

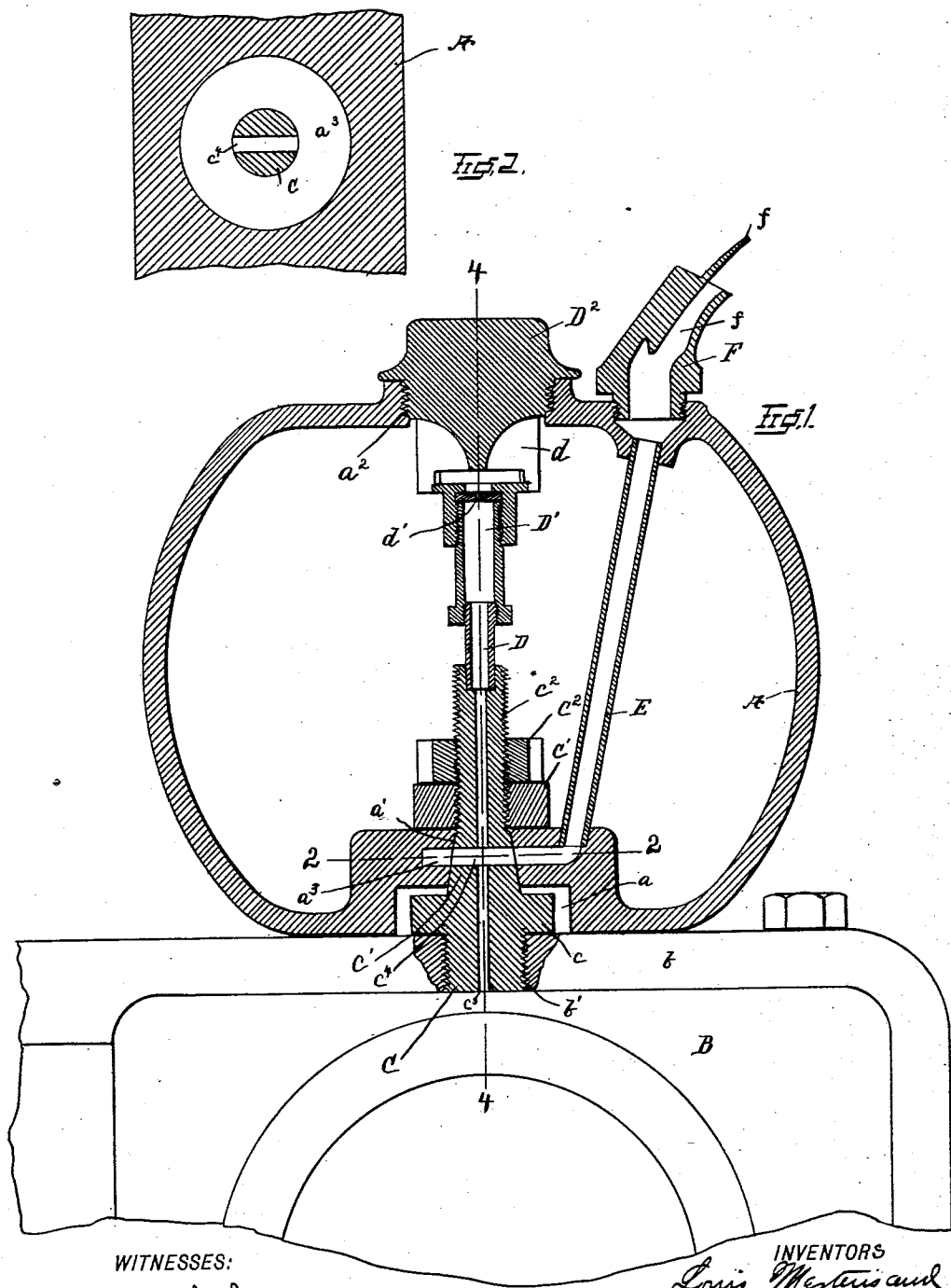
(No Model.)

2 Sheets—Sheet 1.

L. MERTENS & C. F. BOSTWICK.
LUBRICATOR.

No. 570,556.

