

J. GOULDING.

Lubricating Spindles.

No. 136,504.

Patented March 4, 1873.

Fig 3.



Fig 1.

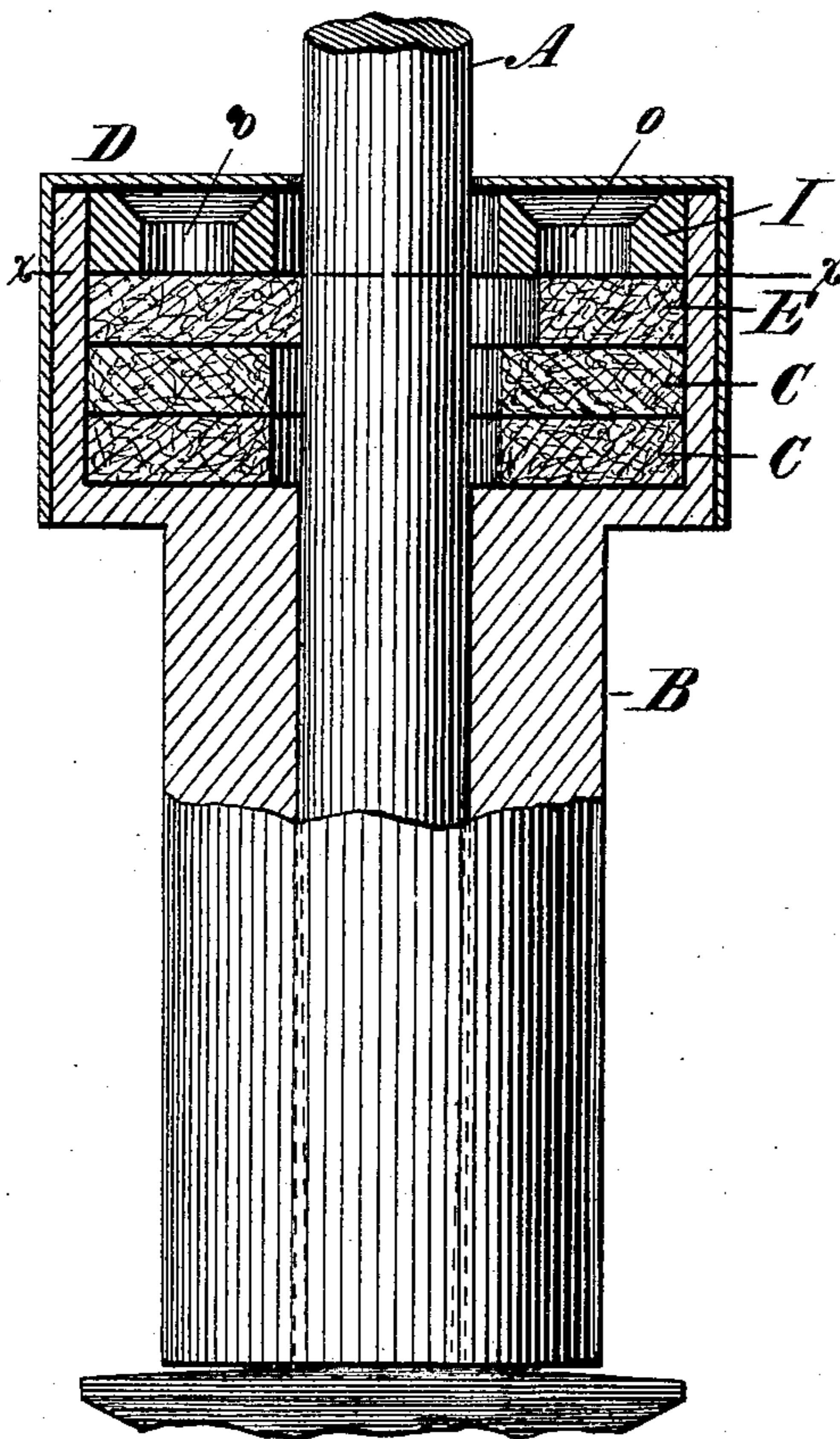
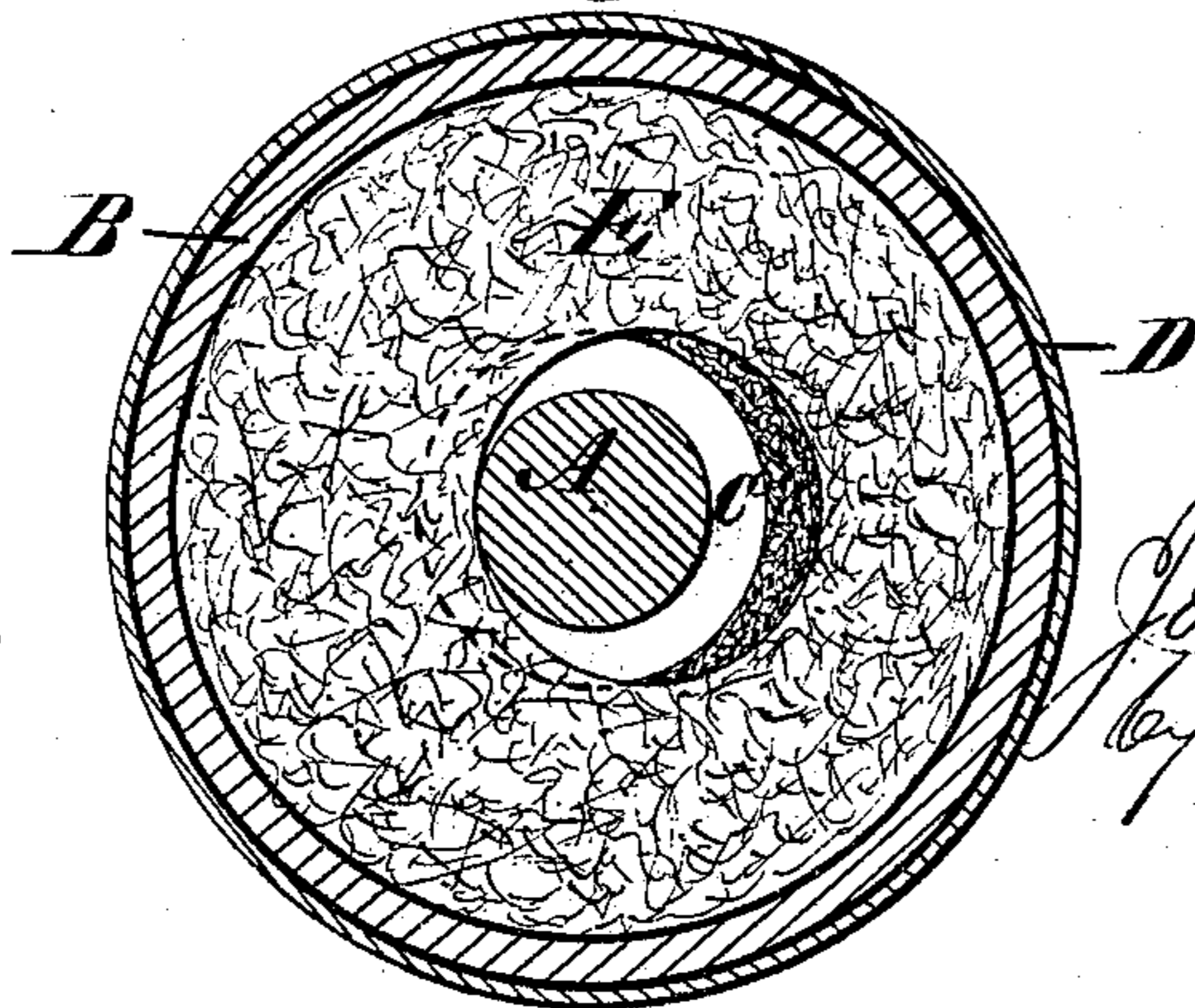


