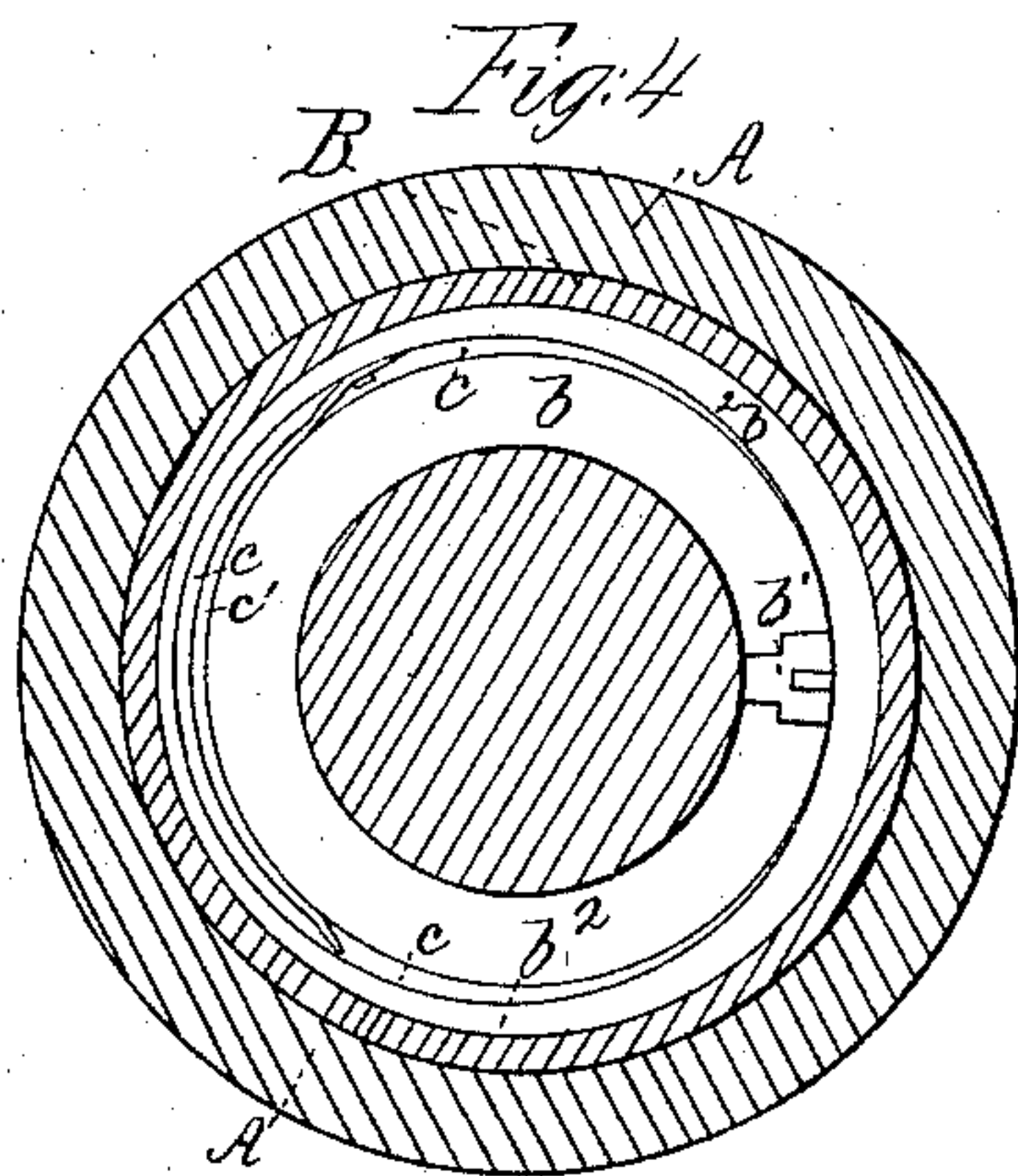
