

S. F. Bond,

Journal Box.

N^o 64,064.

Patented Apr. 23, 1867.

Fig: 1.

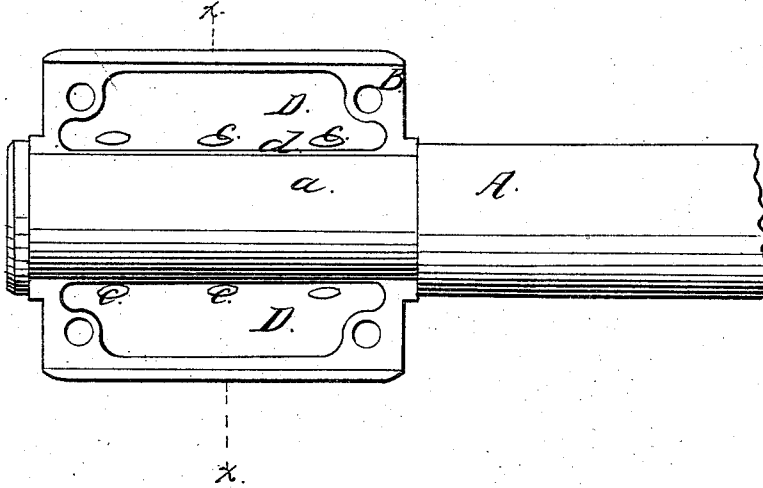
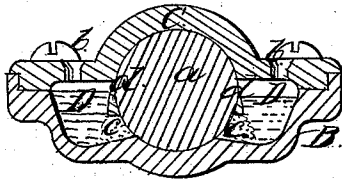


Fig: 2.



Witnesses:

*J. McComb
G. W. Reed*

Inventor:

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By his Attorneys
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United States Patent Office.

SAMUEL F. BOND, OF WORCESTER, MASSACHUSETTS

Letters Patent No. 64,064, dated April 23, 1867.

IMPROVEMENT IN SELF-LUBRICATING JOURNAL-BOX.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, SAMUEL FISK BOND, of Worcester, in the county of Worcester, and State of Massachusetts, have invented a certain new and useful Improvement on Self-Lubricating Journal-Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a plan of a self-lubricating journal-box constructed according to my improvement, with the journal of a shaft arranged for rotation therein; and

Figure 2, a transverse section of the same through the line *x x* in fig. 1.

My improvement relates to that description of self-lubricating journal-boxes in which the oil or lubricating material is contained in the lower or box part of said devices, and is drawn out on to the journal by the rotation of the latter, while the surplus of or any extra oil so extracted is by the same motion returned or worked back to the reservoir. There have been numerous journal-boxes for accomplishing this end, but my invention essentially differs from them both in construction and principle of action, and the nature of my invention consists in constructing the box part, preferably on either side of the journal, with oil reservoirs or chambers open at the top, which admits of the same being cast clear of sand, and of being readily cleaned from time to time, and establishing lower communications for supply of the journal with oil, that may be fed thereto or drawn from either reservoir by the rotation of the journal, through the intervention of wicks or fibrous feeders, while the interior upper edges of the reservoirs are arranged and constructed to act as scrapers or clearers for shaving or cutting off surplus oil throughout, it may be, the width of the journal, and returning it to the reservoirs.

Referring to the accompanying drawing, A represents a revolving shaft or spindle, the journal *a* of which is arranged to run in a journal-box, B, to which C is the gland, that may be provided with air apertures, *b*, for feeding in the oil and giving the necessary atmospheric pressure thereon to produce the required flow. The journal-box B is constructed with oil chambers or reservoirs, D, open at the top, and arranged along either side of the journal *a*, preferably for nearly the whole length of the latter. This construction admits of the oil reservoirs being formed clear of sand in casting the box, which it is difficult or impossible to do where the reservoir is of a close character and cored out from beneath; also admits of said oil chambers being made cleaner generally, and of being cleared out with facility from time to time, as occasion may require. Under certain circumstances there may be but one chamber D, say on the side of the journal which occupies a front or forward position relatively to the run of the shaft in its ordinary direction, but the arrangement of such chambers on opposite sides of the journal is preferred, more particularly where the journal is required to be lubricated in opposite directions of travel, and the principle of action being the same, the description here given will be confined to a double arrangement of reservoirs, as represented in the drawing. These chambers D are provided at or near their bottoms, on their inner sides, with apertures, *e*, that form vents to supply the journal with oil, and which may have wicks or fibrous feeders projecting through them from the interior of the reservoirs to and against the journal. The upper inner edges *d* of said chambers are made sharp or thin, so that oil drawn by the rotary motion of the shaft out of the supply apertures from either or both chambers will be evenly distributed over the journal, and any surplus or extra quantity be cut or cleared off, more especially by the edge *d*, which occupies a front position relatively to the direction in travel of the journal, and will be returned to the reservoir or reservoirs, thus restricting the lubrication to thin or light strata, and providing a long and free return, it may be for the whole length of the journal, for the surplus oil, thereby avoiding waste or scattering at the ends of the journal, which in a very rapid motion of the shaft it has heretofore been difficult to prevent, even clear end return passages failing to accomplish the same.

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

A self-lubricating journal-box, constructed substantially as described, with a chamber or chambers forming oil reservoirs along either side of the journal, also provided with lower supply apertures and their upper inner edges made to form scrapers or clearers for removing surplus oil and to return it to the reservoirs, essentially as herein set forth.

Witnesses:

WM. B. McIVER,
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SAMUEL FISK BOND.