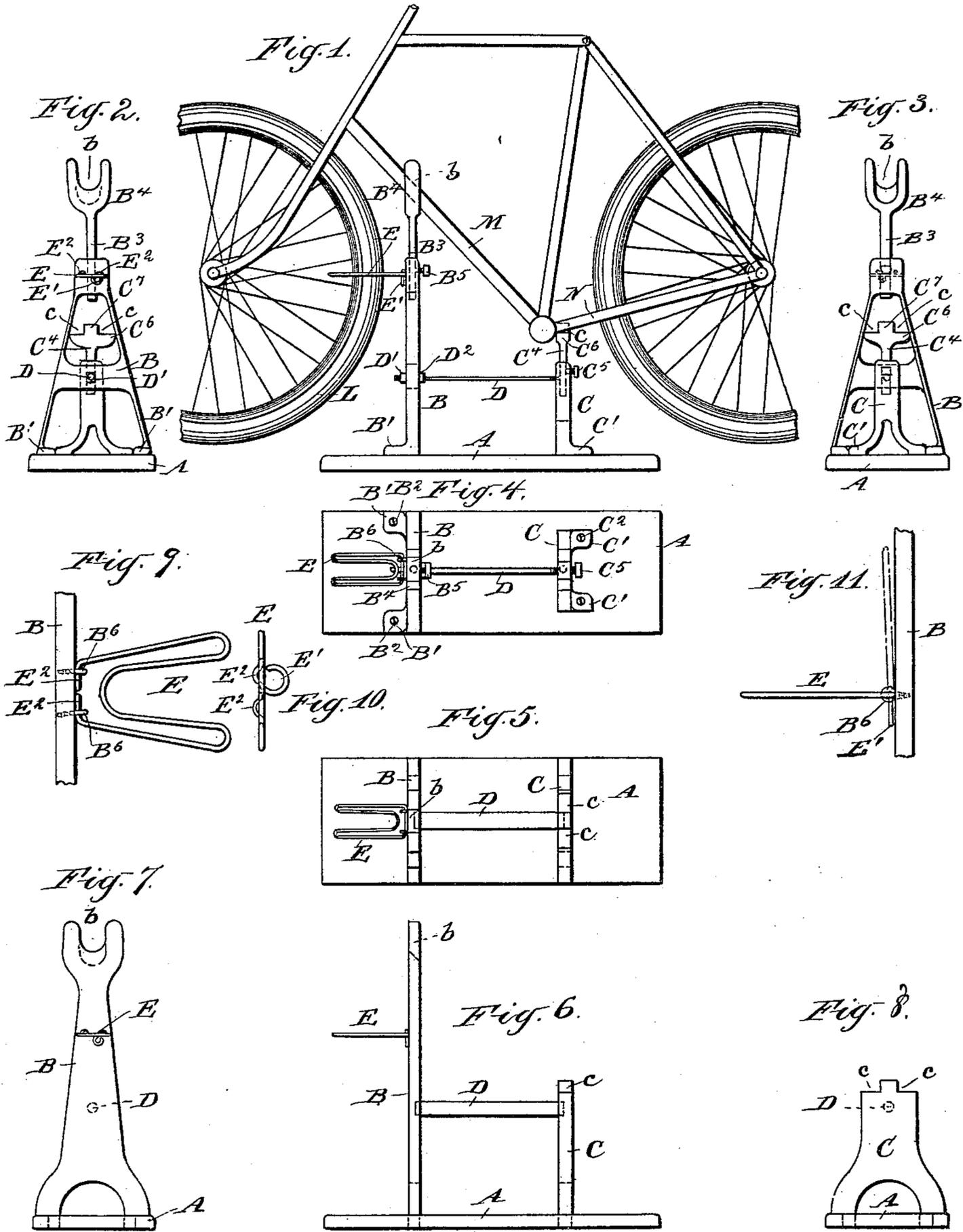


(No Model.)

W. C. McBURNEY & W. M. ROBERTSON.
BICYCLE STAND.

No. 602,665.

Patented Apr. 19, 1898.



Witnesses:
F. C. Collins
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Walter C. McBurney and
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Charles R. Searle.

UNITED STATES PATENT OFFICE.

WALTER C. MCBURNEY AND WILLIAM M. ROBERTSON, OF MONTCLAIR,
NEW JERSEY.

BICYCLE-STAND.

SPECIFICATION forming part of Letters Patent No. 602,665, dated April 19, 1898.

Application filed January 26, 1897. Serial No. 620,785. (No model.)

To all whom it may concern:

Be it known that we, WALTER C. MCBURNEY, a subject of the Queen of Great Britain, and WILLIAM M. ROBERTSON, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Bicycle-Stands, of which the following is a specification.

The object of our invention is the production of a stand which shall reliably support any of the usual styles of bicycles, both "drop-frame" and "diamond," with both wheels clear of the ground and free to be revolved for cleaning or repairs and which shall avoid the use of locking-clamps and be inexpensive, attractive in appearance, and occupy but little floor-space.

It consists in the novel construction and the combination of parts hereinafter more fully described, and then particularly pointed out in the claims.

The accompanying drawings form a part of this specification and show the invention as we have carried it out.

Figure 1 is a side elevation of the complete form of the stand with so much of a bicycle as is necessary to show its position therein. Fig. 2 is a corresponding front elevation without the wheel. Fig. 3 is a rear elevation. Fig. 4 is a plan view of the same. Fig. 5 is a plan view showing a simpler and less-expensive form. Fig. 6 is a corresponding side elevation. Figs. 7 and 8 are respectively front and rear elevations of the same. The remaining figures are on a larger scale and show the device for holding the front wheel in alignment. Fig. 9 is a plan view. Fig. 10 is a view from the front, corresponding to Fig. 9; and Fig. 11 is a side view.

