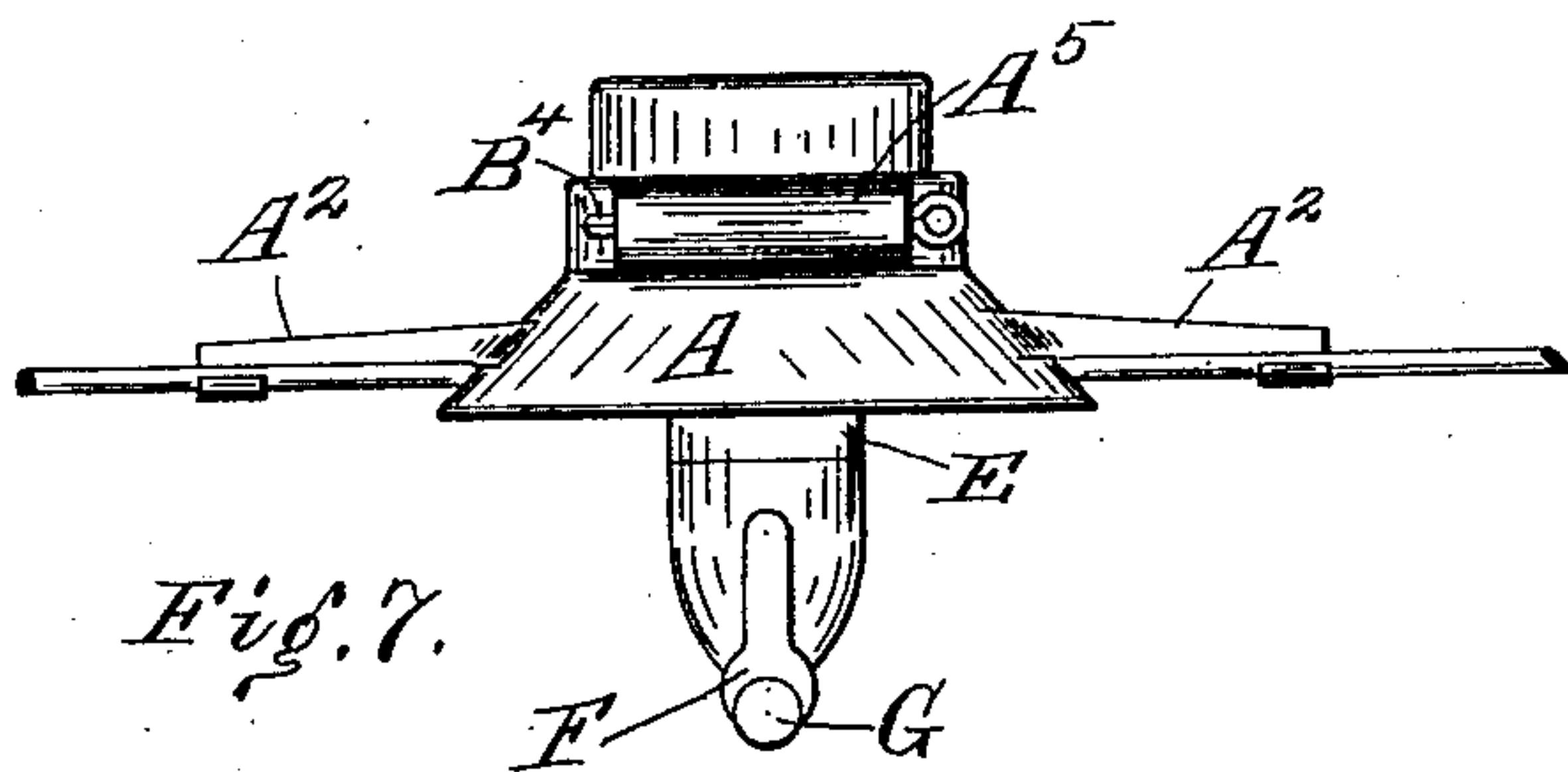
