

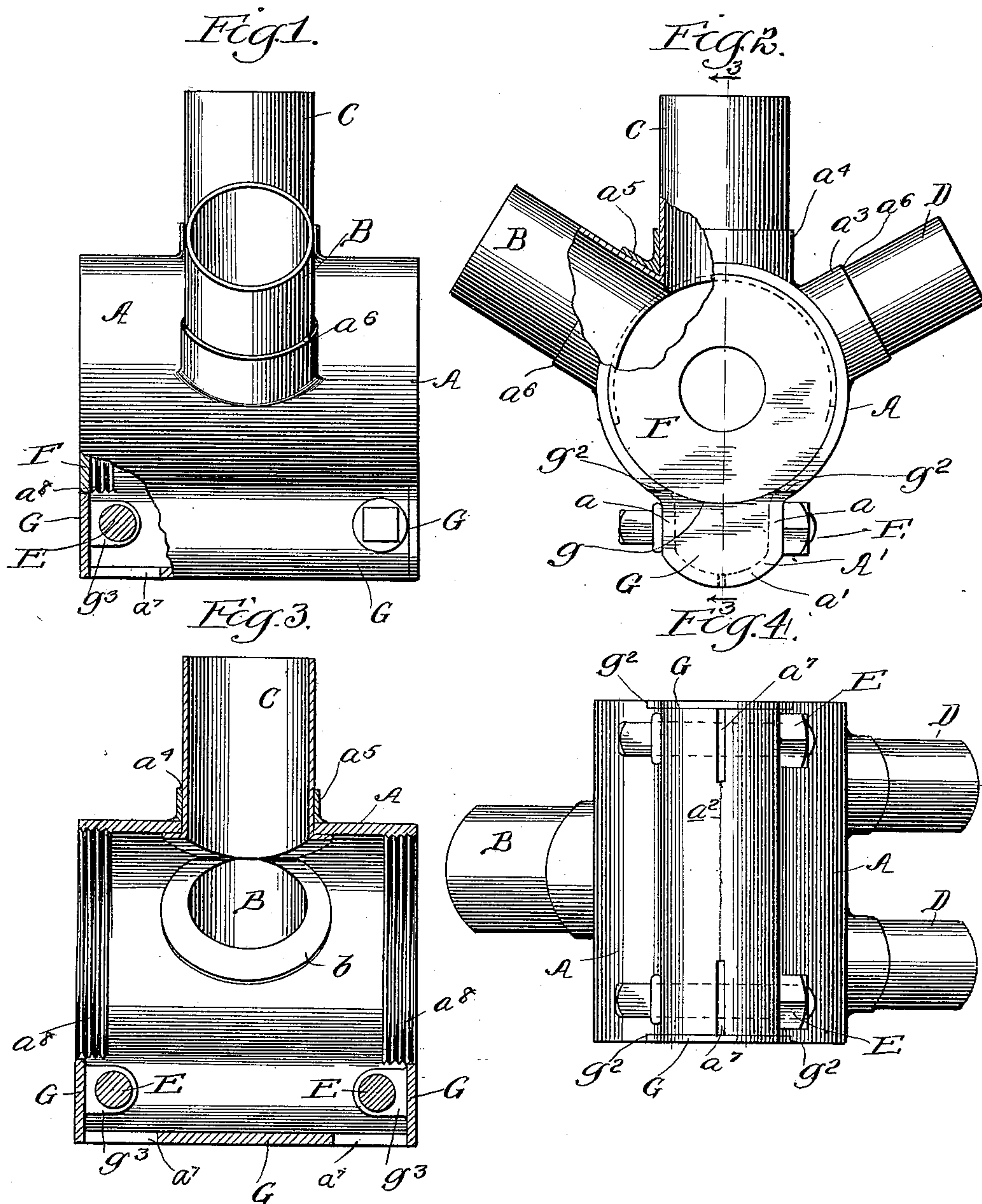
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Patented Jan. 23, 1900.

G. L. THOMPSON.
VELOCIPEDE CRANK HANGER.

(Application filed July 19, 1899.)

