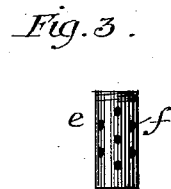
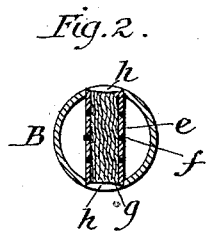
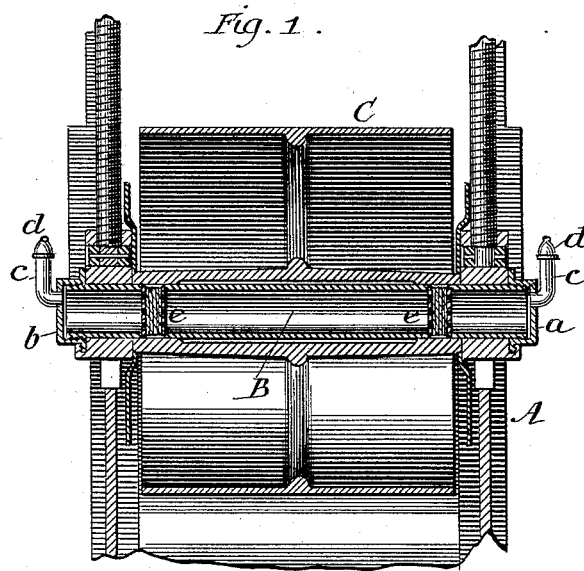


(No Model.)

H. W. CALDWELL.
LUBRICATING DEVICE.

No. 421,382.

Patented Feb. 18, 1890.



Witnesses:

Albert H. Adams.
Harry T. Jones.

Inventor:

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UNITED STATES PATENT OFFICE.

HENRY W. CALDWELL, OF CHICAGO, ILLINOIS.

LUBRICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 421,382, dated February 18, 1890.

Application filed November 30, 1889. Serial No. 332,078. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. CALDWELL, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Lubricating Devices, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section. Fig. 2 is a detail, being a cross-section through the cylinder which contains the lubricating-oil, taken at line 2 of Fig. 1. Fig. 3 is a detail, being an elevation of one of the small tubes in the oil-tube.

My invention relates to that class of lubricating devices in which a hollow cylinder closed at the ends is used to contain a quantity of oil. Such cylinders as were used prior to my invention have been provided with a number of holes to permit oil to escape to the bearings. When these holes are made very small, they soon clog and fill up and the oil ceases to flow. If the holes are large enough to prevent this clogging, the oil escapes much more rapidly than is necessary and there is a great waste. Besides, in some cases the waste oil is a positive injury—as, for example, when it escapes into the boot of an elevator used for elevating some substance with which oil ought not to come in contact.

The object of my invention is to overcome this difficulty, which I accomplish by providing the cylinder which forms the oil-reservoir with a suitable number of smaller perforated tubes, secured transversely in the walls of the cylinder, adapted to receive cotton wicking or other suitable similar material, by means of which the flow of oil can be regulated, as illustrated in the drawings, and as hereinafter described.

With this construction no holes are required in the cylinder which forms the oil-reservoir, except those which receive the small tubes. That which I claim as new will be pointed out in the claim.

In the drawings, A represents the case of an elevator-boot similar in form to those now in use.

B is a hollow cylinder, preferably made of brass, the ends of which, as shown, are sup-

ported in frames in the side walls of the boot in such manner that the hollow cylinder does not revolve.

a b are caps upon the ends of the cylinder B. *c* are tubes, the inner ends of which open into the cylinder B, through either of which tubes oil can be supplied to the interior of the cylinder, which, being closed at the ends, serves the purpose of an oil-reservoir having considerable capacity. The tubes *c* can be of any desired length, and their upper ends are closed by suitable caps *d*.

e are two short tubes passing transversely through the cylinder B, the ends of such short tubes being secured in the walls of the cylinder. The lower end of each of these short tubes may be provided with screw-threads to secure them in the cylinder; but their upper ends may be of such size as to exactly fit the hole in the cylinder through which they pass and need not be screw-threaded. These small tubes are provided with a number of perforations *f*, of suitable size to permit the oil to flow from the cylinder B to the interior of the small tubes *e*. In each of these tubes I have shown wicking *g*, or other suitable material. A small quantity of such wicking may be placed in each tube, or a greater quantity can be placed therein, so that the wicking will be quite compact, and thus the flow of oil from the reservoir through the holes *f* to the wicking and from the wicking to the bearings can be regulated.

As shown in the drawings, the ends of the short tubes are not exactly flush with the outside of the cylinder; but there is a very small space *h* left, in each of which a drop of oil can accumulate.

C is a pulley loose on the cylinder B, as shown. The central part of this pulley is cut away, making short bearings in juxtaposition with the short tubes *e*. If the interior of the pulley were not cut away, it would be desirable or necessary to provide the cylinder with one or more additional short tubes *e* for lubricating. These tubes are to be located so that the oil from them will be discharged at the bearing-points or some of them.

If the cylinder be rotated, the tubes should be located so as to lubricate the bearings. The other parts shown in Fig. 1, which have

not been described, are parts of an elevator-boot, and being no part of my present invention need not now be described.

In use the escape of oil from the reservoir
5 through the holes *f* and the wicking *g* will be very slow, and the rapidity of the flow can be regulated by making the wicking in these tubes more or less compact. For a cylinder about two and one-half ($2\frac{1}{2}$) inches outside
10 diameter I recommend that the tubes *e* be about one-half ($\frac{1}{2}$) an inch interior diameter, and I find that for ordinary purposes the holes *f* may be one-sixteenth ($\frac{1}{16}$) of an inch in diameter.

What I claim as new, and desire to secure 15 by Letters Patent, is as follows: .

A hollow cylinder closed at its ends and adapted to receive and hold a quantity of oil, in combination with one or more short perforated tubes inserted transversely in the 20 walls of the cylinder and adapted to receive and hold wicking or other suitable material, substantially as and for the purpose specified.

HENRY W. CALDWELL.

Witnesses:

ALBERT H. ADAMS,
ROBERT A. MILLAR.