Patented Nov. 3, 1896.



WITNESSES:

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INVENTORS

Louis Mertens and
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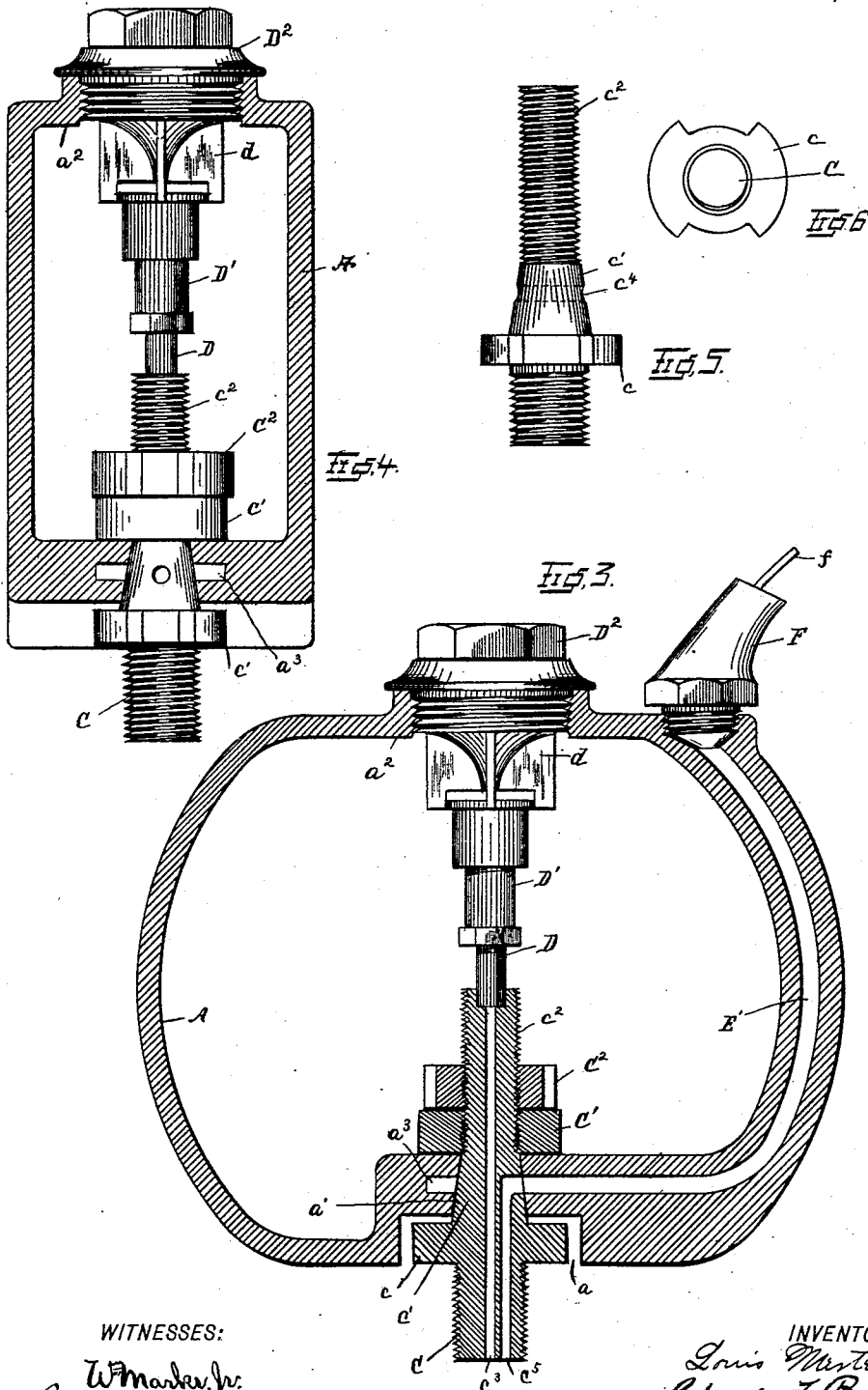
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UNITED STATES PATENT OFFICE.

