

966,882.

W. E. BANDFIELD.  
ATTACHMENT OF TELEGRAPH AND SIMILAR LINE WIRES TO INSULATORS.  
APPLICATION FILED DEC. 13, 1909.

Patented Aug. 9, 1910.  
2 SHEETS—SHEET 1.

Fig. 1.

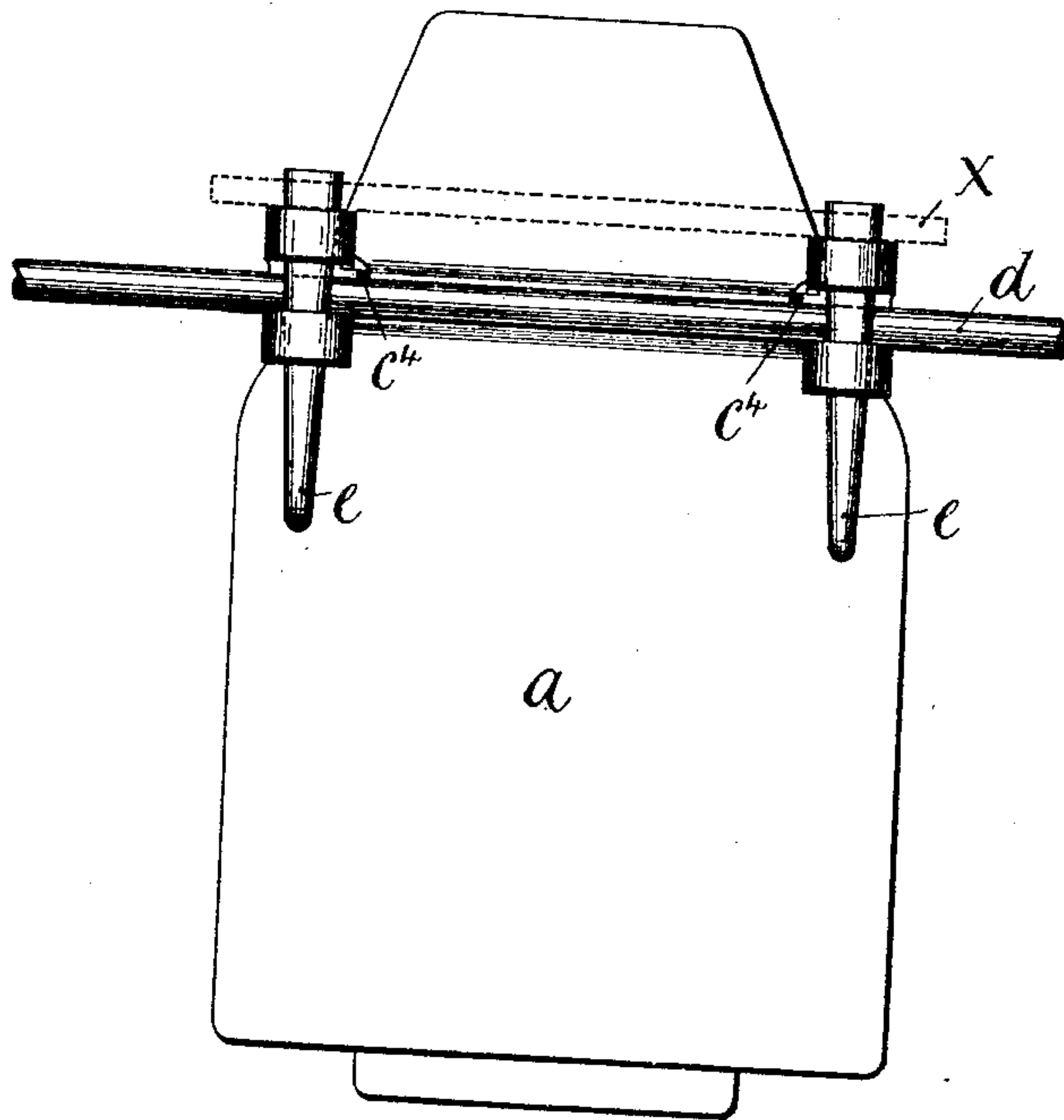
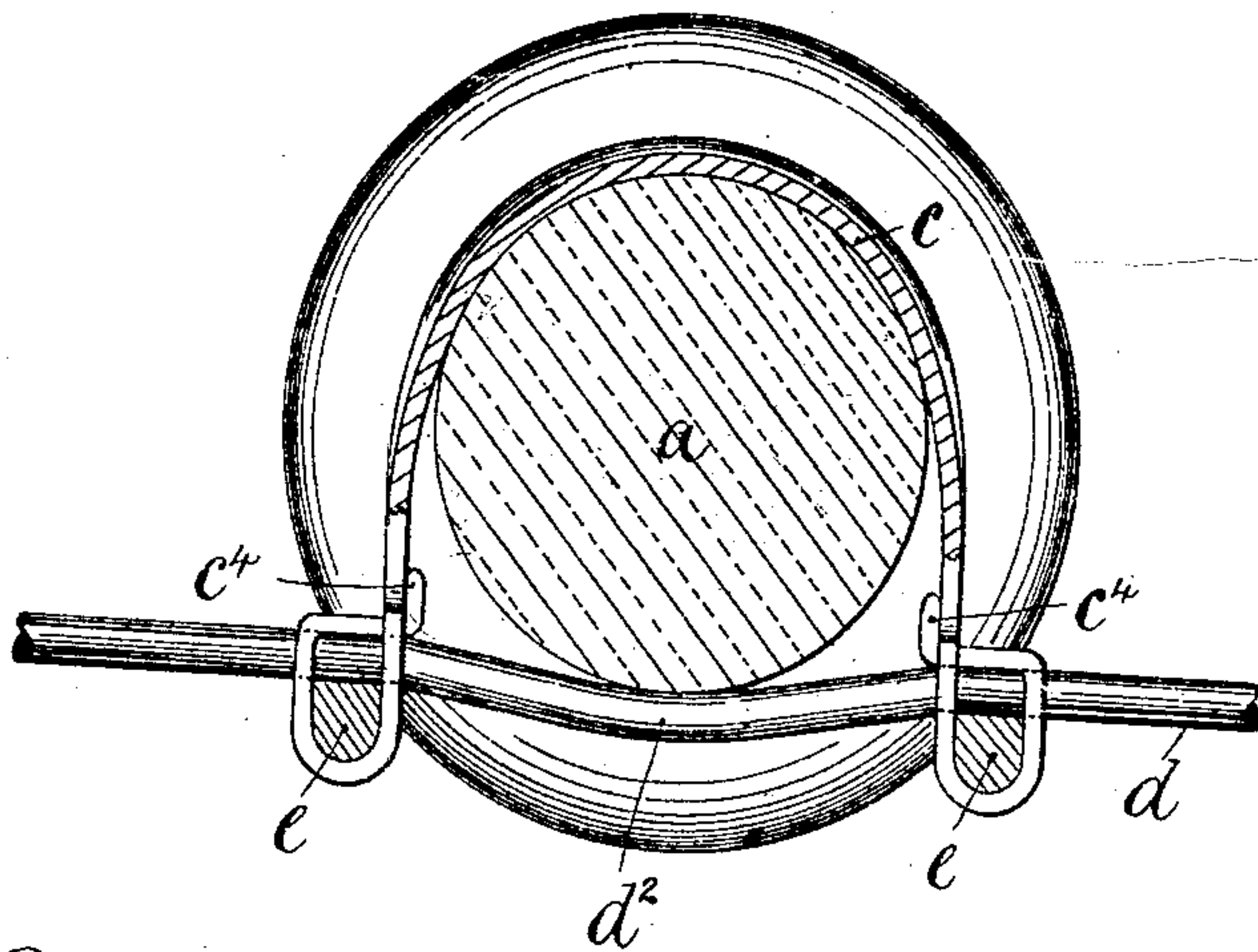


