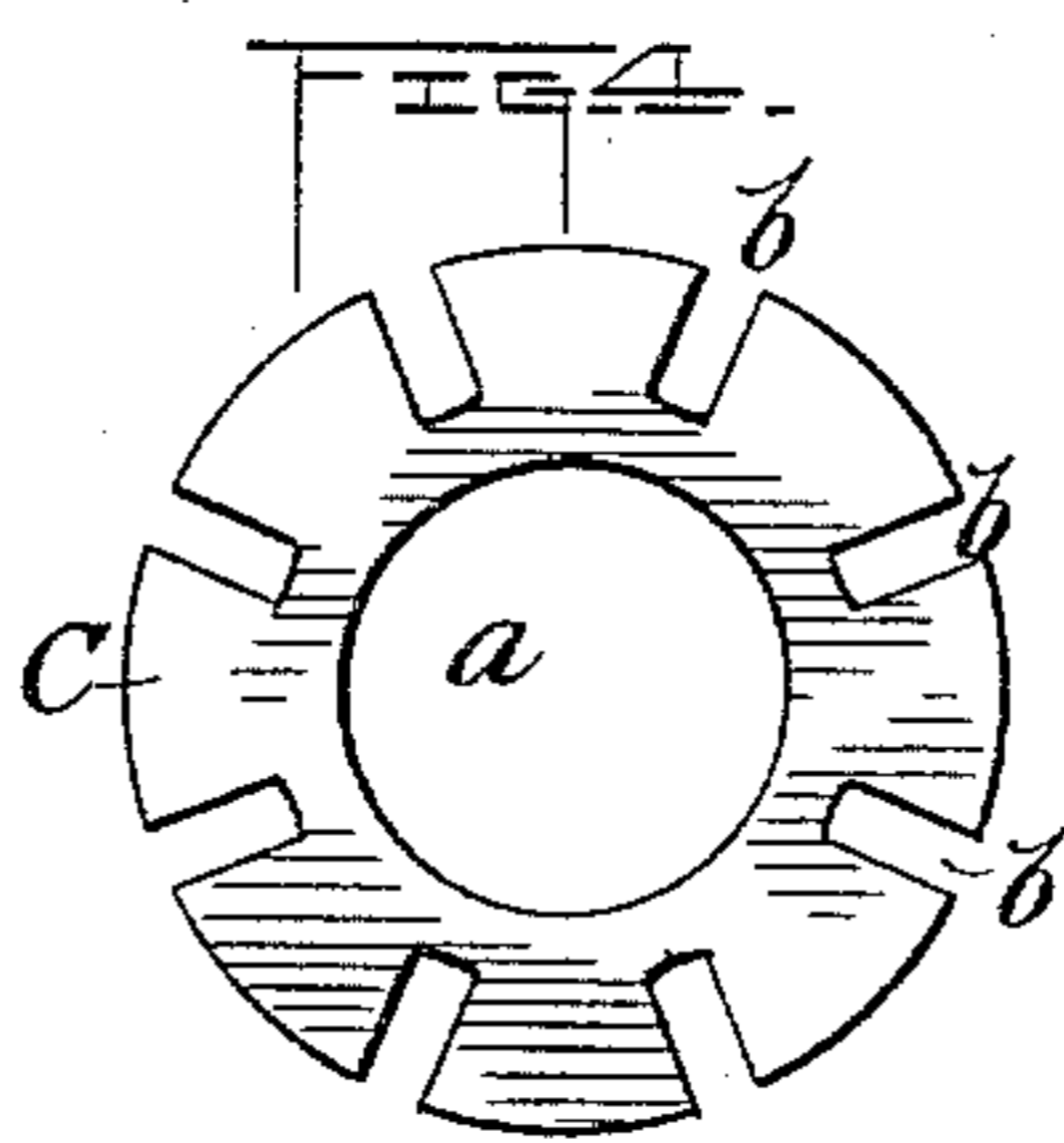