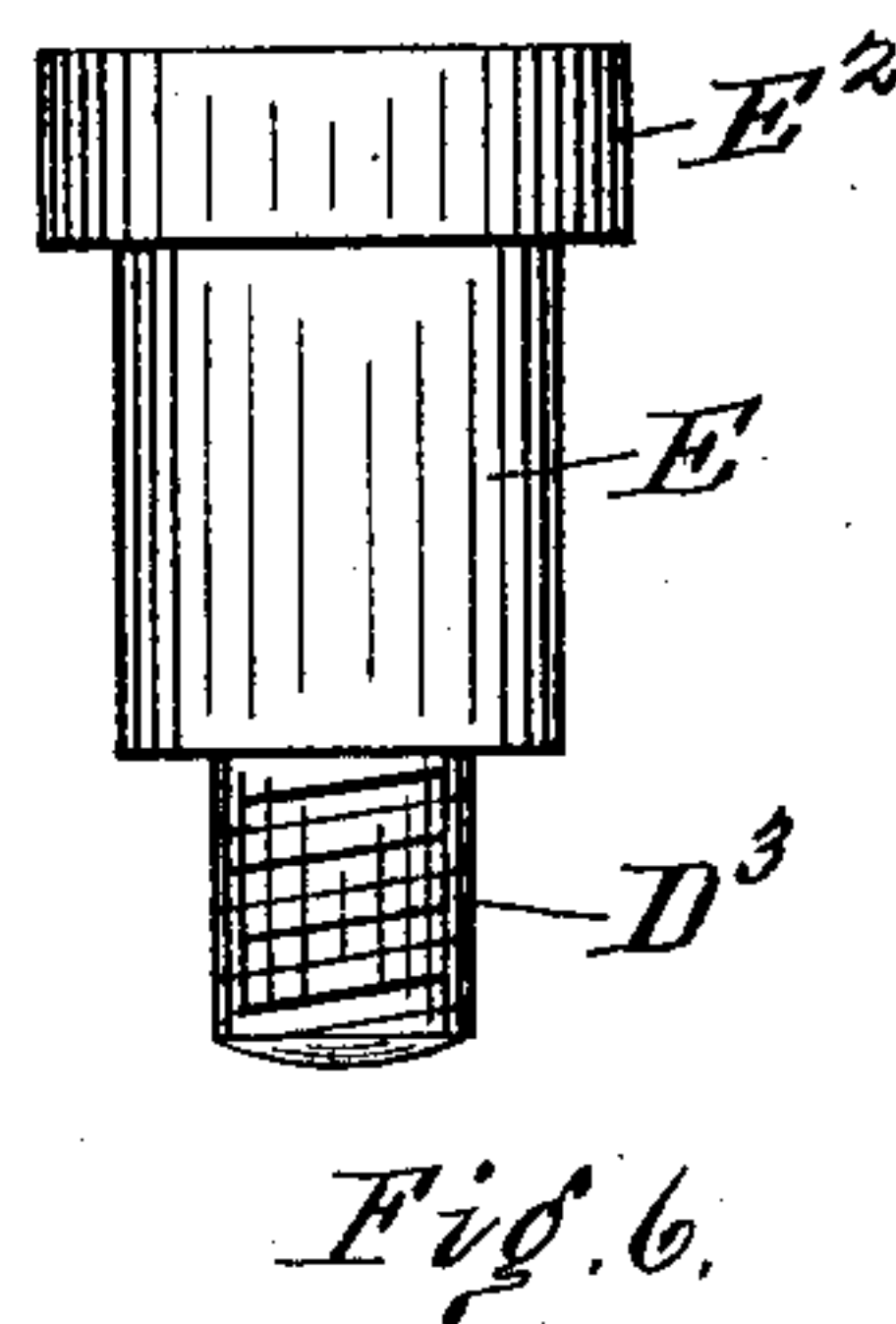
