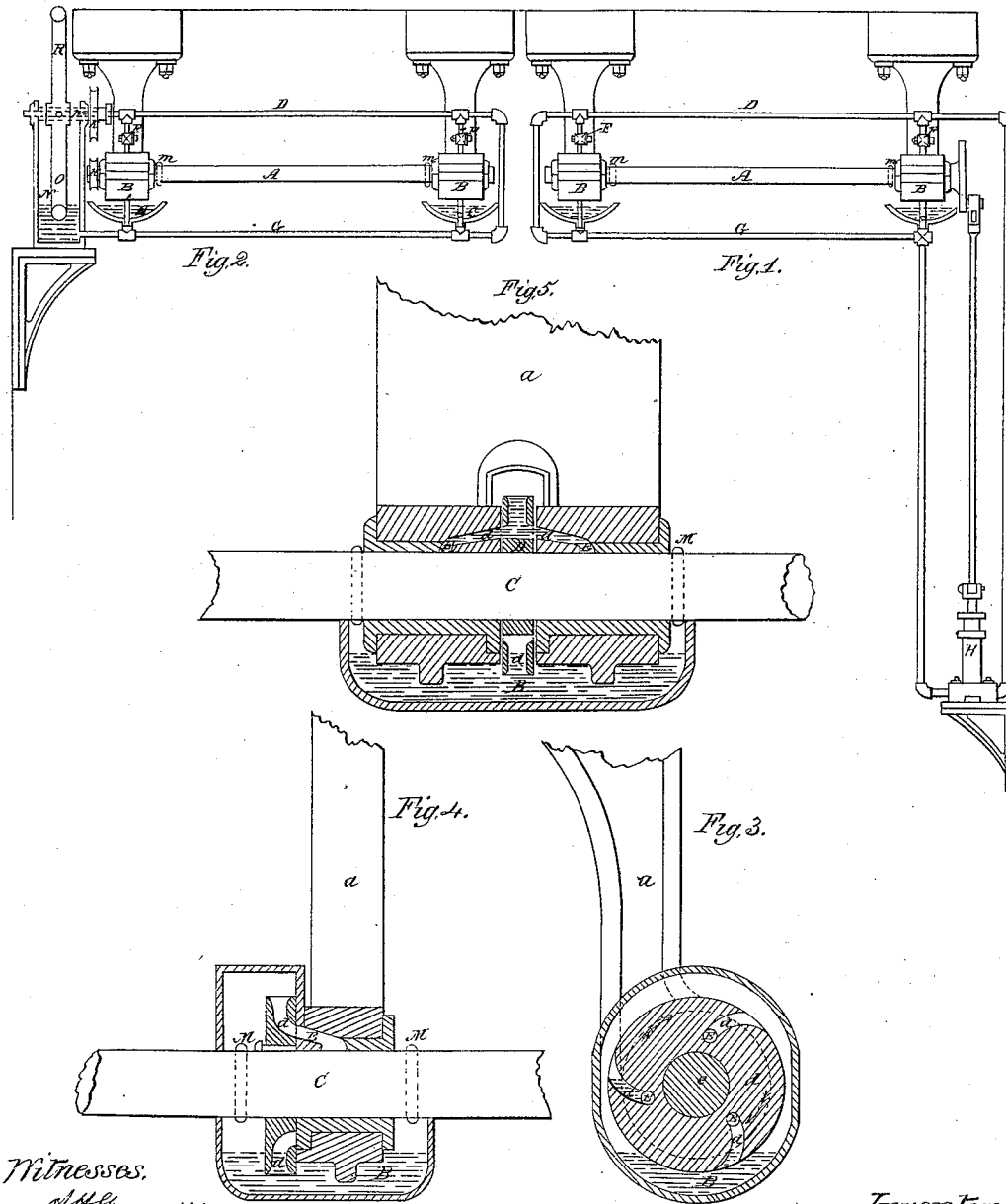


*G. Scott,*

*Journal Lubricator.*

*N<sup>o</sup> 53,190.*

*Patented Mar. 13, 1866.*



*Witnesses.*  
*A. H. Munnick*  
*Francis M. C.*

*Inventor.*  
*George Scott.*

# UNITED STATES PATENT OFFICE.

GEORGE SCOTT, OF KENSINGTON, PENNSYLVANIA.

