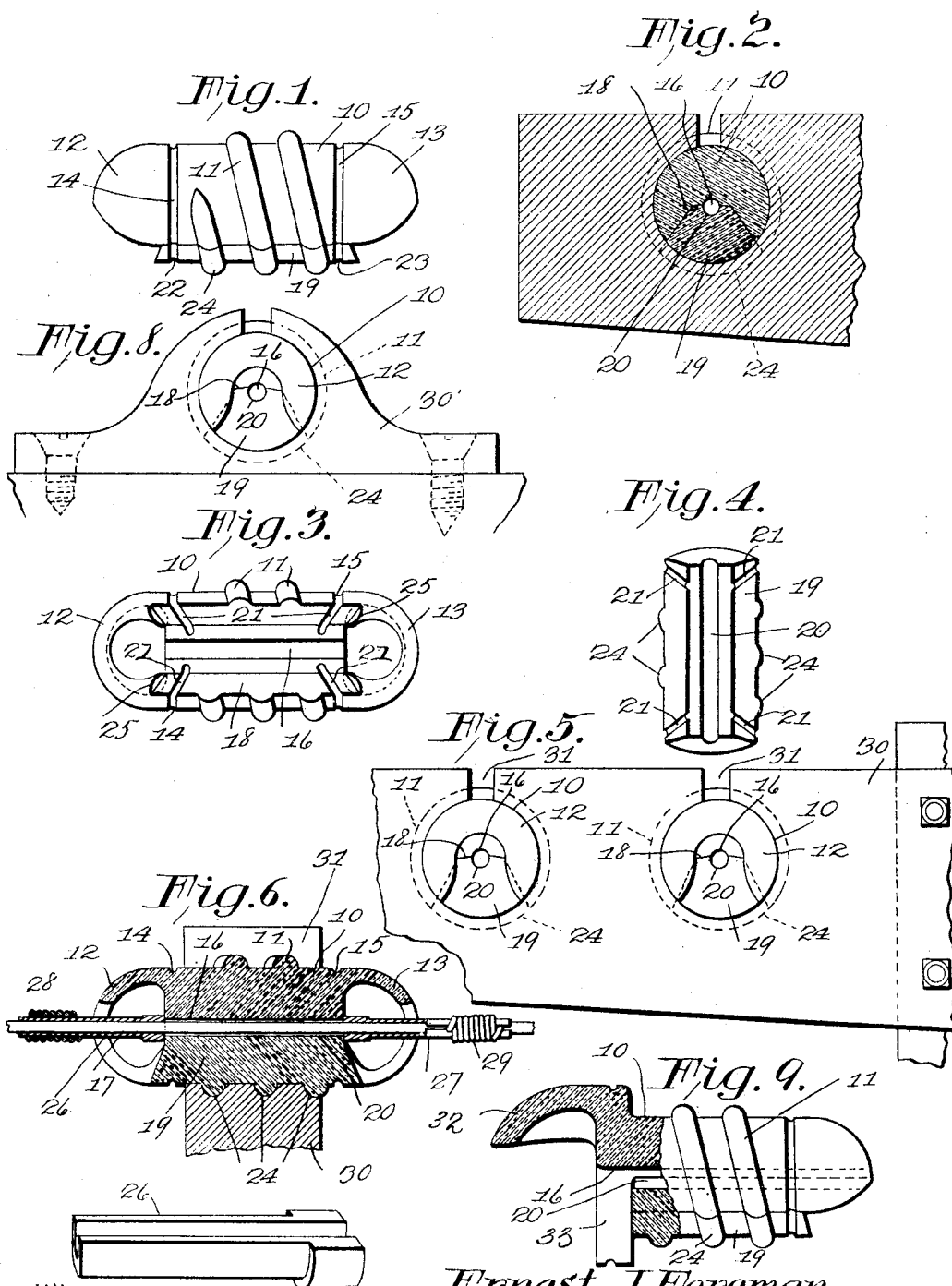


E. J. FOREMAN.

INSULATOR.

APPLICATION FILED MAR. 16. 1905.



Witnesses

E. J. Foreman
C. N. Woodward

Ernest J. Foreman, Inventor

by

C. A. Snow & Co.
 Attorneys

UNITED STATES PATENT OFFICE.

ERNEST JAY FOREMAN, OF TRINIDAD, COLORADO.

INSULATOR.

No. 799,726.

Specification of Letters Patent.

Patented Sept. 19, 1905.

Application filed March 16, 1905. Serial No. 250,482.

To all whom it may concern:

Be it known that I, ERNEST JAY FOREMAN, a citizen of the United States, residing at Trinidad, in the county of Las Animas and State of Colorado, have invented a new and useful Insulator, of which the following is a specification.

This invention relates to insulators for telegraph, telephone, and similar wires, and has for its object to improve the construction and increase the efficiency of devices of this character.

