

No. 624,232.

Patented May 2, 1899.

J. M. MARTY, JR.
HANDLE BAR FOR BICYCLES.

(Application filed Feb. 18, 1899.)

(No Model.)

Fig. 1.

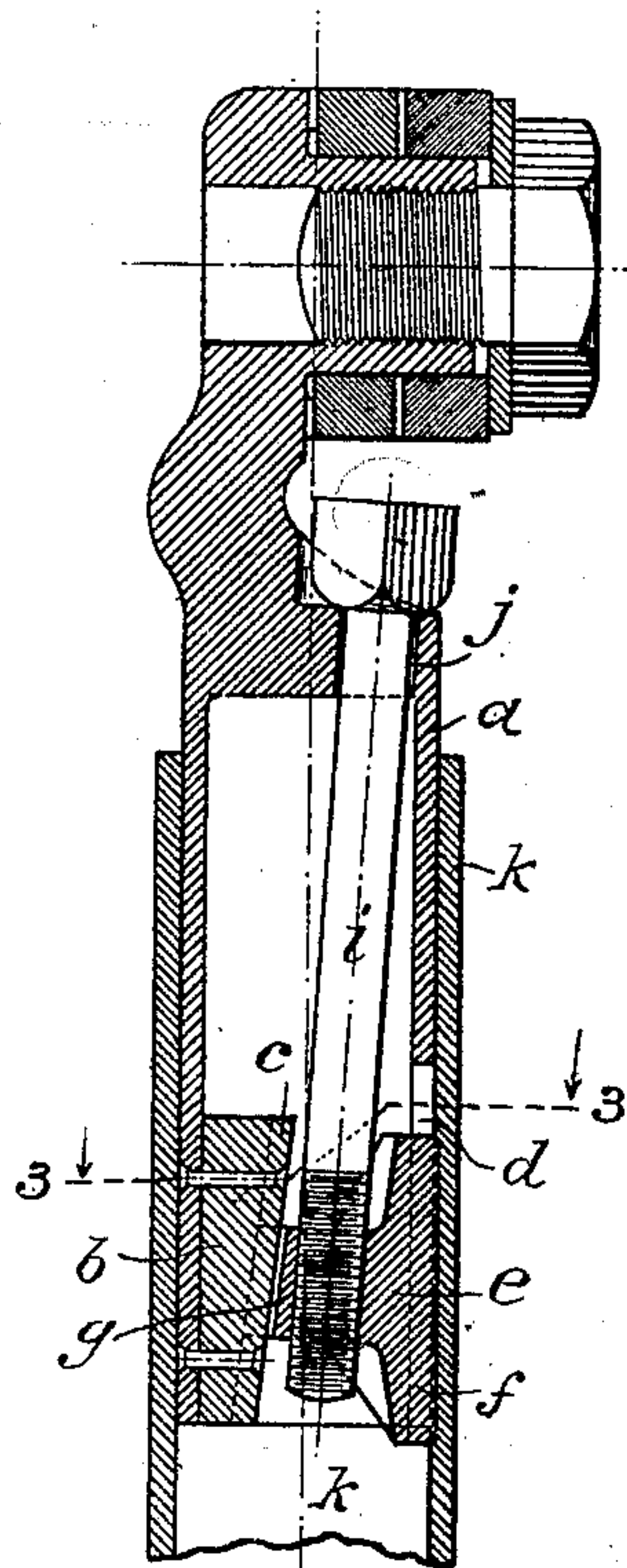


Fig. 2.