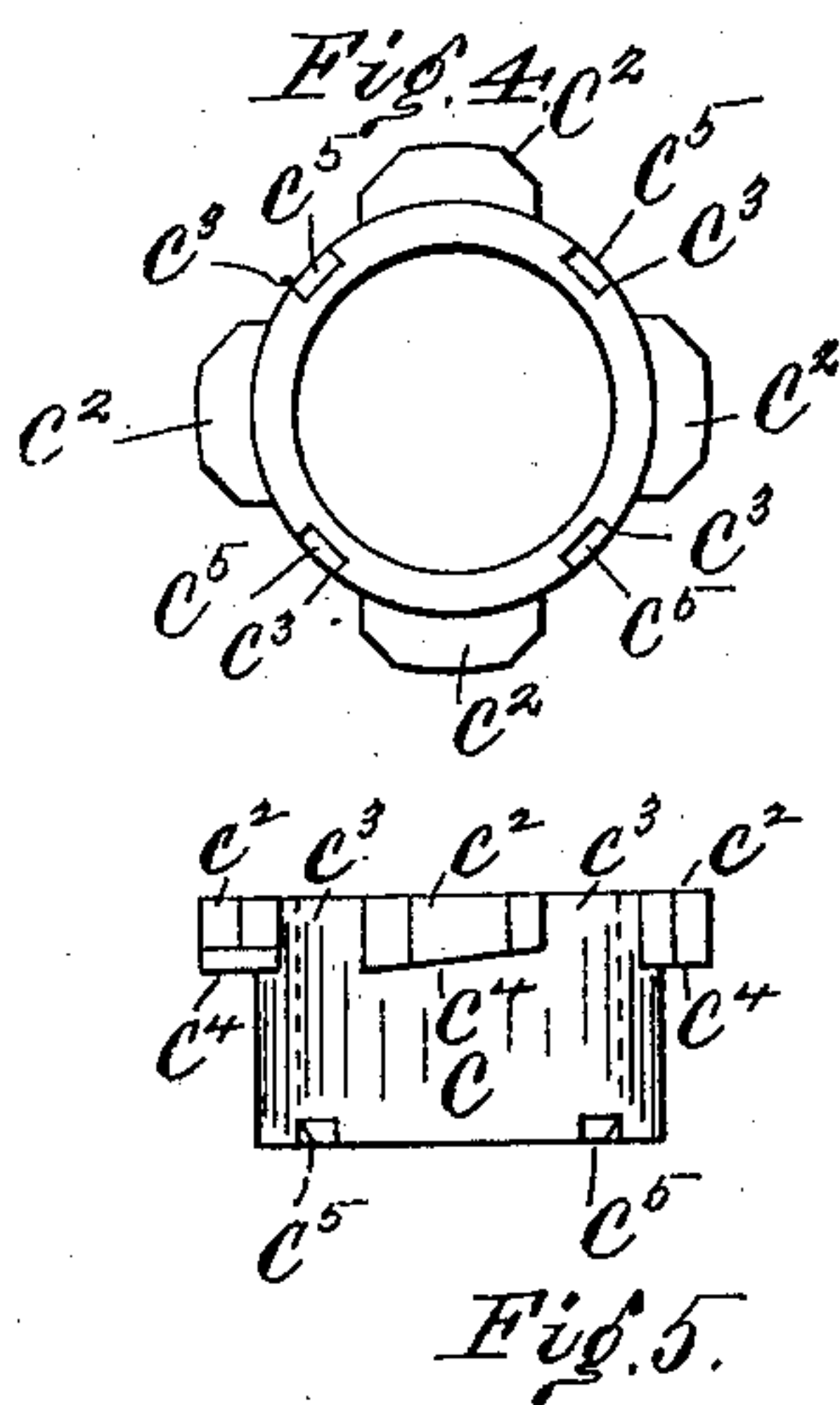
