOR VELOCIPEDES.

No. 558,489.

Patented Apr. 21, 1896.

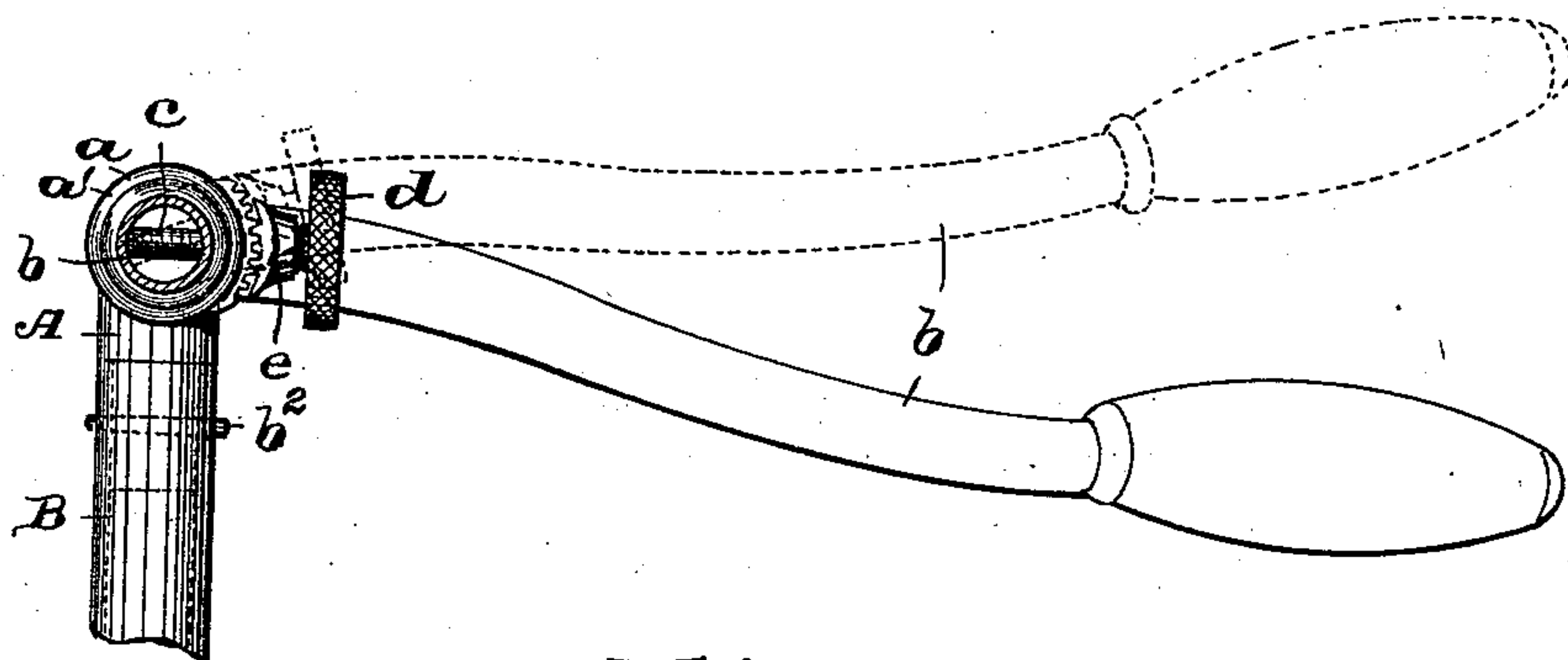


Fig. 1

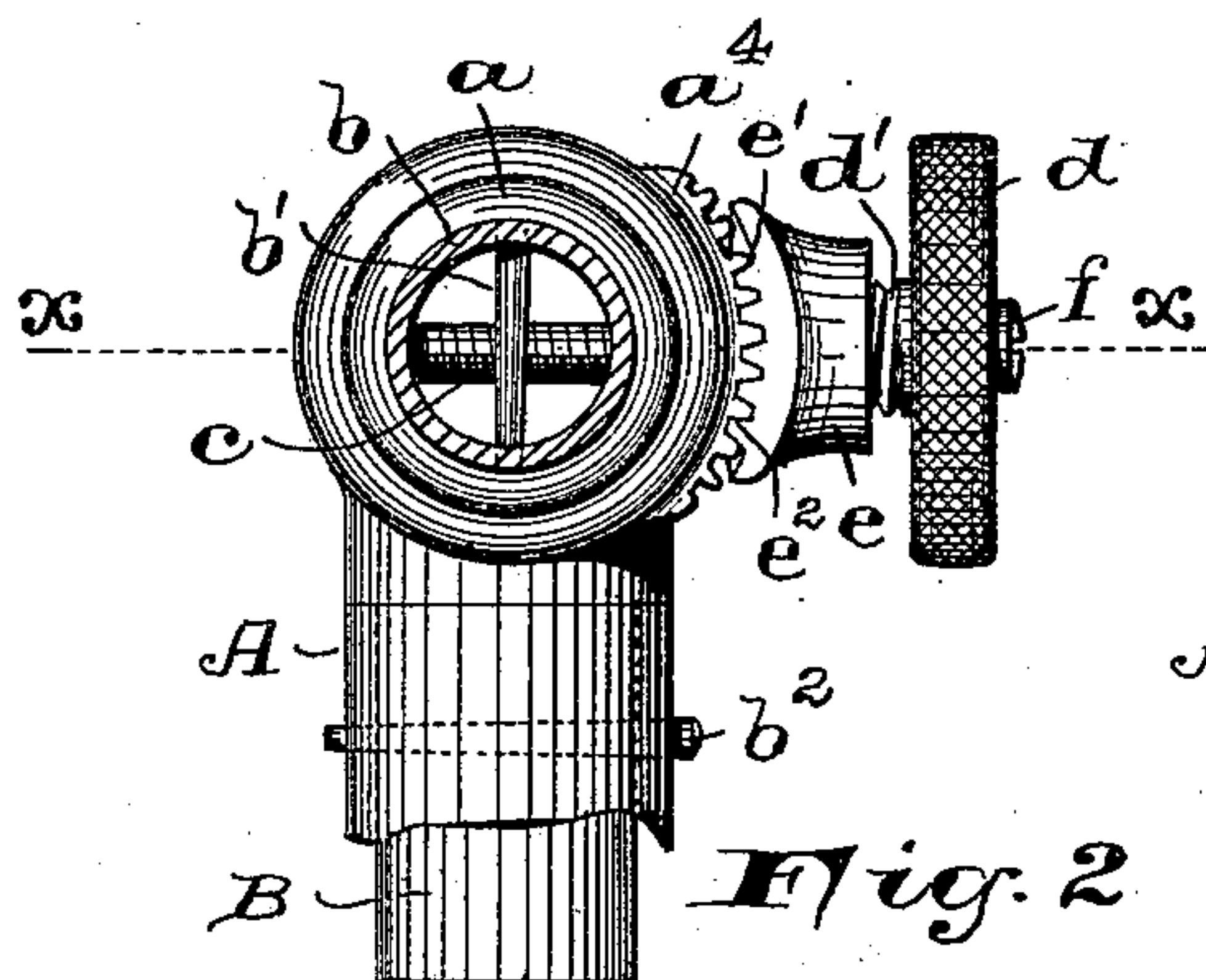


