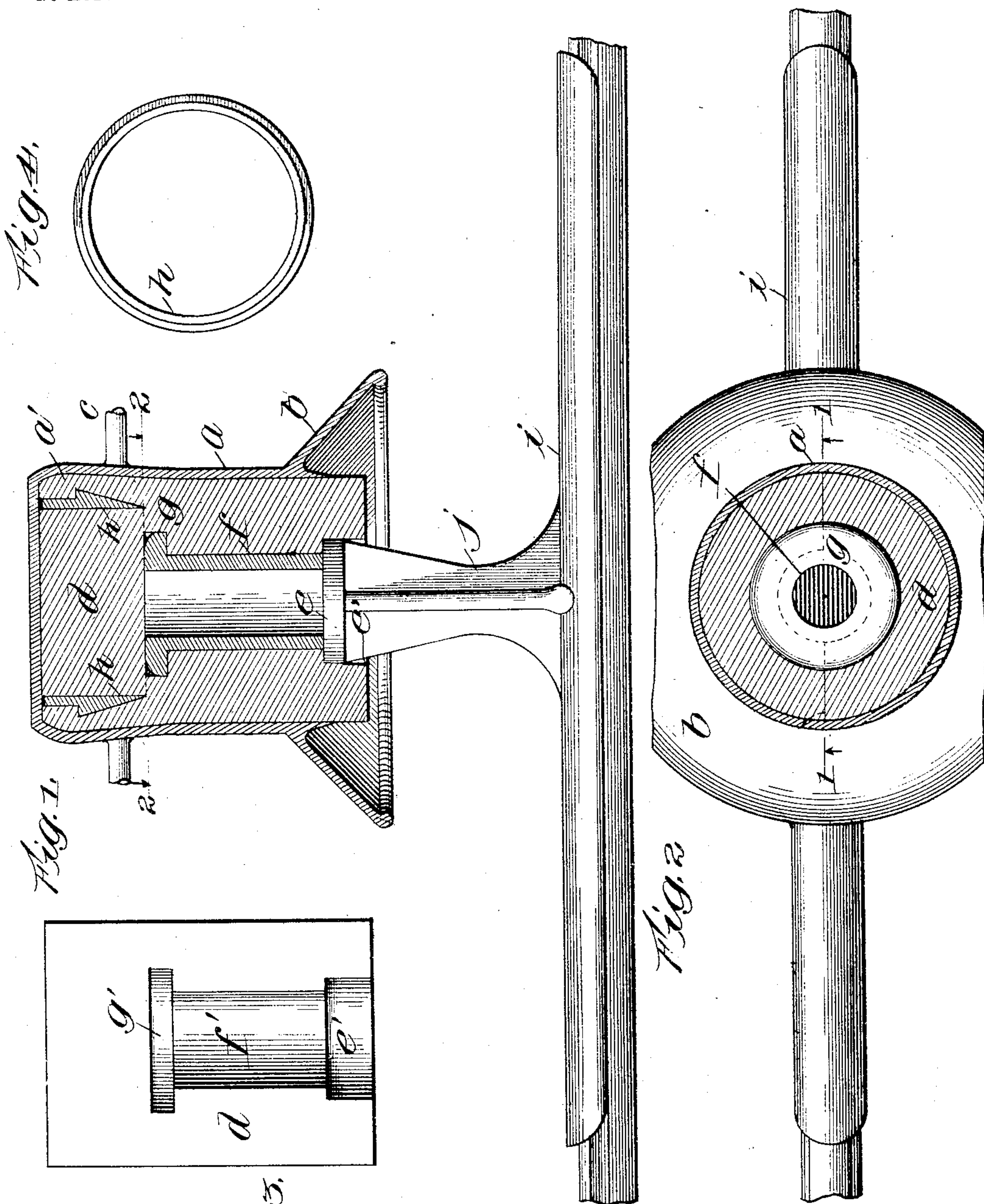


No. 777,468.

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F. M. ZIMMERMAN.
HOLDER FOR TROLLEY WIRES.
APPLICATION FILED SEPT. 16, 1904.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANK M. ZIMMERMAN, OF AURORA, ILLINOIS.

HOLDER FOR TROLLEY-WIRES.

SPECIFICATION forming part of Letters Patent No. 777,468, dated December 13, 1904.

Application filed September 16, 1904. Serial No. 224,630. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. ZIMMERMAN, a citizen of the United States, residing in Aurora, Kane county, Illinois, have invented certain new and useful Improvements in Holders for Trolley-Wires, of which the following is a full and clear description, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows my said new device in side elevation, partly in section, on the plane 1 1 of Fig. 2. Fig. 2 shows the same device in plan view, partly in section, on the plane 2 2 of Fig. 1. Fig. 3 shows a half part of the insulator or filler *d* of the cap *a* with its part of the cylindrical chambers *e' f' g'*. Fig. 4 shows the part *h* in plan view as seen from its top.

Like reference-letters denote like parts throughout.

The object of my invention is to produce a trolley-wire holder wherein the parts are fewer, more easily and cheaply made and assembled, and fully as efficient at least as the devices at present known.

To attain said desirable ends, I construct my said trolley-wire holder in substantially the following manner, namely: Primarily I make use of the well-known old parts *a b c i* and then fill the hollow of said old cap or cup *a* with two half-cylinders *d* of any suitable insulating material, as preferably baked or suitably-treated wood, out of which are cut the vertically-connected cylindrical chambers *e' f' g'*, as shown in Fig. 3, and into said chambers is placed the cylindrical or top part *e f g*, which tops the cross-webbed intermediate part *j*, forming at its lower end the connecting part with the wire-clasp *i*. The cylinder *f* is hollow for lightness and at its top is provided with a large exterior flange *g*. The cylindrical part *e* is but a flange to the cylinder *f*. Said stem parts may be made to turn freely, if desired, in said insulating-block, so that the clasp *i* may readily adapt itself to the direction of the trolley-wire.

In my construction the parts *f i j* are made integral, as shown, with many advantages, as thereby is saved the joint and threading or riveting, &c., between the parts *i* and *j*, and

thereby is saved the cost of making such joint; secondly, there being but one piece of metal there is no possibility of the parts becoming separated either before being put in place or when in place, and, finally, the clasp *i* can turn with great freedom into that direction in which it meets with least strain or resistance, and therefore the position most advantageous to the structure, the chambers for the stem being made so as to allow it to turn freely. In assembling said parts the semi-cylindrical parts of the insulator *d* are so placed as to receive within their half-cylindrical chambers *e' f' g'* the cylindrical parts *e f g* of said stem *j*, and on the top of said block *d* is placed an annular wedge *h* in about the relative dimensions and position as shown, and over said parts is slipped and driven the cap or shell *a* until said annular wedge has entered entirely into the said block, whereby the latter is expanded into the upper part of said shell, which is slightly enlarged, as shown at *a'*, above the top of the chamber *g*, and in which it is thereby housed and held from ever coming out by any accident, whereby, with all the other features herein enumerated, is attained, as herein stated to be, the object of my invention.

What I claim is—

1. The combination with a wire-clasp having a stem integral with the clasp and said stem provided with a flange, of an interiorly-chambered insulating-block and means to insert said stem rotatably into said block.

2. The combination with a flanged stem of a trolley-wire clasp, of an interiorly-chambered insulating-body, a housing for said body, means to insert said stem into said body and means to expand and hold said body in said housing.

3. The combination with a flanged stem of a trolley-wire clasp, of a longitudinally centrally divided and centrally chambered insulating-body, a housing over said body, and means to expand said body into its housing.

FRANK M. ZIMMERMAN.

Witnesses:

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