

No. 607,106.

Patented July 12, 1898.

A. WINTON.
BICYCLE.

(Application filed Nov 18, 1895.)

(No Model.)

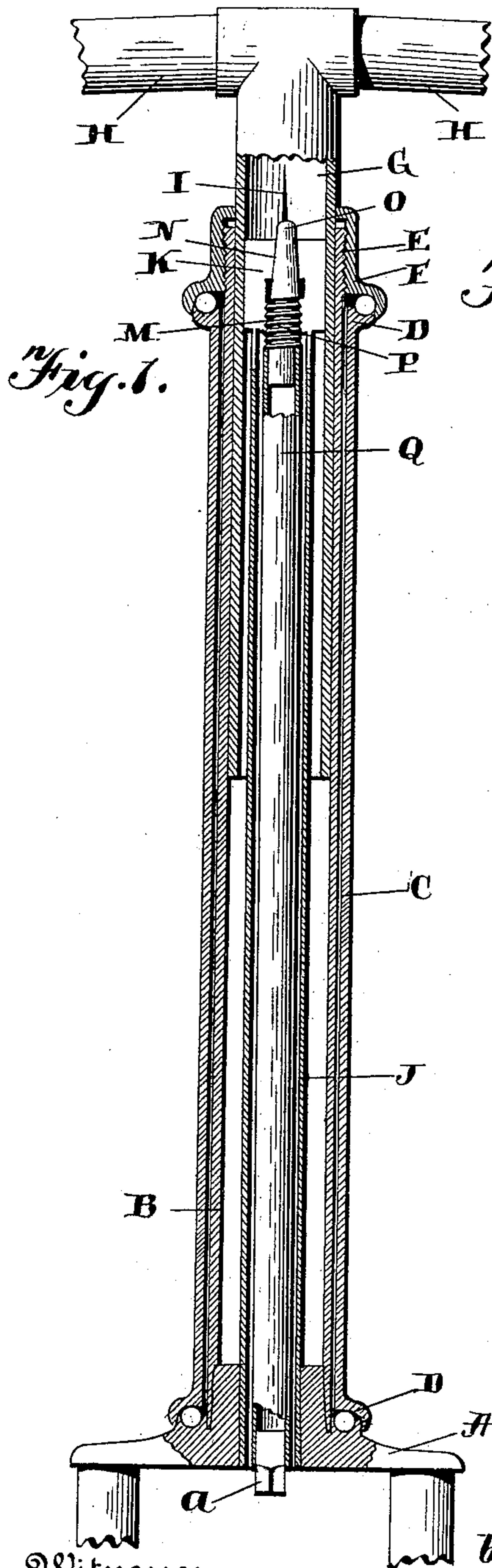


Fig. 2.

