

(No Model.)

H. F. NEWELL.  
ELECTRIC WIRE INSULATOR.

No. 463,955.

Patented Nov. 24, 1891.

Fig. 2.

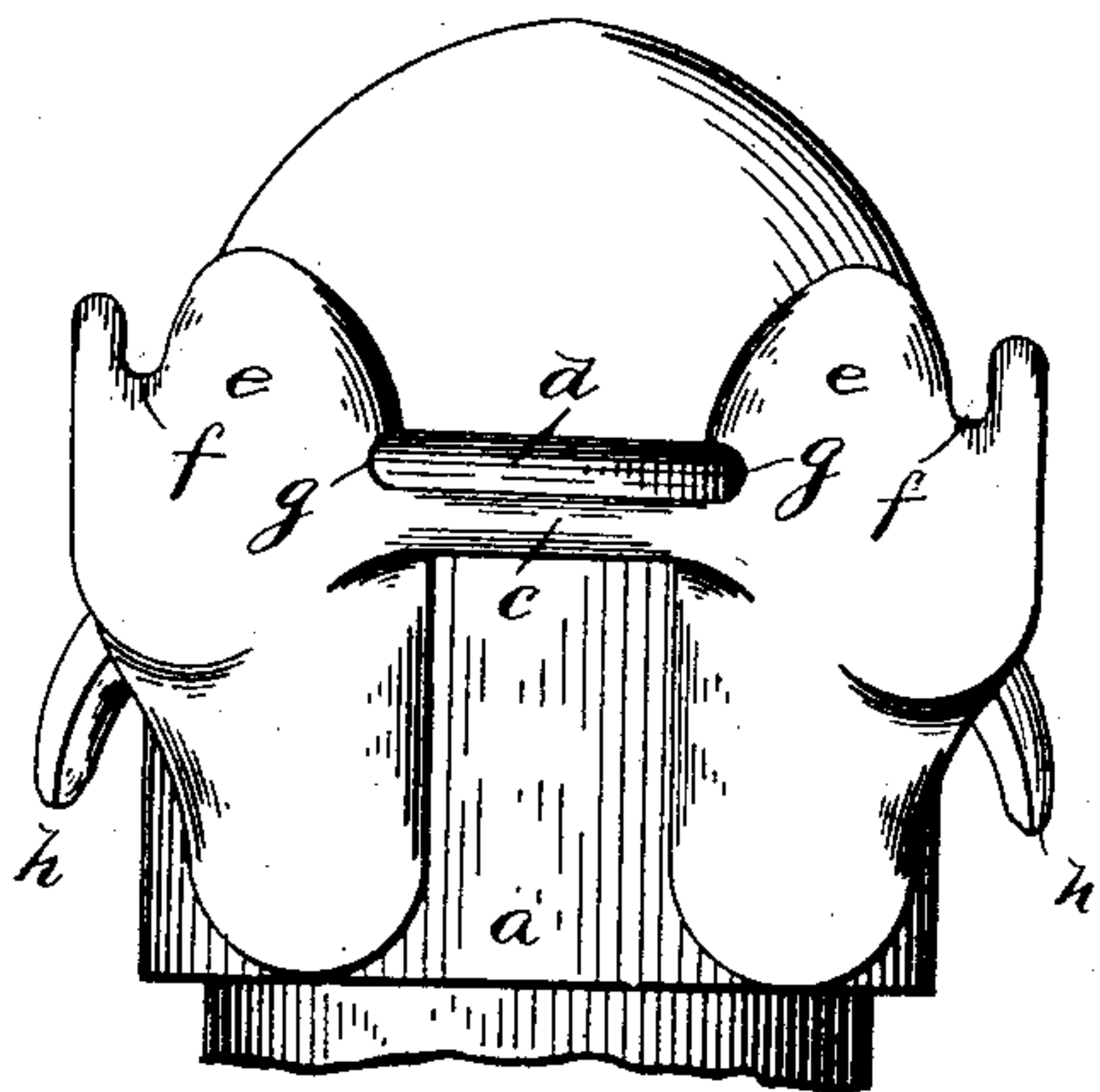


Fig. 3.

