I. W. DOEG.

OILER FOR SHAFTS.

APPLICATION FILED MAY 11, 1911.

1,001,127.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

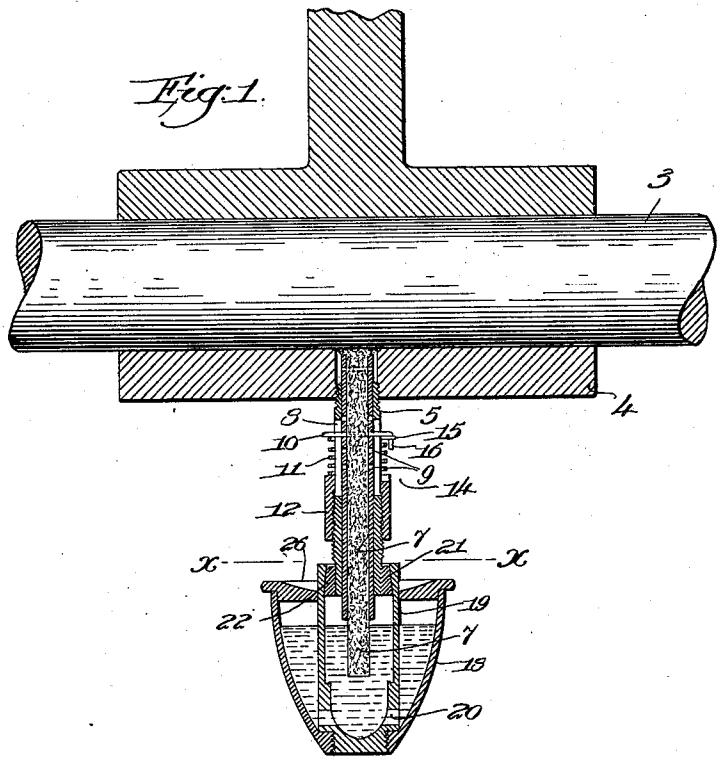
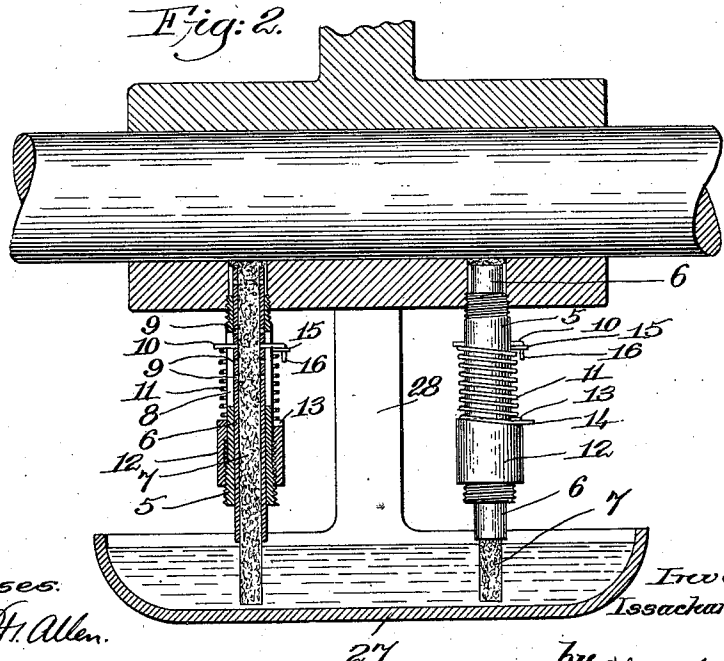


Fig. 2.



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2 SHEETS—SHEET 2.

Fig: 3.