Fig. 2

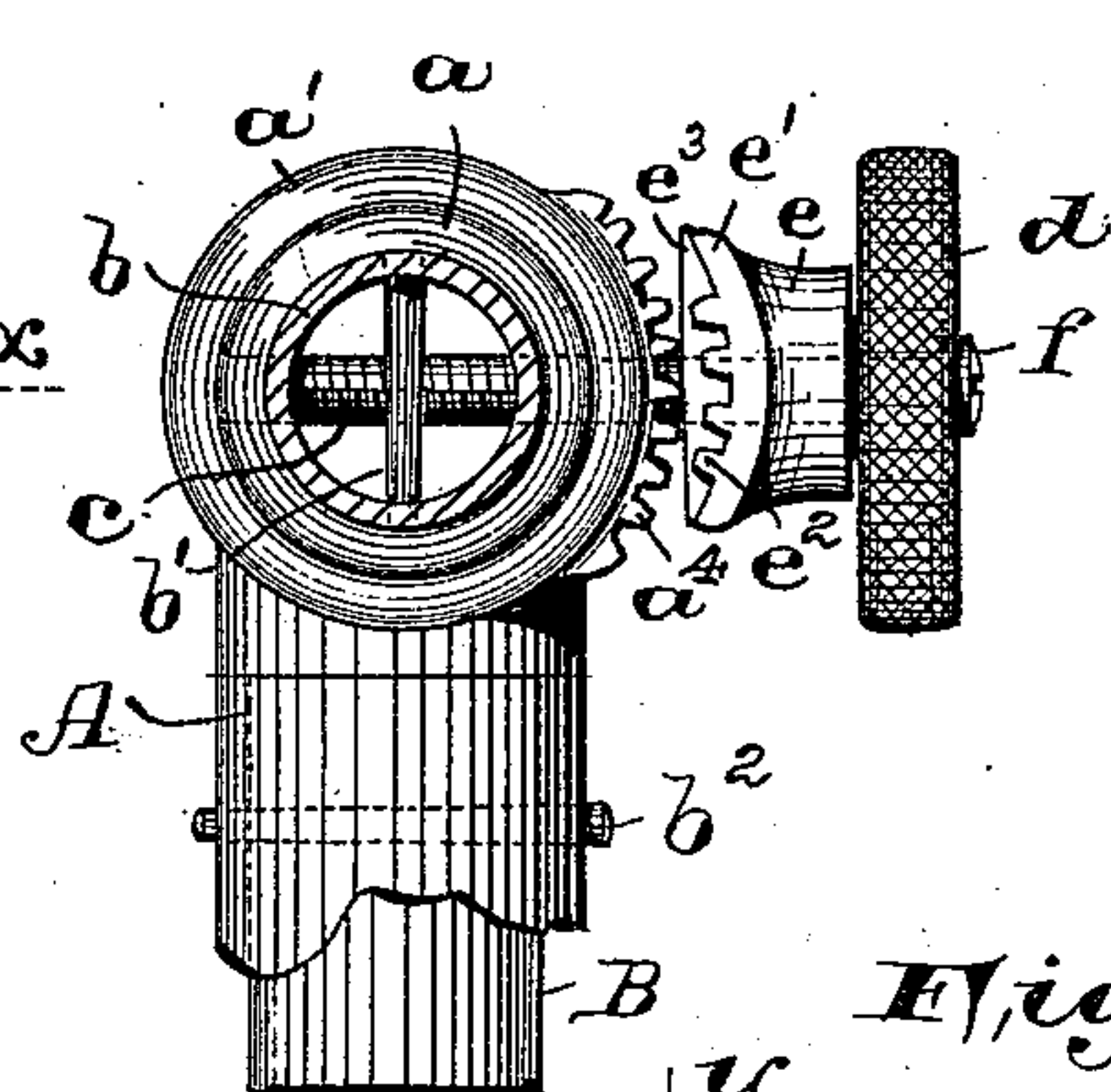


Fig. 3

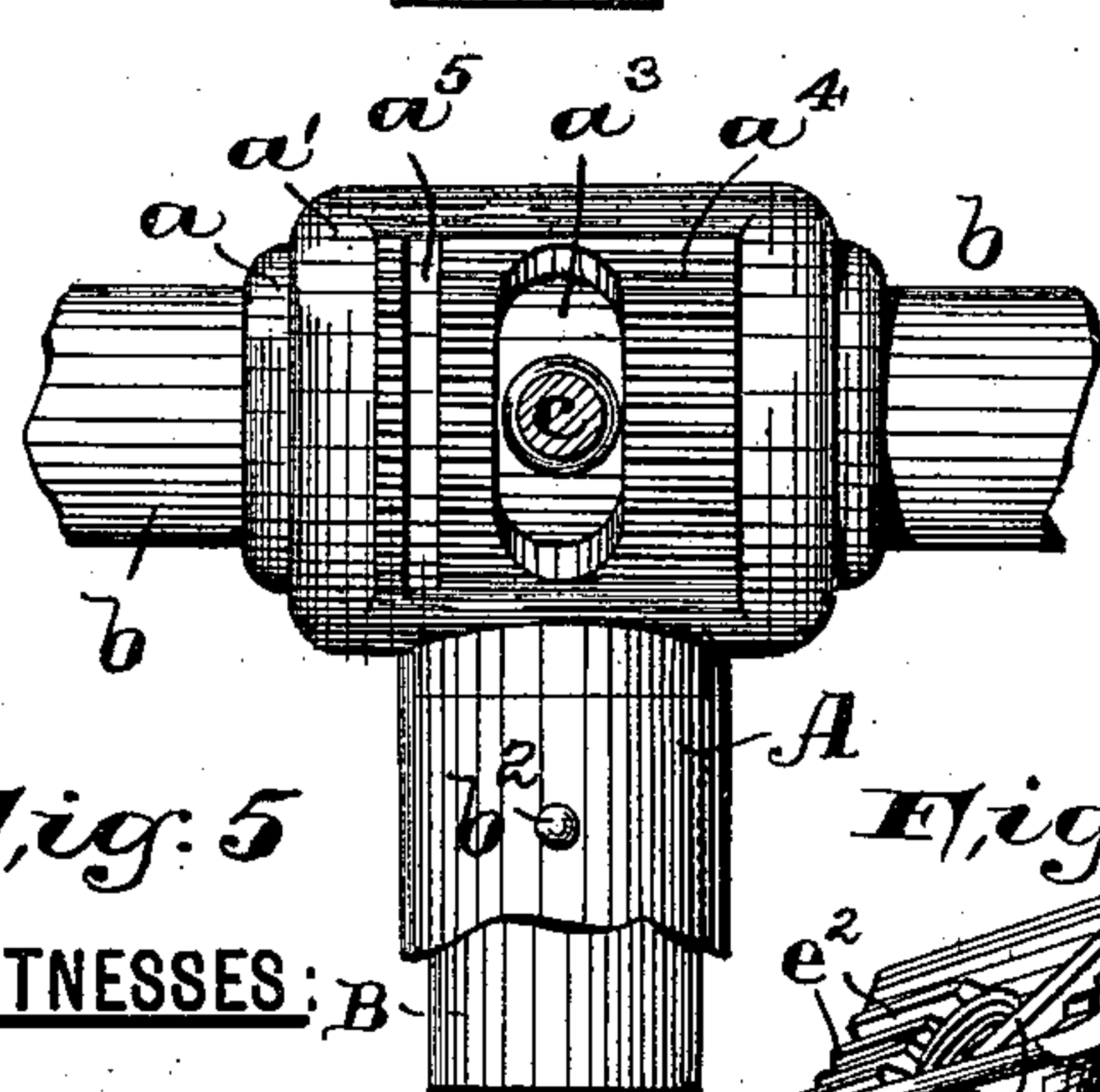


Fig. 4

Fig. 5

WITNESSES:

