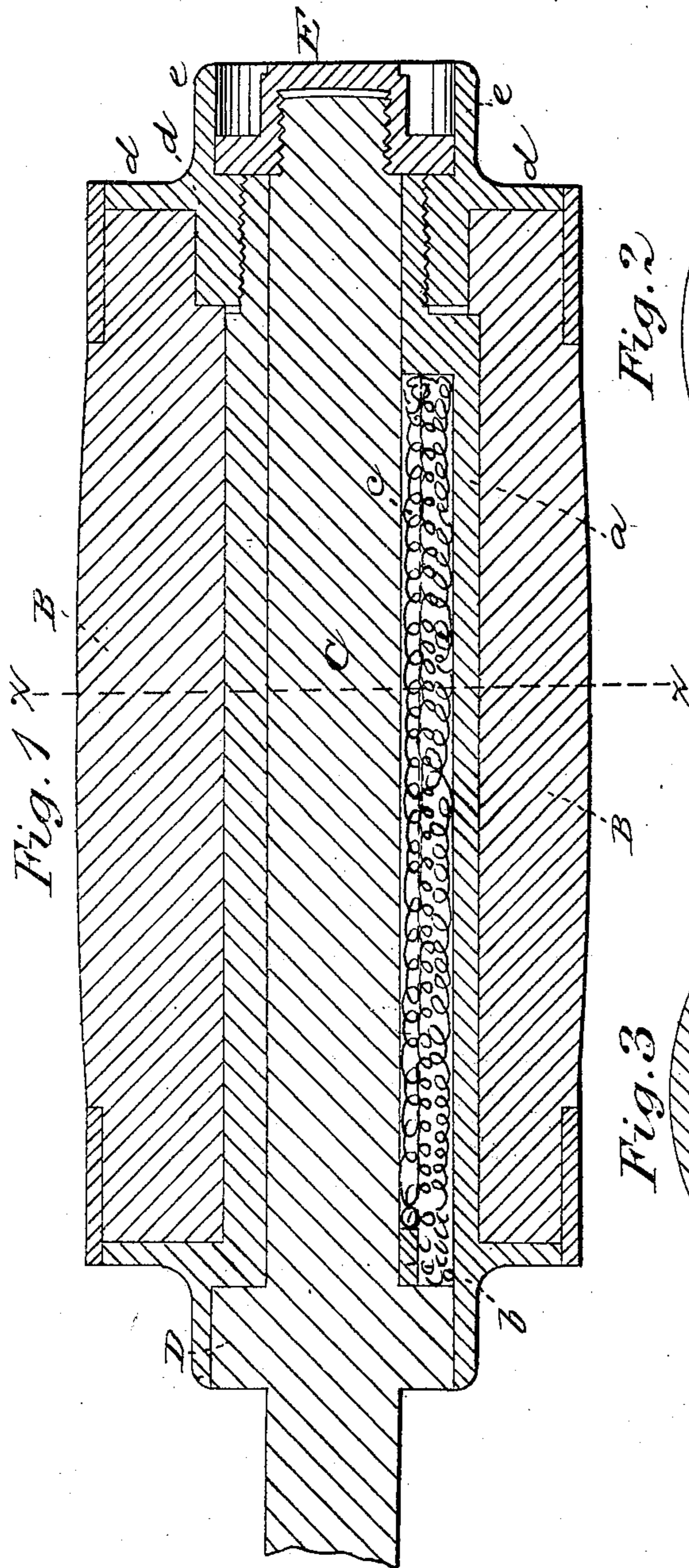


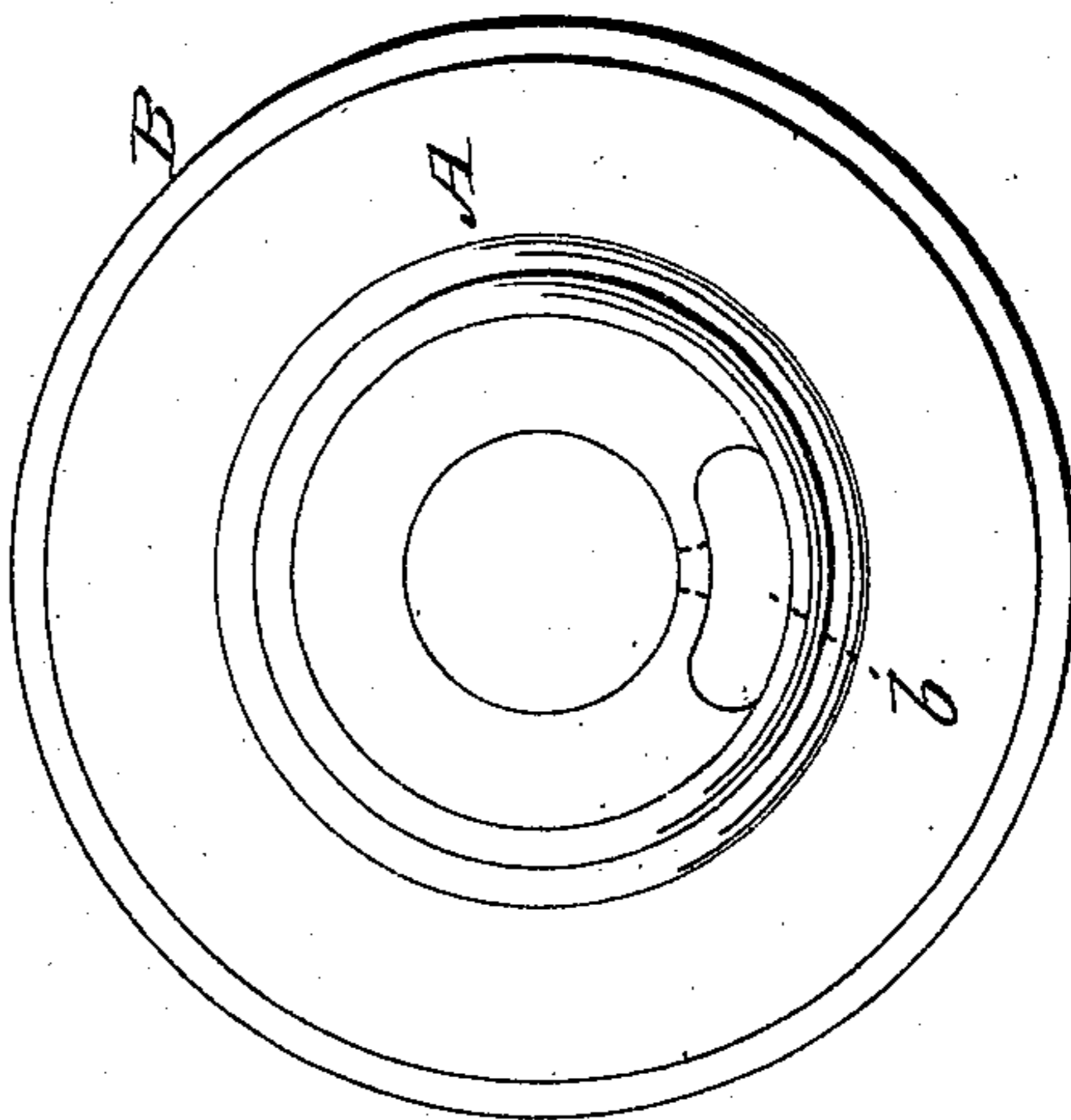
S. S. PUTNAM.  
Axle Lubricator.

No. 96,348.

