No. 833,126. PATENTED OCT. 9, 1906.

A. D. CYPHER.

SHAFTING HANGER.

APPLICATION FILED MAR. 15, 1906.

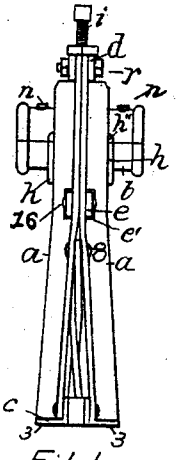

Fig. 1

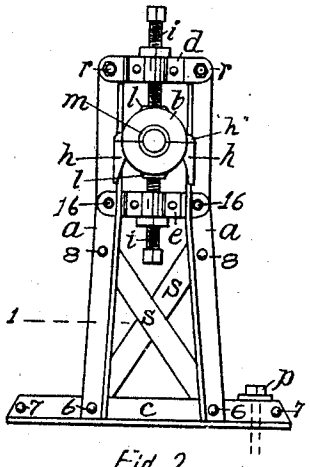

Fig. 2

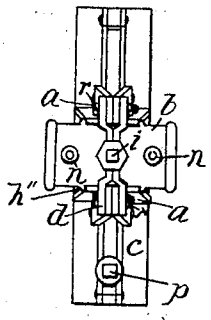

Fig. 3

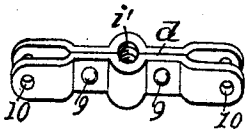

Fig. 4

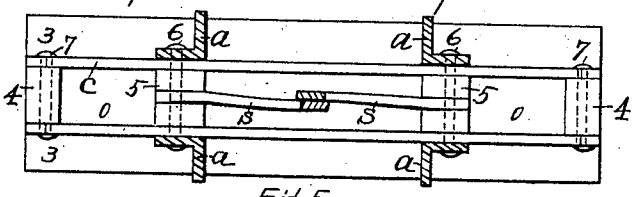

Fig. 5

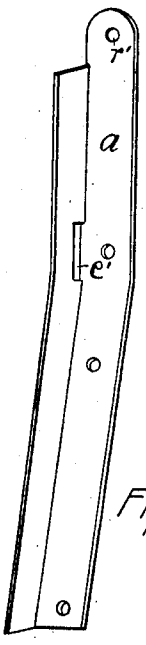

Fig. 6

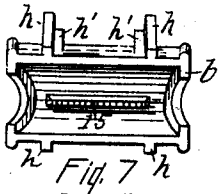

Fig. 7

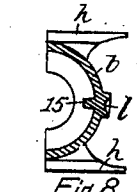

Fig. 8

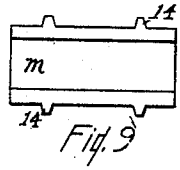

Fig. 9

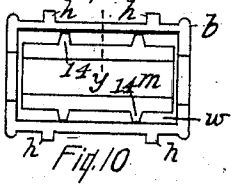

Fig. 10

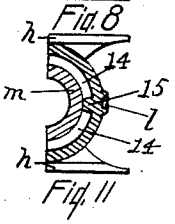

Fig. 11

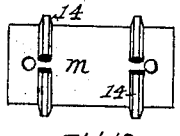

Fig. 12

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UNITED STATES PATENT OFFICE.

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SHAFTING-HANGER.

No. 833,126. Specification of Letters Patent. Patented Oct. 9, 1906.

Application filed March 15, 1906. Serial No. 306,176.

To all whom it may concern:

Be it known that I, ALBERT D. CYPHER, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Shafting-Hangers, of which the following is a specification.

This invention relates to hangers for machinery-shafting, and has for its objects a hanger combining lightness of weight with strength, ease, and cheapness of construction with simplicity of renewals of the shaft-bearings. These objects are attained by the means set forth in this specification and the accompanying drawings, in which like letters and numbers refer to similar parts throughout the several views.

Figure 1 is an end elevation of the hanger. Fig. 2 is a side elevation of the hanger. Fig. 3 is a plan of the hanger. Fig. 4 is a yoke, of which two are used in the hanger. Fig. 5 is a plan of the base of the hanger. Fig. 6 represents one of the parts constituting the hanger-standards. Fig. 7 is a perspective view of one part of the box for the shaft-bearing. Fig. 8 is a cross-sectional view of the box shown in Fig. 7. Fig. 9 represents the antifriction shaft-bearing. Fig. 10 is a plan of one part of the journal-bearing and box. Fig. 11 is a cross-sectional view of Fig. 10. Fig. 12 represents the reverse side of the part shown in Fig. 9. Figs. 4 to 12 are made on an enlarged scale for clearness.

The hanger is made principally of angle-iron. Figs. 1, 2, and 5 will show that the base *c* is composed of two lengths of angle-iron 3, with one set of flanges facing each other, the other flanges forming a broad bottom. The ends of the irons are secured together by rivets 7 through them, the rivets including the blocks 4 4 between the ends, as shown. The standards *a* are also composed of angle-iron, each standard comprising two lengths *a*, made as shown in Fig. 6. These bars are bent in two directions from the portion allotted to the journal-boxes—in one direction to admit of their attachment to the sides of the base, as in Fig. 1, and in another to separate the ends that are joined to the base for greater stiffness, as in Fig. 2. Two of these bars are joined to produce a standard, as shown in Fig. 1, being riveted fast to the base.

