J. W. PORTER.

INSULATOR PIN.

APPLICATION FILED JUNE 3, 1914.

1,199,735. Patented Sept. 26, 1916.

FIG. I.

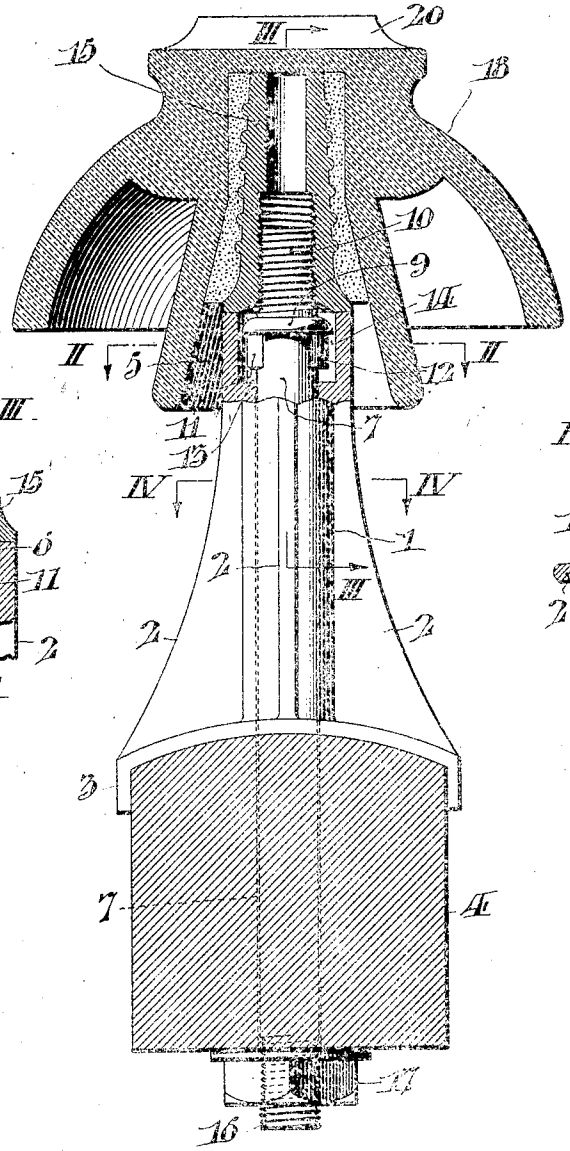


FIG. III.

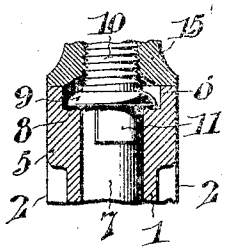


FIG. IV.

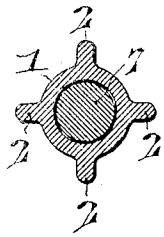
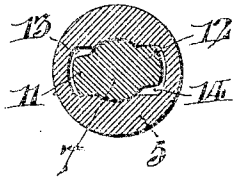


FIG. II.



Witnesses

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UNITED STATES PATENT OFFICE.

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INSULATOR-PIN.

1,199,735. Specification of Letters Patent. Patented Sept. 26, 1916.

Application filed June 3, 1914. Serial No. 842,548.

To all whom it may concern:

Be it known that I, JOHN W. PORTER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Insulator-Pins, whereof the following is a specification, reference being had to the accompanying drawings.

In said drawings, Figure I, is a view partly in vertical central section and partly in side elevation, of an insulator pin embodying my improvements, showing in cross section an arm of the type upon which the pin is usually mounted. Fig. II, is a transverse section on the line II, II, of Fig. I. Fig. III, is a partial longitudinal section on the line indicated at III, III, in Fig. I. Fig. IV, is a transverse section on the line IV, IV, of Fig. I.

The insulator pin to which my invention is especially adapted is of the general type set forth in Letters Patent of the United States No. 1,094,852, dated April 28th, 1914, and the object of my invention is to improve a pin of that character in certain particulars, which greatly facilitates the work of securing and adjusting the pin in position and of obtaining a proper relation between the insulator and the pin. These features will be more particularly adverted to hereafter.

In the drawings the base member of the pin comprises an elongated hollow tubular portion 1, with tapering strengthening ribs 2, disposed in quadrant relation and a bottom plate 3, adapted to fit upon and embrace the cross arm 4, said cross arm being also perforated with an opening registering with the internal opening of the tubular portion 1.

