

No. 611,668.

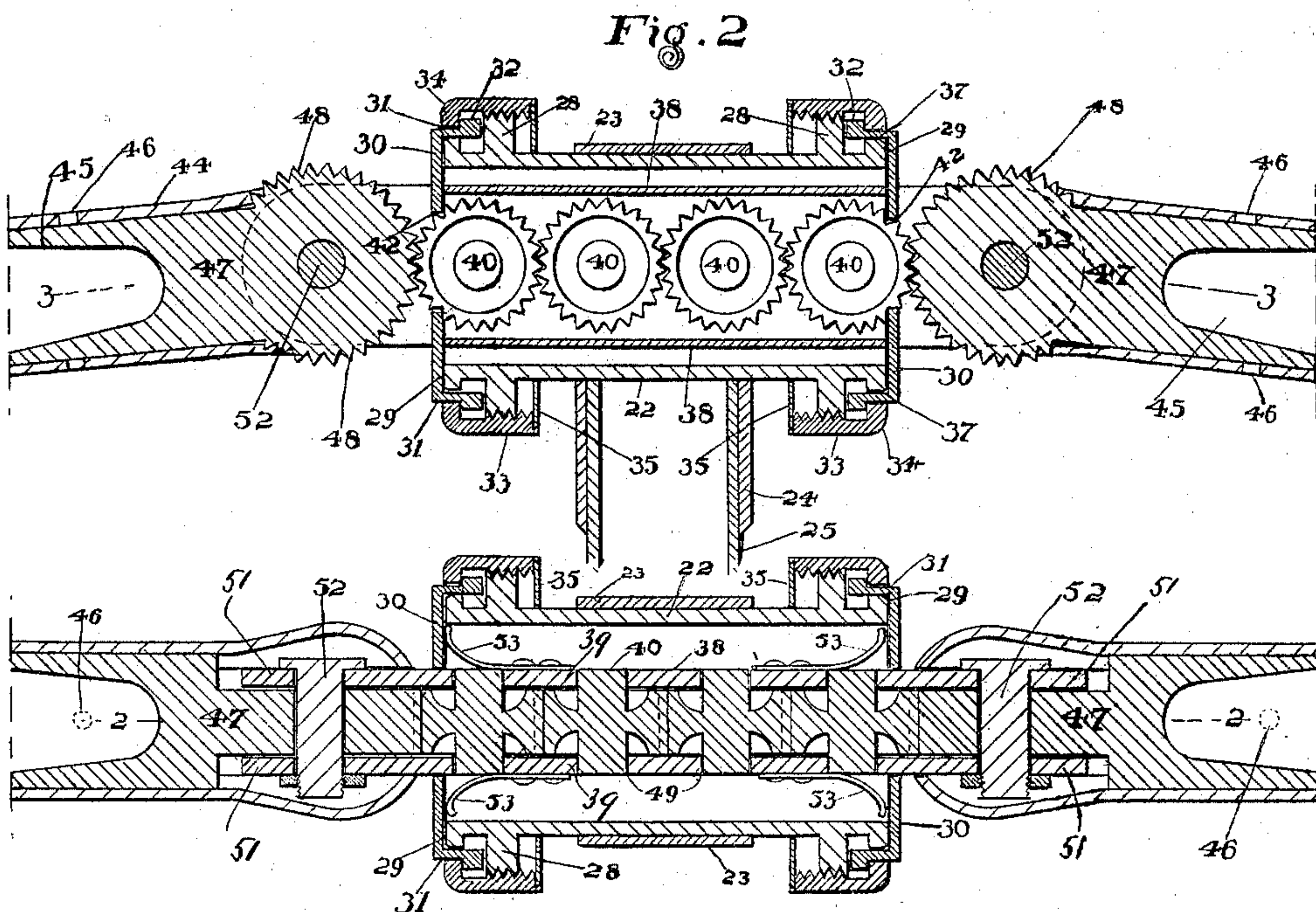
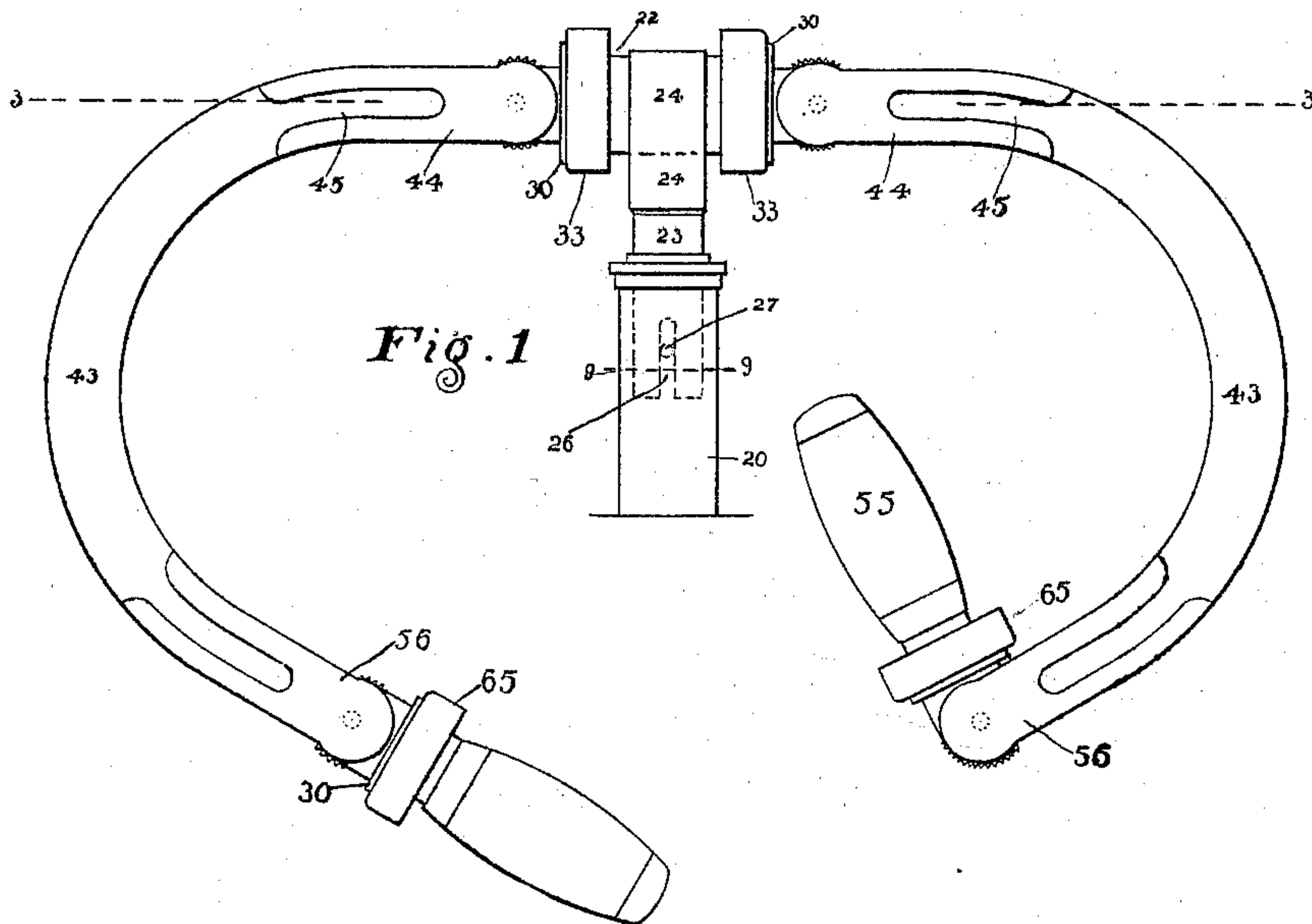
Patented Oct. 4, 1898.