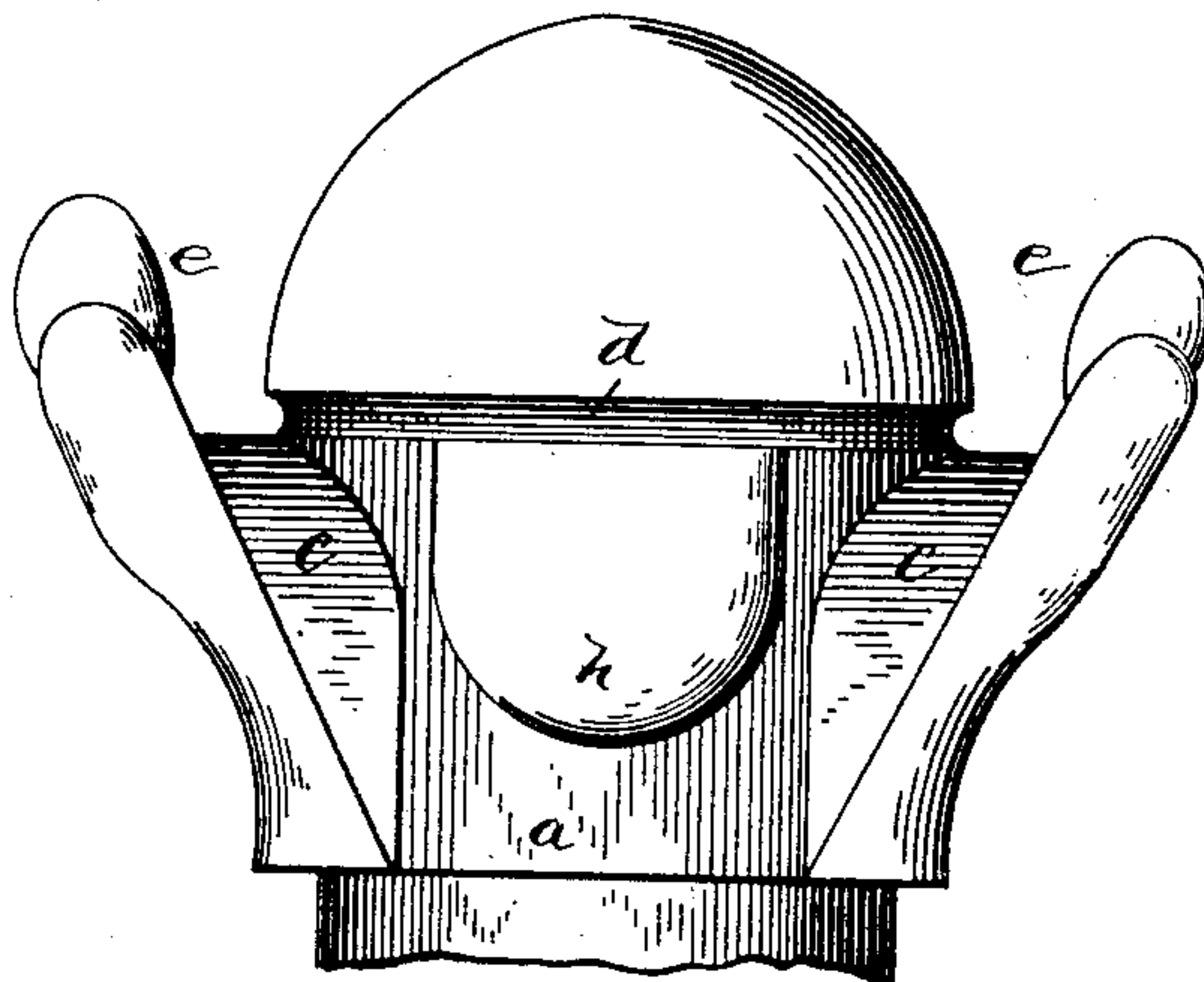


Fig. 4.

