(No Model.)

R. A. ENGLER.

BICYCLE SUPPORTING FRAME.

No. 481,751. Patented Aug. 30, 1892.

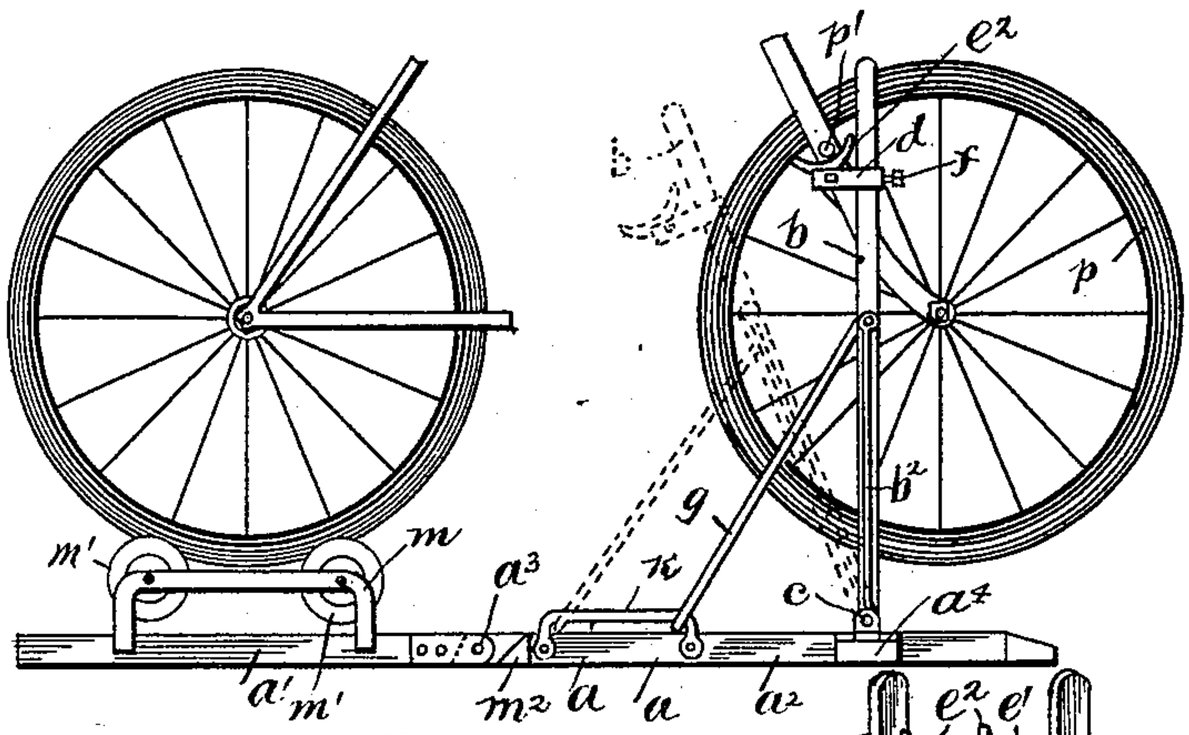

Fig. 1

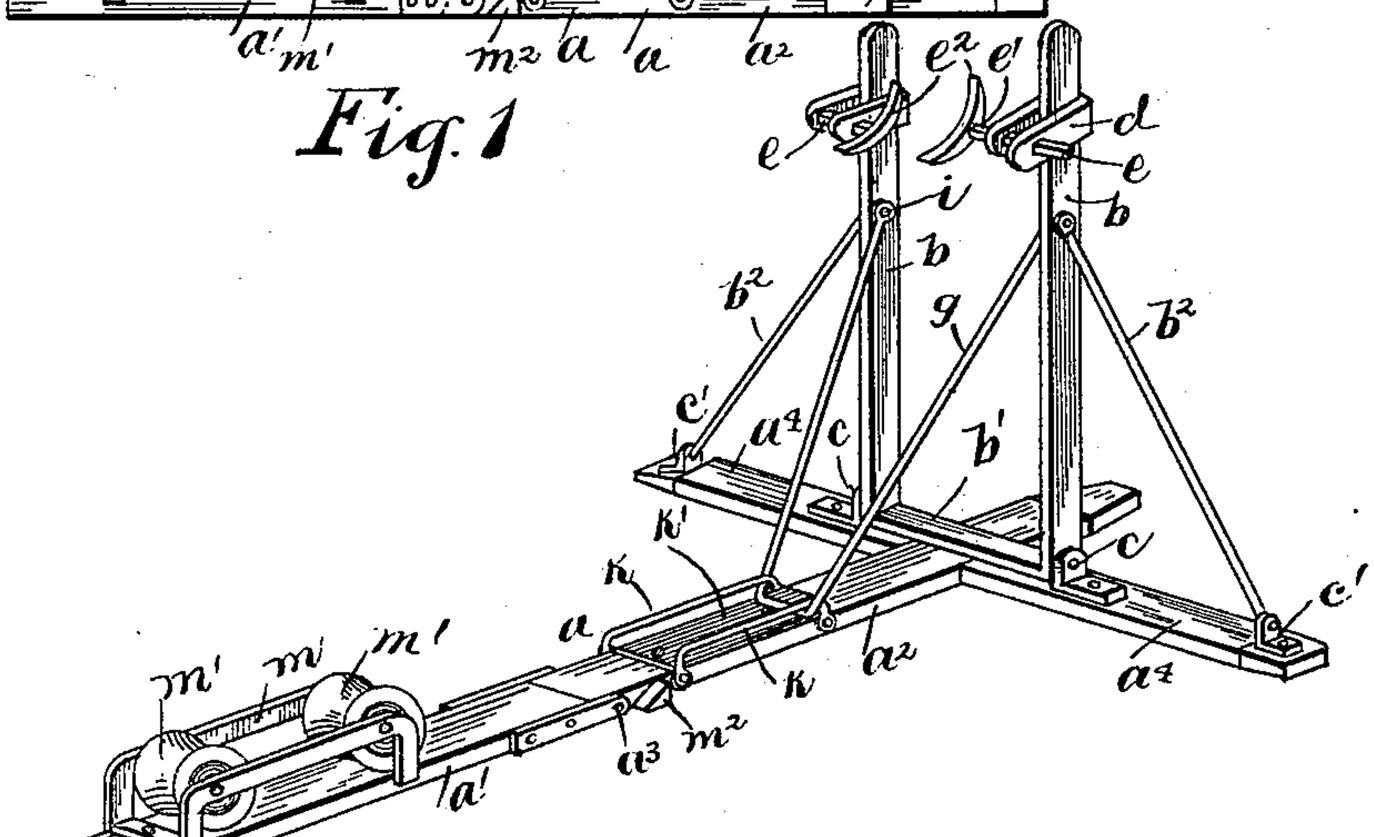

Fig. 2

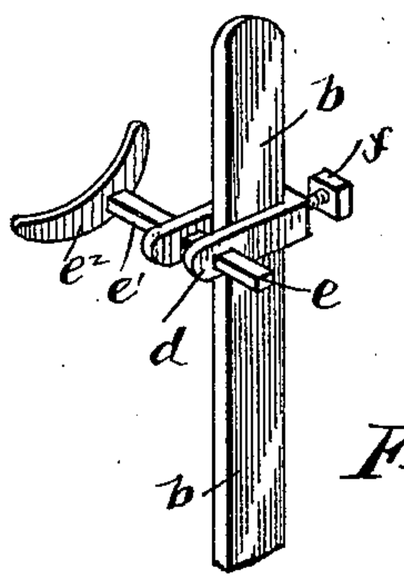

Fig. 3

Witnesses
H. B. Bradshaw
E. E. Bragg.

Inventor
Richard A. Engler
By his Attorneys Staley and Shepherd.

UNITED STATES PATENT OFFICE.

RICHARD A. ENGLER, OF COLUMBUS, OHIO.

BICYCLE-SUPPORTING FRAME.

SPECIFICATION forming part of Letters Patent No. 481,751, dated August 30, 1892.

Application filed April 2, 1892. Serial No. 427,433. (No model.)

To all whom it may concern:

Be it known that I, RICHARD A. ENGLER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Bicycle-Supporting Frames, of which the following is a specification.

My invention relates to the improvement of bicycle-supporting frames; and the objects of my invention are to provide a superior form of supporting-frame by means of which bicycles may be supported or suspended in a convenient or desirable position for cleaning, repairing, &c.; to so construct said device as to facilitate the mounting of the bicycle thereon and removing the same therefrom; to so construct said support as to admit of the rotation of the bicycle-wheels independently; to provide means for folding my device within a compact space, and to produce other improvements, which will be more specifically pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved supporting-frame, showing a bicycle resting thereon and showing in dotted lines the position of the front-wheel-supporting standard when said frame is in the position to receive or discharge a bicycle. Fig. 2 is a view in perspective of my improved supporting-frame, and Fig. 3 is a detail view in perspective of the upper portion of one of the standards and its adjustable supporting-bracket.

Similar letters refer to similar parts throughout the several views.

a represents the base of my improved supporting-frame, which, as shown in the drawing, is preferably of an oblong form and consists of two sections a' a^2, which are hinged or jointedly connected, as shown at a^3. This base *a* is provided near its forward end with a cross-piece, (indicated at a^4,) which is intersected centrally by said forward section a^2.

b b represent two parallel standards, which are connected at their lower ends by a cross-piece b'. The standard-frame thus formed has its base supported adjacent to the upper side of the cross-piece a^4 and the upper side of the base-section a^2, thus causing the arms of the standards *b* to rise on opposite sides of the base *a*, near the front end thereof. The standard-frame is pivotally supported in the above-described position by having the lower ends of the arms *b* pivoted, respectively, to suitable plate-lugs *c*, which rise from the upper side of the cross-piece a^4. The standards *b* are further connected to the cross-piece a^4 by means of inclined brace-rods b^2, the upper ends of which are pivotally connected with the outer sides of said standards *b*, in the upper halves thereof, and the lower ends of which are pivoted, as shown, in the upwardly-projecting portions of brackets c', the bases of which are secured to the outer end portions of the cross-piece a^4.

