

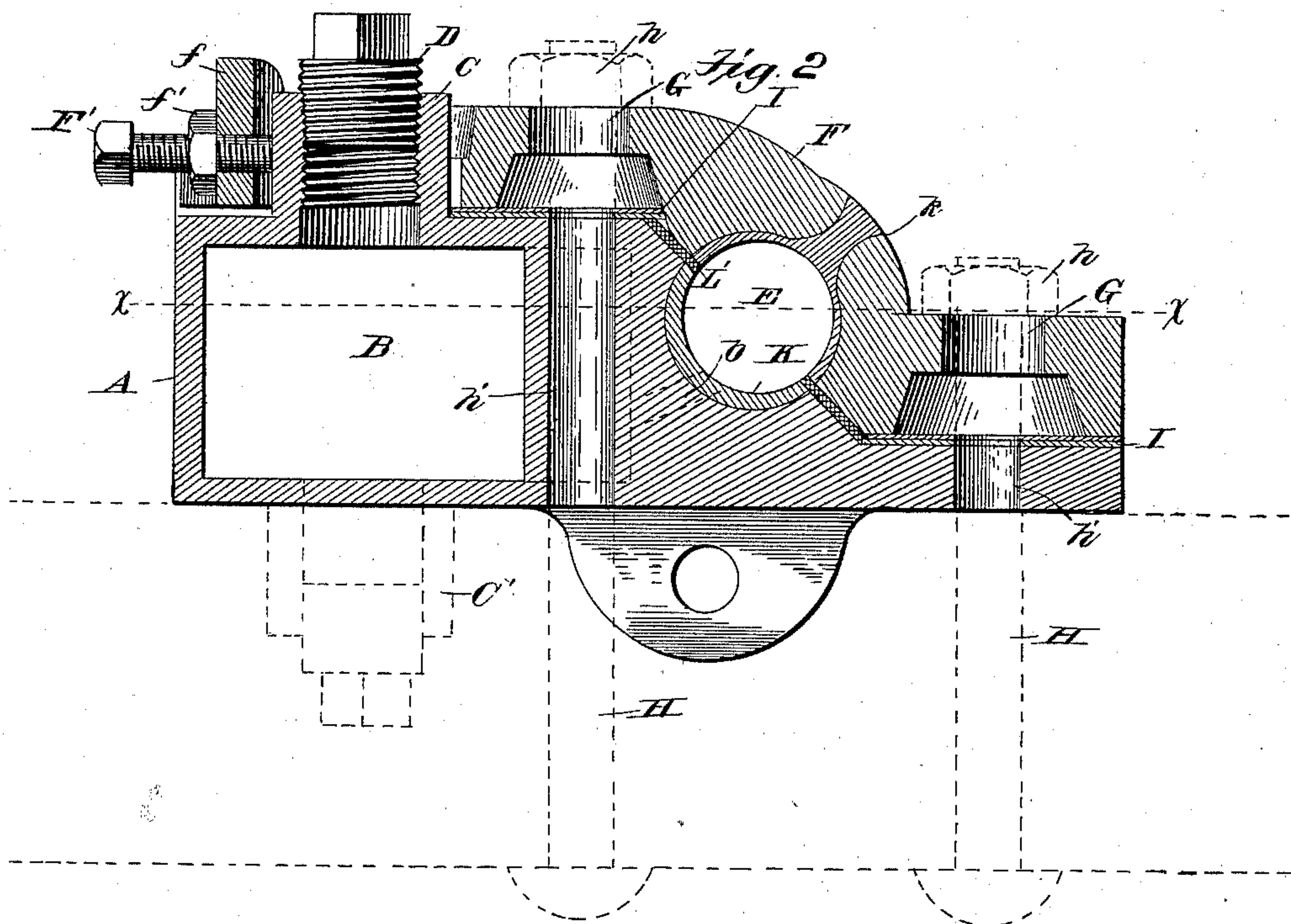
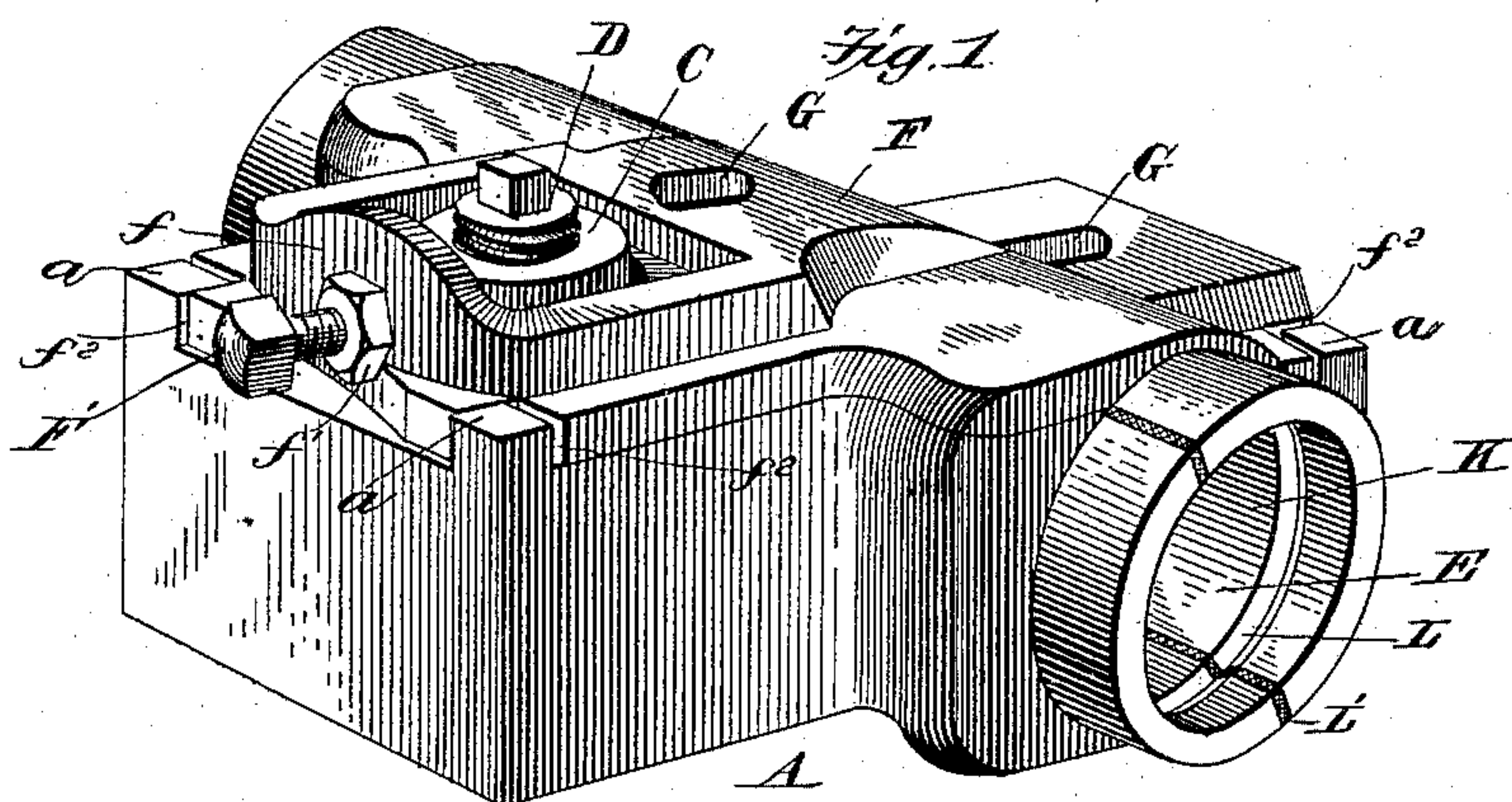
(No Model.)

