(No Model.)

H. SCHNEIDER.

SHAFT BEARING.

No. 428,526. Patented May 20, 1890.

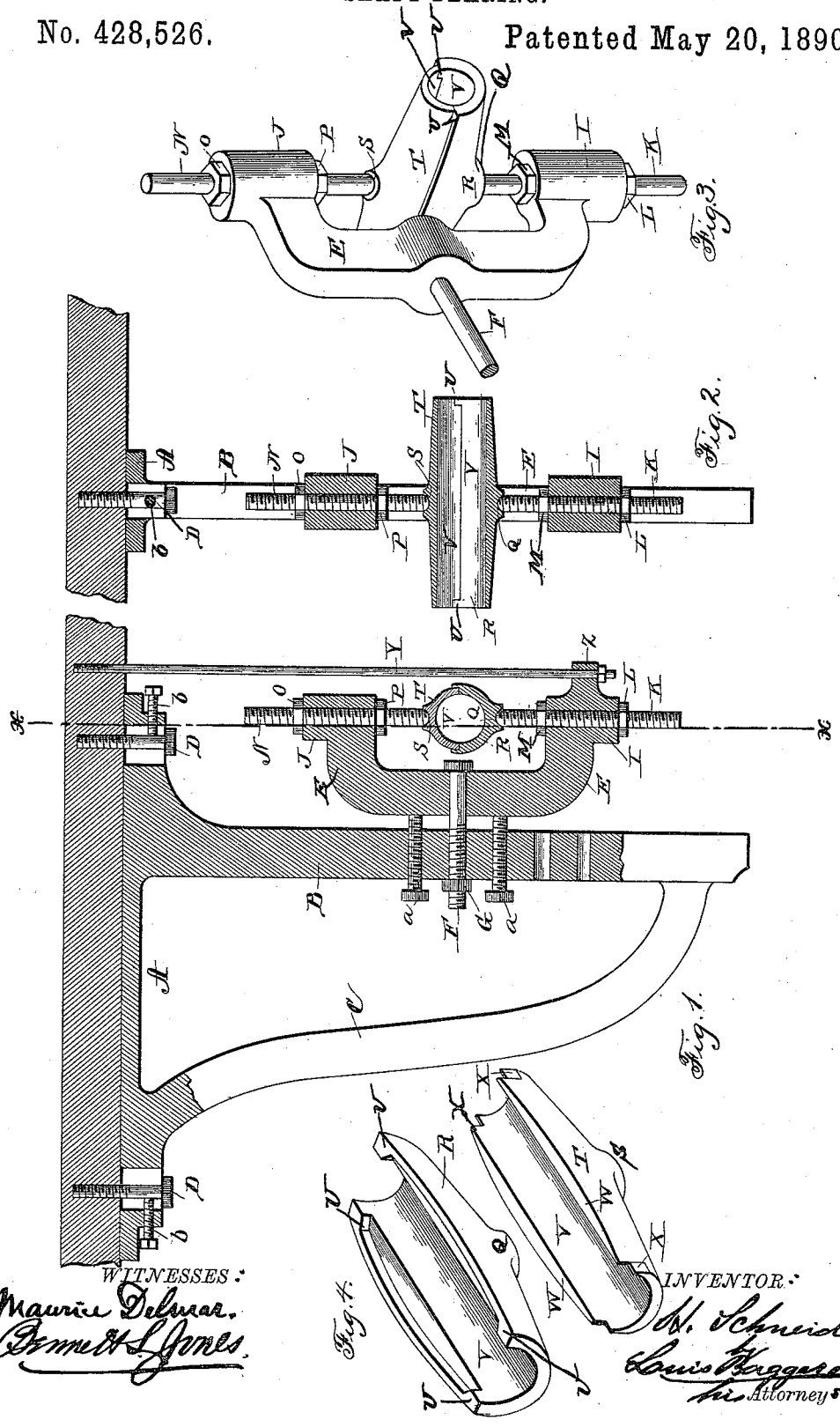

Fig. 3.

Fig. 2.

Fig. 1.

Fig. 4.

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UNITED STATES PATENT OFFICE.

HIPPOLYTE SCHNEIDER, OF PITTSBURG, PENNSYLVANIA.

SHAFT-BEARING.

SPECIFICATION forming part of Letters Patent No. 428,526, dated May 20, 1890.

Application filed March 11, 1890. Serial No. 343,475. (No model.)

To all whom it may concern:

Be it known that I, HIPPOLYTE SCHNEIDER, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Shaft-Bearings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal sectional view, on a vertical plane, of my improved shaft-bearing. Fig. 2 is a vertical sectional view, at right angles to Fig. 1, on the plane indicated by the broken line marked *x x* in Fig. 1. Fig. 3 is a perspective view of the adjustable bearing which supports the adjustable pillow-block or shaft-bearing proper, and Fig. 4 is a perspective detail view of the two parts or sections of the bearing proper separated from each other and showing the top part in its reversed or inverted position.

Like letters of reference denote corresponding parts in all the figures.

This invention relates to so-called "universal bearings" for revolving shafts of the type described in my application, Serial No. 336,495, filed January 10, 1890; and my present improvement consists in certain modifications of the construction and combination of parts described and claimed in my aforesaid application, as will be hereinafter more fully set forth.

In the accompanying drawings I have illustrated my invention as applied to a hanger; but I desire it to be understood at the outset that it may be applied in substantially the same manner and with equal advantages to floor-standards or wall-brackets, according to the circumstances, location, and conditions under which the bearing is to be used.