Loosely embracing each of the standards *b* is a substantially-U-shaped yoke *d*, the parallel arms thereof projecting rearwardly, as shown. The outer portions of these rearwardly-projecting arms are connected by the transverse stems *e* of rests e', said stems being square or angular in cross-section and passing loosely through correspondingly-shaped openings in the arms of the yokes. The inner end of each of the rests e' is provided with a substantially-crescent-shaped head or termination e^2, which projects substantially at right angles with said stem. The yokes *d* are adjustably connected with the standards *b* by means of set-screws *f*, which pass through the closed ends of the yokes and, engaging with screw-threaded openings therein, are adapted to come into contact with the forward edge of the standard and press the latter against the rest-stems *e*. *g* represents a substantially-U-shaped sliding brace, the arms of which diverge slightly, as shown. The forward extremities of these sliding-brace arms are pivotally connected at *i* at oppositely-located points on the inner sides of the standards *b*, from which said brace inclines rearwardly, as shown.

k represents two oppositely-located parallel guide-rods, which are arranged to extend in the direction of the length of and above opposite sides of the section a^2 of the base at a point in the rear portion thereof. Each of these rods *k* is provided with downturned ends, which are secured to the sides of said base-section. As shown in the drawings, the rear or outer end of the sliding brace *g* is looped between the rods *k* and the upper side of the base-section a^2, where it bears and is

adapted to slide upon a bearing-plate k', which is affixed to said base-section a^2.

m represents a roller-frame, the side pieces of which rise from opposite sides of the base-section a'. Between these side pieces of the roller-frame are journaled rollers m', having grooved or concaved peripheries. Projecting from one side of the rear end portion of the forward base-section a' is a lug m^2, having an inclined upper face, as shown.

In utilizing my improved bicycle-support the standards d are turned rearwardly to the position shown in dotted lines in Fig. 1 of the drawings. During this movement of said standards it is obvious that the sliding brace-frame will be slipped against the plate k' beneath the guide-rods k and will be limited in its movement by contact with the rear ends of said rods. The standards being in this position, the bicycle to be supported is so manipulated as to cause its front wheel p to travel upon the inclined lug m^2, and thence onto the forward section a^2 of the base until the coasting-pins or pedals p' of the bicycle are caught in the concaves of the rest-heads e^2, when said standards may be forced to an upright position. This movement of said standards will result in the front wheel of the bicycle being elevated to the position shown in Fig. 1 of the drawings, and thus suspended from the rests e'. The rear wheel may then be lifted onto the rollers m' to the position shown in the drawings. The bicycle-wheels being supported in the position described, it is evident that the wheels may be independently rotated by hand in either direction, and thus greatly facilitate the operation of washing or repairing the same by bringing all the parts of said wheel successively into convenient position for handling. It will readily be seen that a bicyle supported as above described will be retained in such position as to prevent its falling in any direction.

When it is desired to remove the bicycle from the supporting-frame, the standard b may be forced to the rearwardly-inclined position shown in dotted lines in Fig. 1 of the drawings and the machine readily run backward off of the supporting-frame. It is evident that the supporting-yokes d may by the means described be secured at various points on the standards b, thus admitting of the height at which the front wheel is suspended being regulated, as desired. When the supporting-frame is not in use, it may be made to occupy a comparatively small space by turning the rear base-section a' upward and forward toward the standards.

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

1. In a bicycle-supporting frame, the combination, with the base, of a standard-frame rising therefrom and jointedly connected therewith and transverse rest-pins supported from the arms of said standard-frame and adapted to support, as described, the coasting-pins of a bicycle, substantially as specified.

2. In a bicycle-supporting frame, the combination, with the base a, a standard-frame rising therefrom and jointedly connected therewith, and rests e', carried by said standard-frame, of a guide-frame k, substantially as described, rising from the base, and a sliding brace g, pivotally connected with the arms of said standard-frame and adapted to slide within said frame k, substantially as specified.

3. In a supporting-frame for bicycles, the combination of the base a, a standard-frame having arms b, jointedly connected with said base, yokes d, adjustably secured to the standard b, and rest-pins e, projecting from said yokes, substantially as specified.

4. In a bicycle-supporting frame, the combination of the base a, formed with two jointed sections, a standard-frame jointedly connected therewith and rising therefrom at one end, transverse rests e', supported from said standard-frame, a roller-frame m, supported from the base-section a', and rollers m', journaled therein, substantially as and for the purpose specified.

RICHARD A. ENGLER.

In presence of—
C. C. SHEPHERD,
THOS. S. GATES.