

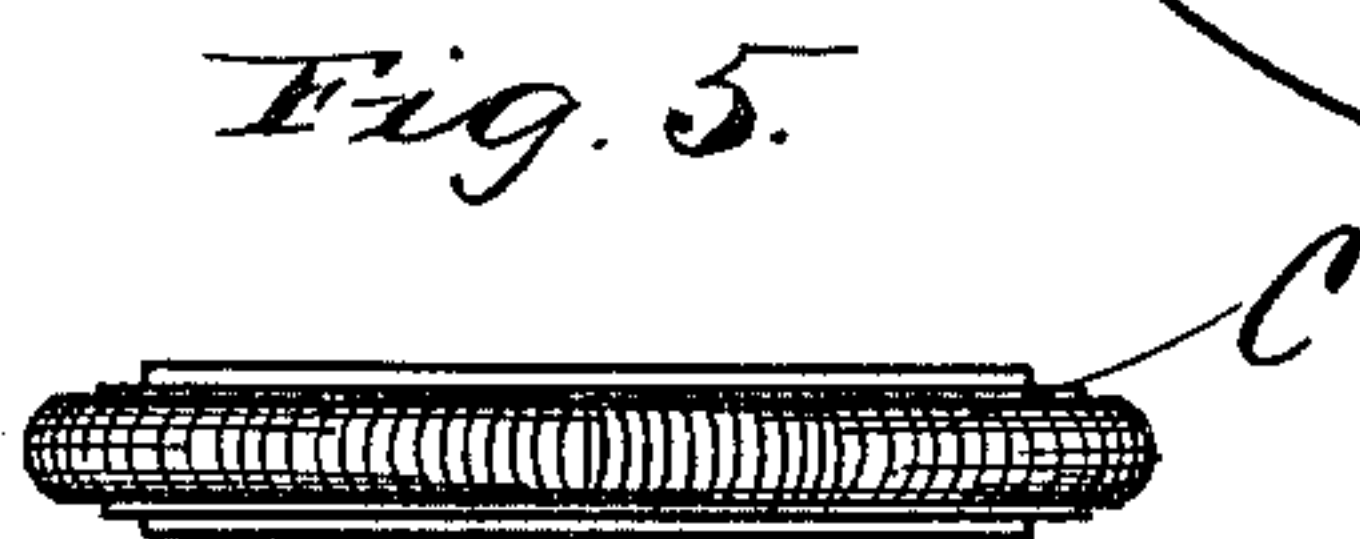