LOUIS MERTENS AND CHARLES F. BOSTWICK, OF ERIE, PENNSYLVANIA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 570,556, dated November 3, 1896.

Application filed February 19, 1896. Serial No. 579,958. (No model.)

To all whom it may concern:

Be it known that we, LOUIS MERTENS and CHARLES F. BOSTWICK, citizens of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Lubricating Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to lubricating apparatus for bearings; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The invention is particularly adapted for use on bearings having a reciprocating, oscillating, or orbital movement, but some features may be used on other bearings, hence we do not wish to be limited to such use.

The general features of the invention may be briefly stated to consist of a convenient and effective means of attaching an oil-cup to the bearing and a wiper mechanism arranged to operate upon the same bearing with an oil-cup.

The invention is illustrated in the accompanying drawings as follows:

Figure 1 shows a vertical section of an oiling apparatus of our construction. Fig. 2 shows a detail horizontal section on the line 2 2 in Fig. 1. Fig. 3 shows a view similar to Fig. 1 of an alternative construction. Fig. 4 shows a transverse vertical section on the line 4 4 in Fig. 1. Fig. 5 shows an elevation of the pin for attaching the apparatus to the bearing. Fig. 6 shows a plan of the pin shown in Fig. 5.

A marks the oil-cup, which may be of any desired style, but preferably as shown, which operates on the top and dash-feed principle.

In the bottom of the cup is a cavity *a* and a beveled-surfaced opening *a'*.

The apparatus as shown is attached to a crank-bearing B of the ordinary engine pattern having the strap *b* and internally screw-threaded socket *b'* for securing the lubricating apparatus. A screw-threaded pin C, having an oil-duct *c*³, is screwed into the socket *b'*

tightly against the collar *c*, which is shaped to receive a wrench and by means of which the pin is turned into place. Above the collar *c* the pin extends in the form of a cone-shaped plug *c'* of the same bevel as the opening *a'*, and above this it extends in the form of a screw-threaded bolt *c*². The cavity *a* is of slightly greater depth than the collar *c*, and the size of the opening *a'* and plug *c'* so proportioned that after the pin is screwed tightly to place and the oil-cup placed on the pin the bottom (top surface) of the cavity *a* is free from the collar *c* and the outer edges of the cup are just out of contact with the strap *b*. A nut C' is screwed onto the bolt *c*², and as it is tightened the cup is drawn down tightly against the strap and a close joint is secured on the plug *c'*. A jam-nut C² is preferably placed over the nut C'.

In the cup shown the duct *c*³ is extended by the tube D, which connects with a tube D', carried by the dash mechanism *d*, and into which the oil enters through the jet-opening *d'*. The dash mechanism is carried by the cone D², which is screwed into the opening *a*². The opening *a*², or a similar opening, is of sufficient size to permit the introduction of the nuts C' and C².

Heretofore the pins C have usually been attached to the oil-cup and run into the bearing-socket by turning the cup. With this means of attachment great difficulty has been experienced in many places in attaching cups of sufficient size to hold enough oil to allow a long run of the machine or engine to which it is attached. With our device cups of oblong shape or any contour that will secure the largest capacity the adjacent parts (as the crank-disks) will allow may be used. The pin can also be made of other or stronger metal than the body of the cup, so that where attached to machinery running at great speed there will be no danger of its breaking. By having the cavity *a* and drawing the cup down at the edges the tendency to turn on its fastening is obviated.

In addition to the larger cup which our device allows, we have devised a wiping device, by means of which the movement of the machinery to which the cup is attached may be

continued indefinitely after the oil is exhausted from the cup. The cup is inclosed, so that the body of oil carried by the cup will not be thrown out by the orbital or reciprocating movement to which it is subjected, and the cup being more economical, the quantity of oil carried by it is intended to be sufficient for any ordinary run; but if it becomes necessary to continue the running without a stop after the oil of the cup is exhausted, the wiping device of our construction can be adjusted without stopping. The construction accomplishing this purpose is as follows: An annular groove a^3 is connected by the branch duct c^4 with the duct c^3 . A tube E within the cup connects the groove a^3 with a wiper mechanism F, attached to the top of the cup. The wiper has the usual catch-plate f , and duct f' , leading from it to the tube E.

