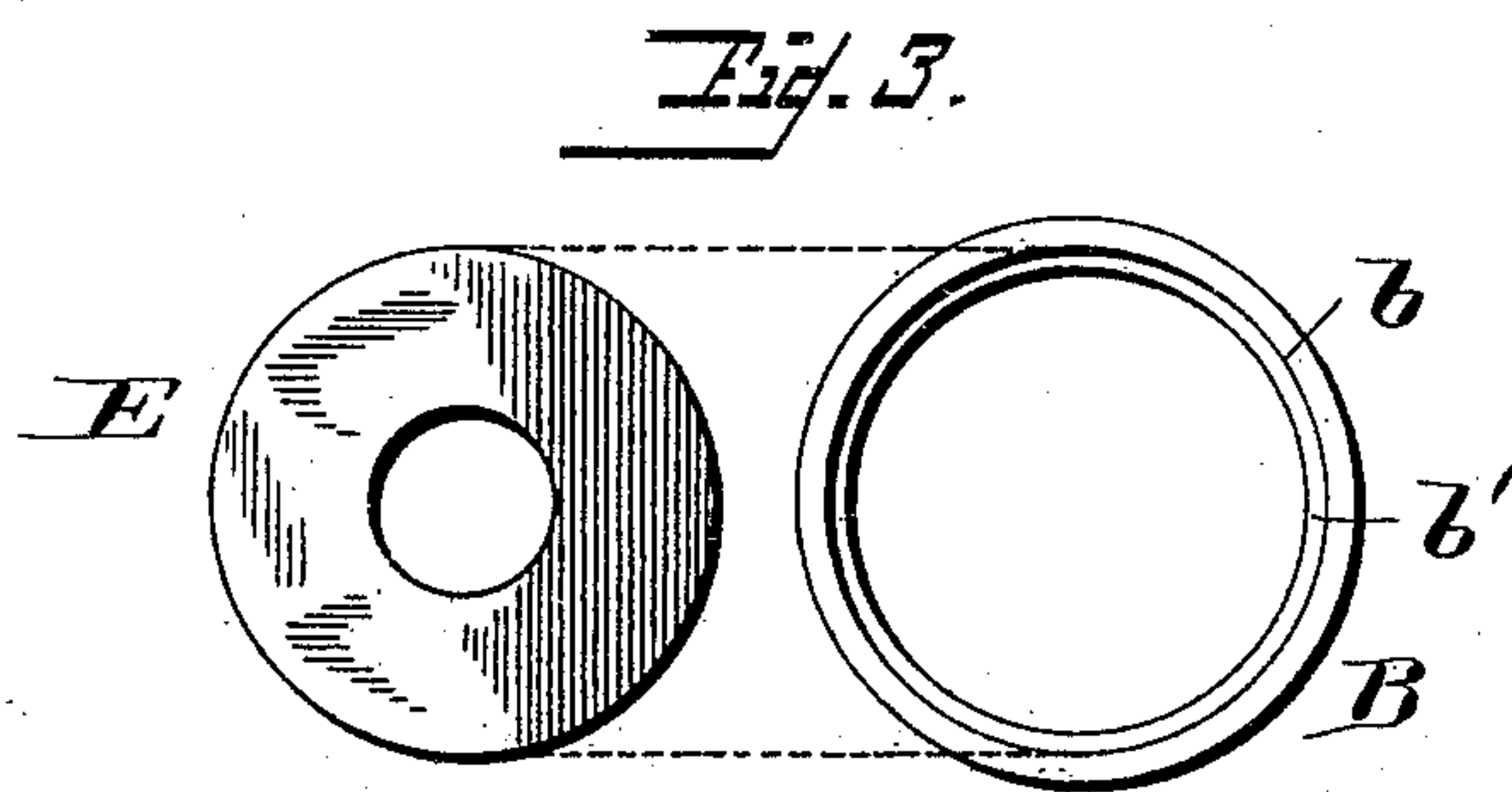
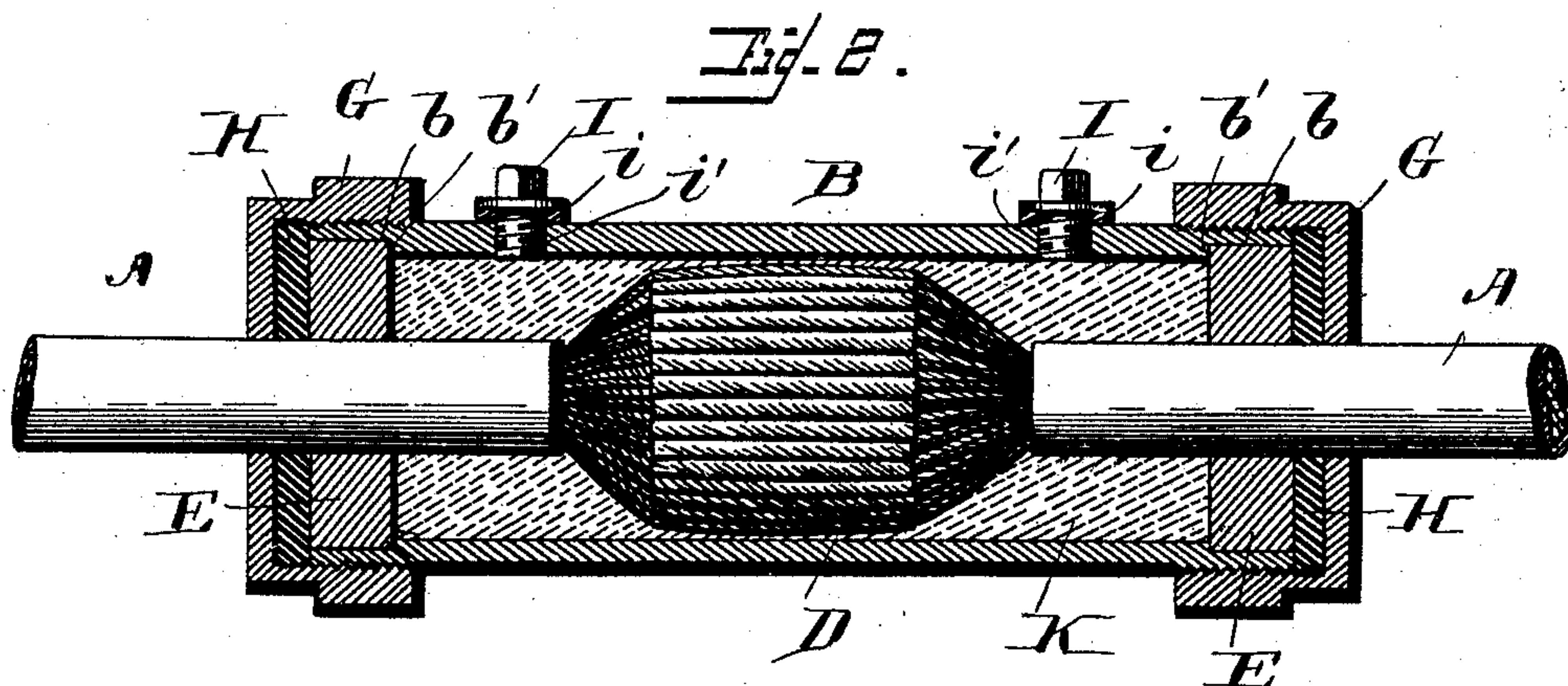