Fig. 2.



Witnesses:

*J. B. Keeler*  
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By

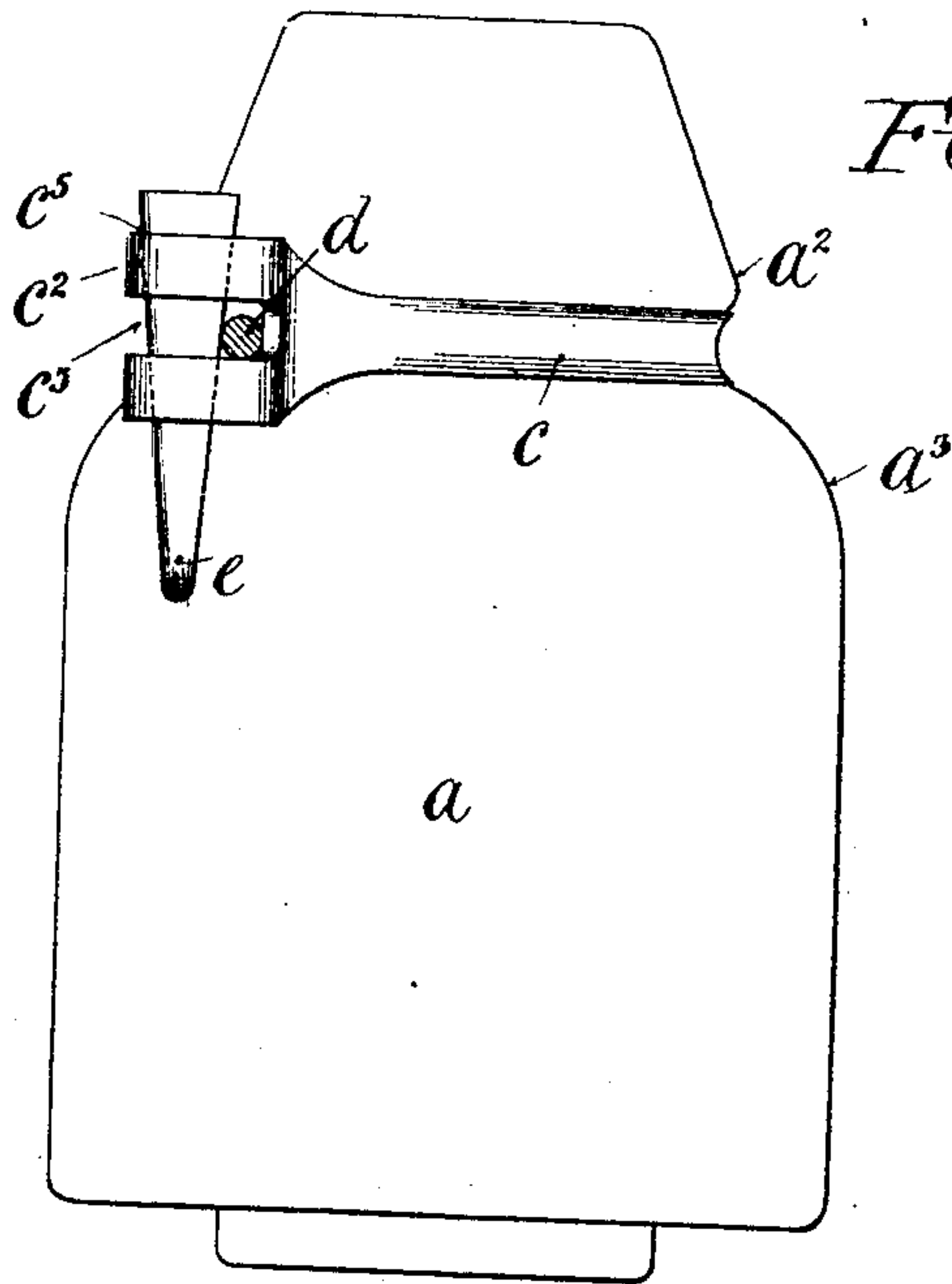
*James L. Norris*  