Wm. C. Canfield, Jr.
B. Mortimer Duffell.

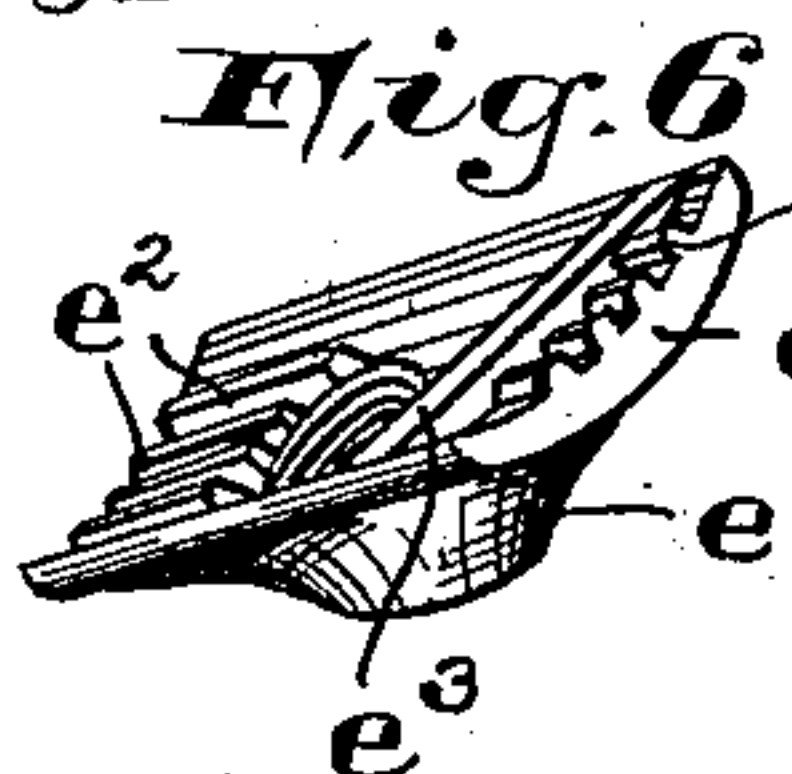


Fig. 6

Emery E. Hardy,
BY Fred C. Fraentzel, ATT'Y.

(No Model.)

