

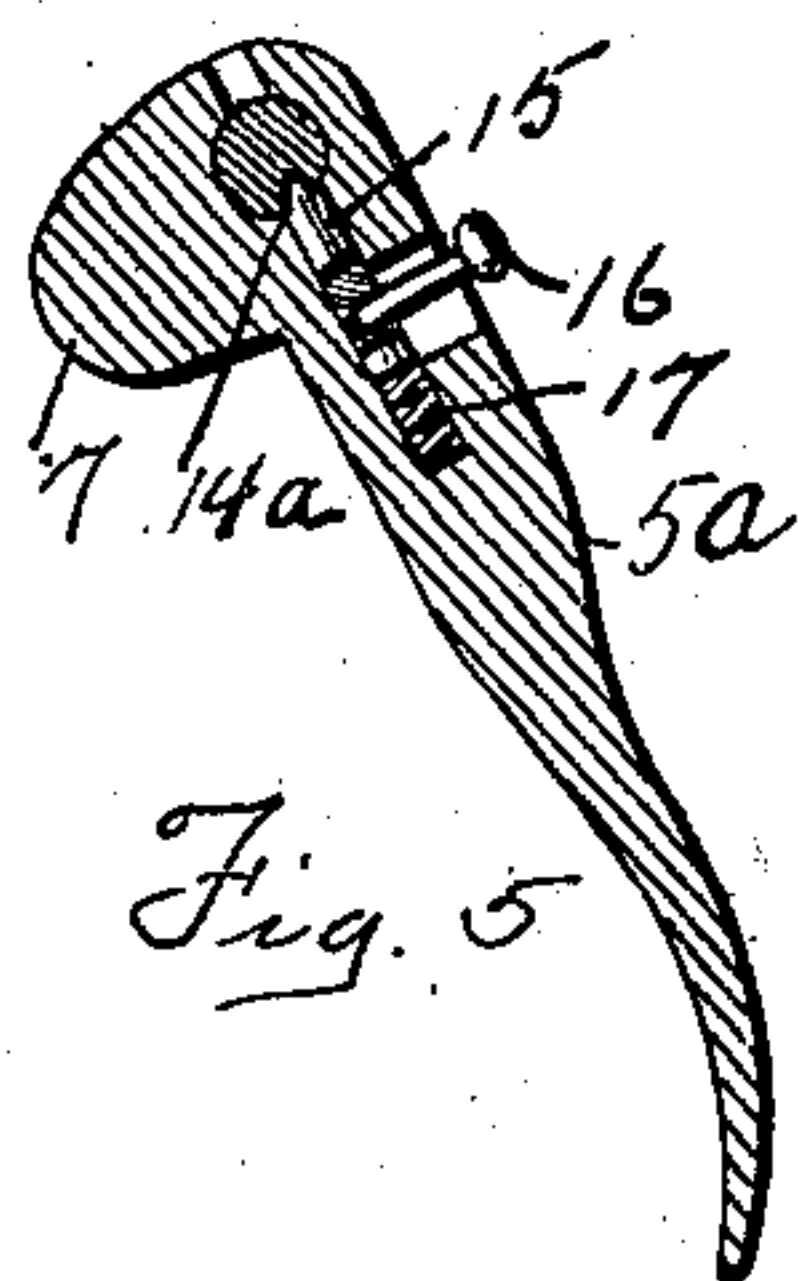