(No Model.)



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by

UNITED STATES PATENT OFFICE.

GEORGE L. THOMPSON, OF CHICAGO, ILLINOIS.

VELOCIPEDE CRANK-HANGER.

SPECIFICATION forming part of Letters Patent No. 641,907, dated January 23, 1900.

Application filed July 19, 1899. Serial No. 724,355. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. THOMPSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Velocipede Crank-Hangers, of which the following is a specification.

This invention relates to improvements in velocipede-fittings, and refers more specifically to an improved crank hanger or bracket.

10 Among the objects of the invention are to provide a hanger of the character described which, while, in fact, circumferentially continuous throughout its principal portions, nevertheless possesses most, if not all, of the
15 advantages belonging to a split hanger, to provide a construction which is both exceedingly economical to manufacture and of a form especially suitable for single-piece crank-axles, and in general to improve and
20 simplify the details of construction of the device.

The invention consists in the matters hereinafter described, and particularly pointed out in the appended claims, and will be more
25 readily understood from the following description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a hanger embodying my invention, a portion of the lower
30 side thereof being shown in vertical axial section. Fig. 2 is an end elevation of the same, a part being shown in transverse vertical section, taken on a line extending axially through the frame-lugs. Fig. 3 is a longitudinal sectional view taken on line 3 3 of Fig. 2. Fig.
35 4 is a bottom plan view of the bracket.

Referring to said drawings, A designates, as a whole, the barrel or main body of the hanger, which is of generally cylindric form
40 throughout its principal portion, but is provided at its lower side with an extension A', formed integrally therewith and of such cross-sectional form as to provide room for the passage of the outer angle or elbow of a crank-
45 axle formed at the union of the crank-shaft with the crank-arm thereof when assembling the shaft within the hanger by passing one of its arms therethrough—that is to say, said extension A' desirably has approximately
50 straight parallel side portions *a* and an outwardly convex or rounded lower portion *a'* uniting the sides, thus forming a trough-shaped recess or extension extending the full length of the hanger.

A crank-bracket having the above-described form may obviously be constructed
55 by casting, by forging, by forming it from a suitable section of tubing, or otherwise; but in the preferred construction illustrated herein the main body of the hanger is formed up
60 from a flat blank of sheet metal and the meeting edges united by electric welding, the seam or line of union being desirably, and as shown in the present instance, arranged to come at
the bottom of the extension A', as indicated
65 in the drawings by the stippled line *a*².

In the preferred method of constructing a hanger as shown herein the several frame-lugs *a*³, *a*⁴, and *a*⁵ are first drawn out or
70 "struck" up from a blank of approximately oblong rectangular form and the latter partially formed into cylindric shape, the lower side being left partly open for a purpose which will hereinafter appear. In the preferred embodiment shown the several frame-
75 lugs are made short and constitute nipple lugs or sockets, nipple or frame lugs proper, B, C, and D, formed of separate thimble-shaped pieces, being inserted and secured
80 within said lugs and arranged to protrude therefrom a suitable distance to receive the frame members. The outer ends of the several lugs form shoulders *a*⁶, against which
85 the ends of the frame members severally abut to form a flush joint, and to this end they are preferably cut off or have their ends formed at right angles to their several axes.
The several thimbles forming the nipples are each provided at their inner ends with out-
90 turned flanges *b*, which are conformed to and rest against the inner cylindric surface of the barrel of the hanger, being usually secured within the lugs by brazing.

For the more convenient assembling of the parts the several nipples will ordinarily be
95 forced into places within their respective lugs while the hanger-blank is partly open, as above mentioned, so that the several dies employed for forcing the nipples into position may work through the open side of the
100 hanger. After the nipples have been thus seated in position the end portions of the blank are brought together at the lower side and electrically welded, as hereinbefore referred to.