2 Sheets—Sheet 2.

E. E. HARDY.

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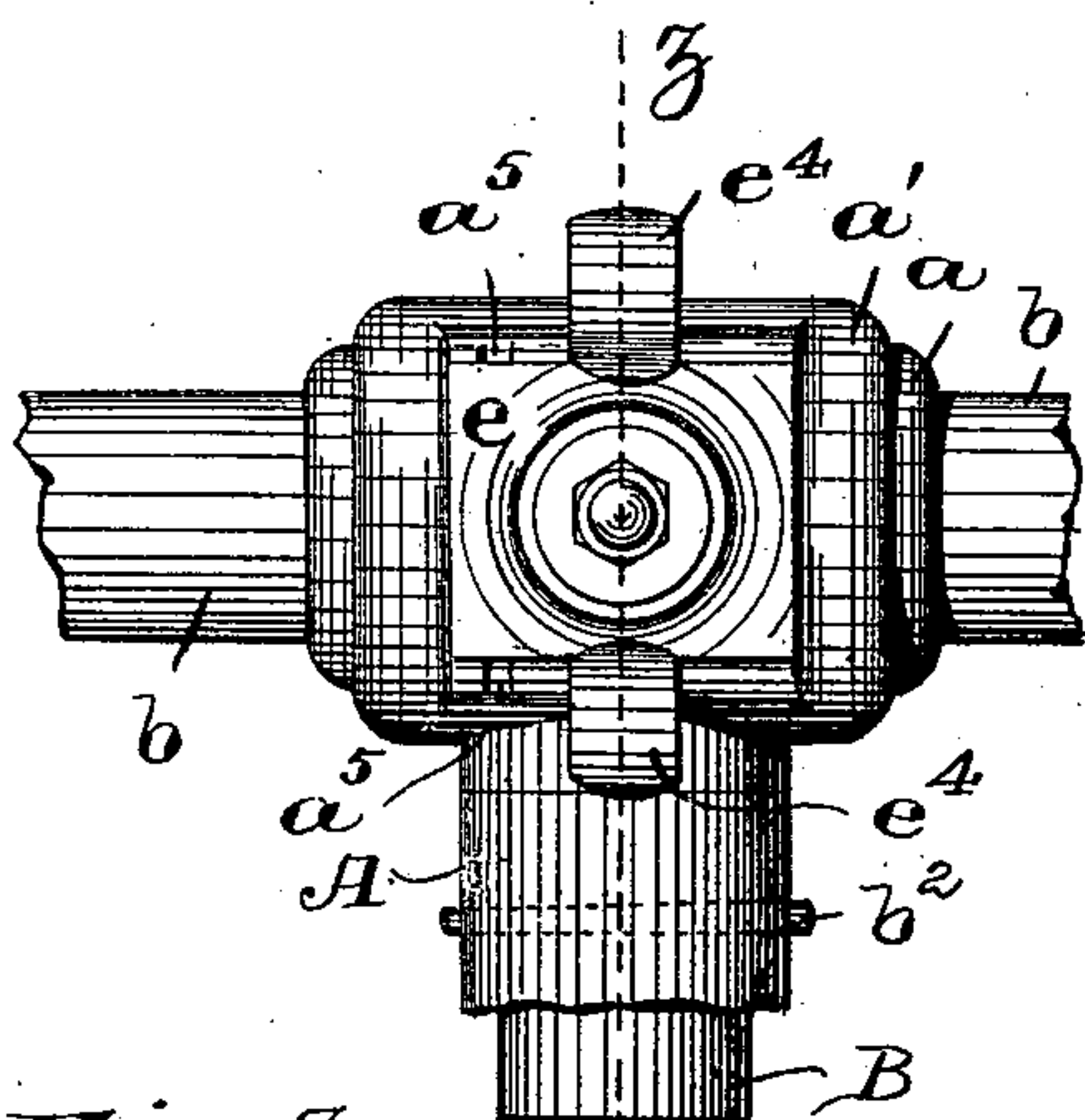