2 Sheets—Sheet 1.

S. S. MORTON.
JOURNAL BOX OR BEARING.

No. 476,158.

Patented May 31, 1892.



Witnesses:
J. P. Cornwall,
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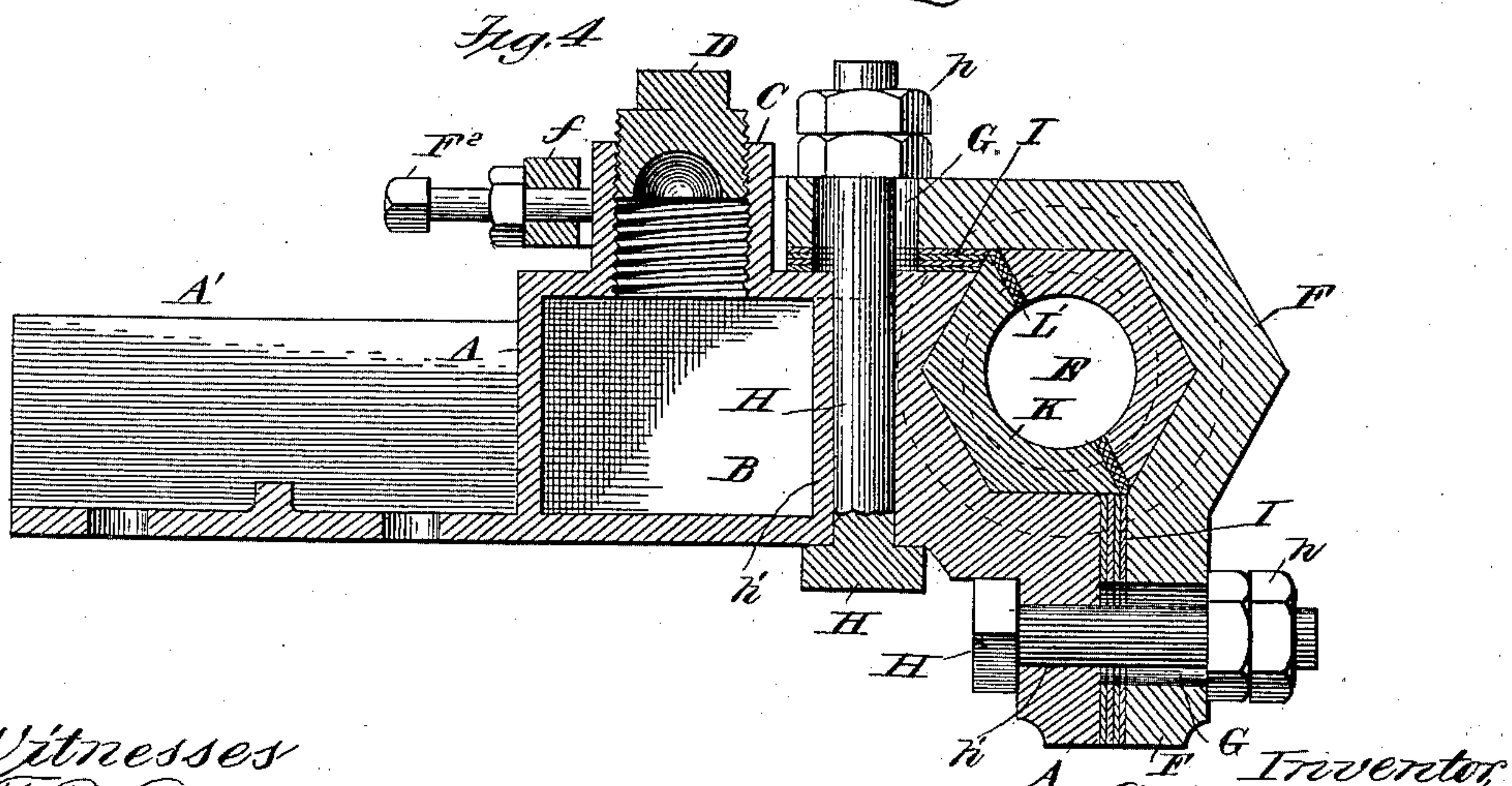
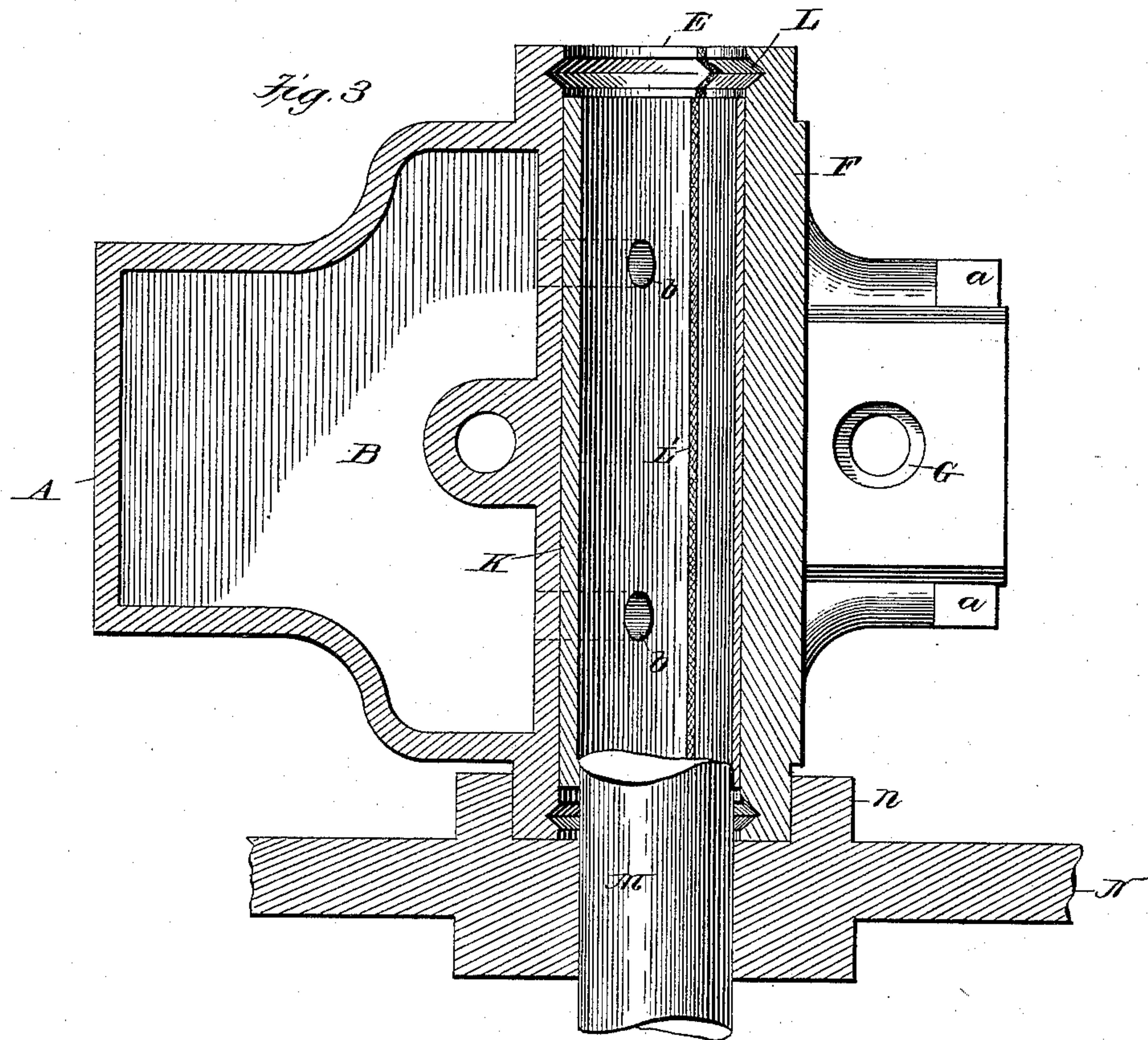
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2 Sheets—Sheet 2.

