

(No Model.)

2 Sheets—Sheet 1.

H. H. LUSCOMB & W. F. D. CRANE.
INSULATOR.

No. 578,825.

Patented Mar. 16, 1897.

Fig. 1

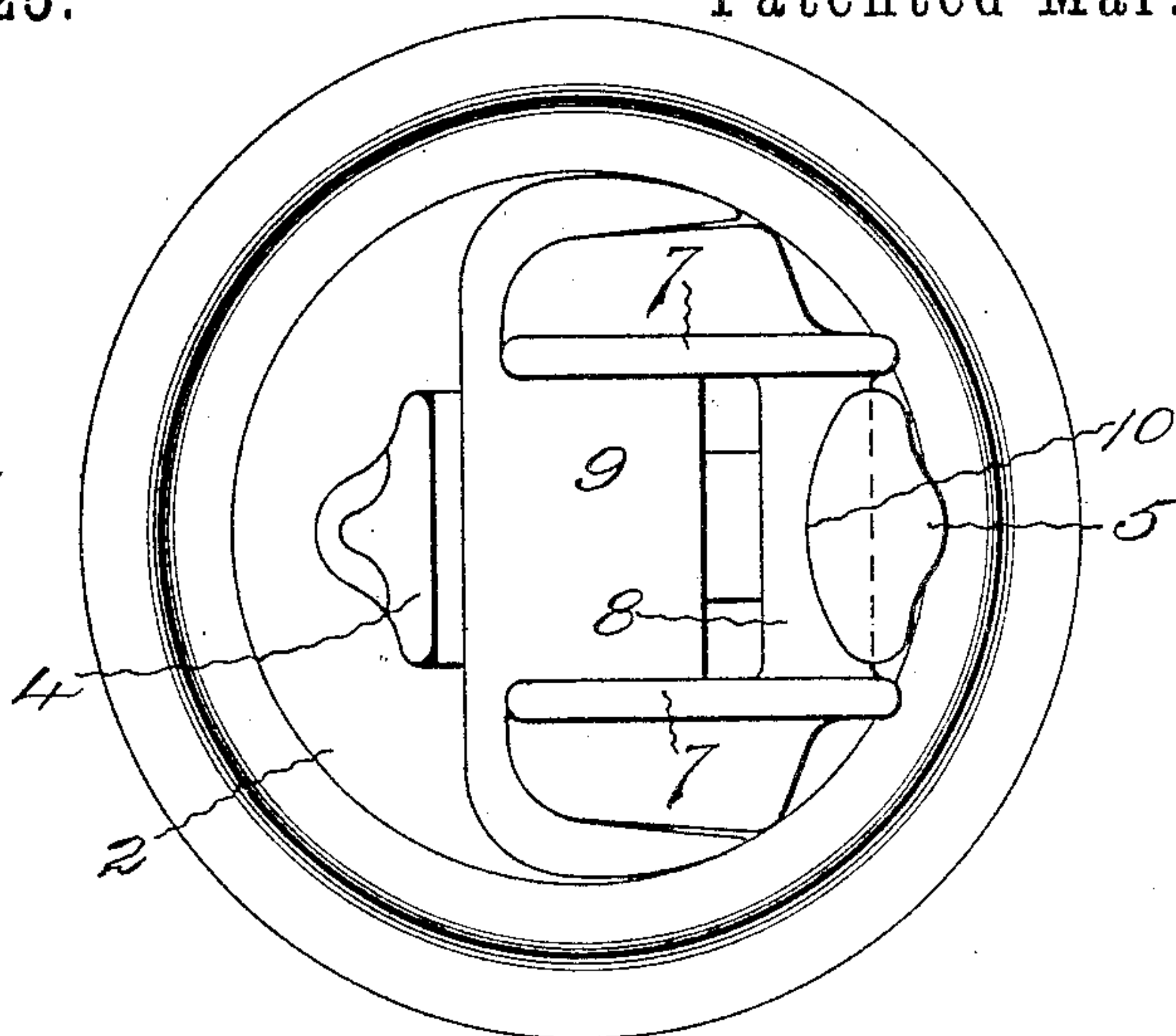


Fig. 2

