(No Model.)

H. STILL.

SELF LUBRICATING JOURNAL BOX.

No. 307,148. Patented Oct. 28, 1884.

Fig. 1.

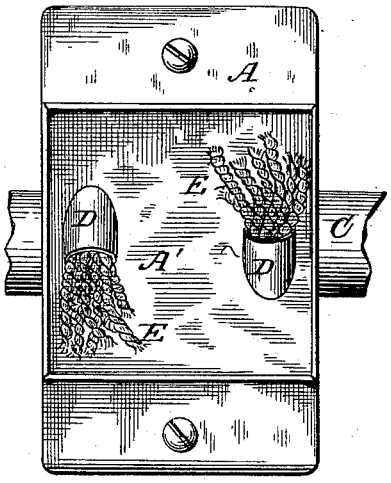


Fig. 2.

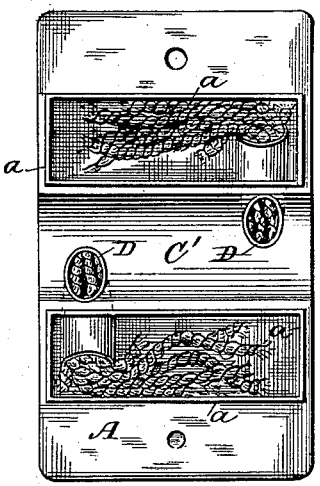


Fig. 3.

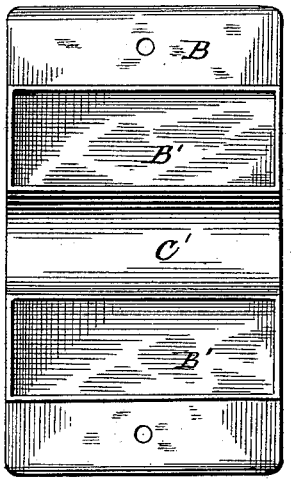
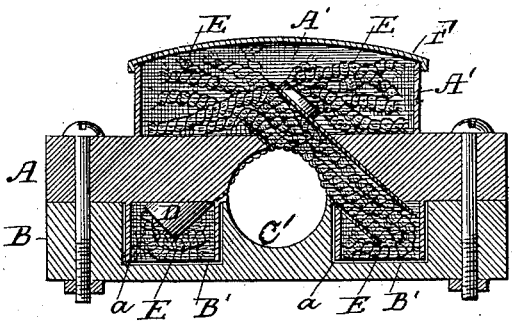


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY STILL, OF BELOIT, KANSAS.

SELF-LUBRICATING JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 307,148, dated October 28, 1884.

Application filed March 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY STILL, a citizen of the United States, residing at Beloit, in the county of Mitchell and State of Kansas, have invented certain new and useful Improvements in Self-Lubricating Journal-Boxes, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a plan of a self-lubricating box constructed in accordance with my invention. Fig. 2 is a bottom view of the upper half of the box. Fig. 3 is a plan of the lower half of the box, and Fig. 4 is a longitudinal vertical section of the box provided with a cover.

Like letters refer to like parts in all the figures.

The objects of my invention are to provide a self-lubricating box for journals of all kinds, which box shall hold a supply of lubricant beyond the need for present use, gradually conduct said lubricant to the journal, and filter the same and deposit the sediment below the journal, so that a constant uniform supply of gritless lubricant is furnished so long as the original quantity lasts.

Other objects and advantages will appear in the following description of my invention, and its novel features will be specifically set forth in the claims.

A represents the upper half, and B the lower half, of the box, and C the journal. Although herein shown as substantially rectangular in shape, I do not limit myself thereto; but I may make the box of any suitable shape, so long as I retain the principal features hereinafter described.

