

(No Model.)

C. W. STEPHEN.
INSULATOR PIN.

No. 548,669.

Patented Oct. 29, 1895.

Fig. 1.

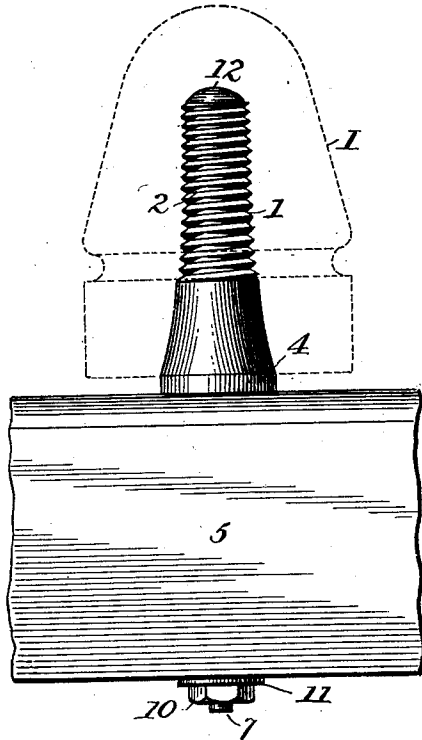
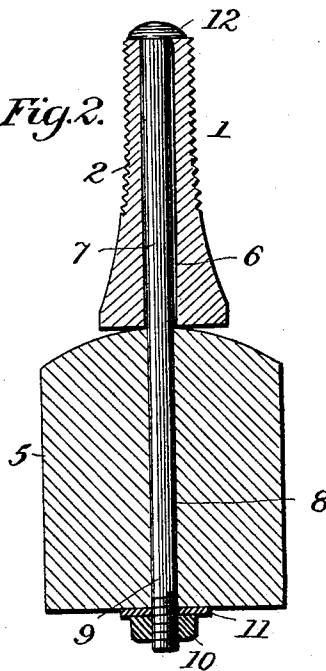


Fig. 2.



Witnesses
J. A. Hinkel
J. A. Langrune

Inventor
Charles W. Stephen
by *Foster & Freeman*
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES WM. STEPHEN, OF CAMDEN, NEW JERSEY.

INSULATOR-PIN.

SPECIFICATION forming part of Letters Patent No. 548,669, dated October 29, 1895.

Application filed February 9, 1895. Serial No. 537,795. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WM. STEPHEN, a citizen of the United States, residing at Camden, Camden county, State of New Jersey, have invented certain new and useful Improvements in Insulator-Pins, of which the following is a specification.

My invention relates to insulators for electric conductors, and has for its object to improve and simplify the construction of these devices; and it consists in an insulator embodying the features substantially as herein-after more particularly set forth.

Referring to the accompanying drawings, Figure 1 is a side view of a portion of a cross-bar with my improved insulator; and Fig. 2 is a transverse vertical section of the same.

Many and various devices have been made for the purpose of supporting electric conductors, and without attempting to set forth the prior state of the art I will say that the main object of my invention is to provide an exceedingly simple, cheap, and effective insulator, which shall not only have the capacity of performing the ordinary functions and accomplishing the results intended for such insulators, but shall be substantial, durable, simple of construction and application, and capable of being furnished at a minimum price. In the ordinary use of these insulators it is common to attach a number to a cross-bar, which may be supported on a pole or otherwise, and it is usual to bore or otherwise provide holes in the cross-bar into which the insulator-pins are screwed, and these pins are arranged to support the insulator-cap, or what may be more properly termed the "insulator" itself, and which is usually made of glass or similar material, to which the conductor is attached. Heretofore it has been common to make a hole of considerable size in the cross-piece, which not only weakens the cross-piece, requiring it to be larger and heavier in order to secure the proper strength, but it has other disadvantages. Usually the pins are screwed directly into these holes, although it has been suggested that the pins might be attached to the bars by means of bolts, rods, or other devices, but these so far have been open to some objections, which it is not necessary to set forth herein, and which it is one

of the objects of my present invention to overcome.

In carrying out my invention one of the leading ideas has been to make the opening or hole in the cross-piece as small as possible, to make the pin proper of some cheap yet substantial material, and to securely attach it to the cross-piece by means which are simple in themselves, readily applied and durable, and which at the same time furnish the best protection against any leakage or other disturbance to the electric current passing over the conductors.

In carrying out my invention I provide an insulator-pin 1, which is in the form of a cylinder or sleeve, and which may consist of various insulating materials, but is preferably made of dry, well-seasoned wood, and is provided with screw-threads or grooves 2 at its upper portion for the reception of the insulator I. This pin is enlarged toward its base, as at 4, so as to furnish a broad seat for the pin upon the upper side of the cross-bar 5. The pin or sleeve is provided with a central longitudinal opening or bore 6, which is of uniform diameter throughout, and is adapted to receive a metallic bolt 7, by means of which the pin is secured to the cross-bar, it passing through the opening 8 in the latter. The bolt is screw-threaded at one end, as 9, to receive a nut 10 and washer 11, and the upper end of the bolt is formed with a head or cap 12, which rests upon and practically covers the upper end of the pin 1.

Heretofore the use of wooden pins has been found expensive and disadvantageous owing to the fact that they are liable to split or crack, being exposed to the elements, and in order to prevent such splitting I make the opening or hole through the pin slightly larger than the pin itself. Thus, for instance, I find that in practice a convenient size for the bolt 7 is one-half inch in diameter, and I preferably make the opening or hole through the pin one-sixteenth of an inch larger in diameter—as, for instance, nine-sixteenths of an inch—and this I find sufficient to prevent the pin from spitting in its expansion and contraction under the influence of the elements. Furthermore, this metallic bolt or pin fits the opening 8 in the cross-piece somewhat loosely,

so that there is little or no danger of its splitting, and still I am enabled to provide a minimum-sized hole in the cross-bar in order to get a substantial support for the pin. Furthermore, the head 12 of the bolt practically covering the upper end of the pin 1 also tends to prevent its splitting, and even if it should split or crack, by properly tightening the nut 10, so that the pin is held tightly against the upper surface of the cross-bar, the parts of the split pin will practically be held in position between the upper surface of said cross-bar and the head of the bolt. It will be seen that this construction is of such a nature that the parts can be supplied at a minimum cost, that they can be put together quickly and easily, and when the parts are in place and secured tightly together an exceedingly stiff and rigid pin is provided, and all the parts can be of a relatively-small size and still provide the necessary strength and rigidity to properly support the line-conductor, as all the parts co-operate together in producing this rigidity and aiding in giving strength to each other. Furthermore, it will be seen that if perchance the insulator I should become broken or for any other reason it were desired to be changed it can readily be un-

screwed and another one applied without disturbing the pin in its position or in any way tending to loosen its connection to the cross-bar.

Other practical advantages will readily suggest themselves to those skilled in the art, and I may say that in actual use I have found this pin to meet the requirements of the art in the most satisfactory manner.

What I claim is—

An insulator pin, comprising a tapering sleeve of insulating material having an external thread to receive the insulator cap, and provided with a longitudinal opening, a bolt passing through the sleeve and cross-bar and having a head resting upon the upper end of the sleeve, and a nut for tightening the bolt and sleeve in place, the opening in the sleeve being slightly larger than the bolt, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES WM. STEPHEN.

Witnesses:

SILAS W. VOLK,
ROBT. R. VOLK.