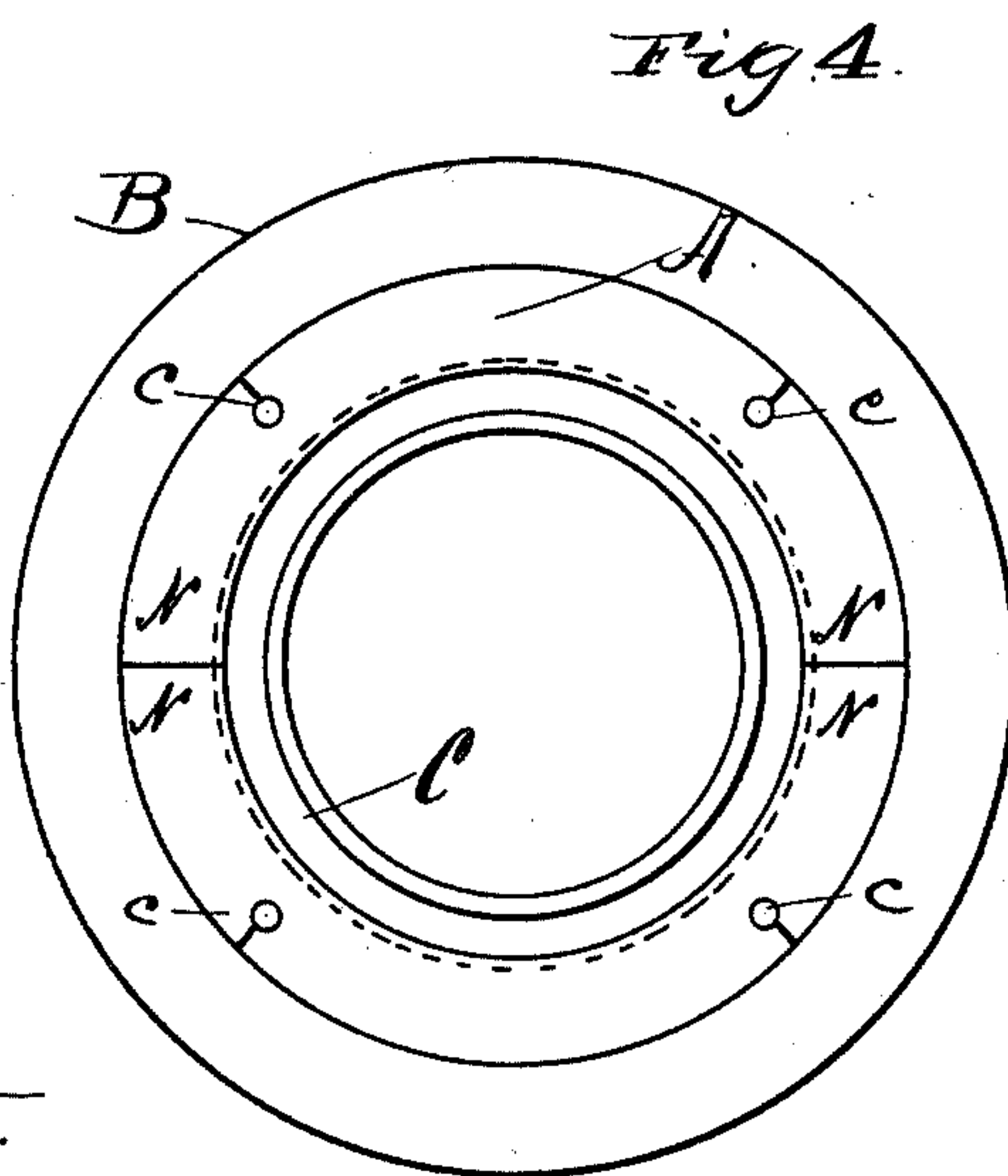
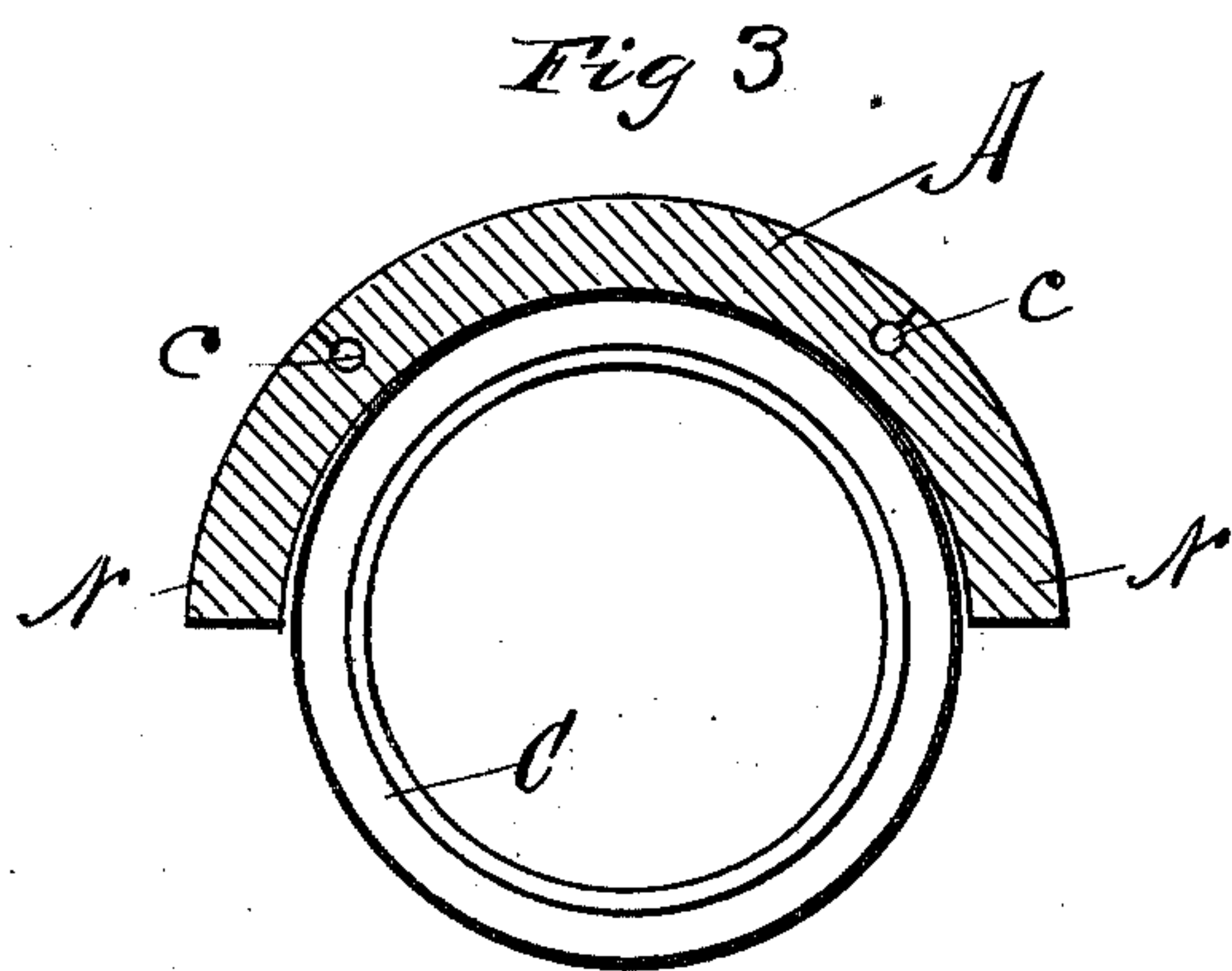