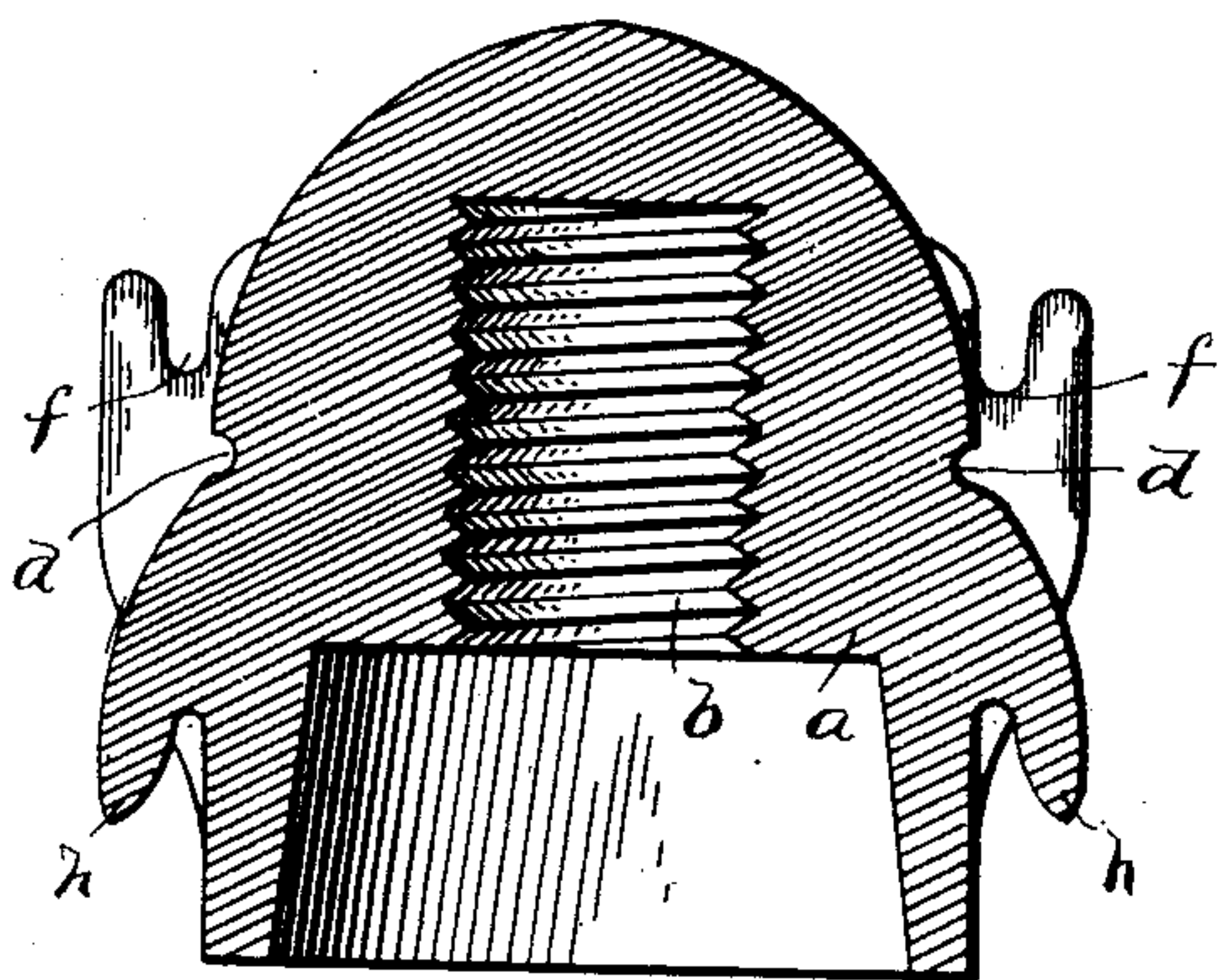
