H. A. RUGGLES & C. A. THOMPSON.

SHEET METAL POLE.

APPLICATION FILED NOV. 16, 1908.

927,170.

Patented July 6, 1909.

2 SHEETS—SHEET 1.

Fig. I.

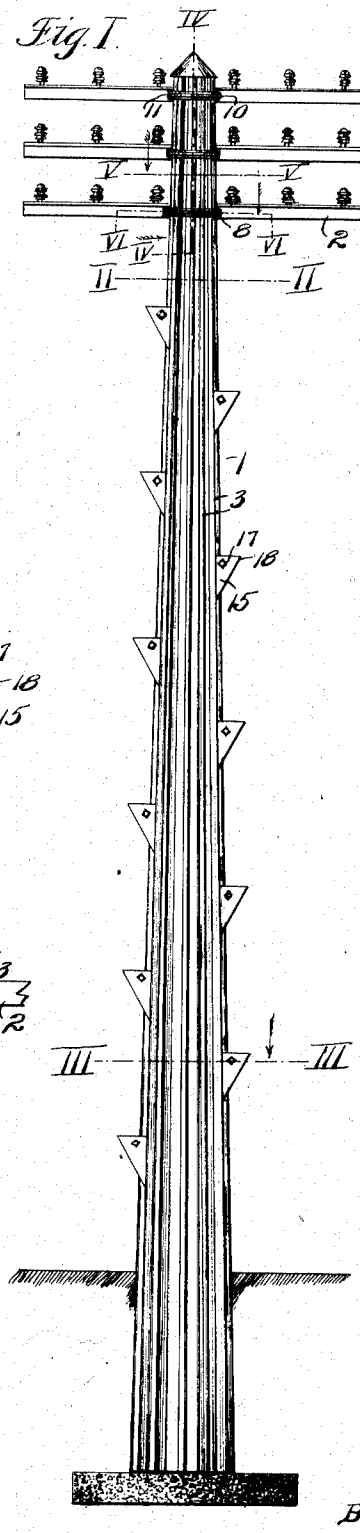


Fig. II.

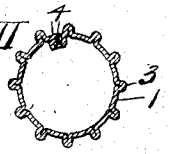


Fig. III.

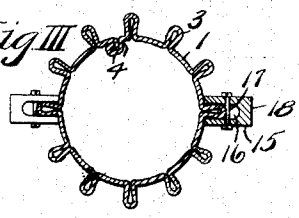


Fig. IV.

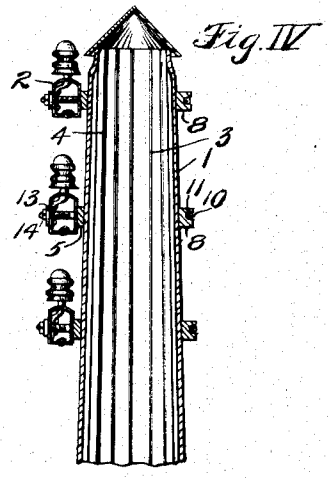


Fig. V.

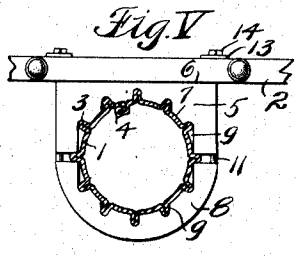
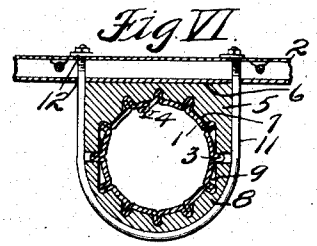


Fig. VI.



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2 SHEETS—SHEET 2.