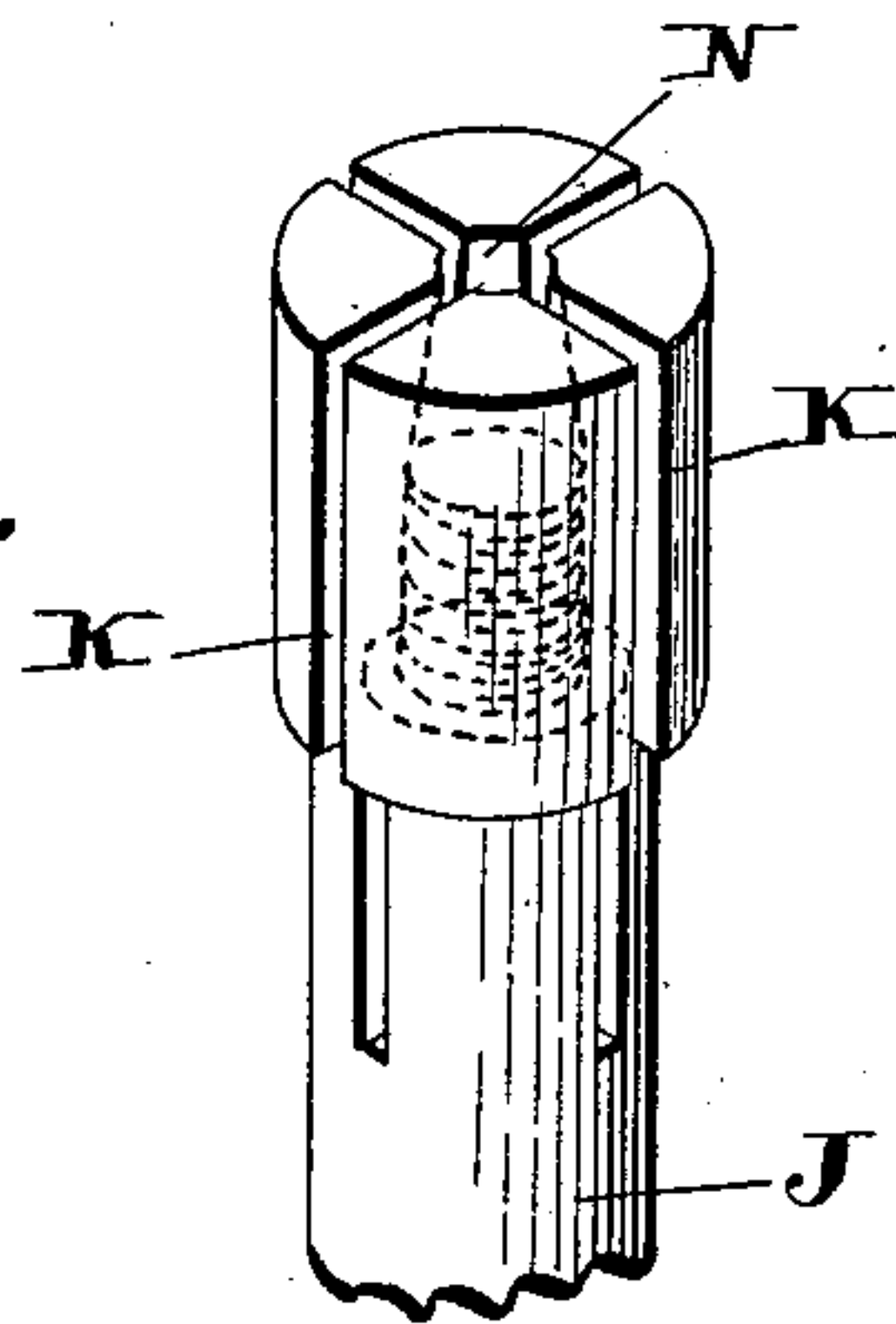


Fig. 3.