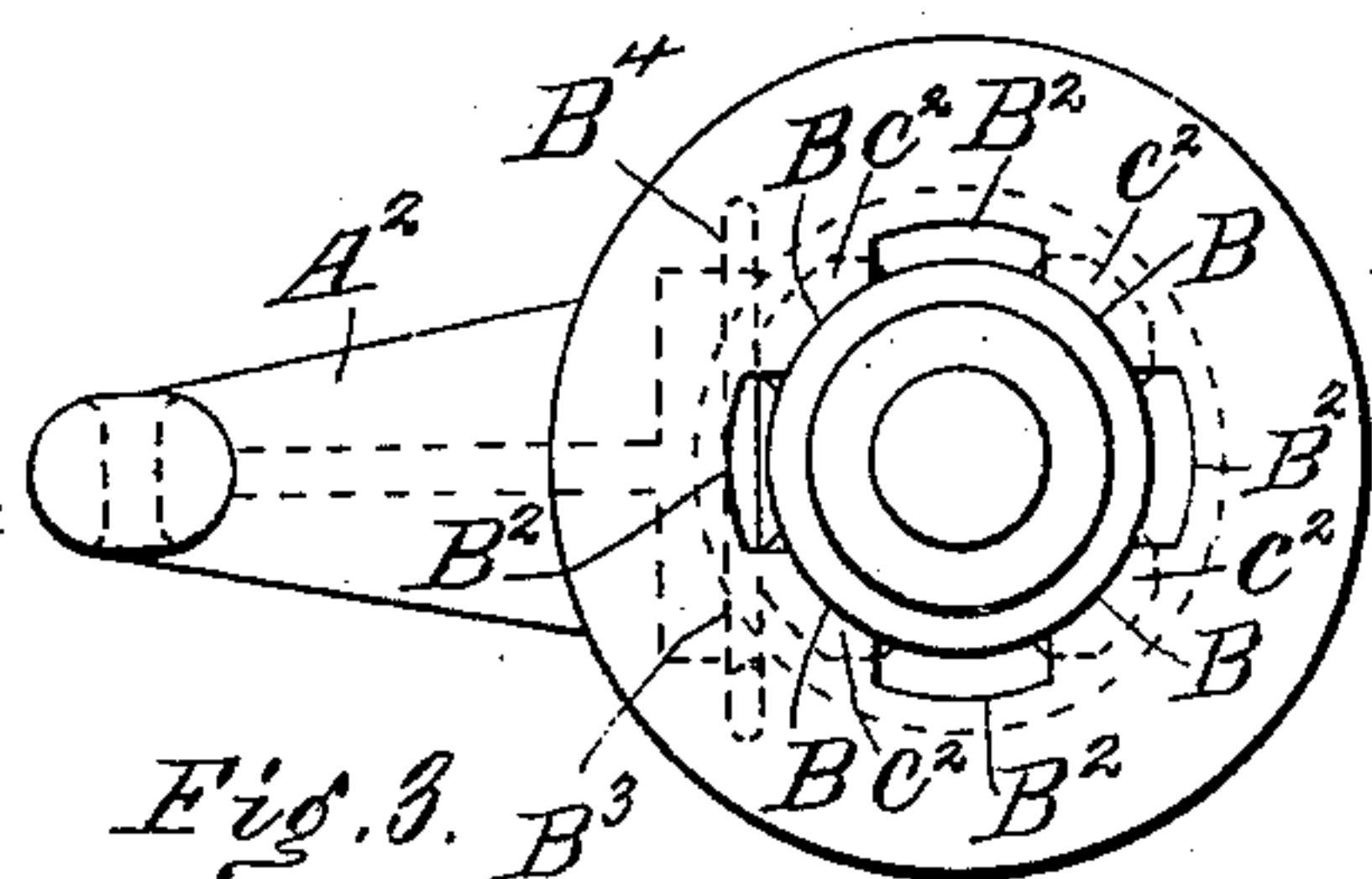
