

No. 779,640.

PATENTED JAN. 10, 1905.

T. P. CHANDLER.
SUSPENSION DEVICE FOR TROLLEY WIRES.

APPLICATION FILED OCT. 7, 1904.

2 SHEETS—SHEET 1.

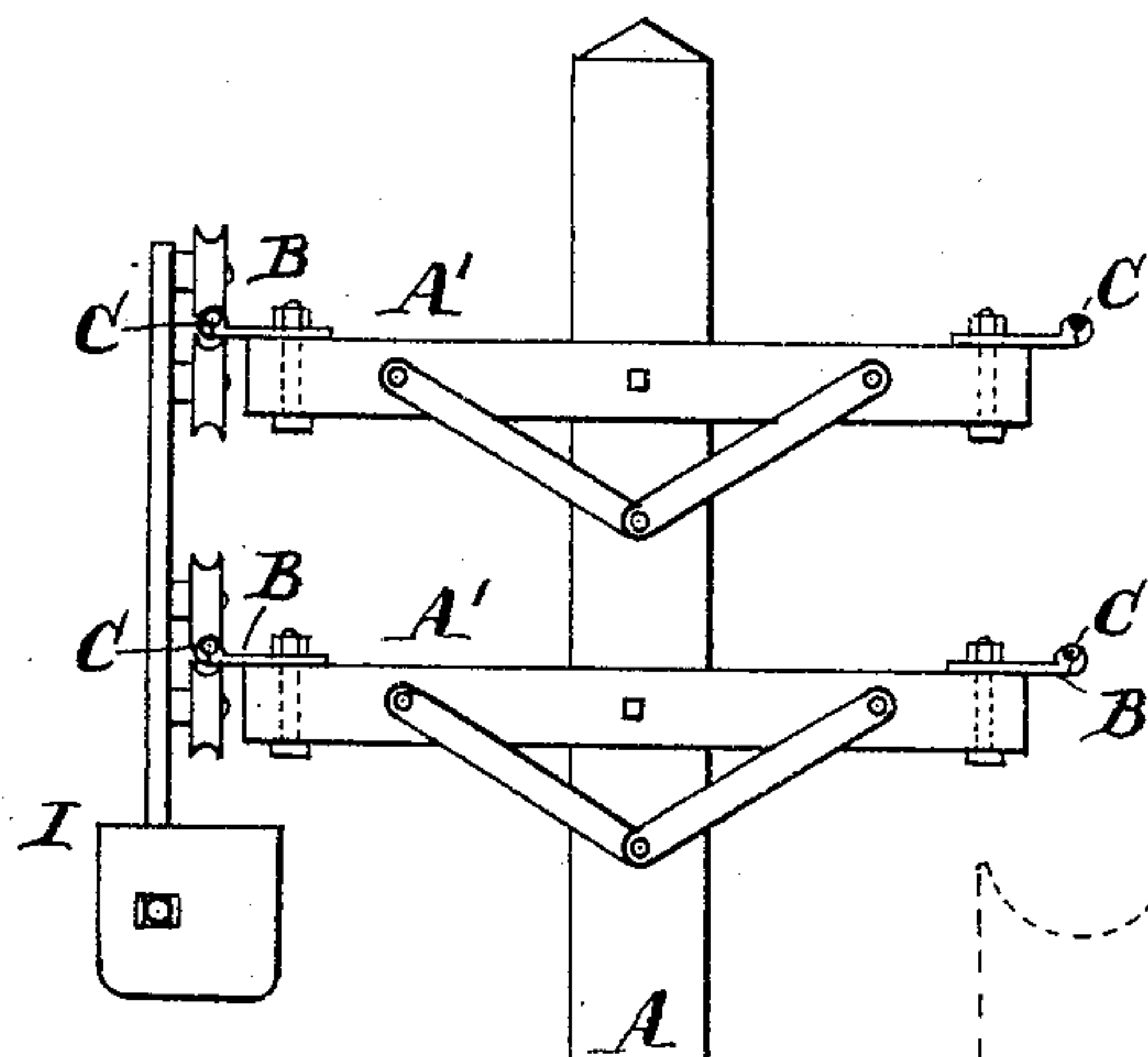


FIG. 1

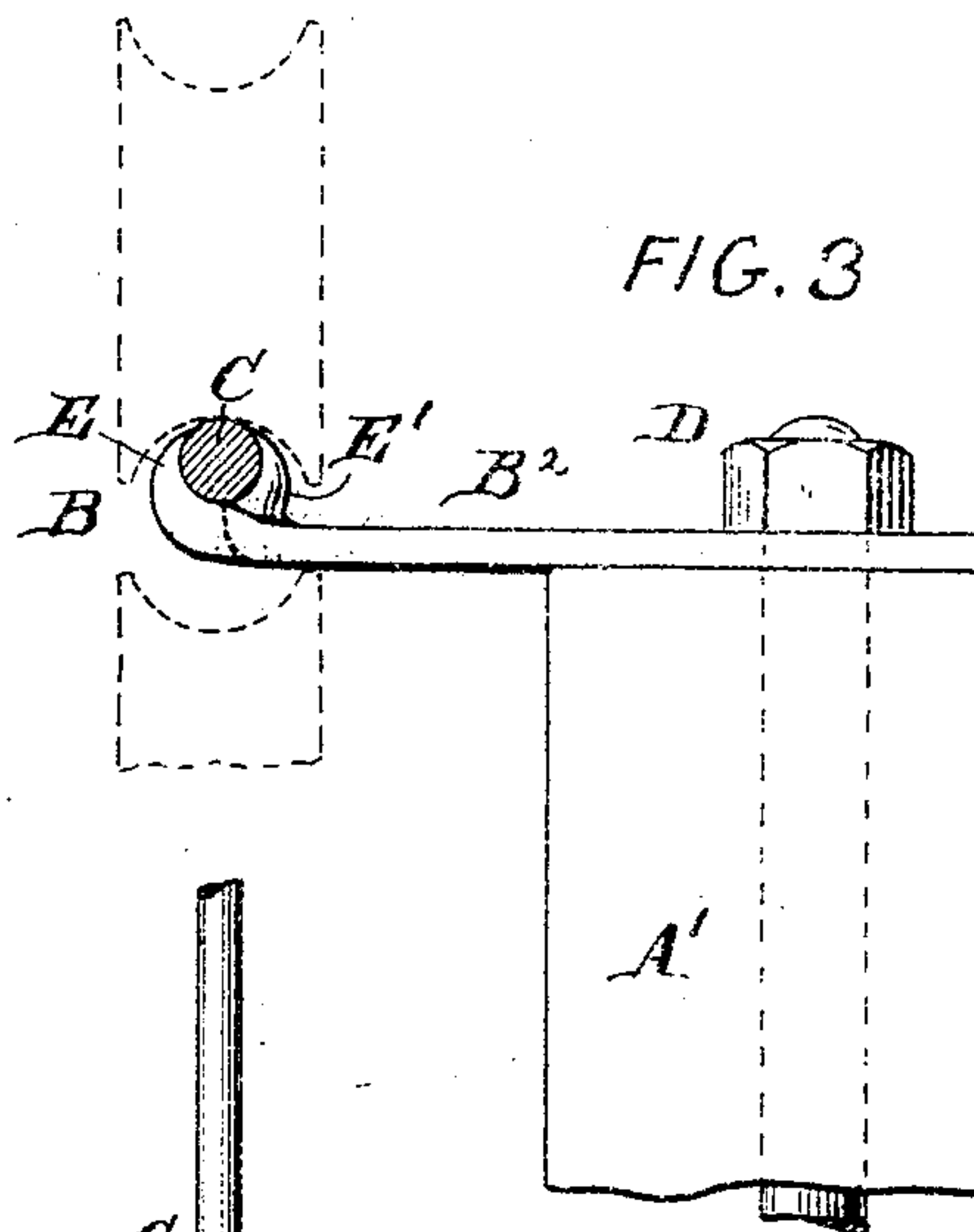


FIG. 3

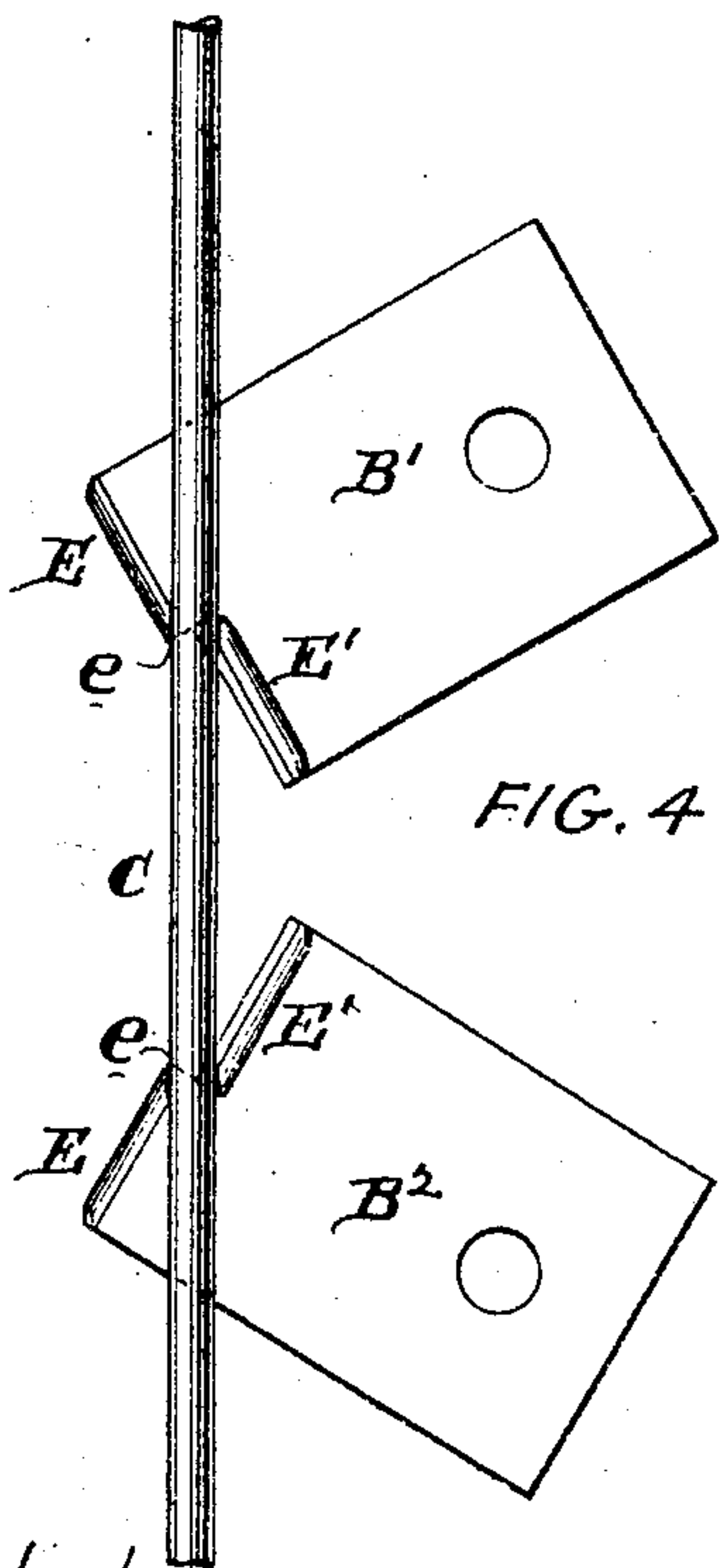


FIG. 4

