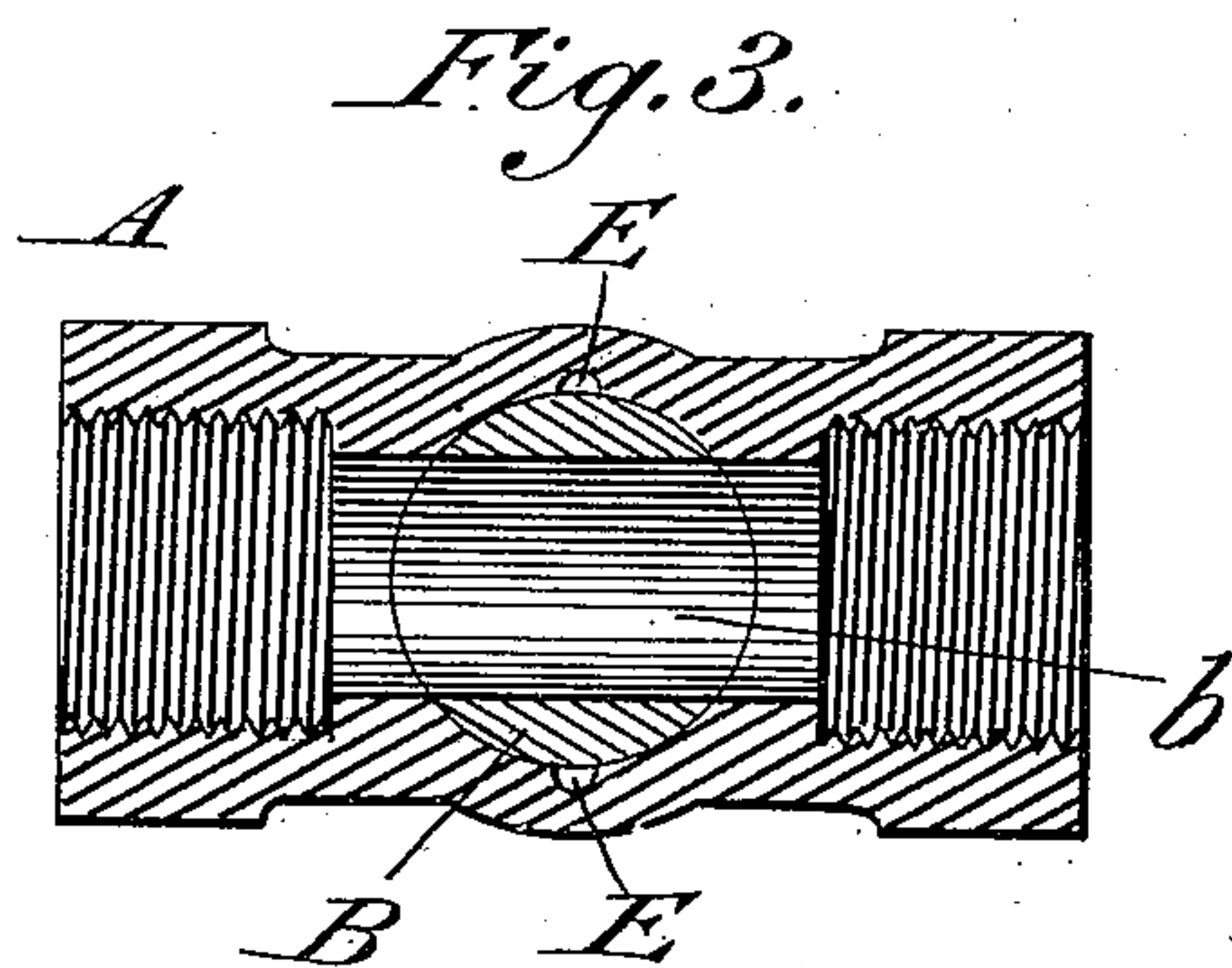