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Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL S. MORTON, OF YORK, PENNSYLVANIA.

JOURNAL BOX OR BEARING.

SPECIFICATION forming part of Letters Patent No. 476,158, dated May 31, 1892.

Application filed November 11, 1891. Serial No. 411,575. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. MORTON, of York, in the State of Pennsylvania, have invented a new and useful Improvement in Journal Boxes or Bearings, of which the following is a specification.

My invention relates to journal boxes or bearings, and has for its object to improve the same by providing novel means for adjusting one part or section thereof relative to the other in order to take up the wear and secure a perfect fit to the shaft or journal; by providing the journal-box with an oil chamber or reservoir and ducts connecting this chamber with the shaft-opening and arranged in a novel manner, whereby the journal is kept lubricated and the passage of grit and sediment to the bearing along with the lubricant is prevented; by providing the journal-box with packing arranged in a novel manner to prevent the escape of the lubricant, and, further, by improving the bearing in its various minor details, as will be hereinafter pointed out.

In order that my invention may be the better understood, I have illustrated the same in the drawings accompanying this specification, although I wish it understood that my invention is not limited to the precise construction and arrangement of the parts as shown.

In the drawings, Figure 1 is a perspective view of a journal-box embodying my improvements. Fig. 2 is a vertical cross-section thereof. Fig. 3 is a horizontal section taken on the line *xx* of Fig. 2. Fig. 4 is a vertical cross-section of a journal-box, showing a somewhat different embodiment of the invention.

In the drawings, A designates the lower or main section of the journal bearing or box. It is provided with a reservoir or chamber B, which is shown as situated to one side of the bearing, this being the preferred position of this part, although it might be differently located.

b b are ducts leading from the chamber B to the shaft opening or bearing E, these ducts being by preference inclined, the openings into the oil-chamber being lower than the openings through the bearing.

In practice I prefer to fill the chamber B and also the ducts *b* with some oil-absorbing material—such as cotton waste—in order to

strain the oil and prevent grit, sand, or sediment from being carried to the bearing. However, by arranging the ports as described, so that they incline upward, and causing them to enter the chamber B at a distance above the bottom thereof, I guard against grit and sediment being carried to the bearing, even though the straining material be not used.

C is an internally-screw-threaded projection or boss surrounding the opening into the chamber through which it is filled, and D is the plug which closes the opening.