F. W. H. WEISHAUP.
HANDLE BAR FOR BICYCLES.

(Application filed Mar. 6, 1897.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
G. P. Van Wyck
J. L. Hawkshurst

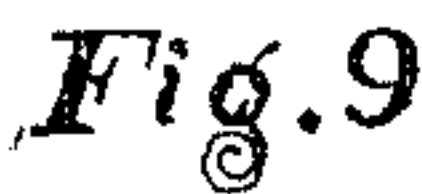
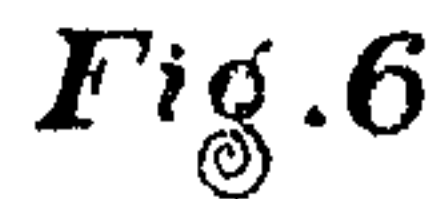
Fig. 3

Inventor
F. W. H. Weishaup.
By his Attorney
Edgar J. Atter

Patented Oct. 4, 1898.

(Application filed Mar. 6, 1897.)

3 Sheets—Sheet 2.



Inventor
Frederick W. A. Schauf.
By his Attorney
Edg. Laters

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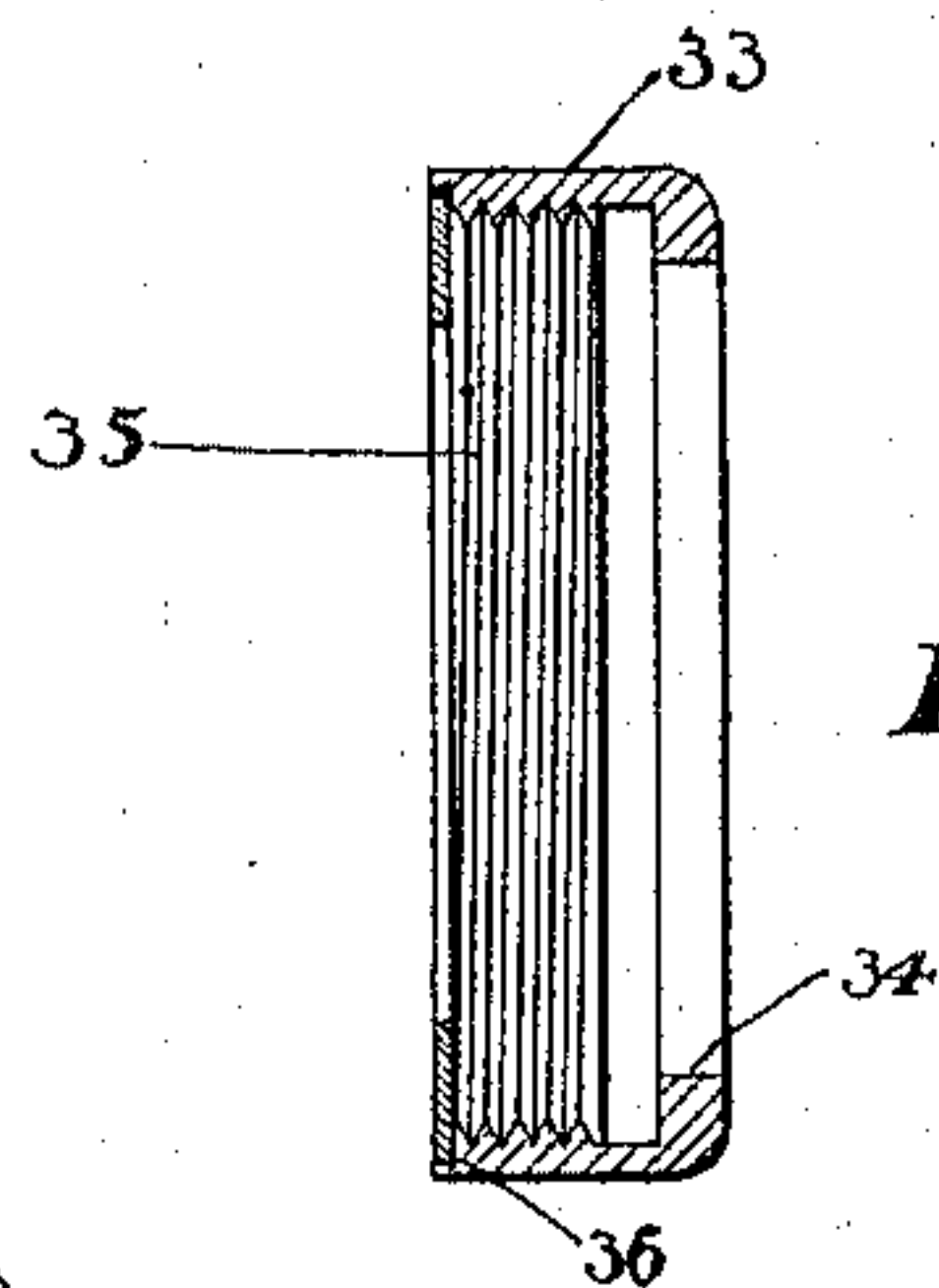
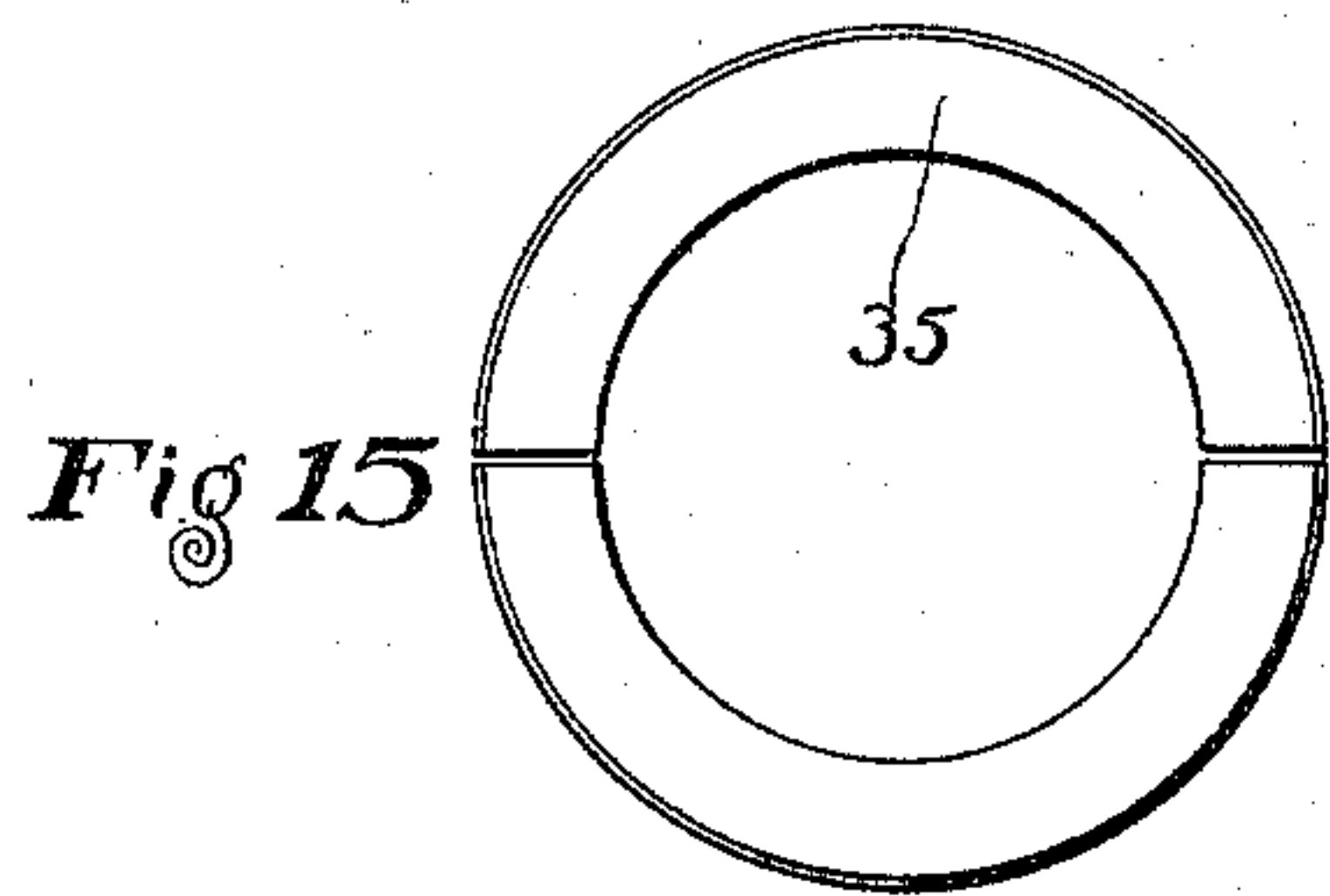
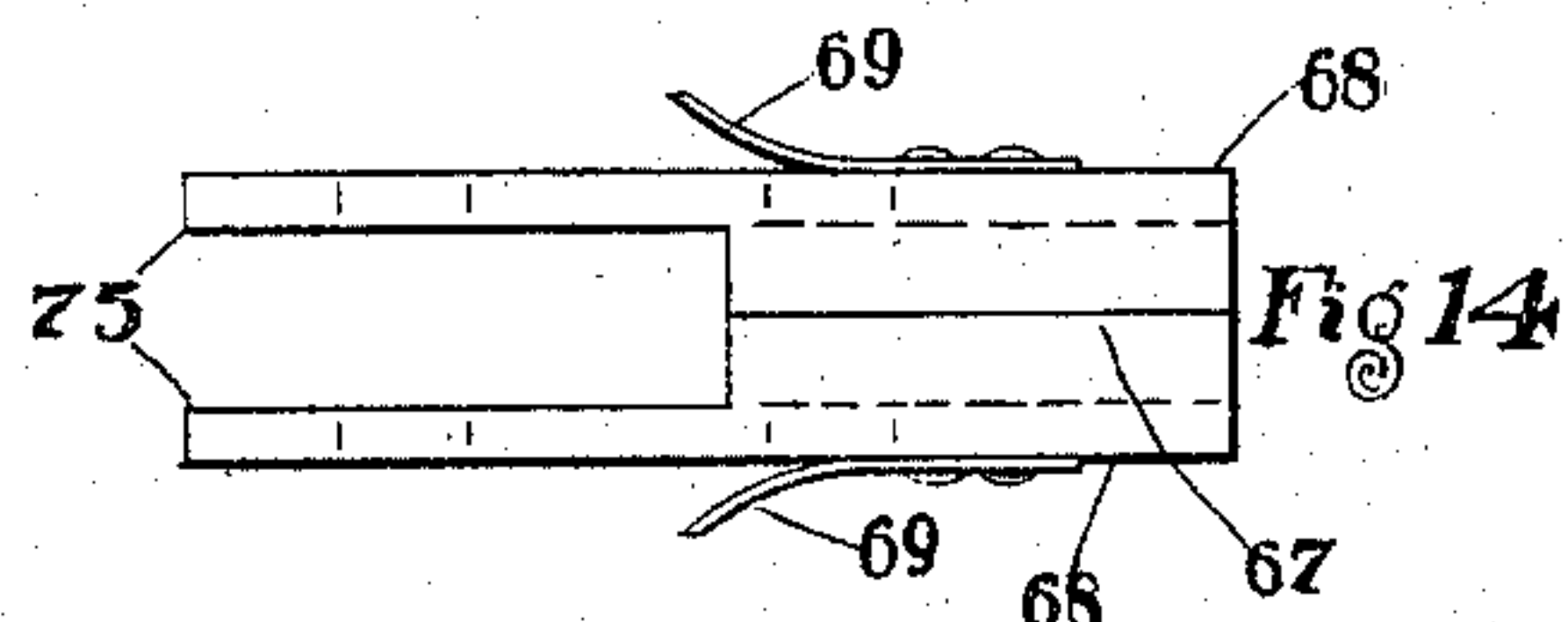
