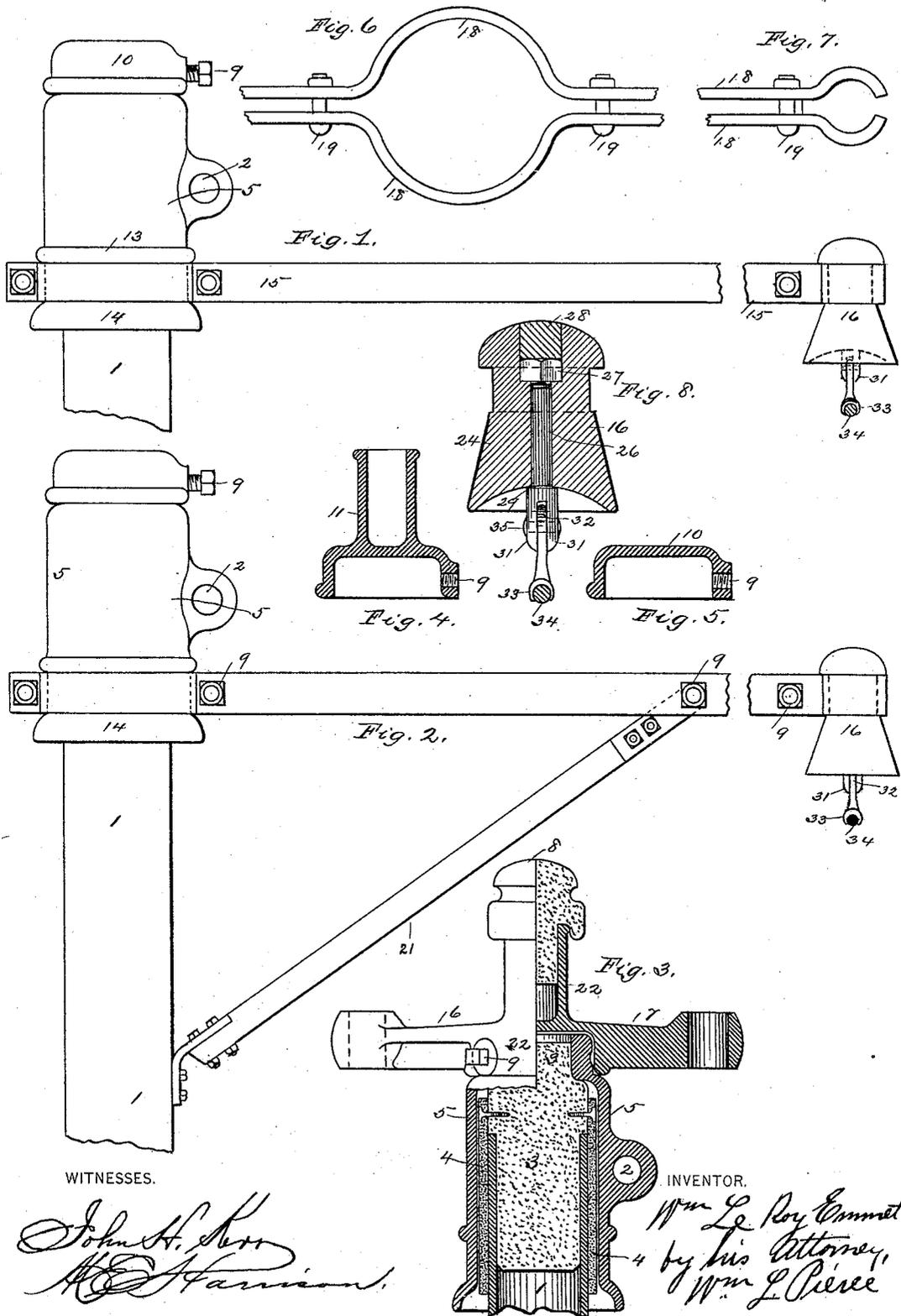


(No Model.)

W. LE R. EMMET.  
POLE TOP FOR TROLLEY WIRE SUPPORTS.

No. 443,508.

Patented Dec. 30, 1890.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

WILLIAM LE ROY EMMET, OF EAST ROCKAWAY, NEW YORK.

## POLE-TOP FOR TROLLEY-WIRE SUPPORTS.

SPECIFICATION forming part of Letters Patent No. 443,508, dated December 30, 1890.

Application filed September 18, 1890. Serial No. 365,401. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM LE ROY EMMET, a citizen of the United States, residing at East Rockaway, Queens county, State of New York, have invented or discovered certain new and useful Improvements in Insulated Pole-Tops, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a side elevation, broken away, of a pole, a hollow pole-top insulated, and a single outrigger or bracket; Fig. 2, a like view, but with the bracket braced; Fig. 3, a view, partly in central vertical section and partly in side elevation, of a hollow pole-top with cap bearing several extensions for insulators. Figs. 4 and 5 also show caps in section. Fig. 6 is a plan view, broken away, of a double outrigger; Fig. 7, a like view of the outward end of either a single or double outrigger, and Fig. 8 a side elevation of a line-clip with insulator in section supporting same.