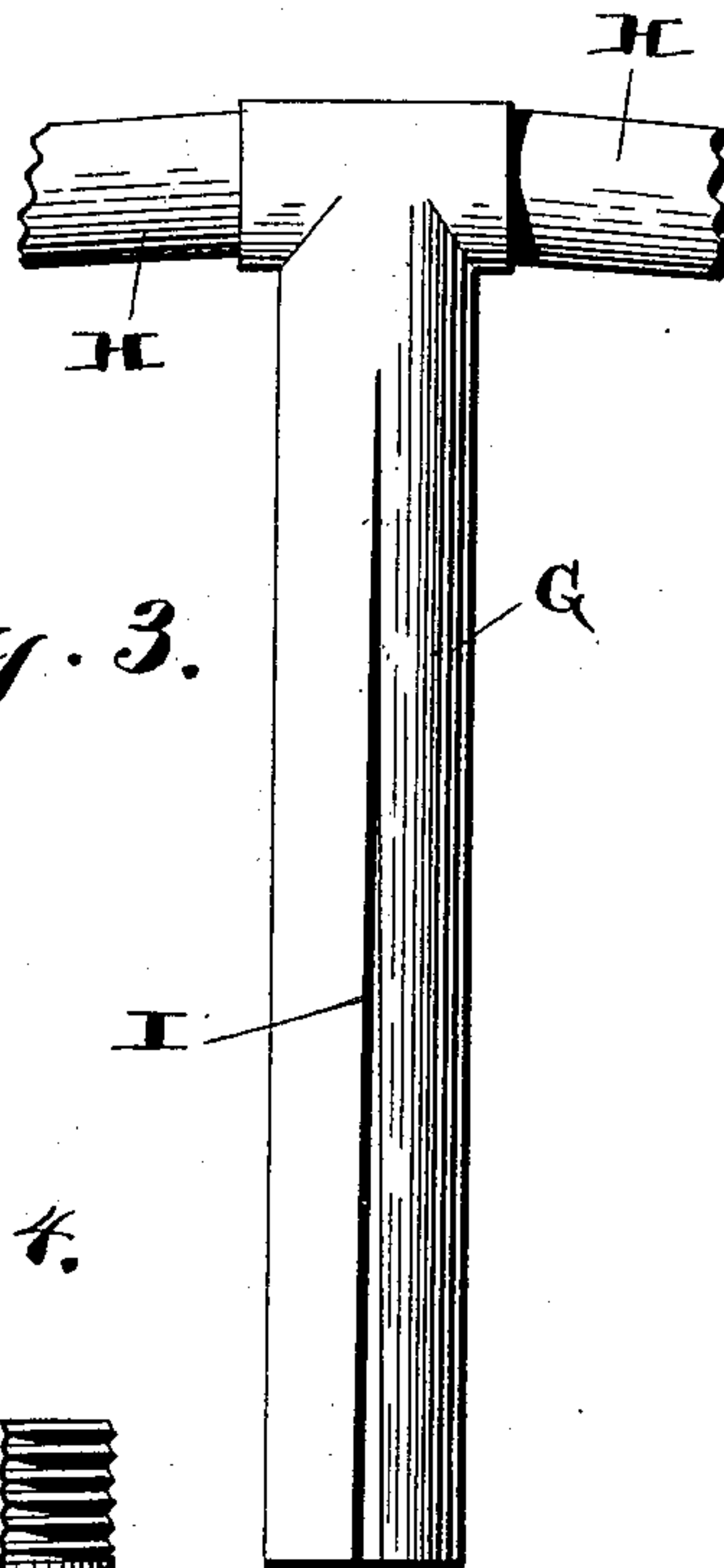
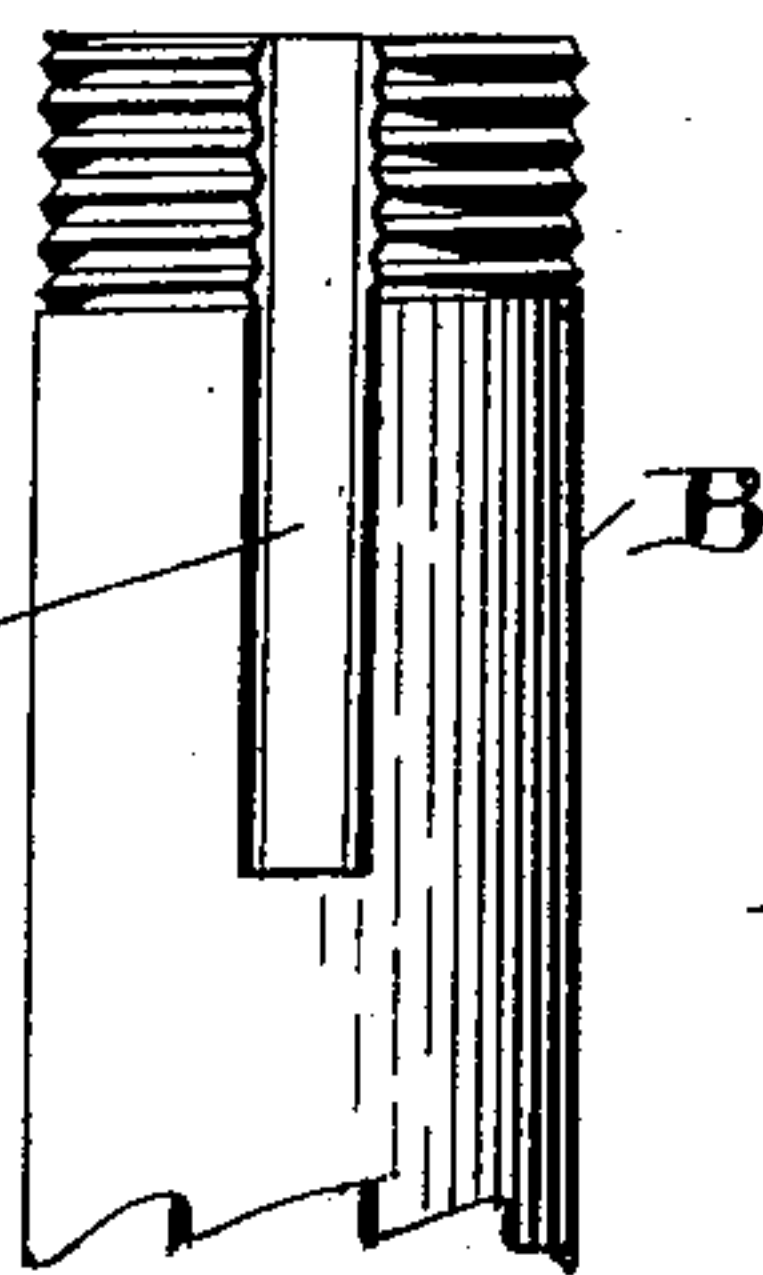