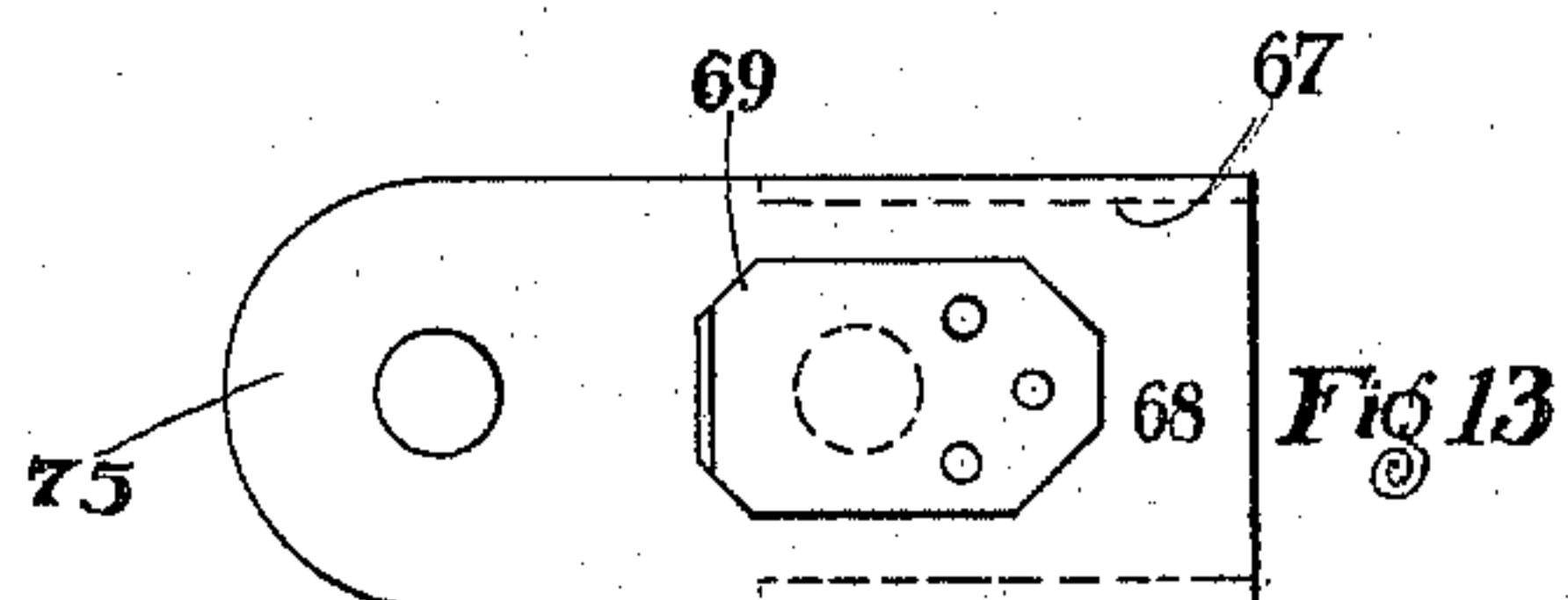
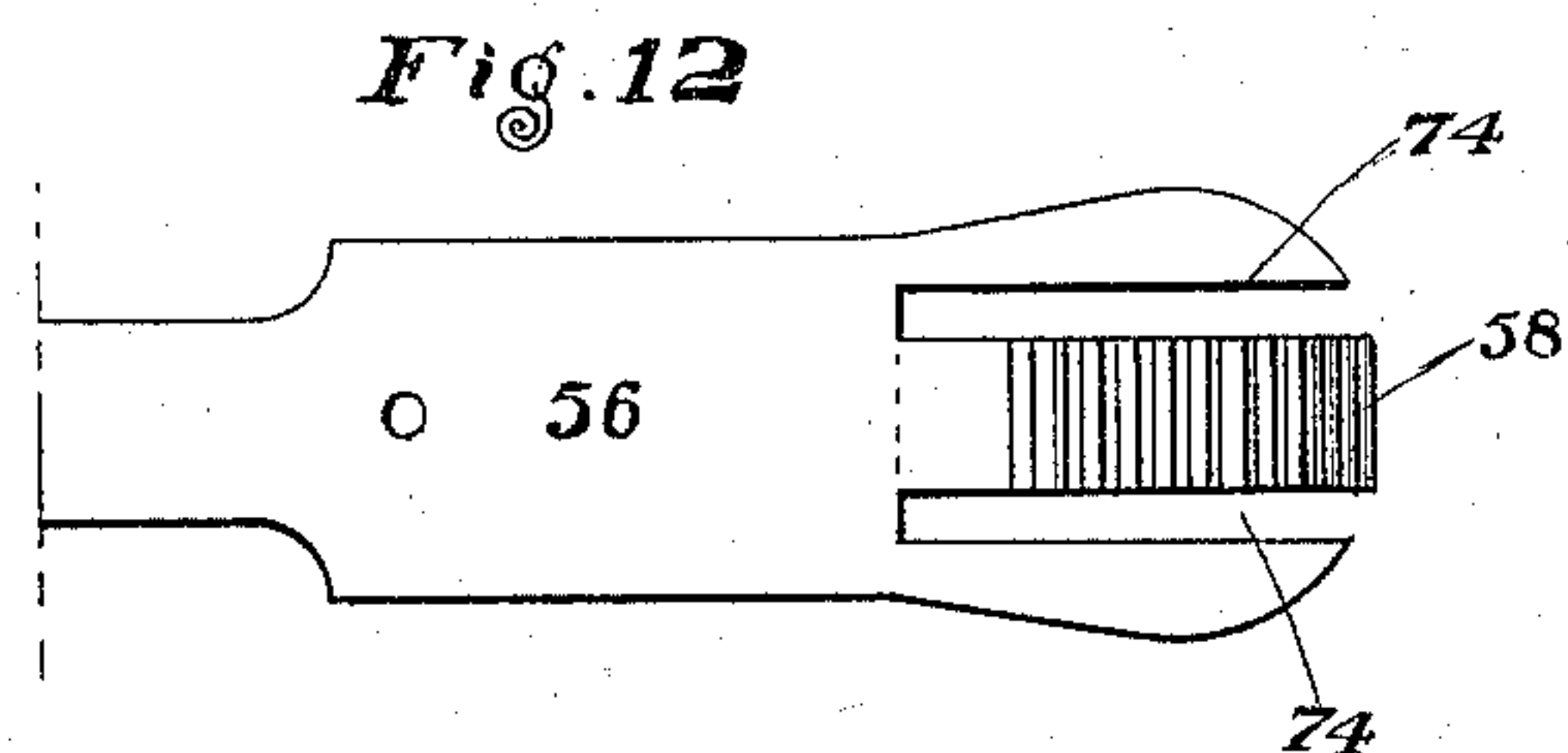
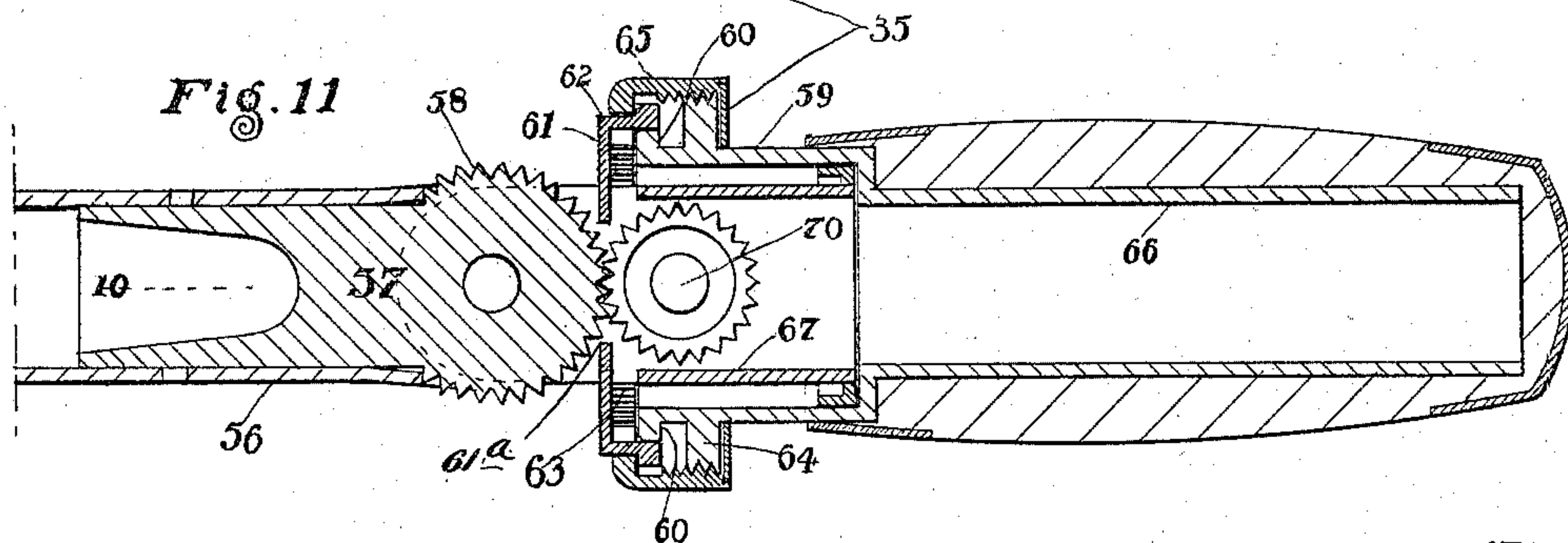
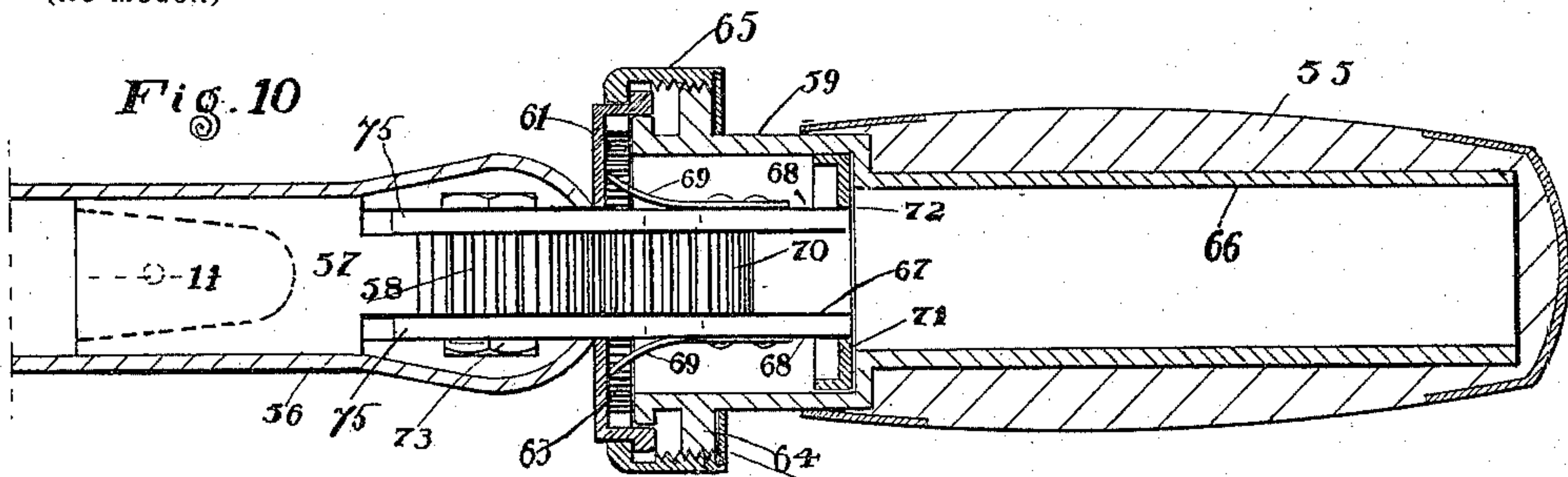
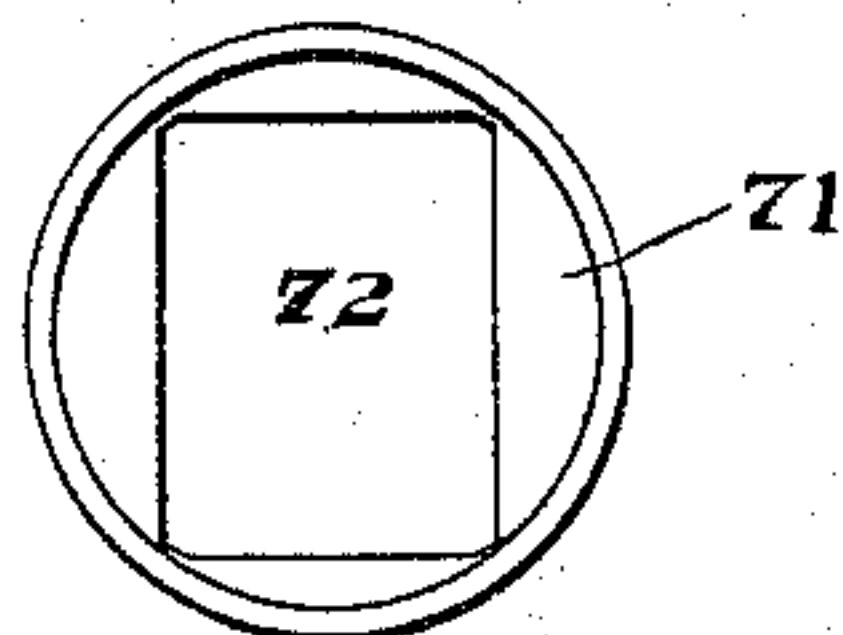