My improvements relate to hollow insulated pole-tops and parts adjacent thereto for overhead electrical systems where insulation is desirable.

Insulated pole-tops have generally heretofore been constructed by inserting into the top of a pipe-pole a projecting plug of wood and mounting upon said plug the pole-top. The plug has necessarily been restricted in diameter to the diameter of the inside of said pole, and the entire strain has been brought to bear upon said plug, as the cap has derived no support from bearings upon the pole.

It is the purpose of my invention to devise forms of hollow pole-tops which shall be more strongly secured to the pole and also thoroughly insulated.

I further illustrate outriggers adapted to insulated or uninsulated pole-tops; also, outriggers formed to grip at their outward ends insulators; also, outriggers which are insulated in addition to the insulation of the pole-top.

In the several views, 1 is a pole, which in Fig. 3 is shown as a pipe-pole; but my invention is applicable to solid and wood poles also. Into the top of said pole is driven a projecting wooden plug 3, with enlarged top. Around said pole 1 at its top is slipped a tube 4, of in-

ulating material, secured to the plug of wood by screws or otherwise satisfactorily fastened. Slipped over the top of said wooden plug 3 and down the pole 1, incasing the tube 4, is a hollow top 5, which for convenience in casting is made open at the top and closed with an independent cap 22, said hollow cap having horizontal extensions 6 and 7, containing sockets for insulators, and a vertical extension 8, grooved to receive a guard-wire or for any other desired purpose.

2 is an eye on the pole-top 5, to which a span-wire may be attached.

The cap 22 is secured to plug 3 by set-screw 9 or any other fit fastening. Fig. 5 shows the shape of a cap 10, entirely plain, and Fig. 4 shows at 11 a form of cap with one vertical extension having socket for insulator. Both caps are secured by set-screws 9 9 into the plug 3.

In Fig. 1 is seen the pole-top gripped between the bead 13 and water-shed 14 by a single outrigger 15. Said outrigger 15 is made of two duplicate pieces, (seen broken away in Fig. 7,) each of said pieces having at each end a half-swell of about half a circle, the large swell which is seen in the illustration of the double outrigger in Fig. 6 being clamped to the pole and the small swell around the insulator 16, which is suitably grooved or shaped to receive said clamping end.

Fig. 6 shows the central portion of a double outrigger composed of the two duplicate pieces 18 18. The outer ends of the double outrigger are the same as the outer end of the single outrigger. Bolts 19 19 are preferably employed to fasten the two halves of the outriggers to each other.

The construction of the insulator 16 is shown in section at Fig. 8 to consist of a body of insulating material 24, longitudinally cored to receive a spindle 26, threaded at its upper end for a nut 27. The opening in the top of said insulator is closed by plug 28. The spindle 26 has a shoulder 29 to bear against the bottom of the body of insulating material 24, and the spindle terminates in forked ends 31 31 to embrace a lug 32 of a clip 33, supporting wire 34. The rivet 35 secures said lug to said forks.

I do not here claim the specific construction of said insulator, as this constitutes the mat-

ter of a separate application filed by me of even date herewith, Serial No. 365,399.

Fig. 2 shows an outrigger with brace 21, of wood or other insulating substance, bolted to 5 outrigger and to pole.

The above devices are interchangeable, strong, well supported, and moisture-proof. The danger also, of grounding a trolley-wire by its usual proximity to an uninsulated out- 10 rigger is avoided.

I claim—

1. The combination of a metal pole, a plug or block of insulating material attached to the upper end of said pole, a hollow metal 15 top resting upon said plug or block and inclosing a portion of the top of said pole, and a sleeve of insulating material inserted between said pole and said top, substantially as set forth.

2. The combination of a metal pole, a plug of insulating material attached to the upper end of said pole, a hollow metal top resting upon said plug or block and inclosing a portion 25 of the top of said pole, a cap closing said hollow metal top, and a sleeve of insulating material inserted between said pole and top, substantially as set forth.

3. The combination of a metal pole, a plug or block of insulating material attached to 30 the upper end of said pole, a hollow metal top resting upon said plug or block and inclosing a portion of the top of said pole, a cap having extensions containing sockets closing

said top, and a sleeve of insulating material inserted between said pole and said top, sub- 35 stantially as set forth.

4. The combination of a pole, a pole-top supported thereon and insulated therefrom, and an outrigger supported solely by said pole-top and insulated from said pole, sub- 40 stantially as set forth.

5. The combination of a pole, a pole-top supported thereon and insulated therefrom, an outrigger supported by said pole-top and thus insulated from said pole, and a brace of 45 insulating material bearing against said pole and bracing said outrigger, substantially as set forth.

6. The combination of a pole and an outrigger made of two metal rods bolted to- 50 gether, said rods being bowed out at one end to clamp said pole, substantially as set forth.

7. The combination of a pole and an outrigger made of two metal rods bolted to- 55 gether, said rods being bowed out to encircle said pole, substantially as set forth.

8. The combination of a pole and an outrigger made of two metal rods bolted to- 60 gether and deflected at their outer ends to clamp an insulator, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM LE ROY EMMET.

Witnesses:

JAMES A. MCKEAN,  
WM. L. PIERCE.