

(No Model.)

C. C. CANDY.
HANDLE BAR FOR BICYCLES.

No. 589,413.

Patented Sept. 7, 1897.

Fig. 1.

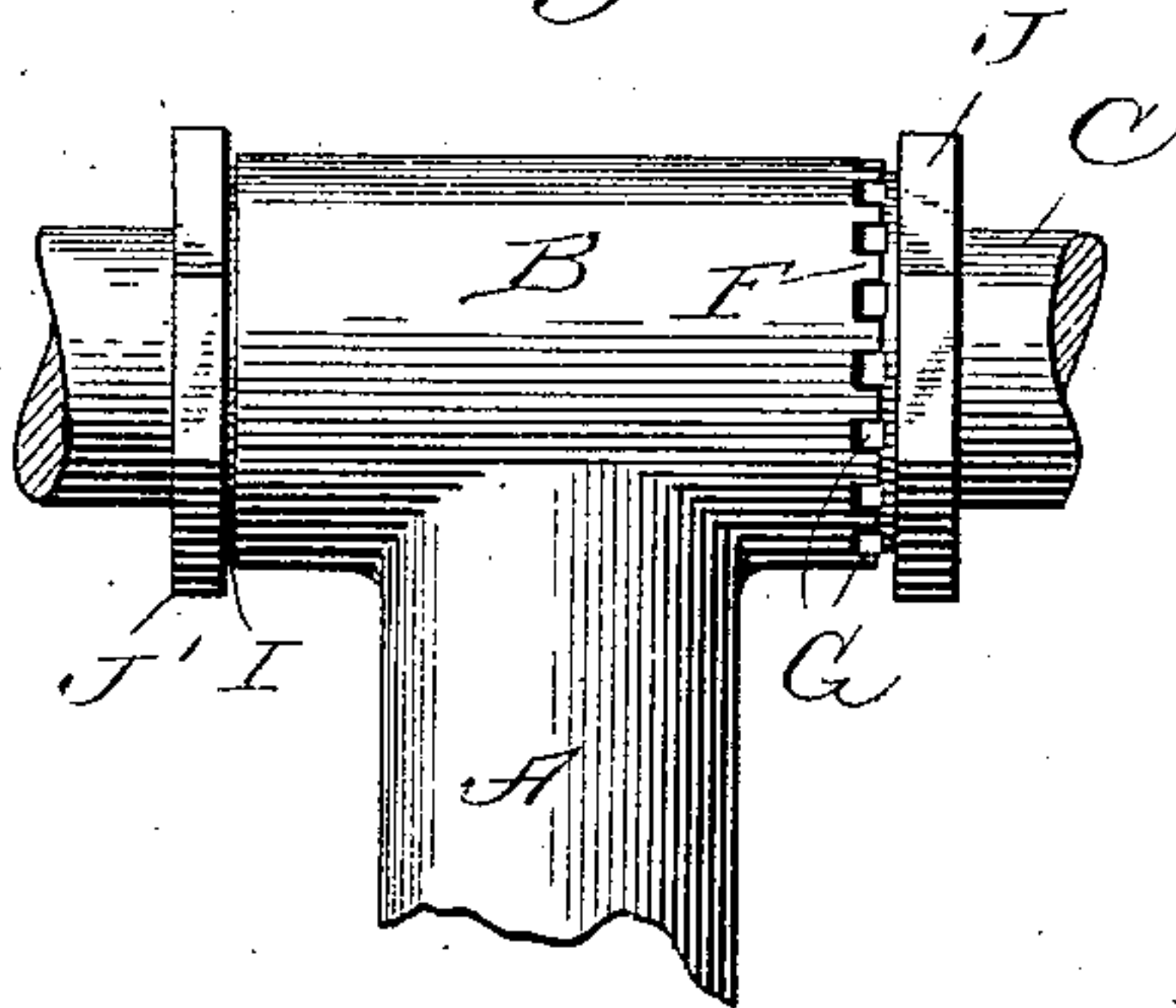


Fig. 2.

