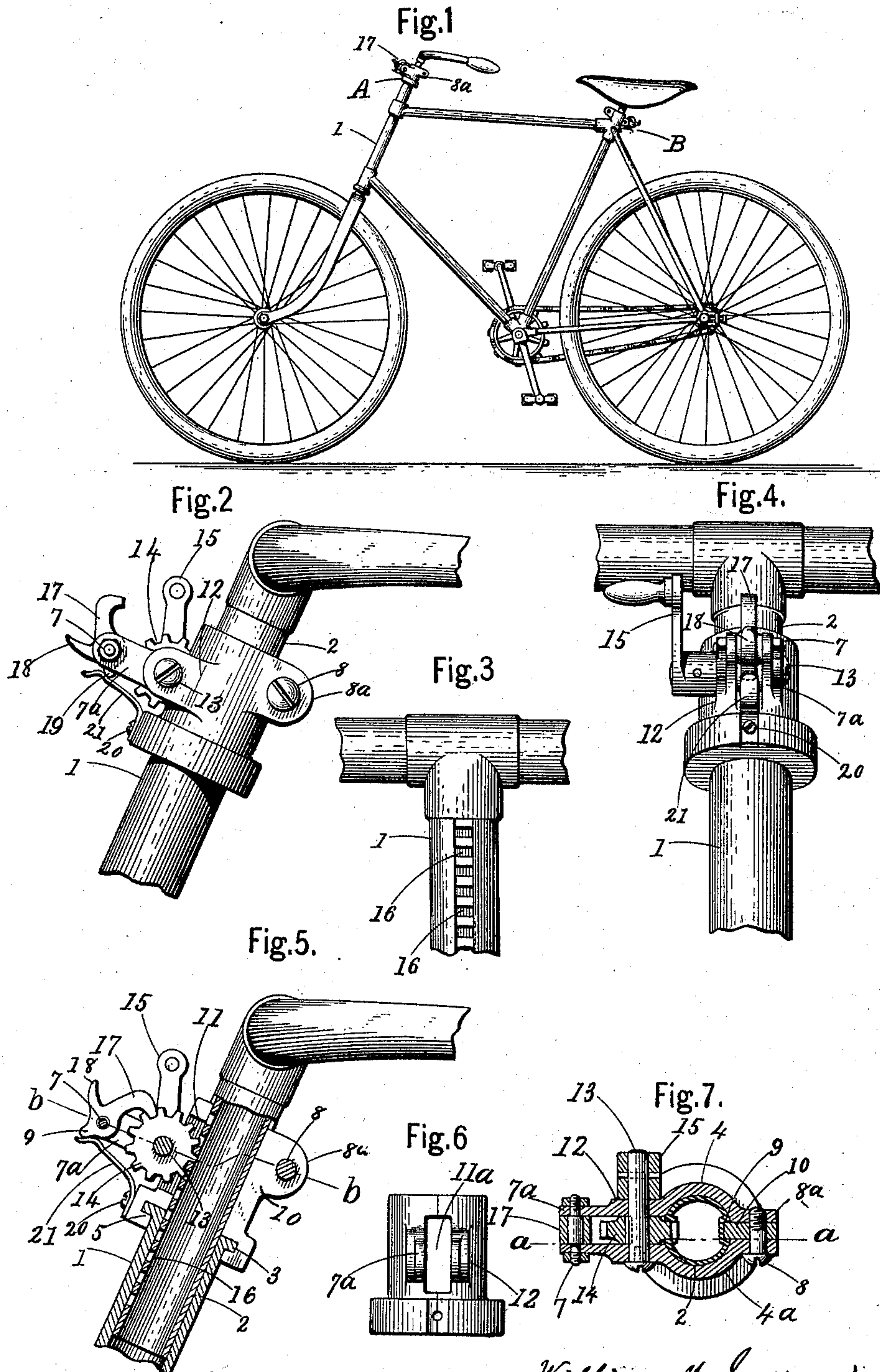


(No Model.)

W. M. SUTTON.
BICYCLE.

No. 585,719.

Patented July 6, 1897.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM M. SUTTON, OF TONAWANDA, NEW YORK.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 585,719, dated July 6, 1897.

Application filed July 15, 1895. Serial No. 555,997. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. SUTTON, a citizen of the United States, residing at Tonawanda, in the county of Erie and State of New York, have invented certain new and useful Improvements in Bicycles, of which the following is a specification.

My invention relates to a new and convenient means for quickly raising or lowering the handle-bars while the bicycle is in operation or in use, and it will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a bicycle having my improved device connected thereto. Fig. 2 is an enlarged side elevation of the device, showing the pawl disengaged from the pinion, so that the handle-bars may be raised or lowered. Fig. 3 is a front view of a portion of the handle-bars, showing the rack, the operating parts being omitted. Fig. 4 is a front view of a portion of a bicycle, showing a front view of my improved device. Fig. 5 represents a central section on or about line *a a*, Fig. 7. Fig. 6 represents a detached front view of that part which carries the pinion and its operating mechanism, said pinion and mechanism being omitted. Fig. 7 represents a section on or about line *b b*, Fig. 5.