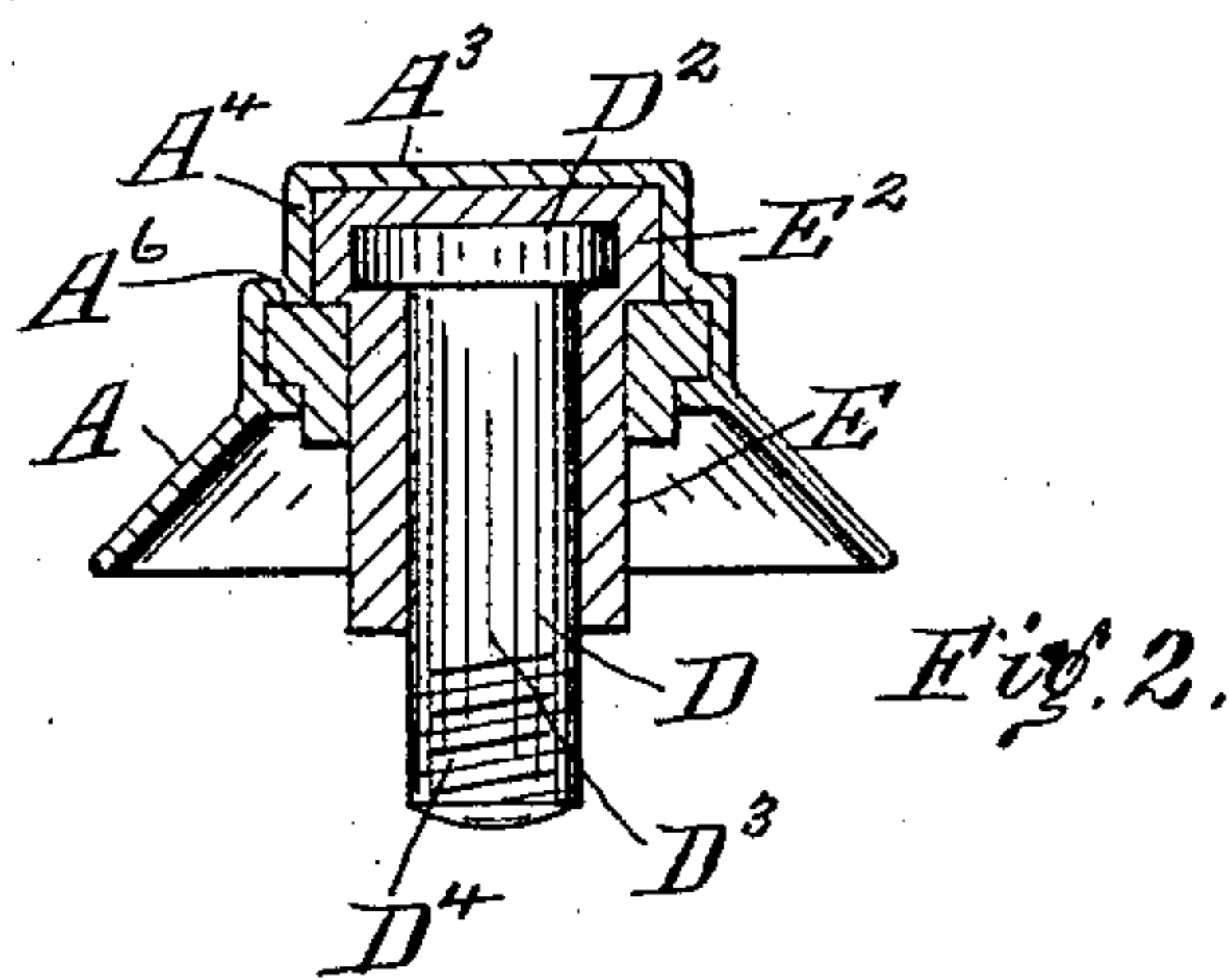