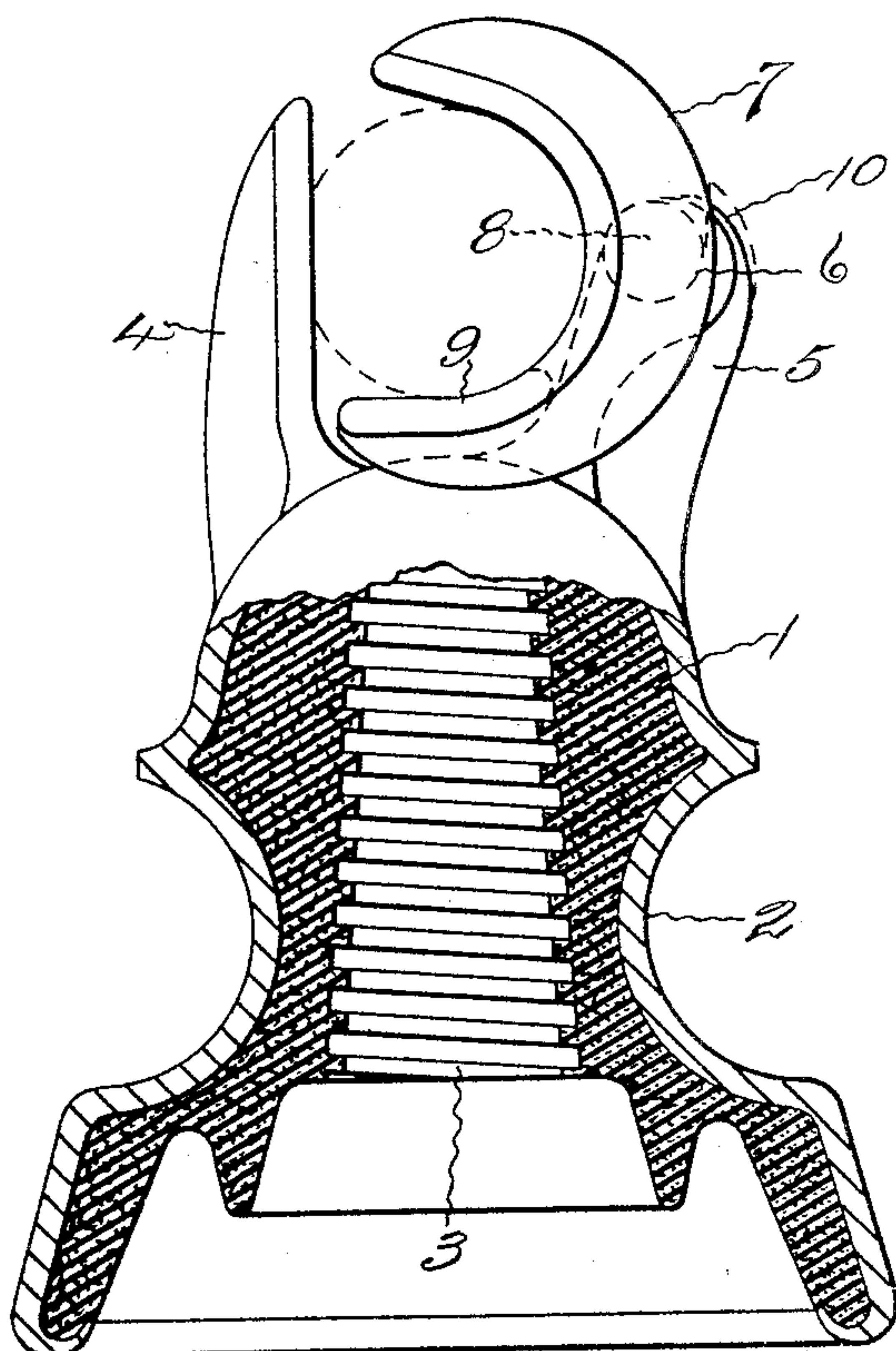
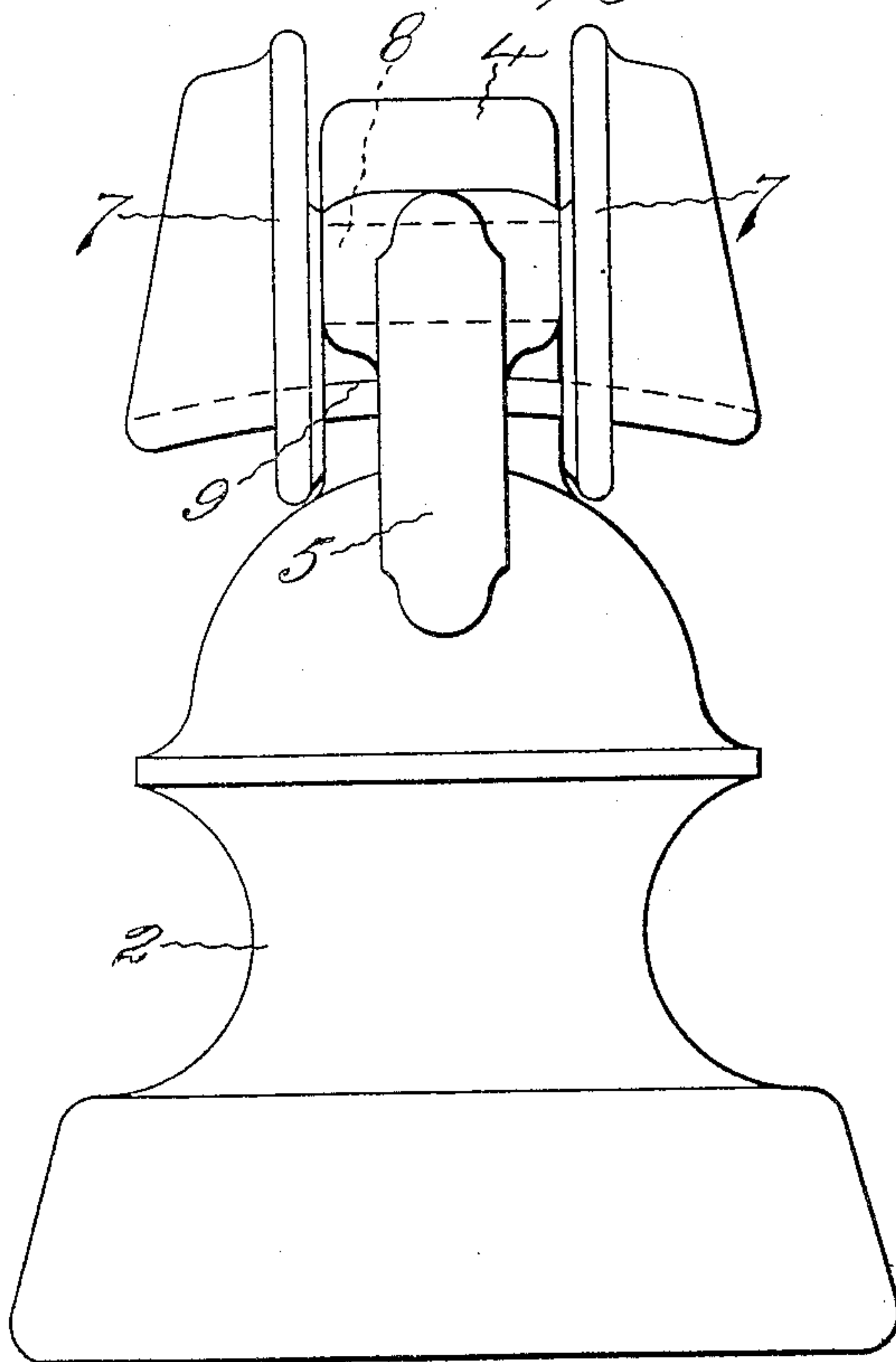