Fig. 17



Witnesses
G. P. Van Wye.
S. L. Hawkshurst

Inventor
F. W. H. Weishaup.
By his Attorneys
Edgar, Latimer & Co.

UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM HENRY WEISHAUP, OF CHICAGO, ILLINOIS.

HANDLE-BAR FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 611,668, dated October 4, 1898.

Application filed March 6, 1897. Serial No. 626,315. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM HENRY WEISHAUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Handle-Bars for Bicycles and Similar Vehicles, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to the handle-bars and the grips or handles of bicycles and similar vehicles; and the object thereof is to provide improvements in this class of devices whereby the handle-bar of a vehicle of this class may be turned and adjusted to any desired angle with reference to its support and whereby the grips or handles may also be turned and adjusted to any desired angle with reference to the handle-bar.

My improvement is particularly adapted to curved handle-bars; and the invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a diagrammatic view showing one form of my improved handle-bar and the method of connecting the same with its supports and showing the grips or handles in a different position; Fig. 2, a section on the line 2 2 of Fig. 3, showing the means by which the handle-bar is connected with its supports and showing the same locked in position; Fig. 3, a similar section on the line 3 3 of Fig. 1; Fig. 4, a sectional plan view of a part of the construction shown in Fig. 1; Fig. 5, an end view of a detail of the construction; Fig. 6, a section on the line 6 6 of Fig. 4; Fig. 7, a side view of a detail of the construction; Fig. 8, a plan view thereof; Fig. 9, a section on the line 9 9 of Fig. 1; Fig. 10, a longitudinal section showing the means by which one of the grips or handles are connected with the handle-bar and the grips unlocked ready to be turned, said view being also a section on the line 10 10 of Fig. 11; Fig. 11, a longitudinal section on the line 11 11 of Fig. 10; Fig. 12, a plan view of a detail of the construction shown in Figs. 10 and 11; Fig. 13, a side view of another detail of said construction; Fig. 14, a plan view thereof; Fig. 15, an end view

of another detail of the construction shown in Figs. 2 and 3 on an enlarged scale; Fig. 16, a transverse section thereof, and Fig. 17 an end view of another detail of said construction.

In the drawings forming part of this specification the like parts of my improvement are designated by the same numerals of reference in each of the views, and in said drawings I have shown at 20 the tubular rod of the forward part of the frame of a bicycle or similar vehicle, through which the stem of the forward fork passes, and said stem is shown at 21 in Fig. 9, and in the practice of my invention I provide, reference being made to Figs. 1 to 3, inclusive, a tubular hub 22, which passes through a coupling-head 23, which is provided at one side with a tubular extension 24, with which is connected a tubular rod 25, which is provided at its lower end with longitudinal side slots 26, through which is passed a pin or bolt 27, which also passes through the tubular stem 21 of the tubular head 20 of the frame of the vehicle, as shown in Fig. 9. This construction is intended for connecting the handle-bar with the vehicle; but my invention is not limited to this form of construction, and any suitable device or devices may be employed for connecting the support of the handle-bar with the tubular head 20 of the vehicle-frame.

The tubular hub 22 is provided near each end with an outwardly-directed flange or rim 28, the perimeter of which is screw-threaded, and said tubular hub is also provided around each end with gear-teeth 29, and connected with each end of said tubular hub is a cap 30, which is provided with an inwardly-directed flange or rim 31, on which is formed an annular shoulder or projection 32, and the cap or head 30 at each end is held in place on the tubular head by an annular band 33, which is provided at its outer end with an inwardly-directed annular flange or rim 34, which engages with the annular shoulder or projection on the flange or rim of the cap or head 30, and said annular band 33 is screw-threaded at its inner end, so as to engage with the screw-thread on the flange or rim 28, formed on the tubular head 22, and in practice the inner end of said annular band 33 at the end of said tubular head is preferably closed by an

annular plate 35, which is best shown in Figs. 15 and 16, and which is composed of two separate similar parts, as shown in Fig. 15, said separate parts being set into a groove formed in the inner end of said annular band, as shown at 36.