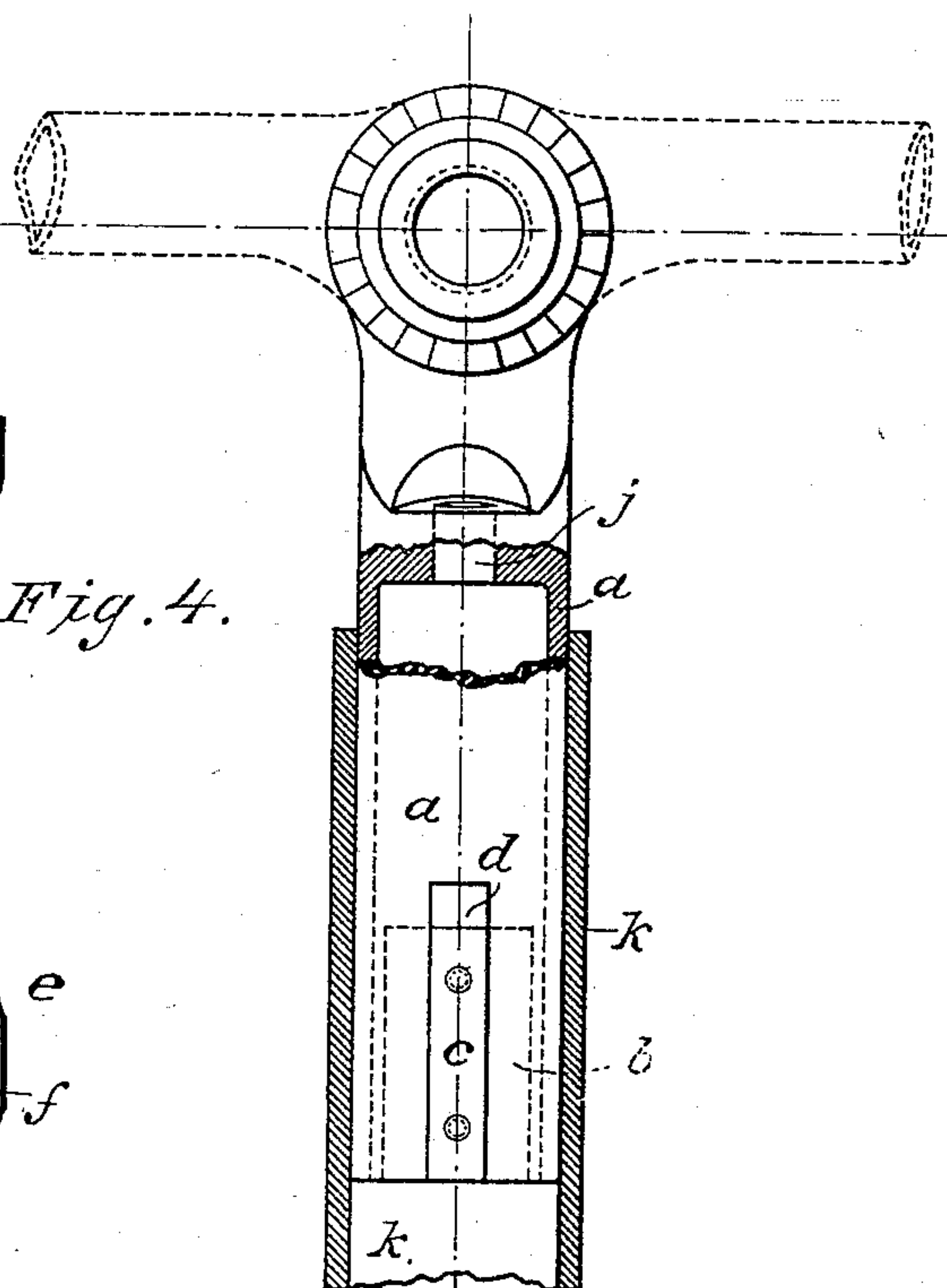


Fig. 4.