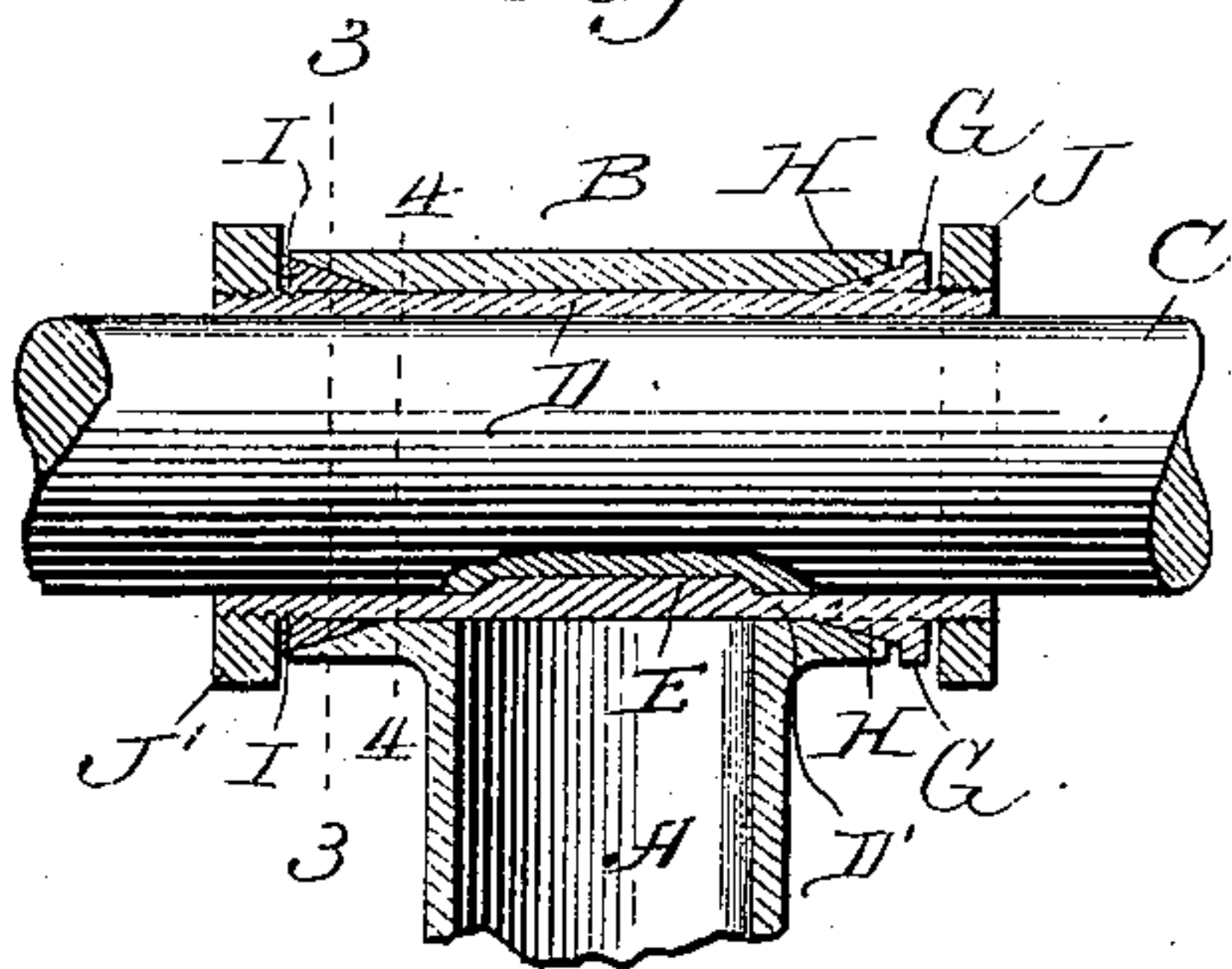


Fig. 3.

