Dec. 10, 1929. R. E. DUFFY 1,738,875

INSULATOR PIN

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Fig.2.

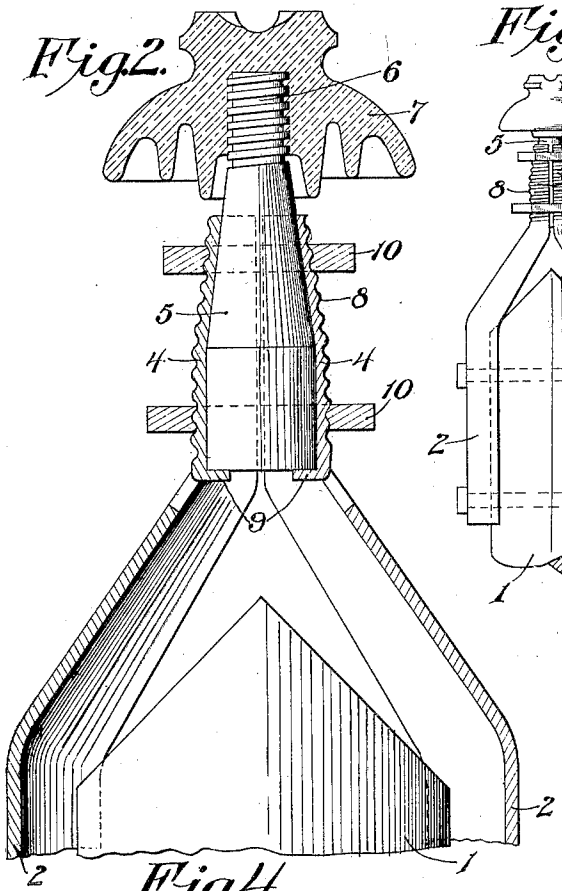


Fig.1.

Fig.3.

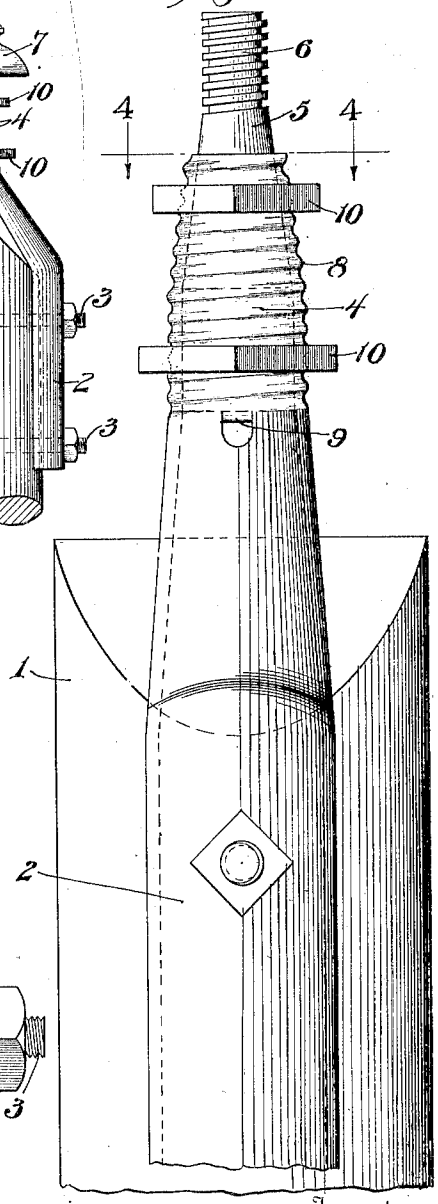
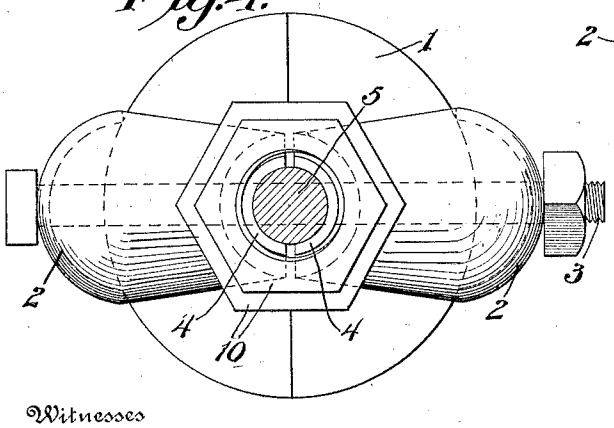


Fig.4.



Witnesses

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INSULATOR PIN

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Fig.5.

