F. L. WATTERS.

HANDLE BAR STEM.

APPLICATION FILED SEPT. 1, 1915.

1,232,871. Patented July 10, 1917.

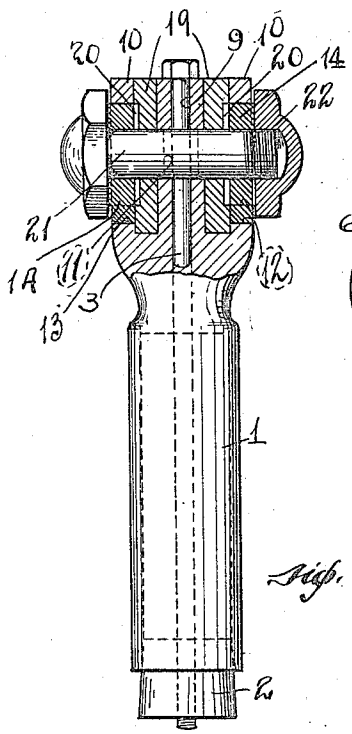


Fig. 2.

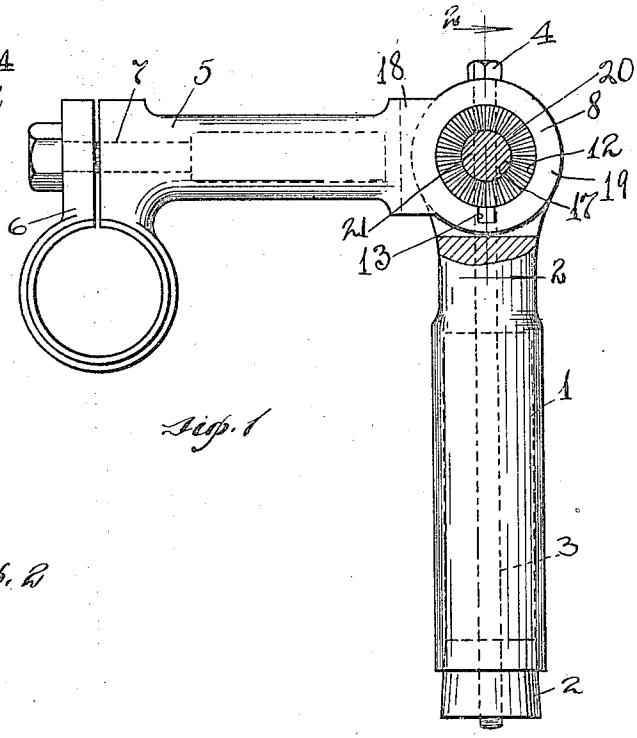


Fig. 1.

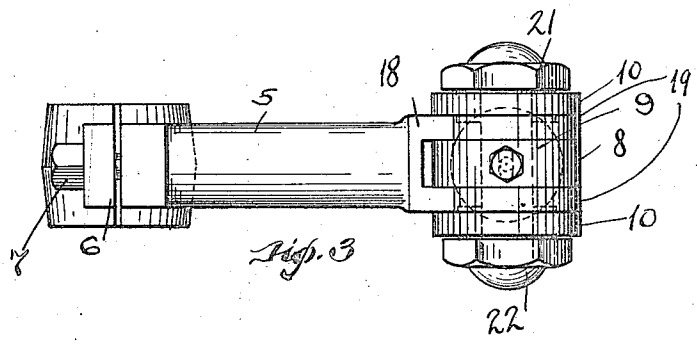


Fig. 3.

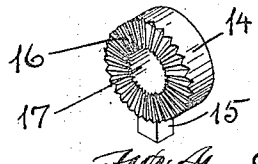


Fig. 4.

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UNITED STATES PATENT OFFICE.

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HANDLE-BAR STEM.

1,232,871. Specification of Letters Patent. Patented July 10, 1917.

Application filed September 1, 1915. Serial No. 48,540.

