

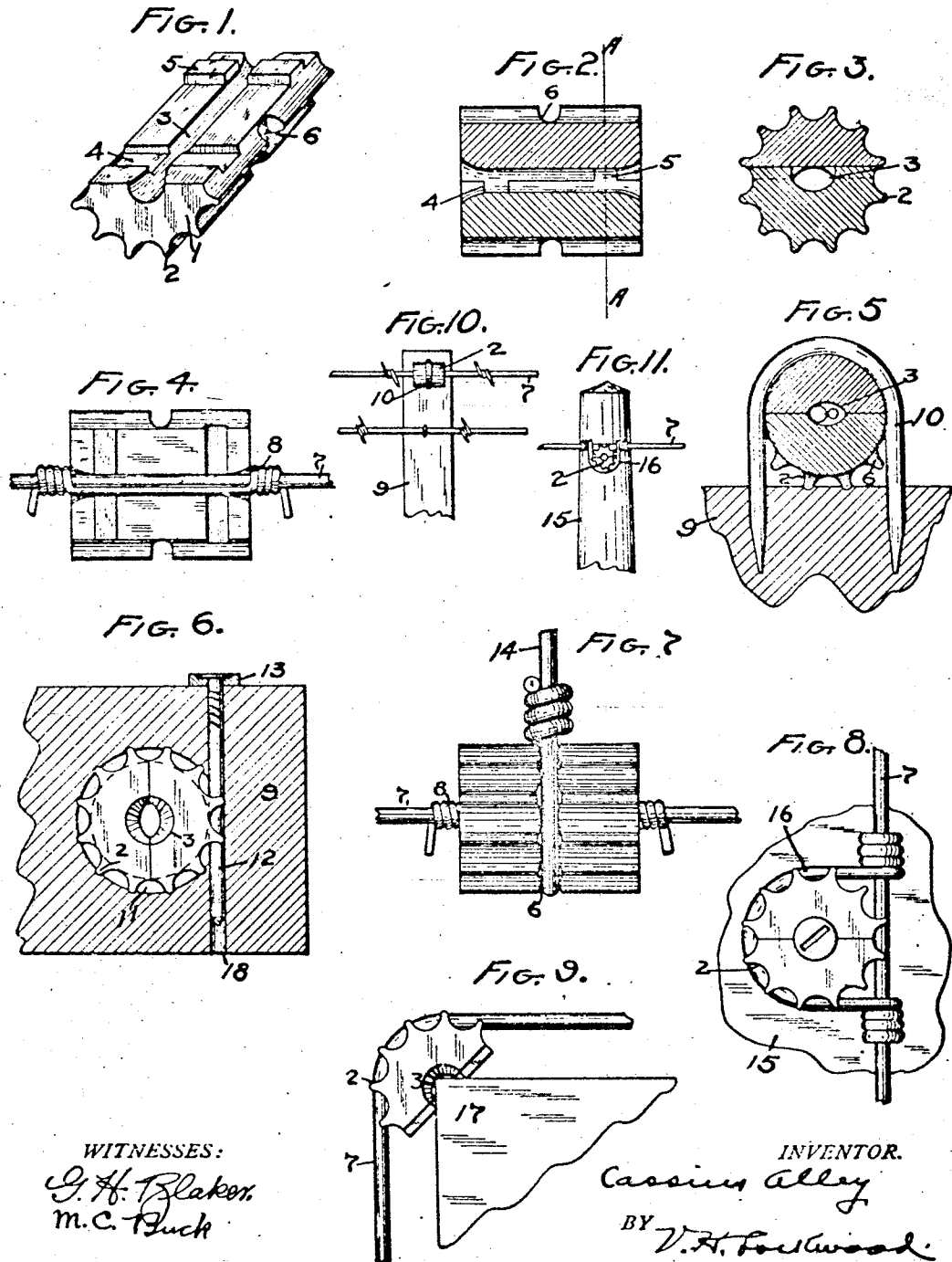
No. 660,140.

Patented Oct. 23, 1900.

C. ALLEY.
INSULATOR.

(Application filed Apr. 9, 1900.)

(No Model.)



WITNESSES:
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INSULATOR.

SPECIFICATION forming part of Letters Patent No. 660,140, dated October 23, 1900.

Application filed April 9, 1900. Serial No. 12,083. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS ALLEY, of Pendleton, county of Madison, and State of Indiana, have invented a certain new and useful Insulator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

This invention relates to insulators for mounting electrical wires for telegraph, telephone, or other use.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a perspective of one-half of said insulator. Fig. 2 is a longitudinal central section of the insulator complete. Fig. 3 is a section on the line A A of Fig. 2. Fig. 4 is a plan of one-half of the insulator with the wire mounted thereon. Fig. 5 is a central cross-section of the insulator secured in place by a staple. Fig. 6 is an end view of the insulator mounted in place and held by a nail. Fig. 7 shows the insulator suspended by a wire. Fig. 8 shows the main wire mounted on the insulator by a loop-wire instead of extending centrally through it. Fig. 9 shows the manner of applying one-half of the insulator to the corner of a building or block about which the main wire extends. Fig. 10 shows the manner of stringing a fence-wire. Fig. 11 shows the manner of stringing a wire directly to the top of a pole.

