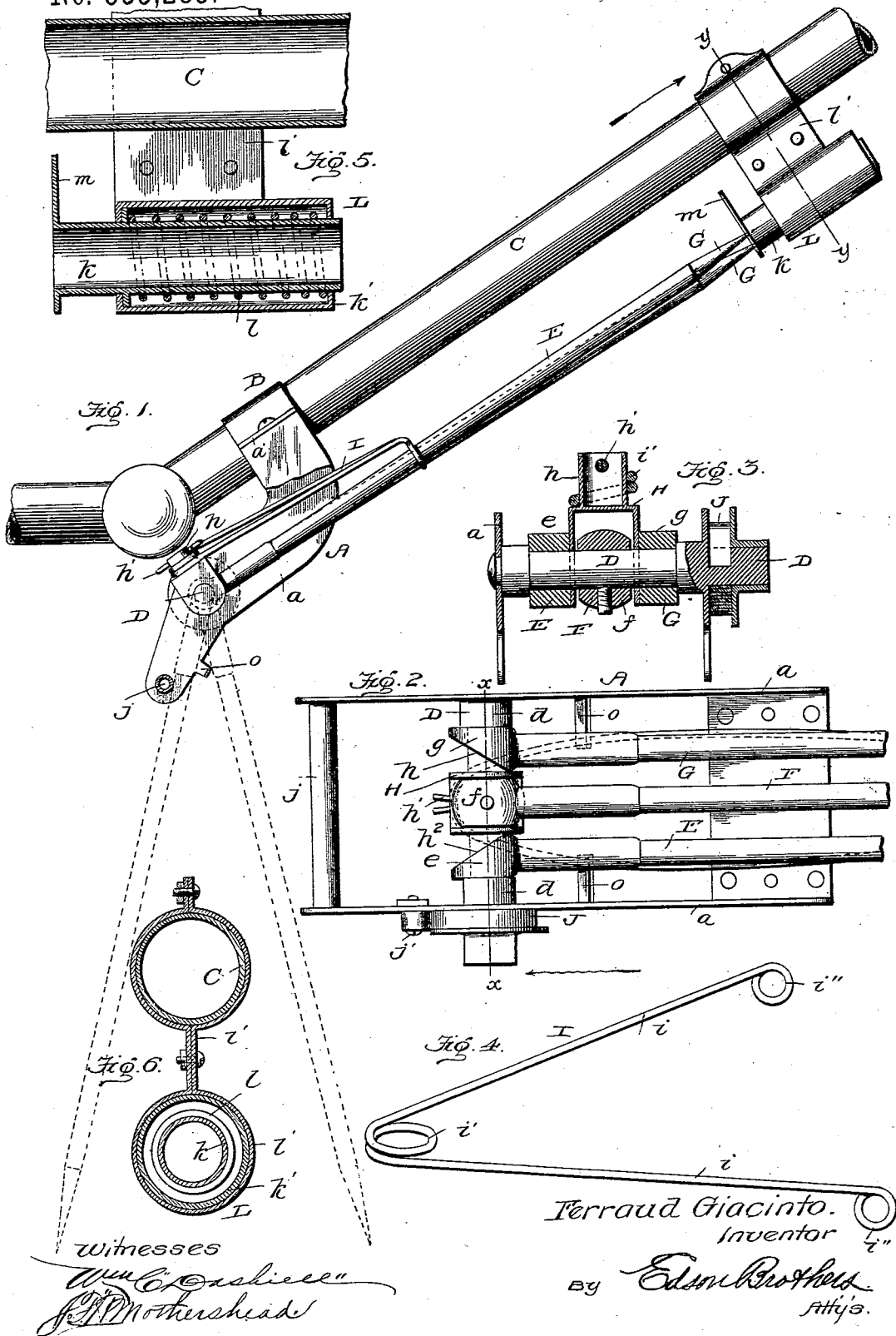


(No Model.)

F. GIACINTO.
BICYCLE SUPPORT.

No. 555,285.

Patented Feb. 25, 1896.



UNITED STATES PATENT OFFICE.

FERRAUD GIACINTO, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
CHARLES BARSOTTI, OF SAME PLACE.

BICYCLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 555,285, dated February 25, 1896.

Application filed July 8, 1895. Serial No. 555,257. (No model.)

To all whom it may concern:

Be it known that I, FERRAUD GIACINTO, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bicycle-Supports; 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.

My invention is a device to be applied to an ordinary safety-bicycle for holding the latter in a raised position convenient for repairing, cleaning, or doing any other necessary work on the machine.

The stand or supporting contrivance devised and invented by me may be used on any ordinary safety-bicycle, and the bicycle may be equipped with stand or contrivance by the manufacturer of the bicycle, or said stand may be applied at any time and in an easy expeditious manner to a bicycle.

