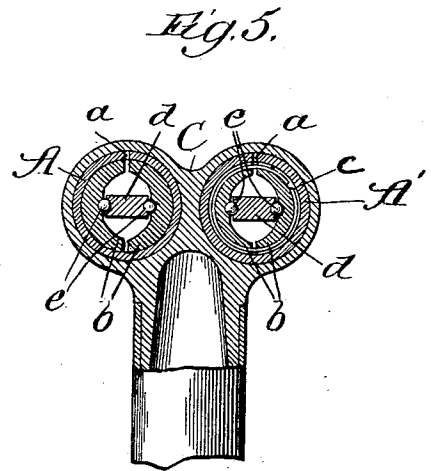
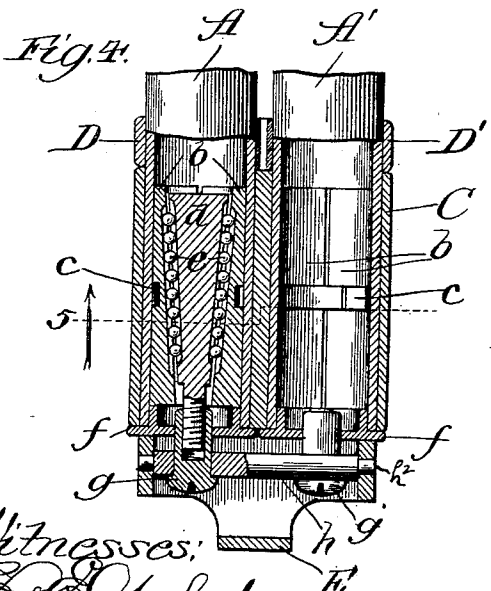
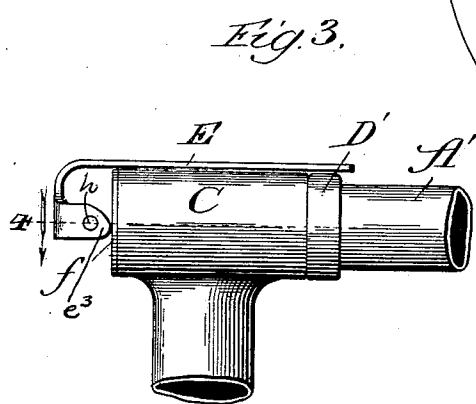
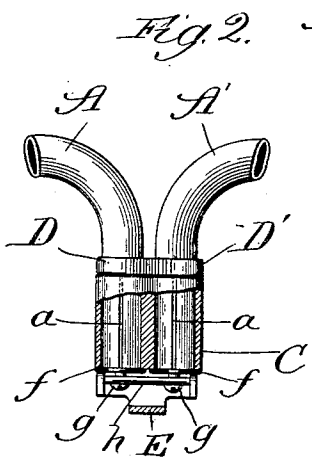
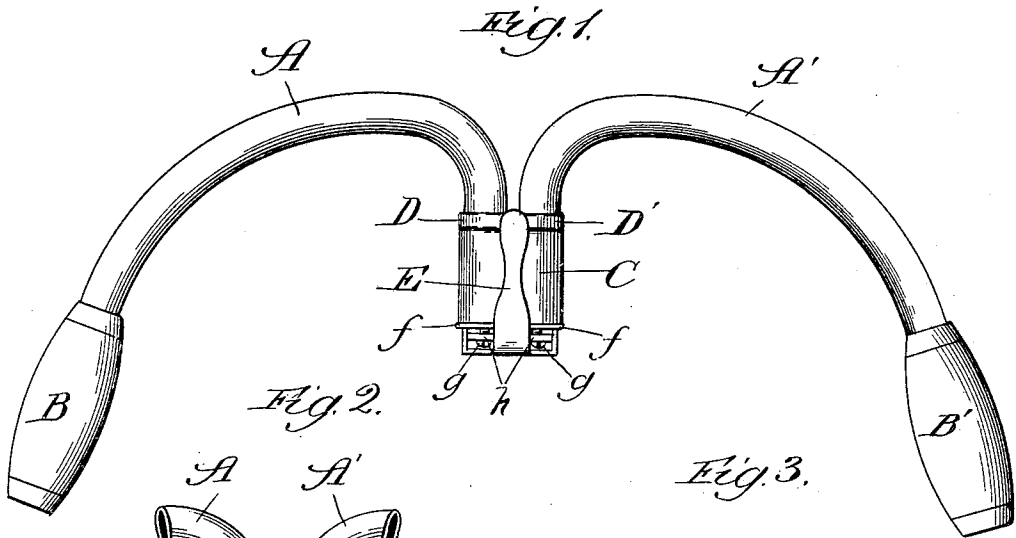