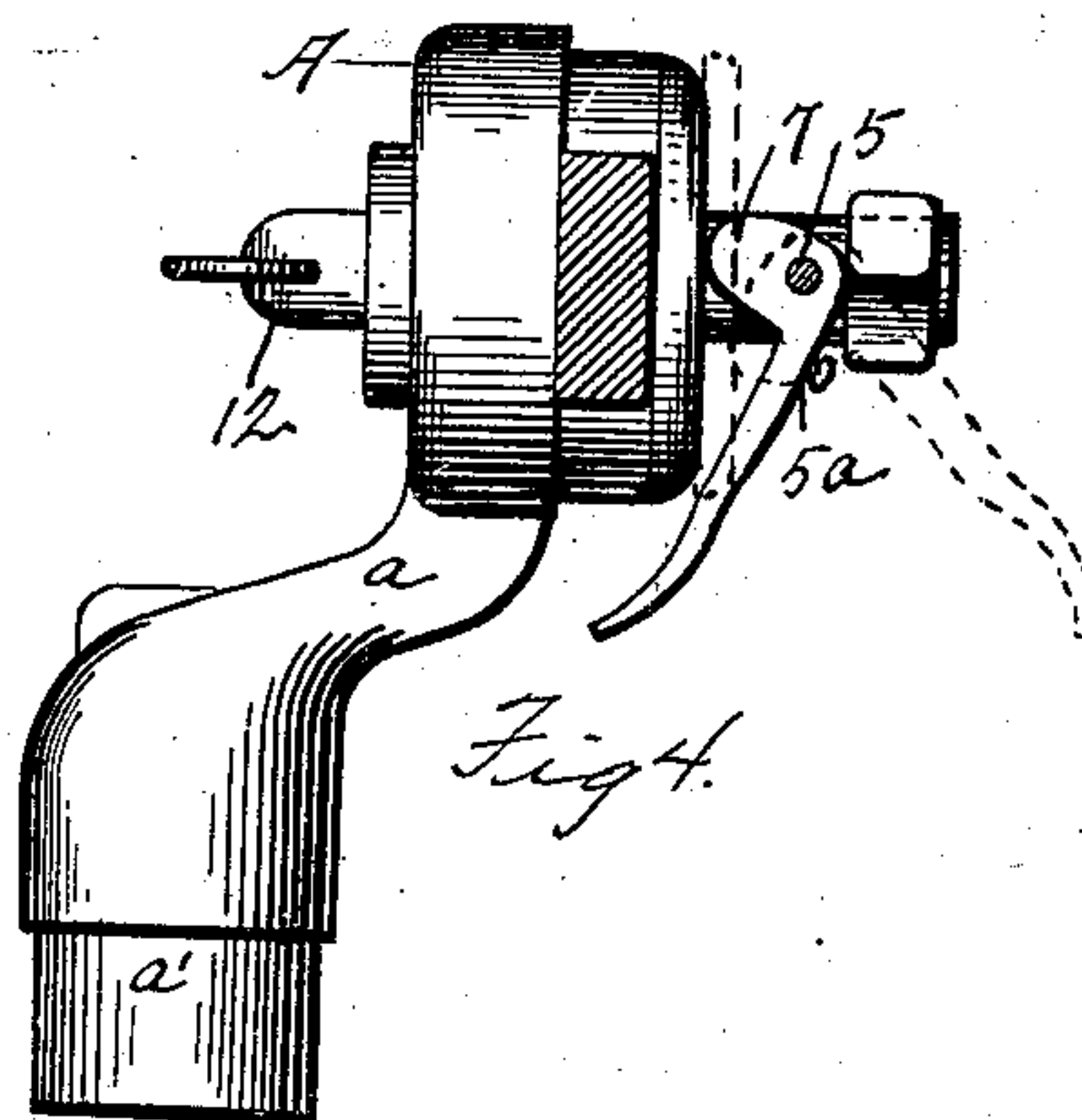