Fig. 3



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C. E. Buckland.

Inventors

*Henry H. Luscomb, and
William F. D. Crane, by
Harry P. Williams, atty.*

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Fig. 4

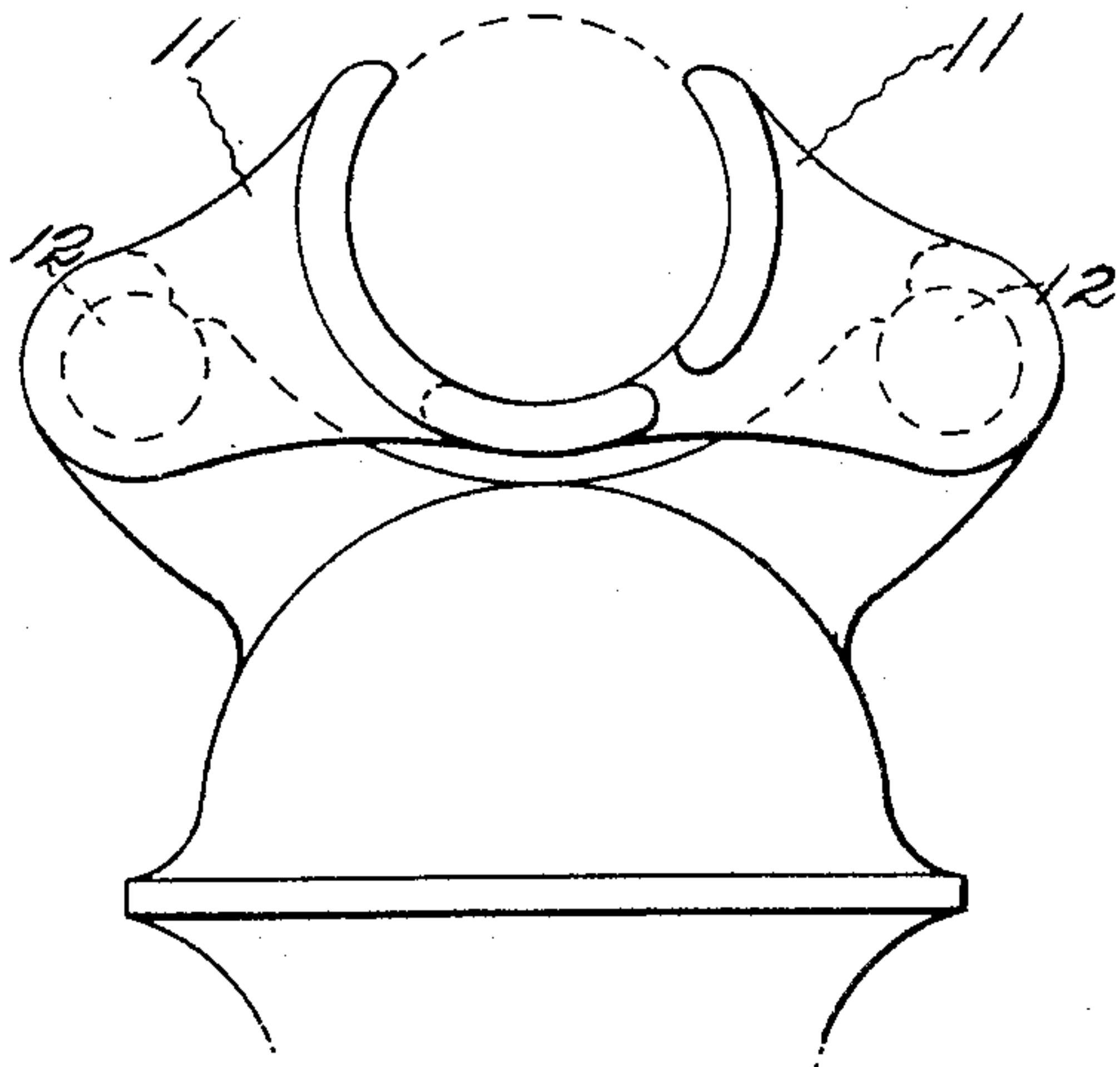


