

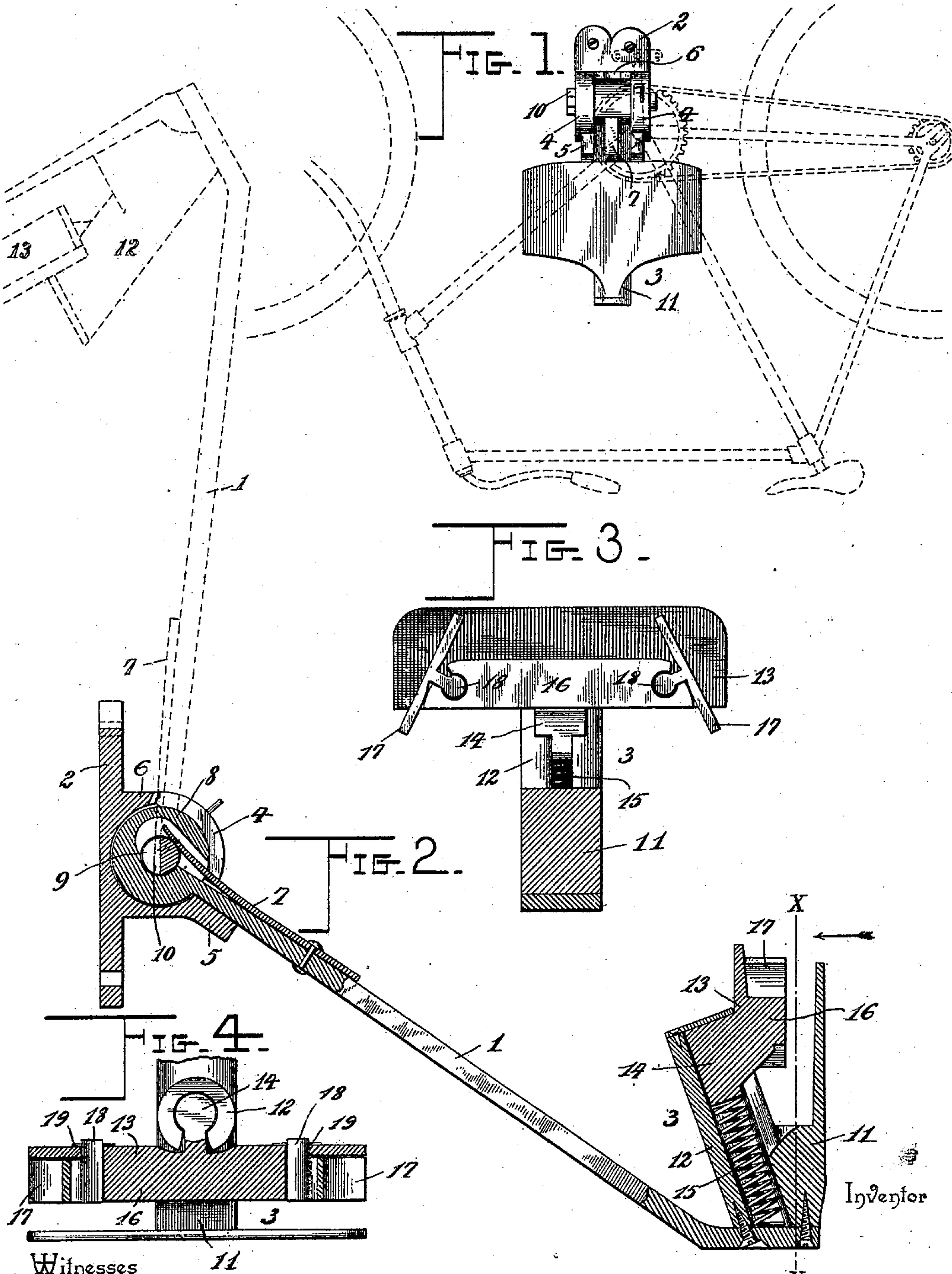
No. 618,394.

Patented Jan. 31, 1899.

A. H. CLARK.
BICYCLE SUPPORT.

(Application filed Aug. 31, 1897.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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BICYCLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 618,394, dated January 31, 1899.

Application filed August 31, 1897. Serial No. 650,154. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER H. CLARK, a citizen of the United States, residing at Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented a new and useful Bicycle-Support, of which the following is a specification.