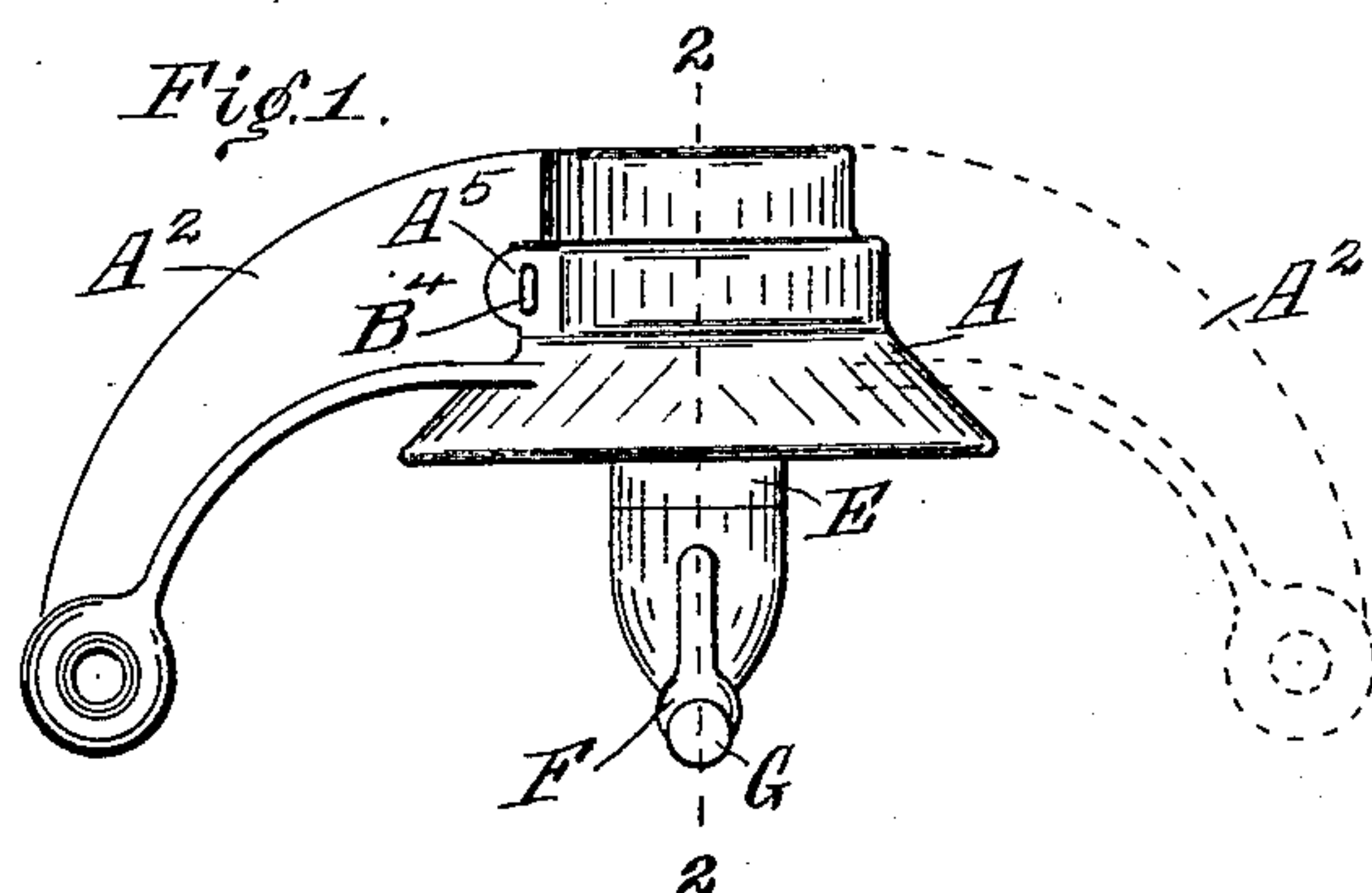