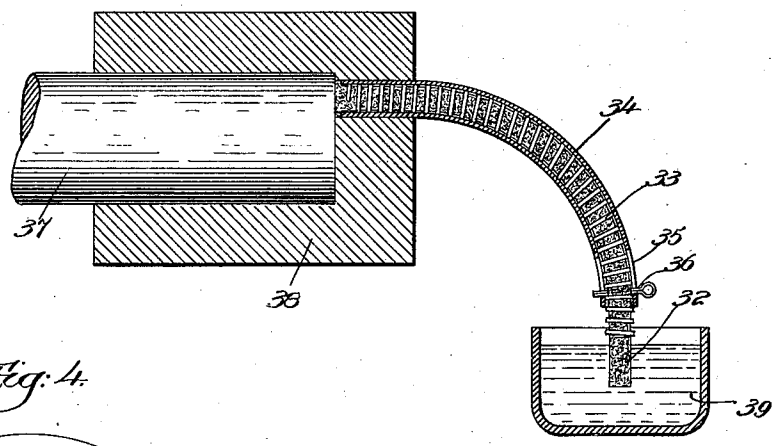


Fig: 4.

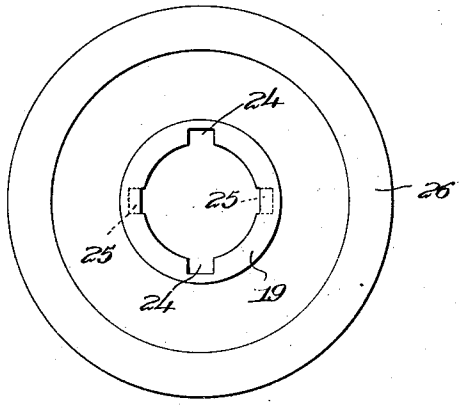


Fig: 5.

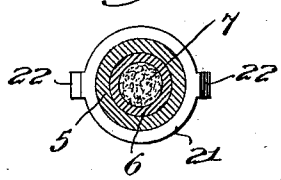


Fig: 6.

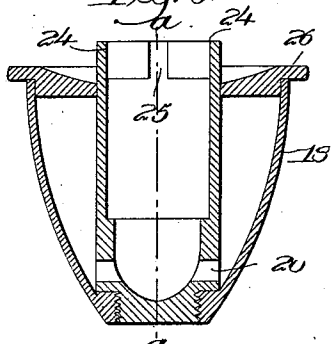


Fig: 8.

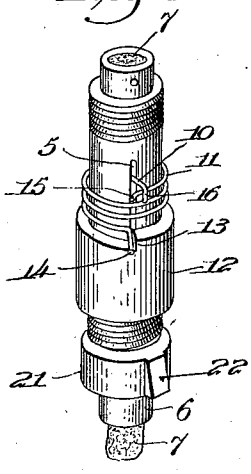
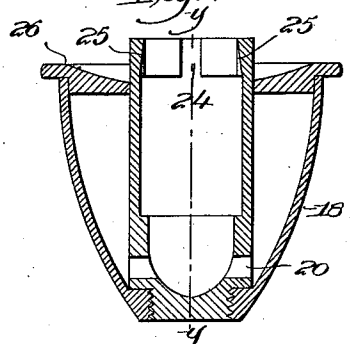


Fig: 7.



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UNITED STATES PATENT OFFICE.

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OILER FOR SHAFTS.

1,001,127. Specification of Letters Patent. **Patented Aug. 22, 1911.**

Application filed May 11, 1911. Serial No. 626,534.

To all whom it may concern:

Be it known that I, ISSACHAR W. DOEG, a citizen of the United States, residing at Exeter, county of Rockingham, State of New Hampshire, have invented an Improvement in Oilers for Shafts, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to oilers for shafts of that class wherein the oil is conducted to the shaft by means of a wick which is yieldingly held against the shaft by a spring.

The object of the invention is to improve oilers of this general type and to provide an oiler in which the tension of the spring can be readily adjusted so that the wick will be held against the shaft with more or less pressure as desired and to provide a novel construction whereby any wear to which the wick may be subjected may be readily taken up so as to keep an oiling contact between the wick and the shaft at all times.