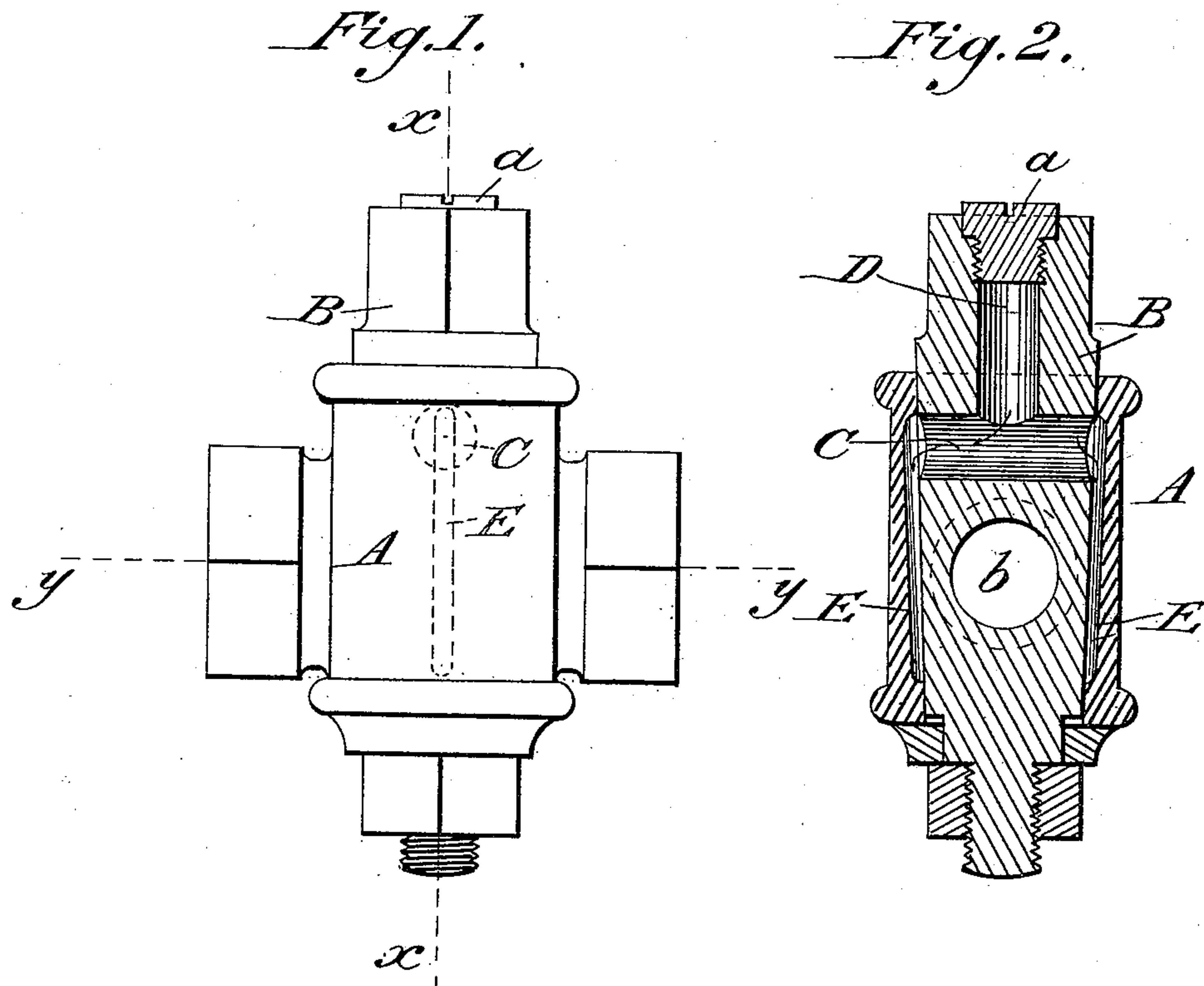