(No Model.)

W. A. McCALLUM.
HANGER FOR TROLLEY WIRES.

No. 557,860.

Patented Apr. 7, 1896.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM A. McCALLUM, OF AVONDALE, OHIO, ASSIGNOR TO CHARLES ANDREWS, OF CINCINNATI, OHIO.

HANGER FOR TROLLEY-WIRES.

SPECIFICATION forming part of Letters Patent No. 557,860, dated April 7, 1896.

Application filed June 24, 1895. Serial No. 553,871. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. McCALLUM, a citizen of the United States, and a resident of the village of Avondale, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hangers for Trolley-Wires, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use conjointly or otherwise will be apparent from the following description and claims.

In the accompanying drawings, making part of this application, and in which similar letters of reference indicate corresponding parts, Figure 1 represents a side elevation of a hanger embodying my invention. Fig. 2 represents a vertical central section of the said hanger, taken in the plane of the dotted line 2 2 of Fig. 1. Fig. 3 represents a bottom view of the said hanger with the locking-sleeve and insulator and suspensory bolt removed. Fig. 4 is a top view of the locking-sleeve. Fig. 5 is a side elevation of the same. Fig. 6 is a side elevation of the suspensory bolt and of its insulator. Fig. 7 represents a side elevation of my invention, showing a different style of arms connected to the cap.

A indicates the cap or bell formed exteriorly to shed water. The cap is provided with one or more arms A^2 for supporting it. These arms may be curved, as shown in Fig. 1, or straight, as shown in Fig. 7. There may be one or more of these arms in connection with the cap. For this reason in Fig. 1 one of these arms is shown in solid lines, while the other arm which may be added is shown in dotted lines. The interior of the cap is provided with lugs, as B, alternated by recesses B^2 .

The lock-sleeve C is provided at its periphery with lugs C^2 , alternated by depressions C^3 . The lugs C^2 are so shaped and of such a size as respectively to easily pass through the recess B^2 . Each of the lugs C^2 has an inclined bottom C^4 , so that when passed through the recesses C^3 and the sleeve is rotated they shall elevate the sleeve and insulator and cause the upper end of the latter to come against the roof A^3 of the cap, and thus hold the suspensory bolt steady. Within the sleeve is located the suspensory bolt D, upheld by an

insulator E. This insulator E surrounds and envelops the head D^2 of the bolt and the upper portion of the shank D^3 for a distance below the sleeve C.

The insulator E projects at its upper portion, the preferable shape of such projection being a rim E^2 , which latter rests upon the top of the sleeve, while the shank of the insulator extends down through and below the sleeve. The upper portion of the cap is turned out or recessed, so that the head E^2 of the insulator can closely enter and fit it, (the said recessed portion A^4 .)

To the lower end of the bolt is connected the device F—viz., hook, ear, clip, and the like, as the case may be—directly attached or connected to the circuit or line wire. Such device is preferably screwed to the lower end of the bolt D, the latter being in such event provided with a screw-thread at D^4 . In the drawings I have shown an ear screwed to the bolt D and upholding the line-wire G.

At one side the cap A is perforated at two points in line by openings, as A^5 , adapted to receive a pin B^3 , whose head B^4 is shown in Fig. 1. This pin is preferably a split one, that it may remain in place after being inserted in position in the openings A^5 .

The mode in which my invention operates is as follows: The cap A is secured in place by means of its arm or arms A^2 or equivalent means. The sleeve C is put in place on the suspensory bolt. The suspensory bolt is connected to the ears at the same time as the latter is connected to the line-wire, or before or after that event, according to the mode of attachment of the line-wire to the ears. The sleeve C is now raised into the cap A and turned so that the lugs C^2 pass through the recesses B^2 of the cap. The sleeve is now rotated and its lugs C^2 pass over onto the lugs B of the cap and raise the sleeve and bring the head D^2 of the insulator against the roof A^3 of the cap, thereby tightening the insulator and its bolt D in place. Those lugs C^2 of the sleeve which are next to the openings A^5 will have assumed the position shown in the dotted lines marked C^2 of Fig. 3. The split pin B^3 is then passed into the openings A^5 and against the adjacent sides of the lugs C^2 , and prevents the sleeve C from turning in the

cap and thereby locking it into position. The operation is now completed. To remove the sleeve, insulator, and bolt D from the cap, the aforescribed operation is reversed.

5 It will be observed that the cylindrical insulator allows the sleeve to be rotated on it, and thus to be worked in introducing it, the sleeve, in place in the cap.

10 When desired, the projecting rim A⁶ of the cap may be utilized as a surface against which the lugs C² can impinge when introduced into the cap above the lugs B and rotated.

