

No. 728,547.

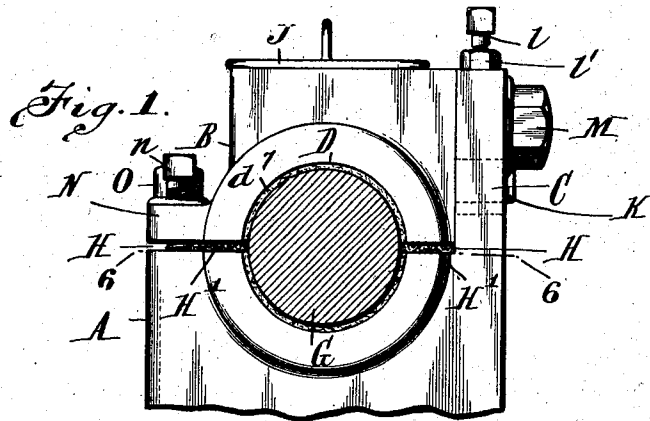
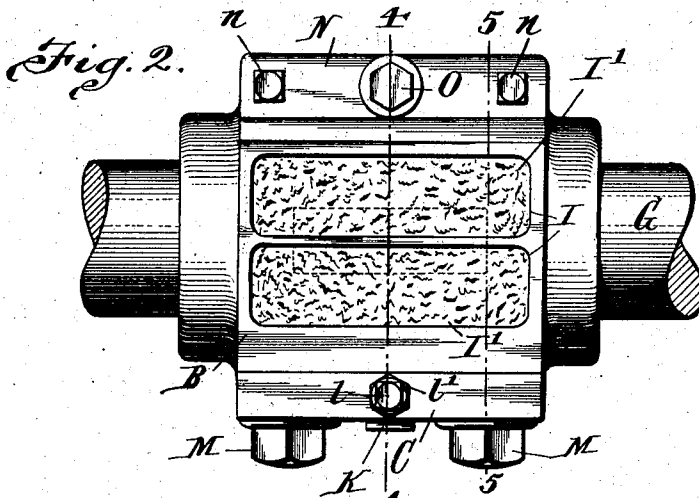
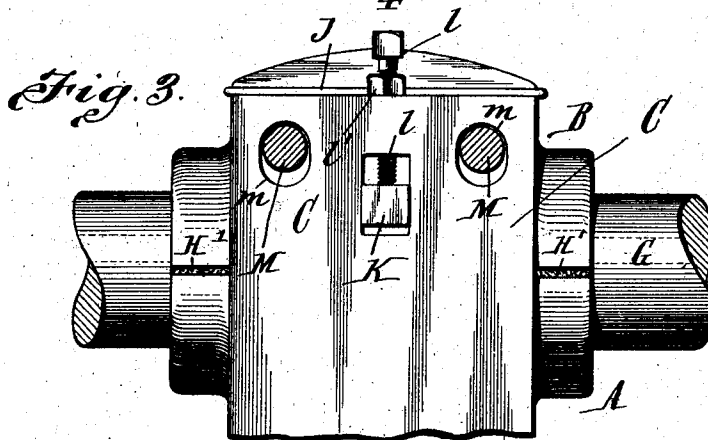
PATENTED MAY 19, 1903

F. H. CRAFTS.
JOURNAL BOX.

APPLICATION FILED SEPT. 22, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
Julius Lankes
Bert Mason

