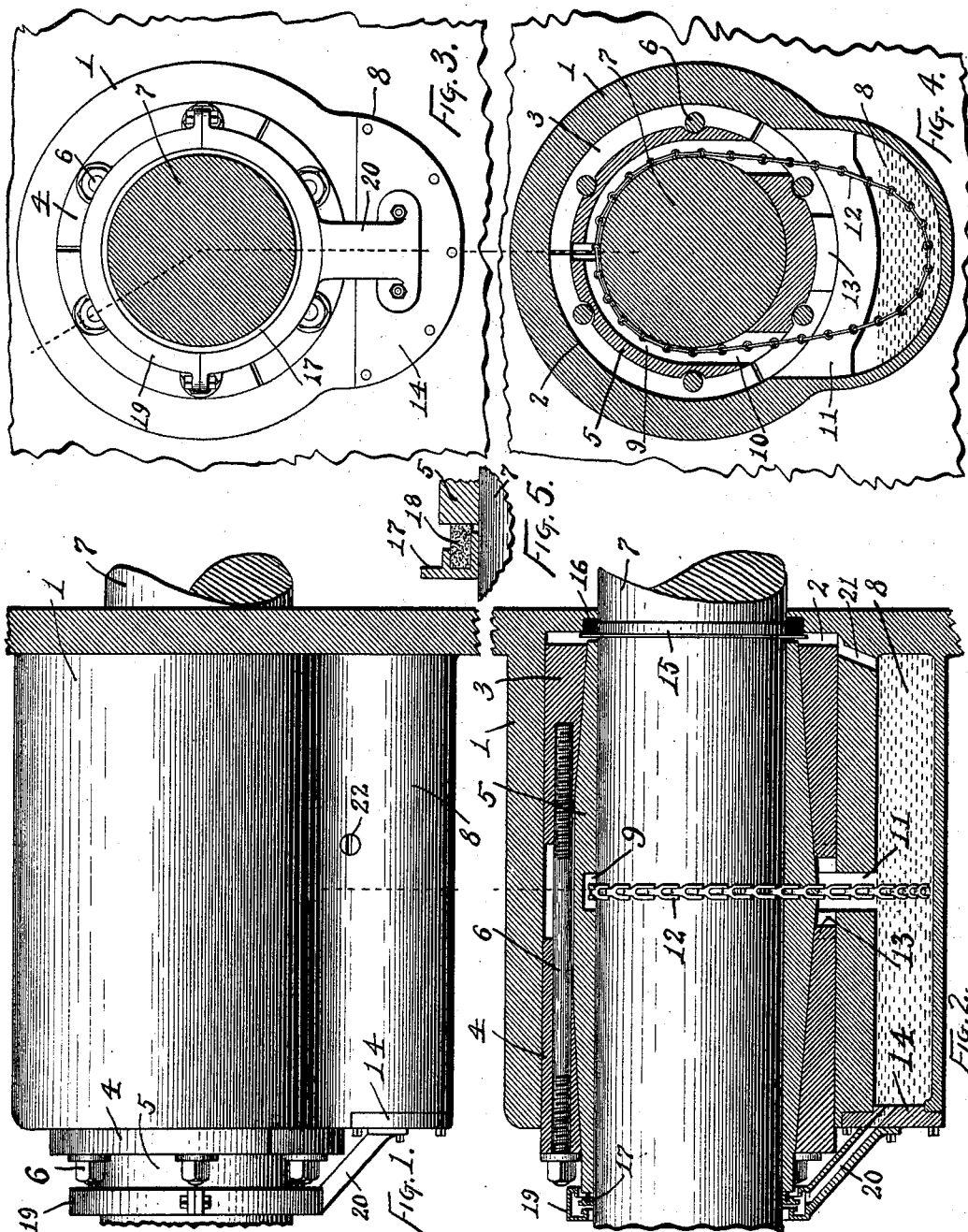


(No Model.)

W. W. WAINWRIGHT.
JOURNAL BOX.

No. 581,378.