Fig. VII

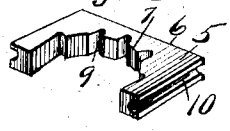


Fig. VIII

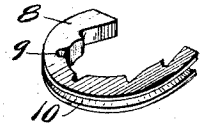
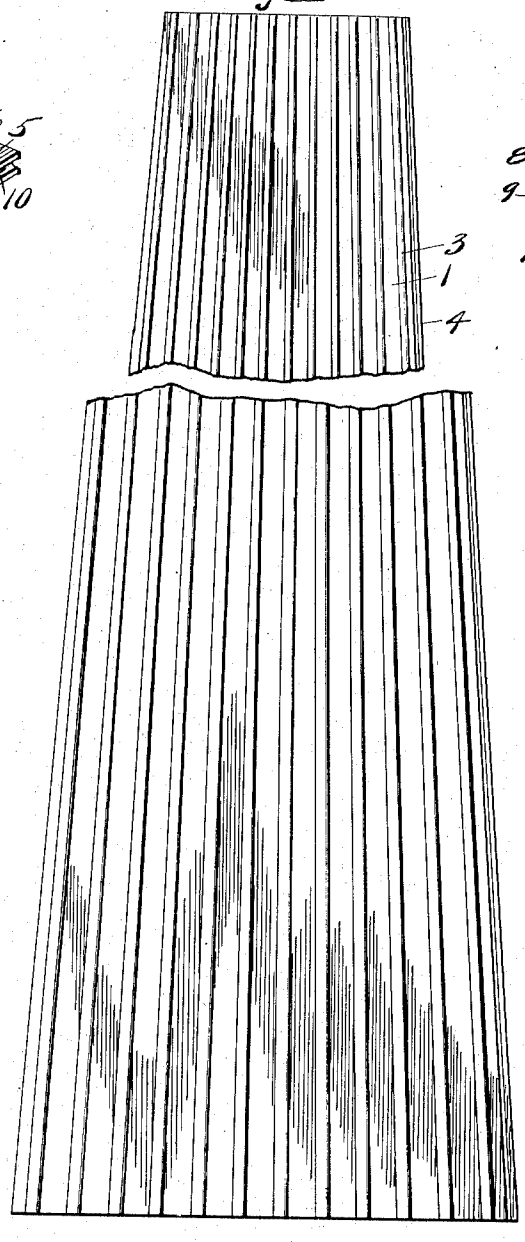


Fig. IX



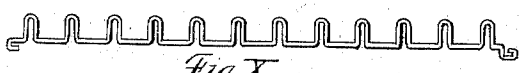


Fig. X

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Attu

UNITED STATES PATENT OFFICE.

HARRY A. RUGGLES, OF KANSAS CITY, MISSOURI, AND CHARLES A. THOMPSON, OF HUTCHINSON, KANSAS, ASSIGNORS TO THE METAL POST AND POLE COMPANY, A CORPORATION OF MISSOURI.

SHEET-METAL POLE.

No. 927,170. Specification of Letters Patent. Patented July 6, 1909.

Application filed November 16, 1908. Serial No. 462,805.

To all whom it may concern:

Be it known that we, HARRY A. RUGGLES, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, and CHARLES A. THOMPSON, a citizen of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, have invented certain new and useful Improvements in Sheet-Metal Poles; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to sheet metal poles, and has for its object to provide an article of that class for use in constructing telegraph and telephone lines, or for other uses to which it may be found to be adapted, and which possesses the required rigidity to withstand the strains to which such articles are subjected.

In adapting our invention for practical uses, we have provided the improved details of structure whereby the above objects are accomplished, and a complete, commercial article provided by the application thereto of a cooperating cross arm bracket.

In the drawings, forming part of this specification, in which the preferred form of our invention is illustrated:—Figure I is a view, in elevation, of a sheet metal pole constructed according to our invention, and carrying a set of cross arms. Fig. II is a cross sectional view of same on the line II—II, Fig. I. Fig. III is a similar view on the line III—III, Fig. I. Fig. IV is an enlarged vertical section on the line IV—IV, Fig. I, more fully illustrating the pole cap and cross arm mounting. Fig. V is an enlarged sectional view on the line V—V, Fig. I. Fig. VI is a similar view on the line VI—VI, Fig. I. Fig. VII is a perspective view of the inner cross arm bracket. Fig. VIII is a similar view of the outer cross arm bracket. Fig. IX is a plan view of a sheet metal blank from which one of our improved poles is formed. Fig. X is an end view of same.

Referring more in detail to the parts:—1 designates a pole which has been constructed according to our invention and is of a required height and strength to adapt it for use in the construction of a telegraph or telephone line, the upper end of the pole being shown provided with ordinary cross arms 2.

