

(No Model.)

2 Sheets—Sheet 1.

L. STURGES.
BICYCLE OR OTHER VELOCIPED.

No. 586,880.

Patented July 20, 1897.

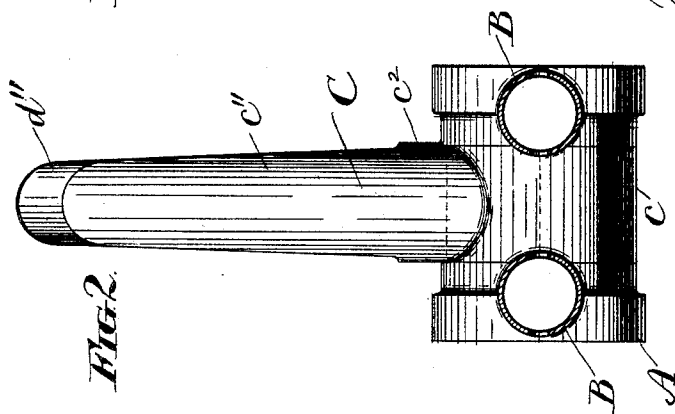
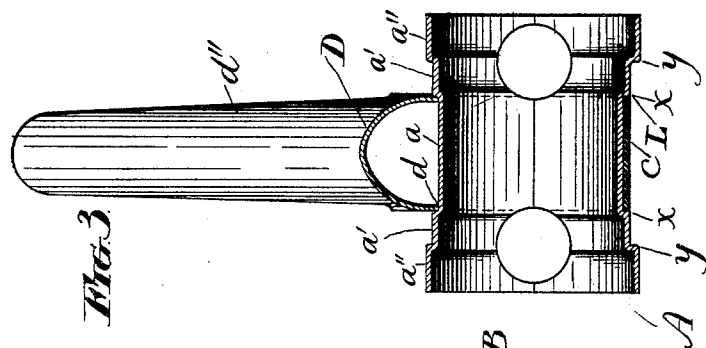
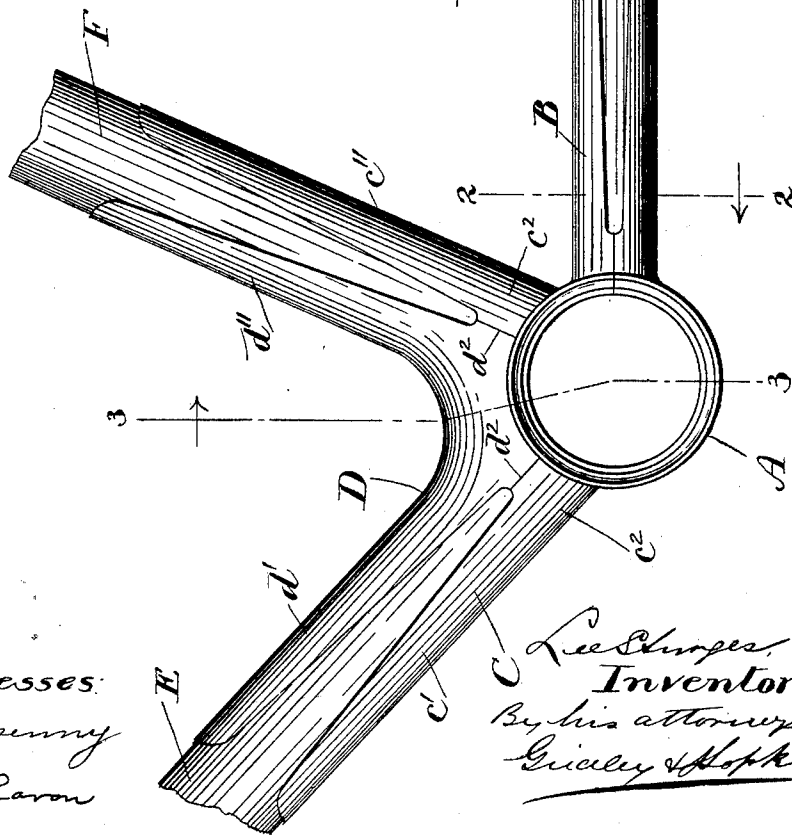