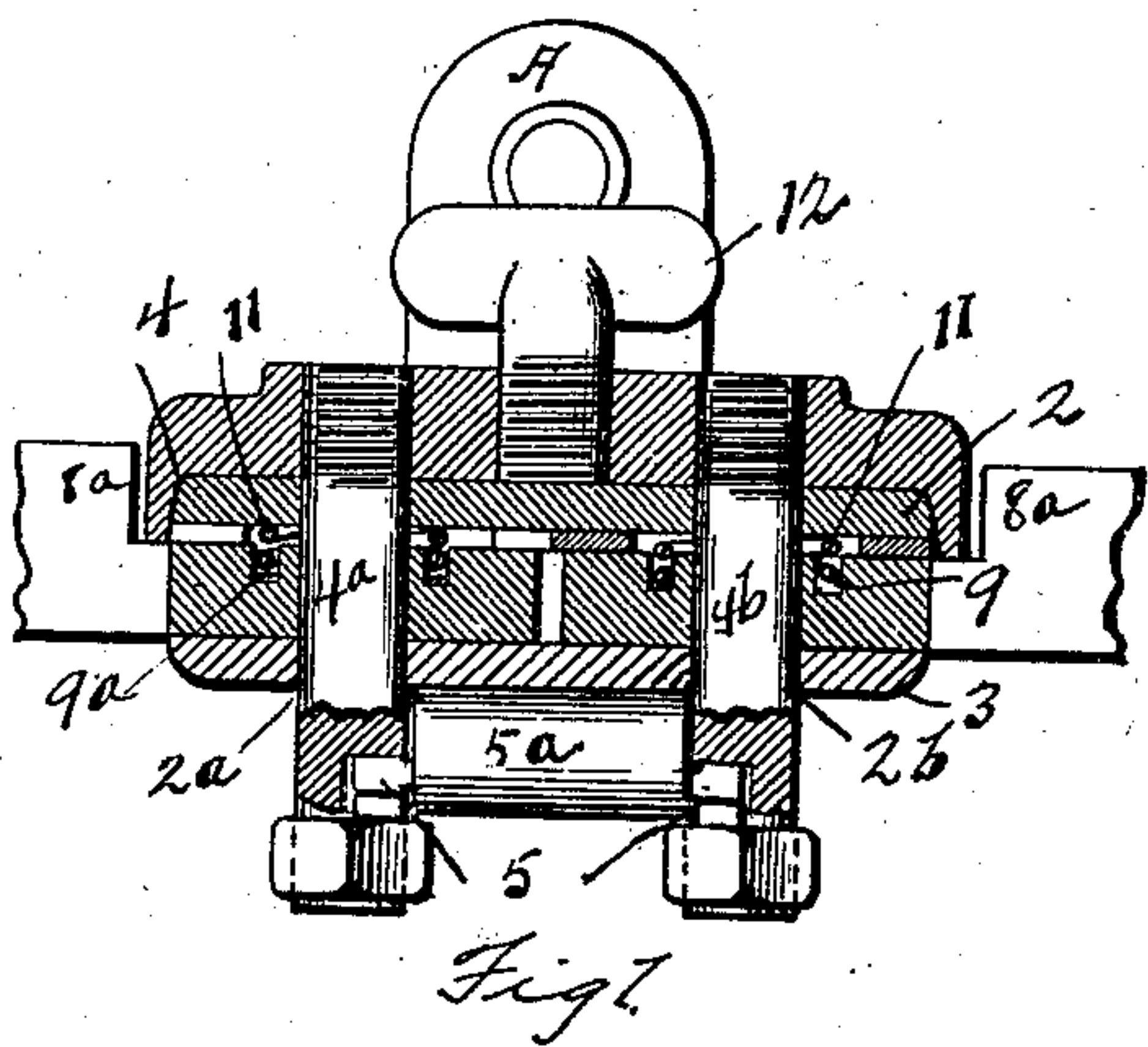