J. M. RAUHOFF.
BICYCLE HANDLE.

(Application filed Dec. 20, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
Carl D. Taylor,
John M. Rauhoff,

Inventor:
 John M. Rauhoff.
 By *Jorie Bain*
Att'y

J. M. RAUHOFF.
BICYCLE HANDLE.

(Application filed Dec. 20, 1897.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 6.

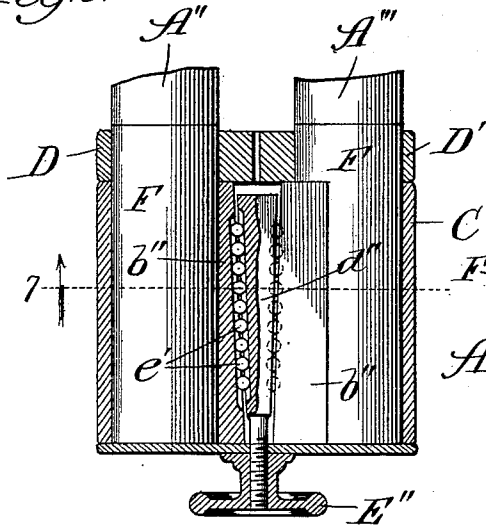
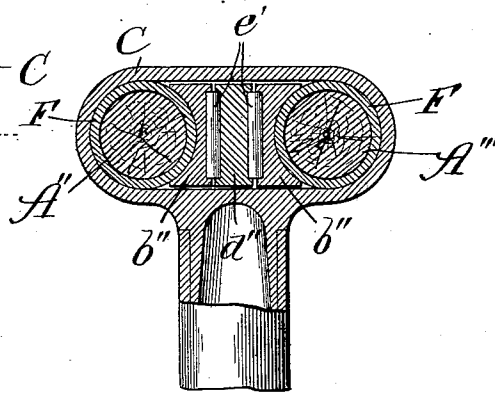


Fig. 7.



Witnesses:

Edw. C. Chas. S. [Signature]

Inventor:

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By Jorei Bain
[Signature]*

UNITED STATES PATENT OFFICE.

JOHN M. RAUHOFF, OF CHICAGO, ILLINOIS.

BICYCLE-HANDLE.

SPECIFICATION forming part of Letters Patent No. 677,373, dated July 2, 1901.

Application filed December 20, 1897. Serial No. 662,528. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. RAUHOFF, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Bicycle - Handles, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows a plan view of my said new device with handles locked to position. Fig. 2 shows a top view of the locking device, partly in section, with the handle-bars broken off. Fig. 3 shows an enlarged side elevation of the locking device to hold the handle-bars in their locked position. Fig. 4 shows in plan view a part section of my said device, taken on the longitudinal cutting-plane 4 of Fig. 3 when looking after the arrow. Fig. 5 shows a cross-section of Fig. 4 on the transverse cutting-plane 5 when looking after the arrow. Fig. 6 shows a modification of my said device, partly in section. Fig. 7 shows a cross-section of Fig. 6 on a transverse cutting-plane 7 when looking after the arrow.

Like letters of reference denote like parts of the drawings.

The object of my invention is to produce a handle-bar mechanism wherewith it becomes possible to quickly and easily adjust the handles of a bicycle while riding.