Fig. 4.



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ALEXANDER WINTON, OF CLEVELAND, OHIO.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 607,106, dated July 12, 1898.

Application filed November 18, 1895. Serial No. 569,345. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER WINTON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and
5 useful Improvements in 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 pertains to make and use it, reference being
10 had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in bicycles and pertains to a means for adjust-
15 ably securing the handle-bar within the head of the machine.

The object of my invention is to provide an internal holding or securing means for the handle-bar which avoids the necessity of any external clamp or visible means for holding
20 the handle-bar, permitting a much neater finish at the top of the steering-head, and at the same time providing a readily-adjustable and efficient means for holding the handle-bar in its vertical adjustment.

25 In the accompanying drawings, Figure 1 is a vertical section of a steering-head, showing my invention applied thereto in connection with the stem of the handle-bars. Fig. 2 is an enlarged perspective view of the expand-
30 ing clamping-head. Fig. 3 is a separate view of the handle-bar stem. Fig. 4 is a detail.

A indicates the upper end or head of the front forks, and B the tube, rigidly secured thereto and forming the stem which passes
35 through the steering-head and to which tube or stem B the stem of the handle-bar is secured.

C is the steering-head of the frame of the bicycle, having at its upper and lower ends
40 the ball-races D in the usual manner.

The tube B, which is rigidly secured at its lower end to the cross-head of the front forks, as before stated, is provided at its upper end with the external screw-threaded portion E,
45 which receives the cap F, forming the upper bearing of the steering-head.

The stem G of the handle-bars H is provided with a longitudinal slot I, which permits of the stem being expanded in circum-
50 ference, as will be readily understood, and this stem G fits within the tube B of the front

forks in the usual manner. A tube J passes through the cross-heads of the front forks and has its lower end fit tightly within the opening of said head, and this tube extends upward,
55 having an expanding clamping-head K at its upper end, with the handle-bar stem opposite the cap F, which cap forms a finishing for the steering-head and also the upper bearing, as before stated. This expanding clamping-
60 head is provided with a vertical opening, the lower end of which has a screw-threaded portion M, and the upper end is tapered, as shown at N, to receive the tapered portion O of the rod or tube Q. Below the tapered portion O
65 of this rod or tube is a screw-threaded portion P, engaging the screw-threaded portion M of the expanding head. For the purpose of lightness the rod or stem Q is preferably a tube with a plug at its upper end forming
70 the screw-threaded portion P and the tapered part O and a plug at its lower end, brazed thereto, forming an angular operating portion or member a. This angular member a extends slightly below the cross-head of the front
75 forks, where it can be readily operated by means of a wrench for the purpose of rotating it.