Patented Apr. 27, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM W. WAINWRIGHT, OF CONNERSVILLE, INDIANA, ASSIGNOR TO
THE P. H. & F. M. ROOTS COMPANY, OF SAME PLACE.

JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 581,378, dated April 27, 1897.

Application filed December 26, 1896. Serial No. 617,016. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WAINWRIGHT, of Connerville, Fayette county, Indiana, have invented certain new and useful Improvements in Journal-Boxes, (Case C,) of which the following is a specification.

Attention is called to P. H. & F. M. Roots Company's patent No. 525,775, dated September 11, 1894, for improvements in journal-boxes, granted on my application. The present invention pertains to journal-boxes of the type set forth in that patent, and the present improvements relate to features of construction designed to enhance the facility with which the box may be adjusted and to provide for its lubrication.

The present improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of the improved journal-box; Fig. 2, a vertical longitudinal section thereof; Fig. 3, an end view thereof; Fig. 4, a vertical transverse section thereof, and Fig. 5 an enlarged duplication of a portion of Fig. 2.

In the drawings, 1 indicates the fixed support for the journal-box, be it housing, hanger, pedestal, or what not, this support having a cylindrical bore; 2, the cylindrical bore in question, this bore in the exemplification not extending entirely through the support, but, on the contrary, having at one end a reduced portion approximately the size of the shaft; 3, an adjusting-sleeve having a cylindrical exterior fitting the bore of the support, the sleeve being seated in the inner end of the bore of the support and longitudinally cut into a number of segmental sections—three in the example—the inner bore of the sleeve being tapered, with its larger end toward the center of length of the journal; 4, a similar adjusting-sleeve in the outer end of the bore of the support, the inner ends of the two sleeves being separated some distance; 5, the bearing-sleeve, bored to fit the journal, and tapered exteriorly at each end to fit the adjusting-sleeves, and longitudinally cut, so as to be capable of contraction of diameter; 6, studs with their inner ends engaging the sections forming adjusting-

sleeve 3, their outer ends passing through the sections forming the adjusting-sleeve 4 and being provided at the outer end of sleeve 4 with adjusting-nuts, by means of which the sections forming the adjusting-sleeves may be drawn toward each other longitudinally, the studs 6 being disposed at such radial distance from the center of the bearing as to pass through longitudinal grooves in the crown of bearing-sleeve 5, whereby the studs prevent the rotation of the bearing-sleeve with reference to the adjusting-sleeves; 7, the shaft; 8, an oil-chamber formed below the support 1 and extending substantially the length of the bearing; 9, a circumferential groove disposed at about the center of length of the bore of bearing-sleeve 5; 10, ports leading tangentially downward from groove 9 at each side of the bearing, these ports leading to the space between the inner ends of the adjusting-sleeves; 11, a port through the floor of support 1, below ports 10, and forming an opening through the roof of oil-chamber 8; 12, an endless chain hanging on the shaft within groove 9 and passing down through ports 10 and 11 into and near the floor of the oil-chamber; 13, stop-lugs projecting inwardly from the ends of the lower sections of the adjusting-sleeves in position to pass between the two leaves of the chain and abut against each other and limit the approach of the adjusting-sleeves, so that the adjusting-sleeves cannot clamp upon the chain; 14, an end cover for the outer end of the oil-chamber; 15, a collar of angle cross-section fitting upon the shaft at the inner end of bore 2; 16, a felt ring engaging the angle of this collar and a counterbore formed in the end wall of bore 2 around the shaft; 17, an angle-collar on the shaft at the outer end of bearing-sleeve 5; 18, a felt ring carried by this collar and presenting its inner surface against the end of the bearing-sleeve; 19, an inwardly open hollow collar surrounding collar 17 and its felt ring, but supported free from contact therewith; 20, a bracket secured to lid 14 and collar 19 and serving to support the latter, this bracket having an oil-channel leading from the interior of collar 19 through lid 14 into the oil-chamber; 21, a port leading from the inner end of bore 2 into the oil-chamber, and 22 a removable plug in the wall

of the oil-chamber, typifying means for permitting the filling of the oil-chamber.