Fig. 1



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S. P. Sharon

L. Sturges,
Inventor.
By his attorney
Gibbs & Hopkins

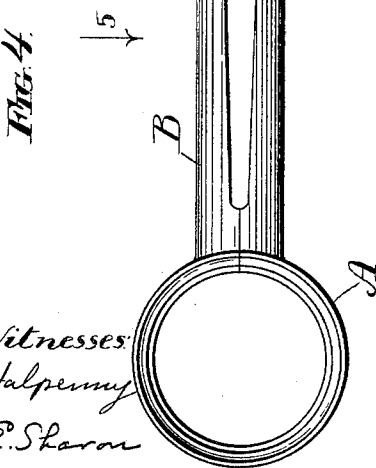
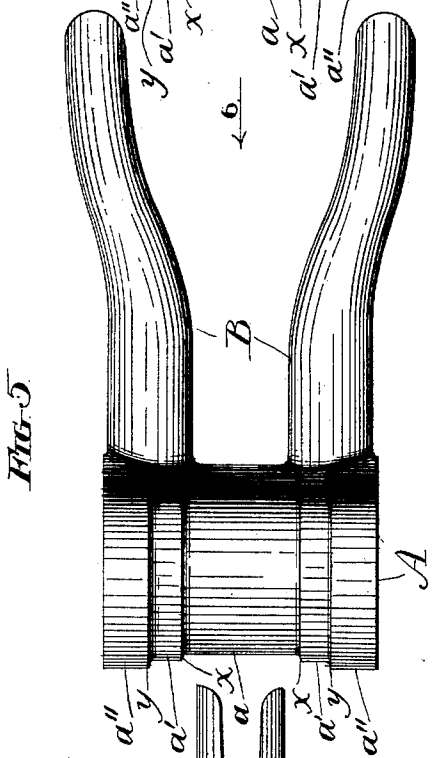
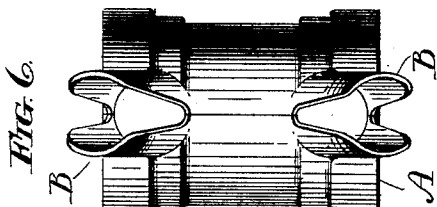
(No Model.)

2 Sheets—Sheet 2.

L. STURGES.
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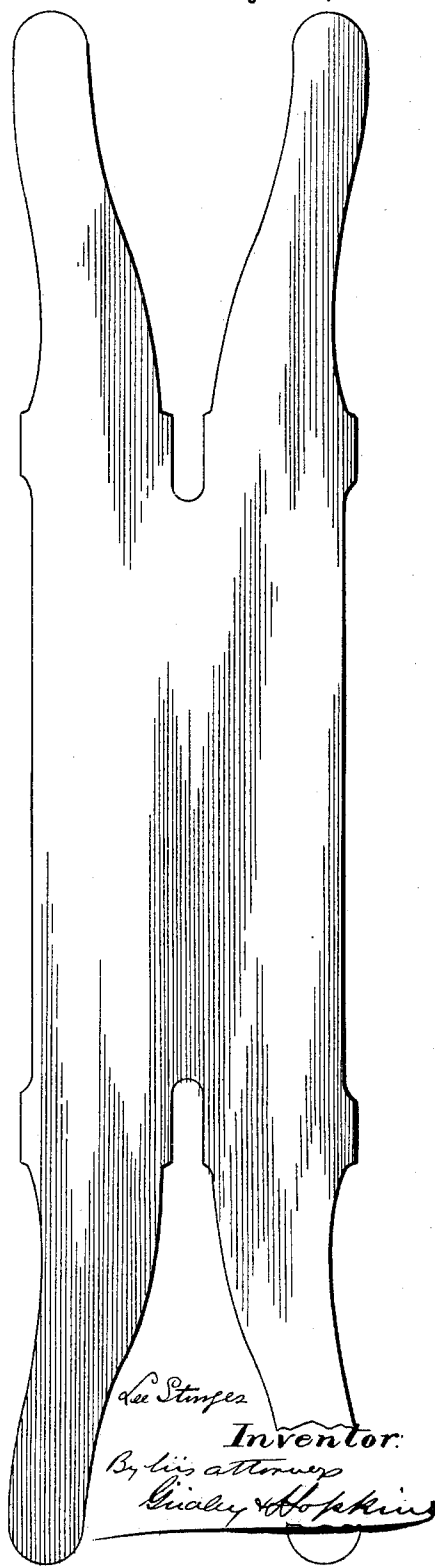
No. 586,880.

Patented July 20, 1897.



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Fig. 7.



UNITED STATES PATENT OFFICE.

LEE STURGES, OF CHICAGO, ILLINOIS.

BICYCLE OR OTHER VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 586,880, dated July 20, 1897.

Application filed October 28, 1895. Serial No. 567,095. (No model.)

To all whom it may concern:

Be it known that I, LEE STURGES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bicycles or other Velocipedes, of which the following is a specification.

The present invention relates to that part of the frame of a bicycle which is technically known as the "crank-shaft hanger," being the hollow sleeve in which the bearings for the crank-shaft are arranged and the stubs that are associated with said sleeves for the purpose of securing to it the ends of the braces that radiate from it.

The object of the invention is to provide a crank-shaft hanger possessing the characteristics of cheapness, lightness, strength, and durability.

The invention consists in the features of novelty that are particularly pointed out in the claims hereinafter, and in order that it may be fully understood I will describe it with reference to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is a side elevation of a crank-shaft hanger embodying the invention. Fig. 2 is a rear elevation thereof, the stubs for receiving the two bottom horizontal braces of the frame being shown in section on the line 2-2, Fig. 1. Fig. 3 is a section thereof on the line 3-3, Fig. 1. Figs. 4, 5, and 6 are respectively a side elevation, a plan view, and a rear elevation of one of the parts of which the improved crank-shaft hanger is constructed. Fig. 7 is a diagram showing approximately the outline of the single sheet-metal blank used for making the part shown in Figs. 4, 5, and 6.

