

J. A. GUTHRIE.
INSULATOR.

APPLICATION FILED JULY 24, 1911.

Patented Apr. 2, 1912.

2 SHEETS—SHEET 1.

1,022,026.

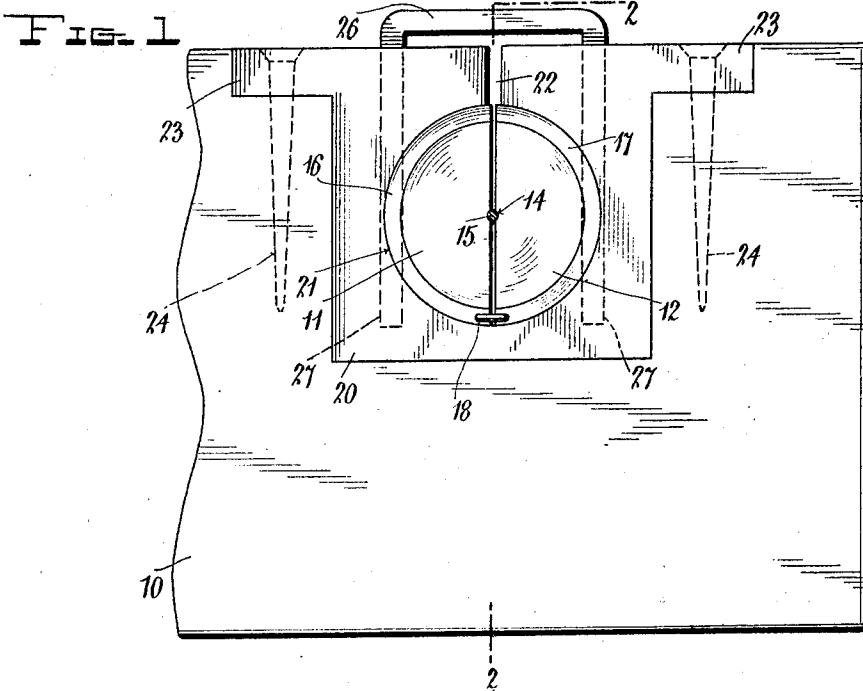
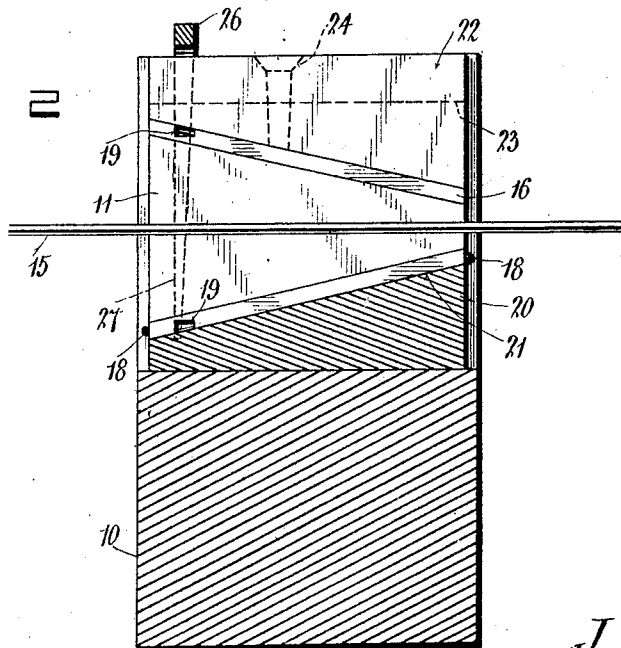


