

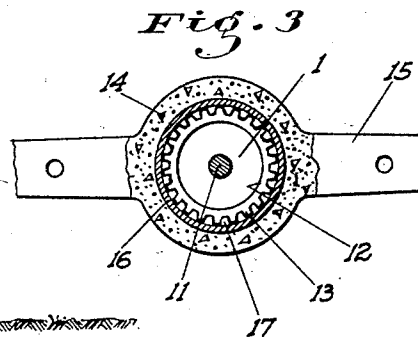
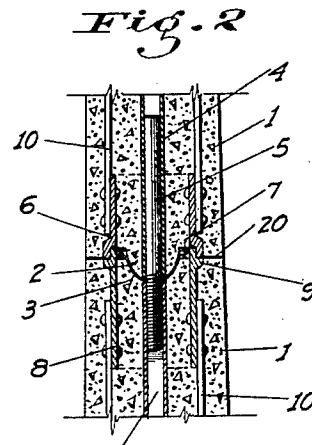
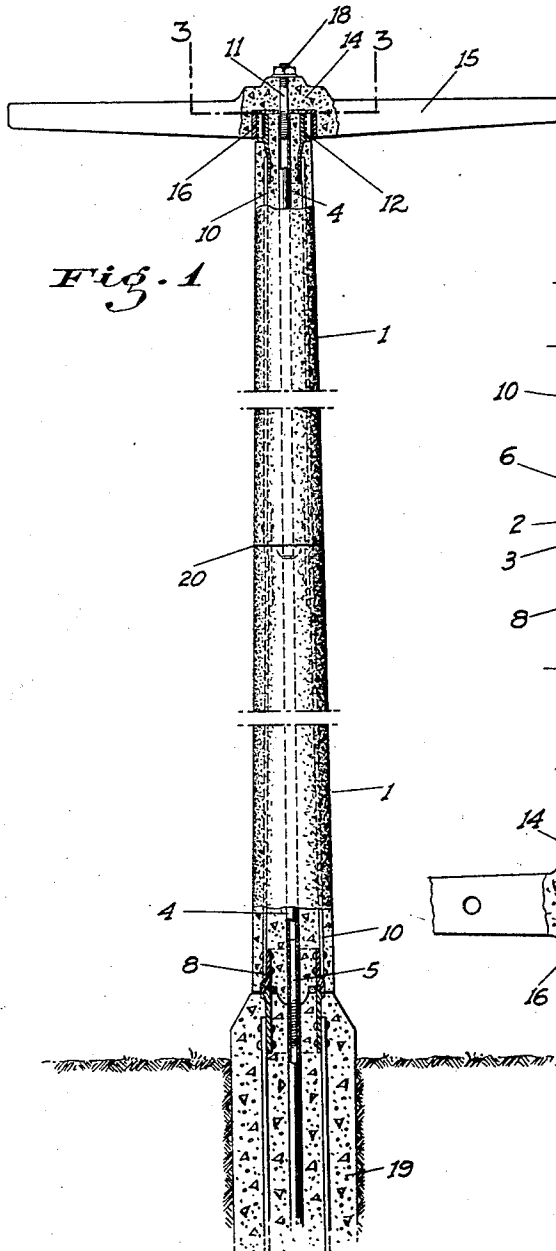
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SECTIONAL CONCRETE POLE

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SECTIONAL CONCRETE POLE.

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To all whom it may concern:

Be it known that I, ALFRED C. ROSS, a citizen of the United States, residing at Valley Springs, county of Calaveras, State of California, have invented certain new and useful Improvements in Sectional Concrete Poles; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked therein, which form a part of this application.

This invention relates to improvements in pole construction and particularly to concrete poles especially intended for use for telegraph and telephone purposes, as well as for power line transmission purposes to take the place of the wooden poles commonly used.

Wood poles, while having their advantages, are not only subject to decay from weather and age conditions but disposed across wood or brush are liable to be burnt should a forest or brush fire occur.

A concrete pole which is non-inflammable and not affected by the elements is therefore the ideal pole for use under such conditions, but it is not feasible to make the pole of one piece as concrete piles and the like are made, since it would be impractical to make the poles on the job, and next to impossible to transport complete one-piece poles from a base of supplies or the factory, to the places where they are to be erected. This is on account of the fact that such places are very often inaccessible to wheeled transportation means and pack animals and the like must be used, whose carrying capacity is of course limited.

The principal object of my invention therefore is to provide a pole formed of a number of detachable sections, each section having means for enabling an adjacent section to be connected thereto in such a manner that the complete pole, when assembled, will be practically as strong as a one-piece pole. These sections are preferably of such a length that one or more of them may be readily carried by pack animals or any other means of transportation available.