Referring to the drawings in detail, 1 represents the front bicycle-fork stand, down into which the handle-bar stem 2 extends. It is made in the usual and well-known manner and is provided at the top with a surrounding flange 3. (See Fig. 5.) At the top of the fork-stem 1 is a holding or supporting portion consisting of two halves 4 and 4^a, at the bottom of which is an annular groove 5, adapted to fit and envelop the flange 3 when the two parts 4 and 4^a are secured together. These two half portions when put together are formed so that the handle-bar stem 2 will fit nicely between them and slide easily up or down within them. They are firmly secured together by the screw-bolt 7, passing through the extension portions or ears 7^a, and screw 8, which passes through the ears 8^a. (See Fig. 7.) The handle-bar stem is prevented from turning therein by means of a groove 9 and a feather 10, projecting into said groove. (See

Figs. 5 and 7, particularly Fig. 7, where a cross-section is shown through the device.) I have shown the feather 10 as a separate piece interposed between the two ears 8^a, but it may be divided in the center and a half made integral with each part 4 and 4^a.

At the front of each of the portions 4 and 4^a is a depression 11, (shown in Fig. 5,) which when the two parts are put together form the opening 11^a, (shown in Fig. 6,) and on each side of the opening 11^a is an outward-projecting ear 12, from which the ears 7^a extend.

Between the ears 12 is mounted and rigidly secured on a shaft or pin 13 a pinion 14. On the outer end of the shaft 13 is rigidly secured a crank-arm 15, by which it may be turned. In the bicycle handle-bar stem is cut a series of openings 16, (see Fig. 3,) thereby forming a rack in which the teeth of the pinion 14 are adapted to engage and operate.

Between the ears or portions 7^a is mounted on the bolt 7, so as to turn easily thereon, a pawl 17. Projecting out from the pawl is a thumb-piece 18, and at the lower end is a short projecting portion 19. Below the pawl is secured by a screw 20 a spring 21. By means of this construction it will be seen that the pawl 17 may be raised out of engagement with the pinion 14 and securely held up in the position shown in Fig. 2 by a spring force, or it may be instantly turned down into engagement with said wheel, as in Fig. 5, and then securely held in place by the force of the spring.

This device is shown attached to the bicycle in Fig. 1 at A for raising and lowering the handle-bars, and at B for raising or lowering the saddle.

The operation of the device is simple and will be easily understood. When it is desired to raise or lower the handle-bars, all that is required is to throw the pawl back, as in Fig. 2, and then turn the handle or crank-arm 15 until the required point is reached, then turn the pawl into the position shown in Fig. 5, when it will engage with the teeth in the pinion 14, and thereby hold it securely in that position.

Although the two half portions of the holding device are rigidly clamped around the flanged top of the fork-stem by the screw-

bolts 7 and 8, the feather 10 and the shoulders on the screw-bolt 7 prevent the handle-bar stem from being clamped tight in the holding device and thus permit the handle-bar to be easily adjusted up or down by turning the handle 15, which can be readily performed by one hand while the operator is riding the wheel.

I claim as my invention—

10 1. The combination with a flange on the top of the upward-extending stem of the front forks of a bicycle, of a handle-bar-clamping device formed of two half-round portions and provided with an annular groove, adapted to
15 fit over and envelop said flange, and screw-bolts for securing the two portions to each other and around the flanged top, whereby when the screw-bolts are slightly loosened the handle-bar and the clamping device can be
20 revolved on the flanged top and the bar and forks adjusted horizontally to each other, as set forth.

2. The combination with a handle-bar, provided with a series of slots forming a rack
25 cut in its stem and a depression located opposite said slots and extending longitudinally the entire length of said stem, of the front forks and stem thereof, a clamping device rigidly secured to the said stem and fitting
30 loosely enough around said handle-bar stem to permit an up-and-down movement therein, a feather fitting in said depression, and a toothed ratchet-wheel adapted to fit into said slots, whereby the handle-bar can be adjusted

up or down but not revolved in said clamping device, as set forth. 35

3. The combination with a bicycle provided with a handle-bar having a series of slots in its stem, a longitudinal depression opposite said slots on said stem, and a flange on the
40 top of the stem of the front forks, of a clamping device formed of two half-round portions, an annular groove in said portions adapted to encompass the flange on the top of the fork-stem, a feather secured between the rear ends
45 of the said portions and projecting into the longitudinal depression in the handle-bar stem, a ratchet-wheel rotatably mounted between the front ends of said portions and provided with teeth adapted to fit into the series
50 of slots in the handle-bar stem, and means for securing the two portions to each other, rigidly around the flanged top of the fork-stem and loosely enough around the handle-bar stem to permit of an up or down adjust-
55 ment of the handle-bar, whereby the handle-bar may be adjusted up or down in the clamping device by turning the ratchet-wheel, or the handle-bar and the clamping device may be rotatably adjusted on the fork-stem by
60 freeing the portions of the clamping device sufficiently to permit their turning on the flanged head of the fork-stem, as set forth.

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Witnesses:

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