Fig. 7

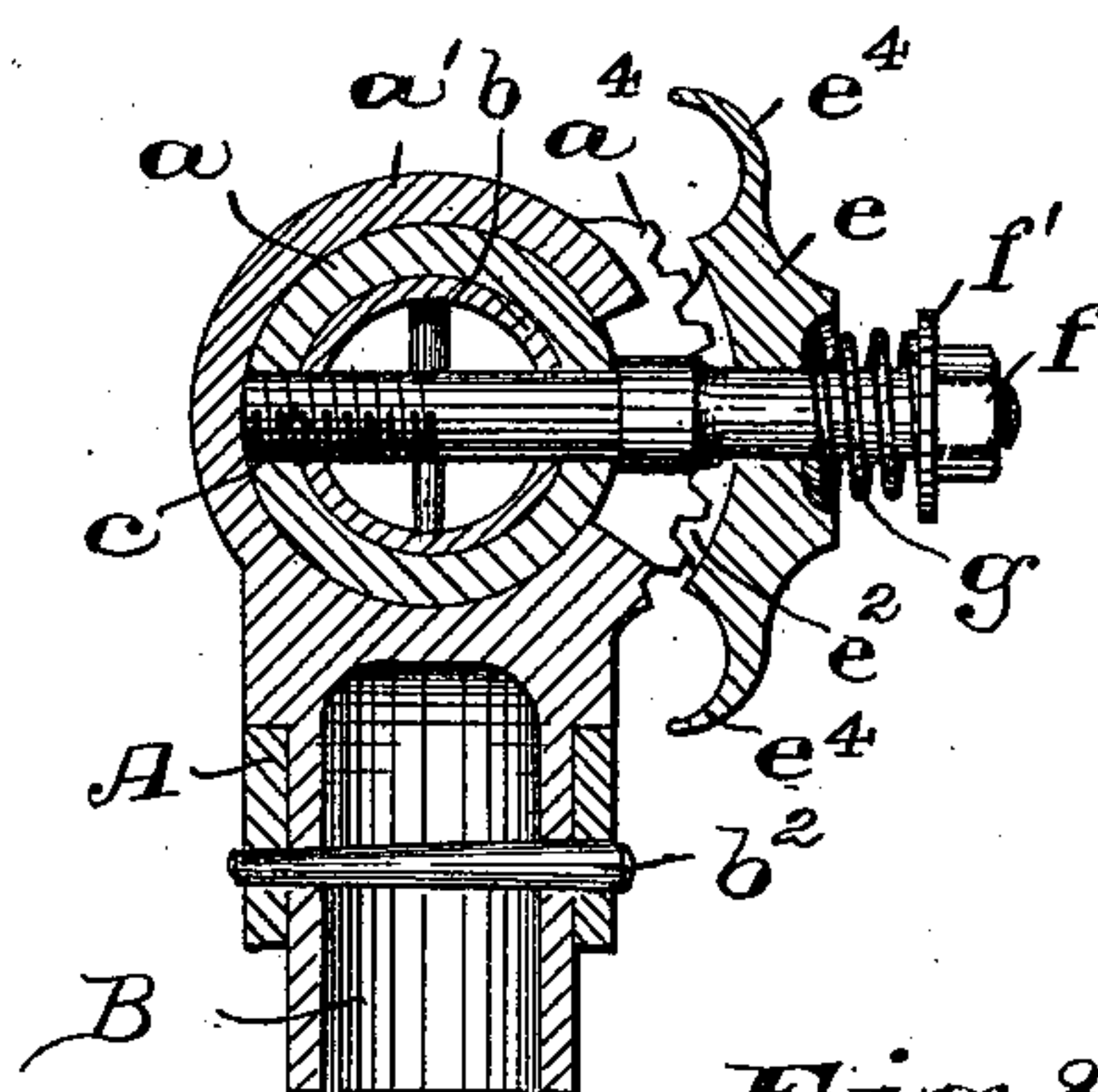


Fig. 8

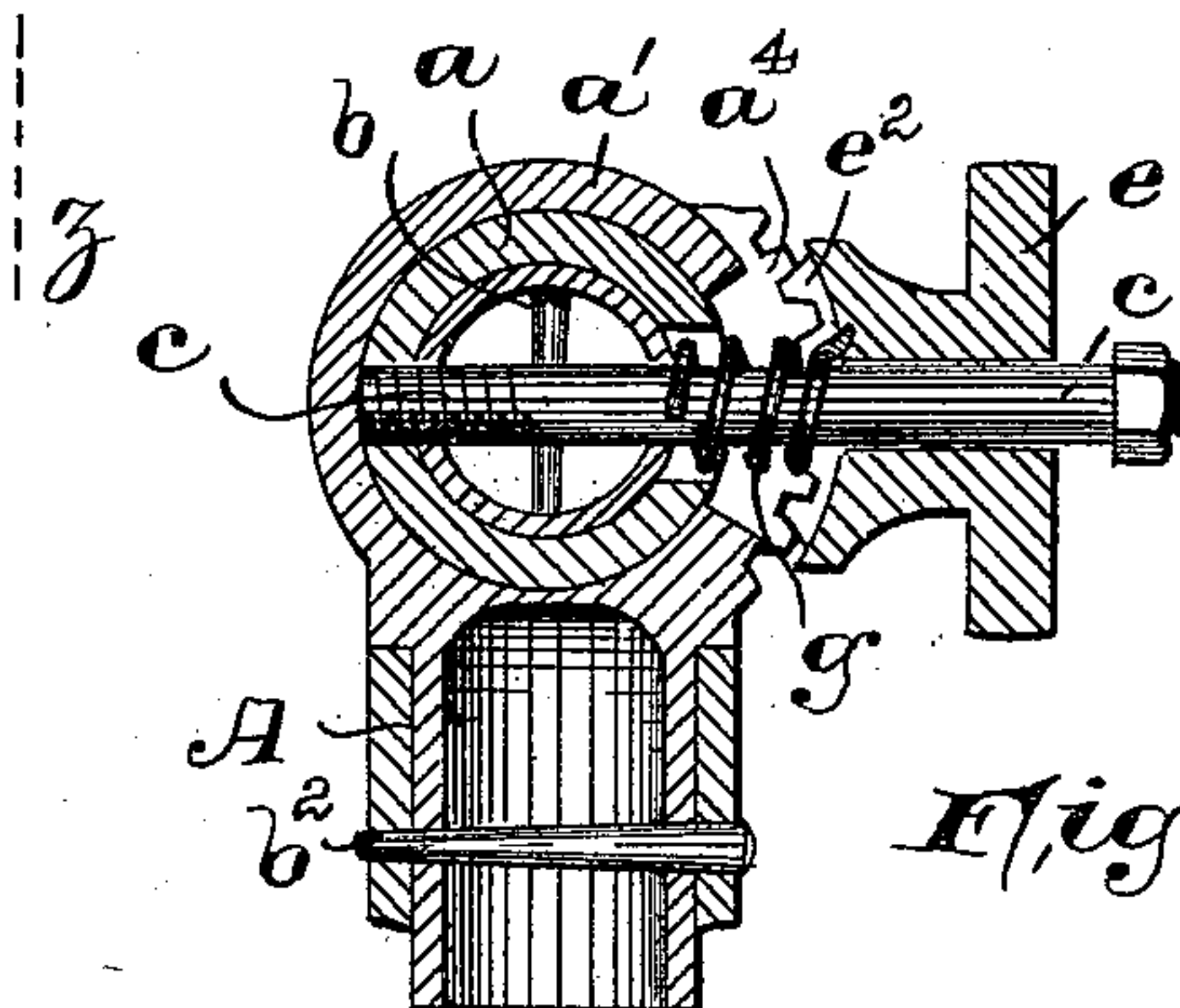


Fig: 9

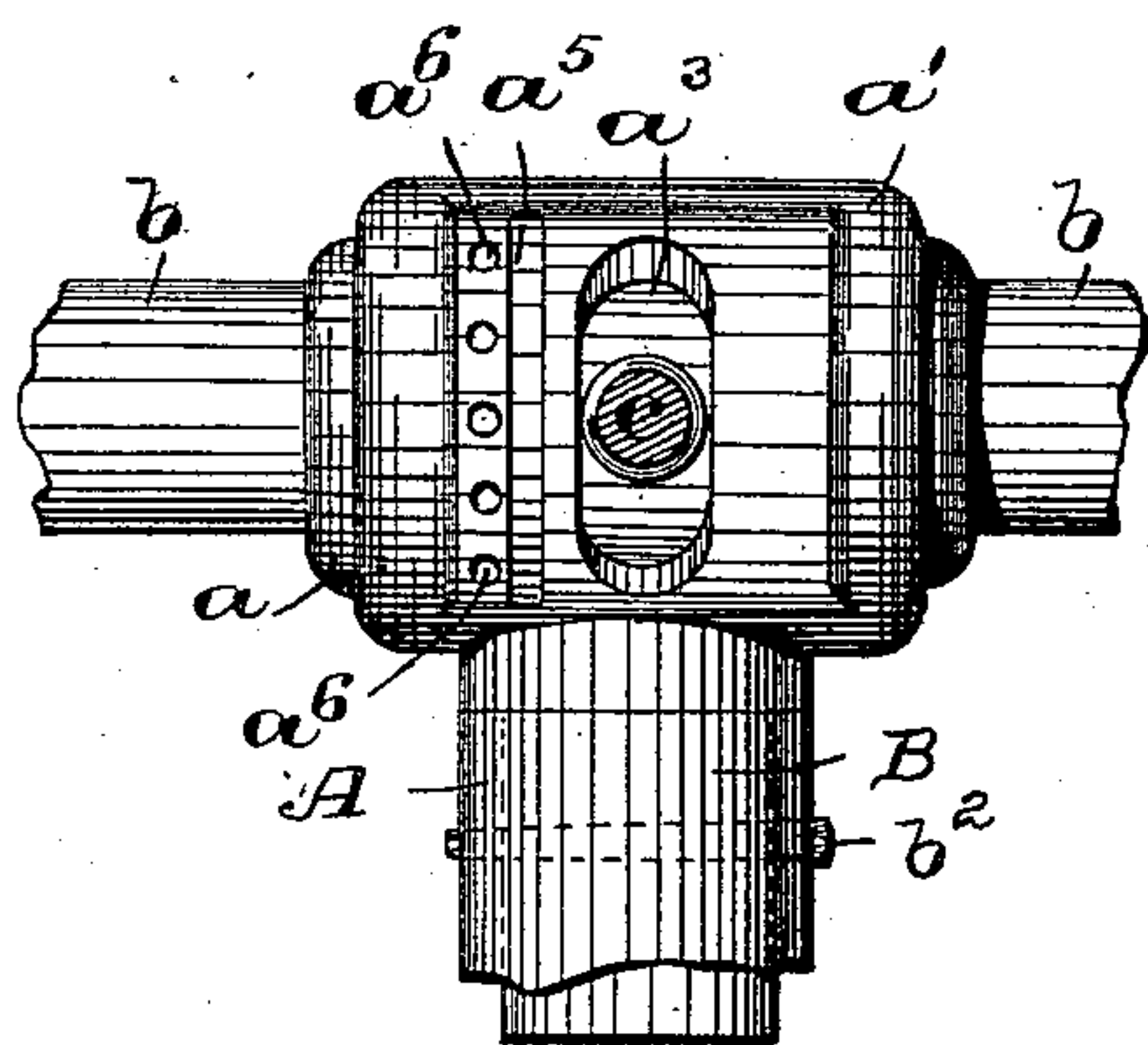


Fig. 11

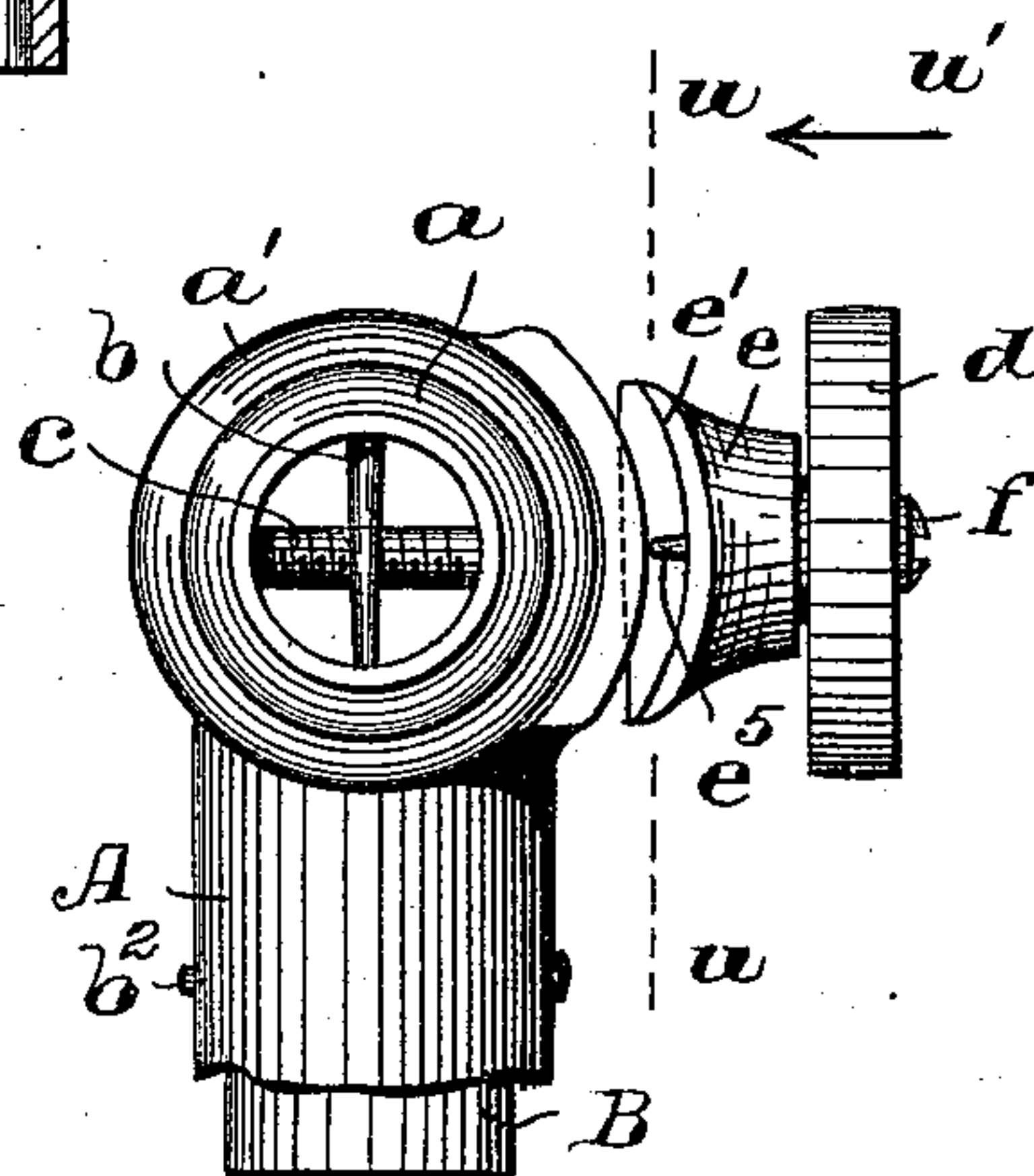


Fig. 10

WITNESSES:

Wm. L. Campfield, Jr.
B. Mortimer Purse.

INVENTOR:

Emery E. Hardy,
BY Fred C. Fraentzel, ATT'Y.

UNITED STATES PATENT OFFICE.

EMERY E. HARDY, OF KEARNEY, NEW JERSEY.

ADJUSTABLE HANDLE-BAR FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 558,489, dated April 21, 1896.

Application filed October 8, 1895. Serial No. 564,977. (No model.)

To all whom it may concern:

Be it known that I, EMERY E. HARDY, a citizen of the United States, residing at Kearney, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Adjustable Handle-Bars for Velocipedes, &c.; and I 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in the steering-handles for velocipedes, or other like vehicles, the object of the invention being to provide means for adjustably connecting the handle-bars to the steering-head of the vehicle, whereby said bars can be quickly raised or lowered, to suit the riding position of the rider, said device being constructed to retain the handle-bars in their adjusted position, and also being capable of adjustment to any other position without necessitating the dismounting from the vehicle.

With this end in view my invention consists in certain novel features of construction and combinations of parts, such as will be hereinafter more fully set forth, and finally embodied in the clauses of the claim.