Fig 2.



Witnesses.

Harry King.
W. H. P. King

Inventor.

John Goulding.
By Dodge & Son
Attys.

UNITED STATES PATENT OFFICE.

JOHN GOULDING, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN LUBRICATING SPINDLES.

Specification forming part of Letters Patent No. 136,504, dated March 4, 1873.

To all whom it may concern:

Be it known that I, JOHN GOULDING, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain Improvements in the Mode or Means of Lubricating Spindles, of which the following is a specification:

My invention consists in the arrangement, within an oil-chamber surrounding the ordinary spindle used in cotton and woolen mills, of one or more absorbent disks or layers of material, so as not to touch the spindle, for retaining a supply of oil, in connection with a superimposed disk or piece, so arranged as to touch the spindle at one or more points, but slightly, to feed the oil gradually to the spindle, and thus keep it constantly lubricated, as hereinafter more fully explained.

Figure 1 is a side elevation of a portion of a spindle and its bearing with my improvement applied, the oil-chamber and lubricating devices being shown enlarged in section for the purpose of more clearly illustrating my invention. Fig. 2 is a top-plan view taken on the line *x x* of Fig. 1; and Fig. 3 is a side elevation of a spindle, showing the lubricating device applied to the step, a portion being broken away to more clearly illustrate it.

In constructing my device, I form a recess or chamber in the upper end of the bearing B, as shown in Fig. 1. I then provide any required number of disks, C, having a hole cut centrally through them, somewhat larger in diameter than the spindle A, so that when these disks C are placed in the recess they will not come in contact with the spindle, there being a free open space left between the inner edge of the disks and the spindle, as shown in Fig. 1. These disks may be of any soft porous or absorbent material that will readily absorb and retain the oil, their function being simply to retain or store up a supply of oil. Upon these I place another disk, E, which, as shown more clearly in Fig. 2, has its central hole cut eccentrically, so that its inner edge will slightly touch the spindle, as there represented. Upon this I place a metallic disk, I, with a central opening larger

than the spindle, so as not to touch it, this disk I having one or more holes, O, through it to receive the oil, which is poured therein, and soaks into the disks below. This metal disk I simply serves to hold the others down in place, and is not absolutely necessary, though I prefer to use it. A cap, D, is placed loosely over the whole as a cover to exclude dust from the oil-chamber, and which can be easily raised when necessary to supply the chamber with oil.

It will be seen from the above description that the disks C will retain a considerable quantity of oil, which, by capillary attraction, will be conveyed to the upper disk E, which, in turn, will convey it in minute quantities to the spindle at the point of contact therewith, and that thus the latter will be kept constantly and uniformly lubricated. The same device is applied also to the step which supports the lower end of the spindle, as shown in Fig. 3.

It is obvious that instead of using disks any suitable material may be employed, and that instead of an eccentric hole in the disk E, any other plan may be adopted for forming a contact with the spindle—as, for instance, a small projecting point, or any similar arrangement—the object being to form a contact with a small portion only of the spindle, so as to feed the oil very gradually thereto. I prefer, however, to use soft felt as the material, and to make them in the form of disks, as represented, because they can thus be made by machinery with uniformity and rapidity.

Having thus described my invention, what I claim is—

The arrangement, within an oil-chamber or recess surrounding the spindle A, of an absorbent disk or layer, C, which shall not be in contact with the spindle, in combination with a disk or layer, E, which shall slightly touch the spindle, all substantially as and for the purpose set forth.

JOHN GOULDING.

Witnesses:

PHIL. T. DODGE,
J. MCKENNEY.