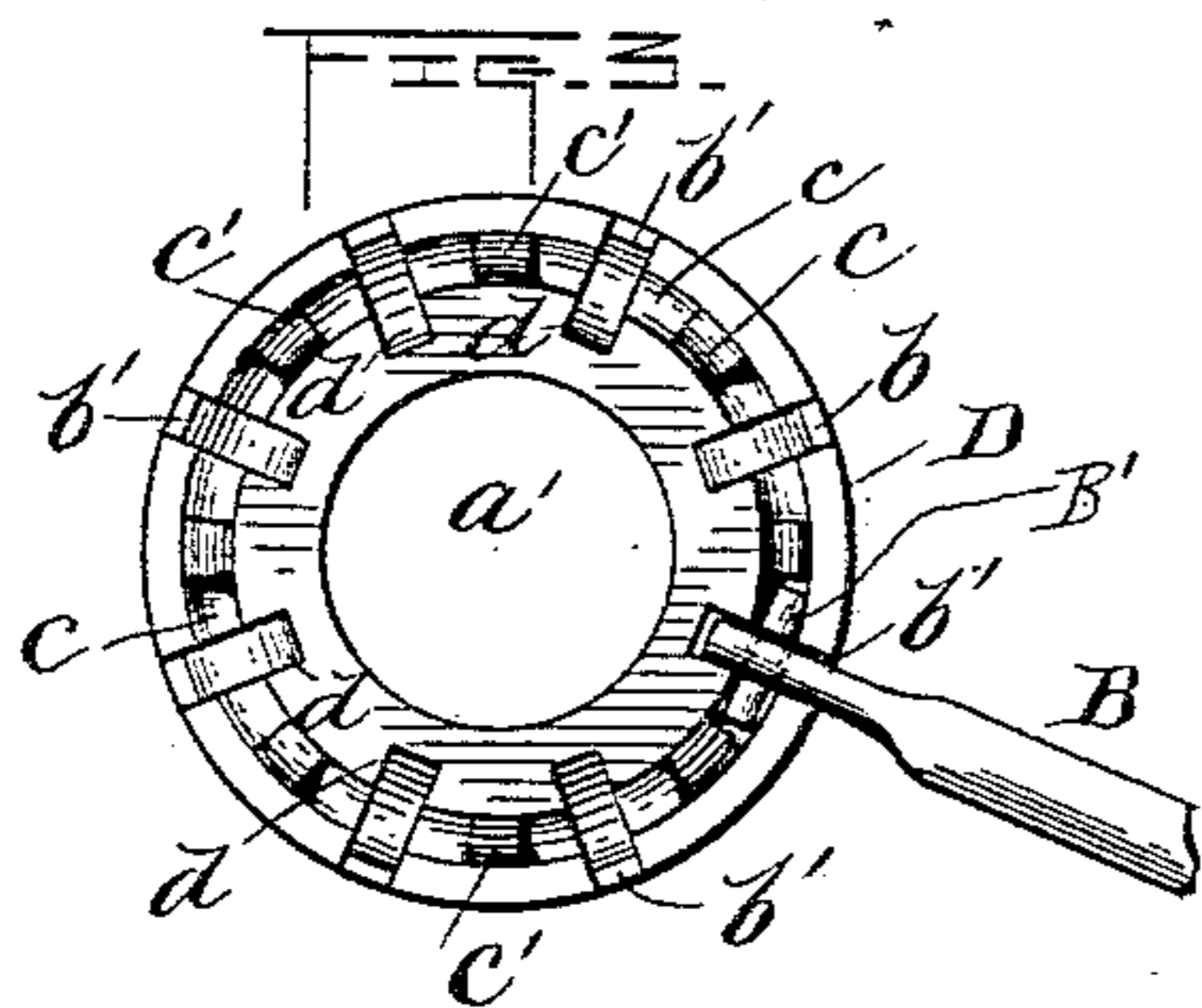