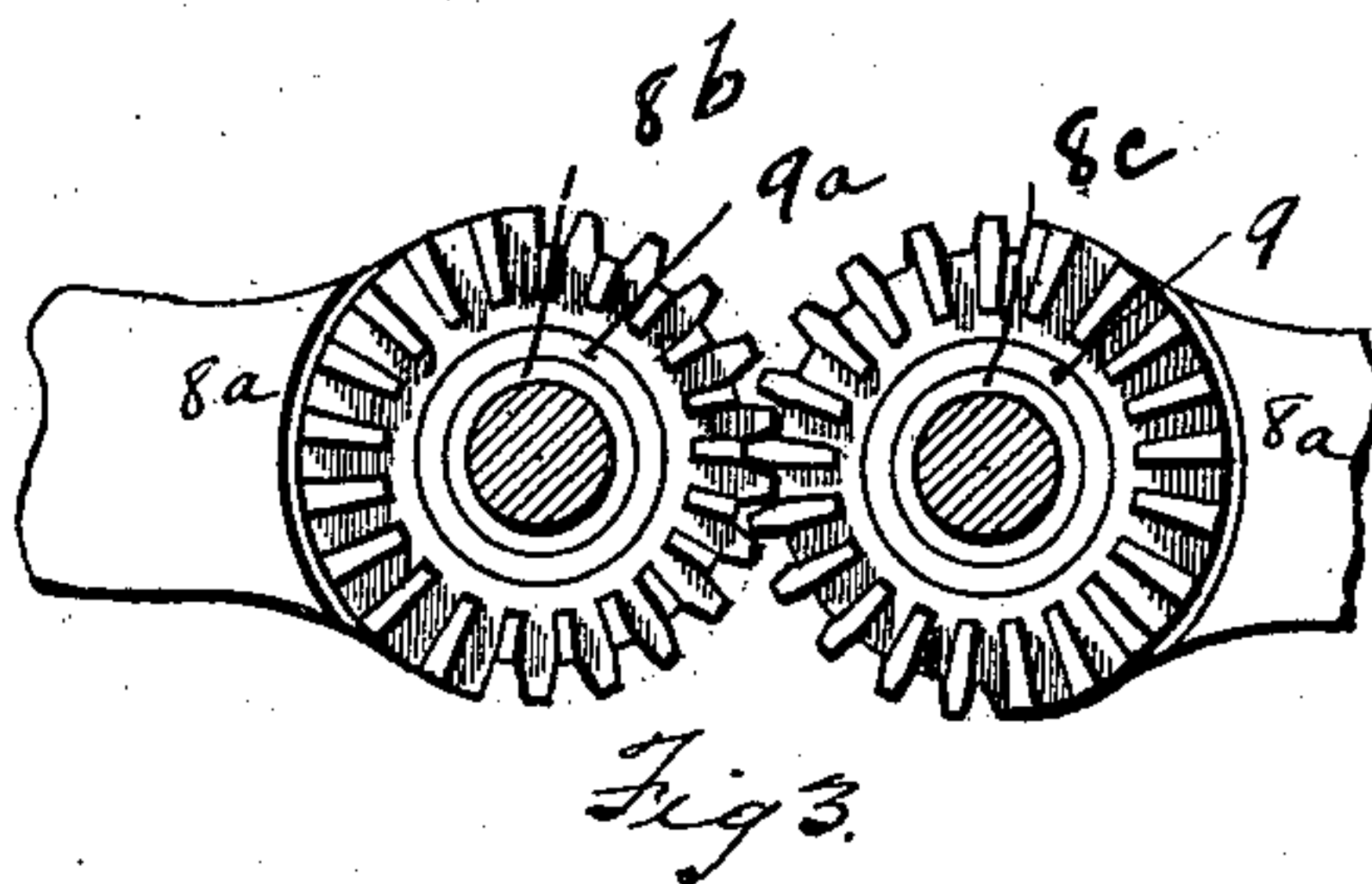