Fig. 5

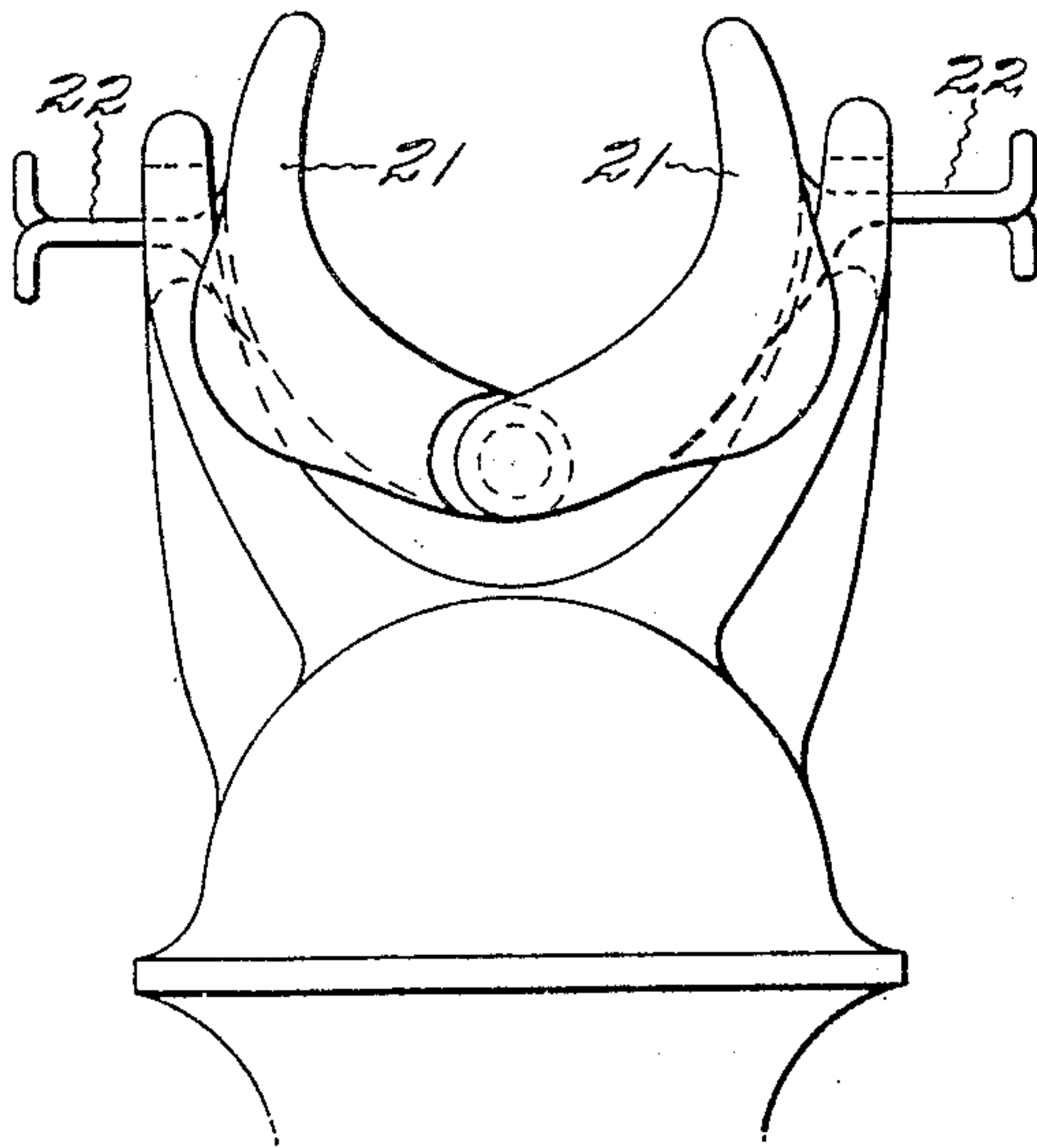
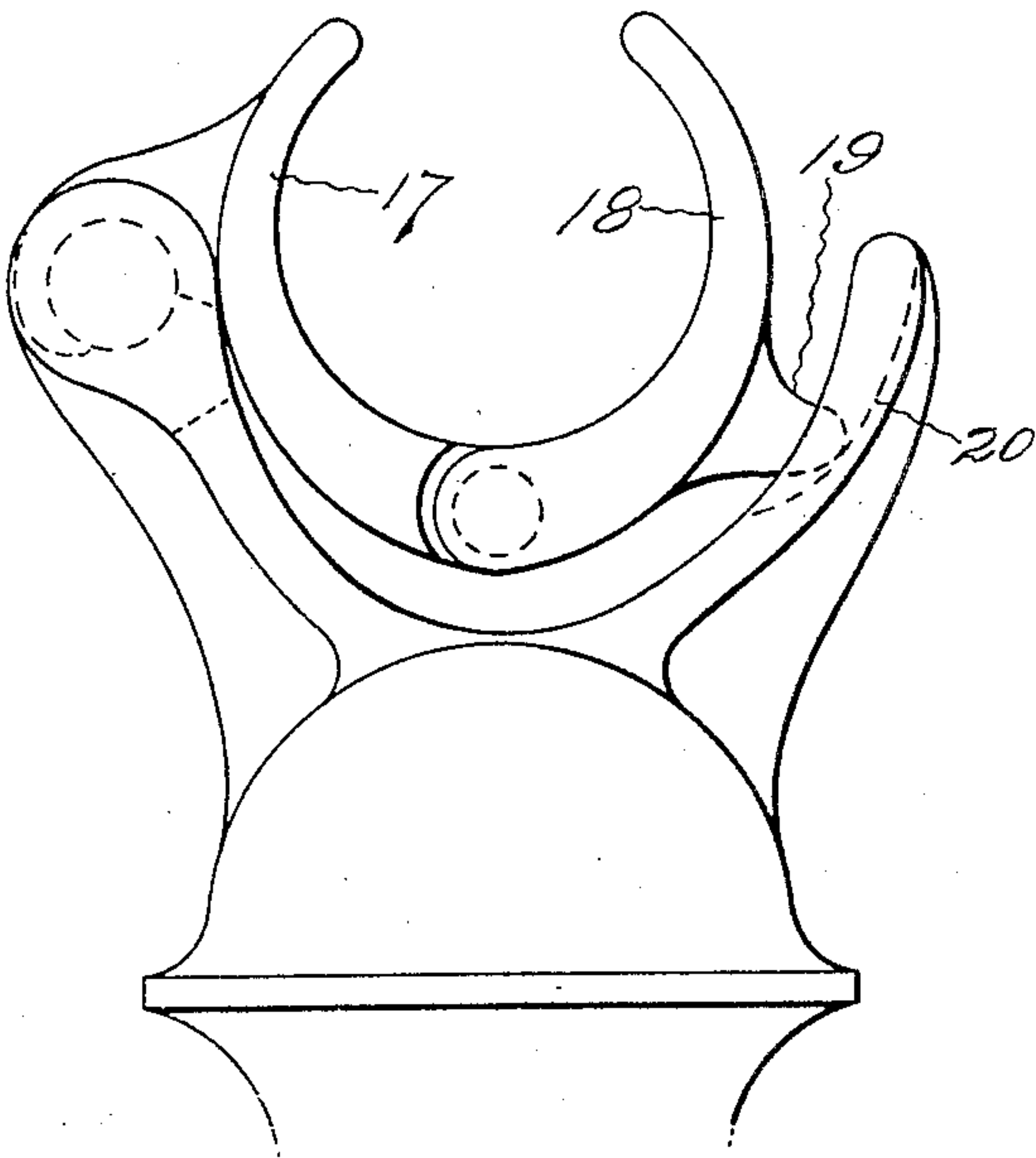
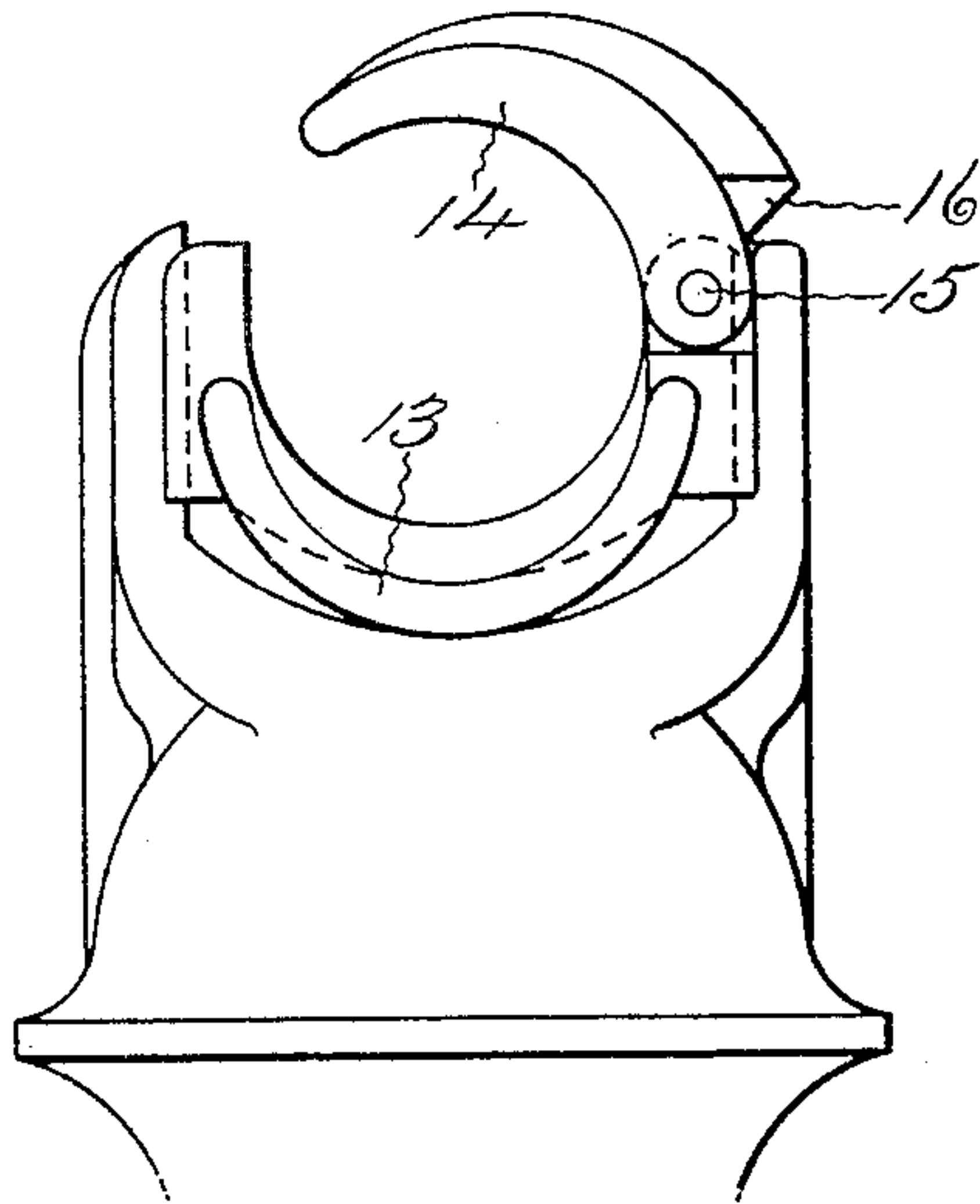


