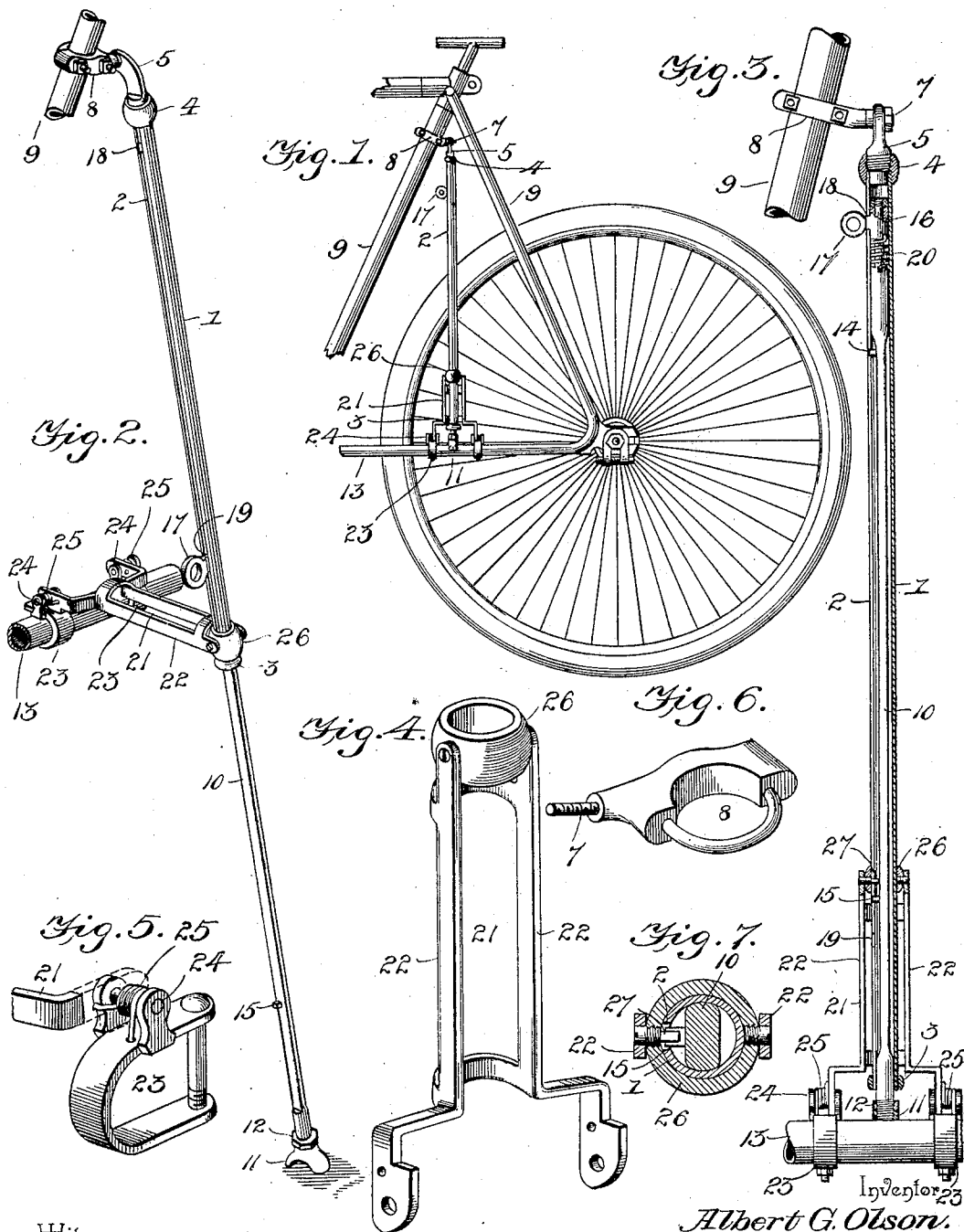


(No Model.)

A. G. OLSON.
BICYCLE SUPPORT.

No. 574,109.

Patented Dec. 29, 1896.



Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT G. OLSON, OF WEST SUPERIOR, WISCONSIN.

BICYCLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 574,109, dated December 29, 1896.

Application filed November 8, 1895. Serial No. 568,312. (No model.)

To all whom it may concern:

Be it known that I, ALBERT G. OLSON, a citizen of the United States, residing at West Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Bicycle-Support, of which the following is a specification.

This invention relates to an improvement in bicycle-supports of that description in which the supporting means is attached to and carried at all times upon the machine.

The object of the present invention is to provide a simple and effective bicycle-support which may be attached to any safety-bicycle having the usual diamond frame and which when so attached and folded will be included within the plane of the frame of the machine, so as not to offer any projection which might interfere with the rider while in the saddle or out.

A further object of the invention is to provide a bicycle-support which to a certain extent shall be automatic in its action, whereby when the same is released preparatory to throwing the same into operative position a spring-frame will assist in moving the support proper to the desired angle with relation to the machine-frame.