Referring now to the details of form and construction of said insulator and to the means and manner of mounting the same and applying it to actual use, 1 represents one of the halves of said insulator, which is made of glass, porcelain, or other insulating material. It consists of a corrugated outer surface having the recesses 2 for the purpose of obtaining greater insulation. Extending centrally and longitudinally through the inner flat face of said half of the insulator there is a semi-elliptical groove 3, flaring semicircular at its ends. Across said flat surface at the end there are recesses 4 and near the opposite end lugs 5 of such dimensions as to fit snugly in recesses of the same size as said recesses 4. Around the half of the insulator a groove

6 is placed about centrally between the two ends.

The half described in the above paragraph constitutes the article of manufacture and sale embodied in this invention. In use generally two of such parts or halves are placed with their flat faces together and with the lugs 5 on each half fitting in the corresponding grooves 4 on the other half. This holds them from independent longitudinal movement, as appears in Fig. 2. When the two halves are thus placed together, the longitudinal grooves 3 register with each other and form an elliptical passage-way centrally through the insulator as a whole, as seen in Figs. 2, 3, and 5.

In the most common method of using such insulator the two halves thereof are placed about the main wire 7, as seen in Fig. 4, and a small tie-wire 8 inserted through the hole 3 and coiled at each end about the main wire to provide stops to limit the longitudinal movement of the wire 7 through the insulator. The ends of the tie-wire are turned down to prevent the water running along the main wire through the insulator. The insulator is secured to the cross-arm 9 by providing said cross-arm with an opening 11 through it large enough to insert the insulator and then inserting a nail 12 in the hole 18 in the cross-arm, so that it will rest in the groove 6 on the side of the insulator, as appears in Fig. 6. As there shown, an insulating-washer 13 is provided for the head of the nail. The corrugations on the insulator permit their being easily driven in if they vary somewhat in dimension, as the wood will yield for the ribs of the insulator. This means or method of mounting the insulator is very rapid and cheap. No trouble is required in placing the insulator, as both halves are alike and can be instantly put in place about the wire. Furthermore, the insulator furnishes a strong and easy support for the wire, as the latter extends longitudinally and centrally through the insulator. When the insulator is mounted, as shown in Fig. 6, it is protected from destruction. Also the water will drop off the wire when arranged as shown in Figs. 4 and 7 without going in or entering the insulator. When in the po-

sition shown in Fig. 6, it leaves the cross-arm smooth for standing or sitting positions of linemen. There are other advantages, which, however, it is needless here to suggest to those skilled in the art of stringing telephone and telegraph wires.

In Fig. 7 a means for suspending the insulator from a tree or other object is shown. It consists merely of a wire 14, coiled once about the insulator, fitting in the groove 6 and attached at the other end to the means of support, whatever that may be. This illustrates a great advantage of the insulator herein shown.

In Figs. 5 and 10 a means and method is shown for stringing fence-wires for telephone use, as is quite common now. The insulator is held to the post 9 by a staple 10, that surrounds the insulator, and the barbed fence-wire 7 extends through the insulator. By making the insulator of two parts it is possible thus to string a barbed wire.

Figs. 8 and 11 show a means and method of mounting a wire directly to a pole. There the insulator is secured to the pole 15 or other support by a screw centrally through it, and the telephone-wire 7 is held horizontally in the groove 6 at one side against the insulator by a loop-wire 16, that fits about the insulator in the groove 6.

In Fig. 9 there is shown a means and method of supporting a telephone-wire from the right-angled corner of a building or block, where the wire turns the corner. It is useful also for stringing the interior of buildings. There only one-half the insulator is used. The groove 3 fits on the corner of the block 17, and the wire extends on the outside of the insulator, fitting in the groove 6.

It is obvious, therefore, from the description given of the form and uses of said insulator that it is an important advance in the art because of its cheapness, simplicity, ease of manipulation, and extensive adaptability to the various needs of persons stringing electric wires. It effects quite a saving in tie-wires. By making the passage-way 3 through the insulator elliptical in cross-section about midway between the ends of the passage-way the tie-wire cannot revolve around the main wire while the tie-wire is being coiled or at any other time. With this arrangement the tie-wire will remain always in the position in

which it is left, and the ends of the tie-wire are turned down to prevent water entering the insulator. The elliptical form of the passage-way through the insulator will retain the tie-wire in such position. Also by making the ends of the passage-way 3 flaring and preferably round the insulator can be held in the hole 11 in the cross-arm without the use of the nail 12 or other means. This is because any pull on the wire through the insulator will cause the halves of the insulator to spread somewhat and bind it all the tighter to the cross-arm. This spread is caused by the coil of the tie-wire being drawn into the flaring end of the passage-way and tending to push the halves of the insulator apart, and it is preferable to so place the insulator in the cross-arm or other wooden support that the spread of the insulator would be in line with the grain of the wood, so as to prevent splitting the wood in which the insulator is mounted, as appears in Fig. 6.

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

1. An insulator provided with a passage-way through it, a conductor extending through said passage-way and a tie-wire extending through said passage-way with its ends coiled about the conductor near the ends of the insulator.

2. An insulator provided with a passage-way through it that is elliptical in cross-section, a conductor extending through the passage-way with its ends coiled about the conductor near the ends of the insulator whereby the tie-wire cannot revolve around the conductor.

3. An insulator provided with a passage-way through it that is elliptical in cross-section in its middle portion with its ends flaring, a conductor extending through the passage-way, and a tie-wire extending through said passage-way with its ends coiled about the conductor near the ends of the insulator and turned at their extremities.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

CASSIUS ALLEY.

Witnesses:

M. C. BUCK,
V. H. LOCKWOOD.