105 In order that the end portions of the hanger-barrel may be contracted slightly, so as to lock the bearing-cups F in adjusted position,

slots a^7 are provided in the lower side of the extension, extending longitudinally inward from each end thereof a distance sufficient to allow the opposite sides of the hanger ends to be drawn together. In order to thus contract the ends of the hanger, bolts E are inserted through the extension A' at points adjacent to each end thereof and in such position as to avoid interference with the bearing-cups seated in the ends of the hanger. Obviously when the welded seam is located as herein shown these slots a^7 may be formed in the blank by means of suitable offsets in the end margins of the blank or they may be formed by simply sawing in from each end of the hanger after the latter has been welded.

The bearing-cups F in the ends of the hanger may be either threaded therein (screw-threads a^8 being shown for the reception of the cups F in the present instance) or they may be simply seated therein without screw-threads and held clamped in position by the clamping-bolts E. The cups will ordinarily form the end closures of the cylindric portion of the crank-hanger; but in order to close the ends of the extension portion A', I preferably provide plates G, each suitably hollowed out at its upper edge, as indicated at g^1 , to conform to the periphery of the bearing-cup F and having its remaining margins conformed to the external cross-sectional form of the extension. In order that the said plates G may lie flush with the ends of the hanger, the ends of the extension portion thereof are recessed or cut back an amount equal to the thickness of the plates G, as indicated at g^2 , the shoulders g^2 , formed at the points where the upper edges of the plates abut against the hanger, being formed on a line approximately parallel with the direction of movement of the sides of the extension when drawn together by the clamping-bolts E. In order to hold the plates in position, they are each provided at each side with ears g^3 , arranged to extend inwardly and rest against the inner sides a of the extension and provided with bolt-apertures g^4 for engagement with the clamping-bolts, so that when the latter are in position the end plates are held immovably upon the ends of the hanger in position to completely close the ends of the extension and at the same time in such manner as not to interfere with the expansion or contraction of the hanger end.

It will be seen from the foregoing that a hanger embodying my invention is of simple and cheap construction, that it is especially well adapted for single-piece crank-axles and enables the latter to be adjusted to place within the hanger, although the latter be of relatively small diameter, and that it possesses the advantage of enabling the bearing-cups to be locked in the same manner as in a split hanger without possessing the objectionable features of the latter. As before intimated, these advantages are obtained by

the construction described, whether formed up from a sheet-metal blank or made otherwise.

I claim as my invention—

1. A velocipede crank-hanger comprising a metal barrel of generally cylindric form, provided at one of its cylindric sides with an integral radially-extending extension forming an enlargement of its interior extending longitudinally thereof, as and for the purposes set forth.

2. A velocipede crank-hanger comprising a metal barrel of generally cylindric form in cross-section but provided at one side with a radially outward extending integral extension forming an enlargement of its interior extending throughout the length of the barrel.

3. A velocipede crank-hanger comprising a metal barrel of generally cylindric form but provided at one side with a radially outward extending integral extension forming an enlargement of its interior extending throughout the length of the barrel, a slot extending longitudinally inward from each end of said extension and means for drawing the sides of the latter together to contract the ends of the hanger.

4. A velocipede crank-hanger comprising a metal barrel of generally cylindric form but provided at one side with a radially outward extending integral extension extending throughout the length of the barrel, a slot extending longitudinally inward from each end of said extension, means for drawing the sides of the latter together to contract the ends of the hanger, and end-closing plates fitted and secured to each end of said extension.

5. A velocipede crank-hanger comprising a sheet-metal barrel having integral nipple-lugs struck up from the body thereof, nipples seated in said nipple-lugs, each provided with an outturned flange fitted and secured against the interior of the hanger-barrel, said barrel being of generally cylindric form but provided at its lower side with a radially outward extending integral extension or enlargement extending throughout the full length of the barrel, an electrically-welded seam traversing the lower side of the hanger, longitudinally, a slot extending longitudinally inward from each end of said enlargement, the hanger being circumferentially continuous except for said slots, a clamping-bolt inserted through the slotted portion of each end of said enlargement and end-closing plates fitted and secured to each end thereof, as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two subscribing witnesses, this 13th day of July, A. D. 1899.

GEORGE L. THOMPSON.

Witnesses:

ALBERT H. GRAVES,
M. E. MARSH.