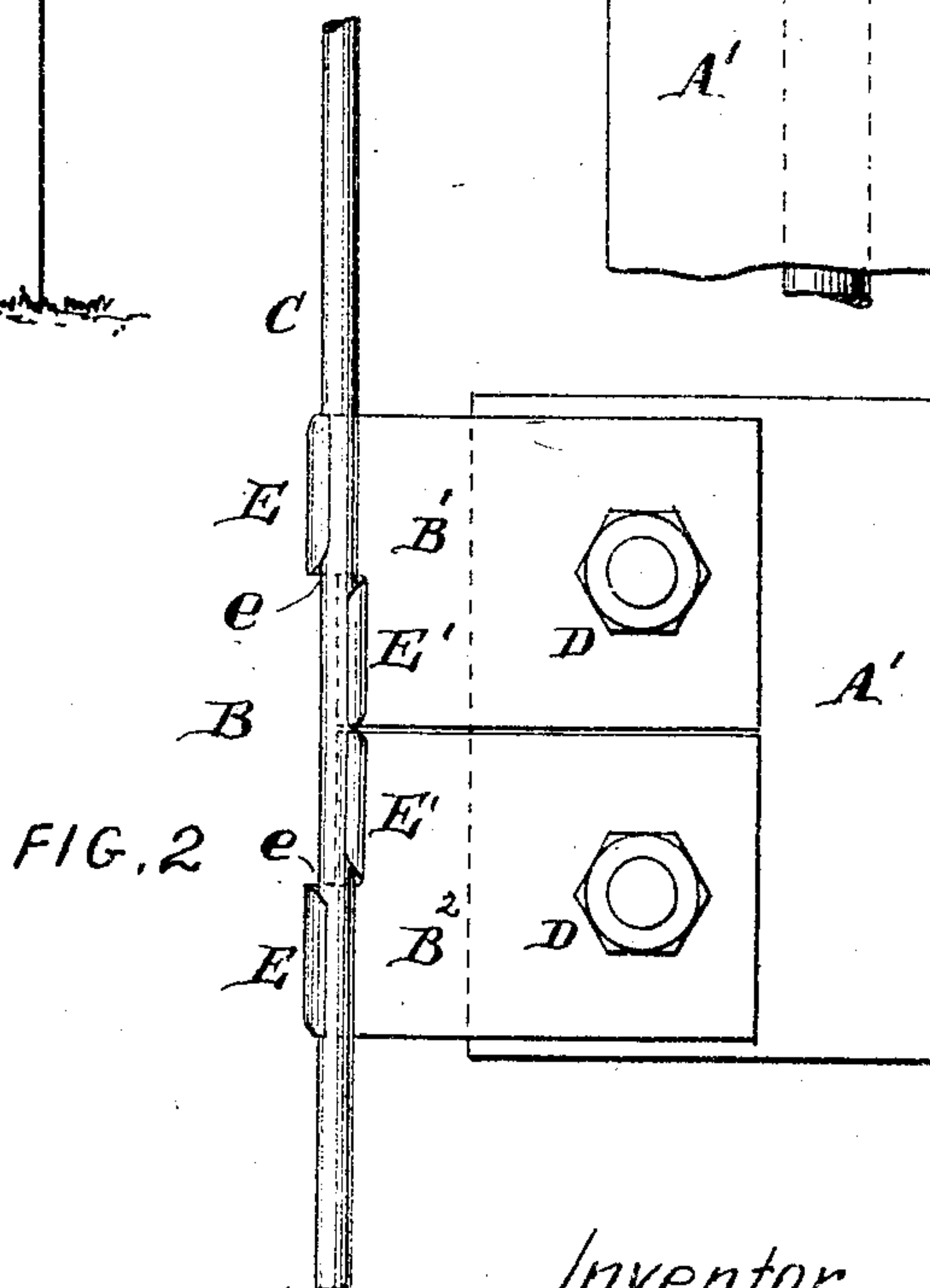


FIG. 2

Attest
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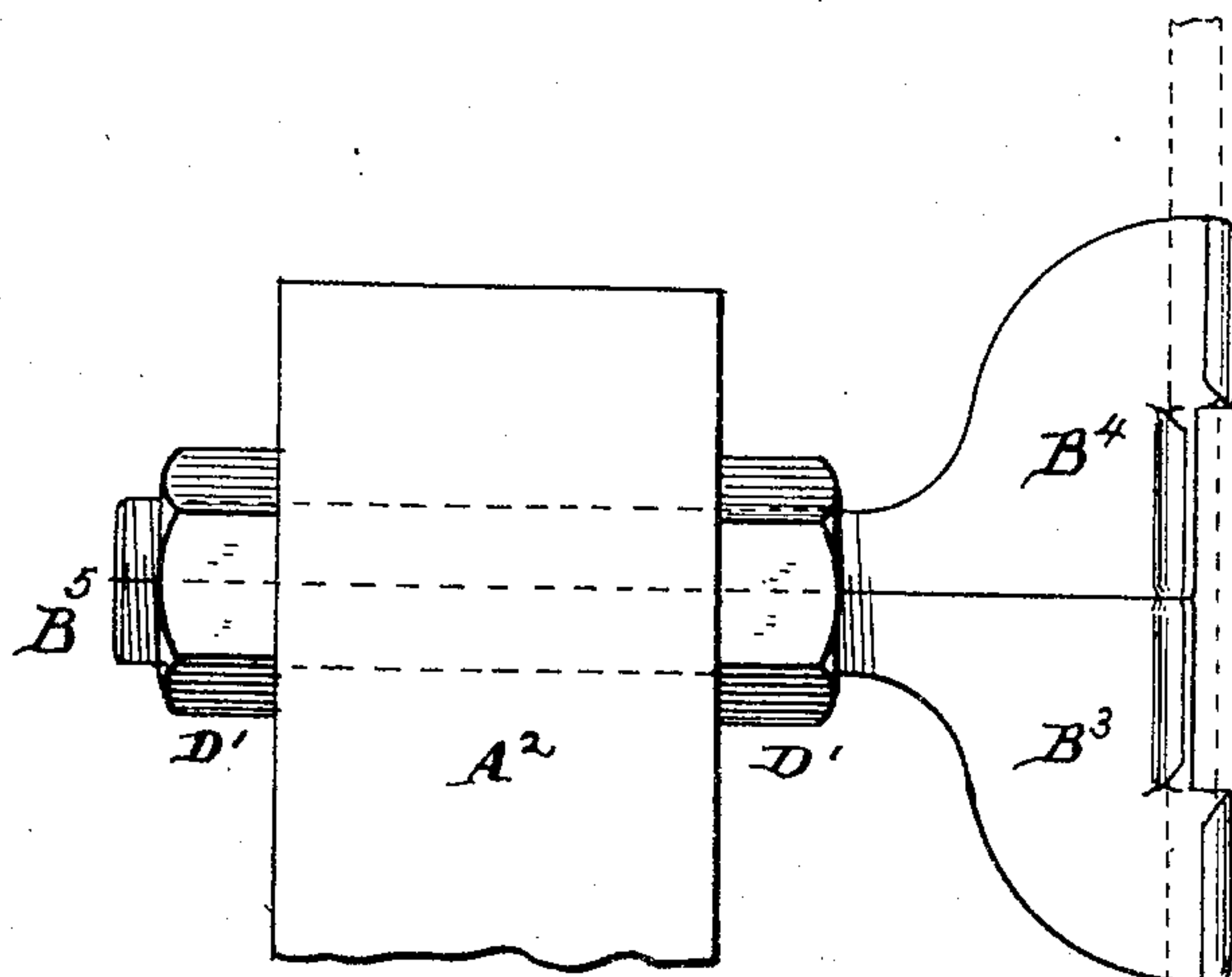