Another object is to arrange metal connecting means between the sections, such that when assembled said means will be completely enclosed and concealed and are therefore protected from corrosion.

A further object is to provide a concrete cross arm structure for the top of the pole, formed as a separate member and to provide means between said structure and the pole so that the cross-arms may be set at practically any desired angle without moving the pole and by which the cross-arms will be rigidly held in any position in which they may be finally assembled.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation of the pole foreshortened and partly in section.

Fig. 2 is an enlarged fragmentary section of two adjacent pole sections assembled.

Fig. 3 is a cross section at the top of the pole on the line 3—3 of Fig. 1.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the pole sections of suitable length and diameter. The lower end of each section is formed, a considerable distance inwardly of the outer periphery thereof, with a substantially semi-spherical knob or projection 2, which is adapted to fit into a correspondingly shaped socket 3 in the upper end of the adjacent section.

A tubular metal reinforcing member 4 runs continuously through each section from and to the end thereof concentric with the knob and socket and with the outer peripheries of the sections. At the lower end of each tube a stud 5 is fixed therein and projects therebelow to screw into the adjacent end of the tube of an adjacent section or into a nut fixed in said tube. Embedded in the lower end of each section is a metal ring 6 concentric with the stud. The outer end of said ring lies flush with the bottom of the section outwardly of the ring, but the concrete is removed from the inner periphery of said ring for a certain extent of the depth thereof, as shown at 7.

Fixed in the upper end of each section is a similar ring 8 which however extends above the top of the section to project inwardly of the ring 6 with a neat but not too tight fit. Projecting outwardly from the ring 8 flush with the top of the concrete is a flange 9 on which the lower end of the ring 6 is

adapted to rest, so that the latter will not come into direct contact with the concrete and tend to chip or disintegrate the same.

The rings 6 and 8 of each section are connected by a number of suitable reinforcing rods or bars 10 embedded of course in the concrete.

The top-most section of the pole has a stud 11 projecting upwardly above its tube 4 and its upper ring 12 projects above the top of the section and is formed on its outer periphery with teeth 13 similar to those of an ordinary spur gear, as shown in Fig. 3.

Adapted to fit over the top of the upper section is a cap 14, through which the stud projects, said cap having diametrically opposed cross-arms 15 to receive the usual wire supporting insulators. The under side of the cap is socketed, the sides of the socket being surrounded by a metal ring 16 embedded in the cap and having teeth 17 on its inner periphery to fit over and mesh with all the teeth 13.

On this manner the cap may be located with the arms to any desired angle and upon lowering the cap into position the latter will be positively held from rotation. A nut 18 is then screwed onto the stud 11 from above the cap to prevent vertical movement of the latter.

A base section 19 of practically the same construction as the sections 1, but of somewhat greater diameter than the same, is adapted to be set into the ground a suitable distance, as is customary. The adjacent section is adapted to be secured to said base in the same manner as are the different sections to each other, as plainly shown in Fig. 1.

In assembling the pole, the different sections of the entire structure may if desired be assembled while lying on the ground, or they may be erected one after the other. This operation of course depends upon conditions met with in the field and shall appear to be most practical from a standpoint of the lay-out of the ground and of the equipment at hand for doing the job.

The different sections when being assembled are preferably cemented together by a grout of cement, as shown at 20, this grout of course closing and sealing all openings which might exist between the sections and positively preventing moisture from getting at the metal parts.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While the specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A concrete pole comprising a plurality of independent sections, connecting means between the sections arranged centrally of the cross sectional area thereof, a metal ring embedded in one end of each section and lying flush with the end thereof, the concrete being removed from around the inner periphery of the ring for a certain portion of the depth thereof, and a similar ring on the other end of each section projecting a certain distance outwardly thereof and adapted to fit inside the first ring of an adjacent section, the sections then abutting outwardly of the rings whereby the latter are concealed.
2. A concrete pole comprising a plurality of independent sections; connecting means between the sections arranged centrally of the cross sectional area thereof, a metal ring embedded in one end of each section and lying flush with the end thereof, the concrete being removed from around the inner periphery of the ring for a certain portion of the depth thereof, a similar ring on the other end of each section projecting a certain distance outwardly thereof and adapted to fit inside the first ring of an adjacent section, and a metal flange projecting outwardly from the last mentioned ring and on which the adjacent edge of the other ring rests.

3. In connection with a concrete pole and a separate concrete cross arm therefor, a metal ring set over the concrete on top of the pole, the outer periphery of said ring being vertically corrugated, and a metal ring set in the concrete of the cross arm, said last named ring having corrugations on its inner periphery to cooperate with the corrugations on the first named ring.

In testimony whereof I affix my signature.
ALFRED C. ROSS.