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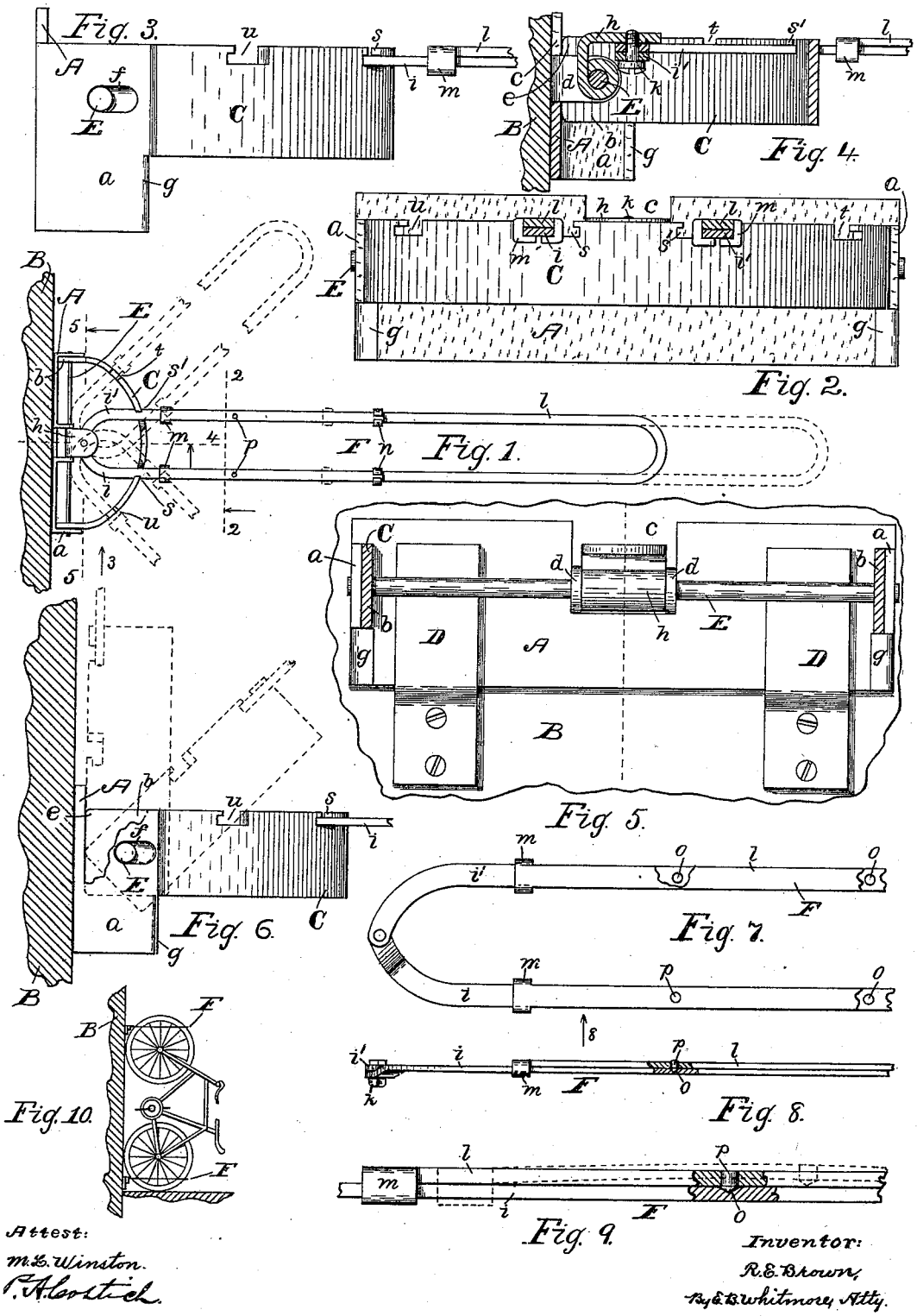
R. E. BROWN.

HOLDER FOR BICYCLES.

(Application filed July 17, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

RICHARD E. BROWN, OF ROCHESTER, NEW YORK.

HOLDER FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 648,234, dated April 24, 1900.

Application filed July 17, 1899. Serial No. 724,114. (No model.)

To all whom it may concern:

Be it known that I, RICHARD E. BROWN, a citizen of the United States, residing in Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Holders for Bicycles, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention relates to devices for holding or supporting bicycles standing on end; and the object of the invention is to provide a bracket or holder secured to the wall of an inclosure that shall be both extensible and foldable and constructed so that bicycles may be compactly arranged side by side in rooms of buildings, baggage-cars, and other like places; and a further object of the invention is to construct the device so that the part immediately engaging the wheel of the bicycle may be turned or swung laterally to form different angles with the wall.

