

No. 617,817.

Patented Jan. 17, 1899.

A. C. SMITH.  
LUBRICATING JOURNAL BOX.

(Application filed July 9, 1898.)

(No Model.)

Fig. 1

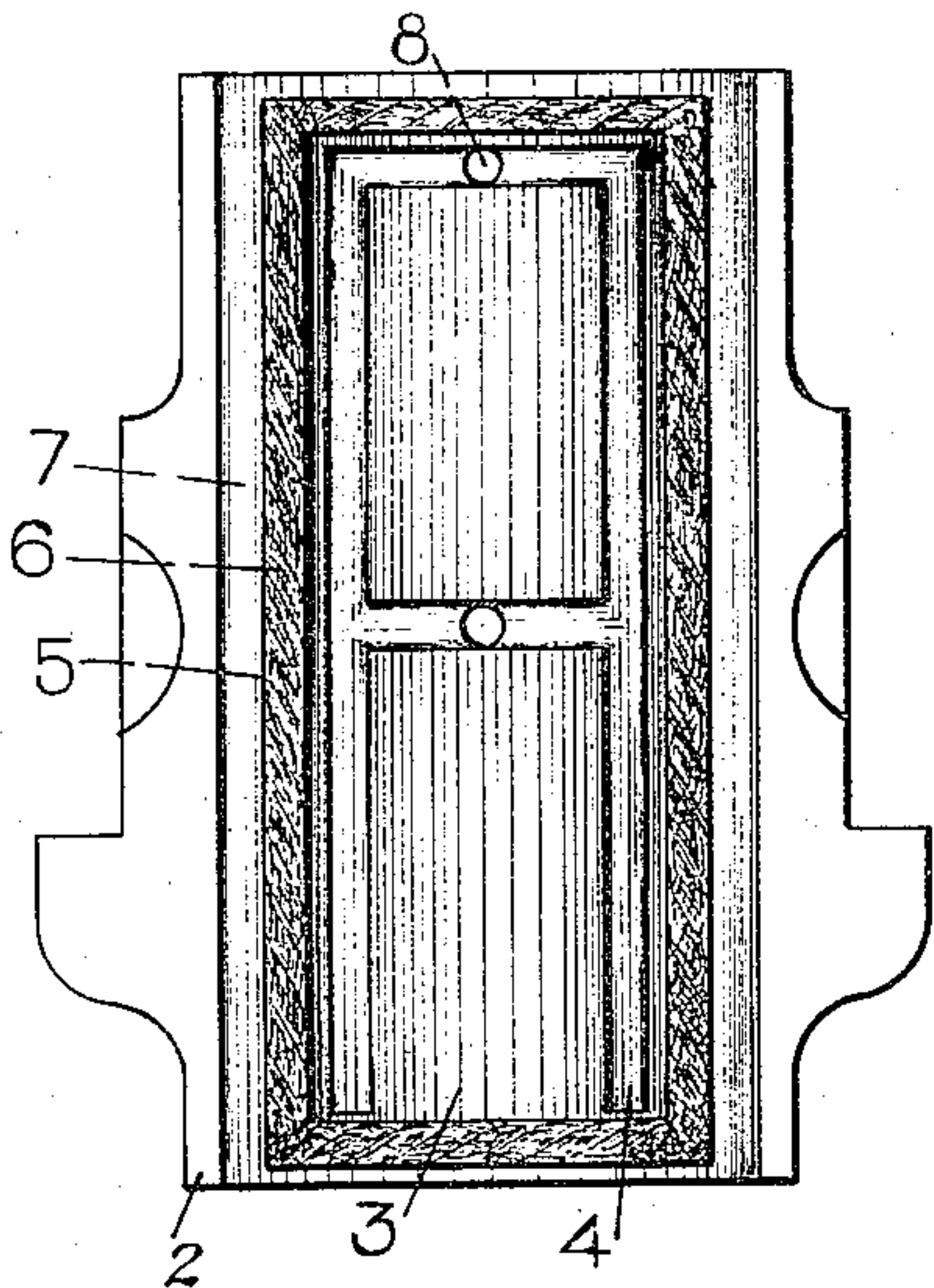


