

(No Model.)

Z. J. DILLEY & H. J. HAYES.
BICYCLE SUPPORT.

No. 570,464.

Patented Nov. 3, 1896.

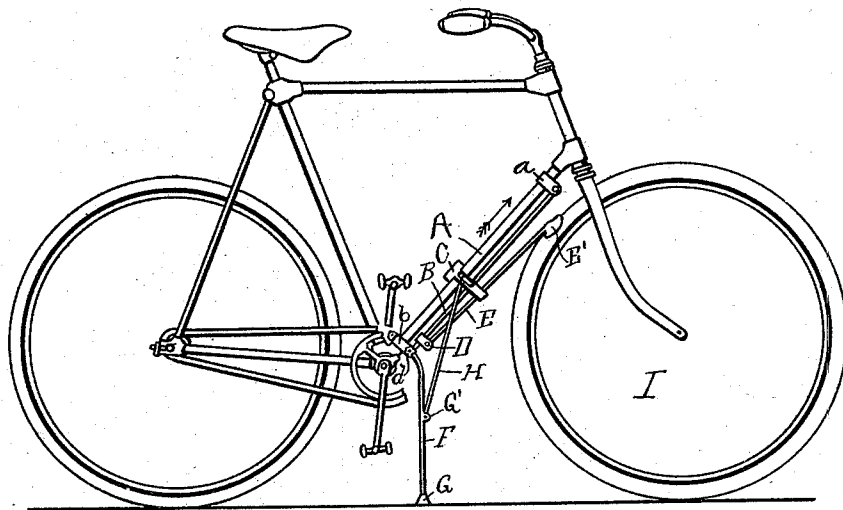


Fig. 1.

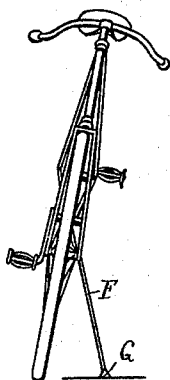


Fig. 2.

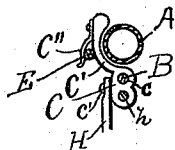


Fig. 4.

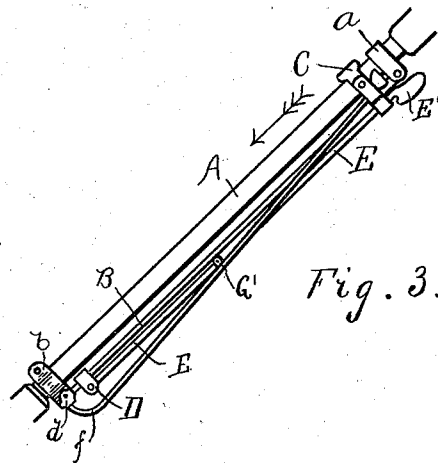


Fig. 3.

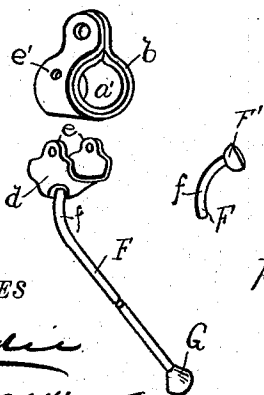


Fig. 5.

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UNITED STATES PATENT OFFICE.

ZENA J. DILLEY AND HECTOR J. HAYES, OF MUIR, MICHIGAN.

BICYCLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 570,464, dated November 3, 1896.

Application filed March 12, 1896. Serial No. 582,968. (No model.)

To all whom it may concern:

Be it known that we, ZENA J. DILLEY and HECTOR J. HAYES, citizens of the United States, and residents of Muir, county of Ionia, and State of Michigan, have invented certain new and useful Improvements in Bicycle-Supports; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to new and useful improvements in bicycle-supports; and it consists in the construction and arrangement of parts, as hereinafter fully set forth, and pointed out particularly in the claim.

The object of the invention is to provide a device that is cheap, simple, and effective for the purpose of supporting a bicycle in an upright position while not being ridden or otherwise propelled, such device being easily attachable to any of the ordinary safety-bicycles of the diamond-frame pattern and readily detachable therefrom, and one that is compact, light in weight, and that will not rattle, which object is attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a safety-bicycle provided with and supported by our improved support, parts of the large sprocket wheel, chain, and crank-arm being broken away to more clearly show the location of parts. Fig. 2 is a reduced front elevation of a safety-bicycle supported in an upright position by means of our support. Fig. 3 is an enlarged view of the tube that extends from the steering-head of the bicycle of the pattern described to the crank-hanger thereof and upon which our support is mounted, the parts being shown in their closed position or in the position in which the parts remain while the bicycle is being ridden. Fig. 4 is an enlarged detail of the slide hereinafter described, which is operated to extend and retract the parts of the support; and Fig. 5 represents details of the universal joint for the upper end of the supporting-rod of the device.

Referring to the letters of reference, A designates the tube of a safety-bicycle of the dia-

mond-frame pattern, that extends from the steering-head to the crank-hanger thereof. Near the upper end of said tube is a clip *a*, and near the opposite end of said tube is a similar clip *b*, said clips being provided with a suitable soft-material lining, as shown at *a'* of Fig. 5, to prevent the marring of the tube A, and said clips are retained in place on said tube by being clamped thereon by a screw passed through ears formed on the ends of said clips. The same screw that binds clip *a* in place passes through one end of a suitable guide-rod B, the opposite end of said rod being secured in any suitable manner in the clip *b*, so that said rod B will be located adjacent to and parallel with the tube A of the frame.

