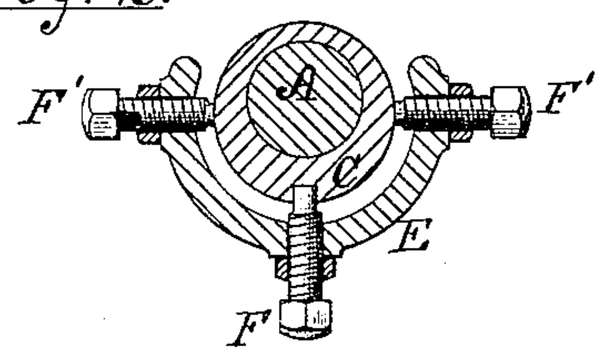
(No Model.)

D. A. WOODBURY.

JOURNAL BOX.

No. 304,394. Patented Sept. 2, 1884.

Fig. 2.



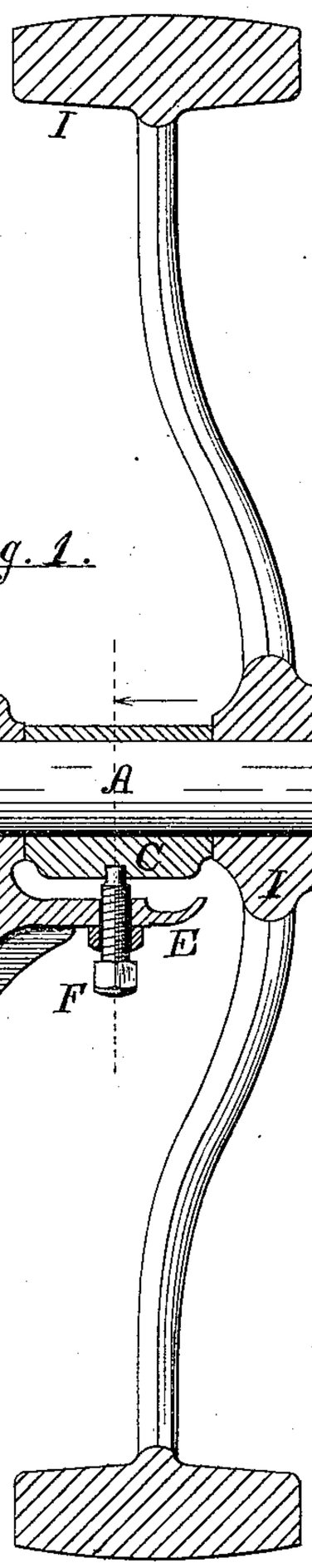


Fig. 1.