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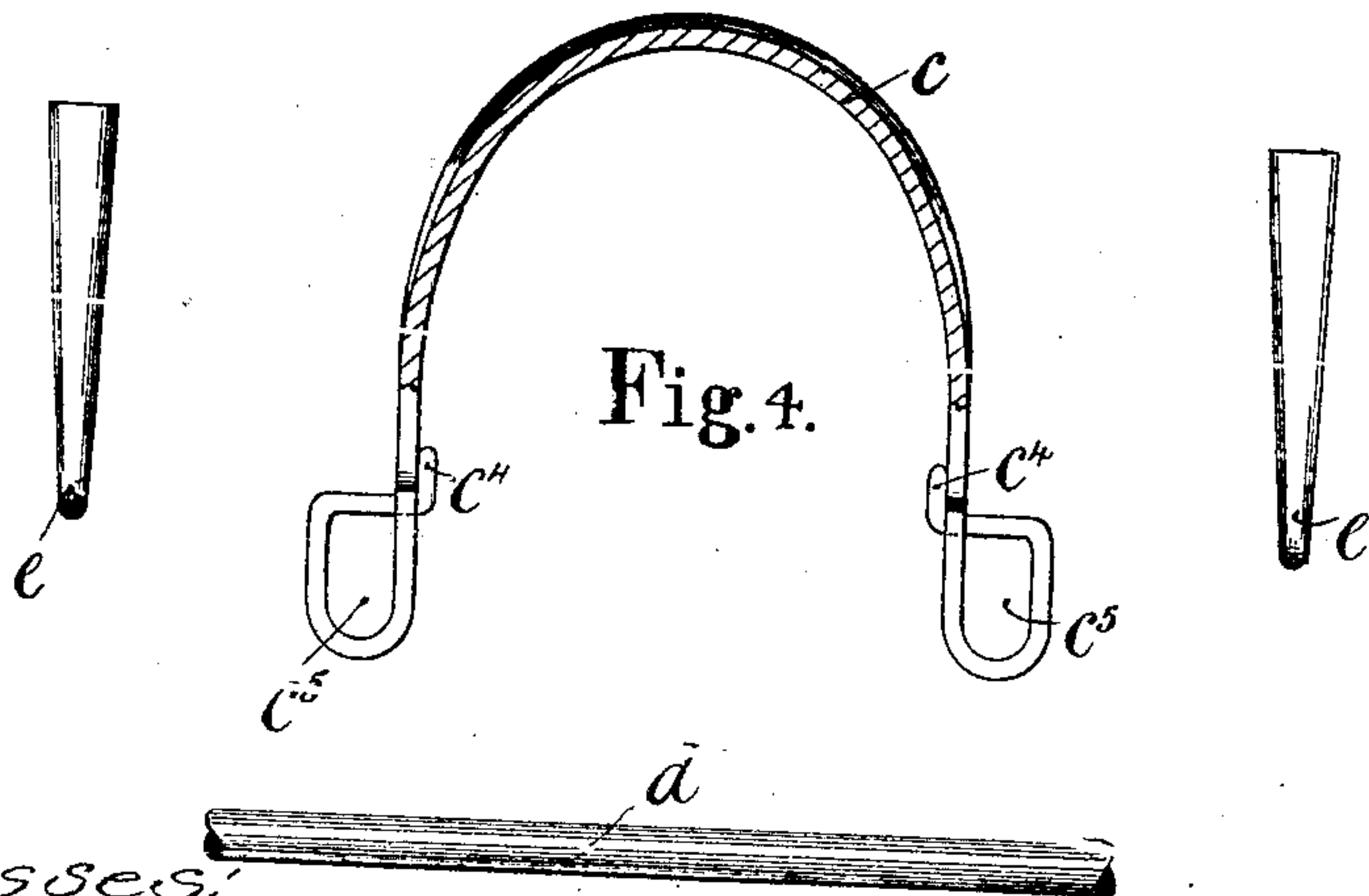
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2 SHEETS—SHEET 2.