To all whom it may concern:

Be it known that I, FREDERICK L. WATTERS, a citizen of the United States, and a resident of Shelby, county of Richland, and State of Ohio, have invented a new and useful Improvement in Handle-Bar Stems, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to improvements in handle bars for bicycles and the like, and has more particular regard to the construction of the handle bar stem proper. The object of the invention is the provision of a stem construction whereby the handle bar may be easily adjusted to any desired position. Another object is to provide, a stem which will be inexpensive to manufacture and assemble and yet one which will be strong and durable. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Figure 1 is a side elevation, partly in section of my improved handle bar stem; Fig. 2 is a section taken on line 2—2, Fig. 1 and showing one of the members in elevation:— Fig. 3 is a plan view showing the arrangement of the assembled handle bar stem; and Fig. 4 is a perspective view showing one of the studs.

The present type of handle bar stems comprises a jointed handle bar post, having a lower member 1 which is designed to fit within the steering post (not shown) of a bicycle frame and to be clamped therein by a conical clamp member 2 which is drawn into its clamping position by a bolt 3, the head 4 of which extends above the end of the member 1, and the lower end of which is threaded into the conical clamp member 2. The other member 5 of the handle bar stem is provided at its outer end with a split clamping collar 6 adapted to embrace a handle bar (not shown) and maintain the same in position by means of a clamping bolt 7, as will be readily understood.

Particular attention is called to the construction of the joint between the fixed post member 1 and the movable handle bar member 5. The member 1 is provided with a preferably cylindrical head portion 8 which is divided into three sections as shown. The inner section 9 has an aperture through which the clamping bolt 3 passes and also has a transverse aperture 11 therethrough. The two outer sections 10 have alined apertures 12 therein and notches 13 are provided. In these apertures 12 locking studs 14 are secured, the studs having lugs 15 adapted to be received in the notches 13 to prevent rotation of the studs. The studs are formed with holes 17 which aline with the aperture 11 when the studs are in position. The inner faces 16 of the studs 14 are serrated as best shown in Fig. 4.

The handle bar member has a U-shaped head 18, the two arms 19 of the U-portion being adapted to be received between the sections of the post member 1. These arms 19 have alined apertures therein, the apertures being formed to correspond with the apertures in the studs 14 and the transverse aperture 11 in the section 9. The outer faces 20 of the two arms are serrated and are adapted to contact with the serrations on the studs.

A clamping bolt 21 is provided which passes through the apertures in the two members and the studs and by means of a nut 22 the two members can be secured together in any desired position. This clamping bolt is provided with a hole through which the bolt 3 can pass. When the clamping bolt 21 is locked the serrated faces of the studs and the arms securely engage and hold the two members firmly in position.

As will be seen, it is a simple matter to adjust the angular relation between the two members, for as soon as the clamping bolt 21 is loosened the studs are free to move and be released from the serrations on the cylinder when the member may be moved into the desired relation and there clamped.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, pro-

vided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a jointed handle bar stem, the combination of a member adapted to be secured to a steering post, and a member adapted to carry the handle bar, said first member being provided with a branched head portion, the branches having alined apertures, studs adapted to be non-rotatably received in such apertures in such branches, said studs having serrated faces, said second member being provided with a head received between such branches of the head portion of said first member, said second member having serrated outer faces adapted to engage with the faces on said studs to maintain the two members in any desired angular relation.

2. In a jointed handle bar stem the combination of a member adapted to be secured to a steering post, and a member adapted to carry the handle bar, said first member being provided with a cylindrical head portion divided into three sections having alined apertures, studs having serrated faces, adapted to be non-rotatably secured in such apertures in said two outer sections, said second member being formed with a U-shaped portion, the two arms of the U-shaped portion being formed with serrated outer faces, and having alined apertures therein, said second member being adapted to be received between the sections of said first member, the serrated faces on said arms and said studs being adapted to contact, and clamping means for holding said two members in any desired position.

3. In a jointed handle bar stem the combination of a member adapted to be secured to a steering post, and a member adapted to carry the handle bar, said first member being provided with a cylindrical head portion divided into three sections having alined apertures, apertured studs having serrated faces adapted to be non-rotatably secured in such apertures in said two outer sections, said second member being formed with a U-shaped portion, the two arms of said U-shaped portion having serrated outer faces and having alined apertures therein, said second member being adapted to be received between said sections of said first member, the serrated faces on said studs and said arms being adapted to engage, and a clamping bolt passing through the apertures in said studs and said two members and adapted to clamp said two members in any desired angular position.

Signed by me, this 30th day of August 1915.

FREDERICK L. WATTERS.

Attested by:—
D. T. DAVIES,
THOS. H. FAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."