Francis H. Crafts, Inventor,
By Neuhart & Kunkel
Attorneys

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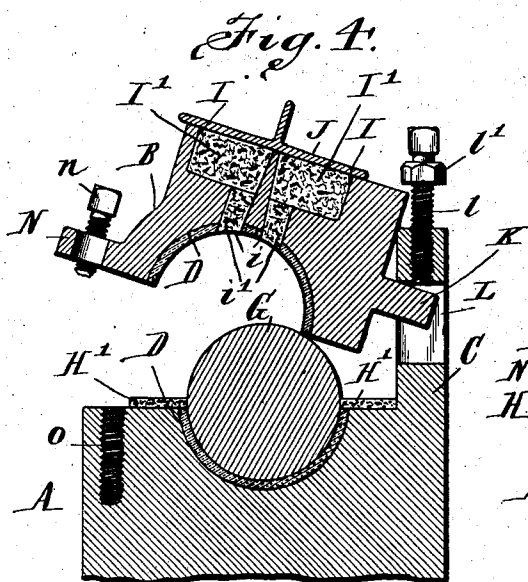
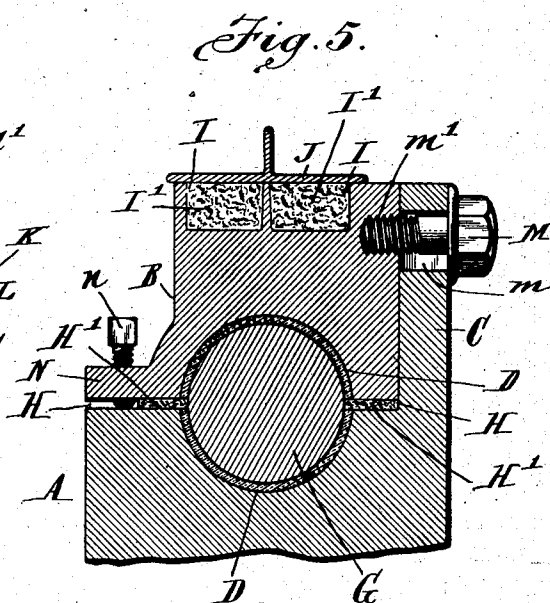
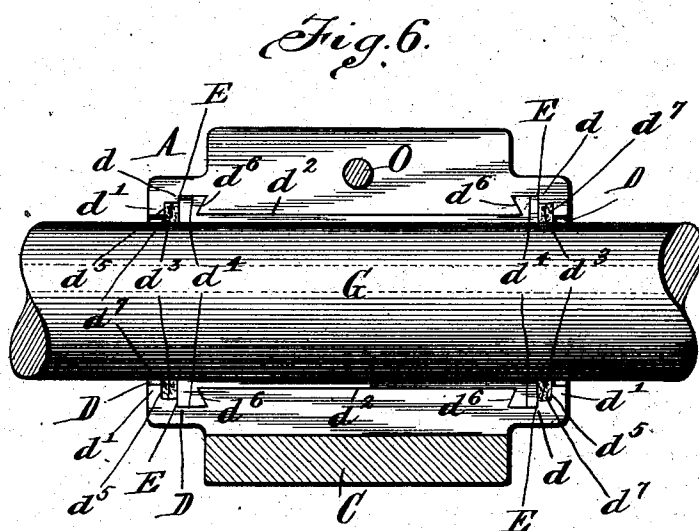
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Attorneys.

UNITED STATES PATENT OFFICE.

FRANCIS H. CRAFTS, OF BUFFALO, NEW YORK, ASSIGNOR TO CRAFTS MACHINE & TOOL COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 728,547, dated May 19, 1903.

Application filed September 22, 1902. Serial No. 124,431. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. CRAFTS, a citizen of the United States, and a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Journal-Boxes, of which the following is a specification.

This invention relates to journal-boxes, and more particularly to that type of journal-boxes comprising two sections, the lower section being provided with an extension passing over and above a part of the other section, whereby the liability of the parts becoming loose is reduced to a minimum.

My invention has for its object the production of a simple, cheap, and durable bearing whereby destructive abrasion is entirely avoided, to provide a properly-fitting and smooth-working bearing in which only the necessary quantity of lubricant is fed and in which grit and other foreign matter are prevented from finding ingress to the bearing-surface and cutting and grinding away the journal, and to construct a bearing of this type in which the upper section can be removed without first removing the shaft endwise and whereby a perfect and fine adjustment can be effected with ease and convenience.

To this end the invention consists of the new and novel arrangement and combination of parts, as will be hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is an end view of my improved journal-box. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the box, showing the horizontally-disposed securing-bolts in section. Fig. 4 is a transverse section of the box, taken on line 4 4, Fig. 2. Fig. 5 is a similar section taken on line 5 5, Fig. 2. Fig. 6 is a horizontal section taken on line 6 6, Fig. 1.

Referring to the drawings in detail, like letters of reference refer to like parts in the several figures.

A designates the base or lower section, which may be cast integrally with the frame

of a machine or formed separately and secured thereto in any approved manner, and B is the cap or upper section. The base or lower section is somewhat wider than the upper section and has an upwardly-extending guide-plate C, which extends to a point approximately even with the upper face of the cap or upper section B. Each section is provided with the usual semicircular cavity D, having semi-annular grooves d at each end, which form narrow end ribs d' and a wide center rib d^2 . The grooves d are made of two different depths, as at d^3 d^4 , and have their outer side walls arranged perpendicular, as at d^5 , and their inner side walls undercut, as at d^6 . In the deep portion of each groove d and over the center rib d^2 a compound metal, commonly termed "Babbitt" metal, is poured to form a bearing. In pouring this metal into the semicircular cavities any suitable object may be placed in the shallow portion of each semi-annular groove to confine the Babbitt metal to points between the ledges E, formed by the increased depth of the inner half of each groove d . The undercutting of the inner side walls of the grooves d securely holds the Babbitt or compound metal and dispenses with the necessity of riveting, which has heretofore been done to prevent the loosening of the same. In the shallow portion of the grooves d , between the end ribs d' and the ends of the Babbitt metal, I place semi-annular pieces of felt d' or any other suitable absorbent material to prevent the flow of the lubricant along the shaft G. Under proper working conditions the two sections of the bearing fit the shaft snugly, while the joint faces are still separated, and in the space H so formed two strips H' of felt or other suitable absorbent material are held. These strips lie on opposite sides of the shaft and bear with their edges against the same, and thus absorb all surplus lubricating-oil, which would otherwise work its way out to the side of the bearing and drip therefrom onto the floor or anything that may be beneath the bearing. These strips and the semi-annular felt pieces located in the grooves d serve also to prevent