FIG. 5

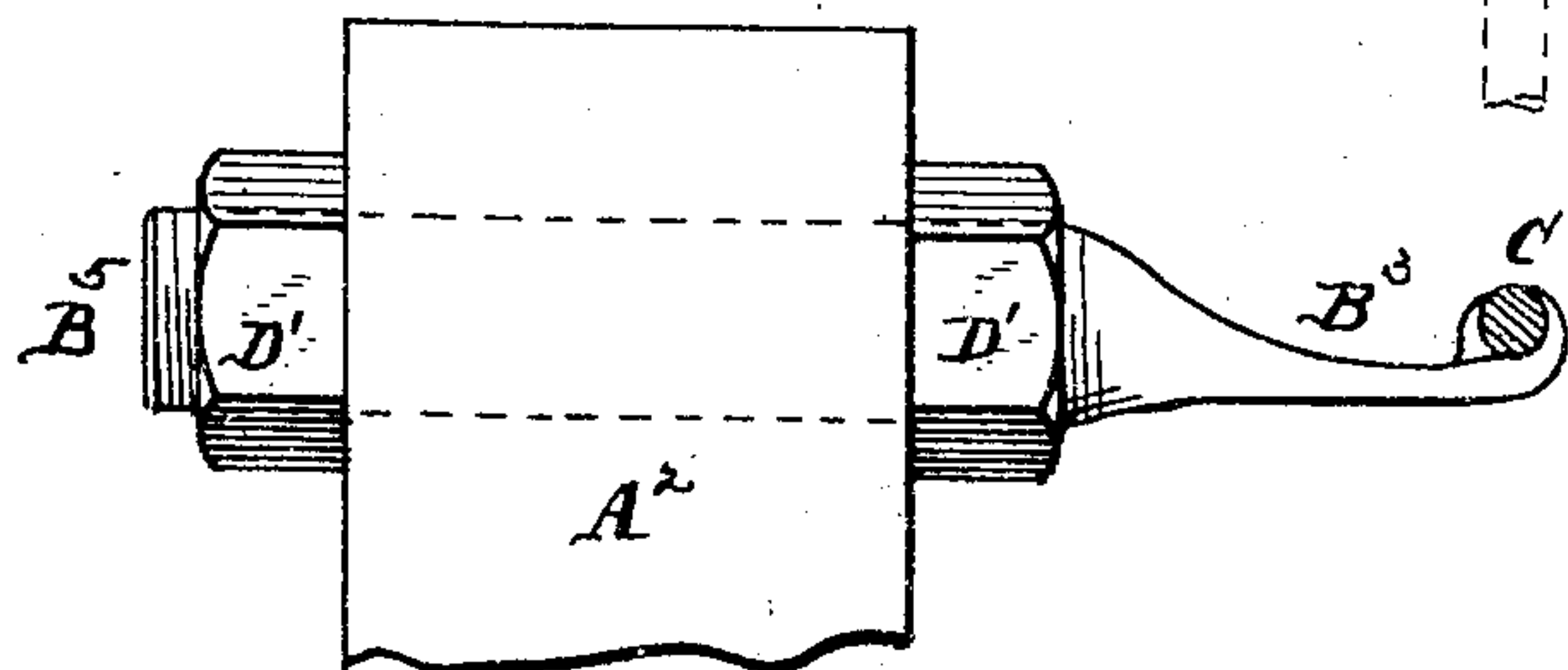


FIG. 6

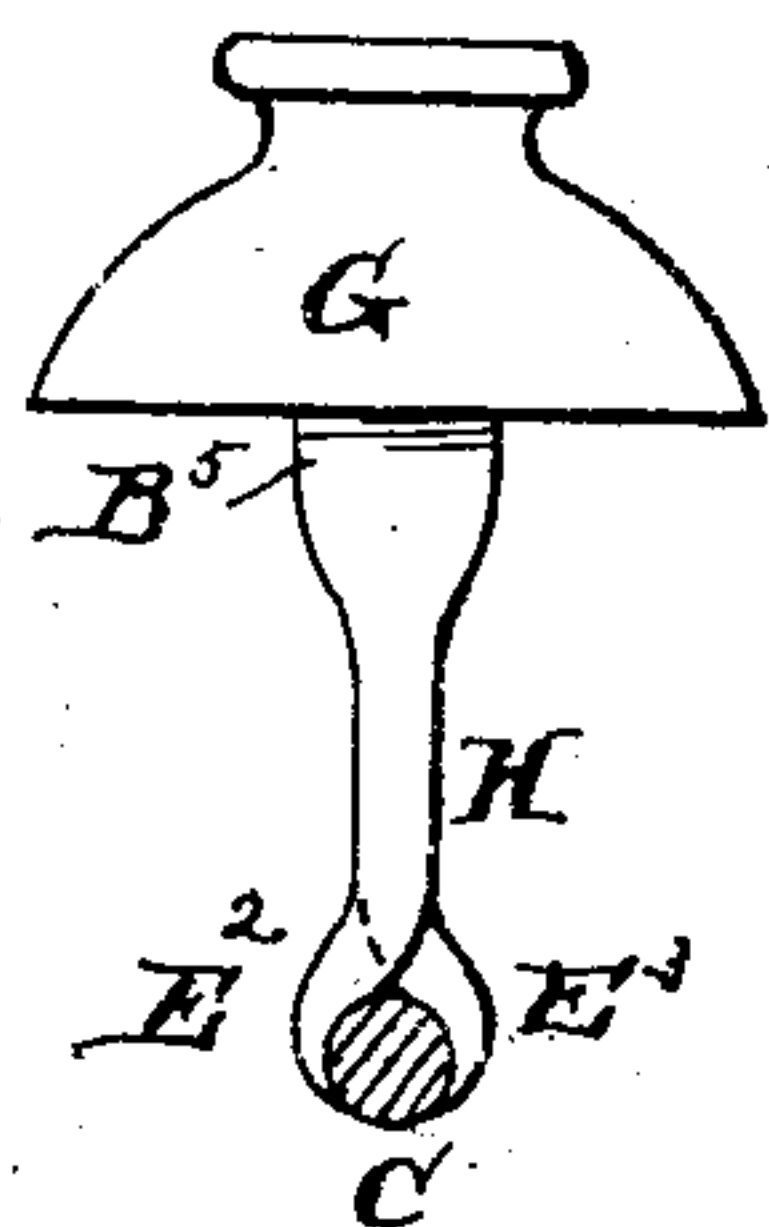


