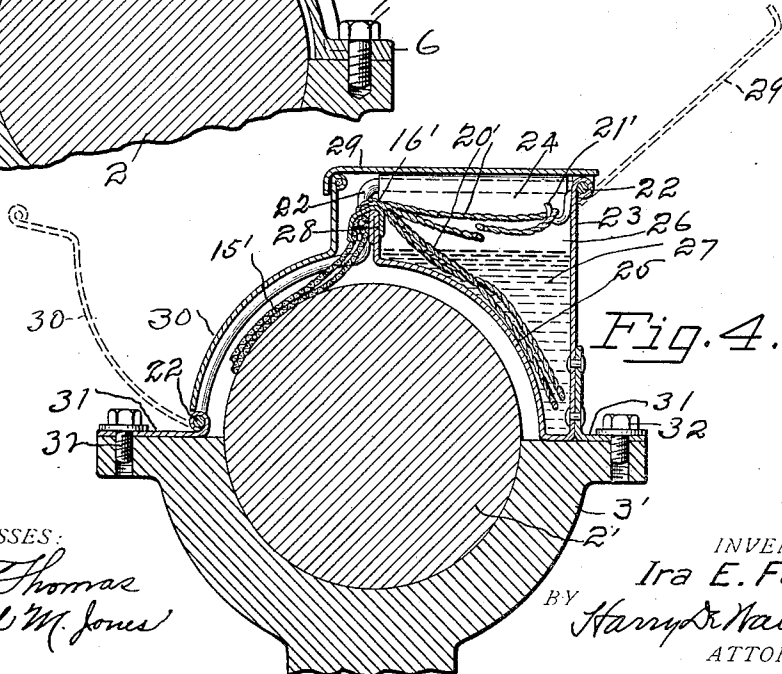
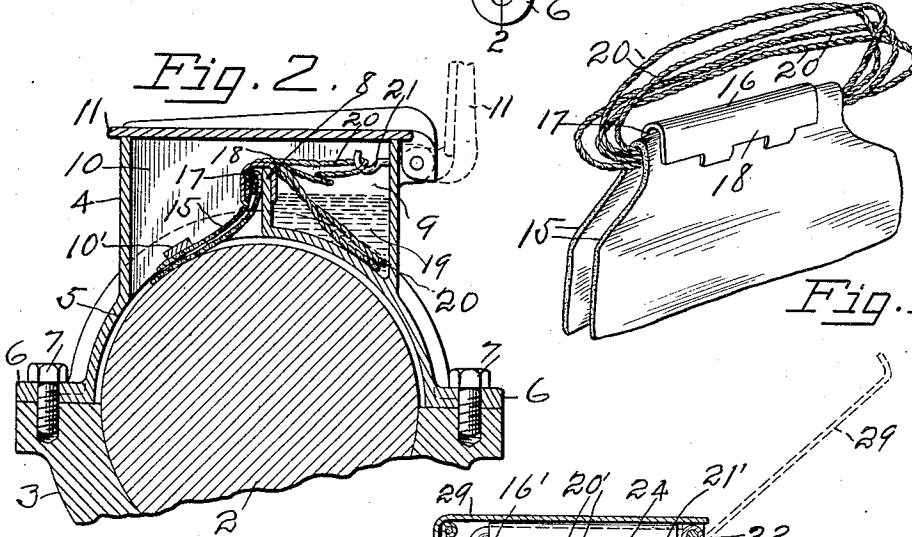
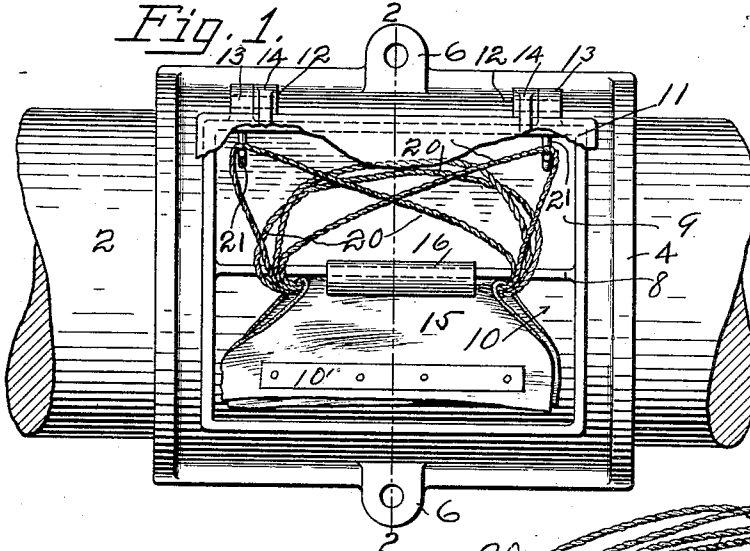


I. E. FARR.
OIL BOX.

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1,050,266.

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WITNESSES:

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OIL-BOX.

1,050,266.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, IRA E. FARR, a citizen of the United States, residing at Great Bend, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Oil-Boxes, of which the following is a specification.