FIG. 2



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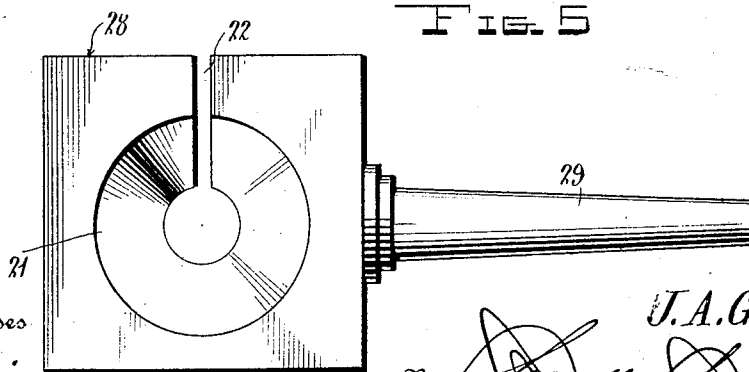
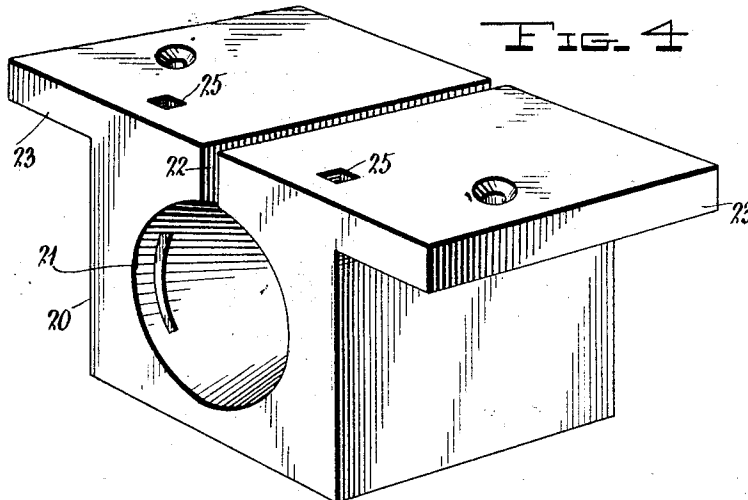
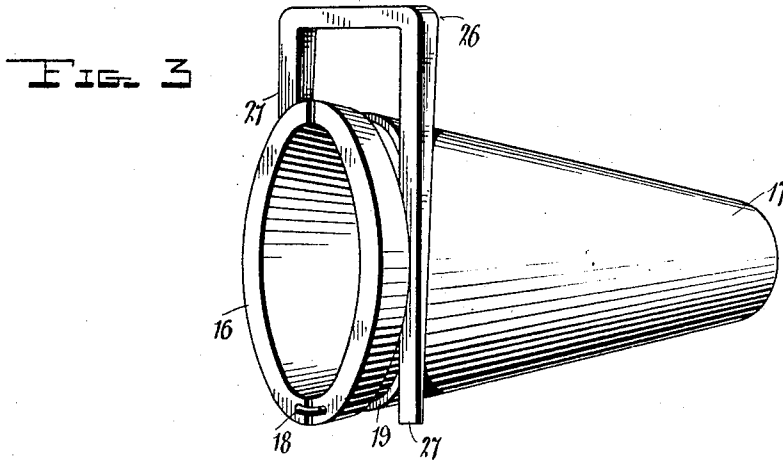
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UNITED STATES PATENT OFFICE.

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INSULATOR.

1,022,026.

Specification of Letters Patent.

Patented Apr. 2, 1912.

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To all whom it may concern:

Be it known that I, JOSEPH A. GUTHRIE, a citizen of the United States, residing at Little Rock, in the county of Pulaski, State of Arkansas, have invented certain new and useful Improvements in Insulators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to insulators, and has for an object to provide a device of this character that will permit of slack being taken up in the supported wire from time to time without removing any of the parts of the device.

A second object of the invention is to provide an insulator having a substantially frusto-conical porcelain or like insulating element formed of mating clamping halves, this element being surrounded by a metallic clamping element which forms a protecting housing over the porcelain.

A still further object of the invention is to provide an insulator in which the insulating element surrounding the frusto-conical clamping member snugly fits in the tapered bore of a securing socket, a novel staple like key being employed to lock the parts together, this key permitting of the insulating element and the clamping element opening to a slight extent when the key is partly withdrawn from its seat, so that the supported wire may be pulled by the line man and slack taken up.