Fig. 2

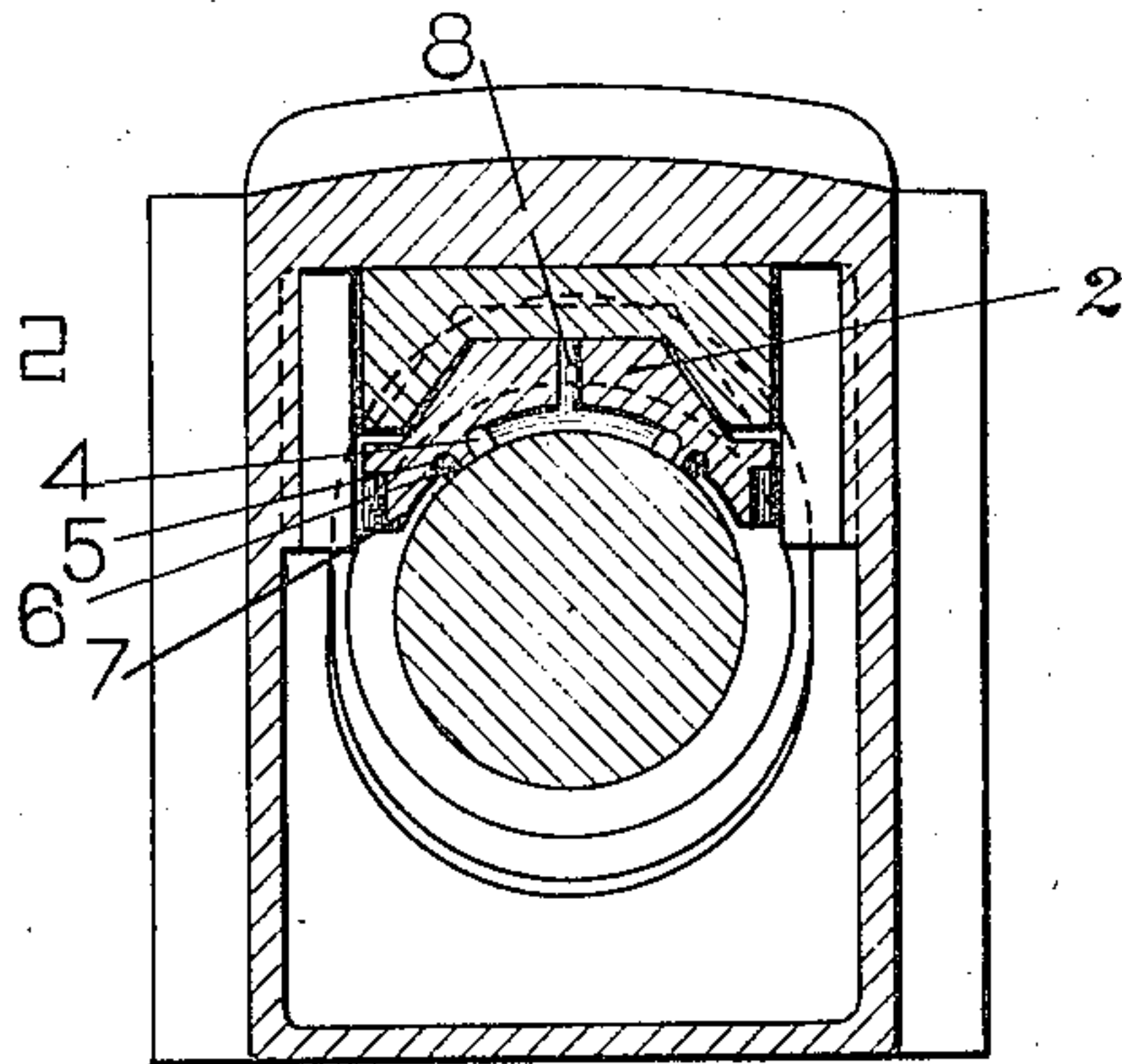


Fig. 3