Similar letters of reference indicate like parts in all the figures.

Referring to Figs. 1 to 4, inclusive, A is the base—a rectangular piece of well-seasoned ash or other suitable wood—on which the uprights are mounted. The lower portion B of the front upright is of iron, cast for lightness and strength in the form of an A-frame and having projecting lugs or feet B', through which pass screws B², securing it to the base. The apex of the frame is drilled vertically and re-

ceives the cylindrical stem B³ of a bifurcated standard B⁴, also of metal, held adjustably therein by a set-screw B⁵. The notch b, formed by the arms of the fork, is curved at the bottom to receive the lower front tube M of a bicycle-frame and is beveled, as shown by the dotted lines, to approximately match to its angle. The lower part of the rear upright C is somewhat similar in shape, but is shorter. It is held to the base by screws C², extending through feet C', and has at the top a hole or socket in which a T-shaped cross C⁴ is supported and held by a set-screw C⁵. The arms C⁶ of the cross, with the upwardly-projecting spur C⁷, form shoulders c c, on which rest the members of the lower rear fork N—one on each side. The width of the spur C⁷ and the length of the arms C⁶ are so proportioned relatively to the space usually found between the members at their junction with the crank-shaft hanger as to prevent lateral displacement and the escape of either member. The spur may for convenience in locating the bicycle properly on the stand, be slightly tapered, and the shoulders c c, and also the notch b, are preferably covered with felt or soft leather to avoid marring or scratching the finished surfaces of the bicycle-frame at the points of contact.

The A-frames B and C are connected and braced by a horizontally-extending tie-rod D, passing through a small opening in the front upright and screwed into a hole drilled and tapped to receive it in the front face of the rear upright and adjustably held by the nuts D'D², applied one on each face of the upright B.

A simpler and less-expensive construction of the stand is shown in Figs. 5, 6, 7, and 8. The uprights B C and brace D are of the same wood as the base A. The shoulders c c and notch b are formed directly upon the upper ends of the uprights, and the adjustments for height are omitted. This form of the invention may be preferable on account of its less cost and will serve equally as well as the form first described with any bicycle to which its dimensions are adapted.

E is a yoke formed by bending sufficiently heavy wire into the form shown in Figs. 9, 10, and 11, like the letter M in shape, but with the reëntering angle rounded to more nearly match the inflated tire, to which it lies ad-

jacent. It is mounted in the eyes B^6 , set in
 the front face of the frame B near the top,
 with liberty to swing from the forwardly-pro-
 jecting position when in use to the perpen-
 5 dicular against the face of the frame. When
 in the former position, its arms embrace the
 rim and tire of the front wheel L to prevent
 its swinging from side to side in the steering-
 head. The yoke is maintained in this posi-
 10 tion by a downwardly-projecting loop E' , lying
 against the face of the front upright, and it
 is held in the perpendicular position shown
 in dotted lines in Fig. 11 by the frictional
 15 contact of the bends E^2 with the same sur-
 face. The friction is sufficient to hold the
 yoke against the force of gravity while plac-
 ing the bicycle on the stand, but allows it to
 be easily turned down for use, as described.

The points of engagement of the stand with
 20 the bicycle-frame are so selected that although
 the bicycle is supported from below its cen-
 ter of gravity lies in a line passing between
 the shoulders $c c$ and notch b and still below
 the latter, and its upright position is main-
 25 tained, aided by the angularity of the frame
 members between the points of support and
 also by the base presented by the lower rear
 fork upon the shoulders. This condition per-
 mits the omission of the clamping or analo-
 30 gous devices usually employed and reduces
 the area of contact between the stand and
 frame to two supporting-points on the cross
 and one on the front standard.

The function performed by the yoke E is
 35 advantageous in two directions—first, in the
 saving of room effected by holding the front
 wheel in line with the rear wheel and frame,
 and, second, in insuring that the center of
 gravity shall not be shifted outside the cen-
 40 ter line, thereby lifting one or the other of
 the lower rear-fork members from its shoul-
 der c and tend to overthrow the bicycle.

Our improved stand supports the bicycle

reliably, is always ready for use, requires no
 unlocking or preparation of clamps to con- 45
 dition it to receive or release the wheel, and
 occupies little floor-space. Its construction
 is simple, requiring no skilled labor to pro-
 duce or assemble the parts.

Modifications may be made in the forms 50
 and proportions without departing from the
 principle of the invention or sacrificing its
 advantages.

Other materials may be employed in the
 construction instead of those described. The 55
 base may be a thin casting.

Other devices for holding the front wheel
 in alinement may be substituted for the
 yoke E .

The distance between the uprights may be 60
 varied. It is essential only that the points
 of support be at the lower rear fork in rear
 of the crank-shaft hanger and on the lower
 front tube above the center of gravity of the
 wheel. 65

We claim—

1. In a bicycle-stand, the base and uprights
 for supporting a bicycle, in combination with
 the yoke E turning in eyes on the face of one
 of said uprights, the loop E' and bends E^2 , 70
 all arranged to serve substantially as herein
 specified.

2. The yoke E , loop E' and bends E^2 , in
 combination with a supporting-surface, and
 the eyes B^6 set therein and receiving said yoke 75
 with liberty to turn therein, all arranged to
 serve with a bicycle substantially as herein
 specified.

In testimony that we claim the invention
 above set forth we affix our signatures in pres- 80
 ence of two witnesses.

WALTER C. MCBURNEY.
 WM. M. ROBERTSON.

Witnesses:

ROBT. CONNOR,
 GEO. W. CASE, Jr.