Fig. 6

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Fig. 7

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UNITED STATES PATENT OFFICE.

HENRY H. LUSCOMB, OF HARTFORD, CONNECTICUT, AND WILLIAM F. D. CRANE, OF ORANGE, NEW JERSEY, ASSIGNORS TO THE JOHNS-PRATT COMPANY, OF HARTFORD, CONNECTICUT.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 578,825, dated March 16, 1897.

Application filed October 24, 1896. Serial No. 609,980. (No model.)

To all whom it may concern:

Be it known that we, HENRY H. LUSCOMB, residing at Hartford, Connecticut, and WILLIAM F. D. CRANE, residing at Orange, New Jersey, citizens of the United States, have invented certain new and useful Improvements in Insulators, of which the following is a specification.

The invention relates to those insulators which are more particularly employed for supporting heavy wires and cables, such as the feed-wires of electric-railway systems and cables containing telegraph or telephone wires.

The object of the invention is to provide a simple and comparatively inexpensive insulator which will readily receive a feed-wire or cable and automatically lock it securely in position in such manner that it cannot be accidentally displaced, but can be easily removed when desired.

To this end the invention resides in an insulator having means for attachment to a pole, arm, bracket, or other support and having a part that can be set so as to readily receive the wire or cable and by its weight be automatically moved into such a position that the greater the weight the more tightly will the wire or cable be grasped and held, as more particularly hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a plan of an insulator embodying the invention. Fig. 2 is an elevation of one side of the same with a portion broken away to illustrate the construction. Fig. 3 is an elevation looking from another side. Fig. 4 is a view showing a modified embodiment of the invention. Fig. 5 is a view of a modification. Fig. 6 is a view of another modification, and Fig. 7 is a view of still another modification.

The body of the insulator illustrated consists of an interior mass of insulation 1, which can be formed of any suitable substance, with an exterior protecting-case 2, which can be formed of metal to any desired outline. The interior insulating composition is provided with a threaded socket 3, so the insulator can be secured upon a common pin, but of course without departing from the invention any

other common means for securing the insulator to a support may be employed.

Projecting from the body of the form of insulator shown in Figs. 1, 2, and 3 are arms 4 and 5. The arm 4 has a flat inner edge and the arm 5 has a groove 6, which is adapted to receive the pivot of the fingers 7. These fingers are preferably cast integral with the pivot 8 and supporting-floor 9. The pivot is laid in the groove in the arm 5 and the edge 10 of the groove bent over so as to retain the pivot in place.