This invention relates to improvements in oil-boxes, designed for lubricating journals and shafts in general, and the invention relates particularly to a device for lubricating the journals of the drier rolls of paper machines.

This invention relates particularly to improvements in the devices shown and described in my United States Patent numbered 926,476, bearing date June 29, 1909.

The object of the invention is to provide an oil-box which is simple, effective, clean and reliable, wherein the construction and arrangement of the device is such that the oil-box serves the purpose of the usual permanent cap which forms a part of the bearing of a shaft or journal.

A further object is to provide a lubricating device having an oil well or tank capable of carrying a supply of oil.

A further object is to provide a gravitative oiling pad which is detachably supported within said box.

A further object is to provide a series of independent wicks for carrying the oil from the well and delivering it to the said pad. And a further object is to provide simple means for adjusting the said wicks for controlling and regulating the supply of oil to be fed to the pad and journal.

The features and parts of the invention will be understood from the detailed description which follows, and by reference to the accompanying drawing which forms a part of this specification, and in which—

Figure 1 is a top plan view of the oil-box applied to a journal, the cover being partly broken away for showing the interior of the box. Fig. 2 is a cross-section substantially on line 2—2 of Fig. 1. Fig. 3 is an enlarged perspective view of the detachable oiling pad and the several wicks. Fig. 4 is a sectional view of a modified form of the device.

In the drawing, 2 represents a shaft or a journal, which is supported by a half-bearing comprising a pillow-block 3, both of which may follow the usual constructions.

My oil-box comprises the following parts:

Referring to Figs. 1, 2 and 3,—4 represents a hollow casing or body, the center of which is preferably arched at 5 to conform to the curve of the journal 2, but which is of a slightly greater diameter than the journal so that when the box is mounted upon the pillow-block 3, the said box is held free from the journal.

6 represents oppositely arranged lugs which are integrally formed on the sides of the box 4, and these lugs are adapted to rest upon the pillow-block, and are also perforated to receive bolts 7 by means of which the box 4 is secured to the pillow-block.

Above the arch 5 the box extends upwardly and this portion of the box is divided longitudinally by a dam or wall 8 for providing an oil well or tank 9, and a chamber 10 which has an open bottom for exposing a portion of the journal.

11 represents a cap or cover for inclosing the open top of the box for excluding dust and dirt. The cover 11 is hinged to the rear side of the box 4 by a pin 12 which pierces corresponding lugs 13 and 14 which are formed respectively on the box and the cover, as best seen in Figs. 1 and 2. The dotted lines in Fig. 2 show the cover in open position.

The parts employed for lubricating the journal 2 consist of a felt or like pad 15, which is preferably folded double, or twofold, as shown. The pad 15 at the point where it is folded is secured in a suitable manner to a metallic clip 16 which is also folded upon itself for providing leaves or wings 17 and 18. The pad is secured to the wing 17, and the wing 18 of the clip is free and adapted to be hooked over the top of the dam 8, for suspending the pad 15 in the chamber 10, in position to engage the exposed surface of the journal 2, by gravity.

10' represents a weight preferably comprising a metal bar which is secured to the pad 15 for exerting a slight pressure for holding the pad firmly and evenly upon the journal.

The tank 9 is preferably arranged to hold a supply of oil 19, which is intended to lubricate the journal for a considerable period of time. In practice, the pad 15 is held out of contact with the body of the oil, it being disposed on the opposite side of the dam 8 within the chamber 10. The oil contained in the tank 9 is fed to the pad 15 by means of

one or more wicks 20. The wicks 20 preferably comprise strands of wicking, the opposite ends of which are connected to the fold of the pad 15 at or near each end of the clip 16. Under this arrangement, the wicks are in the form of loops and are preferably unbroken and when engaged in feeding oil to the pad, the oil flows toward both ends of each wick. I have shown four of the wicks 20, and these are arranged so that the feed of the oil to the pad and the journal may be varied to suit conditions, at will. In case but a small amount of oil is required to properly lubricate the journal 2, all of the wicks 20 but one may be lifted out of the oil, and suspended and held idle by means of hooks 21 which are carried by the rear wall of the casing 4. To understand this feature of the invention, attention is called to Fig. 1, wherein two of the wicks 20 are withdrawn from the oil and hung up on the hooks 21. Under this arrangement, the supply of oil delivered to the journal is limited to what the two remaining wicks may carry and deliver to the pad 15. It will be understood that the oil is carried by the wicks 20 by means of capillary attraction, and that the feed of the oil, depends upon the size of the wicks, and also that any impurities contained in the oil, such as grit and dirt will remain in the tank, while only the pure liquid will be carried by the wicks 20 and delivered to the pad 15. To increase or decrease the flow of oil to the journal, more or less of the wicks may be disposed in or withdrawn from the body of the oil. To stop the feed of the oil entirely all of the strands may be hung on the hooks 21.