F designates the adjustable section of the box or bearing, it being secured to the main section A by the bolts H and nuts *h*. The bolts H, which may be employed to secure the journal-box to its support, as indicated in Fig. 2, pass through close-fitting openings *h'* in the section A, in which they are held against longitudinal movement, and through slots G in the section F. The section F is provided with a sort of yoke *f*, which serves as a bearing for an adjusting-screw F', which is used to assist in adjusting the section F to cause a close fit upon the journal. As shown, this yoke portion of the adjustable section F rests upon or above the upper surface of the section A and surrounds the boss C, against which latter the end of the screw F' impinges.

f' is a lock-nut upon the screw F'.

a a represent blocks or projections on the section A, which serve as guides, between which is fitted a portion *f*² of the box-section F, these guides serving to insure parallelism between the two box-sections at all positions of adjustment. It will be seen that by reason of the section F being slotted at G G this section may be adjusted horizontally, the parts being secured together after adjustment by the nuts *h*, and it will be understood that such adjustment could be made with a considerable degree of nicety without the use of the screw F', although the screw greatly facilitates this adjustment.

I provide for an adjustment in the opposite direction to that described by the use of liners I, which are slipped over the bolts H, a greater or less number being used, as circumstances require. By the use of these two means for adjusting the relation of and distance between the two sections A and F of the box or bearing I am enabled to very accurately fit the

bearing to the shaft or journal M, even when the babbitts or brasses K have become worn to a considerable extent.

In order to prevent the lubricant from escaping, I place packing L' in the joints between the portions of the sections A and F which contain the linings for the bearing.

L L indicate grooves situated near the ends of the shaft-bearing in the sections A and F, and in these grooves is placed packing material, which serves to prevent the escape of lubricant at the ends of the bearing.

N represents a pulley or wheel upon the journal M, the hub n of the wheel being recessed upon its inner side, so that it fits over one end of the journal-bearing, as shown in Fig. 3.

As has been suggested, various modifications and adaptations of my invention may be made. Thus in Fig. 2 the projection or boss which surrounds the opening into the oil-chamber is represented at C' (in dotted lines) as extending downward.

In Fig. 4 I have shown a style of journal box or bearing particularly adapted for use with crank-shafts and pitmen. In this case the main section of the bearing or box has an extension A' of suitable shape to receive the end of the crank-shaft or pitman.

In the figures heretofore described the bolts H, which unite the sections, are shown as passing through the parts in the same direction; but this is a matter of convenience and not a necessary construction of the device, as is demonstrated by the device illustrated in Fig. 4, where the two bolts H are shown as being arranged at right angles to each other; but whether arranged at right angles to each other or extending in the same direction they operate in substantially the same manner and the adjustments of the two parts of the journal-box relative to each other are substantially the same.

In Fig. 4 the packing material L' is situated between the two parts of the brasses K, which, as shown, are hexagonal in their exterior configuration, thereby permitting them to be turned so that the wear upon the parts may be equally distributed.

In the journal box or bearing shown in Fig. 4, as well as in that shown in the other figures, the bolts H are seated in close-fitting apertures in the section A and in slots in the adjustable section. It will be seen that the line

or plane of separation between the parts of the bearing which are in immediate contact with the shaft or journal M is inclined at an angle of approximately forty-five degrees to both the planes of adjustment of the sections, which planes of adjustment are at right angles to each other.

Among the advantages incident to my invention are the facility and nicety with which the bearing may be adjusted to the shaft or journal uniform lubrication of the bearing without the danger of grit or other abrading foreign material being carried to the bearing along with the lubricant and the prevention of the escape of the lubricant from the bearing.

What I claim is—

1. A journal-box having two sections, one of which is adjustable relatively to the other in two directions at right angles to each other, a close-fitting bearing for a shaft or journal in said sections, and means for securing the independent adjustment of the adjustable section in either of the two directions, substantially as set forth.

2. A journal-box having two sections, the one capable of adjustment relatively to the other in two directions at right angles to each other, a close-fitting bearing for a shaft or journal in said sections, the line or plane of separation between the portions of the sections in which the said bearing is formed being inclined at an angle of substantially forty-five degrees to both of the planes of adjustment, and means for securing the independent adjustment of the adjustable section in either one of the two directions, substantially as set forth.

3. In a journal box or bearing, the combination of the lower main section, an upper adjustable section F, having slots through which pass the bolts which unite the sections, the yoke f, carried by the adjustable section, and the adjusting-screw seated in said yoke and having a bearing against a portion of the other section which projects upward and is surrounded by the said yoke, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL S. MORTON.

Witnesses:

J. HERMAN STALLMAN,
F. J. EVANS.