No. 779,828. PATENTED JAN. 10, 1905.

M. M. WOOD.

INSULATOR PIN.

APPLICATION FILED AUG. 8, 1903.

Fig. 1.

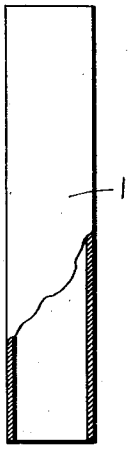


Fig. 2.

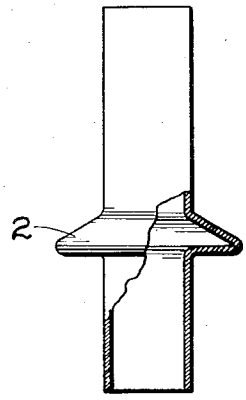


Fig. 5.

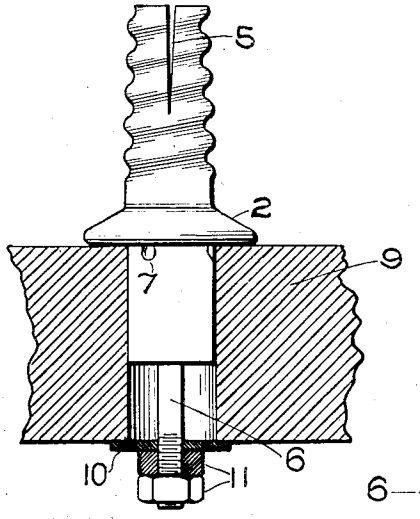


Fig. 3.

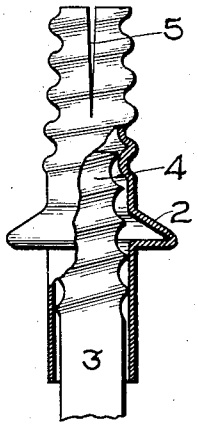


Fig. 4.

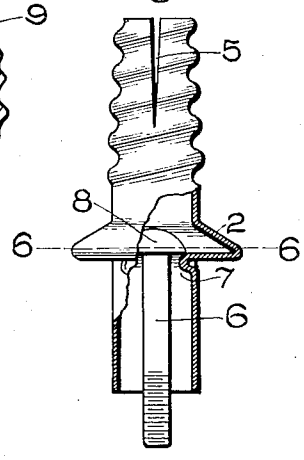
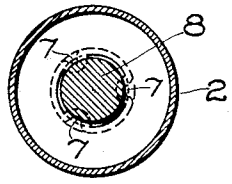


Fig. 6.



Witnesses:

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by Albert G. Davis
Att'y.

No. 779,828. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

MONTRAVILLE M. WOOD, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

INSULATOR-PIN.

SPECIFICATION forming part of Letters Patent No. 779,828, dated January 10, 1905.

Application filed August 8, 1903. Serial No. 168,739.

To all whom it may concern:

Be it known that I, MONTRAVILLE M. WOOD, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Insulator-Pins, of which the following is a specification.

This invention relates to pins for supporting insulators for electric conductors; and its object is to provide a strong, light, and durable pin easily attached to a cross-arm or other support.

My improved pin is made from a seamless steel tube, having a shoulder upset upon it to rest on the cross-arm, threads rolled in its upper end on a taper, and a fastening-bolt inserted into its lower end and secured by inwardly-pressed portions of the tube under the bolt-head.

In the accompanying drawings, Figure 1 shows the blank from which my improved insulator-pin is made. Fig. 2 shows the first step in manufacture; Fig. 3, the second step. Fig. 4 shows the final step. Fig. 5 is an elevation of the complete pin; and Fig. 6 is a cross-section on the line 6 6, Fig. 4.

The blank 1 is a piece of metal tubing, preferably seamless steel, of suitable length and diameter, Fig. 1. The first step is to upset it at a point near the middle, so as to form a circumferential bead or shoulder 2, Fig. 2. The next step is to insert a mandrel 3, having a tapering screw-threaded end 4. By means of suitable rolls the blank is swaged down into contact with the mandrel, so that the upper end of the tube becomes tapering and screw-threaded. The mandrel is then removed by unscrewing it, as indicated in Fig. 3, and one or more longitudinal slits 5 are cut in the tube, running down from the upper end. A headed bolt 6 is then inserted into the lower end of the tube to, or nearly to, the shoulder 2. By suitable dies three or more portions of the tube are pressed in, forming internal lugs 7 just below the bolt-head 8, so that the bolt cannot drop out. The lower end of the bolt extends below the end of the tube, so that when the pin is inserted in a hole in a cross-arm 9 or the like the bolt will project through the hole and can receive a washer 10 and nuts 11. When the nuts are tightened, the bolt-head bearing on the lugs 7 forces the shoulder 2 firmly down upon the cross-arm and fastens the pin securely in place. It will be seen that the shank of the pin below the shoulder may be of some uniform length sufficient to give the pin stability and need not necessarily be long enough to pass through the cross-arm. The pin is light in weight, but has great lateral strength, so that it can resist heavy side strains. It can be easily put up and taken down and is extremely durable. It can be manufactured at a comparatively low cost and with the usual machine-tools, requiring no special appliances beyond the upsetting and pressing dies and the screw-threading mandrel and rolls.

In accordance with the patent statutes I have described the principle of my invention, together with the form which I now consider to represent the best embodiment thereof; but I desire to have it understood that the form shown is only illustrative and that the invention can be carried out by other means.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An insulator-pin comprising a seamless steel tube having a tapering screw-threaded upper end, an integral upset shoulder and inwardly-pressed internal lugs, and a bolt having a head engaging with said lugs and extending below the lower end of said tube.

2. An insulator-pin comprising a metal tube having a tapering externally-screw-threaded upper end, an integral shoulder and internal lugs, a shank depending below said shoulder, and a headed bolt engaging with said lugs.

In witness whereof I have hereunto set my hand this 6th day of August, 1903.

MONTRAVILLE M. WOOD.

Witnesses:

ALEX. F. MACDONALD,

HELEN ORFORD.