(No Model.)

E. M. DART.
LUBRICATING STOP COCK.

No. 464,727.

Patented Dec. 8, 1891.



Attest:

H. H. Schott
Wm. L. Poyden.

Inventor
Edward M. Dart.
per Fred E. Parker,
his Atty.

UNITED STATES PATENT OFFICE.

EDWARD M. DART, OF PROVIDENCE, RHODE ISLAND.

LUBRICATING STOP-COCK.

SPECIFICATION forming part of Letters Patent No. 464,727, dated December 8, 1891.

Application filed August 10, 1891. Serial No. 402,213. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. DART, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Self-Lubricating Stop-Cocks; and I 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 an improvement in self-lubricating stop-cocks, the object of the invention being to provide a simple, cheap, efficient, and durable stop-cock adapted for successful and lasting use in all the various situations where stop-cocks are needed; and a more particular object of the present invention is to improve upon or supplement in certain respects the stop-cock described and claimed in my other pending application for patent on a self-lubricating stop-cock filed March 17, 1890, Serial No. 344,189; and it therefore consists in the construction, arrangement, and combination of the several parts, substantially as will be hereinafter described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 is a side elevation of my improved stop-cock. Fig. 2 is a vertical section of the same on the line *xx* of Fig. 1. Fig. 3 is a horizontal section on the line *yy* of Fig. 1.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A designates the shell of my improved self-lubricating stop-cock, and B the rotative plug fitting closely and neatly therein within the seat which the shell provides for it. The plug B is provided with the usual transverse passage *b*. The plug is also provided with a horizontal or transversely-situated lubricant-containing chamber C, formed in the upper portion of the plug, the ends of the said chamber being on the sides of the plug, so that the outer shell A may form the end walls for the chamber C. Furthermore, the plug is provided with a vertical passage D, extending from the upper end of the plug and communicating with the lubricant-containing chamber C, said passage D being thus adapted to serve as an inlet-opening through which lu-

bricating material may be placed within the chamber C. The upper or outer end of the passage D is adapted to be closed by means of a screw cap or plug *a*. The lubricant, being within the chamber C, spreads itself through the joints between the plug and seat, so that the plug may be kept thoroughly lubricated for a long period.

My improved lubricating stop-cock as I have thus far described it is identical with what is shown in my other application hereinabove referred to, and I have repeated the description here simply in order that I might more clearly define the improvement which constitutes the present invention.

I will now proceed to describe the features of my present improvement. E E denote vertical grooves of suitable size, which are cut on the inner face of the shell A alongside of the plug B, said grooves being located diametrically opposite each other, as shown in Figs. 2 and 3, and extending from points adjacent to the opposite ends of the lubricant-containing chamber C, when the plug is in the position shown in Fig. 2, to points a short distance from the base of the shell A—say three-eighths of an inch or so from said base. Considering the fact that the plug B is rotated to throw the passage *b* into line to register with the pipe portions of the shell or to throw it out of such line, it will be readily perceived that the lubricant-containing chamber C will at certain times be in communication with the upper ends of the two vertical grooves or channels E E, and also will at certain times be out of connection with said grooves. In other words, it may be said that the grooves E E connect with chambers C only at those intervals or times when the cock is open, it being observed by reference to Fig. 2 that the transverse passage *b* is located in a direction at right angles to the situation of the chamber C.

The particular advantage and benefit of the grooves E E consists in the fact that by opening the cock for a short interval the oil or lubricant may be allowed to distribute itself very quickly into the grooves and around through the seat of the plug. After the plug has been closed the operation of diffusion by capillary attraction will take place exactly as it does in the plug, which is unprovided with the said grooves. The grooves, therefore, are

of a decided advantage to accomplish a speedy lubrication of the cock without waiting for the slow process of allowing the capillary attraction to spread the lubricant, and yet the operation of capillary attraction keeps the cock properly lubricated through a long period of years.

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

1. The herein-described stop-cock, consisting of a shell providing a seat for the plug, a plug fitting closely therein and having the usual transverse passage, said plug being further provided with a lubricant-containing chamber formed in the upper portion thereof, the ends of which chamber are on the sides of the plug and are closed by the wall of the shell, and said plug having also an inlet-opening communicating with the said chamber through which lubricating material may be placed within the chamber, and the vertical grooves formed in the interior face of the wall of the shell and arranged to be in communication at their upper ends with the lubricant-containing chamber whenever the plug is open, but not in communication therewith when the plug is closed, all substantially as described.

2. The herein-described stop-cock, consisting of a shell providing a seat for the plug and having on its inner face adjoining the plug-seat suitable vertical grooves running from near the top to near the bottom of the shell, a rotative tapering plug fitting closely within the seat provided therefor by the shell, said plug having its upper end suitably squared for the application thereto of a wrench, and having also the usual transverse passage, and said plug having also a lubricant-chamber formed in the upper portion thereof, the ends of which chamber are on the sides of the plug and are closed by the wall of the shell, an inlet-opening in the upper end of the plug communicating with the aforesaid chamber and adapted to permit the introduction of lubricating material into the chamber, and a screw-plug for closing said inlet-opening, the whole arranged so that the lubricating material within the chamber may spread itself by capillary attraction through the joints between the plug and the seat, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD M. DART.

Witnesses:

JOHN T. HENTHORN,
GEO. H. REMINGTON.