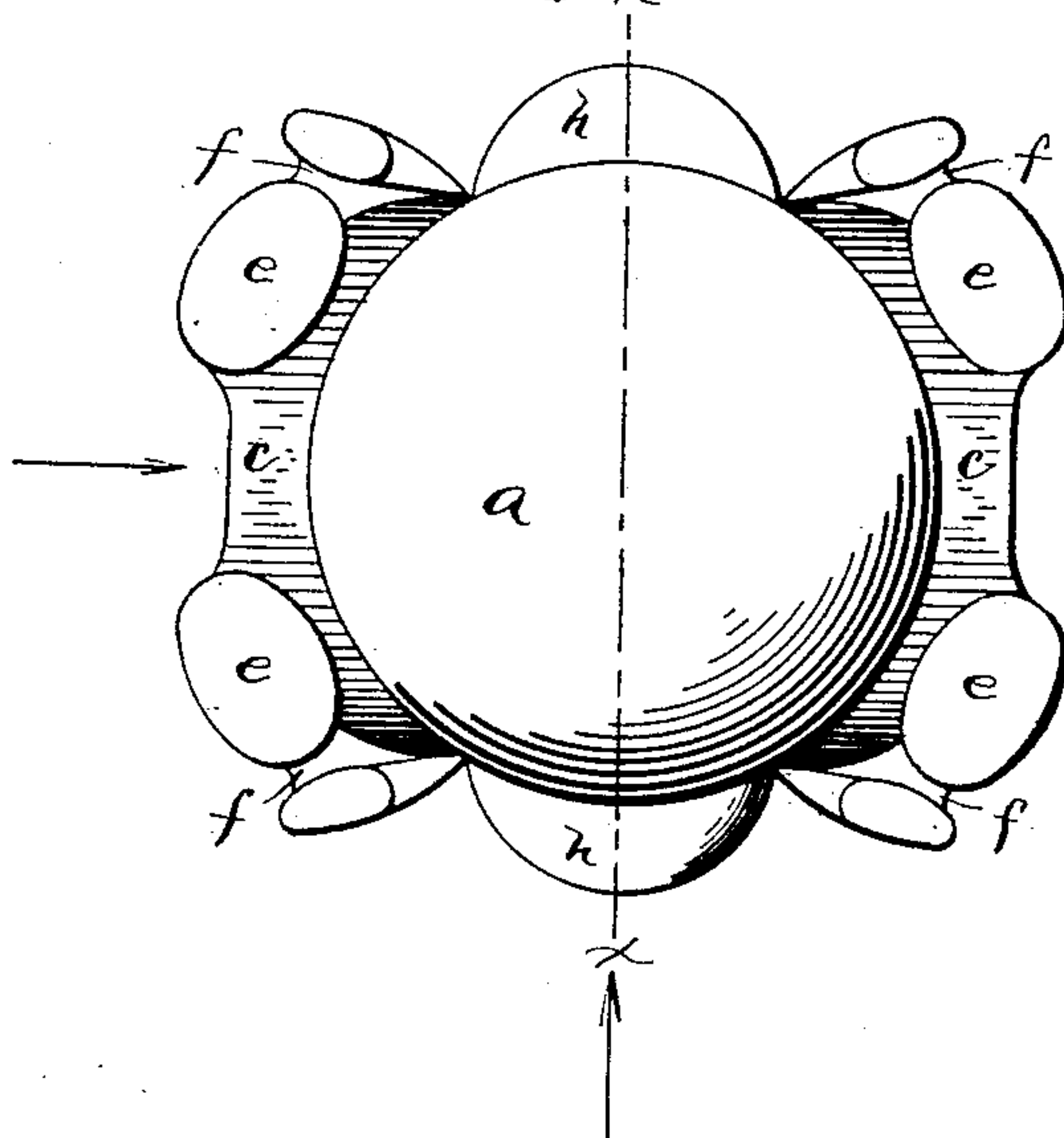