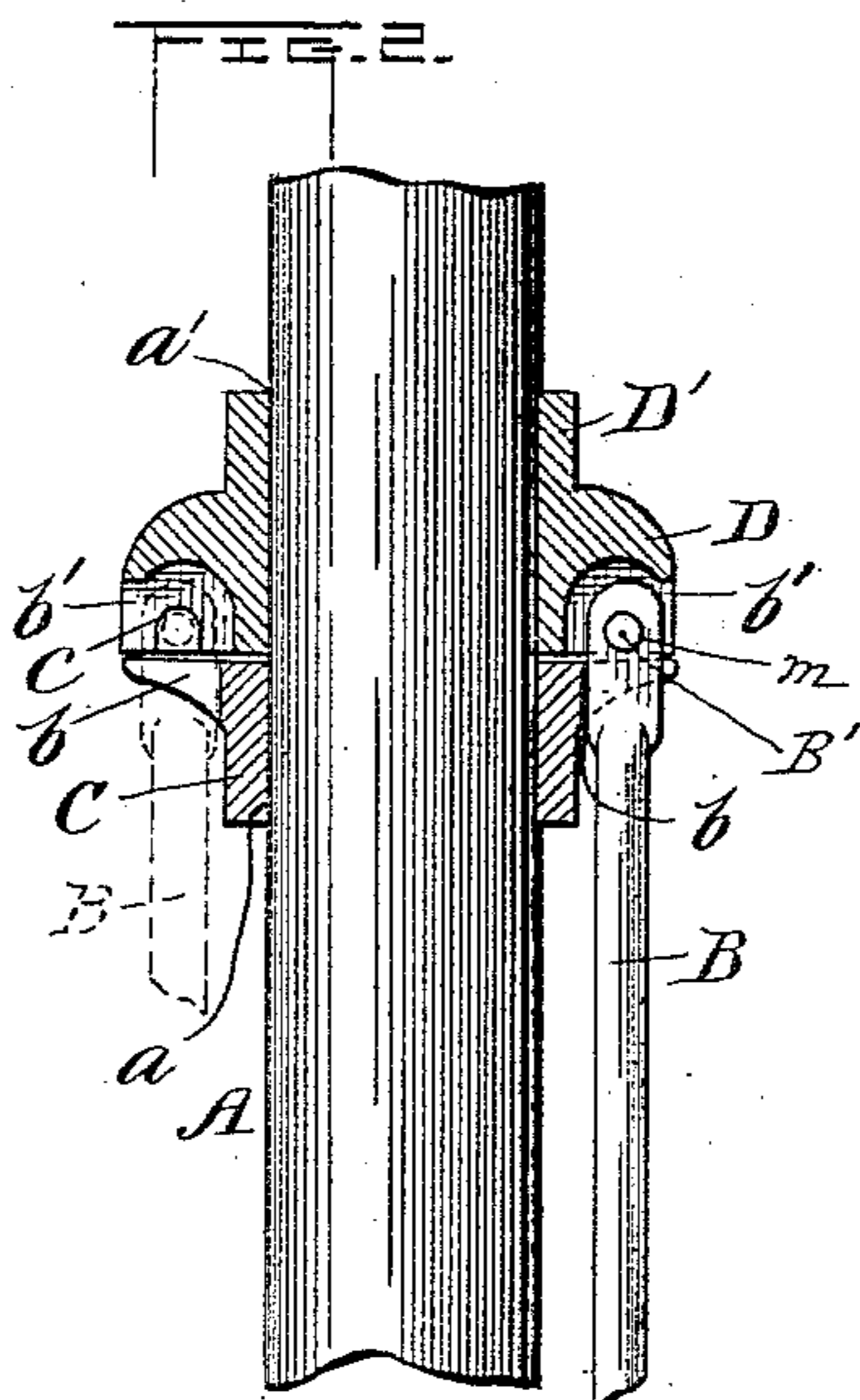