C′ represents the seat or bearing for the journal, which in this instance is made half in each half of the box; but it is evident that the box with oil-passages and bearing could be cast in one piece, and the recesses or wells, hereinafter mentioned, may be cast by use of a core or otherwise—that is to say, by the usual well-known methods of casting pieces with inclosed passages and recesses. My improved box may be cast complete in one piece, and it is evident that the tubes D may be omitted, as a passage formed in the box when cast would serve the function of the tubes, and therefore I use the terms "tubes" and "passages" synonymously, as also the words "fountains," "wells," and "recesses," as I may use either of these elements at different points about, above, or below the journal. Above, or it may be below or at the side or sides of, the journal I provide a main-supply fountain, as A′, and below the journal two secondary fountains, B′, in this instance formed in the lower half of the box. In this instance, also, as minor features, the upper half of the box is provided with depending flanges *a*, which enter the recesses, wells, or secondary fountains B′.

D represents oil-passages communicating with the main and secondary fountains, the course of such passages being such as to terminate at the bearing C′, so that when wicks E are in the passages they lie upon or come in contact with the journal. In this instance the passages D are formed by casting the box around tubes inclined at an angle to and across the bearing; but, if desired, said passages may be cast or otherwise made in the box itself. By projecting the walls of the passages or tubes D above and below, so as to extend a short distance into the fountains, advantages are gained, in that leakage of oil through and between the upper and lower halves of the box is avoided, and any sediment in the main fountain is in part prevented from being carried down by the wicks.

I find by experiment that asbestus is preferable as a substance for the wicks, as it is serviceable and less liable to throw off lint, which may serve to collect and carry grit and sediment to the journal to its injury and a clogging of the feed of oil. The openings from the bearing C′, into the passages D are located, preferably, below the joint between the two halves of the box, so that oil shall not escape through said joint. Any suitable cover, as F, may be provided for the main fountain, and in all other respects I may provide adjuncts or change the construction herein shown to any extent within the skill of persons conversant in the manufacture of journal-boxes, and I therefore deem such changes as comprehended by my invention.

The operation of my invention is as follows: A supply of oil, being placed in the main fountain A′, is by the capillary attraction of the

wicks E drawn down into the secondary fountains or wells B′, coming in contact with the journal in the act of being drawn down. Dirt, dust, grit, and sediment are deposited, by reason of their specific gravity, in the wells, and for the same reason are not in material quantity again carried up by capillary attraction, as is the oil, to be again carried down as the journal revolves. The revolution of the journal tends to raise the oil in one passage and draw it down in the opposite passage, they being arranged in this instance on opposite sides of the journal; but while the journal is at rest the capillary attraction and the conductive action of the wicks are constantly operating as a filter and a means of supply from one fountain to the other.

When I form my box by casting metal around a tube, said tube projects into the bearing C′, and the openings into the tube from the bearing are formed in the act of finishing the bearing, and are thus made exactly flush with the curved surface of the bearing. I consider this method of manufacture novel and as an important part of my invention. By dispensing with the main fountain A′ and the flanges *a* and tubes D of the upper half, and making passages in the lower half, it is made a self-oiling box for the lower portion of a journal, and I deem such a construction as comprehended by my invention. This is illustrated in the lower half of Fig. 4—that is to say, the lower half of the box may be employed alone in connection with the tubes or passages, and the wicks therein either above or below a shaft.

Having described my invention and its operation, what I claim is—

1. The combination of an upper main supply-fountain, two lower secondary fountains, and independent communicating passages, each partly passing through the bearing, whereby the middle portion only of a wick in the passages comes in contact with the journal, substantially as specified.

2. The combination of an upper supply-fountain, a lower well, and a pipe, tube, or passage projecting into the bearing, and a wick arranged in the pipe, tube, or passage and in the fountains, whereby the middle portion only of a wick in the passages comes in contact with the journal, substantially as specified.

3. The combination of the upper fountain, A′, the lower fountains, B′, the tubes D, having a side opening conforming to the bearing, wicks E, and bearing C′, substantially as shown and described.

4. The upper half, A, provided with the fountain A′, tubes D, and flanges *a*, in combination with the lower half, B, provided with the fountains or wells B′, substantially as shown and described.

5. The method of making the upper half of the box, or that portion of the same having conducting tubes or passages, which consists in casting the said portion about said tubes, and subsequently forming the openings therein when finishing the bearings, substantially as specified.

6. A self-oiling journal-box having oil tubes or passages leading from the bearing to a well or fountain formed in the box, and having a side opening which communicates directly with the bearing only, substantially as specified.

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

HENRY STILL.

Witnesses:
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