This invention relates to a support or hanger for bicycles for suspending them from the walls of a baggage-car, room, or other place, so that the floor-space may be utilized to better advantage, thereby admitting of a number of bicycles being stored in a small compass and occupying a minimum amount of space during transportation or when placed aside when not required for immediate use.

The support or hanger is constructed so as to be turned up out of the way when not in service, and the gripping part is automatically adjustable to adapt itself to machine-frames constructed of different-sized tubing and to the varying angles between the seat-post tube and lower reach-bar of machines of different makes, whereby the device is susceptible of universal application and will prevent any play or movement of a machine suspended thereby.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a front view of the support or hanger, the dotted lines showing a bicycle as it will appear when suspended thereby. Fig. 2 is a side elevation, an intermediate portion of the arm being broken away and parts of the bracket and holder being in section. Fig. 3 is a detail section on the line X X of Fig. 2, looking in the direction of the arrow. Fig. 4 is a top plan view of the holder, parts being broken away to show more clearly the relative arrangement of the cooperating elements.

Corresponding and like parts are referred

to in the following description and indicated in the several views of the drawings by the same reference characters.

The support or hanger comprises an arm 1, a bracket 2, having the arm pivotally connected therewith and constructed to be secured to the side of a baggage-car, room, place, or suitable support, and a holder 3 at the free end of the arm to receive the bicycle to be suspended by means of the device.

The arm 1 may be of any desired length and by reason of its pivotal connection with the bracket 2 can be folded or turned up out of the way, as indicated by the dotted lines in Fig. 2, thereby offering no obstruction when the device is not in service.

The bracket comprises a plate apertured to receive screws or other fastenings, by means of which it is held in place, and is provided on its front face with parallel ears 4 and an inclined lip 5, connecting the ears at their lower edge and recessed on its top side to receive and form a seat for the arm 1. A rib 6 connects the ears 4 at their upper edge and forms a part of the bracket and is notched in its outer edge to receive a flat spring 7, secured to the inner end of the arm 1, said spring passing through an opening in the knuckle 8, provided at the inner end of the arm 1 and adapted to engage with a flattened portion 9 of the bolt 10, passing through the knuckle 8 and pivotally connecting the arm with the ears of the bracket, said bolt being secured to the bracket, so as not to turn when in position. When the inner end of the flat spring 7 engages with the flattened portion 9 of the bolt 10, the arm 1 is held up out of the way, as indicated by the dotted lines in Fig. 2. The inclined lip 5 sustains the arm 1 when turned into an operative position for supporting a bicycle, as indicated in Figs. 1 and 2.

A stationary jaw 11 is provided at the outer or free end of the arm 1, and a barrel or tubular guide 12 is located opposite the stationary jaw and inclines relatively thereto, whereby the space formed between the stationary jaw and barrel or guide converges toward its lower end, for a purpose presently to be described. A movable jaw 13 is slidably mounted upon the barrel or tubular guide 12 and is directed in its movements thereby and is held thereto by means of a headed shank 14,

operating in the barrel through an opening or slot formed in the side thereof directly opposite the jaw 11. A spring 15 is located in the barrel or tubular guide and exerts an upward pressure on the headed shank 14, so as to hold the movable jaw at its highest position, and this spring returns said movable jaw to an initial position when released from any restraining influence or pressure placed thereon. A rib or shoulder 16 projects laterally from the inner face of the movable jaw 13 and forms a seat or support for plates 17, which have loose connection with the extremities of the said rib, so as to automatically adapt themselves to the relative inclination of the bars of the machine-frame placed between the jaws 11 and 13, said plates having approximately circular ribs at their inner or rear faces and which are received in corresponding seats formed in the ends of the rib 16, said circular ribs 18 being extended laterally to pass through openings formed in the jaw 13 and receiving pins or keys 19, by means of which the plates 17 are held in place. Inasmuch as the plates normally incline from each other in opposite directions, the ends of the rib 16 are oppositely beveled, thereby maintaining the said plates in an approximately given position. There is sufficient play between the headed shank 14 and the barrel or guide 12 to admit of the movable jaw turning to adapt itself to frame-bars of a single machine which may be of different diameter, thereby preventing any lateral play of the machine when suspended by means of the support.