My supporting-stand is applied in such a way to the bicycle-frame that it does not in any manner interfere with propulsion of the machine, and yet when the stand is adjusted for use the supporting tripod-legs are lowered practically beneath the crank-shaft to sustain the weight of the machine. When in use, the stand raises the hind part of the machine a sufficient distance above the floor or ground that the operator can repair or clean the machine without having to stoop unnecessarily.

My invention consists of a bracket adapted to be attached to a bicycle-frame, an arbor carried by said bracket, tripod-legs mounted on said arbor in a way to permit the legs to be closed together substantially parallel to each other and to be folded up alongside of the bicycle-frame, as well as to insure spreading of the legs when they are released from the leg-holder, a spring or springs to throw the legs into their spread positions when free from the leg-holder, and an independent leg-holder adapted to be clamped or fastened to the bicycle-frame in position to receive the free ends of the tripod-legs when they are folded together and adjusted or turned up alongside of the frame.

The invention further consists in the construction of the leg-holder; further, in the detailed construction of the bracket, the legs, and the springs for actuating the legs; and, finally, the invention consists in the combinations of devices and in the construction and arrangement of parts, which will be herein-after fully described and claimed.

To enable others to understand my invention I have illustrated the preferred embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of a portion of the frame of an ordinary safety-bicycle with my automatic stand applied thereto, the full lines representing the stand in its folded position and the dotted lines showing the tripod in its adjusted position for use, a portion of the bracket A being broken away. Fig. 2 is a plan view on an enlarged scale, said figure illustrating the bracket, the arbor, a part of the tripod-legs, and the actuating-springs, the tripod being shown in its folded position, the bracket being detached from the bicycle-frame. Fig. 3 is a detail cross-sectional view through the bracket on the plane indicated by the dotted line *xx* of Fig. 2. Fig. 4 is a detail perspective view of a double-armed spring for actuating two of the legs of the tripod. Fig. 5 is an enlarged detail sectional view taken longitudinally through the leg-holder; and Fig. 6 is a detail cross-sectional view on the plane indicated by the dotted line *yy* of Fig. 1, showing the leg-holder and its clamp.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the bracket of my automatic stand or support for safety-bicycles. Said bracket consists of the parallel side plates or members *a a* and the cross plate or web *a'*. The side plates *a a* are carried or extended upward at the ends where the cross-web *a'* unites them together, and the opposite ends of said side plates are inclined or extended downward below the main parts of the plates, in order that said inclined rear ends of the plates *a* properly sustain a stop-bar in the path of one leg of the tripod. The cross-web *a'* at the raised front end of

the bracket forms, in connection with a plate B, a clamp for holding the bracket A rigidly in place on the inclined front bar C of the ordinary safety-bicycle frame. This web *a'* of the bracket has a sunken or curved cavity which forms a seat for the reception of the bicycle-frame bar C, and the clamp-plate B is curved to fit the said bar C, so that the parts *a' B* closely embrace the frame. These parts *a' B*, which form the clamp, have parallel bearing-surfaces perforated for the passage or attachment of screws or bolts *b*, whereby the members of the clamp may be drawn together to tightly embrace the bar C and hold the bracket A rigidly in place on the frame.

An arbor or bolt D is mounted in the bracket A to extend between the side members *a a* thereof, and on this arbor is loosely mounted the three legs E F G, which form the tripod. The middle leg, F, has a cylindrical head *f*, fastened rigidly to the arbor D to turn with the same, and the side legs, E G, have heads *e g*, respectively, fitted loosely on the arbor D; but the heads *e g* of the two side legs, E G, are beveled, as at *h²* in Fig. 2, to permit the heads *e g* and the legs to have such loose play on the arbor D that the side legs can spread laterally with respect to the central leg, F. Between the side members *a* of the bracket and the heads *e g* of the side legs are arranged the stop-collars *d d*, that are fitted on the arbor D and which serve to arrest the movement of the side legs in one direction, and these heads of the side legs are held out of contact with the head *f* of the central leg by means of a U-shaped or staple-like clip H, which has its sides fitted loosely on the arbor D on opposite sides of the head *f* of said middle leg, F, the clip being between the head *f* and the heads *e g*. (See Fig. 2.) This staple-shaped clip carries a stud or sleeve *h*, preferably cylindrical in form and provided with a key or retainer *h'*. The clip serves to sustain the double-armed spring I. (Shown by the detail view, Fig. 4, from an inspection of which it will be seen that said spring I is bent from a single piece of wire to produce two arms *i* and a coiled loop *i'* at its middle, the free end of each arm having an eye *i''*.) The coiled loop *i'* of the spring I is fitted on the stud *h* of the clip and held thereon by the retainer *h'*, while the eyes *i''* at the free ends of the arms *i i* are fitted loosely around the side legs, E G, to move the latter to their upright positions, as well as to spread them laterally away from each other and the leg F. The middle leg, F, is carried by the arbor D to turn therewith, and this leg is thrown to its upright position back against the stop-bar *j*, supported in the inclined rear ends of the bracket-plates *a*, by means of the helical spring J, which is coiled around the arbor D near one end thereof, one end of the helical spring being fastened to the arbor in any suitable way and the other end of the spring being fastened at *j'* to the bracket A.