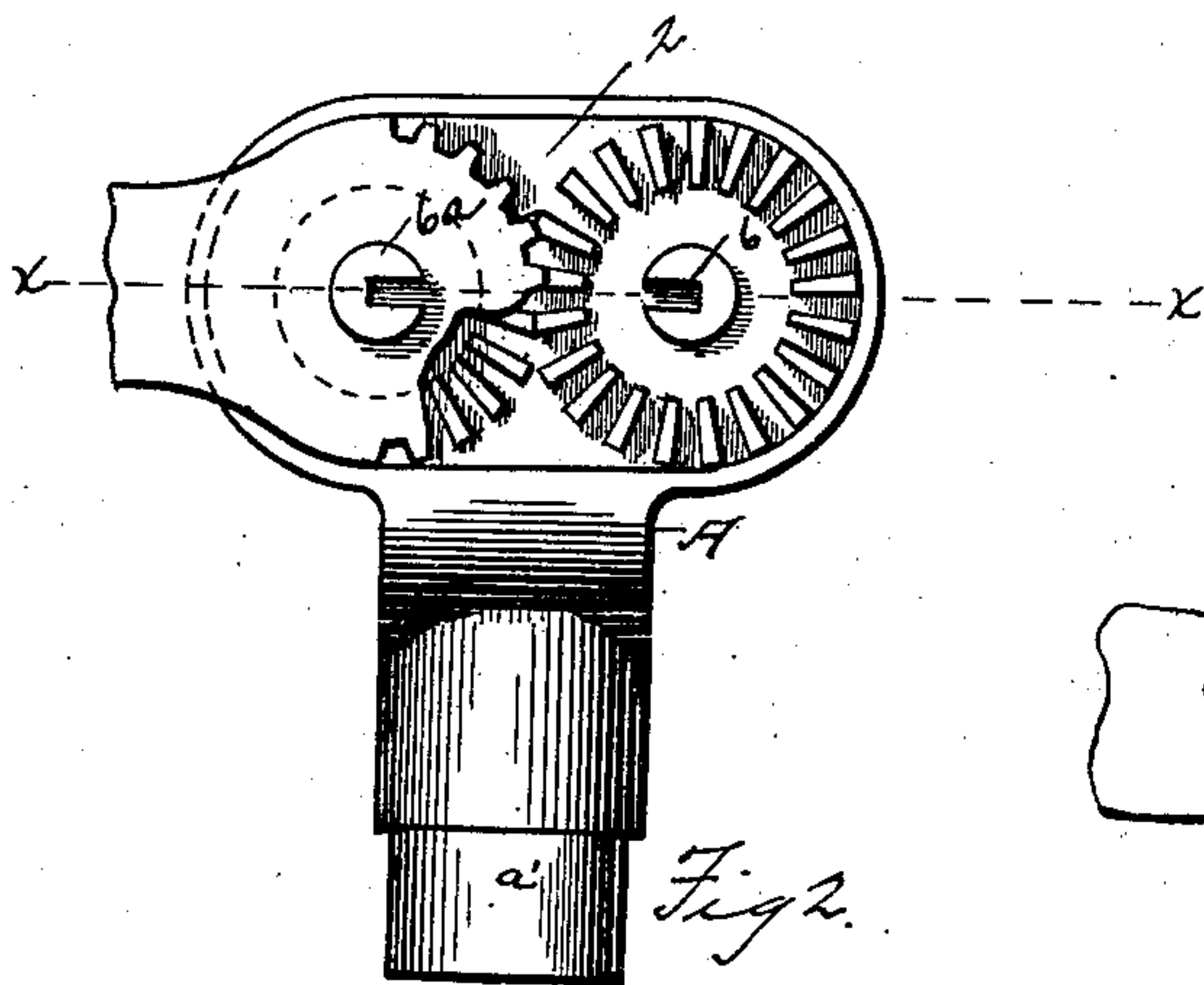
No. 698,137.