The upper extremity of the base member 1, is enlarged as indicated at 5, and contains an annular chamber 6, of larger diameter than the cylindrical bolt 7, said chamber having at bottom a shoulder 8, in position to engage when free to do so, with the flanged collar 9, (of less depth than the chamber 6), which is located upon said bolt below the screw threaded upper portion 10, thereof. Upon the portion of the bolt 7, immediately below this collar 9, I provide a lateral projection, preferably comprising two wings, as shown at 11, and 12, which may conveniently be cast integrally with the bolt 7, and which extends outward a substantial distance beyond the circular periphery of the bolt. By reference to Fig. III, it will be noted that the depth of the chamber 6, throughout a portion of its extent, is slightly in excess of the vertical depth of the collar 9, but upon reference to Figs. I, and II, it will be seen that on diametrically opposite sides, the opening of the chamber is extended downward through the shoulder 8, forming lateral recesses as shown at 13, and 14, in such manner that the wings 11, and 12, are received and retained within said openings. A thimble 15, of the ordinary construction is adapted to be screwed down upon the threaded upper portion 10, of the bolt 7, the lower extremity of said thimble being preferably enlarged so as to fit snugly upon the upper periphery of the chamber 6, and form a close joint therewith. The lower extremity of the bolt 7, is also threaded, as indicated at 16, and provided with a nut 17. The insulator 18, may be secured to the thimble 15, in the usual manner.

It will be noted by the above construction that when the base member is mounted upon the cross arm and the bolt 7, is inserted in position, said pin will drop downward until the collar 9, engages with the shoulder 8, of the chamber 6, the wings 11, and 12, being of course turned into the appropriate position to pass downward into their respective recesses 13, and 14. In this position the nut 17, is screwed upon the lower end of the bolt, but not so tightly as to prevent the collar 9, being lifted a short distance off the shoulder 8, as shown in Fig. III, when the insulator is screwed home.

By the use of my improvements above set forth, the bolt 7, while capable of free insertion and removal, and while being retained securely against dropping, is rendered non-rotatable after it is once seated in place, affording certain very desirable advantages. Thus, when the bolt is rotatable and the lineman attempts to screw the insular down, if the friction of the threads at the upper end of the bolt is greater than the friction of the threads at the lower end, the bolt tends to rotate with relation to the lower nut, and the insulator may not be screwed home properly. This sometimes requires the lineman to grip the lower thread-

ed end of the bolt by means of a pair of tongs or pipe wrench, in order to screw the insulator thimble into proper position. The difficulty is wholly obviated by my invention, as the bolt cannot turn within the base member. Furthermore, by the use of my improvements, the lineman is assured that he is securing the benefit of the full length of the thread in the thimble, and he is relieved from using his judgment in regard to the number of turns required since he screws the insulator on until it comes home, thus insuring the proper contact between the bottom of the thimble and the upper extremity of the base member. If in its home position the wire groove 20, at the top of the insulator is not in proper relation to the position of the line wire the thimble and insulator are turned back not exceeding a half rotation until the wire and its groove are in alinement and the nut 17, turned to take up the slack.

It has been found in practice that in previous constructions, the actual tension of the bolt was frequently upon the collar itself, the strength of the structure as a whole therefore depending upon the bending moment of that portion of the bolt which is above the collar. My improvement prevents this from occurring. Another difficulty which is avoided by the use of my improvement is the possibility of the bolt coming unscrewed from the insulator thimble, through carelessness or otherwise, without the turning of the insulator itself. By the use of my improvement, the insulator must be positively screwed on and screwed off, since the bolt itself cannot turn with relation thereto. Another difficulty which is avoided by the use of my improvement is that in cases where the threaded engagement between the thimble and the bolt has become rusted, it is very difficult to remove the insulator, since the rotation thereof will simply turn the bolt.

Having thus described my invention, I desire to state that I do not, on the one hand, claim any of the features which are set forth in the said Patent No. 1,094,852, in themselves, nor, on the other hand, do I restrict myself to the employment of those exact details in combination with the new elements which distinguish my invention.

I claim:

The combination of a base member having a tubular portion adapted to receive a bolt and provided, at its upper extremity, with a chamber having an annular shoulder at its bottom, embracing the opening of the tube, and also having a lateral recess extending downward into said shoulder and communicating with said tubular opening; a bolt having a collar adapted to be received within the upper portion of said chamber but engaging with said shoulder, said collar being of less vertical depth than the depth of the chamber; a lateral projection upon said bolt arranged below said collar, and extending vertically to a distance greater than the vertical play of said collar within said chamber, said projection being adapted to engage operatively in said recess and prevent rotation of the bolt at any vertical adjustment of the collar within the chamber; said bolt being threaded at its upper and lower extremities; an insulator thimble; and a nut; adapted to engage respectively the upper and lower threaded portions of the bolt.

In testimony whereof, I have hereunto signed my name, at Chicago, Illinois, this 28th day of May 1914.

JOHN W. PORTER.

Witnesses:
MAX A. BERG,
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