(No Model.)

W. P. SEIBERT.

SPAN WIRE INSULATOR.

No. 456,600. Patented July 28, 1891.

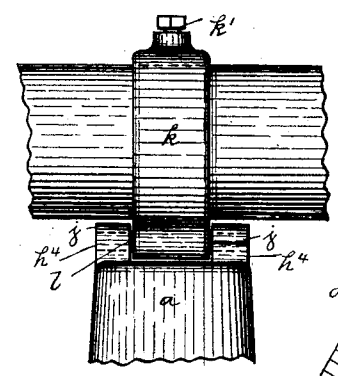


Fig. 4.

Fig. 1.

Fig. 5.

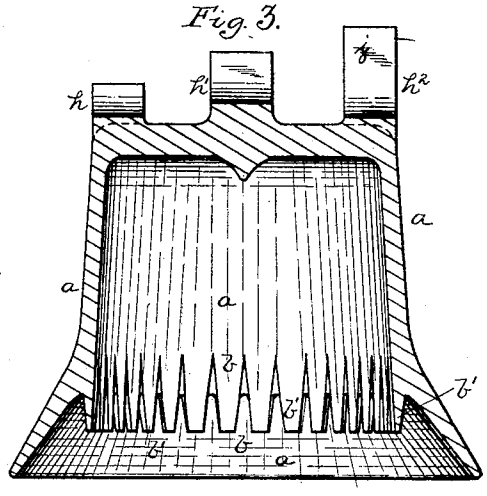
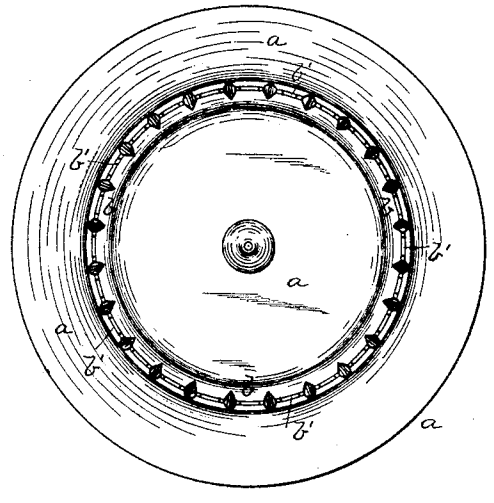


Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM P. SEIBERT, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO WALTER S. JARBOE AND JOHN WHITE, OF SAME PLACE.

SPAN-WIRE INSULATOR.

SPECIFICATION forming part of Letters Patent No. 456,600, dated July 28, 1891.

Application filed December 13, 1890. Serial No. 374,611. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. SEIBERT, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Span-Wire Insulators; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to insulators, and more especially to what are commonly known as "span-wire insulators," employed in connection with the operation of the overhead systems of electric railways, and which provide for the insulation of the span-wire from which the trolley-wire is suspended. Since these insulators are directly exposed to all kinds of weather, they usually consist of a casing of metal within which the block of insulating material is secured. To secure the block within said casing it has been customary to either have the insulating-block engage directly with the interiorly-threaded face of the casing or by simply inserting the insulating-block within the casing to provide for its retention therein by a nut or collar engaging with the casing at the mouth thereof. This construction necessitates the formation of threads either upon the insulating-block or the casing, and thereby increases the cost of these insulators, while at the same time the threads on the block—such as a wooden block or one of gutta-percha—soon wear away and shorten the life of the insulator.

The object of my invention therefore is to simplify the construction of these insulators and do away with threaded connections of any kind, thus diminishing the cost of manufacture of these insulators.

To these ends my invention comprises, generally stated, an insulator consisting of an outer casing of suitable metal, having a series of teeth or projections formed around the mouth thereof, said teeth engaging with a block of insulating material contained within said casing and acting to retain said block within said casing.

My invention further consists in certain other improvements, all of which will be more fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved insulator, showing the teeth engaging with the insulating-block. Fig. 2 is a bottom view. Fig. 3 is a view of an empty casing before the teeth have been bent to engage the block. Figs. 4 and 5 show a modified form of insulator.

Like letters indicate like parts.

The casing *a* may be formed of any suitable metal, such as malleable iron or white metal, and is preferably cast bell-shaped, as shown, in order to shed readily any water falling thereon. Within the casing *a*, and preferably just beyond the flaring mouth thereof, the serrated edge *b* is formed, consisting of the teeth *b'*, normally vertical, as shown in Fig. 3. Within the casing *a* the insulating-block *c* is inserted, said block being constructed of wood, gutta-percha, or other suitable insulating material formed of a shape corresponding to the interior configuration of said casing in order to fit snugly therein.

When the block *c* has been inserted within the casing *a*, the series of vertical teeth *b'* of the serrated edge *b* are then bent over to a practically horizontal position, as shown in Fig. 1, when they engage the said insulating-block *c* and prevent said block from falling from said casing, retaining it securely therein. The teeth *b'* being formed of some rigid yet flexible metal—such as malleable iron—when bent to retain the insulating-block *c* they form a secure support for said block, thus avoiding the employment of any threaded connection.

To provide for the connection of the insulating-block *c* with the depending link or fin *d*, which supports the trolley-wire *e*, I prefer to employ the device illustrated and described in an application filed on the 28th day of November, 1890, Serial No. 372,784, of which I am a joint inventor. This device consists of the pins *f f'*, entering transversely within the insulating-block *c* and joined at their outer ends to form the connection *g*, to which the link or pin *d* is attached. This construction provides a very secure and rigid connection for the depending link *d*; but any other form of connection may be employed.

The top of the casing a is cast solid, with no openings therein for the entrance of water, and upon said top are formed the chairs $h\,h'\,h^2$, within which the span-wire i rests. The outer chairs $h\,h^2$ are provided with the tongues j, (said tongues being formed on opposite sides of the chairs $h\,h^2$, respectively,) and being formed of a flexible metal they may be bent over to encircle the span-wire or supporting-lugs, thus providing for the suspension of the insulator from the span-wire i without the employment of the customary yoke heretofore generally used. Where the insulator is suspended from a post or bracket-arm I employ the collar k, which is adapted to fit around the same and be secured thereto by the set-screw k' and which is hinged to the casing a preferably by lugs l, extending out from the collar, around which the tongues j of the chairs h^4 are bent.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An electric insulator formed of an outer casing having a series of teeth or projections formed around the mouth thereof, and an insulating-block with which said teeth engage, substantially as and for the purposes set forth.

2. An electric insulator formed of a casing having an insulating-block secured therein, said casing having chairs formed integral therewith at the top thereof and provided with tongues and adapted to be bent over the supporting wire or lug, substantially as and for the purposes set forth.

3. In electric insulators, the combination of a casing having an insulating-block secured therein, and a supporting-collar adapted to fit around a post or bracket-arm and to which such casing is hinged, substantially as and for the purposes set forth.

In testimony whereof I, the said WILLIAM P. SEIBERT, have hereunto set my hand.

WILLIAM P. SEIBERT.

Witnesses:

ROBT. D. TOTTEN,

J. N. COOKE.