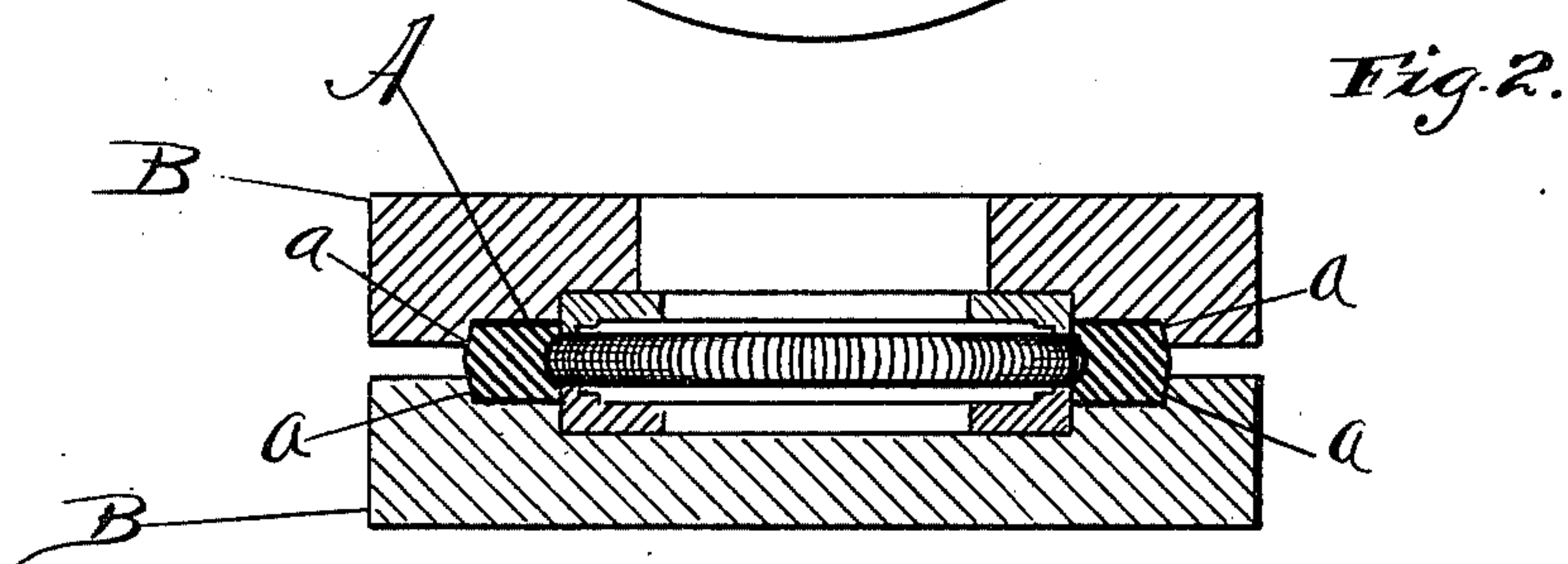