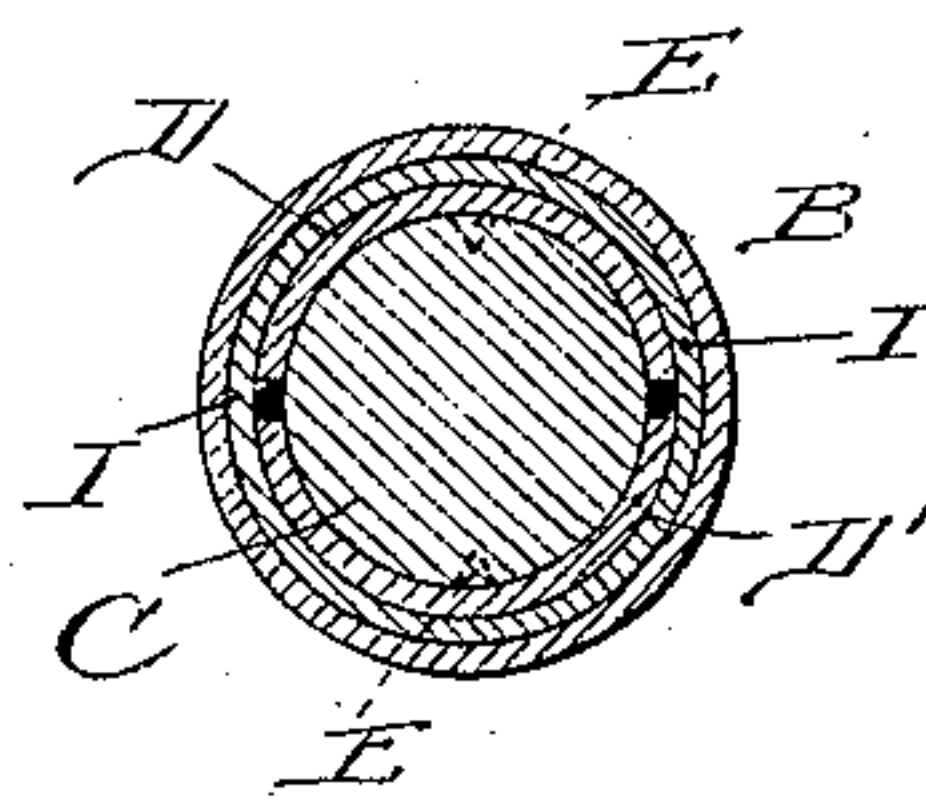
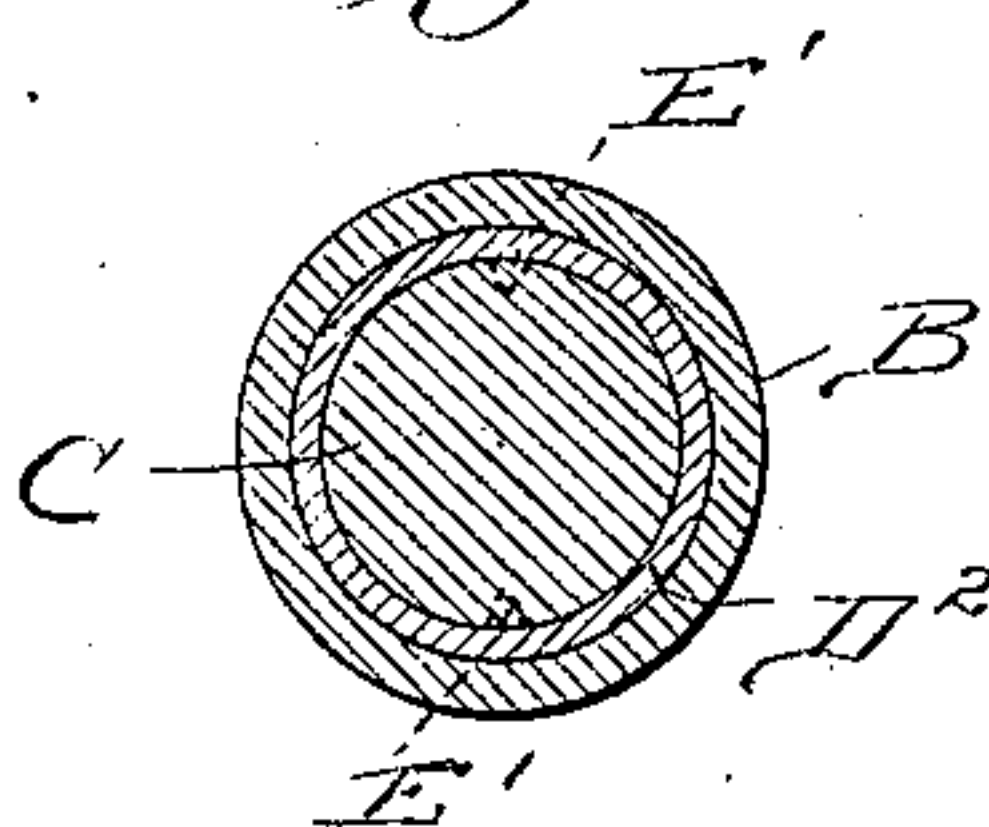