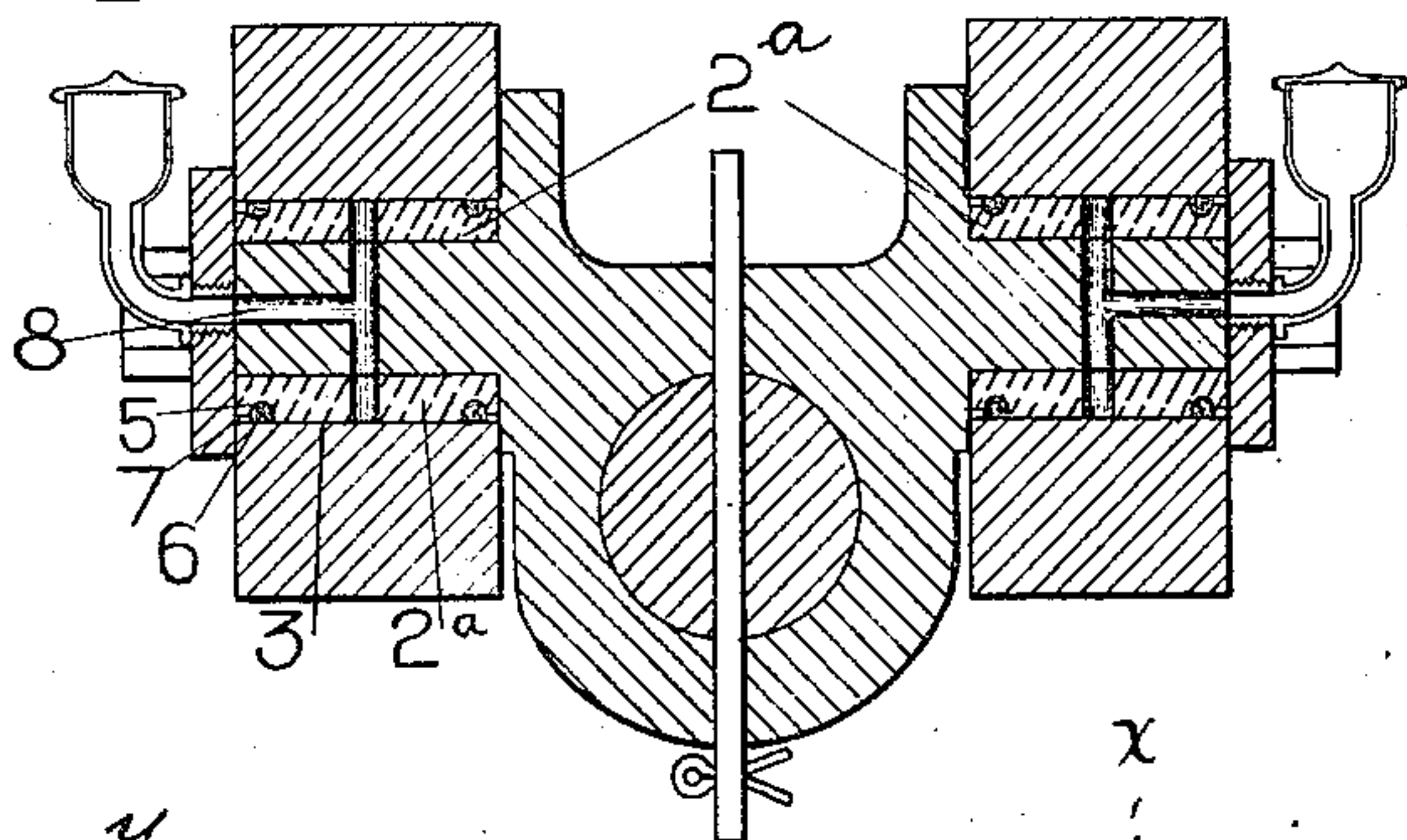


Fig. 4

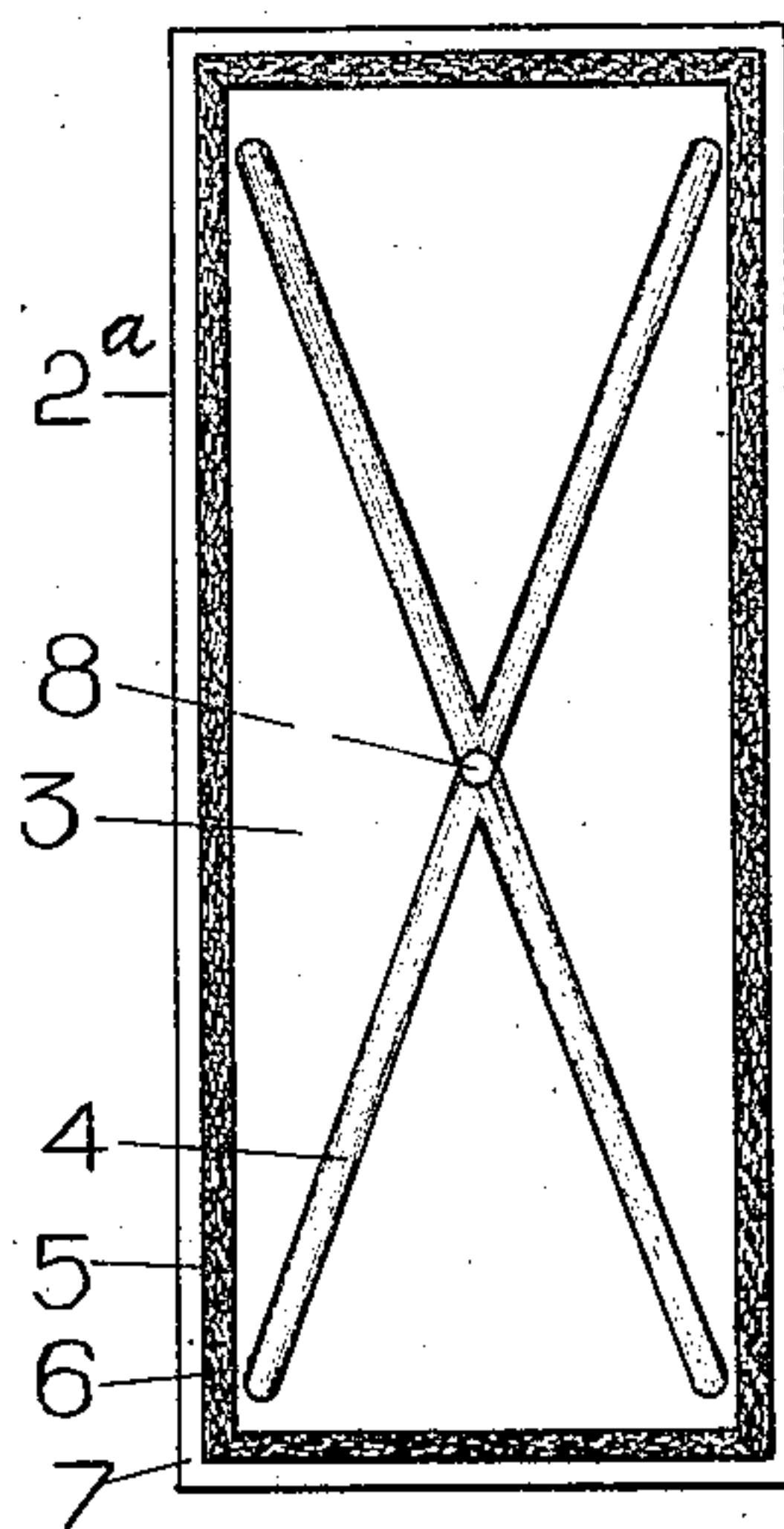


Fig. 5