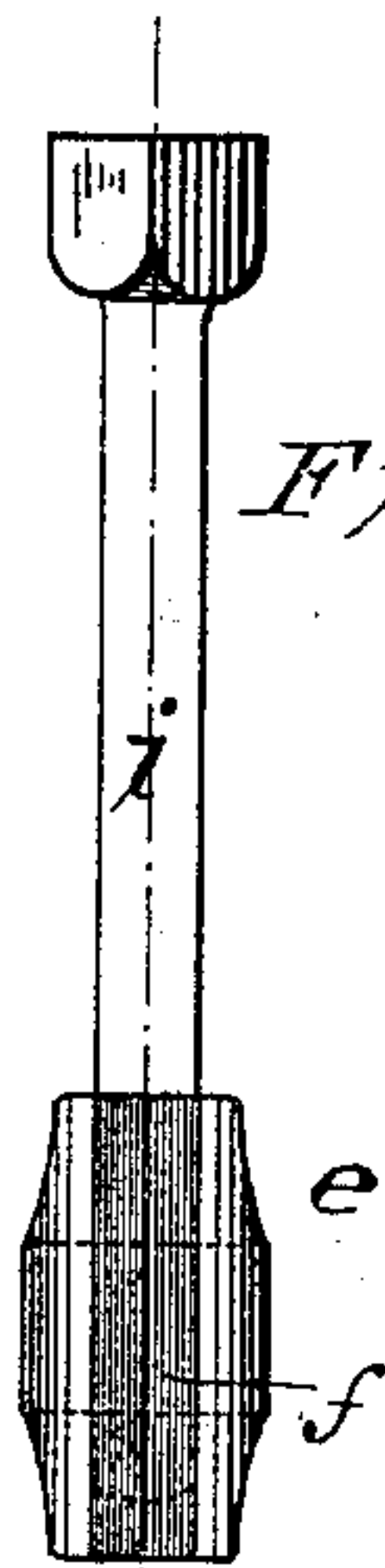


Fig. 3.