*Fig. 3.*



**Fig. 4.**

Witnesses:

*[Signature]*

*[Signature]*

Inventor  
William E. Bandfield

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James B. Norris

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# UNITED STATES PATENT OFFICE.

WILLIAM EDWARD BANDFIELD, OF WOLVERHAMPTON, ENGLAND.

ATTACHMENT OF TELEGRAPH AND SIMILAR LINE WIRES TO INSULATORS.

966,882.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed December 13, 1909. Serial No. 532,898.

*To all whom it may concern:*

Be it known that I, WILLIAM E. BANDFIELD, a subject of the King of Great Britain, residing at Wolverhampton, in the county of Stafford, England, have invented a new and useful Improvement in the Attachment of Telegraph and Similar Line Wires to Insulators, of which the following is a specification.

The present invention relates to the attachment of telegraph and similar line wires to insulators, and is comprised in the hereinafter described and claimed improvements providing a most simple and efficient means therefor. It is characterized by the employment of a substantially U-shaped flexible clip adapted to straddle the insulator and provided at its ends with forks wherein the line wire is introduced and clamped by wedges in such a manner that that portion thereof which extends between said forks is bound frictionally against the insulator, and the latter is gripped tightly by the clip, the increased tension of the clip being also caused by the action of the wedges. This construction results in the wire being perfectly supported, and held against all rattling and play.

The invention further comprehends the provision of a tie-bar for coupling the two wedges together, thereby precluding movement of the clip ends away from each other and consequent loosening of the clip.

A structural embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of an insulator showing the invention applied thereto. Fig. 2 is a transverse sectional view of Fig. 1. Fig. 3 is a side elevation at right angles to Fig. 1. Fig. 4 is a collective view of the clip and its wedges, the former being shown partly in section. A portion of the line wire is also illustrated in Fig. 4.