With the above objects in view, the invention consists in the novel details of construction and the combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the form, proportion, and minor details of construction within the scope of the appended claims.

In the accompanying drawings forming a part of this specification, Figure 1 is a front elevation of an insulator embodying my improvements applied to a cross arm, Fig. 2 is a cross sectional view taken on the line 2-2 of Fig. 1, Fig. 3 is a detail perspective view of the clamping element with the key applied thereto, Fig. 4 is a detail perspective view of the socket member, Fig. 5 is a front elevation of a modified form of insulator socket element.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates a cross arm.

The insulator comprising the subject matter of this invention consists of a substantially frusto-conical porcelain or like insulating element formed of mating clamping halves 11 and 12. The halves are provided with grooves which coöperate in forming an opening 14 for the reception of the conductor wire 15. A substantially frusto-conical shell or clamping element formed of mating halves 16 and 17 surrounds the insulating element. The clamping element is preferably constructed of metal and forms a protecting housing over the insulating element. Substantially U-shaped hinges 18 are arranged on the end edges and connect the clamping member halves. When rocked open, the clamping member halves permit of the porcelain insulating member halves moving slightly apart so that the conductor wire may be pulled through the insulating element from the smaller toward the larger end thereof and thus slack taken up in the wire from time to time. The halves of the clamping element are provided with peripheral grooves which coöperate in forming an annular key slot 19 adjacent to the larger end of the clamping element.

A substantially squared socket element 20 is provided axially with a tapered bore 21 which is adapted to snugly receive the frusto-conical clamping element, and furthermore the socket element is provided with a saw kerf or slit 22 which communicates with the tapered bore and permits of the socket element being forced into tight frictional engagement with the clamping element upon driving home of a key which is about to be described. Formed on opposite sides of the socket member are lugs 23 through which securing screws 24 are passed, these screws being engaged in the cross arm 10, it being understood that the latter is cut away to receive the socket element so that the top face of the socket element is flush with the top face of the cross arm.

Formed in the socket member on opposite sides of the slit 22 are tapered openings 25. A substantially U-shaped key 26 is provided with tapered legs 27 which fit in the openings 25 and engage in the annular key slot 19 of the clamping element. Upon

driving home of this key, the halves of the clamping element are tightly clamped against the porcelain insulating element, and the socket element is forced to bind
 5 tightly against the clamping member so that all of the parts are rigidly locked together. When it is desired to take up slack in the supported wire the key is backed out slightly and permits of the halves of the
 10 clamping element opening to a slight extent and further permits of the porcelain insulating element halves moving apart so that the wire may be drawn forwardly therebetween. When the slack has been
 15 taken up, and the lineman releases the wire, the tension of the wire will cause the porcelain clamping element to move rearwardly or toward the smaller end of the clamping element and the clamping element to move
 20 rearwardly or toward the smaller end of the socket element and in this manner all of the parts move into tight frictional engagement with each other. The key is now driven home and as above described clamps
 25 all the parts in rigid relative position.

A modification of the clamp socket element is shown in Fig. 5. The socket element is designated by the number 28 and is formed as above described with the exception that the lugs 23 are dispensed with
 30 and the socket element is equipped on one side with a spike 29 which is designed to

be embedded in the head of a pole or the like.

What is claimed is:

1. An insulator including a substantially frusto-conical element formed of insulating material, and comprising mating halves, a substantially frusto-conical clamping element formed of mating halves surrounding
 40 the insulating element, and provided with a key slot, a socket element provided with a tapered bore adapted to snugly receive said clamping element, and a key engaged through said socket element and fitting in
 45 said key slot.

2. An insulator including a substantially frusto-conical insulation element formed of mating halves, a substantially frusto-conical clamping element formed of mating
 50 halves surrounding said insulation element and provided with a peripheral key slot, a socket element provided with a tapered bore adapted to receive said clamping element, and provided with spaced key openings,
 55 and a substantially U-shaped key having legs engaged through said openings and seated in said key slot.

In testimony whereof, I affix my signature, in presence of two witnesses.

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Witnesses:

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J. W. STUBBS.