FIG. 8

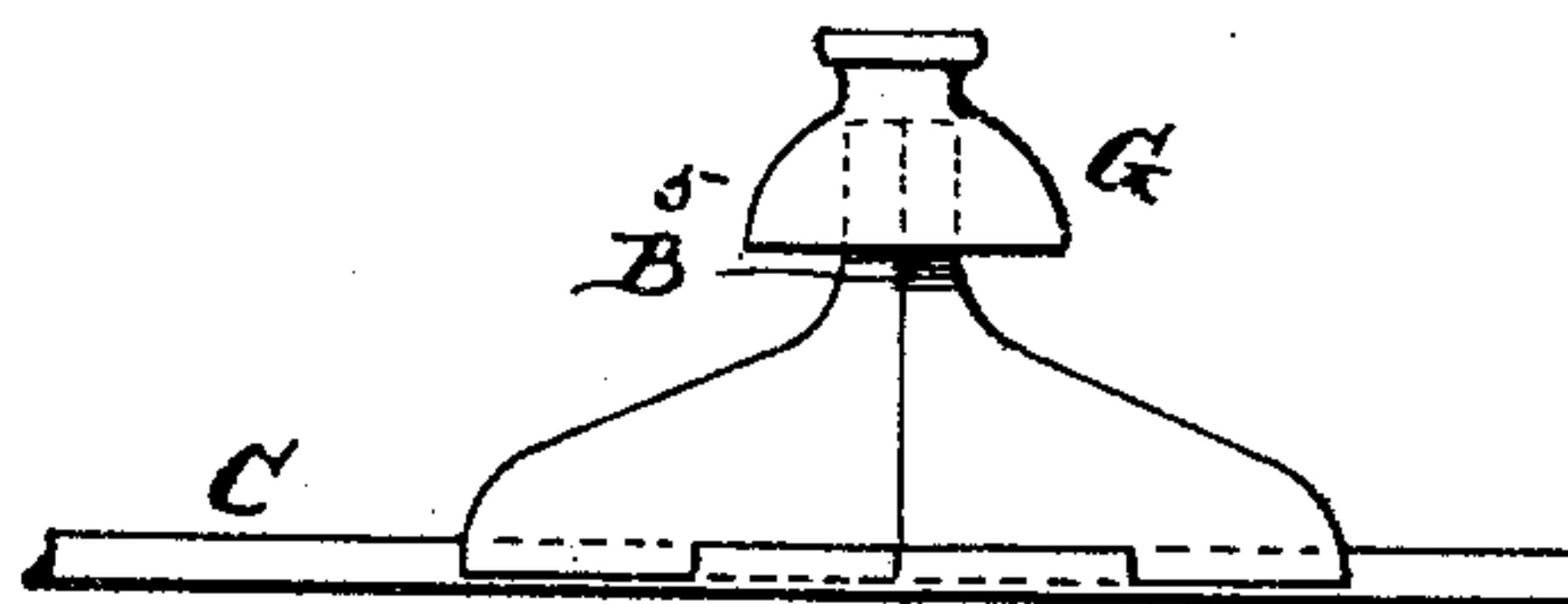


FIG. 7