Fig. 4 illustrates a modified form of my oil box in which 22 represents a wire frame, which is arranged to support sheet metal walls 23, 24 and 25 which comprise respectively the rear, end and bottom parts of the oil well 26 which contains the lubricating fluid 27. The bottom 25 is curved to conform to the journal 2', the latter being supported by the usual pillow-block 3'. The upper extremity of the bottom 25 is arranged in the form of a dam 28, to which a felt pad 15' is detachably applied by means of the clip 16'. The pad 15' is disposed on the opposite side of the dam from the body of the oil and its lower edge bears upon the surface of the journal, and is held in such position by gravity. The oil is carried from the tank 26 to the felt for lubricating the journal by means of a number of wicks 20', the ends of the said wicks connecting with the opposite ends of the pad, and the loop of each wick is adapted to be immersed in the oil the same as described for the device of Figs. 1 and 2. 21' represents a hook carried by the frame 22 upon which one or more of the wicks may be suspended for reducing the feed of the oil to the pad. 29

represents a cover arranged to close the open top of the frame, the said cover being hinged to the wire 22 and adapted to be swung on the said hinge to the extent indicated by the dotted lines in Fig. 4. The raising of the cover 29 permits access to the tank 26 and also to the pad and the wicks. In order to permit the inspection of the journal, I provide a door 30, the lower edge of which is hinged to the wire 22, while the upper edge is overlapped by the free edge of the cover 29, for holding the door in closed position. The dotted lines in Fig. 4 show the extent to which the door may be swung open after the cover is partially raised. The modified device is supported by the pillow-block 3' to which it is connected by lugs 31 and bolts 32. The modified construction referred to provides a light and inexpensive oil box which has practically the same functions and operations as the preferred form of the device shown in Figs. 1 and 2.

The present invention, like the device of my former patent referred to, while applicable for lubricating journal and shaft bearings in general, is intended expressly for use in connection with the drier rolls of paper machines, where the bearings and journals of said rolls are normally heated to a high degree by the steam used for drying the paper. The heating of the bearings causes the thinning of the oil or grease employed for lubricating said parts, and unless the oil is carefully and properly applied, more or less of it will escape from the bearings and drip onto the heavy and expensive felt carried by the drier rolls thereby rotting and otherwise damaging them. The oil also drips on the floor and soon gets onto the finished stock. The felt ciling part employed in my former device which is disposed between the oil pan and the journal, after a short time becomes glazed over from the constant contact with the heated journal, and from the baking of the oil and fails to properly lubricate the journal. Furthermore, the felt cannot be renewed and replaced without removing the pan and all of the related parts. To obviate the defects and inconvenience of the former oiler, I have provided the solid casing 3 which may be permanently applied to the pillow-block, and I have provided the readily detachable felt pad 15 which is arranged to contact by gravity with the exposed portion of the journal. The disposing of the oil well in the one part casing, the provision for the inspection of the journal by means of the chamber 10 and the hinge-cover for inclosing the open top of the casing, all tend to simplify the construction and at the same time provide a convenient, clean and highly effective lubricating device.

Obviously some changes or modifications may be made in the parts of the device and in the arrangement and operation thereof, within the scope defined by the appended claims, without departing from the spirit of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

10 1. In a lubricating device, the combination with a journal and a casing provided with an oil well having an open top and an inspection chamber having an open bottom and top arranged in the upper portion of the casing, said chamber and said oil well being separated by a dam, of an oil pad detachably supported by said dam, said pad depending in said chamber and engaging a portion of the journal which is exposed through the open bottom of said chamber, and a series of wicks for carrying oil from said well to said pad.

25 2. A lubricating device, comprising a journal casing provided with an oil well having an open top and an inspection chamber having an open bottom and top arranged in the upper portion of the casing, and having a vertical dam for separating said well and said chamber, an oil-pad supported by said dam, said pad depending in said chamber and engaging a portion of the journal which is exposed through the open bottom of said chamber, and a series of adjustable wicks for controlling the flow of oil from the well to said pad.

35 3. The combination with a journal, of an oil box, comprising a casing having an open top and an oil well and a corresponding chamber disposed immediately below the open top, the bottom of said casing being arched to conform to and loosely fit over the

journal, the bottom of said casing having an opening corresponding to the said chamber for exposing a portion of the journal, said casing having a vertical dam for separating said chamber from said oil well, a gravitative oil pad detachably hung to said dam and depending in said chamber where it contacts with the exposed portion of said journal, and a series of wicks, each connected with the opposite ends of said pad near the top of the dam adapted to carry oil from said well to said pad for lubricating the journal.

4. An oil box, comprising a casing having its underside arched to conform to a journal adapted to loosely fit over the upper half of the journal, said casing having an oil well arranged above and at one side of said journal and a corresponding chamber arranged at the opposite side of the journal, said chamber and said oil well being separated by a vertical longitudinal wall, an oiling pad detachably hung on the said wall, said pad disposed in said chamber and arranged to engage the exposed portion of the journal at the bottom of said chamber by gravity, and a series of strand-like wicks formed into loops which are adapted to be immersed in the oil carried by said well for carrying the oil to the said pad for lubricating the journal, and means for separating and withdrawing said wicks for increasing, decreasing or stopping the flow of oil from the said well to the journal.

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

IRA E. FARR.

Witnesses:

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O. F. DODGE.