## IMPROVED LUBRICATOR.

Specification forming part of Letters Patent No. 53,190, dated March 13, 1866.

*To all whom it may concern:*

Be it known that I, GEORGE SCOTT, of Kensington, in the county of Philadelphia and State of Pennsylvania, have invented a new Mode of Lubricating the Journals of Revolving Shafts, whether Hollow or Solid; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an elevation of a line of shafting; Fig. 2, an elevation of a line of shafting; Fig. 3, a transverse section of hangers; Fig. 4, a longitudinal section of bearing; Fig. 5, a longitudinal section of double bearing.

Corresponding letters of reference are used in the different parts represented on the drawings.

Fig. 1 shows an elevation of a line of shafting, A, to the bearings B B, to which lubricating-fluid is supplied from a pump, H. For this purpose pipes C D pass up from the force-pump H and above the line of shaft, and is provided at each bearing B B of the same with branches F F, for conducting the lubricating-fluid onto the bearings.

The branches F F have stop-cocks, by which the supply may be accurately regulated.

The lubricating-fluid passes from each of the bearings B B into the receptacles E E, whence it is conducted by means of the pipe G into the suction-pipe L, which is attached to the force-pump H. By this means, as long as the shaft A revolves to give motion to the pump H, constant circulation is kept up of the lubricating-fluid, and giving a constant supply of the same to the bearings B B.

M M are india-rubber collars, or their equivalent, to prevent the fluid from passing along the shafting.

Fig. 2 is also an elevation of a line of shafting, A, to bearings B B, to which the lubricating-fluid is supplied from a cistern, N, by means of the revolving disk O, which is driven by the pulleys P P. The bent arms of the disk B dip into the lubricating-fluid and fill, and when arrived at a vertical position discharge through the openings in the sleeve P<sup>2</sup> into the pipe D above the shaft passing therefrom into the branch pipes F F, through the regulating stop-cocks, onto the bearings B B, the lubricating-fluid passing from each of the bear-

ings into the receptacles E E, whence it is conducted by means of the pipe G back into the cistern N, and thereby keeping up a constant supply and circulation of the lubricating-fluid.

Fig. 3 is a transverse section of a hanger-bearing. The same arrangement may be employed with any description of plumber-block. *a* is the hangers, partially inclosed in the receptacle B, forming the reservoir for the lubricating-fluid. Upon the shaft C is fixed a disk, D, having cavities *d d d* on its circumference, which disk dips into the lubricating-fluid, and in rotating with the shaft in the direction of the arrows carries the lubricating-fluid up in the cavities *d d d*. These latter are provided with side openings, E E, in the cap, for the escape of the fluid on the bearings. These side openings are kept closed until they arrive at the top of the bearing by means of the side surface of the brass to the hangers, as indicated. Arrived at the top, these openings communicate with a passage, E, of same width as indicated at Fig. 4, through which passage in cap the lubricating-fluid consequently passes from the cavities *d d d* onto the bearing.

Fig. 5 shows the disk fixed in the middle of the bearing instead of the side, as indicated in this longitudinal section, Fig. 5, openings *d d* being in this case provided on each side of the disks for conveying the lubricating-fluid into the two passages E E.

One part of my invention consists in causing a continuous flow of water, pulverized soapstone, and lime and water, soap and water, oils, or other suitable lubricating-fluid to pass onto the journals of shafts or axles by means of a pump or pumps, or from a cistern or cisterns containing the lubricating-fluid, or any other known receptacle, in place of providing each journal or bearing with a separate means of lubricating each journal, as has been done heretofore.