The operation of my invention is as follows: The handle-bar stem being inserted
80 within the front-fork stem B to the desired adjustment, a wrench is applied to the angular member a, thus rotating the screw-threaded portion P, which forces the tapered part O within the tapered opening of the clamping-
85 head K, thus expanding it and forcing it outward against the interior of the slotted stem C of the handle-bars. The upper end of the front-fork tube B is preferably slitted a short distance, so that when the stem G of the han-
90 dle-bars is expanded outward the upper end of this tube is also slightly expanded within the cap F, thus clamping the cap in its adjusted position at the same time that the handle-bar stem is clamped within the front-fork
95 stem. The expansion of the clamping-head K, it will be seen, firmly holds the stem within the front-fork tube B, so that it cannot rotate independent thereof, and by turning the operating or angular member a in the opposite
100 direction the expanding clamping-head K will collapse, thus permitting the handle-bars

to be moved up and down, as desired, to secure the vertical adjustment thereof, as will be clearly understood.

While I have shown and described the rod
5 Q with a tapered end for expanding the clamp or collar by engagement with the internal opening therein, it will be readily understood that this construction may be reversed—that is, the opening may be tapered and the rod
10 straight—which would effect the same result without varying the mechanical operation of my device or departing from the spirit of my invention.

Having thus fully described my invention,
15 what I claim, and desire to secure by Letters Patent, is—

1. A handle-bar clamp for bicycles, comprising a clamp connected with and supported by the front forks, said clamp extending with-
20 in the handle-bar stem but independent thereof, substantially as described.

2. A handle-bar clamp for bicycles, comprising a clamp situated within the handle-bar stem at a point opposite the upper steering-head bearing-cone, and a supporting connection between said clamp and the front
25 forks, substantially as described.

3. In a handle-bar clamp, the combination of a steering-tube, a handle-bar tube therein,
30 a clamp-support extending upward from the lower portion of the steering-tube within and independent of the handle-bar tube or stem, a clamp carried by said support, and an operating device extending downward from the
35 said clamp to a point below the steering-tube fork to be operated.

4. The combination of a steering-fork, and stem or tube, a handle-bar tube therein, an upwardly-extending tube within the handle-
40 bar tube having an open lower end, an expanding clamp at the upper end of the tube, and an operating-rod extending upward with-

in the clamping-tube, and engaging the clamp, the lower end of the rod extending below the fork to be operated.

5. The combination of a steering-tube having a slit at its upper end, a bearing-cone surrounding said slitted end, a slitted handle-bar tube within the steering-tube, and an expanding clamp supported within the handle-
50 bar tube at the upper end of the steering-tube, whereby the handle-bar and the bearing-cone are clamped thereby.

6. In a handle-bar clamp, the combination of the steering-forks, the steering-head, the
55 handle-bar tube or stem, an expansible clamp supported within the handle-bar stem, a support for the said clamp connected with the steering-forks, and an expanding device movable endwise by rotation, the expanding de-
60 vice or clamp having a tapered engaging surface for the purpose described.

7. A handle-bar clamp comprising an expansible collar, a support therefor, one of
65 said members having a screw-threaded portion, an expanding device consisting of a screw-threaded rod engaging said screw-threads of one of the members, the said rod or expansible clamp having tapered engag-
70 ing surface, for the purpose described.

8. In a bicycle, the combination of the steering-tube, the handle-bar tube therein, an expansible bushing movable within and independent of said handle-bar tube, and a
75 screw-threaded rod, the rod and bushing carrying tapered engaging surfaces for expanding the independent bushing.

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

ALEXANDER WINTON.

Witnesses:

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JOHN G. WAY.