Another object of the invention is to provide means for automatically locking the support either in its operative or its folded position.

With the above objects in view the invention consists in an improved bicycle-support embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a sufficient portion of a bicycle to illustrate the application of the present improvement thereto. Fig. 2 is an enlarged detail perspective view of the improved support shown in its operative position. Fig. 3 is a longitudinal section through the telescopic support proper. Fig. 4 is a detail perspective view of the swing-frame. Fig. 5 shows one of the clips by means of which the swing-frame is attached to one of the rear-fork members. Fig. 6 shows the form of the clip by which the upper end of the support is

pivotaly connected with the center or strut brace of the bicycle-frame. Fig. 7 is a detail horizontal section through the telescopic support proper and the slide-collar of the swing-frame.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a section of metal tubing of any desired length, preferably round in cross-section, and provided throughout its entire length with a groove or slot 2. This tube is reinforced and strengthened at its lower extremity by means of a fixed collar 3, brazed thereon, or otherwise secured around the same, in a manner that will not obstruct the longitudinal groove 2.

The upper extremity of the tube 1 is threaded to receive a screw-sleeve 4, and this sleeve receives a threaded extension 5, the extremity of which is deflected inward and perforated to connect pivotaly with a rearwardly-projecting pin or stud 7 on a clip 8, embracing and secured to the central brace or strut 9 of the diamond frame of the bicycle to which the improved support is applied. This clip 8 may be of any desired or preferred form, but comprises, essentially, the projecting stud 7, which extends substantially in parallel relation to the lower horizontal bars or members of the rear fork of the machine-frame or parallel with the ground. The tubular member of the support is thus upheld at its upper end by means of its pivotal connection with the machine-frame, and is consequently adapted to be swung outward away from the machine-frame in a lateral direction or in a reverse direction by means and for a purpose that will hereinafter appear.

Within the tubular member 1 of the support is arranged a telescopic slide-bar 10, the lower end of which is threaded to receive an arched foot-piece 11, held in place by means of a jam-nut 12, bearing against the upper portion of the foot-piece and preventing the same from turning on the slide-rod. This foot-piece is shaped to engage and take over the adjacent rear-fork member 13 when in folded position, as shown in Fig. 1, and is also well adapted to engage the ground when the device is in its operative position. The

slide-rod 10 is prevented from rotating within the tubular member of the support by means of two laterally-projecting studs or stops 14 and 15, located, respectively, near the upper and lower ends of the slide-rod. Another function of these studs or stops is to actuate the swing-frame hereinafter referred to. The upper end of the slide-rod is reduced and has mounted thereon a sleeve 16, having a laterally-projecting finger-grasp 17, which projects through the longitudinal slot 2 of the tube, and is arranged within convenient reach of the rider when standing upon the proper side of the machine. The sleeve 16 is mounted loosely upon the reduced upper end of the slide-rod, so that it may be swung laterally and caused to enter a notch 18 near the upper end of the slot 2 for holding the slide-bar within the tube or a notch 19 near the lower end of the slot 2 for holding the slide-rod extended or in its operative position. A spiral spring 20 surrounds the reduced upper end of the slide-rod and is connected with the sleeve of the finger-grasp in such manner that it will exert its tension to force said finger-grasp normally toward that side of the slot 2 in which the engaging notches 18 and 19 are formed. Upon moving the slide-rod inward or outward the finger-grasp thus automatically snaps into the notches and locks the slide-rod in either its folded or extended position.

In order to preserve the telescopic support as a whole when in its extended or operative position at the desired angle to the machine-frame, and in order to brace the same relatively to the machine, I have devised the following means.

21 designates what may be termed a "swing-frame," which comprises substantially parallel bars 22, connected adjacent to each end by substantially semicircular or U-shaped cross-bars, thus adapting said side bars to receive the tube 1 between them when in its folded position. (Shown in Fig. 1.) The side bars 22, at their inner ends, are deflected in opposite directions and then again bent into parallel relation, as shown, to form a wide pivotal bearing, and the inner terminals of these bars are formed with alining perforations by which the swing-frame may be pivotally connected with a pair of clips 23 of any convenient form surrounding the rear fork member 13, above referred to. Each of said clips comprises one or more upwardly-projecting perforated ears, through which is inserted a pin or bolt 24, said pin or bolt also passing through one of the perforated terminals of the swing-frame, whereby a pivotal connection is established between said swing-frame and the frame of the bicycle. Two coiled springs 25 are disposed around the pins or bolts 23 and connected with the clips and the terminals of the swing-frame in such manner that they will exert their tension to vibrate the swing-frame outward away from the machine-frame, thereby automatically

vibrating outward the pendent tubular member 1 of the support, which has a sliding connection with the swing-frame, such connection being established by means of a slide-collar 26, surrounding the tube 1 and swiveled in the outer end of the swing-frame. A pin or stud 27, carried by the slide-collar, projects into the slot 2 of the tube 1 and into the path of the laterally-projecting studs or stops 14 and 15 of the slide-rod, where it is adapted to be acted upon by the latter in the movements of the slide-rod.