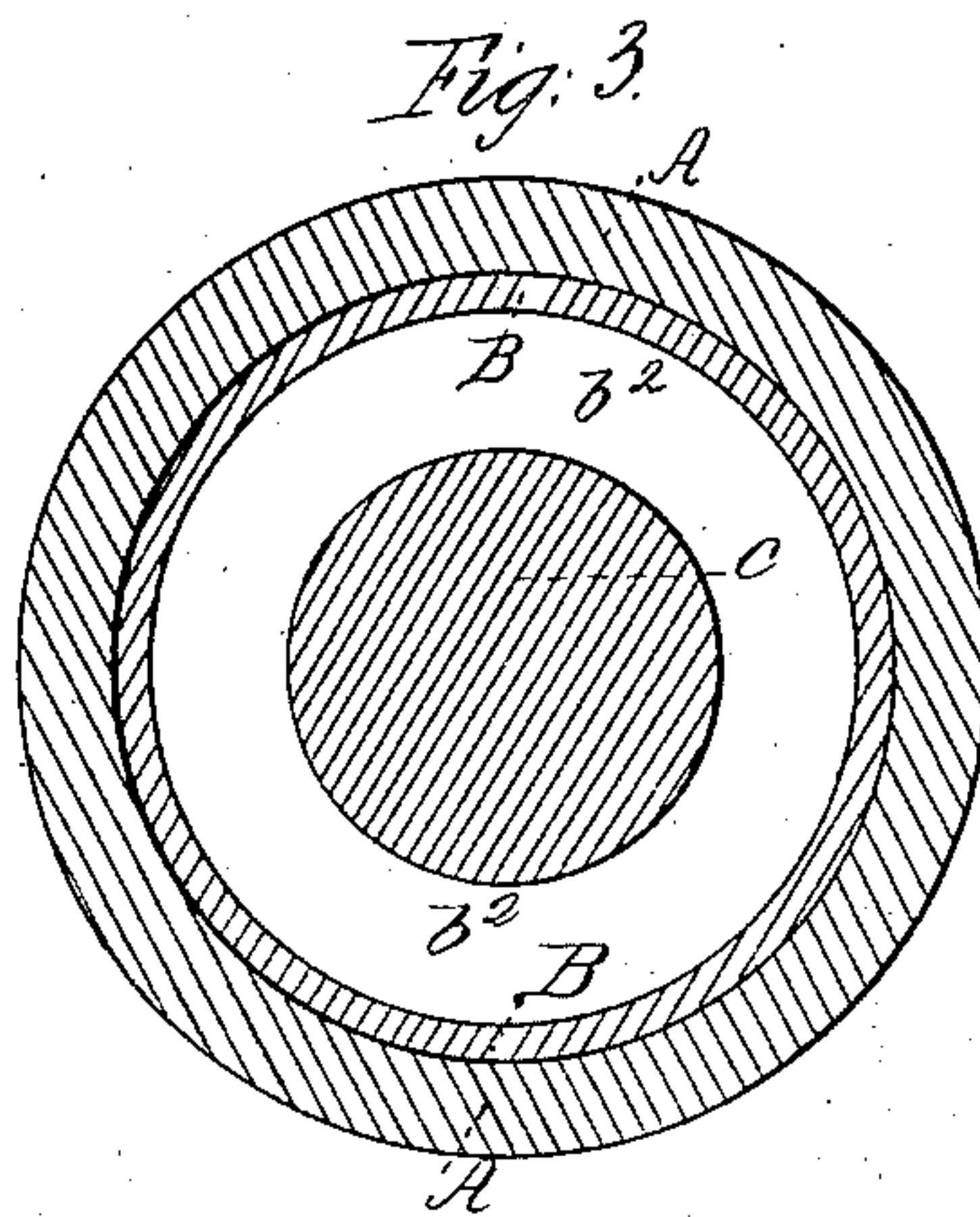
