(No Model.)

F. E. KEYES.

INSULATOR FOR ELECTRICAL WIRES.

No. 383,734. Patented May 29, 1888.

Fig-1-

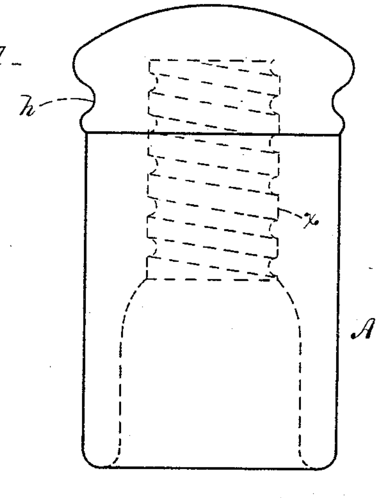


Fig-2-

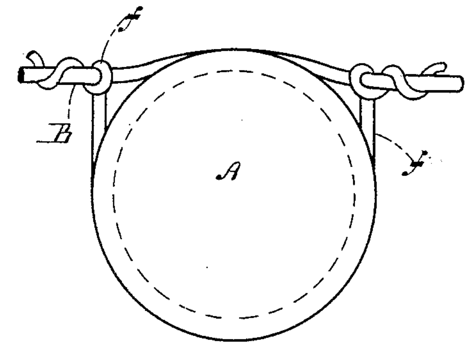


Fig-3-

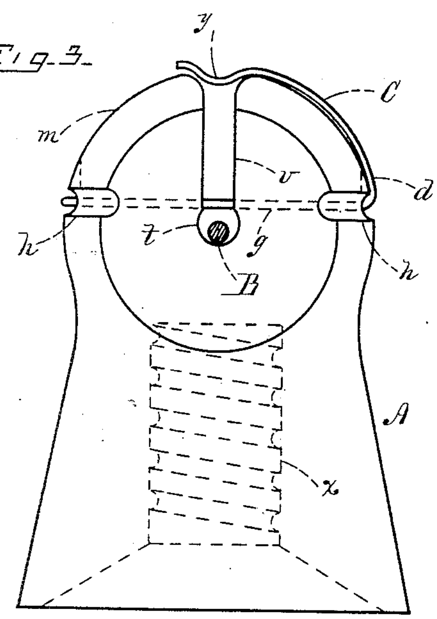


Fig-4-

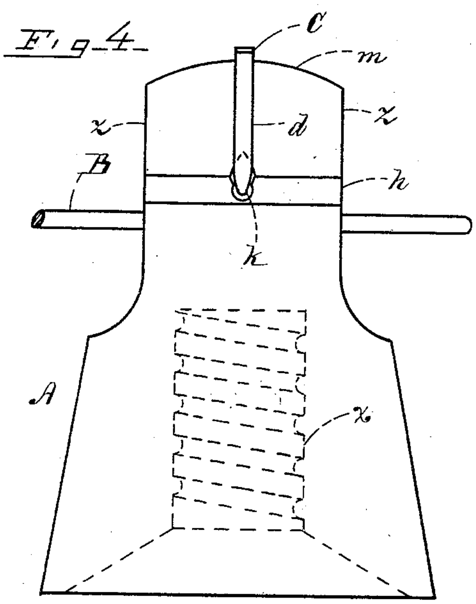
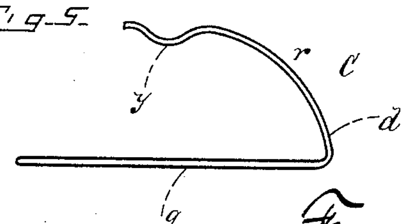


Fig-5-



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FRANK E. KEYES, OF PETERBOROUGH, NEW HAMPSHIRE.

INSULATOR FOR ELECTRICAL WIRES.

SPECIFICATION forming part of Letters Patent No. 383,734, dated May 29, 1888.

Application filed February 3, 1888. Serial No. 262,856. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. KEYES, of Peterborough, in the county of Hillsborough, State of New Hampshire, have invented a certain new and useful Improvement in Insulators for Electrical Wires, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a glass insulator now in ordinary use; Fig. 2, a top plan view of the same, showing the method of attaching the wires; Fig. 3, a side elevation of my improved insulator; Fig. 4, an end elevation of the same, and Fig. 5 a view of the fastener.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates more especially to that class of insulators which are employed for supporting telegraph, telephone, and electric-light wires; and it consists in the novel features herein set forth and claimed, the object being to produce a simpler and more effective article of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body of the insulator, B the wire, and C the fastener.

The body A is preferably composed of compressed wood pulp, commonly known as "indurated fiber," although my improvement is equally adapted for use with insulators composed of glass or other non-conductors of electricity.

The body A is of the same general form as the insulators in common use, and is interiorly screw-threaded at *x*, to adapt it to be readily attached to the arms of a telegraph-pole in the usual manner.

The top of the body A is rounded at *m* and has its sides flattened, as shown at *z* in Fig. 4. A vertically-arranged lateral slot, *v*, is formed in said top, (see Fig. 3,) said slot being of sufficient size to allow the wire B to pass through it and rest in its inner or lower end, *t*, which is slightly enlarged and circular in cross-section. A transversely-arranged hole, *k*, passes through the top of the body A at right angles to the slot *v* and just above the rounded portion *t* thereof.

The fastener C consists of a piece of elastic wire, which is bent at *d* to form the arm *r*. This arm conforms nearly with the curved top of the body, and is provided with an indentation or bend, *y*, near its free end, adapted to fit into the top of the slot *v*, where it is held by the "spring" or elastic action of said arm, thereby keeping the fastener in position when in use. The body A is also provided with a transverse groove, *h*, at each end of the hole *k*, the purpose of said grooves being to enable the wire B to be attached to the insulator in the usual manner, should it become necessary.

The ordinary means for attaching the wire B is by a short wire, *f*, (see Fig. 2,) which is passed around the top of the insulator in the groove *h*, and has its ends twisted around the wire B to hold it in position. In using this method it is exceedingly difficult to draw the wires taut between the supporting-poles. Moreover, the binding-wires *f* greatly weaken and divert the electric current, which is discharged from the ends of said wires to a greater or less extent, in accordance with the state of the atmosphere.

In the use of my improvement the body A is screwed onto the arm of the telegraph-pole in the usual manner, and the wire B passed through the vertical slot *v* and permitted to rest in the enlarged portion *t*. The straight portion or body *g* of the fastener C is then inserted in the hole *k* and the bend *y* forced over the curved top *m* of the body until it springs into the top of the slot *v*, thus preventing the wire B from becoming accidentally removed from said slot.

It will readily be seen that as the metallic fastener C does not come into contact with the wire B the electrical current will not be interfered with or dissipated. Furthermore, the wire B can be drawn much tighter between the poles when not bent around the insulator, as shown in Fig. 2, and by enlarging the slot *v*, as shown at *t*, the wire is permitted consid-

erable lateral motion or "play" without danger of breaking the insulator, as frequently happens when it is fastened in the ordinary manner.

Having thus explained my invention, what I claim is—

1. In an insulator, the body A, having the slot *v* and hole *k*, in combination with the fastener C, inserted in said hole and provided with the arm *r*, substantially as described.

2. In an insulator, the fastener C, having the arm *r* and bend *y*, in combination with the body A, having the slot *v* and hole *k*, substantially as set forth.

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