The operation of the device may be described as follows: Starting with the device in its folded position, as shown in Fig. 1, the rider, while standing upon the ground, seizes the finger-grasp and rocking the same into alinement with the longitudinal slot in the tubular member of the support presses downward upon the slide-rod and projects the same from and out of the lower end of said tubular member. In the downward progress of the slide-rod the upper stud or stop 14 thereof strikes against the pin 27 of the slide-collar 26 of the swing-frame, and in its further progress depresses the outer end of said swing-frame until finally the finger-grasp snaps into the lower notch 19 in the tubular member, thus locking the parts in their operative position.

When it is desired to refold the device, the finger-grasp is vibrated again into alinement with the slot 2 and the slide-rod moved upward thereby. In this movement the lower stud or stop 15 of the slide-bar strikes beneath the pin 27, referred to, and vibrates the swing-frame upward and inward into its folded position. In order to allow the arched foot-piece at the lower end of the slide-rod to rise sufficiently higher than the rear-fork member 13 of the machine-frame preparatory to slipping over and engaging the same, the shank of the finger-grasp is moved upward in the slot 2 until it goes beyond the notch 18. The lower end of the support may now be moved inward until the arched foot-piece rests immediately above the frame-bar 13, when the finger-grasp may be depressed until it snaps into the notch 18, thus bringing the said foot-piece into positive engagement with said frame-bar.

From the foregoing description it will be seen that a very effective and convenient bicycle-support is produced which is capable of being folded inward until it rests entirely within the plane of the bicycle-frame, in which position it cannot interfere with the rider, either in his seat on the machine or while walking beside his bicycle. It will be apparent, also, that the device is in some respects automatic in its action, so as to materially assist in the manipulation thereof by the rider. The improved support may be made very light in its construction, so as to present no objection to the rider on account of its weight, and yet possess the requisite strength for supporting the machine while

the rider is out of the saddle. It will also be apparent that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a bicycle-support, the combination with a telescopic supporting-rod having provision whereby it may be hinged at its upper end to the machine-frame and comprising a longitudinally-slotted tubular member and a slide-rod arranged therein, of a swing-frame connected with the machine-frame and having a sliding engagement with the supporting-rod, and one or more stops carried by said slide-bar and adapted to cooperate with the swing-frame, substantially in the manner and for the purpose specified.

2. In a bicycle-support, the combination of a slotted tube having provision at its upper end whereby it is adapted to be pivotally connected to the machine-frame, a slide bar or rod adapted to telescope therein, a pivoted catch carried by said slide-bar and engaging notches in the tube for the purpose described, a swing-frame interposed between the machine-frame and said tube, and a stop on the slide-rod cooperating with said swing-frame, substantially as set forth.

3. In a bicycle-support, a telescopic supporting-rod comprising a tube having a longitudinal slot and spaced notches communicating with said slot, said tube being adapted to be pivotally connected to the frame of a bicycle, an extension-rod slidingly mounted in said tube, and a spring-actuated catch revolvably mounted on said extension-rod and working in said slot and adapted to turn on the rod so as to engage the notches in the tube, said catch also forming a finger-hold by which the rod may be slid, substantially as described.

4. In a bicycle-support, an extensible supporting-rod connected at its upper end to the machine-frame by a fixed pivot and free at its lower end to swing relatively thereto, in combination with a swing-frame hinged to the

machine-frame and having a loose sliding engagement with the supporting-rod, said swing-frame having an open free end and being adapted to swing inward with the rod and partially embrace the latter so as to permit said rod to occupy a position entirely within the plane of the machine-frame, substantially as described.

5. In a bicycle-support, the combination with the frame of a bicycle, of a tube connected at its upper end thereto by a fixed pivot, a rod sliding in said tube, a swing-frame having pivotal connection with the machine-frame, a collar swiveled on said swing-frame and having a sliding engagement with said rod, a spring located at the pivotal connection between said frames and adapted to move the swing-frame downward, and a projection on the rod for lifting the swing-frame, substantially as described.

6. In a bicycle-support, the combination with the bicycle-frame, of an extensible supporting-rod hinged at its upper end thereto and provided at its lower extremity with a foot-piece adapted to engage or partially embrace one of the rear-fork members or bars of the machine-frame when said rod is in its folded position, in combination with a swing-frame interposed between and having connection with the machine-frame and supporting-rod, and adapted when swung inward, to receive and partially embrace the rod so as to permit the foot-piece to engage the frame, substantially as and for the purpose described.

7. In a bicycle-support, a tube and means for pivotally attaching said tube to the frame of a bicycle, a rod sliding in said tube and means for retaining the rod in different positions vertically in the said tube, and a connecting member pivotally attached by one end to said rod, and by its other end attached to the frame of the bicycle.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT G. OLSON.

Witnesses:

JOHN A. HOBE,
GUST. EIKSEIN.