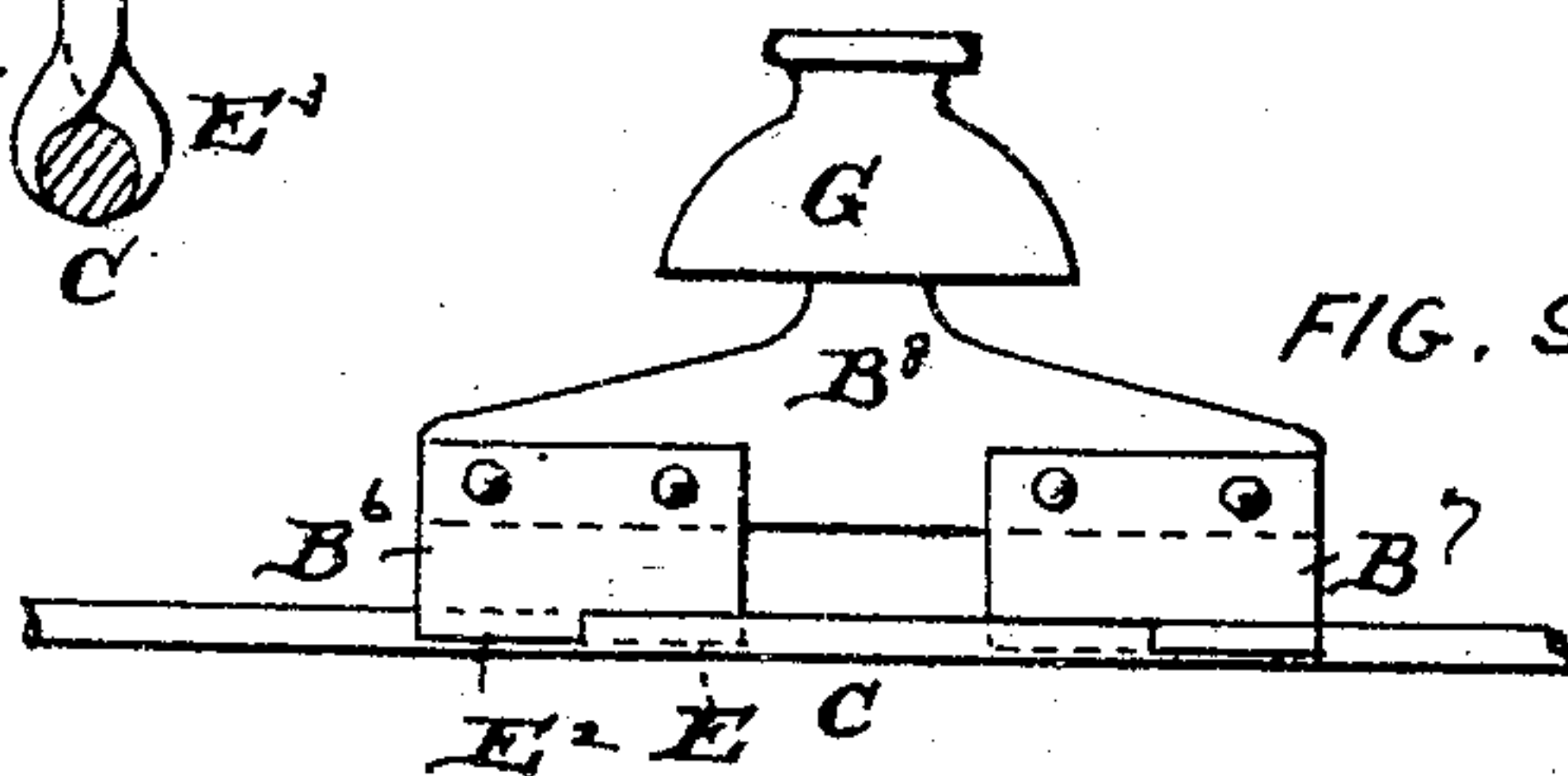
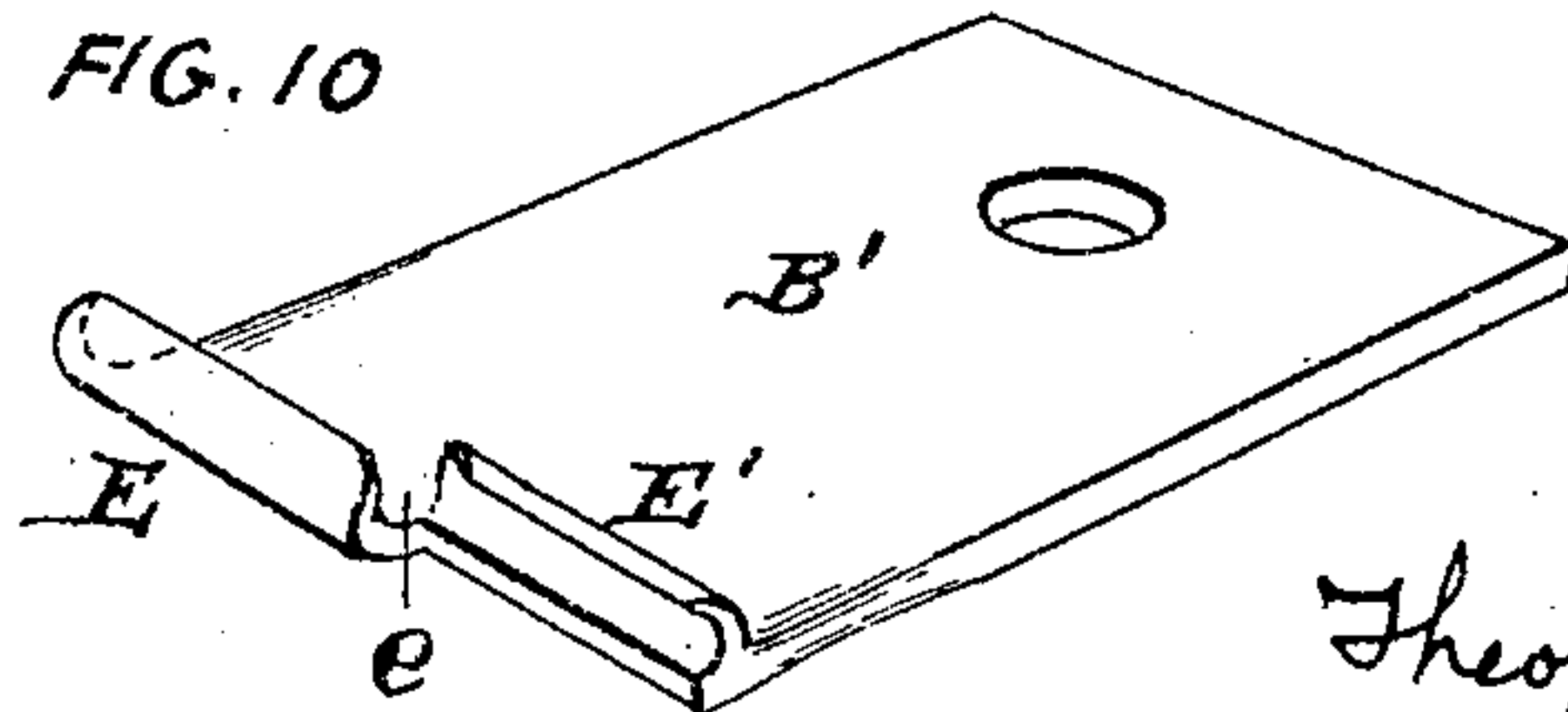