Mounted on the guide-rod B is a suitable head C, said head being provided with an aperture *c* of a bore slightly larger than the gage of the guide-rod B to enable said head to be freely moved along said rod B. Fixed on the rod B, adjacent to the clip *b*, is a clip D. Pivoted between the ears of said clip D is a rod E, said rod E passing through an aperture *h* below the aperture in the head C that receives the rod B, and provided on its outer or free end with a spoon E'.

In Fig. 5 *d* represents a cup or socket adapted to be united to clip *b* by passing suitable screws or rivets through the apertures in the ears *e*, formed on the sides of said cup, and the apertures *e'*, (one aperture only being shown in said figure.) When the cup or socket is thus fastened to clip *b*, it will depend from the under side thereof, as shown at *d* in Fig. 3.

F designates the supporting-rod, one end of said rod being slightly bent, as at *f*, and on the end of said bent portion is formed a hemispherical head F', said head adapted to lie snugly within the cup or socket *d* with the rod F projecting through an aperture formed in the lower side of said cup or socket *d*. On the end of the brace-rod F, opposite the head F', is a shoe G, formed of rubber, leather, or other material suitable for the purpose.

On the rod F, between the head F' and the shoe G, is formed a suitable ear G'. In Fig. 1 H designates a brace-rod which is suitably pivoted at one end on the head C, as shown at *c'* in Fig. 3, and the other end is pivoted to the ear G' on the supporting-rod F.

Extending upwardly from the head C, around the tube A, is an arm C'. Fastened at one end to said arm is a spring-tongue C'' for a purpose hereinafter set forth.

5 The operation of the device is as follows: The position of parts in Figs. 1 and 2 represents the device as holding a bicycle in an upright position. When it is desired to re-
10 lease said device from service, the bicycle is supported by one hand, and with the other the head C is moved in the direction of the arrow, Fig. 1, carrying the brace-rod H there-
15 with from its extended position at the same time the rod E is raised, and consequently raising the spoon E' from the tire of the wheel I, and by continuing the movement of the head in the direction mentioned the parts
20 will be brought so as to lie nearly parallel with the tube A, as shown in Fig. 3. To retain the parts in this position and to keep them from rattling when the parts are brought together by the movement of the head C, the rod E is
25 passed between the spring-tongue C'' and the arm C' of the head C, thus securely retaining the parts in a contracted position and preventing the accidental swinging down of the movable parts. The parts remain in this position while the bicycle is in use.

30 When it is desired to use the device for supporting the bicycle in an upright position, and the parts are in the positions shown in Fig. 3, the rod F is released from its engage-
35 ment with the spring C'' and the head C is moved in the direction of the arrow, Fig. 3, thereby throwing the supporting-rod F down by the operation of the brace-rod H, as will be well understood. As the head C is moved
40 the outer or extended end E' will be forced down upon the tire of the front wheel by reason of the pivot of said rod E being nearer to the guide-rod B than the aperture in the head C through which said rod E moves. As the
45 rod F is swung downward it may be thrown outward laterally by reason of the universal or ball-and-socket joint at its upper end, and when said rod F has been so extended the bicycle may be inclined in that direction until the shoe G rests upon the ground, when
50 said bicycle will be held in an upright position, as clearly shown in Fig. 2.

It will now be seen that by the employment of this improved device a rider, after dismounting, by the operation of the parts
55 as herein described may stand his wheel in an upright position. This will be found of especial advantage while traveling along

country roads, as a wheel may be so supported that its bearings and the bearings of its driving-pedals may be kept clean from
60 dust and dirt, which they usually gather in the common practice of laying a wheel on the ground or standing it up against an embankment, for it is well known that the bearings
65 are injured by being operated while they contain dirt or grit. It will also be found of advantage for supporting a wheel while it is being cleaned and for other obvious purposes. The shoe G being formed of rubber, or like
70 material, it prevents the supporting-rod from sliding sidewise. It will be understood that a spur could be used for this purpose. It will also be seen that by having a brake for the wheel to be put in service at the time the supporting-rod is extended for use said wheel
75 will be prevented from moving either forward or backward away from the bearing of the supporting-rod and falling down, as is common with devices of this character that are not provided with brakes. 80

Having thus fully set forth our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a bicycle-support, the combination of the clips *a* and *b*, the guide-rod B supported by
85 said clips, the brake-rod E pivoted by a clip D to the lower end of the guide-rod, the spoon E' mounted on the free end of said brake-rod, the head C embracing said brake-rod and adapted to slide upon said guide-rod, the sup-
90 porting-rod F universally pivoted to clip *b* and an engaging device at the lower end of said supporting-rod, the brace-rod H pivoted at one end to the head C and at the opposite end to said supporting-rod, the spring-tongue C''
95 mounted upon the head C, said head adapted to be moved along the guide-rod to raise and lower the free end of the brace-rod and its spoon and to swing the supporting-rod down to a vertical position, and said supporting-
100 rod adapted to be engaged by the spring C'' as the head C is moved to the upper extremity of the guide-rod, and all of said parts adapted to be mounted upon a bicycle-frame, substantially as shown and described, for the
105 purpose set forth.

In testimony whereof we hereunto set our hands this 7th day of March, 1896.

ZENA J. DILLEY.
HECTOR J. HAYES.

In presence of—

ARTHUR A. STODDARD,
GEO. B. HAYES.