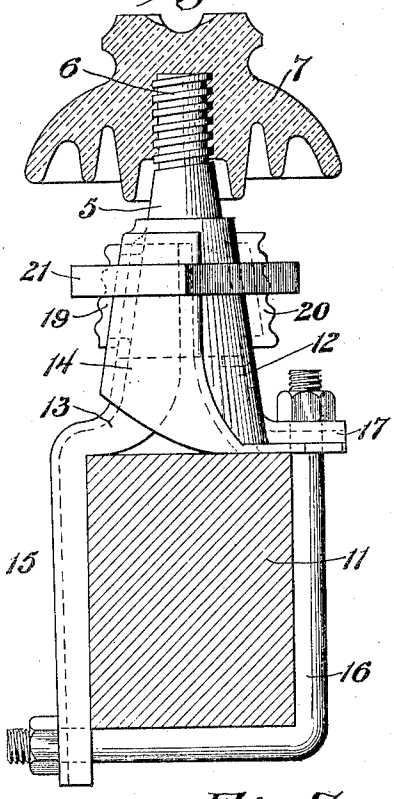


Fig.6.

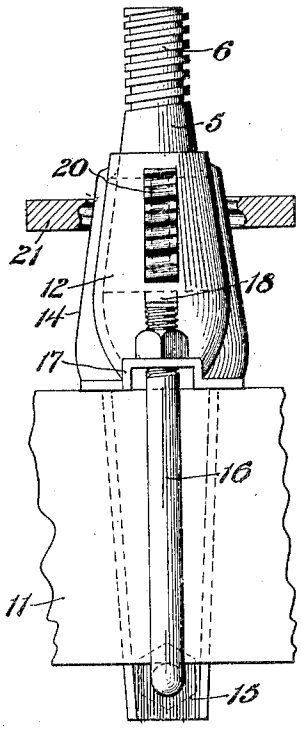
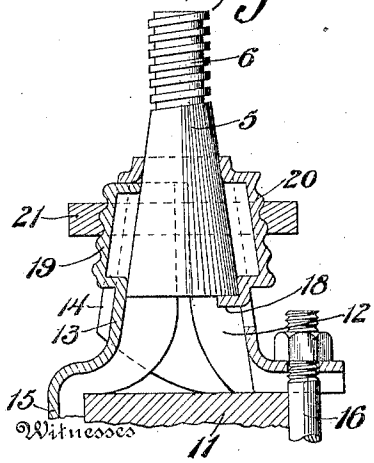


Fig.7.

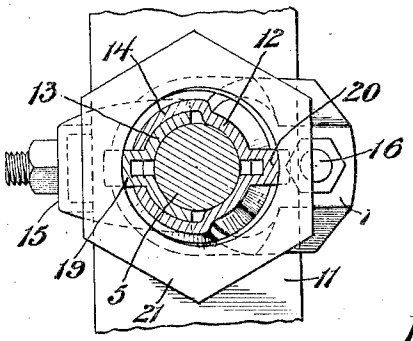


Witnesses

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Fig.8.



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INSULATOR PIN

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Fig. 9.

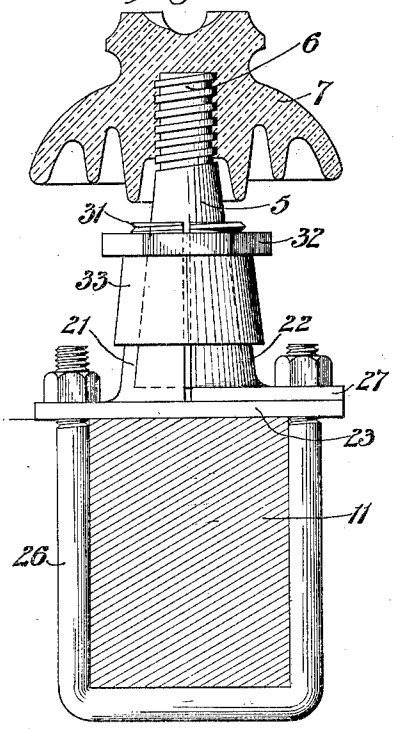


Fig. 10.

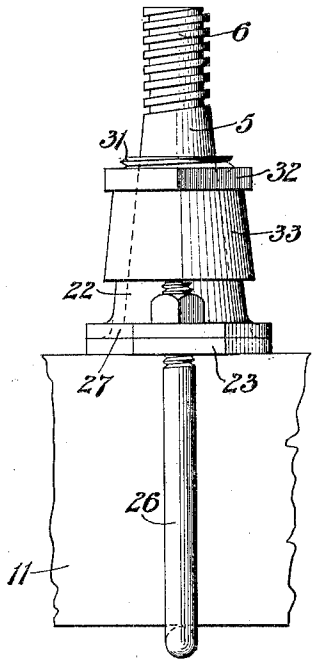
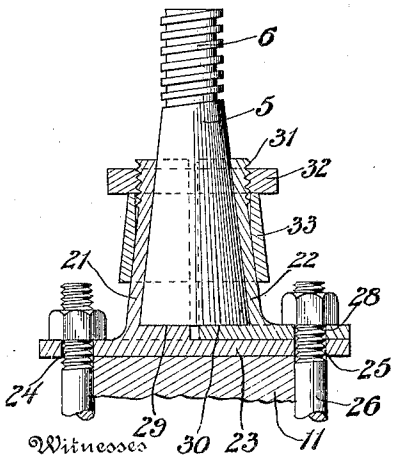


Fig. 11.