Fig. 5.



Witnesses:

C. C. Quiffy

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per D. C. Quiffy  
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# UNITED STATES PATENT OFFICE.

HIRAM F. NEWELL, OF MANCHESTER, VIRGINIA.

## ELECTRIC-WIRE INSULATOR.

SPECIFICATION forming part of Letters Patent No. 463,955, dated November 24, 1891.

Application filed February 28, 1891. Serial No. 383,226. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM F. NEWELL, of Manchester, in the county of Chesterfield and State of Virginia, have invented certain new and useful Improvements in Insulators for Electric Wires; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 part of this specification.

This invention relates to certain improvements in insulators for electric wires.

The object of the invention is to provide an improved insulator exceedingly cheap, durable, and simple in construction, which will firmly and separately hold several wires without fastening-wires or other means, will prevent longitudinal movement of the wires, and so constructed that the wires can be easily and quickly attached or detached.

These objects are accomplished by and this invention consists in certain novel features of construction and in combinations of parts more fully and particularly set forth herein-after.

Referring to the accompanying drawings, Figure 1 is a top plan of the insulator. Fig. 2 is a side elevation looking in the direction of the left-hand arrow of Fig. 1. Fig. 3 is a side elevation looking in the direction of the bottom arrow of Fig. 1. Fig. 4 is a cross-section taken in the plane of line *x x*, Fig. 1.

This insulator is preferably formed integral of suitable non-conducting material, and consists of the main or body portion *a*, preferably cylindrical and dome-shaped or rounded on top, and provided with the hollow base and suitably-formed socket *b*, by means of which the insulator is firmly secured on its support. The body at a suitable distance from its top is provided with a peripheral annular groove *d*, and beneath said groove, on diametrically-opposite sides, the insulator is provided with horizontally and laterally projecting portions *c c*. From the two outer corners of each enlarged lateral portion *c* arms *e e* extend up, each arm being provided with a vertical transverse groove or notch *f*, extending down from the outer end of its top

edge, and with a horizontal groove or notch *g* at the lower end of its inner side edge at the foot of the arm *e*. Each pair of arms *e e* is located a suitable distance apart. A pair of downwardly-inclined or overhanging arms or flanges *h h* are located on diametrically-opposite sides of the insulator between the lateral enlargements and below the horizontal plane of the wire-holding grooves or notches *f* and *g*. A wire can be firmly held and supported by this insulator by resting the same in the top grooves *f f* of the two arms *e e* on one side of the insulator-body and catching the portion of the wire between said grooves beneath the flange *h* on that side, thereby supporting the wire and firmly holding it against longitudinal, lateral, downward, or upward strain. Instead of passing the wire through grooves *f* it can pass through grooves *g* around the bases of arms *e e* to and beneath the flange *h*, or the wire can be secured by having a hitch or loop taken in the same and passed around the body so as to rest in groove *d*. It is evident that several wires, either parallel or extending in opposite or different directions, can be separately supported by this insulator. The lateral arms and grooves so hold the wire that if broken between two poles it will not sag and drop between the other poles. The number of insulators heretofore necessary is reduced. The supporting-arms are strongly braced and strengthened to withstand the strain and weight of the wires, and the holding grooves and arms are so arranged and formed that the wires can be easily and quickly secured or removed by the linemen.

What I claim is—

1. The insulator consisting of the body having the socket in its under side and annular groove around its upper portion, the separated grooved arms rigid with the body and extending upwardly beside the upper portion of the body, and the intermediate downwardly-projecting arms, substantially as described.

2. The insulator consisting of the body, arms on opposite sides thereof and rigid therewith and extending up beside the upper portion of the body and having wire-holding grooves or notches, and the intermediate downwardly-projecting arm from the side of the body, substantially as described.

3. An insulator consisting of the body having opposite lateral enlargements and a pair of separate arms extending up from each enlargement and having grooves in their upper  
5 edges, the intermediate downwardly-projecting arms, and an exterior annular groove above said lateral enlargements, substantially as described.

4. An insulator consisting of the body provided with two diametrically-opposite lateral enlargements, arms extending up therefrom, and lateral arms from the body between said lateral enlargements, substantially as described.

15 5. An insulator consisting of the body hav-

ing two diametrically-opposite lateral enlargements, a pair of arms extending up from each enlargement provided with transverse grooves in their top edges and inner sides, and downwardly-inclined lateral arms between said enlargements, substantially as described. 20

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HIRAM F. NEWELL.

Witnesses:

S. M. PERDUE,

R. L. TAMLIN.