The flanges or rims 31 on the caps 30 are provided on their inner walls with an annular row of teeth 37, as shown in Fig. 5, and these teeth are adapted to engage with the teeth 29, formed on the ends of the tubular hub 22, this construction being best shown in Figs. 5 and 6, and passing centrally through the hub 22 is an oblong frame 38, consisting of two similar channel-plates 39, between which are mounted a plurality of gears 40, four of which are preferably employed, each of these gears being provided with trunnions which pass through corresponding holes or openings 41 in said plate, as clearly shown in Figs. 2, 3, 7, and 8, and the side plates 39 of the frame 38, in which the gears 40 are mounted, are projected at each end and pass through corresponding slots or openings 41, formed in the caps 30, said slots or openings being connected by a central opening, as shown at 42 in Fig. 5.

My improved handle-bar, as shown in Fig. 1, consists of two similar curved parts 43, and in practice I mount on the end of each part adjacent to the support thereof a tubular sleeve 44, in the outer ends of which are formed slots or openings 45, and these sleeves are connected with the separate sections of the handle-bar by pins or bolts which pass through holes or openings 46, formed in the outer ends of said tubular sleeves or in any desired manner, and mounted in the inner end of each of said sleeves is a cross-head or plug 47, on each of which is formed a circular gear-head 48, which projects in line with the gears 40, mounted in the oblong frame 38, which passes through the tubular head 22, and these circular gear-heads 48 are connected with the end extensions or projections 51 of the channel-plates 39 of the frame 38 by means of shafts or bolts 52, as shown in Figs. 2 and 3, and are adapted to operate in connection with the end gears 40, as will be readily understood. The oblong frame 38, which passes through the tubular sleeve 22, is also provided at each side thereof and adjacent to each end with spring-plates 53, which are secured thereto and the free ends of which are adapted to bear on the caps 30, as clearly shown in Figs. 3 and 6, and the springs 53 are also clearly shown in Figs. 7 and 8. The operation of this form of construction will be readily understood from the foregoing description, when taken in connection with the accompanying drawings and the following statement thereof.

The oblong frame 38, which passes through the tubular hub 22, is free to turn in said hub, and the caps 30 will also turn therewith, as will be readily understood, and this operation may be accomplished whenever the teeth 37,

which are formed on the flanges or rims 31 of the caps 30, are not in engagement with the teeth 29 on the end of the tubular hub, and this connection between said teeth may be broken whenever desired by simply adjusting the bands 33, and this may be done by hand. It will therefore be seen that the supports of the handle-bar or the separate sections thereof are free to turn in the tubular hub 22, and said handle-bar may therefore be turned into any desired position in order to raise or lower the outer ends of the separate sections thereof, and it will be apparent that the said handle-bar may be locked in position whenever necessary by manipulating the bands 33, so that the teeth on the flanges or rims 31 of the caps 30 will engage with the teeth 29 on the ends of the tubular hub 22.

It will be understood that the springs 53, secured to the oblong frame 38, operate to force the caps 30 outwardly, and that the band 33 may be manipulated so as to draw said caps inwardly, and when the said caps are drawn inwardly to their innermost position the teeth on the flanges or rims thereof will engage with those on the end of the tubular hub, this position of the parts being clearly shown in Figs. 2 and 3; but when said bands are manipulated so as to allow the springs 53 to force the caps 30 outwardly these teeth will not engage, as will be readily understood.

In Fig. 4 the caps 30, or one of them, is shown in its outermost position, and in this position the teeth on the flange or rim thereof do not engage with those on the tubular hub 22, while in Figs. 2 and 3 said caps are shown in their innermost position and the teeth thereon, or on the flanges or rims 31 thereof, engage with those on the tubular hub 22.

In Figs. 10 and 11 I have shown the method which I employ for connecting the grips or handles 55 with the ends of the separate sections 43 of the handle-bar, and for this purpose I employ tubular sleeves 56, which are of the same form and construction and connected with the ends of the separate sections of the handle-bar in the same manner as the tubular sleeve 44, and in each of these tubular sleeves 56 is mounted a cross-head 57, which in all respects is equal to the cross-head or plug 47 in the tubular sleeve 44, and each of these cross-heads 57 is also provided with a circular gear-head 58, and in this form of construction I employ a tubular head 59, which takes the place of the tubular hub 22, by means of which the handle-bar is connected with the support thereof. The head 59 is provided at its inner end with an annular row of teeth 60, and the cap 61, which is similar to the caps 30, hereinbefore described, is provided with an annular inwardly-directed flange or rim 62, on the inner surface of which, adjacent to the cap, is formed an annular row of gear-teeth 63, and the tubular head 59 is provided with an annular flange or rim 64, which is screw-thread-

ed, and mounted thereon is a band 65, which is similar to the band 33, hereinbefore described. The tubular head 59 is provided at its outer end with a tubular extension 66, on which the handle or grip 55 is mounted, and secured therein is an oblong frame 67, consisting of two similar channel-plates 68, to which are secured springs 69, which bear on the cap 61, and mounted between the side plates 68 of the frame 67 is a pinion or gear wheel 70, which is adapted to engage with the circular gear-head 58, which is formed on or secured to the cross-head 57 in the sleeve 56, and the said cap 61 is provided with a central opening 61^a, through which the oblong frame 67 passes. The inner end of the frame 67, consisting of the channel-plates 68 and in which the gear-wheel 70 is mounted, is held in position in the tubular head 59 by a disk or plate 71, which is shown in detail in Fig. 17, and this disk or plate is provided with a central oblong opening 72, into which the end of the frame 67 fits and is secured, and the opposite end of said frame or the side plates thereof project into the end of the sleeve 56 and are connected therewith by a bolt or shaft 73, which passes through the circular gear-head 58.

A plan view of one of the sleeves 56 is given in Fig. 12, and in this view it will be seen that at each side of the circular gear-head 58 are slots 74, into which the ends of the channel-plates 67, which are designated by the reference-numeral 75, project, and this construction is clearly shown in Figs. 10 to 14, inclusive.