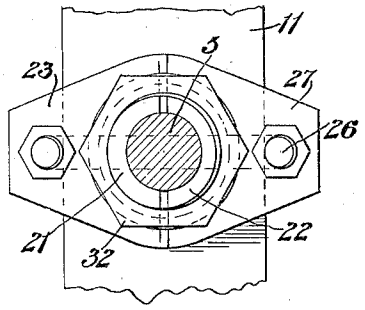


Witnesses

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Fig. 12.



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UNITED STATES PATENT OFFICE

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INSULATOR PIN

Application filed April 20, 1926. Serial No. 103,292.

This invention relates to an improved insulator pin formed by a combination of wood and metal, with specific reference to means provided by the metal part of the pin for securing the wood part of the pin to the top or side of a pole, or to a cross arm secured to the pole or to any point of support to which an insulator pin is ordinarily attached.

Heretofore many combined wood and metal pins have been used, in which the wooden portion or cob, as it is commonly termed, is supported by a metallic bolt extending through a long bore in the wood, or driven into one end thereof. In either case, the wood is considerably weakened, and often splits under the strain incident to its use. Such construction also brings the metal inside the insulator and close to the conductor of the current, thereby putting a great dielectric strain on the insulator, and causing its destruction.

The general object of the present invention is to obviate these objectionable features by making the wooden part solid, and supporting the same securely inside of a metallic part constructed to get a firm hold on the wooden part. This metallic part engages the lower end of the wooden part of the pin, but does not penetrate the wood, or extend inside of the insulator.

The specific construction of the invention and the advantages resulting therefrom will be more fully explained in connection with the accompanying drawings, in which

Figure 1 is a front elevation, illustrating the invention applied to the top of a pole.

Figure 2 is an enlarged vertical section taken through the upper part of Figure 1.

Figure 3 is a side elevation enlarged.

Figure 4 is a horizontal section taken on the line 4—4 of Figure 3.

Figure 5 is a side elevation of another form of the invention applied to a cross arm.

Figure 6 is an elevation looking from the right of Figure 5, with the clamping nut shown in section.

Figure 7 is a vertical section taken centrally of Figure 6.

Figure 8 is a horizontal section of the same.

Figure 9 is a side elevation of another modification.

Figure 10 is a front elevation thereof.

Figure 11 is a vertical section taken centrally of Figure 10.

Figure 12 is a horizontal section thereof.

In the form shown in Figures 1 to 4 inclusive, the invention is adapted to be applied to the top of a pole 1, and comprises two similar metallic clamping members 2, disposed on opposite sides of the pole and secured thereto by transverse bolts 3. The upper portions of the clamping members 2 are bent inwardly above the top of the pole, and are formed with oppositely disposed socket portions 4, which cooperate to form a socket to receive a wooden pin 5. The upper end of the wooden pin 5 is formed with threads 6 for receiving the insulator 7. Tongues 9 are cut from the clamping members 2 at the lower ends of the socket portions 4, and are bent inwardly to form a seat against which the lower end of the wooden pin 5 rests. The upper portions of the socket members 4 are upwardly tapered to correspond to the taper of the wooden pin 5, and are formed with threads 8 which are adapted to receive nuts 10. As the wooden pin 5 is placed within the socket members 4, and the nuts 10 screwed downwardly, the wooden pin is tightly clamped within the socket. By loosening the nuts 10, the wooden pin 5 may be rotated to bring the insulator 7 into any position desired. While the clamping members 2 are shown secured to the top of a pole 1, it is obvious that the bolts 3 may also be used for securing them to a cross arm, or the clamping members 2 may be so formed at the bottom end of and underneath the wooden pin 5 that they may be secured to a cross arm with a bolt.