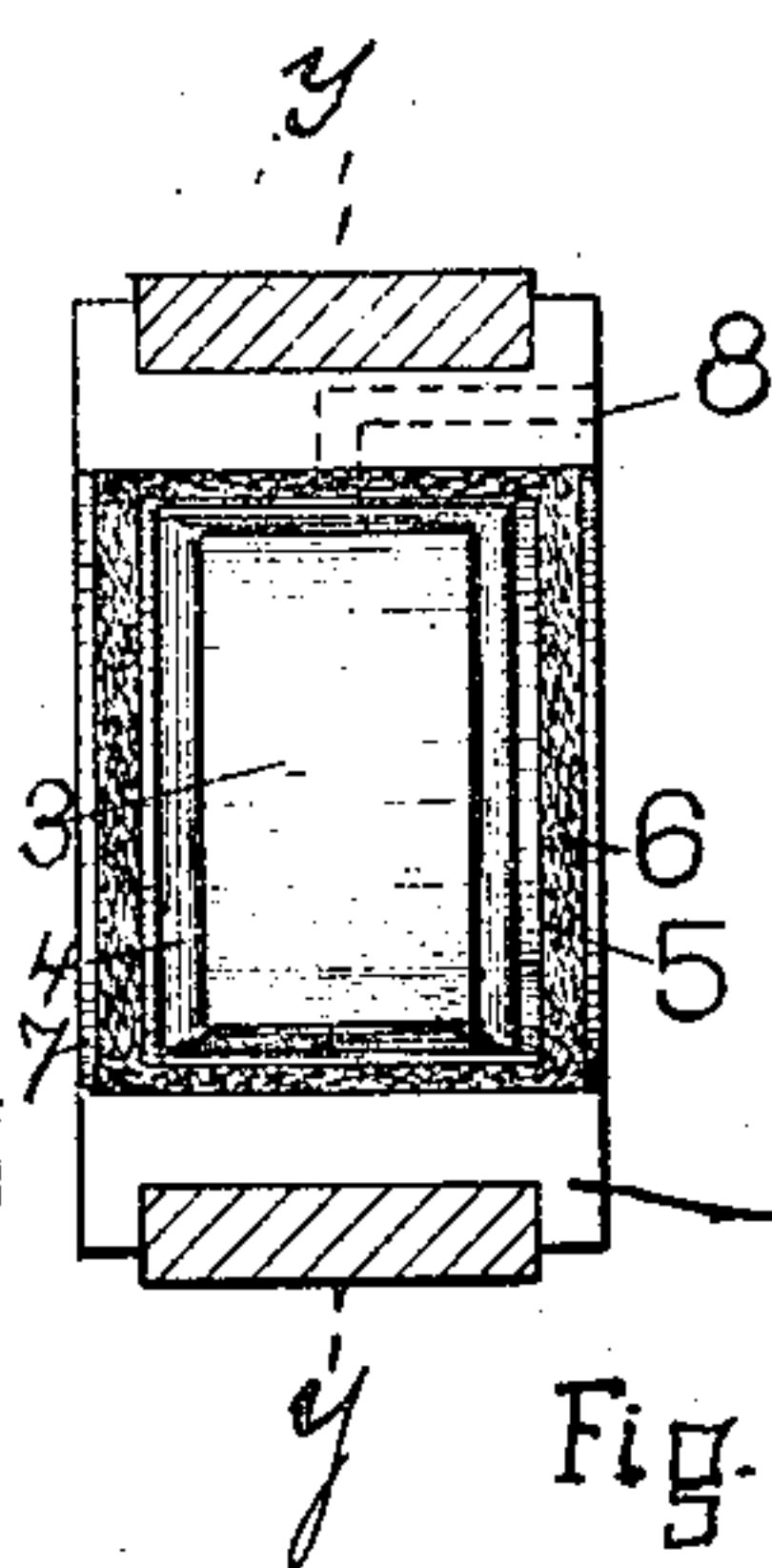
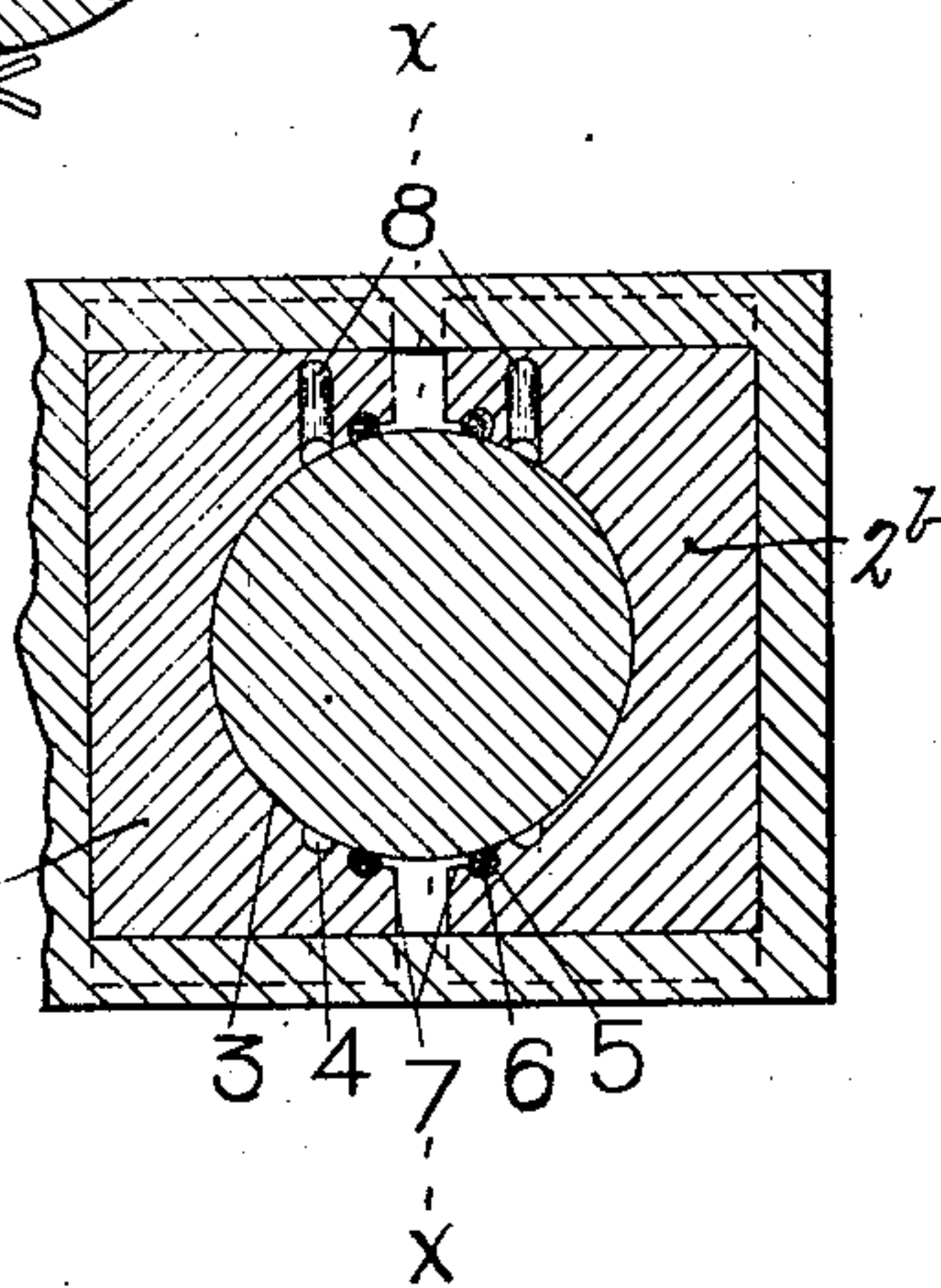