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES C. CANDY, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR TO THE
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HANDLE-BAR FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 589,413, dated September 7, 1897.

Application filed July 16, 1896. Serial No. 599,413. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. CANDY, a citizen of the United States, residing at Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Handle-Bars for Bicycles; and I do hereby 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 appertains to make and use the same.

In adjustably fixing handle-bars security, appearance, and simplicity are important and perhaps in the order of mention. If a wood bar is used, it is usually clamped directly by a device having lugs which enter the wood and prevent rotation in the clamp, such lugs being requisite, because otherwise the wood must be gripped with such force as to impair its outer part by crushing. Such construction is faulty in that slight adjustments are impracticable and because by slight temporary longitudinal displacement in adjusting the high finish of the wood near the clamp is injured. Slight adjustments cannot be made for the reason that the bar must be turned far enough to give the lugs an entirely new seat in the wood and at such distance from the former seat that the intervening wall may not be broken out by lifting with great force upon the handles. The necessary thickness of this wall is often missed, and the wood being once broken out nothing remains but direct compression to resist rotation, and if in any of these circumstances there is the slightest looseness the wood is cut at the end of the clamp.

The object of this invention is to obviate all the evils suggested and at the same time to give a construction that is entirely satisfactory when adopted for use with handle-bars of metal.

In the accompanying drawings, Figure 1 is a front view of the upper part of a steering-post with a wood handle-bar fixed in position for actuating it. Fig. 2 is a section through the axes of both post and bar. Fig. 3 is a section at 3 3, Fig. 2. Fig. 4 is a section of a slightly different construction, the section being on a line corresponding to 4 4, Fig. 2.

In the figures, A is the post, and B a sleeve

at its upper end. The central portion of the sleeve is a smooth hollow cylinder, but near the ends the internal diameter is gradually increased to give the bore a conical form at these points, and at one end the sleeve's margin is cut to form a regular series of small rectangular teeth F. Through this sleeve is passed a wood handle-bar C, and upon the handle-bar, within the sleeve, but projecting beyond each of its ends, is a metal ferrule externally threaded at each end and split into halves D D', which are slightly separated and which fit opposite sides of the bar. Each half-ferrule has interior tapered or pointed lugs E to enter the wood and prevent relative displacement of the bar and ferrule. The central portion of the ferrule loosely fits the central portion of the sleeve in which it lies, but adjacent to the threads at one end it is thickened to form a short cone H and a circumferential rib at the base of the cone. The cone is adapted to enter the conical end of the sleeve B. The rib is cut across at regular intervals to form spaces, in which the teeth F fit, and to leave projections G, which fit the spaces between said teeth. Upon the opposite end of the ferrule is placed a conical ring I, also adapted to enter the end of the sleeve, and nuts J J' are placed upon the ends, respectively, of the ferrule.