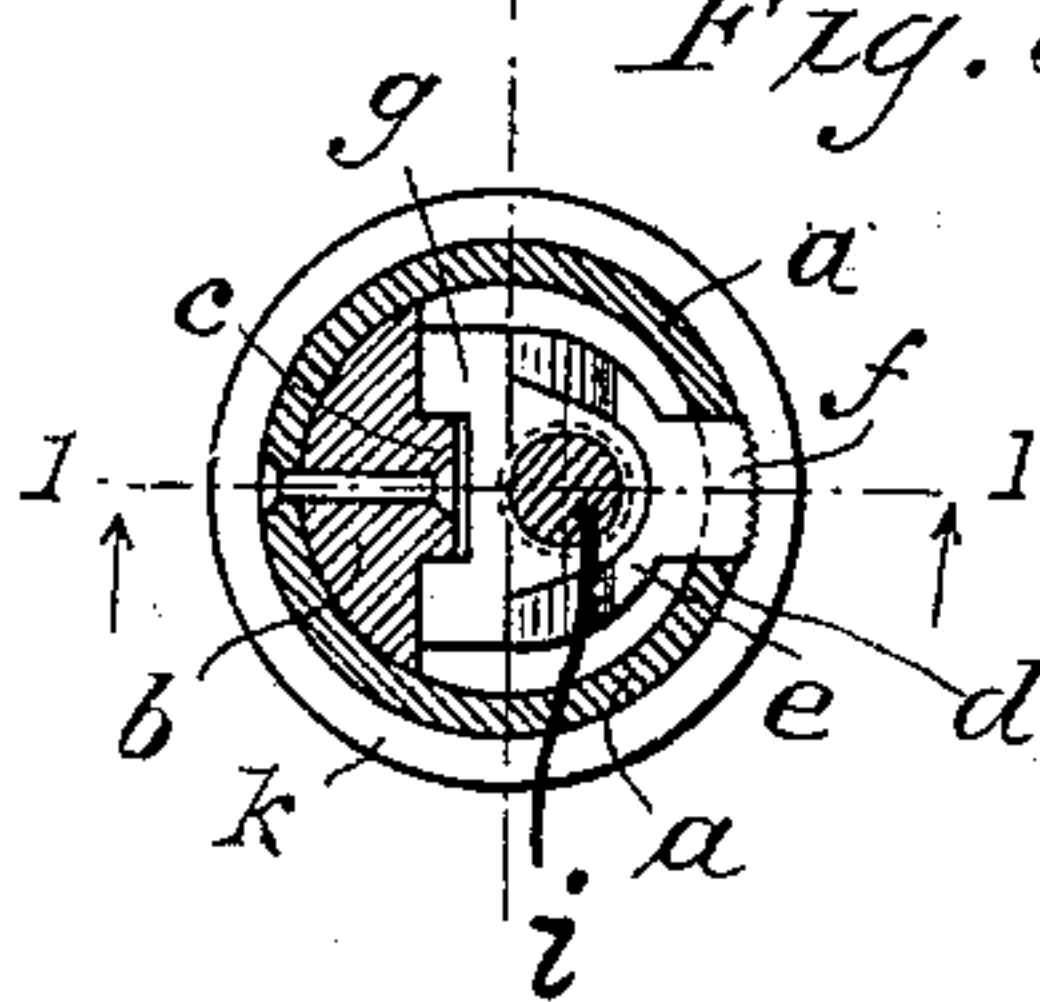


Fig. 5.

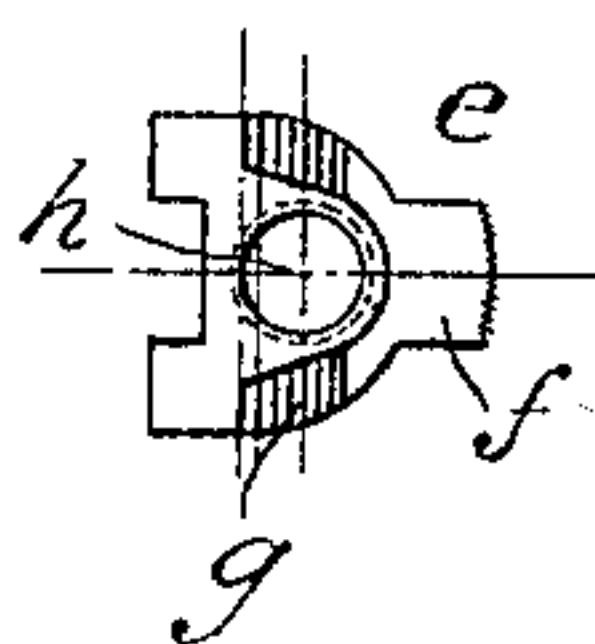
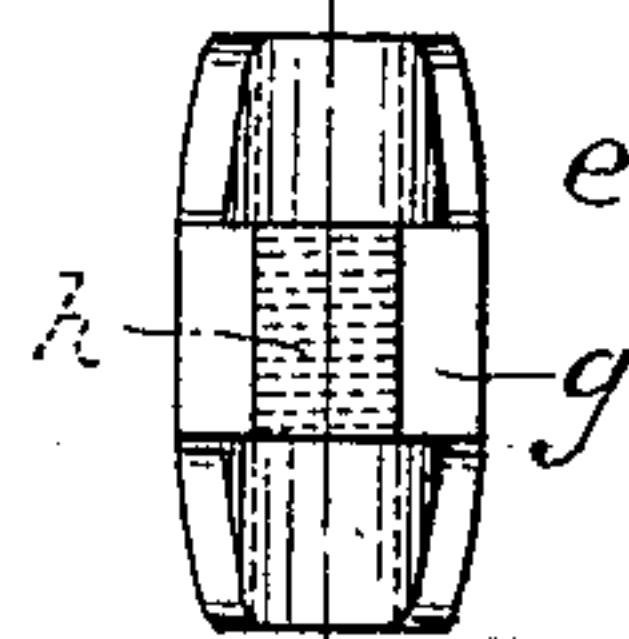


Fig. 6.