Fig. 6



Inventor

Albert C. Smith  
by C. B. Tuttle

Attorney

Witnesses  
M. M. Tuttle  
A. M. Tuttle



# UNITED STATES PATENT OFFICE.

ALBERT C. SMITH, OF SACO, MAINE.

## LUBRICATING JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 617,817, dated January 17, 1899.

Application filed July 9, 1898. Serial No. 685,480. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT C. SMITH, a citizen of the United States of America, and a resident of Saco, in the county of York and State of Maine, have invented certain Improvements in Lubricating Journal-Boxes, of which the following, read in connection with the accompanying drawings, is a specification.

10 This invention has for its object to provide means for retaining oil in connection with revolving journals and other moving parts of machinery.

15 In the accompanying drawings this my invention is illustrated and shown in different conditions of use.

Figure 1 shows the device with a bearing-face adapted for use in car-axle boxes or where the moving part is circular. Fig. 2 is 20 an elevation of a cross-section of a car-axle and box embodying this form of the invention. Fig. 3 is an elevation of a cross-section of an engine cross-head with this form of my invention applied thereto. Fig. 4 shows the 25 device with a flat bearing-face designed for use in cases where the moving part is a flat surface. Fig. 5 shows the improvement applied to an engine crank-pin and is a sectional view on the line *xx* of Fig. 6. Fig. 6 30 is a vertical section on line *yy* of Fig. 5.