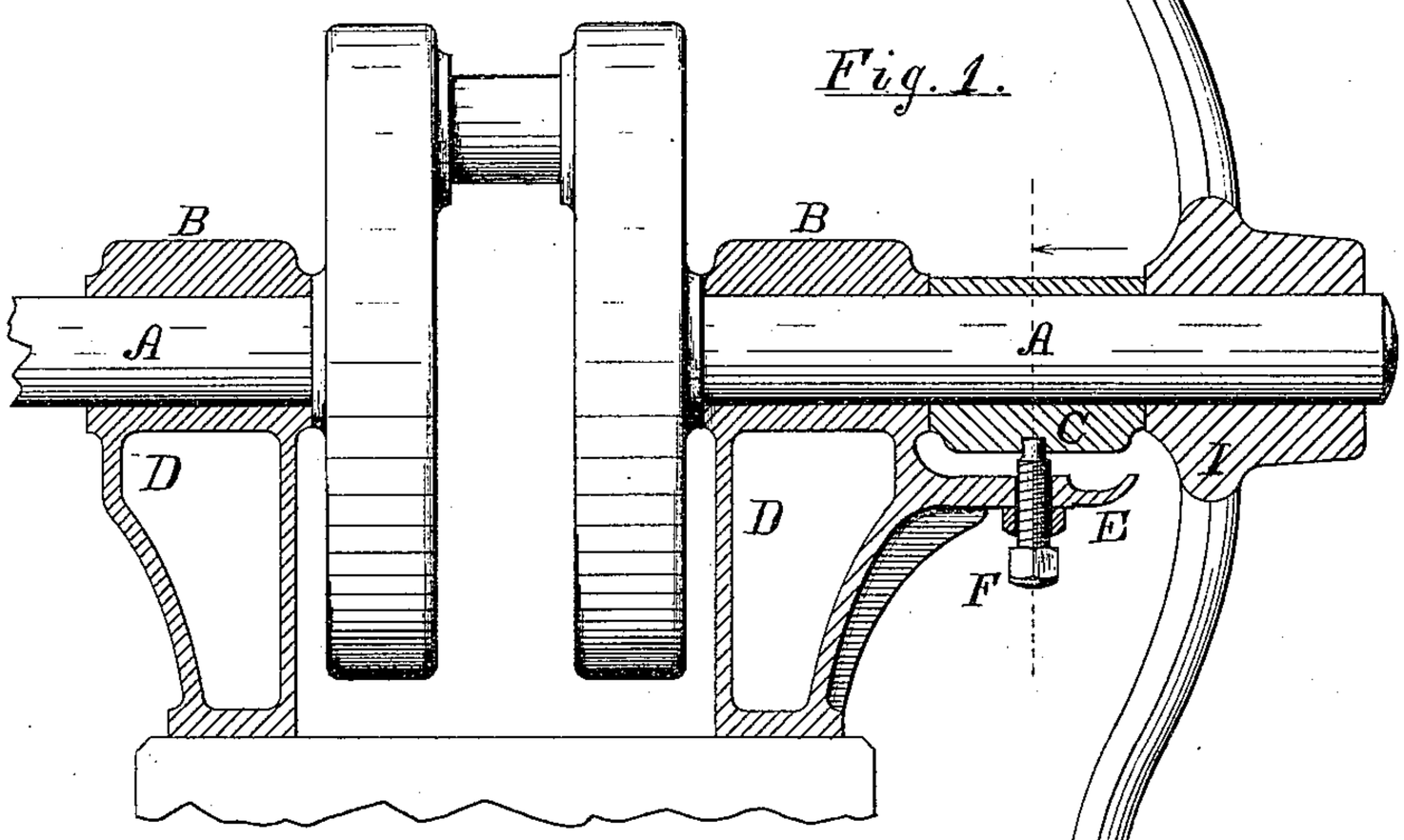


Fig. 4

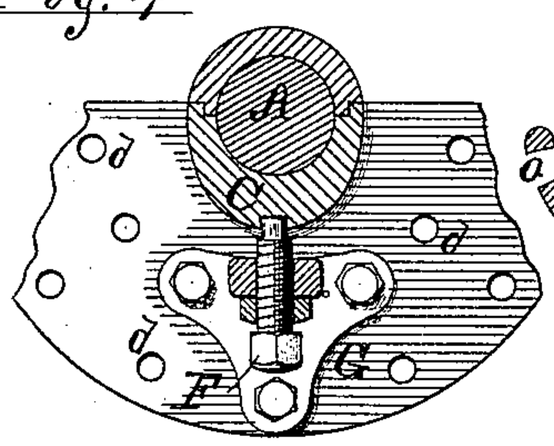
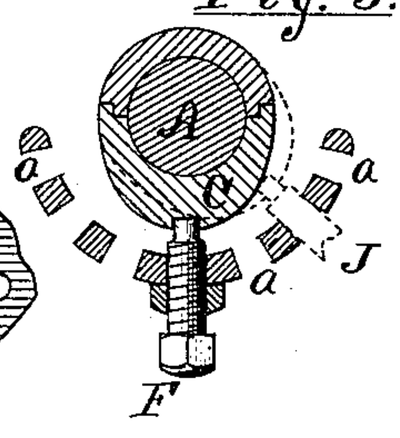


Fig. 3.



Attest:

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Inventor:

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UNITED STATES PATENT OFFICE.

DANIEL A. WOODBURY, OF ROCHESTER, NEW YORK.

JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 304,394, dated September 2, 1884.

Application filed February 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, DANIEL A. WOODBURY, a citizen of the United States, residing in the city of Rochester, county of Monroe, State of New York, have invented new and useful Improvements in Journal-Boxes for Shafts, of which the following is a specification.

My invention relates to an improvement in boxes for shafts in which the pressure upon the bearing-surfaces at the opposite ends is unequal in degree or differs in direction, or both, the object being to counteract the tendency to inequality of wear under such circumstances, thereby preserving the alignment of the shaft. For this purpose I employ a supplementary box at one or both ends capable of independent adjustment, enabling the necessary additional support to be given in the direction of the greatest wear.

The drawings illustrate the manner of its application to a double-cranked shaft of a horizontal steam-engine having a single fly-wheel, which also carries the driving-belt. It applies equally well to those of upright or inclined engines and to shafts used for other purposes when the boxes are exposed to similar inequalities of wear.

Figure 1 is a longitudinal section through the centers of the journal-boxes. Figs. 2, 3, and 4 are transverse sections through the center of the supplementary box, showing different methods of supporting and adjusting the same.

The boxes B and C may be of any suitable construction, a pipe or a half-box being sufficient for the purpose of the latter.

In Figs. 1 and 2 so much of the weight of the fly-wheel and other parts as is necessary is sustained by the screw F, and the lateral strain, as in case the driving-belt runs in a horizontal or inclined direction, by one or the other of the screws F′, as may be required.

In Figs. 3 and 4 the resultant of the different forces to be counteracted is concentrated upon a single screw, which is placed at such an angle as to act in that direction. In Fig. 3 the proper angle is obtained by placing the screw in such one of the holes in the projection or housing E, prepared for that purpose, as will give it the direction desired—as, for instance at J. In Fig. 4 the screw is shown fitted to a movable bracket, G, which is capable of being so placed, by means of the numerous holes *d* in the engine-frame D, as will bring the screw to bear in the right direction; or the holes may be made, and the bracket bolted on when the proper angle is ascertained. Instead of the projection or housing E being cast in one piece with the frame D, as shown in Figs. 1, 2, and 3, it may be made separate and secured to the frame in some suitable manner. In this way the parts may be so constructed, if desired, that the bracket can be attached to either side of the frame, enabling the whole structure to be made reversible. When the fly-wheel is located upon one end of the shaft and the driving-pulley upon the other, a supplementary box may be applied to each end and made adjustable at such angles, respectively, as will equalize the wear upon the main boxes. The arms of the fly-wheel G may be curved more or less, or the hub shortened at one end, or both, as shown in Fig. 1, thereby bringing the weight and strain to be provided against more directly upon the box C, and also economizing space.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the main journal-boxes of a shaft, of the supplementary box C, substantially as shown and described, and for the purpose set forth.

2. The combination, with a shaft provided with journal-boxes B B and C, of a fly-wheel or driving-pulley having curved or inclined arms, substantially as shown, and for the purpose described.

3. The combination, with a shaft provided with journal-boxes B B and C, of a fly-wheel or driving-pulley having the hub made shorter at one end than the other, substantially as and for the purpose set forth.

D. A. WOODBURY.

Witnesses:

W. J. CREELMAN,

A. M. BASSETT.