Reference being had to the accompanying drawings, the letter A denotes the base-plate of the hanger, B the depending vertical arm of the same, and C the curved arm or brace, the base-plate being fastened to the under side of the ceiling or other horizontal support by the bolts D D. Where the device is to be used as a floor-standard the position of these parts is simply reversed, and the part B becomes the vertical standard or upright, and C the brace of the same, the plate A being in that case bolted to the floor. A C-shaped casting E is fastened movably by its middle part to arm B by means of a stout fulcrum-bolt F, which is held in place by the nut G. If desired, and as a matter of convenience, the arm B may be provided with two or more bolt holes or apertures at different elevations, whereby the elevation of the part E may be adjusted to suit the elevation of the shaft without changing the hanger.

The casting E is provided at its lower end with a tubular boss or bearing I, and at its upper end with a similar bearing J, said two bearings I and J being aligned with each other. Through the lower bearing is inserted a threaded bolt K, which is held in place adjustably by the two nuts L and M, and a similar bolt N is inserted through the upper bearing J and held in place adjustably by means of its nuts O and P.

The inner ends of the two bolts K and N are rounded off or cone-shaped to fit, respectively, the central bearing Q of the pillow-block R and the central bearing S of the cap-piece T. These two parts R and T form the shaft-bearing proper, each being made with a semi-cylindrical recess V, so that when put together they form a cylindrical recess or bearing for the shaft which the device is to support.

The detailed construction of the two bearing parts R and T is illustrated more clearly in Fig. 4 of the drawings, from which it will be seen that the lower part or pillow-block R is recessed on opposite sides parallel to its semi-cylindrical recess to form shoulders U U, which receive, when the two parts are put together, the depending sides W W of the top or cap piece T, thus absolutely preventing lateral motion or displacement of the two parts relative to each other. To prevent motion or displacement in a longitudinal direction, the depending sides W are cut off at both ends to form stops X, which abut against the ends U of the shouldered recesses V.

If desired, the lower end of the pivoted casting E, which has to support the greater part

of the strain, may be re-enforced by means of a flexible rod Y, the upper end of which is permanently fastened in the ceiling, while its lower end passes through and is nutted to a short arm Z, which projects on one side of the lower bearing-boss I. The use of this re-enforcing rod is not necessary, however, except in cases where the bearing is called upon to sustain very extraordinary strain, and in a majority of cases I do not use it.

In order to effect a speedy and accurate adjustment of the part or bearing E, I employ two or more set-screws *a*, which work transversely through threaded apertures in arm B, with their inner ends bearing against the contiguous side of the C-shaped part E. By properly adjusting these screws in relation to the central fulcrum-bolt F the part or bearing E can readily be "set" or adjusted to the proper pitch or angle and held firmly in its adjusted position. In like manner the body of the hanger may be adjusted laterally and held in its adjusted position by means of horizontal bolts or set-screws *b b*, working in threaded bearings depending from the base-plate A and bearing with their inner ends against the sides of the bolts D D, by means of which the hanger and its attachments are suspended from and fastened to the ceiling. By these means very minute adjustments may be effected of the hanger-body itself, as well as of the bearing part E.

From the foregoing description, taken in connection with the drawings, the operation of this device will readily be understood. It will be seen that the shaft-bearing proper (consisting of the two parts R and T, fitted together one upon the other, as described) is movable in both a horizontal and a vertical plane by means of the horizontal fulcrum bolt or pivot F and the adjustable vertical and registering bearing-bolts K and N. By adjusting the latter in their respective bosses or bearings up or down the position of the shaft-bearing proper may be regulated to compensate for any sagging of the shaft without moving or otherwise disturbing the hanger, and if in course of time the pivoted casting E should become slightly tilted toward the arm B through the weight and continuous strain of the shaft any slight divergence in that respect may easily be compensated for by screwing up the nut at the lower end of the auxiliary supporting or suspension rod Y, which has sufficient elasticity or flexibility not to interfere with a limited movement of the casting E upon its fulcrum-bolt F.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the fixed hanger or support, the horizontal fulcrum-bolt, the C-shaped casting having vertically-registering tubular bosses, the threaded bearing-bolts inserted through said bosses and provided with nuts for effecting their vertical adjustment, the pillow-block having recessed and shouldered inner sides, and the cap-piece having depending sides adapted to fit within and against the shouldered recesses in the pillow-block, substantially as and for the purpose herein shown and set forth.

2. The combination of the fixed hanger or support, the horizontal fulcrum-bolt, the C-shaped casting having vertically-registering tubular bosses and a lateral projection at its lower end, the threaded bearing-bolts inserted through said bosses and provided with nuts for effecting their vertical adjustment, the bearing comprising the pillow-block and cap-piece, and the auxiliary suspension-rod nutted adjustably at its lower end to the projection on the pivoted casting, substantially as and for the purpose herein shown and set forth.

3. The combination of the fixed hanger or support, the horizontal fulcrum-bolt, the C-shaped casting adapted to support the central adjustable shaft-bearing proper, and the set-screws inserted through the hanger on opposite sides of the central fulcrum-bolt and adapted to bear with their inner ends against the C-shaped bearing, substantially as and for the purpose herein shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

HIPPOLYTE SCHNEIDER.

Witnesses:

EDWARD J. DONNELLY,

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