The two standards are held rigidly opposed to each other by a yoke *e*, Figs. 1, 2. The yoke is shown in enlarged form in Fig. 4 and is the same precisely as the yoke *d* at the ends of the standards. It consists of two flat pieces of steel bent into the form shown and riveted together, as shown, by rivets 9. Thus united they are like a solid piece with slotted ends and a hole *i'* in the center, which is tapped with a screw-thread. To admit of the attachment of the yoke *e*, a slot *e'* is cut in each of the bars, as in Figs. 1 and 6. The yoke *e* is riveted fast, while the yoke *d* is held in place by bolts *r* and is removable.

Near where the yoke *e* is secured to the standards crossing braces *s s* are inserted between the standards and are extended to between the base-bars 3, as in Figs. 1, 2, and 5, where they are secured by the rivets 6 6, the same rivets binding the standards, the bars constituting the base, and blocks 5, Fig. 5, for filling whatever spaces may exist between the bars. Rivets 8, Figs. 1 and 2, bind the braces and standards together.

The spaces *o o*, Fig. 5, answer the purpose of slots for bolts to secure the hanger, as at *p p*, Figs. 2 and 3.

The outer ends of the standards, that are between the yokes *d e*, are parallel, forming a uniform space between them one way, as in Fig. 2, and the edges are parallel, as in Fig. 1, thus affording a proper space for the journal-boxes *b*, Figs. 1, 2, 3. Figs. 7 and 8 show these boxes to be made much in the usual way, semicircular in cross-section. As one of the merits of this hanger is its lightness of weight, these boxes are preferably cast in steel, so as to obtain the greatest strength with a minimum of weight, so that, as shown in Fig. 8, they are only a little thicker in structure than the body of the hanger. One part of the box is provided with lugs *h h'*, Fig. 7, that give it a bearing in the hanger, as shown in Figs. 1 and 2, the lugs *h* bearing against the outer edges of the standards and the surfaces *h'* against the inner faces of the standards. A countersunk bearing *l* is provided for engagement with a set-screw, as in Fig. 2. There is also a rib 15 provided in the inside bottom of the box to steady the bearing *m*, of antifriction metal.

The other half of the journal-box is similar to the half just described, except that the lugs *h''*, Figs. 1 and 2, do not require the length given to those on the other. It is provided with a countersunk screw-bearing *l*, as in Fig. 2, and with oil-holes *n n'*, as in Figs. 1, 3.

The antifriction bearing-piece *m*, Figs. 2, 9,

10, 11, 12, is made entirely of such metal and heavy enough for its work without other backing than the support given it by the box *b*. It is provided with ribs 14 14, Figs 9, 12, that fit inside the curvatures of the box *b* and are divided in the middle, as in Fig. 12, to receive the rib 15 in the box. When the antifriction bearing-piece *m* is in place in the box *b*, it appears in the box as in Fig. 10 and in cross-section as in Fig. 11, producing an annular space *w*, Fig. 10, between the bearing-piece and the box for a body of lubricant.

The boxes are held in place and are adjustable to place by means of the set-screws *l'*, Figs. 1, 2, and 3. The antifriction-pieces are cast in molds to standard sizes and are renewable with little trouble and moderate expense.

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

1. A hanger comprising a base consisting of angle-irons with flanges facing centrally and vertically and secured together at the ends with bolt-spaces between them, two standards each composed of two bars of angle-iron joined flange to flange at one end and spread at their other ends and joined to the said base, the outer ends of the standards forming a receptacle for a journal-box, a yoke with ends embracing the standards at one end of the journal-box space and secured thereto, crossing braces inserted and riveted to the standards where they begin to spread sidewise and extending to the base, the standards and lower ends of the braces secured to the base, a yoke on the ends of the standards secured by bolts, and set-screws in the yokes.

2. A hanger comprising a base consisting of angle-irons with flanges facing centrally and vertically and secured together at the ends forming bolt-spaces between them, two standards each composed of two bars of angle-iron joined flange to flange at one end and spread out at their other ends and secured to the base, the outer ends of the standards forming a receptacle for a journal-box, a yoke with ends embracing the standards at the inner ends of the journal-box space and secured thereto, crossing braces inserted and riveted to the standards where their component bars begin to spread sidewise and extending to the base, the standards and braces secured to the base, a yoke on the end of the standard secured by bolts, set-screws in the yokes, journal-boxes with guiding-lugs between the ends of the standards and adjustable between the set-screws in the yokes, and renewable shaft-bearings made entire of antifriction metal.

Signed at Brooklyn, in the county of Kings and State of New York, this 19th day of December, A. D. 1905.

ALBERT D. CYPHER.

Witnesses:

EVERETT C. PETTY,

SANFORD E. GEE.