The legs are adapted to fold parallel to each other and compactly together and to be raised to the position shown by Fig. 1; and when the legs have been thus folded together they are held on the bar C by the holder L. I prefer to make this holder in the form of an endwise-movable sleeve *k*, which is slidably fitted in a suitable housing or casing *k'*, which contains a coiled spring *l* that normally acts against the slidable sleeve *k* to force it to its proper position to enable the ends of the tripod-legs to be fitted therein, and this sleeve *k*, its casing and the spring are adapted to be attached in the proper position on the bar C by the double-clamp *l'* that embraces both the casing *k'* and the bar C. The sleeve *k* has a lip *m* at its exposed end, which serves as a convenient grasp for the fingers in adjusting the sleeve *k* to withdraw it from the ends of the tripod-legs and release the latter, the sleeve being forced into its casing when the legs are released.

To apply my improved stand to a bicycle-frame, the bracket A is adjusted to the inclined lower bar C, which extends upwardly from the crank-shaft bearing to the steering-head of the machine, said bracket having its member *a'* fitted close to the crank-shaft bearing, so that the rear part of the bracket will lie practically below the said crank-shaft bearing. This bracket is firmly held on the bar C by the clamp B, and the holder K is applied to the bar C at the proper distance above the bracket A for the free ends of the tripod-legs to fit in the open exposed end of the sleeve *k* when the legs are folded and turned to the position shown by full lines in Fig. 1, said holder K being held on the bar C by the clamp *l*.

When the bicycle is in use the stand is not in the way of the rider, because it is clamped to the lower side of the frame. Hence it does not interfere with the propelling mechanism, nor with the rider in mounting the machine or dismounting therefrom.

In case it becomes necessary to repair the machine, which frequently happens while on the road, or when it is desired to clean or oil the machine, the stand is brought into use to hold the frame in a raised position convenient to the operator to work thereon.

To use the stand the rear part of the machine is raised a proper distance, and the tube *k* is pressed inwardly into the casing *k'* to withdraw the tube far enough for the free ends of the tripod-legs to clear the tube, whereupon the legs are forced downward to their upright positions and are spread apart by the action of the springs I J. The rearward movement of the middle leg is limited by the stop-bar *j* and the rearward movement of the two side legs is arrested by stop-arms *o o*, rigid with the side plates *a a*, of the bracket A. I preferably make these arms *o o* integral with the plates *a*, from which plates the arms *o* extend inwardly into the path of the side legs, E G, as shown by Fig. 2.

The tripod when opened is arranged practically below the crank-shaft to sustain the major part of the weight of the machine.

It is evident that the tripod can be quickly folded together and adjusted to engage with the holder.

My stand can be easily applied to any ordinary bicycle of the safety pattern, because the two clamps B *l* can be applied the proper distance apart to the bar C of the bicycle-frame.

I am aware that changes in the form and proportion of parts and in the details of construction herein shown and described as the preferred embodiment of my invention can be made by a skilled mechanic without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such modifications and alterations as fairly fall within the scope of my invention.

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

1. The combination with a bracket, and with a slidable holder, of an arbor having a leg fastened thereto, other legs loosely supported in the bracket and adapted to spread laterally with reference to the leg on the arbor and limited to swing to a position in advance of the position occupied by the arbor-leg when all the legs are lowered and thereby form a tripod, means for limiting the backward movement of the leg on the arbor, and springs to automatically throw all the legs to their proper relative positions when the legs are released from said holder, substantially as and for the purposes described.

2. The combination with a bracket, and with a holder, of a spring-controlled arbor jour-

naled in the bracket and having a leg F fastened thereto, other legs E, G, loosely fitted on the arbor in a manner to turn thereon and to spread in opposite directions laterally with respect to the leg F, and a spring supported in the bracket and connected with the legs E, G, to force them laterally with respect to the leg F when the legs are released from the holder, substantially as and for the purposes described.

3. The combination with a bracket and with a holder, of an arbor mounted in said bracket and controlled by a suitable spring, as J, a leg F rigid with the arbor, the legs E, G, having the beveled heads *e, g*, loosely fitted on said arbor and adapted to permit the legs to spread laterally with respect to the leg F, and a double-armed spring fastened centrally to the bracket and having the free ends of its arms loosely engaged with the legs E, G, substantially as and for the purposes described.

4. The combination with a holder, of a bracket, a spring-controlled arbor journaled in the bracket and carrying a leg F, the legs E, G, loosely mounted on the arbor to spread laterally with respect to the leg F, stops carried by the bracket in the path of the legs E, G, to limit their backward movement, a bar *j* supported by the bracket below and in rear of the arbor to arrest the rearward movement of the leg F, and a spring connected with the legs E, G, substantially as and for the purposes described.

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

FERRAUD GIACINTO.

Witnesses:

HENRY E. COOPER,
H. F. BERNHARD.