When the half-ferrules are once placed in position, with the lugs E properly seated in the wood, they need never be displaced, although being free they may be removed at any time. Being thus in position the nut J is screwed to place to bind them securely. The opposite end of the handle-bar is then passed into the sleeve B, turned to give the handles the desired position, and advanced until the projections G begin to engage the teeth F, and the cone H is entered in the end of the sleeve. The cone I is then entered in the other end of the sleeve and the corresponding nut J' is screwed forward, forcing it into the sleeve and at the same time by its reaction upon the ferrule drawing the cone H into the opposite end with equal force and drawing the projections G into deeper engagement with the teeth F. Obviously the bar is thus clamped with some firmness between the halves of the ferrule and is locked

against rotation by the teeth F; but if the nut J' be unscrewed so far as to merely disengage the teeth the bar and its ferrule are free to rotate together, and the handles may therefore be swung through any desired angular space and may be fixed at any point in their path. The size of the handle-bar is such that the proper compression is reached just before the cones reach the extreme limit of possible movement, and a very slight though ample margin is left for further compression. When the nut J' is unscrewed far enough for adjustment, it cannot touch the polished surface of the wood, and when it has again been screwed back to proper clamping position the other nut may be turned slightly, if necessary, so that the two may be exactly symmetrical in position, as they are in form.

Fig. 4 suggests fixing to the bar an undivided ferrule D², pins or lugs E' being used. In this case, as in the other, the end edges or angles of the ferrule may be slightly rounded near the wood, so that springing of the bar produces no cutting.

It may be observed that the handle-bar is not drilled or otherwise materially weakened, nor abraded in such manner as to allow the entrance of moisture. This latter consideration is important, for if wood perfectly fitting in metal be allowed to absorb moisture it will ultimately become loose.

It is plain that all the parts of the device, except the lugs entering the wood, are equally adapted for use where metal handle-bars are employed.

As a matter of convenience the cone I is usually made integral with the nut J', and it is evident that in other ways the construction shown may be varied within the invention.

What I claim is—

1. The combination with a steering-post having at its upper end a transverse sleeve serrated at one end and internally conical at both ends, of a handle-bar lying in said sleeve a loose halved ferrule having one end conic-

ally enlarged and provided with teeth to engage the serrations in the end of the sleeve, a conical ring surrounding the other projecting end of the ferrule, and a nut working upon the ferrule to force the ring into the conical end of the sleeve, substantially as set forth.

2. The combination with a steering-post having at its upper end a transverse sleeve internally enlarged to conical form at each end, of a one-piece wood handle-bar lying in said sleeve, a ferrule interposed between the sleeve and bar and composed of two slightly-separated halves provided with internal teeth and bearing at one end a cone to fit the end of the sleeve, a removable cone mounted upon the opposite end of the ferrule and adapted to fit the corresponding end of the sleeve, and a nut arranged to force the last-mentioned cone into its seat; whereby the ferrule follows shrinkage of the wood and never turns upon the wood although the bar is perfectly adjustable and is readily and securely fixed in any of its positions.

3. The combination with a steering-post provided at its upper end with a transverse sleeve serrated at one end and having its bore conically enlarged at each end, a wood handle-bar passed through the sleeve, a split ferrule seated upon the bar, longer than the sleeve, threaded at its ends, provided with internal lugs to engage the wood and with an external enlargement adapted to fit into one end of the sleeve and to engage its teeth, a conical ring encircling the ferrule and entering the opposite end of the sleeve, and two nuts screwed upon opposite ends of the ferrule, respectively.

In testimony whereof I affix my signature in presence of two witnesses.

CHAS. C. CANDY.

Witnesses:

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FRANK C. FLINT.