FIG. 9

FIG. 10



Attest,
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UNITED STATES PATENT OFFICE.

THEOPHILUS PARSONS CHANDLER, OF PHILADELPHIA, PENNSYLVANIA.

SUSPENSION DEVICE FOR TROLLEY-WIRES.

SPECIFICATION forming part of Letters Patent No. 779,640, dated January 10, 1905.

Application filed October 7, 1904. Serial No. 227,609.

To all whom it may concern:

Be it known that I, THEOPHILUS PARSONS CHANDLER, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Suspension Devices for Trolley-Wires, of which the following is a specification.

My invention has reference to suspension devices for trolley-wires; and it consists of certain improvements, which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a suspension device for clamping and supporting trolley-wires which shall embody cheapness, strength, durability, and easy application.

In construction my invention combines two gripping parts or plates each having two oppositely-arranged jaws adapted to extend partly around the wire on opposite sides and jointly inclose it for more than half its circumference, the parts or plates being formed with a gap or clearance-space between the jaws to receive the wire and allow it to come into the plane of the jaws, whereby each of the parts or plates may be rotated to bring the jaws into gripping position upon opposite sides of the wire, the jaws upon one part or plate being oppositely disposed with respect to the jaws upon the other part or plate, so that when the two parts or plates are in gripping position the wire is held from turning out of its longitudinal alinement to free itself from the jaws.

My invention also comprehends details of construction which, together with the above features, will be better understood by reference to the drawings, in which—

Figure 1 is an elevation of a pole of an electric railway having my improvements applied thereto and with the trolley-wires in section. Fig. 2 is a plan view of one of the suspension devices and wire. Fig. 3 is a side elevation of the same. Fig. 4 is a plan view showing how the two parts of the suspension device are applied to the wire and before being locked to it. Fig. 5 is a plan view of a modified form of my invention. Fig. 6 is a side elevation of

the same. Fig. 7 is a side elevation of my invention applied to underrunning contact trolley-wires. Fig. 8 is an end elevation of the same. Fig. 9 is a side elevation of a modification of the same, and Fig. 10 is a perspective view of one of the suspension-plates.

A is a post or pole of any suitable construction, having cross-arms A' , to the ends of which the trolley-wires C are secured by suspension devices B , forming the subject-matter of this application. These suspension devices consist of two plates B' and B'' , bolted upon the arms A' by bolts D and having outer edges provided with gripping-jaws $E E'$, with a space or gap e between them sufficient to permit the insertion of the trolley-wire, as shown in Fig. 4. The jaws E and E' are directed toward the wire C from opposite sides, so that one grasps the wire from one side and the other grasps it from the other side. In the preferred form of my invention I make the jaws $E E'$ of the plates or parts $B' B''$ reversed, so that one of said plates is right-handed and the other left-handed. These plates are first placed at an angle to each other, with the trolley-wire resting in the spaces e , and then the plates are rotated to the position shown in Fig. 2, which brings the jaws $E E'$ tightly against the sides of the wire and grip it firmly. As these jaws extend slightly above the center of the wire, as shown in Fig. 3, they prevent it rising and liberating itself, while at the same time exposing a continuous upper surface of the wire for the trolley-wheel of the vehicle I . The plates $B' B''$ are in thickness preferably less than the diameter of the trolley-wire.