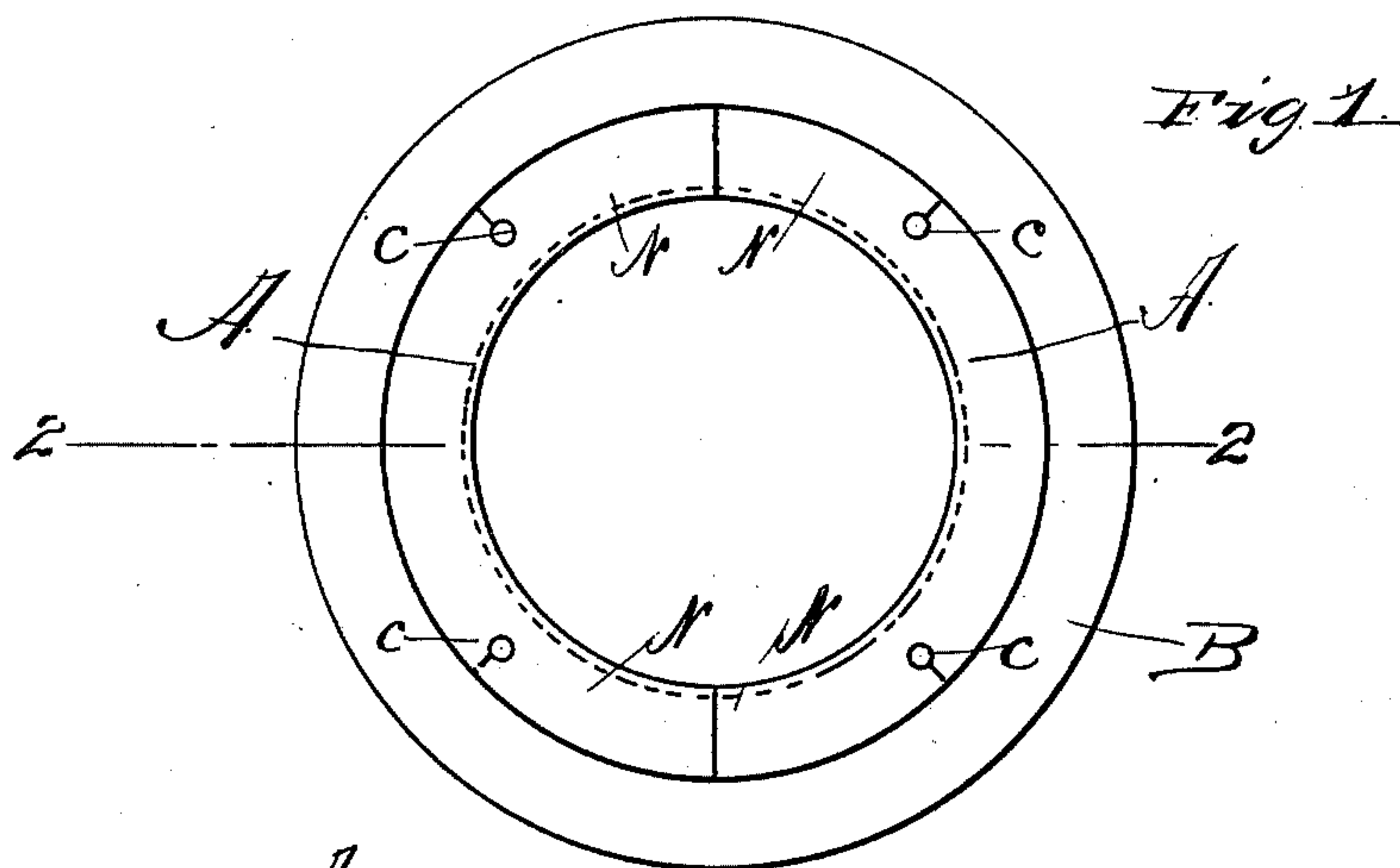
No. 670,936.