The present application being in no wise concerned with the process of making this part, a description of the completed part is all that is required in this specification. The said part comprises a barrel A and two radially-projecting hollow stubs B. The barrel has a central cylindrical portion *a*, and outside of this central portion portions *a'* of slightly greater diameter, resulting in shoulders *x*, and outside of the portions *a'* other portions *a''* of still greater diameter, resulting in shoulders *y*. The barrel being made of sheet metal stamped to shape, it follows

that the shoulders *x* and *y* will be present both on the outside and the inside thereof, one pair of the internal shoulders being for the purpose of limiting the insertion of the ball-cups. The hollow stubs B are of cylindrical cross-section where they join the barrel, as shown more clearly in Fig. 2, and they join the barrel near its extremities. They are of such diameter that they extend a short distance inward past the shoulders *x*, thereby narrowing between them the width of the central portion *a* of the barrel. This, however, is a mere accident of construction and is due to the fact that the stubs are made of sufficient diameter to receive nine-sixteenths-inch tubing, of which the bottom braces are made, while the entire length of the barrel is comparatively short in order to keep the tread at a minimum.

The remaining parts of the improved crank-shaft hanger are shown at C and D in Figs. 1, 2, and 3. The part C has a band *c*, which is equal in width to the distance between the external shoulders *l* and in thickness to the depth of said shoulders, and in length it is sufficient to encircle about two-thirds of the circumference of the portion *a* of the barrel, so that when in place it will, so far as it goes, completely fill the space between the shoulders *x x* and provide a surface which is flush with the portions *a'*, thereby presenting in the completed article the appearance of a barrel which is of only two diameters. At the extremities of this band the part C has two tongues *c' c''*, which when the band is in place, as above described, are radial with respect to the barrel, each of them being of semicylindrical cross-section at and for a considerable distance outward from their inner ends, as shown at *c'*, and beyond these semicylindrical portions their edges are cut away, so as to give them a taper, their curvature in cross-section remaining the same. The tongue *c'* constitutes one half of the hollow stub to which the rear end of the front inclined brace E of the frame is secured, the other half of said stub being formed by a similar tongue *d'* on the part D, and the tongue *c''* constitutes one half of the hollow stub to which the lower end of the upright brace F of the frame is secured, the other half of said stub being formed by a similar

tongue d'' on the part D. The margins of the semicylindrical portions c^2 of the tongues c' c'' come against the margins d^2 of the tongues d' and d'' , and the part D has also margins d , that fit the portion a of the barrel and bear against the shoulders x , said part D being arched between its tongues d' d'' and margins d , as shown more clearly in Fig. 3.

In the completed hanger the parts thus constructed and arranged are all brazed together, so that they become in effect a single member comprising a barrel, two hollow stubs projecting radially therefrom in positions to receive the two bottom horizontal braces of the frame, a third hollow stub projecting radially therefrom in position to receive the upright brace of the frame, and a fourth hollow stub projecting radially therefrom in position to receive the front inclined brace of the frame, opposite sides of each of said stubs being cut away upon a central line, leaving upon opposite sides of the cut-away portions tapering tongues that fit against the sides of the braces and serve to reinforce them.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. As a new article of manufacture, a crankshaft hanger having a part comprising a barrel and a pair of hollow stubs projecting therefrom, said barrel and stubs being made of a single piece of sheet metal, bent to proper shape and having its margins brought together in the plane in which the axes of said barrel and stubs lie, in combination with a second part comprising a band that partly encircles the barrel and crosses the meeting margins of the blank of which it is made, said part having, at the extremities of said band, projecting tongues of curved shape in cross-section, and a third part having tongues of

curved shape in cross-section whose margins are opposed to the margins of the tongues of the part second aforesaid, substantially as set forth.

2. As a new article of manufacture, a crankshaft hanger having a part comprising a barrel and a pair of hollow stubs projecting therefrom, said barrel and stubs being made of a single piece of sheet metal, bent to proper shape and having its margins brought together in the plane in which the axes of said barrel and stubs lie, said barrel having intermediate of its ends a portion of reduced diameter resulting in a pair of shoulders located a suitable distance apart, in combination with a second part comprising a band which partly encircles the barrel and engages the shoulders thereof, said second part having, at the extremities of the band, projecting tongues of curved shape in cross-section and a third part having tongues of curved shape in cross-section whose margins are opposed to the margins of the tongues of the part second aforesaid, substantially as set forth.

3. As a new article of manufacture, a crankshaft hanger having a part comprising a barrel and a pair of hollow stubs projecting therefrom in combination with a second part comprising a band which partly encircles the barrel, and radially-projecting tongues of curved shape in cross-section at the extremities of the band and a third part having tongues of curved shape in cross-section whose margins are opposed to the margins of the tongues of the part second aforesaid, said third part having also margins seated upon the barrel said third part being arched between the margins last aforesaid, substantially as set forth.

LEE STURGES.

Witnesses:

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L. M. HOPKINS.