In the drawings wherein I have shown several embodiments of my invention, Figure 1 shows in section a bearing for a shaft and one form of my oiling device wherein the oil receptacle is suspended from the wick tube; Fig. 2 is a similar view showing a different construction wherein the oil receptacle is suspended directly from the bearing; Fig. 3 shows an embodiment of my invention adapted to oil the end of a thrust bearing; Fig. 4 is a top plan view of the oil receptacle shown in Fig. 1 with the cover removed and disconnected from the wick tube; Fig. 5 is an enlarged section through the wick tube on the line x—x, Fig. 1; Fig. 6 is a section on the line y—y, Fig. 7; Fig. 7 is a section on the line a—a, Fig. 6; Fig. 8 is a perspective view of the lower end of the wick tube.

Referring first to Fig. 1 3 designates a shaft which is operating in a bearing 4 of any suitable or usual construction. My improved oiling device comprises a wick tube 5 which is screw-threaded at its upper end into an aperture formed in the bearing and which receives within it for sliding movement a tubular wick carrier 6 within which is the wick 7. The wick tube is slotted as at 8 and the wick carrier is provided with a plurality of diametrical apertures 9 through one of which a pin 10 is inserted, said pin extending through the wick and thus locking the wick to the carrier. Surrounding the wick tube is a spring 11 which acts against the pin 10 and which tends normally to elevate the wick carrier in the wick tube and thus hold the end of the wick in contact with the shaft 3. In order to provide for adjustment of the tension of the spring 11 I employ an adjusting nut 12 which surrounds the wick tube and is screw-threaded thereto and against which the end of the spring 11 abuts. By screwing the adjusting nut 12 upwardly on the wick tube, the tension of the spring 11 may be increased as will be obvious.

Some bearings are much thicker than others and therefore in applying the device to different bearings, it would be necessary to have the upper end of the wick carrier project a greater or less distance beyond the upper end of the wick tube according to the thickness or size of the bearing. By providing a plurality of apertures 9 situated at different points along the length of the wick carrier it is possible to adjust the wick carrier properly within the wick tube to fit a bearing of any thickness or size and then to insert the pin 10 through the slot 8 and through one of the apertures 9 in the wick carrier which co-incides with the slot. For instance, if in Fig. 1 the bearing 4 were very much thicker than it is and if it was desired that the wick carrier should project farther beyond the upper end of the wick tube, then the wick tube would be inserted in one of the apertures 9 below that in which it is shown inserted in Fig. 1. I also propose to make use of the spring 11 for preventing the adjusting nut 12 from being turned by the jar of the machinery or otherwise. As shown the upper side of the nut is formed with a shoulder 13 and the end of the spring 11 is bent laterally to form a finger 14 which is adapted to engage the shoulder, the other end 15 of said spring being bent around or locked to the down-turned portion 16 of the pin 10. The down-turned end 16 of the finger 10 prevents the spring 11 from turning bodily about the wick tube and the shoulder 13 on the nut faces in such a direction that its engagement with the finger 14 will prevent the nut 12 from turning backwardly or in a direction to release the tension of the spring. The nut can be readily turned upwardly, however, for the finger 14 will merely wipe over

the top of the nut and then drop off from the shoulder 13. If it is desired to lessen the tension of the spring the finger 14 must be released from the shoulder 13 by hand in order to permit the nut to be screwed downwardly. The spring 11, therefore, acts not only as a means to yieldingly hold the wick against the shaft, but it also serves as a means to lock the nut 12 from backward rotation.