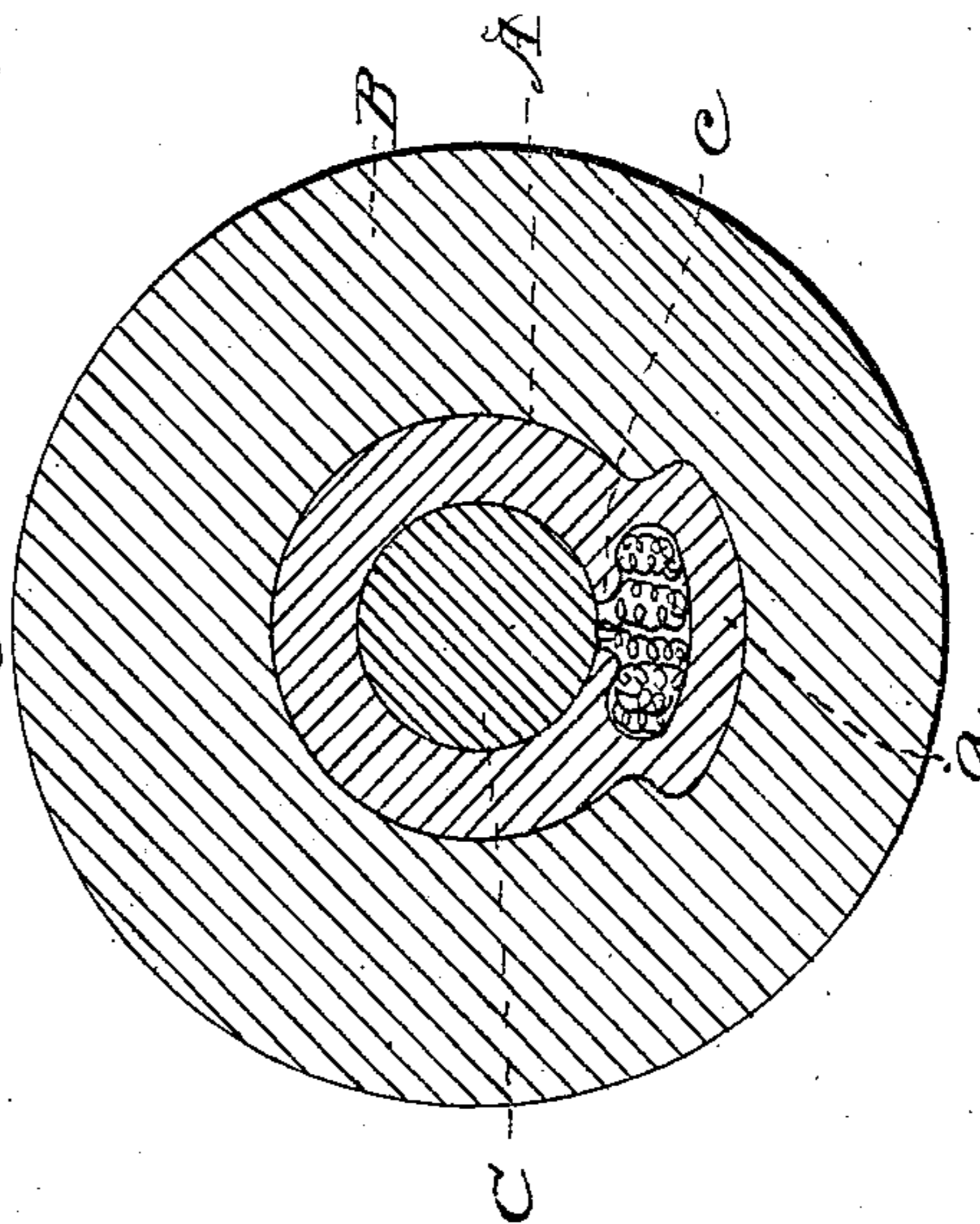
Patented Nov. 2, 1869.



*Fig. 2*



*Fig. 3*



Witnesses:  
O. E. Schenck  
W. J. Cambridge

Inventor:  
S. S. Putnam

# United States Patent Office.

SILAS S. PUTNAM, OF DORCHESTER, MASSACHUSETTS.

Letters Patent No. 96,348, dated November 2, 1869.