This invention comprises a metal blank or plate 2, which preferably is made of brass and is provided with an under bearing-face 3, designed for resting on the intended journal or work part, in sliding contact therewith. 35 Surrounding the bearing-face 3 is a groove 5 in the material of the plate, and in the groove 5 is a packing 6, which may be of hemp, coconut fiber, or other suitable oil-excluding material. The packing 6 is allowed to project from the groove 5, so that when the plate is applied in working use with its bearing-face 3 on the intended journal or machine part the packing 6 will be compressed tightly 45 against the said journal or machine part and exclude oil from passing through between the packing and said part. The margin of plate 2 outside of the packing is cut away or rabbeted, as at 7, so that this part of the 50 face shall not bear in touch with the surface of the journal or moving part, all this to

avoid the possibility of the plate becoming overheated by any dry friction between the parts. The plate 2 is further provided in its working face with oil-receiving grooves 4, 55 which open through the bearing-face 3. Instead of grooves a series of holes or cavities of different shape may be employed. In use the oil is introduced into these grooves or cavities in quantity and will pass therefrom 60 onto the surface of the journal or moving part as required for use. An opening 8 may be provided through which to introduce the oil from outside into the groove 4 or cavities, and, if desired, this opening may be extended 65 from an oil pot or receiver outside the plate 2.

When used in a car-axle box, the device is made to take the place of the ordinary car-axle brass, and to that end the plate 2 is 70 made with the form of such a brass and interposed with its bearing-face on the axle-surface, as shown in Fig. 2. Other component parts of the axle-box, being of the usual and well-known construction, are not described. 75

When used in the engine-cross-head mechanism, the plate 2<sup>a</sup> has a flat bearing-face and is interposed with its bearing-face on the surface of the part or way whereon the cross-head slides, as shown in Fig. 3, other parts of 80 the cross-head shown being of the usual and well-known construction.

In Figs. 5 and 6 two of the plates 2<sup>b</sup> are represented having semicircular bearing-faces arranged on opposite sides of an engine 85 crank-pin, with an open space between to allow for taking up in the usual manner of compensating for wear.

The several plates 2, 2<sup>a</sup>, and 2<sup>b</sup> are all provided in their working faces 3 with the oil- 90 conducting grooves or cavities 4, exterior to which the said working face is provided with the packing-groove 5, which incloses the grooves 4 both at the sides and ends of the plate, so that when the oil-excluding pack- 95 ing is in place no oil can pass therebeyond. Moreover, the rabbet 7 extends around the entire margin of all of said plates, so that no non-lubricated portions thereof will come in contact with the journal, pin, or other mov- 100 ing part.

Obviously from the foregoing description



this invention may be modified and applied by ordinary mechanical skill to the moving parts of other machines.

I claim as of my invention and by Letters Patent desire to secure—

1. A plate for the purposes described provided in its working face with oil-conducting grooves or cavities having communication with the opposite side of the plate, a packing-groove in said working face beyond and completely inclosing or encircling the oil-conducting grooves or cavities; which packing-groove has no communication with the opposite sides of the plate; whereby when the said groove is packed as described no oil can escape beyond its sides or ends; substantially as described.

2. A plate for the purposes described, provided in its working face with oil-conducting grooves or cavities communicating with the

opposite or exterior portion of the plate, a packing-groove in said working face exterior to and completely inclosing or encircling the said oil-conducting grooves or cavities and out of communication with the opposite face of the plate and the outer marginal edge of the working face, beyond said packing-groove, being cut away or rabbeted on all sides; whereby when the packing-groove is packed with its oil-excluding packing no oil can pass therebeyond and contact of a moving part with an unoled part of said plate is prevented; substantially as described.

Signed at Lynn, Massachusetts, June 11, 1898.

ALBERT C. SMITH.

Witnesses:

C. B. TUTTLE,  
R. H. SUTHERLAND.