Patented Apr. 22, 1902.

J. Y. PORTER.
BICYCLE HANDLE BAR.

(Application filed Mar. 16, 1901.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH Y. PORTER, OF DETROIT, MICHIGAN.

BICYCLE HANDLE-BAR.

SPECIFICATION forming part of Letters Patent No. 698,137, dated April 22, 1902.

Application filed March 16, 1901. Serial No. 51,463. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH Y. PORTER, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Bicycle Handle-Bars; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to bicycle-handles, and has for its object an improved means for connecting the two parts of a jointed handle with a head adapted to be inserted in and secured to the steering-post of the bicycle in such a way that the handles may be adjusted to different vertical angles with respect to the steering-post. When reversed, the handle-bars may be again adjusted in a similar way at different angles with respect to the steering-post.

A further object of the improvement is to bring about such adjustment and still retain the necessary solidity or rigidity of the handles with respect to the steering-post, so that there may be minimum liability to accidents from the handles becoming either loose or accidentally slipping from their adjusted position.

In the drawings, Figure 1 is a horizontal cross-section through the head of a steering-post, the section being taken at the line xx of Fig. 2. Fig. 2 is an elevation showing the head with one steering-handle removed and with one steering-handle in place but partly broken away. Fig. 3 shows the abutting or engaging ends of the two parts of the handle. Fig. 4 is a side elevation of the assembled parts. In Fig. 4 the handle-bar is sectioned. Fig. 5 is a detail sectional view of the clamping cam-lever.

The head may be arranged to be secured to the steering-post in any approved way. Only the upper part of the head is shown in the drawings. The lower part, which is usually brazed to this and provided with a split tubular continuation, arranged to be held in the post by an expander, is not shown, as the means of securing the head to the steering-post forms no part of this invention.

The head A is preferably on a bent neck a , that reaches from that part a' to which the tubular continuation is brazed. The head A is made in the form of a concave plate having a length nearly equal to twice its vertical breadth, and the cavity within it forms a receptacle from which project two pins and in which there is received a plate perforated at two points. This plate may be either the plate 2 or the plate 3. The plate 2 is provided on one face with two series of radial teeth, between which there are notches, and concentric with each series of teeth is a hole 2^a 2^b , and the two holes 2^a and 2^b are spaced properly to allow the plate 2 to be placed in the cavity 4, with the two pins 4^a and 4^b projecting through the holes. The two pins 4^a and 4^b are firmly secured to the head A. A second plate 3, similar in size and shape to the plate 2, except that it is not provided with teeth and notches, is also provided with holes and is arranged to engage over the pins 4^a and 4^b . Each of the pins 4^a 4^b is provided at its outer end with means for supporting the trunnion-pin or fulcrum-pin 5 of a cam-lever 5^a . The means for holding the pin to the post may be any one of several equivalent means, the one which is shown in the drawings being considered an approved form, and in this means there is in each pin 4^a and 4^b a slot sunk into the post and presenting an opening therein for the reception of the fulcrum-pin 5. The two slots in the two pins are placed in alinement, and the fulcrum-pin is dropped into place, and a nut is run down on the threaded end of the pin. A cam-lever or bent lever 5^a is mounted on the fulcrum-pin, which is engaged in the slots 6 and 6^a , and the long arm of the lever extends downward and the short arm 7 is arranged against the plate in the way hereinafter described.

Each section of the bicycle-handle is provided at its inner end with an arched rack concentric to the hole 8 or 8^a , and it is also provided on one face with a circular row of teeth between which there are notches, and these teeth and notches are arranged to engage with the teeth and notches on the plate 2. Inside the teeth and notches on each section of the bicycle-handle is a shallow recess 9 9^a , spaced from the hole 2^a or 2^b by a bearing 8^b 8^c . In the chamber formed by the two

recesses 9^a or 9 is placed a spring 11, which tends to force the teeth on the face of the one part out from engagement with the notches between the teeth on the face of the other part.

5 A pressure-screw or set-screw 12 is inserted through the walls of the head A and bears against the back of the plate (which plate may be either the plate 2 or the plate 3) in the cavity.

10 In operation one of the plates is placed in the cavity in the head A, the handle-bars are slipped over the pins 4 and 4^a, with that side of each bar presented to the plate which corresponds to the plate—that is, if a smooth
15 plate the smooth face of the handle-bar is placed next to it. If the toothed plate is inserted, the notched face of the handle-bar is placed next to it. The other plate follows, and this is followed by placing the pin of the
20 cam-lever in its socket and screwing the nuts on the ends of the pins 4 and 4^a to hold the cam-lever in place.

In Fig. 5 is shown a means to prevent the cam-lever from flying from its locking position in consequence of any sudden jar or
25 wrench of the vehicle. The pin 14, on which the cam-lever turns, is made with slabbed-off ends that engage in the sockets 6 and 6^a and is provided with a notch 14^a. Along one side
30 of it a spring-pawl 15 is inserted in the arm of the lever in a hole bored into the lever for that purpose, and the pawl 15 is provided with an actuator 16, that extends out at the side of the lever. The pawl is held by the
35 spring 17 against the pin 14, from which it can be withdrawn by pulling back the actuator 16.