The operation of the device will be readily understood. When the oil from the cup is exhausted or does not feed rapidly enough, the drop mechanism or wick (not shown) is turned on or lowered to put the wiper into operation.

By securing the wiper to the cup a firm base is provided without extra mechanism, and the wiper is conveniently located, and by connecting it with the bearing through the same opening in the strap or bearing mechanism, the strap or bearing mechanism is not weakened by additional holes. We prefer the communication to the bearing to be through the same duct that leads to the cup, as it should deposit the oil at the most advantageous location on the bearing.

In Fig. 3 an alternative construction is shown, in which the communicating duct E', between the wiper and the groove a^3 , is in the body of the shell of the cup, and the duct c^5 in the pin is separate from the cup-duct c^3 .

We do not wish to be limited where the wiper is secured to the cup to any specific means of communication with the bearing; neither do we wish to be limited to any specific location of wiper which communicates to the bearing through same opening in the strap or bearing mechanism as does the cup; neither do we wish to be limited to a cup placed above the bearing.

What we claim as new is—

1. In a lubricating apparatus, the combination with the bearing mechanism having a screw-threaded socket therein; of the pin C having a collar c and extension above said collar and having a duct leading through it; a cup having a cavity as a in which is placed the collar c ; and an opening into the cup through which said pin passes; and a nut on said extension.

2. In a lubricating apparatus, the combination with the bearing; of a cup carried by said bearing and communicating therewith; said cup being inclosed and adapted to contain an independent supply of lubricant; and

a wiper mechanism carried by the cup and communicating with said bearing.

3. In a lubricating apparatus, the combination with the bearing mechanism; of a cup carried with said bearing and communicating therewith through an opening in said bearing mechanism; said cup being inclosed and adapted to contain an independent supply of lubricant; and a wiper mechanism carried by said cup and communicating with said bearing through the same opening in the bearing mechanism as the cup.

4. In a lubricating apparatus, the combination with the bearing mechanism having a pin-socket therein communicating with the bearing; of a pin in said socket; a cup on said pin and communicating with said bearing through said pin; said cup being inclosed and adapted to contain an independent supply of lubricant; and a wiper mechanism carried by said cup and communicating with said bearing through said pin.

5. In a lubricating apparatus, the combination with the bearing mechanism having a pin-socket therein communicating with the bearing; a pin in said socket having a duct therein leading from the bearing; a cup on said pin in communication with said duct; said cup being inclosed and adapted to contain an independent supply of lubricant; and a wiper mechanism carried by said cup and communicating with said bearing through said duct.

6. In a lubricating apparatus, the combination with the bearing mechanism having a pin-socket therein in communication with said bearing; of a pin in said socket having a duct therein leading from said bearing; a cup on said pin and in communication with said pin-duct, and having an annular groove a^3 in the shell thereof in communication with said pin-duct; a duct leading from said annular groove; and a wiper mechanism in communication with said duct leading from said annular groove.

7. In a lubricating apparatus, the combination with the bearing mechanism; of a cup carried with said bearing and communicating therewith through an opening in said bearing mechanism; said cup being inclosed and adapted to contain an independent supply of lubricant; and a wiper mechanism communicating with said bearing through the same opening in the bearing mechanism as the cup.

8. In a lubricating apparatus, the combination with the bearing mechanism having a pin-socket therein communicating with said bearing; of a pin in said socket; a cup on said pin and communicating with said bearing through said pin; said cup being inclosed and adapted to contain an independent supply of lubricant; and a wiper mechanism communicating with said bearing through said pin.

9. In a lubricating apparatus, the combination with the bearing mechanism having a

pin-socket therein communicating with the bearing; a pin in said socket having a duct leading from the bearing; a cup on said pin in communication with said duct; said cup
5 being inclosed and adapted to contain an independent supply of lubricant; and a wiper mechanism communicating with said bearing through said duct.

In testimony whereof we affix our signatures in presence of two witnesses.

LOUIS MERTENS.

CHARLES F. BOSTWICK.

Witnesses:

WM. MARKS, Jr.,

H. C. LORD.