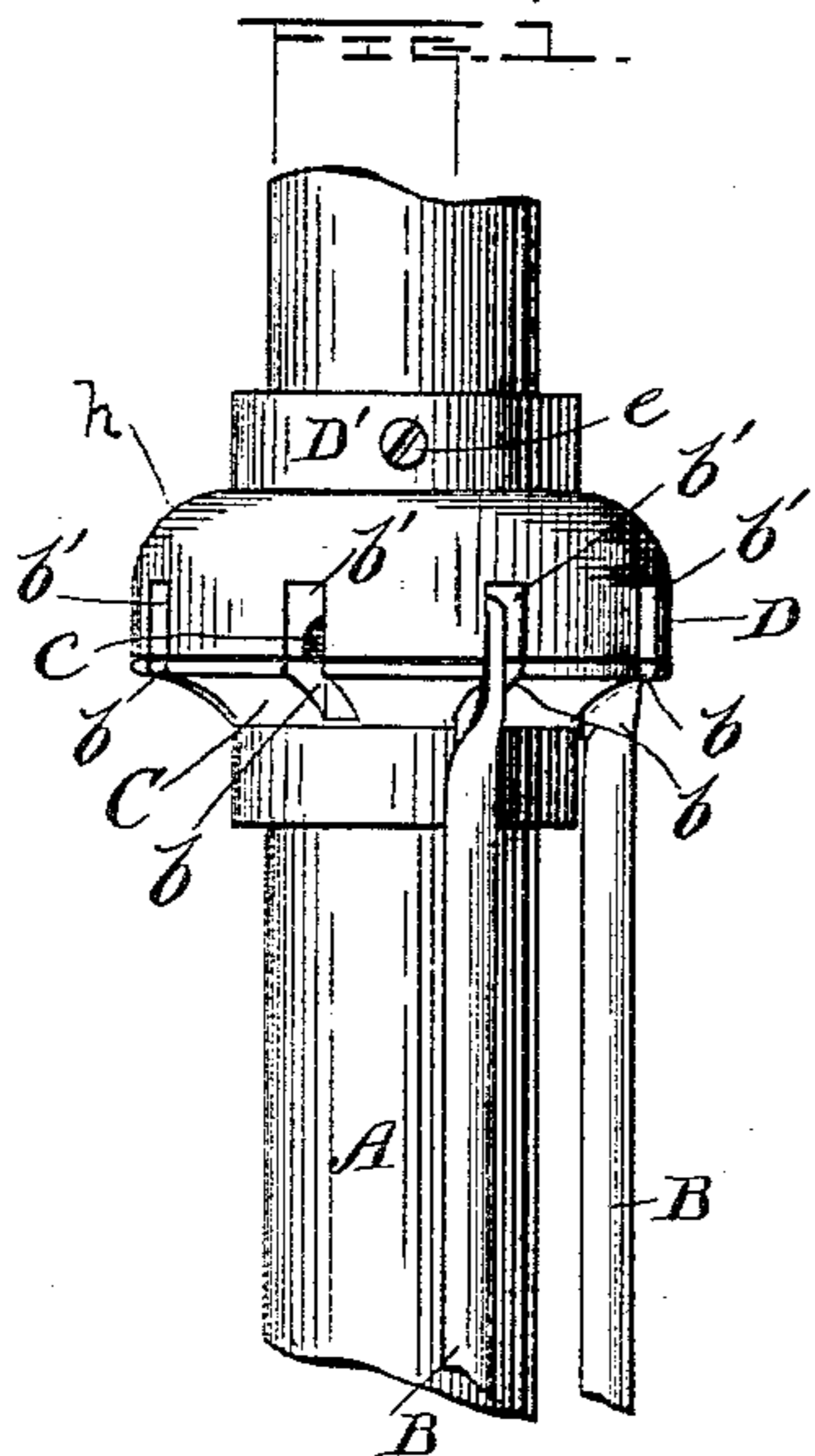