In the accompanying sheets of drawings, in which similar letters of reference are employed to indicate corresponding parts in each of the several views, Figure 1 is a view of a portion of the steering-head with one of the handle-bars in cross-section, illustrating in connection therewith one form of adjusting means, and said view furthermore showing in dotted lines the position of the handle-bar when it has been adjusted. Fig. 2 is an enlarged end view of the adjusting device, the parts being represented in their holding or locked engagement; and Fig. 3 is a similar view of the adjusting device, illustrating the holding parts thereof in their disengaged positions to enable the handle-bars to be raised or lowered. Fig. 4 is a horizontal section taken on line x in Fig. 2 to more clearly illustrate the inner arrangement and construction of the working parts of said adjusting device. Fig. 5 is a vertical section taken

on line v in Fig. 4, looking in the direction of arrow y' ; and Fig. 6 is a perspective view of a toothed holding-plate used in connection with the form of device illustrated in the above-described figures. Fig. 7 is a front view of an adjusting device employed in connection with the handle-bars of a velocipede, said device being of a modified form of construction; and Fig. 8 is a vertical section of the same, taken on line z in said Fig. 7. Fig. 9 is a view similar to that illustrated in said Fig. 8, illustrating still another modified form of construction of adjusting device adapted to be used in connection with the handle-bars. Fig. 10 is an end view of still another form of adjusting device similar to that represented in Figs. 2 and 3, a stop-post to be used in this form of construction instead of the teeth shown in said Figs. 2 and 3; and Fig. 11 is a vertical cross-section taken on line u in Fig. 10, looking in the direction of the arrow w' .

