No. 647,812. Patented Apr. 17, 1900.

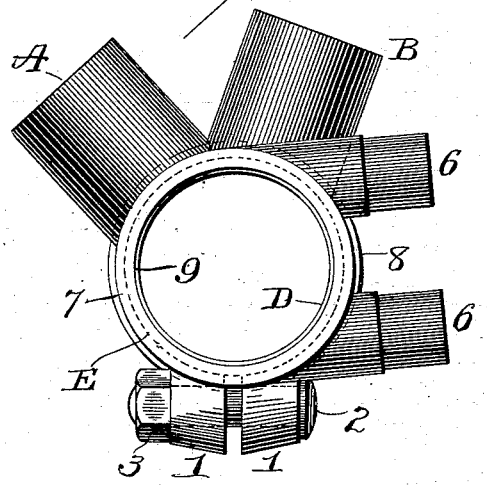
J. S. DIKEMAN.

BICYCLE FRAME.

(Application filed Jan. 10, 1900.)

(No Model.)

Fig. 1.



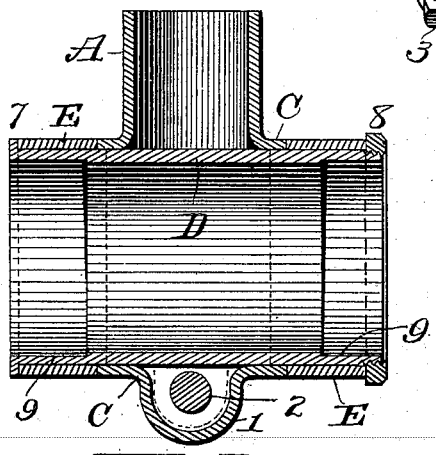


Fig. 2.

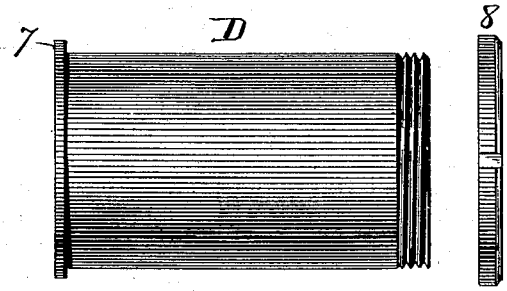
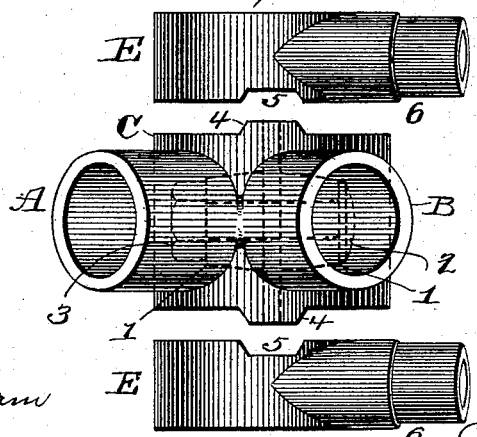


Fig. 4.

Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH S. DIKEMAN, OF TORRINGTON, CONNECTICUT, ASSIGNOR OF ONE-HALF TO CHARLES S. DIKEMAN, OF SAME PLACE.

BICYCLE-FRAME.

SPECIFICATION forming part of Letters Patent No. 647,812, dated April 17, 1900.

Application filed January 10, 1900. Serial No. 990. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. DIKEMAN, a resident of Torrington, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Bicycle-Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in bicycle-frames, the object being to so construct and assemble the intersecting ends of the reach and central brace as to cause them to form a support for a removable crank-hanger tube or bearing.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improvement. Fig. 2 is a longitudinal section. Fig. 3 is a plan view of the parts of the rings within which the tube is mounted, and Fig. 4 is a detached view of the crank-hanger tube and nut.