(No Model.)

S. COLLINS.
UMBRELLA NOTCH.

No. 476,364.

Patented June 7, 1892.



WITNESSES:

Cleverance
E. J. Fenwick

INVENTOR:

Samuel Collins
by his Attorneys
Mas on, Fenwick and Lawrence

UNITED STATES PATENT OFFICE.

SAMUEL COLLINS, OF PHILADELPHIA, PENNSYLVANIA.

UMBRELLA-NOTCH.

SPECIFICATION forming part of Letters Patent No. 476,364, dated June 7, 1892.

Application filed April 9, 1891. Serial No. 388,284. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL COLLINS, having legally declared my intention of becoming a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Notch-Plates or Umbrella-Rib-Holding Devices; and I do hereby 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.

My invention relates to annular notch-holders for the ribs of umbrellas; and it consists in a novel construction of such holders, as will be hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of an umbrella-stick, two ribs, and my improved rib-holder. Fig. 2 is a vertical section of the notch-plate, one rib being in position and another (shown by dotted lines) in the position it would occupy if in place. Fig. 3 is an inverted end view of the upper portion or section of the rib-holder. Fig. 4 is a plan view of the lower section of the rib-holder.

A in the drawings indicates an umbrella-stick; B, ribs; C the lower and D the upper section of my rib-holding device. The lower section or plate C has a circular passage *a* through its center fitting the stick, and in its periphery a series of radial rectangular or other suitably-shaped notches *b* are cut, extending vertically through it, as shown in the drawings. The upper section or plate D has a corresponding circular hole *a'* through its center for the admission of the stick and a circle of notches *b'* in its periphery; but these notches do not extend entirely through it vertically. Inwardly from the notches *b'* on the under side of the plate D a segmental spaced or partitioned recess *c* is formed, the partitions *c'* thereof being radial and one on each side of each notch of the two circles of notches *b'* *d*, and at the points where the ribs are applied the recess is widened, and the widened portions are made to form the circle of notches *d*, which correspond with those *b'*, the same being exactly in line with the said notches *b'*. By having two circles of notches *b'* and *d* the ribs are held both

forward of and in rear of their confining-pins, and are thereby more securely kept from swaying laterally, while by constructing the upper ring with a solid portion above these notches, and so that it shall overhang the notches, the ribs are prevented from rising high enough to allow the umbrella to turn inside out, and thus the umbrella-frame is rendered firmer against both lateral and vertical strains. The solid portion of the upper section is rounded off on top, as shown at *h*, and is united with a cylindrical collar *D'*, which receives a screw *e*, by which it is held in place on the stick. By thus rounding the upper surface of this plate the covering-cloth of the umbrella is saved from wear, as it is thereby isolated from the notches and joint ends of the ribs. When the ribs and slots are not guarded by rounding the capping-plate *D* as I show, there is liability of the cloth or covering being cut or injured by the frictional contact of the joint portions of the ribs and the exposed edges of the notches coming in contact therewith, and when the two circles of notches and the solid overhanging portion of the upper ring are not provided there is liability of the ribs swaying laterally and also of rising too high and the umbrella turning inside out under strain of wind. With the construction described the ribs may be flattened at their ends and perforated, as at *m*, and have short confining-pins *B'* passed loosely through them at suitable distances from their upper extremities, and the ribs thus constructed can be set up into the two circles of notches of the upper section or plate with their confining-pins lying in the partitioned recess, and confined in this position by bringing the lower section or plate in the relation to the joint ends of the ribs and the upper section or plate. (Shown in Figs. 1 and 2.) When the pins *B'* are in the recess, their ends will nearly or quite abut against the partitions, and thus be held from longitudinal movement, although loose in the eyes of the ribs. It will be seen that the ribs can be taken out separately by simply lowering the lower section or plate and then lowering the pin and rib, so as to clear the lower surface of the upper section or plate, and should one rib become broken that rib can be removed and its confining-pin taken out without the necessity

of disturbing the other ribs or of taking the whole umbrella apart. It might be practicable, while not so convenient for repair, to secure the pins fast in the ribs and drive them out with a punch. It, however, is a great advantage to have them fit loosely in the eyes of the ribs, as labor is saved thereby in making repairs. By having the pins constructed separately from the ribs instead of integral therewith the loss of a rib when the pin breaks is avoided, or at least the labor of boring out the rib at the broken pin is obviated, and where the pins are made loose instead of being tightly driven in any one owning an umbrella can, when a pin breaks, take a small piece of wire and form a new pin and insert it in the hole, and thus save the expense of employing some one to make the repair, and where a continuous wire is used for forming the connection and axial bearings for all of the ribs a greater expense is incurred in the event of such wire breaking. My arrangement of the pins at points some distance from the upper ends of the ribs enables me to obtain bearing ends beyond the pins, which bearing ends rest in the notches of the inner circle of notches, and thus keep the ribs from bending up above a horizontal plane, and thereby saves the umbrella from being turned inside out, the said bearing ends also forming lateral supports for the ribs. My invention

thus while guarding against lateral swaying of the ribs and a too great upward movement of the same, and also avoiding the destruction of the cloth or covering of the umbrella through the agency of the solid rounded-off double-notched plate, also facilitates the repair of the umbrella and lessens the expense and labor attending the same.

The invention, so far as the double circle of notches, the annular groove, and the overhanging solid rounded-off portion are concerned, might be usefully employed in the construction of the runner of umbrellas.

What I claim as my invention is—

In combination with ribs having transverse pins passed through them at points some distance from their upper extremities, the rib-holding notch formed of two parts, which are separable, one part being provided with two circles of upper notches in the same horizontal plane and the other part provided with a circle of lower notches, and a partitioned recess between the notches, and the first-named part having a rounded-off isolated and crowning outer surface, substantially as described.

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

SAMUEL COLLINS.

Witnesses:

CHAS. RICHARDSON,
FRANCIS G. GALLAGER.