dust and other matter from coming in contact with the lubricated journal, which would thicken the oil and cause the expenditure of additional power to revolve the shaft. The upper section or cap is provided with two receptacles I, having each a lubricating passage *i* in its bottom leading to the journal. In each lubricating-passage is a felt conductor or feeder *i'*, which conducts the lubricant to the journal, and in the receptacles I felt pads I', thoroughly saturated, serve to saturate the felt feeders in the passages *i*. It is apparent that any other absorbent material may be substituted for the felt pads and feeders; but by having the feeders cut to conform to the shape of the passages and the felt pads cut to the shape of the lubricating-receptacles a neat lubricator is provided. It is only necessary to saturate the felt pads with the lubricant, which passes on to the feeders and is fed to the journal, where it is taken up as is found necessary. This arrangement also prevents ingress of grit, dirt, or other matter through the passages *i*. A closure in the form of a plate J is set onto the upper section and serves to prevent lodgment of dust or dirt on the felt pads.

The upper section or cap B is provided on one side midway between its ends with a laterally-projecting lug K, which enters a vertical slot L, formed in the upwardly-extending guide-plate. A set-screw *l* passes vertically through that portion of the guide-plate which bridges the said slot and is adapted to be set against the upper face of the projecting lug K, a jam-nut *l'* being provided to hold said screw in its adjusted position. Horizontally-disposed securing-bolts M pass through vertically-elongated bolt-holes *m*, formed in the guide-plates C, and enter correspondingly-threaded bores *m'*, formed in the abutting side face of the cap. A horizontally-disposed flange N is formed on the opposite side of the cap through which set-screws *n* pass, that are adapted to be set against the joint face of the lower section or base to adjust the cap thereon. A securing-bolt O is also provided and passes through the flange N, it being arranged to enter a correspondingly-threaded bore *o*, formed in the joint face of the base.

In placing the shaft in the bearing the set-screws are raised and the securing-bolts are removed. The cap is placed over the shaft with the lug K in line with the vertical slot in the guide-plate C. The cap is then thrust sidewise to cause said lug to enter the said slot, which permits the concaved bearing-face of the cap to rest on the shaft. The set-screws *l* and *n* are then lowered to cause the lower ends thereof to set against the lug K

and joint face of the base, respectively, after which the securing-bolts M and O are screwed into place and tightened. The two sections are thus locked together and form a bearing which is smooth and easy running under all conditions of usage. After the bearing is worn it may be readjusted with ease and convenience by loosening the securing-bolts, lowering the set-screw *l*, and raising the set-screws *n*, after which the securing-bolts are again tightened and the bearing placed in proper condition.

Having thus described my invention, what I claim is—

1. A journal-box comprising two sections, each section having a concavity and a groove near each end of said concavity, each groove having two depths and its inner side wall undercut, a compound metal bearing formed in said concavities and entering the deeper portions of said grooves to cause said bearing to be held in place by the undercut side walls of said grooves, and absorbent-rings held in the shallow portions of said grooves between the outer side walls thereof and the ends of the compound metal bearing.

2. In a journal-box, the combination of a base having an upwardly-projecting guide-plate provided with a vertical slot, a cap having a lug on one side adapted to enter said slot, a set-screw passing through the bridge portion of the guide-plate located over the said slot and being adapted to bear against said lug, and securing means for further holding the cap to the base.

3. In a journal-box, the combination of a base having an upwardly-projecting guide-plate provided with a vertical slot, a cap having a lug on one side adapted to enter said slot and a flange on its other side, set-screws passing through said flange and bearing against the joint face of the base, a set-screw passing through the bridge portion of the guide-plate located over said slot and being adapted to bear against said lug, a horizontally-disposed securing-bolt passing through said guide-plate and entering a threaded bore in the side of the cap, and a vertical securing-bolt passing through the flange on the cap and entering a threaded bore in the joint face of the base, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANCIS H. CRAFTS.

Witnesses:

CHAS. F. BURKHART,
EMIL NEUHART.