C represents a split ring provided with the neck A, to which one section of the reach is secured by brazing or by any other suitable method or means, and with a neck B, to which the central brace is also permanently secured. The ends of the ring are provided with lips or flanges, which are perforated for the passage of a bolt 2, to the screw-threaded end of which a nut 3 is applied for securing the ring in place. Ring C may be made of sheet metal, with the necks or tubular lugs A B drawn therefrom, or the ring and necks may be cast in a single piece. Each side of the ring is provided with a projection 4, which engage correspondingly-shaped recesses 5, formed in the end rings E and serve to lock all three rings against rotary movement or displacement. The rings E E are each provided with two rearwardly-projecting necks or tubular lugs 6 6, to which the rear stays or braces of the frame are secured by brazing or otherwise. These stays may be constructed and arranged in the manner shown in Letters Patent No. 631,282, granted to C. S. Dikeman August 22, 1899, or instead of employing two lugs on each ring only one may be used on each ring when a single stay is used, or, if desired, more than two may be employed on each ring. It will thus be seen that the ring to which the front section of the reach and the central brace are secured is made separate from and independent of the rings to which the rear stays or braces are secured, and hence the latter rings and stays may be readily removed and replaced without disturbing the rest of the frame. This feature of construction is found especially desirable in assembling the several parts of the frame.

D is the crank-hanger bearing or tube, which is counterbored at each end, as shown at 9, for the reception of bearing-cups, (not shown,) which are adapted to support ball-bearings in which the crank is mounted. The tubular bearing D is provided at one end with a peripheral flange 7, and is screw-threaded at its other end for the attachment of a screw-threaded ring or nut 8. The tube is inserted through the rings E, A, and E, and then by securing the nut 8 in place the three rings are securely locked together by their interlocking projections and recesses and are held in place on the tube by means of the flange 7 and nut 8.

By constructing the parts so that the tubular crank-hanger bearing may be readily removed and replaced it enables the tubular bearing, with its ball-bearings mounted therein, to be readily removed for the purposes of cleaning the balls and their cup-bearings and also for repairing or renewing the parts. The construction and arrangement of parts are most advantageous for handling, because the tube, with ball-bearings therein inclosed, may be quickly removed from the frame and immersed in any suitable cleansing fluid for cleaning the balls and their cup-bearings and then replaced in the machine without danger of defacing or injuring the enamel coating on the machine or of losing the ball-bearings.

It is evident that many slight changes might be resorted to in the general form and ar-

rangement of the several parts described without departing from the spirit and scope of the invention, and hence I would have it understood that I do not limit myself to the precise details shown and described.

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

1. The combination with a tubular bearing, of a split ring removably secured to the tubular bearing and provided with necks or projections for the attachment of the forward reach and central brace, of a ring mounted on the tubular bearing at each side of the split ring, and adapted to have the rear stay or brace secured thereto, and means for removably securing the tubular bearing within said rings, substantially as set forth.

2. In a bicycle-frame, the combination with a transverse tube, a peripheral flange on one end of said tube and screw-threads on the other end of said tube, of a ring secured centrally around said tube and to which is secured the forward reach and central brace, a ring disposed on each side of said first-mentioned ring and having a recess in its inner edge, a lug on each side of said first-mentioned ring disposed in said recesses, an internally-screw-threaded nut on the threaded end of the tube adapted to clamp the rings together and means on said last-mentioned rings to which the rear stays are secured.

3. In a bicycle-frame, the combination with a transverse tube, of a split ring on said tube, a downwardly-projecting lip on each end of said split ring, a bolt passed through alined holes in said lips, a nut for securing said bolt in place to clamp the split ring on the tube, a lug on each side of the split ring and having a recess in each ring for the reception of the lugs on the split ring, means for securing the rear stays to said last-mentioned rings and means for securing all of said rings together and against transverse movement.

4. In a bicycle-frame, the combination with a removable tubular bearing, of three separate rings mounted thereon, the central ring adapted to have the forward reach and central brace secured thereto, and the end rings adapted to have the rear stays or braces secured thereto, said rings being interlocked at their edges to prevent their rotary movement or displacement, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH S. DIKEMAN.

Witnesses:
CHAS. L. MCNEIL,
WILLIAM F. PEETZ.