In said drawings, the clip is indicated generally by the letter *c*, and the insulator by the letter *a*, the latter element comprising a relatively large body portion *a*<sup>3</sup> and a reduced outer end portion *a*<sup>2</sup>, the two portions being separated, as is usual, by a transverse annular groove. Clip *c* is constructed from a suitably-shaped blank or strip of flexible metal, and its terminals *c*<sup>2</sup> are formed with elongated slots *c*<sup>3</sup>. After the formation of the slots, the strip or blank is

bent into U-shape. The slotted terminals *c*<sup>2</sup> are then doubled or folded upon themselves centrally of the slots, and the extreme ends *c*<sup>4</sup> thereof inserted rearwardly through said slots, and engaged behind the clip legs, as shown in Figs. 2 and 4, thereby providing a pair of closed boxes *c*<sup>5</sup> which receive the wedges *e*. The construction above described thus results in the formation of a pair of forks at the terminals of the clip for supporting the wire *d*, this being due to the slotting and bending of said terminals, and, in addition, of the wedge-receiving boxes already mentioned. By reason of the fact that the said terminals are bent or folded centrally of the slots, the ends of the resulting forks are open, and hence the line wire may be introduced between the fork legs, as will be apparent.

In applying the invention, the clip is fitted or sprung into the groove between the portions *a*<sup>2</sup> and *a*<sup>3</sup> of the insulator, so as to straddle the latter and grip the wall of said groove. The line wire is next introduced between the fork legs, after which the wedges are inserted in the boxes *c*<sup>5</sup> and driven home. During the movement of the wedges into place, the wire will be forced inwardly of the forks, and against the crotches at the inner ends thereof, or, in other words, against the inwardly-directed ends of the clip terminals. The action of the wedges will also cause the wire to bind tightly against the adjacent portion of the groove wall, said wire bowing or buckling slightly at such time, as shown in Fig. 2, by reason of the convexity of the wall in question, and also by reason of the fact that said wall projects beyond the plane of the above mentioned inwardly-directed ends, so that an imaginary line connecting said ends would intersect the grooved portion of the insulator as a chord, rather than as a tangent. This arrangement directly affects the clips, since the bowing of the wire causes the clip legs to approach each other more closely, and thus to more tightly grip the insulator. As a result, the wire will be perfectly supported, both by the clip and by its frictional binding against the insulator, and all play and rattling will be avoided. Also the clip itself will be caused to grip the insulator with increased tension. In brief, the wedges are utilized to retain the wire in the forks, and to bind said wire against the insulator,



and the resultant bowing or buckling is utilized to increase the tension of the clip. To prevent loosening or weakening of this tension, due to movement of the clip legs away from each other from any possible cause, it may be desirable, under some circumstances, to couple the wedges together. This may be effected by means of a tie-bar or equivalent device  $\alpha$  formed with openings through which said wedges are forced when driven into place.

Further description of the invention, its manner of application, and its advantages, is deemed unnecessary.

I claim as my invention:

1. In a line wire support, the combination, with an insulator, of a clip engaged therewith and provided with wire-receiving seats at its terminals, and devices engaged with the wire at such points for binding the same frictionally against the insulator and for bending it at its point of contact with said insulator, to tighten said clip against the latter.
2. In a line wire support, the combination, with an insulator, of a flexible clip straddling the same and provided with wire-receiving seats at its terminals, and wedges engaged with the wire at said seats for retaining said wire therein and for binding the same frictionally against the insulator and bowing it at its point of contact with the

latter, to tighten said clip against said insulator.

3. In a line wire support, the combination, with an insulator, of a flexible clip straddling the same and provided at its terminals with wire-receiving seats, and with wedge-boxes intersecting the same, and wedges inserted in said boxes for retaining said wire in said seats, and for binding the same frictionally against the insulator and bowing it at its point of contact with the latter, to tighten said clip against said insulator.

4. In a line wire support, the combination, with an insulator, of a clip attached thereto and provided with wire-receiving seats at its terminals, retaining devices engaged with the wire at such points, and a member coupling said devices together.

5. In a line wire support, the combination, with an insulator, of a U-shaped clip straddling the same and provided with wire-receiving seats at its terminals, retaining devices engaged with the wire at such points, and a member connecting said devices together for preventing separation of the legs of said clip.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILLIAM EDWARD BANDFIELD.

Witnesses:

GEO. FUERY,  
F. A. BINNS.