While the wire is gripped so that it cannot become disengaged from the jaws of the suspension device, it may under sufficient strain slide longitudinally through the jaws to properly adjust itself to the requirements.

In place of bolting the plates down, as shown in Fig. 2, they may be formed in the two parts $B^3 B^4$, Fig. 5, and thickened into semi-circular shanks which are brought together and screw-threaded, as at B^5 . This shank is passed through a hole in the arm A^2 and clamped in position by nuts $D' D'$.

In the case of the employment of my in-

vention for underrunning contact-trolleys I make it as shown in Figs. 7, 8, and 9. In Figs. 7 and 8 the jaws $E^2 E^3$ are directed downward and grasp the trolley-wire C, leaving its under surface exposed. In this case the jaws are arranged in the direction of the plane of the plates instead of at right angles to them, as shown in Figs. 3 and 6. The shank B^5 is screwed into the insulator G, by which the two parts are held in alinement. The parts H between the jaws and shank are made preferably thinner than the diameter of the wire C, as shown in Fig. 8. In the construction shown in Fig. 9 the plates B^6 and B^7 , having the jaws, are bolted or riveted to a plate B^8 , which is carried by the insulator G. In this figure I have shown the plates $B^6 B^7$ considerably separated; but they may, if desired, be placed close together, as in Fig. 2.

While I prefer the construction shown, I do not confine myself to the details, as they may be modified without departing from the essential features of the invention.

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

1. The combination of the trolley-wire with two gripping parts or plates each having two oppositely-arranged jaws adapted to extend partly around the wire on opposite sides and jointly inclose it for more than half its circumference, the parts or plates being formed with a gap or clearance-space between the jaws to receive the wire and allow it to come into the plane of the jaws whereby each of the parts or plates may be rotated to bring the jaws into gripping position upon opposite sides of the wire.

2. The combination of the trolley-wire with two gripping parts or plates each having two oppositely-arranged jaws adapted to extend partly around the wire on opposite sides and jointly inclose it for more than half its circumference, the parts or plates being formed with a gap or clearance-space between the jaws to receive the wire and allow it to come into the plane of the jaws whereby each of the parts or plates may be rotated to bring the jaws into gripping position upon opposite sides of the wire, and means for securely holding the two parts in alinement and prevent them turning or moving out of position relatively to each other.

3. The combination of the trolley-wire with two gripping parts or plates each having two oppositely-arranged jaws adapted to extend partly around the wire on opposite sides and jointly inclose it for more than half its circumference, the parts or plates being formed with a gap or clearance-space between the jaws to receive the wire and allow it to come into the plane of the jaws whereby each of the parts or plates may be rotated to bring the jaws into gripping position upon opposite

sides of the wire, means for securely holding the two parts in alinement and prevent them turning or moving out of position relatively to each other consisting of a metal bracket to which the two parts are secured and an insulating-support to which the bracket is secured.

4. The combination of the trolley-wire with two gripping parts or plates each having two oppositely-arranged jaws adapted to extend partly around the wire on opposite sides and jointly inclose it for more than half its circumference, the parts or plates being formed with a gap or clearance-space between the jaws to receive the wire and allow it to come into the plane of the jaws whereby each of the parts or plates may be rotated to bring the jaws into gripping position upon opposite sides of the wire, the jaws upon one part or plate being oppositely disposed with respect to the jaws upon the other part or plate so that when the two parts or plates are in gripping position, the wire is held from turning out of its longitudinal alinement to free itself from the jaws.

5. The combination of the trolley-wire with two gripping parts or plates each having two oppositely-arranged jaws adapted to extend partly around the wire on opposite sides and jointly inclose it for more than half its circumference, the parts or plates being formed with a gap or clearance-space between the jaws to receive the wire and allow it to come into the plane of the jaws whereby each of the parts or plates may be rotated to bring the jaws into gripping position upon opposite sides of the wires, the jaws upon one part or plate being oppositely disposed with respect to the jaws upon the other part or plate so that when the two parts or plates are in gripping position, the wire is held from turning out of its longitudinal alinement to free itself from the jaws, and means for securely holding the two parts in alinement and prevent them turning or moving out of position relatively to each other.

6. In a suspension for trolley-wire, the combination of the trolley-wire with a flat plate of less thickness than the diameter of the trolley-wire and having its edge provided with two oppositely-directed gripping-jaws in straight alinement adapted to partly inclose the wire from opposite sides and forming grooves of less depth than the diameter of the wire to lock it in position without bending it, the said jaws being separated to receive the trolley-wire in applying the plate the construction being such that the trolley-wire has a continuous exposed contact-surface.

7. In a suspension for trolley-wire, the combination of the trolley-wire with a flat plate of less thickness than the diameter of the trolley-wire and having its edge provided with two oppositely-directed gripping-jaws in

straight alinement adapted to partly inclose
the wire from opposite sides and forming
grooves of less depth than the diameter of the
wire to lock it in position without bending it,
5 the said jaws being separated to receive the
trolley - wire in applying the plate the con-
struction being such that the trolley-wire has
a continuous exposed contact - surface, and
means independent of the plate for locking

the trolley-wire against twisting out of the to
grooves in the plate.

In testimony of which invention I hereunto
set my hand.

THEOPHILUS PARSONS CHANDLER.

Witnesses:

ERNEST HOWARD HUNTER,
R. M. KELLY.