In the form shown in Figures 5 to 8 inclusive, the invention is adapted to be secured to a cross arm 11. In this form, two clamping members 12 and 13 also cooperate to form a tapered socket for receiving a wooden pin 5, which carries the insulator 7. Preferably, the member 12 is formed with offset extensions 14 extending partially around the socket portion of the other clamping mem-

ber 13. One of the clamping members, as 13, may be formed with a downwardly projecting leg 15, which extends below the cross arm 11 and receives one end of an L-shaped bolt 16. The other end of this bolt extends upwardly adjacent one side of the cross arm, and through a flange 17 extending outwardly from the other member 12. A tongue 18 is cut from the socket member 12, and bent inwardly to form an abutment against which the lower end of the woden pin 5 rests. The members 12 and 13 are formed with oppositely disposed outwardly pressed portions 19, on which threads 20 are formed for receiving a nut 21. After the pin 5 is inserted in the socket formed by the two members 12 and 13, the nut 21 is screwed downwardly until the wooden pin is tightly clamped, in the same manner as it is clamped in the socket 4, illustrated in Figure 1 to 4 inclusive. The two members 12 and 13 may be so formed at the bottom end of and underneath the wooden pin 5 that they may be secured to a cross arm with a bolt.

In the form illustrated in Figures 9 to 12 inclusive, the wooden pin 5 is clamped between two socket members 21 and 22. The member 21 may be formed, as shown, with a flat base 23, which rests upon the upper surface of the cross arm 11, and formed with holes 24 and 25 for receiving opposite ends of a U-bolt 26, which straddles the cross arm and secures the insulator pin thereto. The member 22 rests upon the base 23, and is formed with an outwardly projecting flange 27, formed also with an opening 28 for receiving one end of the U-bolt. The members 21 and 22 are formed with shoulders 29 and 30, respectively, on which the lower end of the wooden pin rests. The members 21 and 22 cooperate to form an upwardly tapered socket, which is formed at its upper end with threads 31 for receiving a nut 32. A tapered sleeve 33 may also be used on the socket member, this sleeve being forced downwardly by the nut 32 to draw the two clamping members together and to clamp the pin. The two members 21 and 22 may be so formed at the bottom end of and underneath the wooden pin 5 that they may be secured to a cross arm with a bolt.

In all of the forms herein described, there are no metallic parts which extend into the insulator. The wooden pin is solid throughout its length, and is entirely protected from the weather, thereby making it strong and durable. In case the wooden pin shrinks, the clamping members may be easily tightened. The wooden pin is circular in cross section throughout its length, so that it may be easily and cheaply manufactured, and it may be turned within the clamping members to bring the notch in the insulator, when the insulator is so made, to any angle desired, or the entire pin may be turned as desired to bring the notch to the angle desired. The metal part of the pin may be so shaped that the pin may be used on any wood or metal cross arm or support. It may also be used as a pole top pin, or as a pole bracket pin. It may be attached to the cross arm without weakening the same by boring holes therein.

While I have shown and described a number of different forms in which the invention may be embodied, it is to be understood that the invention is not limited thereto, but may be embodied in other forms which fall within the scope of the appended claims.

What is claimed is:

1. In a device of the character described, the combination of suitable members which cooperate to form a pin receiving socket, means for securing the same to a support, a pin adapted to be received in said socket, and means for altering the relative positions of said members and said pin to cause the said members to bear against the lower end of said pin to clamp and hold it in the socket.

2. In a device of the character described, the combination of suitable clamping members, means for securing the same to a support, said members having suitable portions which cooperate to form the inner surface of a socket, a wooden pin adapted to be inserted in said socket, said socket having a surface against which the bottom or underneath surface of said pin abuts, and means for forcing the surface of said socket against said wooden pin to clamp and firmly hold the pin.

3. In a device of the character described, the combination of suitable clamping members, means for securing the same to a support, said members having portions which cooperate to form the surface of a suitable socket, a wooden pin adapted to be inserted in said socket, said socket having a surface against which the bottom or underneath surface of said pin abuts, and means forming a part of said clamping members and adjustable to force the socket into clamping relation with the wooden pin.

4. In a device of the character described, the combination with a solid wooden pin circular in cross section and suitably shaped along the lower part, of means for clamping the same, comprising cooperating metallic members having an upwardly extending socket shaped to receive the lower part of said wooden pin, a surface formed on one or more of said members forming an abutment for the bottom and underneath surface of the wooden pin, means for forcing said socket portions into clamping relation to said wooden pin, and clamping means for securing said metallic members to a cross arm.

5. In a device of the character described, the combination with a solid wooden pin circular in cross section and suitably shaped along the lower part, of means for clamping the same, comprising cooperating me-

tallic members having an upwardly extending socket shaped to receive the lower part of said wooden pin, a surface formed on one or more of said members forming an abutment for the bottom or underneath surface of the wooden pin, said clamping members providing within said socket, but as an integral part of said clamping members, adjustable means to force the socket into clamping relation with the said wooden pin, and means for securing said metallic members to a cross arm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

RALPH E. DUFFY.