With this and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages.

In the drawings thus employed, Figure 1 is a side elevation of one of the improved insulators complete. Fig. 2 is a transverse section of the same disposed within its supporting member. Fig. 3 is a bottom plan view of the body portion of the device, and Fig. 4 is a top plan view of the member for engaging the recess of the body portion. Fig. 5 is a side elevation of a portion of the arm of a supporting-pole with two of the improved insulators disposed therein. Fig. 6 is a longitudinal sectional elevation of the improved insulator disposed in its supporting member and with the line-wire in position, together with the supporting means for the latter. Fig. 7 is an enlarged detached perspective view of one of the stop-sleeves. Fig. 8 is a view illustrating a modified form of the supporting member. Fig. 9 is a view, partially in section, illustrating the construction of the form of insulator employed at corners or sharp lateral bends in the conductor-wires.

The improved device comprises a body portion 10, cylindrical in form and with an open longitudinal recess along one side and with an external screw-thread 11 and hoods 12 13 ex-

tending from the ends, the body portion having drainage-channels 14 15 encircling the same between the hoods and body portion. A wire-receiving channel 16 is formed in the bottom of the recess and extending longitudinally of the same and of a depth less than one-half the wire (represented at 17) to be supported therein and with the walls 18 of the recess sloping in opposite directions from the channel, as indicated in Figs. 2, 5, and 8. A member 19, also of insulating material, is disposed within the recess in the body portion and formed with inclined sides corresponding to and bearing against the inclined surfaces of the recess and likewise provided with a longitudinal channel 20 of greater depth than one-half the diameter of the wire 17 and registering with the channel 16, the two channels when combined forming a complete circle slightly larger than the wire.

The reversely-inclined surfaces of the recess and the member 19 are an important feature of the invention, as any moisture which may find its way between the recess and the member 19 will flow away from the wire, and thus avoid danger of short-circuiting the latter.

To increase the efficiency of the drainage, grooves 21 are formed, respectively, in the recess in the member 10 and within the member 19, the two sets of drainage-grooves registering with each other and coinciding with the external drainage-grooves 14 15 of the body portion and continuing the grooves 22 at the ends of the member 19.

The member 19, as will be noted, is externally curved to correspond to the curvature of the body portion, so that when united, as in Figs. 2, 5, and 8, they combine to form a complete cylinder of the central portion of the device, the member 19 having screw-thread sections 24, coinciding with the thread portions 11 of the portion 10.

The body portion 10 is also provided with stop portions 25 at the ends of the longitudinal recess, against which the member 19 bears to retain it in position and prevent longitudinal movement.

The member 10, together with its hoods 12 13 and the member 19, will be of suitable non-conductive material—such as glass, porcelain, or the like—usually employed for insulators and molded into the required shape.

Enclaspings the wire 17 next to the body portion 10 and bearing against the same are stop-sleeves 26 27, divided longitudinally, as

represented in Fig. 7, so that they can be placed bodily over the wire and then compressed thereon by coiling binding-wires 28 29 around them, as represented in Fig. 6. The sleeves are enlarged next to the body portion 10 to increase the bearing-surfaces.

The supporting member 30 for the insulator may be an arm attached to a supporting-pole, as represented in Figs. 2 and 5, or a bracket, as in Fig. 8, and provided with transverse apertures internally threaded and into which the combined threaded members 10 19 will be screwed, as shown in Figs. 2, 5, 6, and 8, with the hoods 12 13 and drainage-channels 14 15 and 22 23 outside the supporting member. By this means rain or snow will flow away from the insulator and not interfere with its action. The apertures in the supporting members are each provided with a contracted open slot 31, through which the wire will be inserted when applying the device, which is done by first placing the wire 17 in the threaded insulator-aperture in the supporting member 30 through the slot 31 and then placing the portion 10 over the wire, with its channel 16 engaging the wire on one side, and inserting the member 19 into the recess, with its channel 20 engaging the wire on the opposite side and with its ends bearing against the stops 25. The insulator thus united is screwed into threaded aperture and the sleeves 26 27 applied to complete the operation. The wire is thus firmly supported in place and effectually insulated from the supporting member 30 and also protected from all influence of moisture from whatever source.

The wire will be firmly held from longitudinal movement by the tightly-clamped stop-sleeves 26 27 and held equally as firmly upon all lateral movement by the engagement of the members 10 and 19 with the supporting member.

By the construction shown it is obvious that there is no possible chance for displacement of the wire or insulator so long as the latter remains intact, and even if the insulator be partly or wholly destroyed the wire will not fall from the supporting member. When the line passes over rising ground, the strains are downward, and when it passes through ravines or hollows the strains are upward, and when passing around curves the strains are lateral; but the improved device herein shown and described supports the wire equally as well against any or all of these strains.