In operation the set-screw 12 is given a short turn preliminary to the use of the cam-lever.
40 Whenever it is desired to change the angularity of the sections of the handle, a slight turn of the set-screw 12 releases the cam-lever, so that it may be turned to completely free the engagement between the notched faces of
45 the handle-section and the notched faces of the plate. The set-screw 12 is a safety appliance, the main purpose of which is to take up the slight lost motion or slack that must be allowed in the device in order that the
50 cam-lever may pass its point of greatest strain and reach a point where it is itself locked in position because it has passed that point. The cam-lever is used in preference to using the screw to entirely separate or operate the
55 plates and the handle-section in binding them together or in releasing them because it acts quicker and because also it is not so liable to work out of place as is the set-screw. The slight loosening of the screw would not be fol-
60 lowed by a dangerous loosening of the handle-sections on the pins; but it would be followed almost immediately by a slight looseness that would warn the user of the fact that the screw was loose, while the cam-lever will
65 still hold the parts secure enough to prevent any injury to the operator. Either the screw

alone or the lever alone may be used; but I prefer to use both in a single structure, for the reasons above given.

What I claim is—

1. In combination with the head of a bicycle steering-post provided with a cavity and with two journal-pins secured to the head and projecting through said cavity, a pair of handle-bars, each of which is provided on its inner end with arched racks, and with an annular row of teeth, a pair of plates adapted to engage over the journal-pins and one of which is provided with a double set of annular teeth adapted to engage with the notches between the teeth on the handle-bars, and means for securing the plates to the post-head with one of said plates engaging in the cavity, both of said plates being removable from the post-head, and reversible with respect to the post-head, substantially as described. 70 75 80 85

2. In combination with the head of a steering-post for bicycles, which is provided with a pair of journal-pins, handle-bars provided with arched racks, the handle-bars being adapted to engage over the journal-pins, and the arched racks being adapted to mesh together, a pair of plates adapted to engage over the journal-pins, said plates being removable and reversible with respect to the post-head, and arranged to engage on each side of the intermeshing ends of the handle-bars, a cam pressure-lever having fulcrum engagement with the journal-pins, and compressing engagement with one of said plates, substantially as described. 90 95 100

3. In combination with the head of a steering-post for bicycles which is provided with a pair of journal-pins, handle-bars provided with arched racks, the handle-bars being adapted to engage over the journal-pins and the arched racks adapted to mesh together, a pair of plates both of which are removable and reversible with respect to the post-head, and which are adapted to engage over the journal-pins arranged to engage on each side of the intermeshing ends of the handle-bars, a cam pressure-lever having a fulcrum engagement with the journal-pins and compressing engagement with one of said plates and an adjusting-screw arranged in the post-head to engage on the side of said plates opposite the cam, substantially as described. 105 110 115

4. In combination with the head of a steering-post for bicycles which is provided with a pair of journal-pins, handle-bars adapted to engage over the journal-pins provided with arched racks and with holding-teeth, a pair of plates removable from the post-head and reversible with respect thereto adapted to engage over the journal-pins and arranged to engage on each side of the ends of the handle-bars, one of said plates being provided with teeth adapted to engage in the notches between the teeth on the handle-bars, springs interposed between the plates, and means for 120 125 130

forcing the plates into engagement with the handle-bars against the pressure of said spring, substantially as described.

5 In combination with a bicycle steering-post provided with a head and with journal-pins projecting therefrom, a reversible handle-bar connection therewith, comprising a pair of plates arranged to engage the handle-bar ends between them and to be themselves
10 engaged and held with either plate contigu-

ous to the post-head, one of said plates being provided with teeth adapted to engage in the notches between teeth on the handle-bars, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JOSEPH Y. PORTER.

Witnesses:

CHARLES F. BURTON,
MAY E. KOTT.