WITNESSES:

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JOHN M. MARTY, JR., OF CLEVELAND, OHIO, ASSIGNOR TO THE KELLY
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HANDLE-BAR FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 624,232, dated May 2, 1899.

Application filed February 18, 1899. Serial No. 705,973. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. MARTY, Jr., a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Handle-Bars, &c., for Bicycles, of which the following is a specification, that will enable those skilled in the art to which my invention pertains to make use of the same.

My invention relates to the clamping mechanism by which the handle-bars or seat-posts of bicycles may be securely held in any desired position to which they may be adjusted; and it consists of the details of construction and assemblage of the parts as shown in the drawings and hereinafter described and claimed.

The drawings show my invention in the form now preferred by me; but many changes obvious to and within the skill of a good mechanic might be made in the details thereof without departing from the spirit of my invention as set forth in the claims at the end of this specification.

Figure 1 is a sectional elevation on the line 1 1 of Fig. 3 of a handle-bar post and a portion of the steering-head tube of a bicycle, showing my invention applied thereto. Fig. 2 is a rear elevation of the same, partly in section. Fig. 3 is a transverse section on the line 3 3 of Fig. 1. Fig. 4 is a view in elevation of the face of the wedge or inclined clamping-shoe and the screw by which it is actuated detached from the post. Fig. 5 is a plan or top view of the wedge, and Fig. 6 is a rear elevation of the same.

I have shown my invention as applied to the post of the well-known "Kelly" adjustable bicycle handle-bar, in which the bar is made in two sections mounted upon a central pivot in such a manner that the grips or handles may be swung up or down to any desired position and then clamped; but it might be applied to any other forms of handle-bars by suitable modifications of the details.

The handle-bar post *a* is of the usual tubular form, closed at its upper end, as shown. At one side of the lower end a block *b* is secured to the inner side of the tube, the face

of the block being inclined toward the axis of the tube. This block may be made separately from the tube and secured thereto in any suitable manner or it might be made integral therewith. Upon its inclined face is preferably a raised central rib *c*. On the side opposite the block in the tubular post is the long narrow slot shown at *d*. A clamping shoe or wedge *e* is provided at its front side with a central rib *f*, which lies in and projects through the slot in the post, and it is provided with fine vertical serrations on its outer face, as shown. From the back side of the main body of the shoe there extends a lug *g*, inclined to fit against the face of the block *b* and centrally grooved to straddle its rib *c*. This lug has a screw-threaded hole *h* formed through it for the reception of an adjusting-screw *i*, which extends down through an aperture *j* in the closed upper end of the post, the head of the screw bearing against the top of the post. As the screw is turned the wedge or clamping-shoe is raised or lowered, and by reason of its bearing against the inclined block *b* the face of the serrated rib is projected beyond or drawn within the outer face of the tubular post.

As shown in the drawings, the tubular handle-bar post fits snugly within the upper end of the tubular stem *k* of the steering-head extending up from the front forks of a bicycle in a manner well understood.

To suit the varying tastes of riders, the post may be raised or lowered in the stem of the steering-head to change the elevation of the handle-bars, and it is the purpose of my invention to clamp the post to the steering-head in any position to which it may be adjusted. This is accomplished by turning the screw and drawing up the wedge until the vertical serrations on the face of the rib which projects through the slot *d* in the post are forced outwardly by the wedge action and bite into the inner surface of the steering-head tube, thus holding the parts firmly together.