3 designates ribs, which project from the pole body at intervals throughout its circumference and preferably taper from a substantial projection at the base end of the pole to a materially smaller projection near the pole top, such ribs being formed as corrugations in the sheet from which the finished pole is rolled and having their inner lips closed against each other in the pole channel to provide a substantially unbroken, rigid body throughout the pole length.

4 designates hook lips on the longitudinal edges of the sheet from which the pole is formed, which are adapted to interlock when the pole is formed to permanently fix the pole in its finished condition.

To attach the cross arms 2 to the pole, we provide the brackets illustrated clearly in the sectional views, each of said brackets comprising an inner section 5, having a flat base 6 which is adapted to fit close against the cross arms, and a concaved seat 7 which is adapted to fit close against the pole body. The outer bracket section 8 is adapted to embrace the side of the pole body opposite section 5 and is also provided with a concaved seat which is adapted to fit close against the pole body. The concaved seats of both sections are preferably provided with sockets 9 for receiving the pole ribs 3, and their outer faces with grooves 10 within which a stirrup 11 may seat.

Stirrup 11 is preferably U shaped in order to correspond to the contour of the outer bracket section, and has extended legs which are adapted to extend through apertures 12 in the cross arms 2.

13 designates washers which are fitted over the ends of the stirrup legs and bear against the cross arms, and 14, nuts which are threaded on the ends of the stirrup legs to securely anchor the parts together.

15 designates a step which is adapted for application to the pole by providing the inner, longitudinal edge of the step with a groove 16 into which one of the pole ribs is adapted to fit, the lips at the sides of the grooves being perforated to receive a bolt 17 by which the said lips are tightened against the pole rib.

18 designates a foot piece which projects from the step opposite the grooved side and may be of any suitable structure.

In forming our improved pole structure, we prefer to first corrugate a piece of sheet metal of proper dimensions, and form same on a roll to interlock the lipped edges and secure the proper contour of the finished article, the corrugations in the sheet being of substantially the same width throughout the length of the sheet. When the piece is rolled, the sheet body is brought together at the mouth of each corrugation so that a substantially unbroken inner surface is provided in the finished product, the sides of the projecting ribs being inclined inwardly toward the closed mouth.

To apply the cross arms, the bracket sections are fitted over the pole, with the sockets 9 over the ribs 3, and the stirrup fitted into the bracket grooves and through the apertures in the arms, the nuts 14 being tightened against the arm parts to firmly anchor the arm and bracket sections in their assembled condition.

In order to permit proper adjustment of the bracket and arm parts, the ends of the bracket sections are not permitted to meet and prevent the requisite tightening of the stirrup.

To fit the foot piece to the pole, the grooved side of the piece is placed against the pole so that one of the ribs projects into the groove 16. The bolt 17 is then tightened to draw the lips tightly together and bind the foot piece tightly to the pole. Because of the increased projection of the ribs as they near the pole base, a wedge is formed that assists in clamping the foot piece to the pole.

Having thus described our invention, what we claim as new therein and desire to secure by Letters Patent is:—

1. A sheet metal pole, having ribs of substantial projection at the pole base and tapering inwardly to a materially smaller projection near the pole tip, substantially as set forth.

2. A pole, formed from a single piece of sheet metal, having a body provided with projecting ribs, the sides of which meet at their bases, substantially as set forth.

3. A pole, formed from a single piece of sheet metal, having its body provided with projecting ribs which taper from a substantial projection at the pole base to a materially smaller projection near the pole tip its smaller end, and means on the longitudinal edges of said body for uniting same to form a rigid pole unit.

4. A pole, formed from a single piece of sheet metal having corrugations projecting from its outer face, the sheet being bent to close the mouths of said corrugations and form a post body, circular in cross section.

5. A pole, formed from a single piece of sheet metal having tapering sides and corrugations having a substantial projection at the wider end of the sheet and a materially smaller projection near the narrower end of the sheet, said sheet being bent to form a post body, that is circular in cross section, and close the mouths of said corrugations, for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

HARRY A. RUGGLES.
CHARLES A. THOMPSON.

Witnesses:
MYRTLE M. JACKSON,
E. A. CAHILL.