The oil receptacle may be secured directly to the wick tube or may be supported from the bearings. In Fig. 1 I have shown it as secured to the wick tube, and it is shown at 18 and is provided with a central cylindrical wall or boss 19, the upper end of which is detachably secured to the wick tube in some suitable way. The cylindrical wall 19 is provided with apertures 20 forming communication between the space inside and outside of the wall. While it is within my invention to secure the receptacle to the wick tube in any appropriate way, I have herein shown said wick tube as provided on its lower end with a head 21 having formed thereon two tapering ribs 22. The upper end of the circular wall 19 is thickened as at 23 and this thickened portion is provided with two oppositely-disposed grooves 24 having straight faces and two other oppositely-disposed grooves 25 having tapering faces. The straight-faced grooves 24 are of a size to receive the ribs 22 so that the parts may be assembled by inserting the head 21 into the upper end of the cylindrical wall 19 with the ribs 22 entering the grooves 24, and when the head 21 has entered below the thickened portion 23 of the cylindrical wall 19, said receptacle 18 may be turned to bring the grooves 25 into alinement with the ribs 22 and then may be lowered until the ribs enter said grooves. The tapering construction of the ribs and grooves will prevent the head from being withdrawn through the cylindrical wall and the receptacle will thus be firmly supported on the wick tube. The receptacle can be moved by lifting it to carry the ribs 22 out from the grooves 25 and then turning it to bring the ribs in alinement with the grooves 24. The receptacle is closed by a suitable cover 26.

In Fig. 2 I have shown a construction wherein the oil receptacle is supported directly from the bearing. The wick tube, wick carrier and adjusting means therefor shown in Fig. 2 are similar to that already described with reference to Fig. 1. In said Fig. 2 the oil receptacle is shown at 27 and it is suspended from the bearing by means of a hanger 28. In other respects, however, the invention shown in Fig. 2 is the same as that shown in Fig. 1.

In Fig. 3 I have shown a different embodiment of my invention adapted for oiling a thrust bearing. In this embodiment the wick carrier and spring are combined in one element. The wick is shown at 32 and it is inclosed within a wick carrier 33 in the form of a spiral spring which can contract more or less. This wick carrier is sustained within a wick tube 34 which is provided with a slot 35 through which extends a pin 36 that also passes through the wick carrier and the wick. The shaft to be oiled is shown at 37 and the bearing therefor at 38. The shaft is shown as a horizontal shaft and the end of the shaft is the part desired to be oiled. Consequently the wick tube 34 is shown as curved, the upper end thereof extending horizontally and being faced into the bearing. The opposite end of the wick tube extends substantially vertically so that the portion of the wick which projects below the same can enter the oil receptacle 39. In this embodiment the elasticity or resiliency of the portion of the spring between the pin 36 and the shaft keeps the wick yieldingly held against the shaft.

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

1. In an oiler for shafts, the combination with a bearing, of a slotted wick tube connected thereto, a wick carrier slidably mounted within the wick tube, a wick sustained by the wick carrier, and a pin extending through the slot of the wick tube and through the wick carrier and wick, and an oil receptacle in which the end of the wick is received.

2. In an oiler for shafts, the combination with a bearing, of a slotted wick tube connected thereto, a wick carrier slidably mounted within the wick tube, a wick sustained by the wick carrier, a pin extending through the slot of the wick tube and through the wick carrier and wick, and a spring encircling the wick tube and acting against said pin to yieldingly hold the wick against the shaft.

3. In an oiler for shafts, the combination with a bearing, of a slotted wick tube connected thereto, a wick carrier slidably mounted within the wick tube, a wick sustained by the wick carrier, a pin extending through the slot of the wick tube and through the wick carrier and wick, a spring encircling the wick tube and acting against said pin to yieldingly hold the wick against the shaft, and an adjusting nut screw-threaded to the wick tube for adjusting the tension of the spring.

4. In an oiler for shafts, the combination with a bearing, of a slotted wick tube connected thereto, a wick carrier slidably mounted within the wick tube, a wick sustained by the wick carrier, a pin extending through the slot of the wick tube and through the wick carrier and wick, a spring encircling the wick tube and acting against

said pin to yieldingly hold the wick against the shaft, and an adjusting nut screw-threaded to the wick tube for adjusting the tension of the spring, said spring having means to prevent backward rotation of the adjusting nut.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ISSACHAR W. DOEG.

Witnesses:
WILLIAM H. SLEEPER,
PERLEY GARDNER.