The movements of the sections of the adjusting-sleeves to effect compensation for the wear of the journal and bearing are as in the earlier patent before referred to. In the present case the adjustment is effected by turning the nuts on the outer ends of the studs. In assembling the parts and in taking them apart the nuts on the outer ends of the studs may be removed, and then the sections of adjusting-sleeve may be removed, the projecting studs remaining in the sections of the inner adjusting-sleeve and furnishing facilities for handling those sections.

In many uses of journal-boxes both ends of the box are equally accessible, but there are cases—as, for instance, in rotary blowers, where the box projects from the outer surface of the head-plate of the blower—where only the outer end of the box is accessible. In the present case the bore of the support has an annular wall at its inner end, and felt serves to prevent the passage of lubricant beyond this wall from the bearing. Collar is merely a snug fit upon the shaft, so that it can be readily removed, as is also the case with collar 17.

The turning of the shaft gives travel to the chain which carries up the lubricant, which tends to distribute itself over the entire length of the journal. Surplus lubricant reaching the inner end of the journal is intercepted at collar 15 and is returned through port 21 to the oil-chamber. Surplus lubricant reaching the outer end of the journal is intercepted at collar 17, which by centrifugal force throws it into collar 19, from which it flows back to the oil-chamber.

In the ordinary use of lubricating-chains the bearing is split or capped and no difficulty is presented in assembling the parts, it being practicable to remove the bearing-cap and disconnect the chain, uncoupling it if necessary; but in a bearing which is not capped and where all manipulations must be made from one end of the bearing the case is different and the chain introduces serious difficulties. In my construction, however, it is to be observed that the lower one of segments 4 may be removed endwise from the cylindrical support 1, thus permitting access by means of a hook to the chain and permitting it to be drawn up out of the oil-chamber and into the bore of the support 1, whereupon all of the interior parts of the box, including the chain, may be withdrawn endwise from the support, the chain being uncoupled, if desired, after the parts are thus withdrawn, and similarly a reversal of the operation provides for the insertion of the chain. The danger of pinching the chain in adjusting the bearing is guarded against by the lugs 13.

I claim as my invention—

1. In a journal-box, the combination, substantially as set forth, of a cylindrically-bored support having an oil-chamber below it and a port leading from the interior of the support to the oil-chamber, a journal disposed concentrically within said support, a longitudinally-cut bearing-sleeve disposed on said journal within said support and having exterior tapers at each end and having an inner groove in line with the above-mentioned port and having ports leading downwardly from said groove, an endless chain suspended from said journal within said groove and passing through said ports into said oil-chamber, and accessible from the end of said support below said bearing-sleeve, a pair of adjusting-sleeves bored to fit said tapers on the bearing-sleeve and having their exteriors fitting the bore in said support and formed in segmental sections, the segments of one of said adjusting-sleeves being removable endwise from said support and bearing-sleeve, and screws for moving the segmental sections of the adjusting-sleeves endwise independently.

2. In a journal-box, the combination, substantially as set forth, of a support having a cylindrical bore, a longitudinally-cut bearing-sleeve disposed therein and having an exterior taper at each end, a pair of segmental adjusting-sleeves bored to fit said tapers and having their exteriors fitting the bore in said support, means for moving said adjusting-sleeves endwise, an oil-chamber formed below said support, a journal engaging said bearing-sleeve, an endless chain engaging said journal and extending downwardly between the contiguous ends of the lower segments of said adjusting-sleeves and into said oil-chamber, and lugs projecting from the inner ends of said lower segments of the adjusting-sleeves and adapted to make contact with each other before the inner ends of said segments reach the chain.

3. In a journal-box, the combination, substantially as set forth, of a support, a bearing therein, a shaft engaging said bearing, an oil-chamber disposed below said support, an endless chain engaging said shaft and dipping into said oil-chamber, a removable collar on said shaft at one end of the bearing, a soft ring, as of felt, carried by said removable collar and engaging one end of the bearing, a hollow collar encircling said removable collar and soft ring and supported free thereof, and a bracket supporting said hollow collar and having a channel leading therefrom to said oil-chamber.

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Witnesses:

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