## IMPROVED SELF-LUBRICATING AXLE-BOX.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, SILAS S. PUTNAM, of Dorchester, in the county of Norfolk, and State of Massachusetts, have invented an Improved Self-Lubricating Axle-Box for Carriages, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a longitudinal section through an axle and the hub of a carriage-wheel, having my improved self-lubricating axle-box applied thereto.

Figure 2 is a rear elevation of a hub provided with my improved axle-box.

Figure 3 is a transverse section, on the line *xx* of fig. 1.

On the 20th day of November, A. D. 1866, Letters Patent of the United States were granted to me for an improved self-lubricating axle-box, which was provided with a chamber extending entirely around it, for containing fibrous material saturated with oil, which passed through slots or openings to the bearing-surface of the axle. My present invention, which is an improvement thereon, in its application to small hubs for light carriage-wheels, consists in an axle-box provided with one or more longitudinal chambers, the chamber or chambers extending only partially around the axle-box, and being packed with cotton-waste or other fibrous or porous material for receiving and retaining a supply of oil, which passes through one or more slots or openings to the bearing-surface of the axle, one or both ends of the chamber or chambers being open, so as to allow the oil to lubricate the inner end or collar of the axle, or the nut on its outer end, or both, and also permit the fibrous or porous material to be inserted, and the oil to be poured in, with which it is saturated.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the drawings—

A is the axle-box, which is fitted into the hub B of the wheel, and has formed within it a longitudinal chamber, *a*, at the inner end of which is an opening, *b*, for the admission of a packing of cotton-waste, sponge, or other fibrous or porous material, which is then saturated with oil poured in at *b*, thus obviating the necessity of an opening through the side of the hub, and affording convenient access to the chamber *a*.

*c* is a longitudinal slot or opening, through which the oil is fed by the packing to the bearing-surface of the axle C.

The collar D, at the inner end of the bearing-surface of the axle, fits into a recess made to receive it, and is lubricated by the packing through the opening

*b*, this opening being covered by the collar D, which thus serves to exclude the dust from the chamber *a*.

The nut E, which holds the wheel in place on the axle, fits into a recess made to receive it in the outer end of a screw-nut, G, as seen in fig. 1. This screw-nut G serves to hold the axle-box A tightly in place within the hub, the chamber *a* forming a projection on the outside of the axle-bar, (see fig. 3,) which fits into a groove made to receive it, thus preventing the axle-box from turning within the hub.

The end of the nut G is provided with a flange, *d*, and is finished with a projection, *e*, which forms the end of the hub, and serves to protect the nut which holds the wheel in place upon the axle.

An axle-box, constructed as above described, can be easily fitted within the hub, requiring no wedging, as is frequently the case with those now in use.

It will be seen, that when the chamber *a* is filled with a packing of cotton-waste or other suitable material, as above described, the revolution of the wheel will cause the oil to pass through the opening *c*, on to the bearing-surface of the axle, lubricating it throughout its entire length, as required, and an axle-box thus constructed will run for a great length of time, without requiring the oil to be renewed, as the packing receives and retains a large supply of the lubricating-material.

If preferred, the chamber *a* may be closed at its inner end, and provided with an opening, similar to *b*, at its front end, or an opening may be formed at each end if desired, as the nut E, on the outer end of the axle, or the collar D, on its inner end, will hold the packing in place within the chamber *a*; and instead of one chamber only being formed within the axle-box, as above described, it may be provided with two or more chambers if desired, without departing from the spirit of my invention.

The above-described axle-box, with a chamber extending only partially around it, requires less cutting away of the hub than an axle-box having a chamber extending entirely around it, as described in my aforesaid patent of November 20, 1866, the latter being better adapted for the hubs of heavy wheels, while the former is more particularly adapted for the small hubs of light carriage-wheels.

### Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

A chamber *a*, with its slots, in combination with openings *b*, constructed substantially as described.

Witnesses: SILAS S. PUTNAM.

P. E. TESCHEMACHER,

W. J. CAMBRIDGE.