I am aware of several devices in use to clamp handle-bar posts to the tubular steering-heads of bicycles, such as those in which the tubular posts are slotted and expanded by means of interior wedges operated by screws,

and also of those in which four clamping-shoes having ribs which project through as many slots in the post are expanded or moved laterally by a longitudinally-moving wedge
 5 until the faces of their ribs are brought into frictional binding contact with the inner surface of the tubular steering-head. In both of these constructions, however, the wedged block only moves longitudinally, while the
 10 sides of the slotted post-tube in the one case or the four clamping-shoes in the other have lateral motion only to bring their smooth faces into contact with the inner surface of the steering-head tube. In these constructions
 15 many disadvantages have been found, the chief of which is the fact that in order to secure sufficient frictional clamping contact between the smooth expanded surfaces of the post and the inner side of the steering-head
 20 tube to resist the strains, vibrations, and shocks to which a bicycle is subjected the lateral expanding pressure must be so great that unless the steering-head tube is reinforced or is very much heavier than those in general
 25 use it is liable to be bulged or even ruptured at the clamping-point, and thus practically spoil the entire steering-head and front-fork structure. As distinguished from these constructions it will be observed that in my in-
 30 vention the wedge block or shoe itself does the clamping work without any intermediary elements, that its contacting face is provided with fine sharp vertical serrations that bite into the inner surface of the steering-head
 35 tube, and thus secure a much firmer hold with less lateral expansive force than could possibly be obtained with smooth contacting surfaces, and, further, that the longitudinal movement of the shoe as it is being wedged out
 40 enables these sharp serrations to cut their way into the inner surface of the steering-head tube more readily and with less lateral pressure than would be the case if the shoe had lateral movement only and the serrations were
 45 forced into the opposing surface instead of cutting their way in.

It will be understood, of course, that the wedge block or shoe will preferably be made of hardened steel, so that the sharpened edges
 50 of its serrations will not be impaired by use.

In the construction illustrated by the drawings my invention is particularly neat in appearance and readily accessible for adjustment. The head of the adjusting-screw *z*, being located beneath the handle-bar pivot-joint,
 55 is easy to get at with a suitable wrench, while it is partially concealed from view and does

not make an extra or an unsightly projection on the top of the handle-bar.

While I have described my invention as applied to handle-bars for bicycles, it is also applicable to holding the saddle-posts of such vehicles and other like devices where it is desired to hold one telescoping tube against longitudinal or rotary movement within another.

The rib *c* on the inclined block *d* is embraced by the groove in the inclined back face of the wedge-shoe to prevent the latter from turning in either direction with the adjusting-screw; but I might in some cases dispense with the rib *c* and the groove in the wedge and depend entirely upon the rib *f*, which lies in the slot *d* of the tube *a*, to effect this object.

Having thus described my invention, what I claim is—

1. The combination of the tube *k*, and the tube *a*, telescoping therein, the slot in the side of the tube *a*, the inclined surface in the tube opposite the slot, the wedge-shoe bearing against the incline and having the vertically-serrated rib *f*, projecting through the slot, with means for moving the shoe longitudinally while the incline projects it laterally substantially as hereinbefore set forth.

2. The combination of the tube *k*, and the tube *a*, telescoping therein, the slot in the side of the tube *a*, the inclined surface in the tube opposite the slot, the wedge-shoe bearing at its back against the incline and having the vertically-serrated rib *f*, projecting through the slot with the adjusting-screw *z*, taking into the wedge-shoe and having its head bearing against the apertured upper end of the tube as set forth.

3. The combination of the tube *k*, and the tubular post *a*, telescoping therein and supporting a handle-bar at its upper end, the slot in the side of the tube *a*, the inclined surface in the tube opposite the slot, the wedge-shoe bearing against the incline at its back, and having the vertically-serrated rib *f*, projecting through the slot, the adjusting-screw *z*, taking into the wedge-shoe and having its head located in a recess at the upper end of the post below the plane of the handle-bar substantially as and for the purpose set forth.

In testimony whereof I affix my signature, in the presence of two witnesses, at Cleveland, Ohio, February 16, 1899.

JOHN M. MARTY, JR.

Witnesses:

J. H. VAN DERVEER,
 WM. A. SKINKLE.