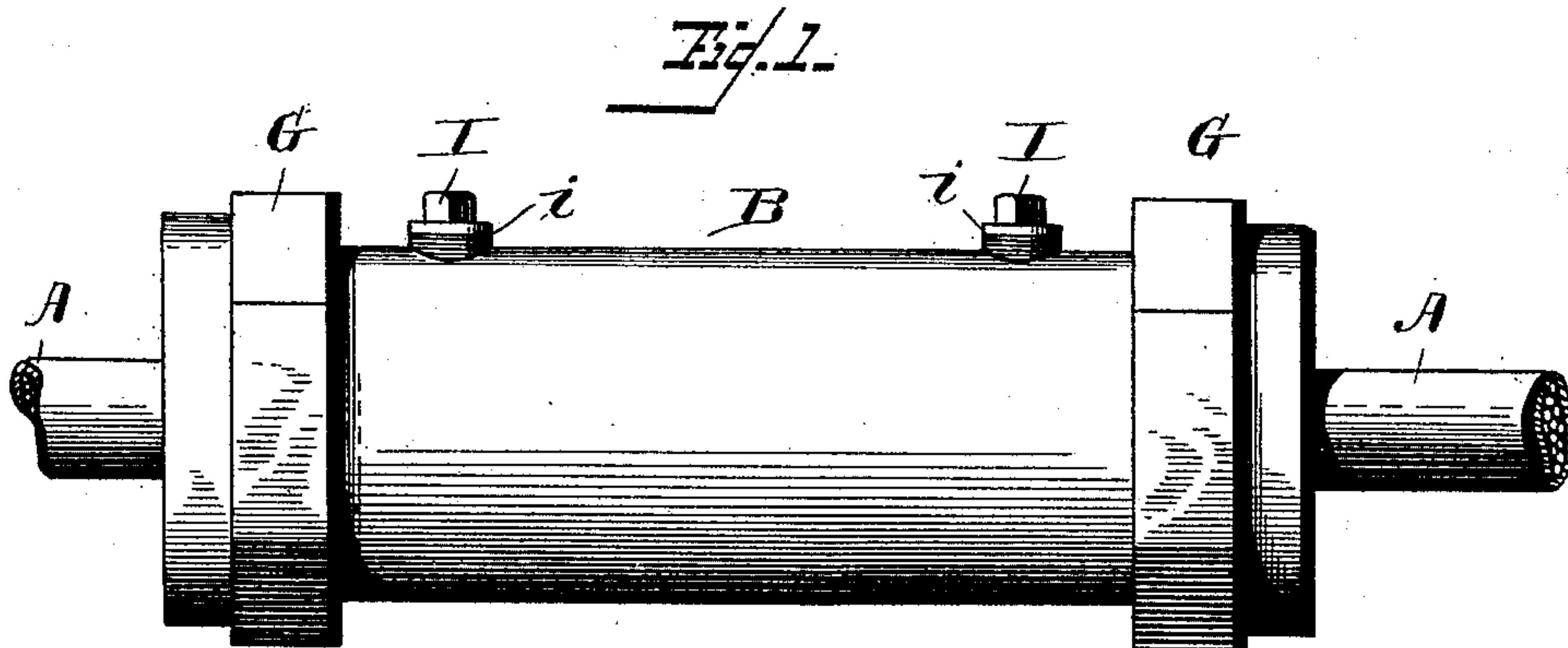