Referring to the drawings, a represents a collar encircling the ends of the steering-bars b , which are secured in said collar by means of the pins b' . Rotatively arranged upon said collar a is a second collar a' , provided with a suitable hole a^2 , a slotted opening a^3 , locking or holding teeth a^4 , adjacent to said opening a^3 , and a slot or groove a^5 cut across said teeth, as will be clearly evident from Fig. 5. Said collar a' is provided with a suitable socket B , by means of which the collar can be secured on the steering-head A of the vehicle, either by a pin b^2 , or in any other well-known manner. Passing through said opening a^3 is a screw-threaded bolt or pin c , which is securely held in screw-threaded holes in said inner collar a , and is prevented from turning by the arrangement of a small screw or pin c' , passed through the hole a^2 in the collar a' , and partly secured in the edge of said screw-threaded bolt c and in the edge of the screw-threaded hole in said collar a . Said screw-bolt c projects beyond the slotted opening a^3 in the collar a' , and is provided with a screw-threaded end c^2 , upon which is arranged a finger-piece d , provided with a hub d' for securing said finger-piece upon said screw-threaded end c^2 , as will be understood from an inspection of Fig. 4. On the end of said screw-threaded portion c^2 is a

washer f' , secured thereto by means of a screw or bolt f . The hub d' of said finger-piece is provided on its outer surface with a left-handed screw-thread, and upon this screw-thread is arranged the holding-plate e . Said plate, as will be seen from Figs. 3, 4, and 6, is provided with the curved portion e' , having the holding-teeth e^2 , which are adapted to be brought into holding or locked engagement with the teeth a^4 on the collar a' , while a rib e^3 on said holding-plate e is made to project into the slot a^5 on said collar a' when the parts are in their operative engagement.