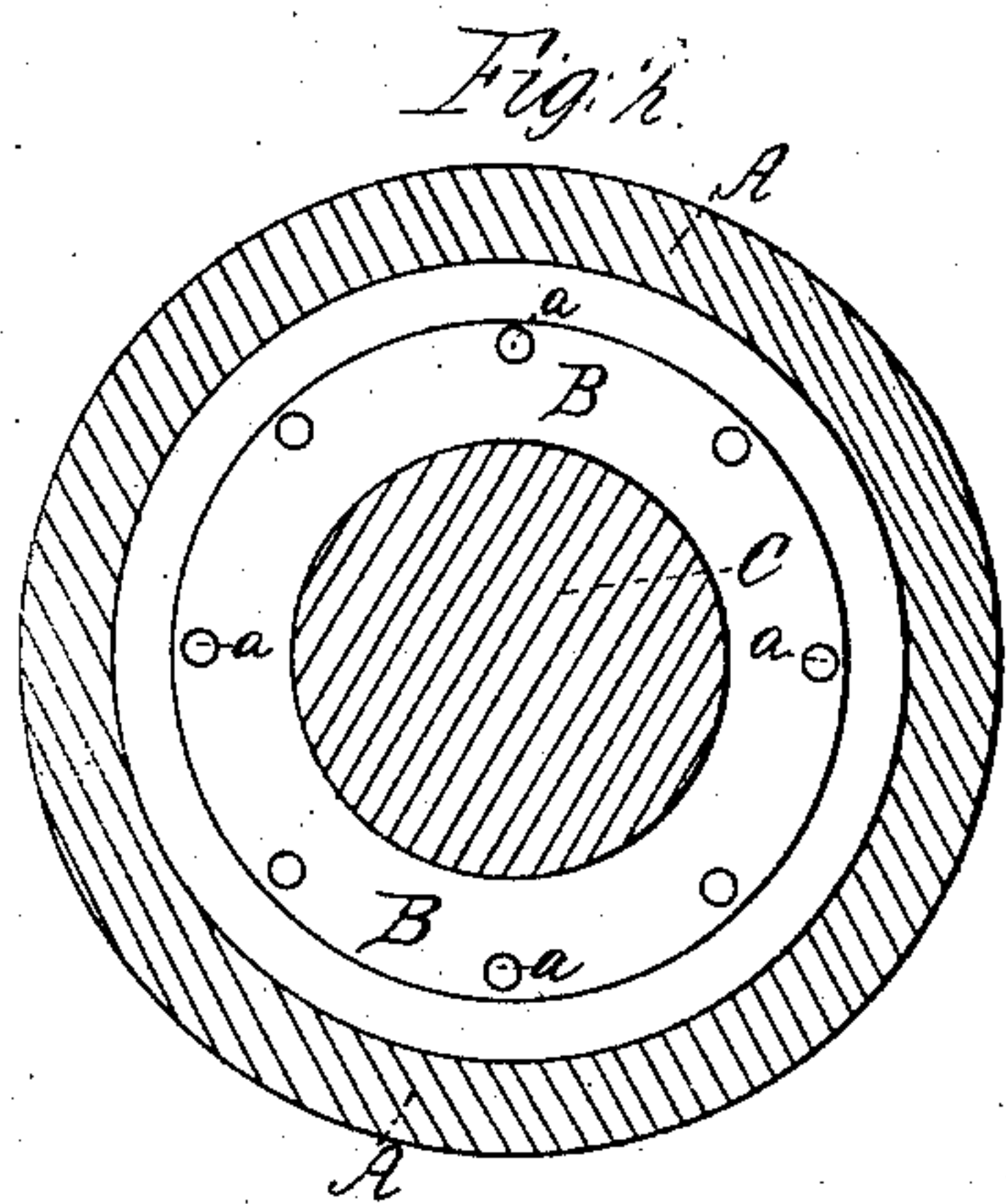