The invention is hereinafter fully described and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a plan of the holder, parts being shown in various positions by full and dotted lines. Fig. 2 is a front elevation, the loop being transversely sectioned on the dotted line 2 2 in Fig. 1. Fig. 3 is a side elevation of the device seen as indicated by arrow 3 in Fig. 1, parts being broken away. Fig. 4 is a vertical section on the dotted line 4 in Fig. 1 with parts broken away. Fig. 5 is a front elevation, the notched supporting-band being sectioned on the dotted line 5 5 in Fig. 1. Fig. 6 is a side elevation with parts broken away and parts shown in various positions by full and dotted lines. Fig. 7 is a plan of parts at the rear end of the loop, showing the indentations for the stop-pins. Fig. 8 is a side view of parts of the loop seen as indicated by arrow 8 in Fig. 7, parts being longitudinally sectioned. Fig. 9 is an elevation of parts of the loop partly in longitudinal section, better showing the manner of the action of the stop-pins. Fig. 10, drawn to a small scale, shows the adaptation of the device to use. Figs. 3 and 9 are drawn to scales larger, and Figs. 1, 7, 8, and 10 to scales smaller, than those of the remaining figures.

In the drawings, A is a metal back plate or frame having its ends *a a* bent forward at right angles, the plate being secured in a horizontal position to the wall or side B of a car, room, or other inclosure, or any rigid object by means of some simple rests D D, Fig. 5. C is a curved band with its ends *b b* made straight or flat and bent to parallel positions and adapted to enter between the ends *a a* of the frame A, as shown in Fig. 1. A steel spring-rod E passes horizontally through the ends *a a* of the frame and adjacent ends *b b* of the band, upon which the latter is adapted to turn in vertical directions, as indicated in Fig. 6. The frame is cut away at the middle—at *c*, Fig. 5—and formed thereat with two forwardly-projecting rests *d d*, Figs. 1, 4, and 5, for the spring-rod to hold the middle part of the latter against any lateral motion.

As shown in Figs. 1, 4, and 6, the extreme inner ends of the band C are made square across and normally rest or bear against the inner surface of the frame. Now, regarding Fig. 6, it will be observed that when the band is turned upward its upper inner corners *e e*, pressing the frame, will act to bend temporarily the ends of the spring-rod forward, the frame being formed with horizontal slots *f* to permit of this forward movement of the spring; also, when the band is in a vertical position its edges will bear against the frame, and so permit the spring to resume its normal or straight position. Thus the spring acts to hold the band normally either in a horizontal or a vertical position, as the case may be. Inturned ends *g g*, Figs. 2, 4, and 5, of the frame beneath the band hold the latter from descending below a horizontal position.

Upon the spring-rod E, between the rests *d d*, is placed a clip *h*, Figs. 1, 4, and 5, adapted to turn thereon in vertical directions. To this clip, at its under side, is pivoted by means of a pivot-screw *k* the two parallel sides or sections *i i'* of a holding-loop F, in which to receive one wheel of a bicycle. This loop consists of an outer U-shaped part or section *l* and the parts *i i'* joined, the part *l* being adapted to slide longitudinally upon the parts or sections *i i'* to lengthen or shorten the loop, as indicated in Fig. 1, to fit or hold wheels of different diameters. The inner ends

m m of the part *l* are expanded and bent around the respective sections *i i'*, as shown in Fig. 2, the outer ends *n n* of the sections *i i'* being likewise joined to the adjacent sides of the part *l*. By means of this construction the parts of the loop are adapted to slide longitudinally upon each other without becoming separated. For holding the parts of the loop in position I form indentations *o*, Fig. 7, in the upper surfaces of the sections *i i'* to receive pointed stop-pins *p p*, Fig. 8, held by the part *l*. In adjusting the loop as to length force is applied by the hand to the part *l*, causing the pins to slide out of the indentations to enter others, the adjacent overlapping parts of the loop temporarily springing apart, as indicated in Fig. 9, during the operation.