15 In order to obviate the necessity of grasping the sleeve C with the fingers when the latter operation becomes undesirable, I provide the sleeve with suitable detents for enabling a grappling iron or wrench to engage therewith. The preferred kind of detents are shown, and consist of the recesses C⁵ in the 20 lower portion of the sleeve. Into these recesses the teeth, hook, or projections of a suitable wrench are inserted and the sleeve rotated.

25 What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In an electric-wire hanger, the combination of the bell-shaped body A having a roof in one piece therewith, and an insulated bolt, and a sleeve-nut C, with projections, the bolt 30 being supported by said nut, the body A being provided interiorly with projections for supporting the insulator-bolt, when the nut C is rotated above and over said projections, substantially as and for the purposes specified.

35 2. In an electric-wire hanger, the combination of the cap A, having interior projections, and the sleeve carrying an insulated suspensory bolt, and having projections, for enabling the entering devices when the sleeve is rotated to interlock with the cap, and the locking-pin as B³, substantially as and for the purposes specified. 40

3. In a line-hanger, the combination of the cap having the interior recesses and projections, and the sleeve having corresponding exterior projections and recesses, and the suspensory bolt, and surrounding insulator, the projections having an inclined surface, whereby when the sleeve is interlocked, a portion 50 of the entering device shall impinge against the cap and contribute to the steadiness where-with the sleeve and what it carries are held in the cap, substantially as and for the purposes specified.

55 4. In a line-hanger, the combination of the cap having the interior recesses and projections, and the sleeve having corresponding exterior projections and recesses, and the suspensory bolt, and surrounding insulator, the 60 projections having inclined surfaces, whereby when the sleeve is interlocked, a portion

of the entering device shall impinge against the cap and contribute to the steadiness where-with the sleeve and what it carries are held in the cap, and the pin as B³ impinging against 65 the sleeve, substantially as and for the purposes specified.

5. An electric-line hanger, wherein is the combination of a cap having a series of lugs B and alternate recesses B², and a roof A³, 70 and the sleeve C having recesses C³ and lugs C², having inclined faces C⁴, and the insulator having head E² supported by the sleeve, and a suspensory bolt enveloped by the insulator, the head E² adapted to reach the roof 75 when the sleeve is interlocked with the cap, substantially as and for the purposes specified.

6. In an electric-line hanger, wherein is the combination of a cap having a series of lugs 80 B and alternate recesses B², and a roof A³, and the sleeve C having recesses C³ and lugs C², having inclined faces C⁴, and the insulator having head E² supported by the sleeve, and a suspensory bolt enveloped by the insu- 85 lator, the head E² adapted to reach the roof when the sleeve is interlocked with the cap, the cap having openings A⁵ and the pin B³ received into said openings and bearing against the sides of the adjacent lugs of the 90 sleeve, substantially as and for the purposes specified.

7. An electric-line hanger, wherein is the combination of a cap having a series of lugs 95 B and alternate recesses B², and a roof A³, and the sleeve C having recesses C³ and lugs C², having inclined faces C⁴, and the insulator having head E² supported by the sleeve, and a suspensory bolt enveloped by the insu- 100 lator, the head E² adapted to reach the roof when the sleeve is interlocked with the cap, the sleeve having the detents C⁵, substantially as and for the purposes specified.

8. An electric-line hanger, wherein is the combination of a cap having a series of lugs 105 B and alternate recesses B², and a roof A³, and the sleeve C having recesses C³ and lugs C², having inclined faces C⁴, and the insulator having head E² supported by the sleeve, and a suspensory bolt enveloped by the insu- 110 lator, the head E² adapted to reach the roof when the sleeve is interlocked with the cap, the cap having openings A⁵, and the pin B³ received into said openings and bearing against the sides of the adjacent lugs of the sleeve, 115 the sleeve being provided with the detents C⁵, substantially as and for the purposes specified.

WILLIAM A. McCALLUM.

Attest:

WM. E. JONES,
K. SMITH.