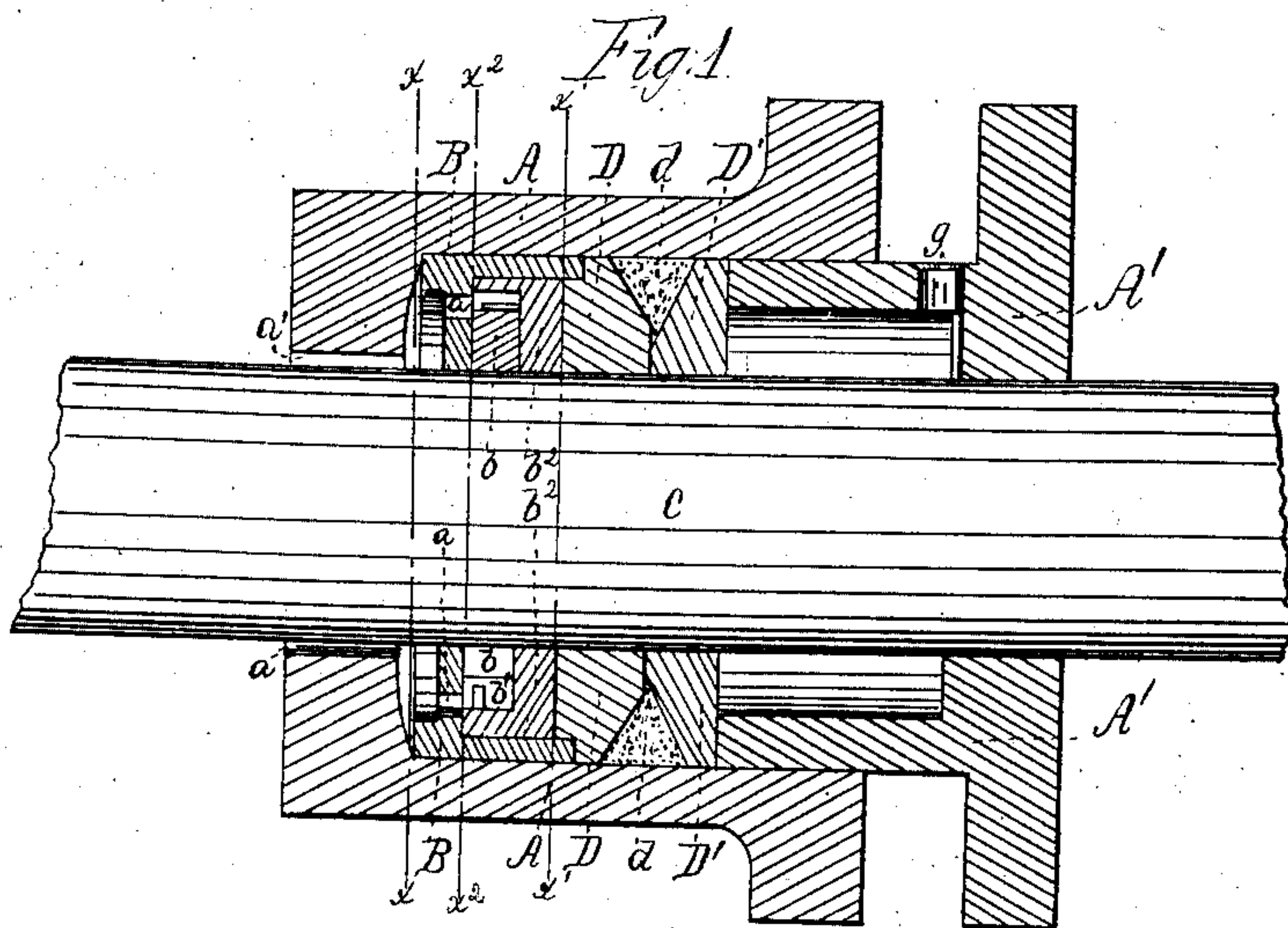