To attain said desirable end, I construct my said new device in substantially the following manner, namely: To the top of the steering-wheel post I attach a bichambered head C, which receives the inner ends of the handle-bars A A', which are axially parallel to the plane of the steering-wheel. Said bars are usually metal tubes; but they are also made of wood, as shown in Figs. 6 and 7. Slots *a* make said metal handle-bar ends more easily expansible and immovable in said housing by means of wedge-shaped reciprocable mechanism *d* in said tubing ends. Gears D D' connect said handle-bars and afford their like and simultaneous adjustment.

The reciprocable wedges *d* (shown in the first five figures) are grooved longitudinally, and like grooves are placed in the pieces *b*, which together receive the steel balls *e*, acting as antifriction-rollers between said wedges

d and internally-coned and externally-cylindrical and paired pieces *b*. Said pieces *b* are held together by means of an open ring *c*, held within a circumferential groove of said paired cylindrical pieces. The point end of the wedges *d* is cylindrical and threaded and received by a tubular inside-threaded screw *g*, passed through a flat bar *h*, having trunioned ends *h*², which pass through eccentric cams *e*³, whose surfaces slide on the housing-caps *f*; and said eccentrics are integral parts of the head end of the T-shaped lever E, but set at right angles to the plane of said head, and said lever-head is set at right angles to the lever E, as clearly shown in Figs. 1, 2, 3, and 4, so that said lever may be parallel to the top of said housing and lie closely upon it when in its locked position. Said screws *g* pass through and are guided by the centrally-pierced housing-caps *f* and are actuated outward or forward by the closing action of the lever E to bring with them said wedge-shaped pieces *d*, which, acting on their opposed parallel parts of the internally-coned cylinders *b* through the balls *e*, expand the handle-bar end into the housing C with such force as to hold the handles B B' immovably to their set position.

It is a well-known fact that a sufficiently obtuse wedge will overcome its friction and recede from its driven and pinched condition. If said friction is reduced, as here shown, by antifriction balls *e* or rollers *e*', the wedge may be made proportionally more acute, and therefore powerful, while said counteracting wedge function is still retained. Therefore whenever the lever E or hand-wheel nut E'' is reversed the wedges *d* or *d*'' will be released.

While it is true that the handle-bars F are compressed in Figs. 6 and 7, and there is only one wedge midway between them, and that there is only one piece *b*'' which presents one inclined face parallel to one wedge-face, and said faces are held apart by antifriction-rollers, and that the concave instead of the convex face of said piece *b*'' touches the handle-bars at F, it is nevertheless but one of many obvious modifications of the generic features of this conception of such mechanism.

In the modified construction shown in Figs. 6 and 7 the handle-bar ends are held in ferrules F, against which only one tapered mem-

ber b'' is pressed by a single intermediate tapering reciprocable body d'' , pressed by rollers e' , and which is advanced by a pair of threaded members of which one is a hand-
5 wheeled screw E'' .

What I claim is—

1. The combination with housed resilient revoluble handle-bar ends, of a taper-surfaced body and members having correspond-
10 ingly-tapered bearing-surfaces, mechanism to advance said tapering body, axially, to hold and release one of said handle-bars, substantially as specified.

2. The combination with housed revoluble
15 handle-bars, of a taper-surfaced body and members with correspondingly-tapered bearing-surfaces, mechanism to, axially, adjust said tapered body to a fixed position, and means connected to said adjusting mechan-

ism to, axially, reciprocate said tapered body 20 independently of said fixed adjustment, to hold and release one of said handle-bars, substantially as specified.

3. The combination with housed revoluble handle-bars and screw-threaded male and 25 female members whereof one is adjustable with respect to the other, of a taper-surfaced body, reciprocable by said threaded members, members with bearing-surfaces opposed to said tapered body, revoluble bearings be- 30 tween said surfaces, and means connected to said threaded mechanism to adjust its axial position to hold and release one of said handle-bars, substantially as specified.

JOHN M. RAUHOFF.

Witnesses:

FOREÉ BAIN,
F. J. GUILD.