When turning corners or abrupt angles, where the lateral strains are relatively increased, the modified structure shown in Fig. 9 will generally be employed, wherein the hood at one end is enlarged, as at 32, and cut away at the sides, so that the wire 17 can be turned off at right angles after leaving the insulator, the body portion 10 also provided with a partially-closed end 33, against which the member 19 bears. By this means the por-

tion 10 is given great additional strength to resist the severe lateral strains to which the insulators are necessarily subjected at corners and sharp angles.

The insulator may be of any suitable material—such as glass, porcelain, or the like—usually employed for devices of this class and may be of any required size to receive any size of wire.

There being no binding of the wire between the sections, the device is especially adapted for supporting wires protected by insulating material, as there is little or no friction between the insulators and the wires.

Having thus described the invention, what is claimed is—

1. An insulator comprising an upper member having a longitudinal recess in its lower side and with a wire-receiving channel of less diameter than one-half a circle in its inner face and with the portion of the walls of the recess immediately adjacent to the channel extended laterally and inclined slightly downward and with the remainder of the walls of the recess disposed at a greater incline, and a lower member engaging said recess and provided with a wire-receiving channel of greater diameter than one-half a circle and registering with the channel in said upper member, the walls of said lower member inclined to correspond to the walls of said recess, whereby the wire is supported laterally and tendency to lateral fracture obviated.

2. An insulator comprising a body portion externally threaded and having a longitudinal recess provided with a wire-receiving channel, and a member engaging said recess and provided with a wire-receiving channel registering with the channel in said body portion.

3. An insulator comprising a cylindrical body portion externally threaded and provided with a longitudinal recess having a wire-engaging channel, and a member fitting said recess and provided with a wire-engaging channel registering with the channel of said body portion and with external screw-thread sections coinciding with the threads on said body portion.

4. An insulator comprising a body portion having hoods extending from the ends and with a longitudinal recess provided with a wire-receiving channel, and a member engaging said recess and provided with a wire-receiving channel registering with the channel in said body portion.

5. An insulator comprising a body portion having hoods extending from the ends and with drainage-channels between the hoods and body portion and with a longitudinal recess provided with a wire-receiving channel, and a member engaging said recess and provided with a wire-receiving channel registering with the channel in said body portion.

6. An insulator comprising an upper member having a longitudinal recess provided with

a wire-receiving channel and depending stops at the ends of the recess, and a lower member engaging said recess and bearing against said stops and provided with a wire-receiving channel registering with the channel in said body portion.

7. An insulator comprising a body portion having a longitudinal recess provided with a wire-receiving channel, and lateral drainage-grooves at the ends, and a member engaging said recess and provided with a wire-receiving channel registering with the channel in said body portion and with drainage-grooves registering with the drainage-grooves in said body portion.

8. An insulator comprising a body portion having a longitudinal recess provided with a wire-receiving channel, and lateral drainage-grooves at the ends, hoods extending from the ends of said body member and with drainage-grooves between the hoods and body member and intersecting the lateral drainage-grooves in said recess, and a member engaging said recess and provided with a wire-receiving channel and lateral drainage-grooves registering respectively with the channel and lateral drainage-grooves in said body member.

9. An insulator comprising an upper member having a longitudinal recess provided with a wire-receiving channel, and a lower member engaging said recess and provided with a wire-receiving channel registering with the channel in said body portion, in combination with a supporting member provided with a transverse aperture for receiving said body portion and its recess-engaging member, and with a wire-receiving slot opening upwardly from said transverse aperture through said supporting member.

10. An insulator comprising a body portion externally threaded and having a longitudinal recess provided with a wire-receiving channel, and a member engaging said recess and

provided with a wire-receiving channel registering with the channel in said body portion, in combination with a supporting member having a transverse aperture internally threaded for receiving said threaded body portion and its recess-engaging member.

11. An insulator comprising a body portion externally threaded and provided with a longitudinal recess having a wire-receiving channel, and a member engaging said recess and with a wire-receiving channel registering with the channel in the same and with external screw-threads coinciding with the threads upon said body portion.

12. An insulator comprising a body portion externally threaded and provided with a longitudinal recess having a wire-receiving channel, and a member engaging said recess and with a wire-receiving channel registering with the channel in the same and with external screw-threads coinciding with the threads upon said body portion, in combination with a supporting member having a transverse aperture internally threaded for receiving said threaded body member and its threaded recess-engaging member.

13. An insulator comprising a body portion having a longitudinal recess provided with a wire-receiving channel, and a member engaging said recess and provided with a wire-receiving channel registering with the channel in said body portion, in combination with stop-sleeves open along one side for compressing upon the wire at each end of the body portion and bearing against the same, and clamping-coils encircling said sleeves.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ERNEST JAY FOREMAN.

Witnesses:

FRED F. HEE,

HERMAN BIERNBAUM.