J. F. Chase,
Stuffing-Box Packing.

N^o 62,527.

Patented Mar. 5, 1867.



witnesses.
S. M. Randolph
Chas. W. Boyle.

Inventor
Joseph F. Chase

The drawing in this paper
is not in print.

United States Patent Office.

JOSEPH F. CHUSE, OF LITCHFIELD, ILLINOIS.

Letters Patent No. 62,527, dated March 5, 1867.

IMPROVEMENT IN METALLIC STUFFING-BOX PACKING.

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, JOSEPH F. CHUSE, of Litchfield, in the county of Montgomery, and State of Illinois, have made certain new and useful Improvements in "Stuffing-Boxes" for Steam Piston and Valve Rods; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 of the drawings is a longitudinal sectional elevation of one of the improved stuffing-boxes.

Figure 2 is a transverse section, taken on the line $x x$ in fig. 1.

Figure 3 is a similar view, taken on the line $x^1 x^1$ in fig. 1.

Figure 4 is also a transverse section, taken on the line $x^2 x^2$ in fig. 1.

The nature of this invention will be readily understood by reference to the accompanying drawings and the following specifications.

To enable those skilled in the art to make and use my improved stuffing-box packing, I will proceed to describe its construction and operation.

The stuffing-box A may be attached to the cylinder or steam chest in the usual manner, and the gland A', will be screwed on to it, as is customary, by means of bolts, (not shown.) Within the stuffing-box is an annularly shaped packing case, B, surrounding the piston or valve rod C. This packing case has small perforations a through its back end, as shown in figs. 1 and 2, for the admission of steam, that will pass through an annular opening, a' , between the stuffing-box and rod C. Within the packing case B is an annular metallic packing, b , encircling the rod, and pressed on to it by the pressure of steam on its periphery, so as to form a steam-tight joint between these parts, as hereinafter described. This packing ring is cut in two at b^1 , for the purpose of enabling it to yield readily to the pressure of steam on its periphery, and thus fit tightly to its rod. The ring b is enclosed by an annular casing, b^2 , which is bored out or rebated on one side eccentrically, as shown in fig. 4, for the reception of the said packing ring b . When these two parts are placed together, as in use, there will be formed on one side of and between them a crescent cavity, c , as fully shown in fig. 4. Within this cavity will be inserted a spring, c' , which will press the packing hard down upon the rod on the opposite side from the break b^1 , and will draw the casing ring b^2 up tightly to the rod opposite the said opening in the packing, that is, on the same side of the rod as the said opening b^1 . The object of this construction is to cause the casing ring b^2 to set up tightly to the rod, and form the packing for it at that point where the opening at b^1 would otherwise allow steam to pass through the said opening. The steam which passes from the cylinder or steam chest, as the case may be, through the annular opening a' around the rod, and thence through the perforations a , will enter the cavity c , where its expanding force will act upon the packing ring b to force it down upon the rod and upon the casing b^2 , to raise it up off of that side of the rod, and draw it up tightly to the other side at the point b^1 . Thus the steam pressure will act upon the packing b b^2 in such a manner as to cause these two packing rings, in combination with each other, to form a perfectly tight steam joint between themselves and the rod C. In order to prevent any steam that may force its way through between the casing B and the stuffing-box A, I place two rings D D' around the rod C, between the case B and the gland A'. The two contiguous edges of these rings are bevelled off so as to receive a hemp packing, d , which, as the gland is screwed down upon the ring D', will be expelled outwardly so as to render perfectly tight the annular joint between the said hemp packing and the stuffing-box. As there is no wear upon this hemp packing, it will last a long time. The rod C may be lubricated through the orifice g in the gland.

There may be one or more of the rings b , constructed on the same principle as that herein described. The rings b and b^2 should be fitted loosely into the casing B, but the joint between the ring b^2 and B should be constructed steam-tight.

Having described my invention, what I claim, is—

1. The packing ring b , and its enclosing casing b^2 , when constructed substantially as and for the purposes set forth.
2. The combination and arrangement of the packing rings b and b^2 , and the spring c' , substantially as set forth.
3. The packing rings b b^2 , in combination with enclosed perforated casing B, substantially as set forth.
4. The packing rings D D', when constructed and arranged substantially as set forth.

Witnesses:

M. RANDOLPH,
CHAS. H. BOYLE.

JOSEPH F. CHUSE.