My invention admits of being carried out in various ways, but the arrangement I prefer is as follows: At any suitable place in the workshop, ship, or factory, or wherever the shafting or axles are situated, but below the level of the latter, I place a pump or pumps, and from which pump or pumps pipes are made to pass containing the lubricating-fluid, said pipes following the direction of the lines of shafting, and at each bearing or journal such pipes are provided with a branch pipe, stop.

cock, or valve, through which the lubricating-fluid passes and is regulated in its flow onto the bearing or journal. Receptacles are provided underneath the bearings or journals to catch the superfluous lubricating-fluid that passes from the same, and by means of pipes or channels conducted back to the pump or pumps to be again made use of, and thereby producing a constant circulation and agitation of the lubricating-fluid.

In another arrangement of this part of my invention I place a wheel or disk carrying buckets or having cavities or cells, or having curved hollow arms at or near its circumference or radiating from its center, in a cistern or tank containing the lubricating-fluid, to which wheel, disk, or radiating curved hollow arms a rotatory motion is given in any suitable way from the shafting when in motion, and the buckets, cavities, or curved arms are made to raise the lubricating-fluid and convey the same into the conducting pipe or pipes or hollow shaft, which in this case are attached to the cistern or tank above the level of the lubricating-fluid, the waste fluid returning into the cistern or tank, to be again raised and passed to the journals or bearings by means of the pipes, as before described.

Another portion of my invention relates to separate apparatus connected to each bearing or journal of shaft or axle for effecting a continuous flow of the lubricating-fluid. I form or attach to the plumber-block, clamp-box or hanger, or other support of bearing or shaft a vessel containing the lubricating-fluid, and upon the shaft, close to the bearing or between two bearings, a disk or disks having buckets or receptacles formed near or on its circumference, which disk or disks dips or dip into the lubricating-fluid, and when revolving with the shaft takes up the lubricating-fluid in the buckets, cavities, or receptacles, and when the latter arrive at the top of the bearing or journal an opening in the same is made to communicate with a channel formed in or connected to the plumber-block or support leading onto the top of the journal or bearing. The lubricating-fluid then passes from such buckets or receptacles through the said channels in cap onto the top of the journal or bearing, whence

it again flows into the vessel below and is again lifted, as before described. A collar of metal, india-rubber, or other suitable material is placed on the shaft to prevent the lubricating-fluid extending on the shaft past the bearing.

Having now described the several parts of my invention, and to me the best means of performing the same, I wish it to be understood that I do not limit myself to the precise details of the several arrangements, as hereinbefore described with reference to the accompanying drawings and models, as these may be variously modified without departing from the nature of my invention, nor do I claim, generally, supplying lubricating-fluid to the various moving parts of machinery from one main cistern; but

What I claim is—

1. Supplying lubricating-fluid to the bearings of revolving shafting from one or more pump or pumps, cisterns, or tanks, whence the lubricating-fluid is conducted through pipes following the lines of shafting and through branches from the same, with or without stop-cocks, onto each separate bearing, such bearings being further provided with receptacles and pipes connecting the same for conducting away the lubricating-fluid to a pump or pumps, by which it is again raised into the upper pipe for supplying a constant circulation of the lubricating-fluid while the shafting is in motion, or in case of hollow shafting being used passing the lubricating-fluid through the center of the shaft and distributing the fluid onto the bearings through small cavities or holes in the bearing.

2. The construction and employment of apparatus for lubricating the bearings of shafting or axles, in which a revolving wheel, disk, or bent radiating hollow arms, situated in a cistern containing lubricating-fluid, are made to convey the lubricating-fluid onto the top of the bearing in cavities formed on the circumference of the disk, such cavities having side orifices that are kept closed until the cavities arrive at or near the top of the bearing.

GEO. SCOTT.

Witnesses:

A. H. SHOEMAKER,  
FRANCIS MCCARTY.