(No Model.)

J. J. PURCELL.
ELECTRIC COUPLING.

No. 488,027.

Patented Dec. 13, 1892.



Witnesses.

Albert Speiden.
A. L. Hough

Inventor
John J. Purcell
By his Attorney
Franklin W. Hough

UNITED STATES PATENT OFFICE.

JOHN J. PURCELL, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
OF ONE-HALF TO WILLIAM H. ALLEN, OF SAME PLACE.

ELECTRIC COUPLING.

SPECIFICATION forming part of Letters Patent No. 488,027, dated December 13, 1892.

Application filed June 18, 1892. Serial No. 437,122. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. PURCELL, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Electric Couplings; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in electric couplings, and especially to underground conductors in which access is had to the wires for the purpose of making splices when necessary, and while designed for this particular class of conductors I do not limit it to this use only, but regard myself as entitled to use it in connection with other forms of conductors for telegraph, telephone, or for lighting purposes where an electric current is used; but my invention is perfected, essentially, for the purpose of serving a long-felt want in connection with underground conductors, and by which means is provided whereby all air which is liable to contain moisture, and as a result produce a short circuit at the connections, is effectually excluded from the spliced joints.

A further object of my invention is to provide a coupling of the character described which shall be simple in construction, cheap, and of easy application to any size of cables; and the same consists in the novel adaptation and combination of parts, as will be hereinafter more fully described, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, in which—

Figure 1 is a side elevation of my invention, showing the coupling made with suitable housing over the spliced ends of the cable. Fig. 2 is a longitudinal vertical section of the same through the center of the coupling, and

Fig. 3 is a detailed view of parts of the coupling.

Reference now being had to the details of the drawings by letter, A represents the ends of two cables, which when spliced are housed within the casing B, which is of a larger diameter than the cables, so as to allow the casing or tubing B to be readily slipped over the spliced portion, which is necessarily of a larger diameter after being spliced, the cable being made up of a number of small wires differing in number and size, as seen at D, Fig. 2.

On the inner surface of each end of the tubing B, I cut away the inner edge of the same, as shown at *b*, forming the shoulders *b'*, which recess is provided for the purpose of admitting the ring E, which has a smooth surface, so as to snugly set within it and be flush with the end of the tubing B. The ends of the tubing B are externally threaded to receive the threaded caps G, which caps are internally threaded.

H are rubber washers, which when the caps are screwed securely on the tubing are crowded inward and downward against the cable, thus forming an air or water tight contact.

I are screw-threaded plugs provided with the washers *i*, and when said plugs are screwed down against the washers and into the threaded apertures *i'* a water-tight joint is made.

K is an insulating compound, which is of any of the well-known insulating materials—as paraffine, asphaltum, rosin, ozocerite, tar, and the like—and when the insulating material used is in a normal condition of a semi-solid nature the same can be easily loosened from contact with the inner surface of the tubing when it is desired to slip the covering off from over the spliced portion by simply heating the outer surface of the tubing B.

The advantages of my invention will be readily seen by any person skilled in the art, as I provide means whereby any size of cable can be spliced by simply enlarging the tubing forming the housing, and by caps and washers correspondingly large or small having apertures which will snugly fit the cables to be spliced.

A further advantage of my coupler is in the fact that the cable can be spliced while underground without making as large an excavation as is necessary with the couplings in common use, and in the construction of my coupling I use fewer parts than are ordinarily used in underground conductors.

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

1. In an underground-cable conductor, in combination, the spliced ends of a cable having a housing, having screw-threaded caps received directly onto the ends of said housing and having apertures conforming to the size of said cable, the screw-threaded plugs with suitable washers for forming a water-tight joint in the apertures *i'*, and an insulating material covering the spliced ends of the said cable, substantially as shown and described.

2. In combination, in an underground conductor, of a spliced cable provided with a suitable housing consisting of a cylindrical tubing, the inner surface being recessed for a short distance from the ends, and provided

with washers which are flush with the ends of said tubing, the rubber washers H, and the caps G, received directly onto the ends of said tubing, all substantially as shown and described.

3. The combination, with a spliced cable, of a housing over the spliced ends and formed at each end with exterior threads and interior shoulders, a ring E at each end of the housing, with its inner face bearing against said shoulder and its outer face flush with the outer end of the housing, the washer H over said rings and bearing against the ends of the housing, and the caps G, screwed on the ends of the housing and pressing the washer H against the ends of said housing, substantially as described, and for the purpose specified.

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

JOHN J. PURCELL.

Witnesses:

A. L. HOUGH,

FRANKLIN H. HOUGH.