The jaws 11 and 13 are approximately parallel, and the jaw 13, being guided in its movements by the inclined barrel or guide 12, moves toward the jaw 11 when depressed, thereby reducing the space between the two jaws, whereby provision is had for gripping between the said jaws machine-frames constructed of varying-sized tubing, and in the event of a machine having its seat-post tube and lower reach-bar formed of tubing of different diameter the jaw 13, in addition to its sliding movement, will turn and adapt itself to the different-sized tubes or frame-bars and grip the same with equal pressure, thereby preventing any wobbling or lateral play of the machine.

The various parts may be constructed of any suitable material, although metal is preferred, and in order to prevent marring, scratching, or otherwise injuring the frame-bars of the machine the active faces of the jaws and tilting plates 17 will be clothed or covered with rubber, leather, felt, or other suitable material, whereby the same end may be attained.

When not in use, the support or hanger will be turned into an upright position, as indicated by the dotted lines in Fig. 2, and will be held in this position by the spring 7 in the manner set forth, and when the device is re-

quired for service it is turned into the position indicated by the full lines in Fig. 2 and the bicycle is inverted and placed with its seat-post tube and lower reach-bar between the jaws and tilting plates, said frame-bars being gripped by the downward movement of the movable jaw on the inclined barrel or guide, which movement is effected by the weight of the machine, as will be readily understood.

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

1. In a bicycle support or hanger, the combination of a stationary jaw, and a movable jaw normally maintaining a given distance between it and the stationary jaw and adapted to sustain the weight of the machine and movable therewith toward the said stationary jaw by directive and gravitative action, whereby the machine is gripped firmly between the jaws, substantially as set forth.

2. In a bicycle support or hanger, the combination of a stationary jaw, a guide inclining from the said jaw, and a movable jaw mounted upon the inclined guide and directed thereby toward the stationary jaw when applying the bicycle thereto, substantially as and for the purpose set forth.

3. In a bicycle support or hanger, the combination of a stationary jaw, an inclined guide, and a movable jaw mounted to slide and turn upon the inclined guide, substantially in the manner set forth for the purpose specified.

4. In a bicycle support or hanger, the combination of a stationary jaw, a movable jaw mounted to automatically advance toward the stationary jaw under the weight of a bicycle, and having also a horizontal turning movement and oppositely-inclined plates tiltingly mounted upon and carried by the movable jaw in its movements and adapted to engage with the frame-bars of the machine and conform to the relative inclination thereof, substantially as set forth.

5. In a bicycle support or hanger, the combination of a stationary jaw, a barrel or tubular guide relatively inclined to the stationary jaw, a movable jaw having a headed shank operating in the barrel or tubular guide through a slot in the side thereof, and a spring located within the barrel and exerting an upward pressure on the headed shank to normally hold the movable jaw at its highest position, substantially as set forth.

6. In a bicycle support or hanger, the combination of a bracket having parallel ears and a downwardly and outwardly inclined lip between the ears, a bolt supported at its ends in the said ears and having an intermediate portion flattened, an arm having a holder at its outer end and having its inner end mounted upon the bolt and limited in its downward movement by resting upon the inclined lip, and a spring secured to the arm and adapted to engage with the flattened portion of the

bolt and hold the arm up out of the way, substantially as set forth.

5 7. In a bicycle support or hanger, the combination of a bracket, an arm having a holder at one end and a knuckle at its opposite end, a bolt pivotally connecting the arm with the bracket and having a flattened portion, and a flat spring secured to the arm and having an end portion passing through an opening
10 in the knuckle of the arm and adapted to engage with the flattened portion of the bolt to hold the arm up out of the way, substantially as set forth.

15 8. The combination of a stationary jaw, a guide relatively inclined to said jaw, a movable jaw having a connection operating in the guide, and a spring exerting an upward pressure on said connection to hold the movable

jaw in its highest position, substantially as set forth.

20 9. In a bicycle support or hanger, the combination of a stationary jaw, and a movable jaw movable toward and from the stationary jaw to clamp or release a part of the bicycle-frame, and separate clamping-plates carried
25 by the movable jaw to engage with the inner sides of the converging tubes constituting the bicycle-frame, substantially as described.

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

ALEXANDER H. CLARK.

Witnesses:

M. T. SIMMONS,
L. H. CLARK.