The operation of the device is as follows: Suppose the handle-bars are in the position illustrated in Fig. 1, in which position they are securely held by the adjusting device when its holding parts are in their locked engagement, and it is desired to adjust the handle-bars from a low position to the higher position indicated in dotted outline in said figure. The rider, without dismounting from or stopping his machine, by a slight turn of the finger-piece d to the left brings said finger-piece on the screw-threaded portion c^2 of the screw-bolt c against the washer f' thereon. At the same time the left-handed thread on the hub d' of said finger-piece d will cause the rotation of the holding-plate e on said screw-threaded hub d' , whereby its holding-teeth e^2 are disengaged from the holding-teeth a^4 in the collar a' , the rib e^3 being only partially disengaged from the slot a^5 , thereby preventing the turning of said holding-plate on the threaded hub d' , and said screw-threaded bolt c can be moved upwardly or downwardly in the slotted portion a^3 in said collar a' . Said screw-bolt c , being secured or arranged in the inner collar a , to which the ends of the handle-bars b are secured, will cause the rotation of said collar a within the collar a' , and the handle-bars can be brought to the position indicated in dotted outline in said Fig. 1. The finger-piece d is then turned in the opposite direction and the teeth on the holding-plate e again brought into their holding or locked engagement with the teeth a^4 on the collar a' . Instead of providing the screw-bolt c with the screw-threaded portion c^2 , this end may be left plain and the finger-piece d can be dispensed with. Said holding-plate e , however, may be provided with suitable grip-pieces e^4 , and arranged between said holding-piece e and said washer f , and encircling the bolt c , is a suitable spring g . From an inspection of Fig. 8, illustrating this form of construction, it will be seen that said spring g tends to normally cause the holding contact between the teeth e^2 on said holding-plate e and the teeth a^4 on the collar a' . By placing the fingers behind the pull-piece e^4 said holding-plate e can be pulled forward, whereby the holding-teeth become disengaged, the screw-bolt c being brought to another position, and the spring g again causing the locked or holding engagement of the parts after the handle-bars have been adjusted.

In some cases the spring g may be arranged as illustrated in Fig. 9, the free ends of the spring being secured in holes or perforations in the screw-bolt and in said holding-plate e , respectively. The operation of this device is similar to that just described in connection with Fig. 8. In other cases I may dispense with the use of the holding-teeth e^2 on said holding-plate e and with the teeth a^4 on said sleeve a' , as illustrated in Figs. 10 and 11 of the drawings.

In place of the holding-teeth e^2 I employ a post or pin e^5 , while in place of the teeth a^4 in the collar a' I employ a number of suitably-arranged holes or perforations a^6 .

My invention is exceedingly simple in its construction, is durable and efficient, and can be manufactured at a small cost, having this great advantage, that when a rider wishes to change the position of the handle-bars, to produce ease and rest while riding, he can quickly change the position of the handle-bars to any other desired position without the necessary dismounting.

Having thus described my invention, what I claim is—

1. An adjusting device for velocipedes, or other like vehicles, adapted to be connected with the handle-bars of the vehicle, comprising therein, two collars, one sliding upon the other, a screw-bolt secured through one collar, and the other collar having a slotted opening, whereby said collar is adapted to slide on said screw-bolt, a holding or locking plate on said screw-bolt, and means for causing the holding or locked engagement of said holding or locking plate with one of said collars, substantially as and for the purposes set forth.

2. An adjusting device for velocipedes, or other like vehicles, adapted to be connected with the handle-bars of the vehicle, comprising therein, two collars, one sliding upon the other, a screw-bolt secured through one collar, and the other collar having a slotted opening, whereby said collar is adapted to slide on said bolt, teeth a^4 on said collar, a holding or locking plate on said screw-bolt, and teeth e^2 on said holding or locking plate, for causing the locked or holding engagement of said plate with said collar, substantially as and for the purposes set forth.

3. An adjusting device for velocipedes, or other like vehicles, adapted to be connected with the handle-bars of the vehicle, comprising therein, two collars, one sliding upon the other, a screw-bolt secured through one collar, and the other collar having a slotted opening, whereby said collar is adapted to slide on said bolt, teeth a^4 on said collar, and a slot a^5 therein, a holding or locking plate e on said screw-bolt, a rib on said plate adapted to fit into said slot a^5 , and teeth e^2 on said holding or locking plate, for causing the locked or holding engagement of said plate with said collar, substantially as and for the purposes set forth.

4. An adjusting device for velocipedes, or
other like vehicles, adapted to be connected
with the handle-bars of the vehicle, compris-
ing therein, two collars, one sliding upon the
5 other, a bolt secured through one collar, and
the other collar having a slotted opening,
whereby said collar is adapted to slide on
said bolt, a spring-actuated holding-plate on
said bolt, and means for causing the locked
10 or holding engagement of said holding or

locking plate with said collars, substantially
as and for the purposes set forth.

In testimony that I claim the invention set
forth above I have hereunto set my hand this
7th day of October, 1895.

EMERY E. HARDY.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.