When the fingers of this form of insulator are turned up, a feed-wire or cable can be laid in them, and the weight of this will turn the fingers down so that the arm 4 will be opposite the opening between them. The weight of the feed-wire or cable tends to draw the lower of the fingers downward, and this of course causes the upper of the fingers to close the space between the horns at the top. The feed-wire or cable, which usually has a comparatively soft exterior covering, is also crowded against the face of the arm 4 sufficiently to be indented on one side, so that it cannot slip in either direction.

In Fig. 4 the insulator illustrated has fingers 11, which are held in place by pivots 12, that are supported in bearings formed in the upper ends of the arms projecting from the top of the body. When these fingers are turned up and opened, a wire or cable can be laid between them, and then the weight exerted thereby on the lower parts of the fingers will cause them to be turned downward on their pivots, and this causes them to tightly clasp whatever is between. The greater the weight of the wire or cable the harder will be the grasp of these fingers, for the greater weight will tend to bear the inner ends down harder, and this downward movement of the ends causes the ends to move toward each other and thus bite the wire or cable with a grasp relatively proportional to the weight of the wire or cable.

In the form shown in Fig. 5 the fingers 13 and 14 are connected by a pivot 15. The lower finger 13 is fitted to slide loosely up and down the arms that project from the body of the insulator, and the upper finger 14 has on

its back a cam-shoulder 16, that is adapted to engage with the upper edge of one of the arms. When the wire or cable is laid on the lower of the fingers of this form, its weight tends to draw down the fingers and the engagement of the cam-shoulder 16 with the edge of the arm causes the upper of the fingers to close down upon the top of the wire or cable.

10 In the modification shown in Fig. 6 the fingers 17 and 18 are hinged together near the top of the body. The finger 17 of this form is pivoted to one of the arms that project from the body, and the finger 18 is provided with
15 a shoulder 19, that is adapted to bear on an inclining surface 20, formed on one of the arms. The weight of the wire or cable supported by an insulator of this form tends to draw the fingers downward, and this movement causes them to close together.

The modification shown in Fig. 7 has fingers 21 22 hinged together. These are arranged so their outer edges bear against the inner edges of the arms, and when the weight
25 of the wire or cable which they support draws them downward they are closed together. These fingers are shown as provided with outward projections 22, that pass through perforations in the arms, so as to prevent the complete accidental removal of the fingers from
30 the arms when the insulator is in use.

With all of these forms of insulators the wire or cable which is supported between the arms projecting from the body is grasped and
35 held in position by fingers which are actuated and closed by the weight of the material which they are called upon to support, and the greater the strain the more tightly will the wire or cable be grasped and the more securely will it be held in position. A wire or
40 cable held in such manner cannot creep under expansion and contraction nor move longitudinally through the insulator or be pulled along so as to drop down when the wire or
45 cable becomes broken on either side of an insulator.

We claim as our invention—

1. An insulator consisting of a body provided with means for attachment to a sup-

port and having arms that project upwardly 50 from opposite sides of the body near the top, fingers loosely connected with and movable between the arms, a part of the fingers being adapted to support the wire and a part of the fingers being caused to embrace the wire by 55 the action of the weight of the wire, substantially as specified.

2. An insulator consisting of a body provided with means for attachment to a support and having arms that project upwardly from 60 opposite sides of the body near the top, fingers loosely connected with and movable between the arms in such manner that the weight of the wire which they support causes them to be so moved as to lessen the distance between 65 themselves and thus be forced to grasp the wire, substantially as specified.

3. An insulator consisting of a body provided with means for attachment to a support and having arms that project upwardly 70 from opposite sides of the body near the top, fingers loosely connected with and movable between the opposite arms in such manner that when the wire to be supported is in position between the arms above the center of 75 the body the lower part of the fingers lie beneath and form the immediate support of the wire and the upper part of the fingers extend above and are caused to embrace the wire by the action of the weight of the wire, substantially 80 as specified.

4. An insulator consisting of a body having an interior mass of insulating compound and an exterior metallic case, integral arms projecting from the upper end of the case, 85 connected fingers loosely connected to one of the arms in such manner that when a wire is in position between the arms the lower part of the fingers lie beneath the wire and the upper part of the fingers extend over the wire, 90 substantially as specified.

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Witnesses:

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