Patented Apr. 2, 1901.

W. MUSHET.
DIE FOR WATCHCASE CENTERS.

(Application filed Sept. 5, 1900.)

(No Model.)



Witnesses.

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WILLIAM MUSHET, OF ATTLEBORO, MASSACHUSETTS.

DIE FOR WATCHCASE-CENTERS.

SPECIFICATION forming part of Letters Patent No. 670,936, dated April 2, 1901.

Application filed September 5, 1900. Serial No. 29,098. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MUSHET, of Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Dies for Watchcase-Centers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the dies used in shaping watchcase-centers, and has for its object to so construct the die that it shall produce more perfect work and at the same time require less time to arrange the parts of the die for each center made. It is fully explained and illustrated in this specification and the accompanying drawings.

Figure 1 is a top view of the die and its holder or socket. Fig. 2 shows a vertical cross-section of the die and its socket, taken across the center on line 2 2 in Fig. 1. Fig. 3 is a top view of one half of the die in section and a watchcase-center, showing the difference in diameter between the inside of the die and the outside of the watchcase-center. Fig. 4 is a top view of the die in the socket with the watchcase-center inclosed in the die. Fig. 5 represents an edge view of the watchcase-center separate.

The dies now generally in use for shaping watchcase-centers are made in four equal parts for the purpose of readily extracting the work when the rolling is finished; but when the die becomes in the least worn at the joints it produces a fin or mark on the outside of the piece of work at each junction of the parts of the die. Two of these marks are of no consequence, as one of them comes at the place where the watch-stem is afterward attached, and the other mark of the two comes at the place where the hinge is made; but the other two marks of the four joints come on the sides of the work, between the stem and the hinge, and it is found almost impossible to remove these marks, so as to prevent them from disfiguring the watchcase, and consequently the dies have to be frequently replaced with new ones. To prevent the making of the latter two fins or

marks, I make the die in two parts only, which when worn at the joints will make only the marks at the places where the stem and hinge are afterward placed and where they will not show, so that the wearing of the die will not be detrimental to the work, and the expense and trouble of frequently replacing it with a new one will be avoided. To obviate the difficulty of removing the case-center from the two halves of the die if they are fluted or otherwise figured because of the raised figures on the case-center catching into the sunken figures of the die, I make the inside diameter of the die a little larger than the outside diameter of the watchcase-center. (See Fig. 3, which represents a case-center C and one of the halves of the die A.) To compress the sides N N of the half-die A in so as to fit the case-center C, I bevel off the periphery of the two parts of the die in both directions from the middle, as shown at *a*, Fig. 2, and also bevel the sides of the recess in both the upper and lower parts of the socket B B, so that when the parts B B are forced together the two sides N N of each half-die will be closed in to make a circle fitting close to the case-center C. (See Fig. 4.) To facilitate the closing in of the two sides N N, I drill holes *c c* through the die and saw a slot into them from the outside, which allows the die to spring in sufficiently to make the necessary closing. It will readily be understood that when the case-center C has been rolled in the die held in the socket and that when the die and case-center are taken out of the socket the sides N N of each half of the die will spring apart to their original diameter, as in Fig. 3, and entirely release the case-center C. Another advantage of this construction is the saving of time, for when the die is made in four parts these parts have to be arranged in a particular order every time a case-center is put in and much care used in putting the parts of the die, with the work, in the socket; but when the die is made in two parts only all that is necessary is to see that the two parts are right side up in the socket B, and they will be in their right order.

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

1. In a die for shaping watchcase-centers, the combination of an expanding-die divided into two parts and having its periphery beveled in both directions from the middle thereof, a socket to hold said expanding-die consisting of an upper and lower member each having a recess in it made with beveled sides fitting on the beveled periphery of said expanding-die, substantially as described.
2. In a die for shaping watchcase-centers, a die made in two parts, the inside of each part forming a portion of a circle of larger diameter than the outside of the watchcase-center to be shaped therein, with means for compressing and holding said parts of the die to form a ring having an inside diameter the same as the watchcase-center, outside of it, substantially as described.
3. In a die for shaping watchcase-centers, the combination of a die made in two parts the inside of each part forming a portion of a circle of larger diameter than the outside of the watchcase-center to be shaped therein, said die having its periphery beveled in each direction from its middle, a socket to hold said die consisting of an upper and a lower member each having a recess in it made with

beveled sides fitting on the beveled periphery of said die, substantially as described.

4. In a die for shaping watchcase-centers, an expanding-die made in two parts having figures or flutes on its interior surface and its inside diameter made as much larger than the outside of the watchcase-center as the depth of said figures, in combination with a socket to hold and compress said expanding-die while doing its work, substantially as described.

5. In a die for shaping watchcase-centers, an expanding-die made in two parts having figures or flutes on its interior surface, and its inside diameter made as much larger than the outside watchcase-center, as the depth of said figures or flutes, said die having holes or slots made through it to facilitate the closing of its sides in combination with a socket to compress and hold said expanding-die while doing its work, substantially as described.

In testimony whereof I have hereunto set my hand this 29th day of August, A. D. 1900.

WILLIAM MUSHET.

In presence of—

HOWARD E. BARLOW,
BENJ. ARNOLD.