The band C is formed at its upper edge with notches or rests *s*, *s'*, *t*, and *u*, in which to receive the sections *i i'* of the loop F, as appears in Figs. 1, 2, 3, and 6. These four notches are relatively so located that the loop may occupy simultaneously the two middle ones *s s'*, or the two notches *s'* and *t*, or the notches *s* and *u*, and the arrangement is preferably such that when occupying the middle pair *s s'* the loop will stand in a position at right angles with the wall B, as shown in full lines in Fig. 1, and when occupying the pair *s' t* at the right or the pair *s u* at the left it will stand inclined one way or the other at an angle of forty-five degrees with the plane of said wall, as shown by dotted lines in Fig. 1. These notches are each undercut at the ends meeting the outer edges of the sections *i i'*, as shown in the various figures, so as to hold the loop safely to place when adjusted upon the band C. To release the loop from the undercut parts of the notches when turning it horizontally from one position to another, its edges are pressed by the hand to temporarily reduce its width sufficiently to be raised out of the notches, the elasticity of the parts of the loop permitting of this temporary inward springing of the parts. Thus by means of the connection and relation of the various parts both the frame and the band act to control the loop, the latter being adapted to turn both vertically and horizontally upon its bearings.

The construction of the parts of the device is such that when the band is in its horizontal position, as shown in Fig. 6, the loop is always horizontal, and when the band is turned upward to its vertical position or folded, as when not in use, the loop will be near to and parallel with the wall, this being the case whichever pair of the notches in the band the loop may occupy.

Two of these devices or holders are employed, one vertically over the other, to secure a bicycle in place, one engaging each wheel of the bicycle, the latter being turned upon its rear end, with the forward wheel vertically over the rear wheel, as shown in Fig. 10. The lower holder of the pair is placed low, and the wheel held therein rests upon the floor, which supports the weight of the bicycle. The loop of the upper holder inclosing a part of the upper wheel prevents the bicycle from tipping out of place and falling. By means of these holders a row of bicycles may be secured to a wall only a few inches apart or as near together as the handle-bars will admit of, and the loops of the pairs of holders may all be set so the bicycle will project straight outward from the wall or all inclined to the right or to the left, as indicated by the positions of the loop, (shown in Fig. 1,) as may be desired. In any case the planes of the bicycles will be parallel.

The rests D D for the holder may be of any convenient or simple form, secured by ordinary means to the wall of the car or room; but I prefer to make them open at the upper ends, so the holders may be readily placed in or lifted out of them, and for holding bicycles of small size there are provided two sets of rests for the upper holder, so the latter may be placed high or low, according to the size of the bicycles.

When these holders are not in use, they are all turned upward against the wall, as above described, they being thus folded out of the way and projecting only a short distance from the wall.

What I claim as my invention is—

1. A bracket or holder for bicycles, comprising a frame, and a supporting-band pivotally connected therewith, in combination with a loop pivoted independent of the band and adapted to rest thereon and controlled by conjoint action of the frame and the band, substantially as described.

2. A bracket or holder for a bicycle, consisting of a frame, and a supporting-band held by the frame and pivotally mounted on a spring-rod to swing vertically, in combination with a loop controlled by the frame and the band, the loop being extensible or adjustable as to length, substantially as and for the purpose set forth.

3. A holder for a bicycle, consisting of a frame, and a band pivotally mounted to swing vertically on horizontal means supported by the frame, in combination with a loop mounted to rest upon the band and controlled by the frame and the band, the loop being made up of joined parts adapted to slide or move upon each other, substantially as described and shown.

4. A holding device for bicycles, consisting of a frame, and a band connected with the frame and pivoted to swing vertically, in combination with a loop pivotally connected with the frame independent of the band, and adapted to turn in both vertical and horizontal directions and to rest upon and be supported by the band, substantially as described.

5. A device such as described, consisting of a frame, and a curved band connected with

the frame to swing vertically, the band being formed with rests, in combination with a loop supported by the frame and engaging said rests on the band, substantially as set forth.

6. A device of the kind described, consisting of a frame, in combination with a band pivotally connected with the frame, means for locking the band in either of its positions and a loop controlled by the frame and the band pivoted independent of the band and resting thereon, substantially as and for the purpose set forth.

7. A bracket or holder for bicycles, comprising a frame, a supporting-band pivotally connected therewith to swing vertically, and a loop pivoted on the frame and supported on the band beyond the pivot of the latter and controlled by the conjoint action of the frame and band, as set forth.

8. A bracket or holder for bicycles, comprising a frame, a band, a spring-rod mounted on the frame and upon which the band is pivoted and constructed to engage and bend said rod, and a loop supported from said rod on a vertical pivot independent of the frame and band, as set forth.

In witness whereof I have hereunto set my hand, this 13th day of July, 1899, in the presence of two subscribing witnesses.

RICHARD E. BROWN.

Witnesses:
ENOS B. WHITMORE,
M. L. WINSTON.