In Figs. 10 and 11 I have shown the cap 61 in its innermost position, and in this position the edges of the openings 61^a will be disengaged from the gear-wheels 70 and the same may be rotated in conjunction with the gear-head 58; but when the cap 61 is at its outermost position the edges of the openings 61^a are so proportioned that they will engage the teeth of the said gear-wheels 70 and prevent the rotation of the same, thereby locking the grips in any desired position.

By means of this construction it will be apparent that the grips or handles 55, together with the tubular heads 59, may be turned on their supports when the cap 61 is in its outermost position, this operation being accomplished by reason of the fact that the cap 61 cannot turn by reason of its connection with the frame 67, which is composed of the channel-plates 68, but when said cap is in its innermost position the grips or handles can be turned and can also be turned on their supports.

It will also be apparent that the grips or handles may be held at any desired angle to the ends of the handle-bar or the separate sections thereof, two different positions being shown in Fig. 1, and the handle-bar itself may be raised or lowered, or the ends thereof turned either up or down, and it may also be turned through a complete circle, so that

the ends thereof will project forwardly instead of backwardly, and it will thus be seen that I provide means for adjusting the position of the separate sections of the handle-bar forwardly and backwardly, and also for turning the same, and that the handles or grips may also be adjusted in any desired angle with reference to the ends of the separate sections of the handle-bar, and may also be turned in their supports.

The various positions which the separate sections of the handle-bar and the handles or grips may thus be caused to assume are practically unlimited in number, and it will be apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. In a device for connecting the handle-bars of a velocipede with the steering-post, the hub at the upper end of the steering-post, longitudinally-movable caps at the ends of said hub, the handle-bar sections pivotally supported with relation to said hub and geared together to swing in unison, and means carried by said caps and engaging the connecting-gear of the handle-bar sections whereby the swinging movement of the latter is controlled and locked by the movement of the caps.

2. The combination with the steering-post of a velocipede provided with a transverse hub at its upper end, of the handle-bar consisting of two sections rotatably and pivotally supported with relation to said hub, said sections being geared together to move in unison by means of a connected chain or gearing meshing with gear upon the inner end of the handle-bar sections, longitudinally movable and rotatable caps upon the ends of said hub carrying means for engaging the connecting-gearing of the handle-bar sections, and means for operating said caps in their longitudinal and rotatable movement and for locking the same in connection with the hub.

3. The combination with the steering-post of a velocipede provided with a transverse hub at its upper end, rotatable and longitudinally-movable caps upon the ends of said hub, and means for locking said caps against rotation, of the frame carried by and rotatable with said caps, handle-bar sections pivoted to the ends of said frame, gearing between said handle-bar sections mounted upon said frame, and said gearing being situated in the path of said longitudinally-movable caps so as to be controlled thereby.

4. The combination with the steering-post of a velocipede provided with a transverse hub at its upper end, longitudinally-movable and rotatable caps carried by said hub, interfitting teeth upon the caps and hub that are caused to engage or disengage by a lon-

gitudinal movement of said caps, means for moving said caps longitudinally, a frame carried by and rotatable with said caps, handle-bar sections pivoted to the ends of said frame, 5 gearing between said handle-bar sections carried by said frame and situated in the path of said caps to be controlled by the longitudinal movement thereof.

5. The combination with the steering-post 10 of a velocipede provided with a transverse hub at its upper end, longitudinally-movable and rotatable caps upon the ends of said hub, rims having screw-threaded engagement with the hub and a swivel engagement with said 15 caps for moving them in one direction, locking means between said cap and hub controlled by the longitudinal movement of said caps, of the frame carried by and rotatable with said caps, springs on said frame bearing against 20 the caps and moving them in opposition to the movement caused by said rims, handle-bar sections pivoted to the end of said frame and gearing between said handle-bar sections carried by said frame and situated in the 25 path of said cap to be controlled thereby.

6. In a device for connecting the handle-bars of a velocipede with the steering-post, the hub upon the steering-post, the longitudinally-movable and rotatable caps upon said 30 hub carrying pivoted handle-bar sections the swinging and rotation of said handle-bar sections being controlled by the longitudinal movement of said caps, interfitting teeth upon said caps and hub, a flange upon each 35 of said caps, rims having screw-threaded engagement with the hub and having flanges engaging said flanges of the caps for moving said caps in one direction, and springs for moving said caps in the opposite direction.

40 7. In a device for connecting the handle-bars of a velocipede with the steering-post, the transverse hub at the upper end of the steering-post, the frame rotatably mounted therein and provided with longitudinally-extending end plates, the handle-bar sections 45 pivotally connected to said end plates, gear upon the inner end of said handle-bar sec-

tions, a train of gearing extending between said handle-bar sections and extending longitudinally within the frame and meshing 50 with the gear upon the ends of said sections, and devices adjustably carried by the hub and provided with means projecting at the end of the frame and into engagement with said gearing and said frame to prevent move- 55 ment on the part of said connected members.

8. The herein-described means for connecting the handle-bar of a bicycle or other vehicle with its support, said handle-bar being composed of two separate sections; said means 60 consisting of a tubular hub which is secured in a tubular support, movable caps connected with the ends of said hub, an oblong frame consisting of side plates mounted in said hub, and projecting through said caps, said frame 65 and said caps being adapted to turn, gear-wheels mounted in said frame, and adapted to operate in connection with circular gears connected with the inner ends of the separate sections of the handle-bar, said circular gears 70 being mounted between the ends of the side plates of said frame, and means for moving said caps outwardly and inwardly, consisting of springs secured to the ends of said frame, and adapted to force said caps outwardly, 75 screw-threaded bands mounted on screw-threaded flanges formed on said hub, and provided at their outer ends with annular inwardly-directed flanges, and said caps being provided with inwardly-directed rims on 80 which are formed outwardly-directed annular shoulders, and said rims being provided with inwardly-directed teeth which are adapted to operate in connection with outwardly-directed teeth formed on the ends of said hub, 85 substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 22d day of February, 1897.

FREDERICK WILLIAM HENRY WEISHAUP.

Witnesses:

M. J. BUSCH,

P. D. APPLETON.