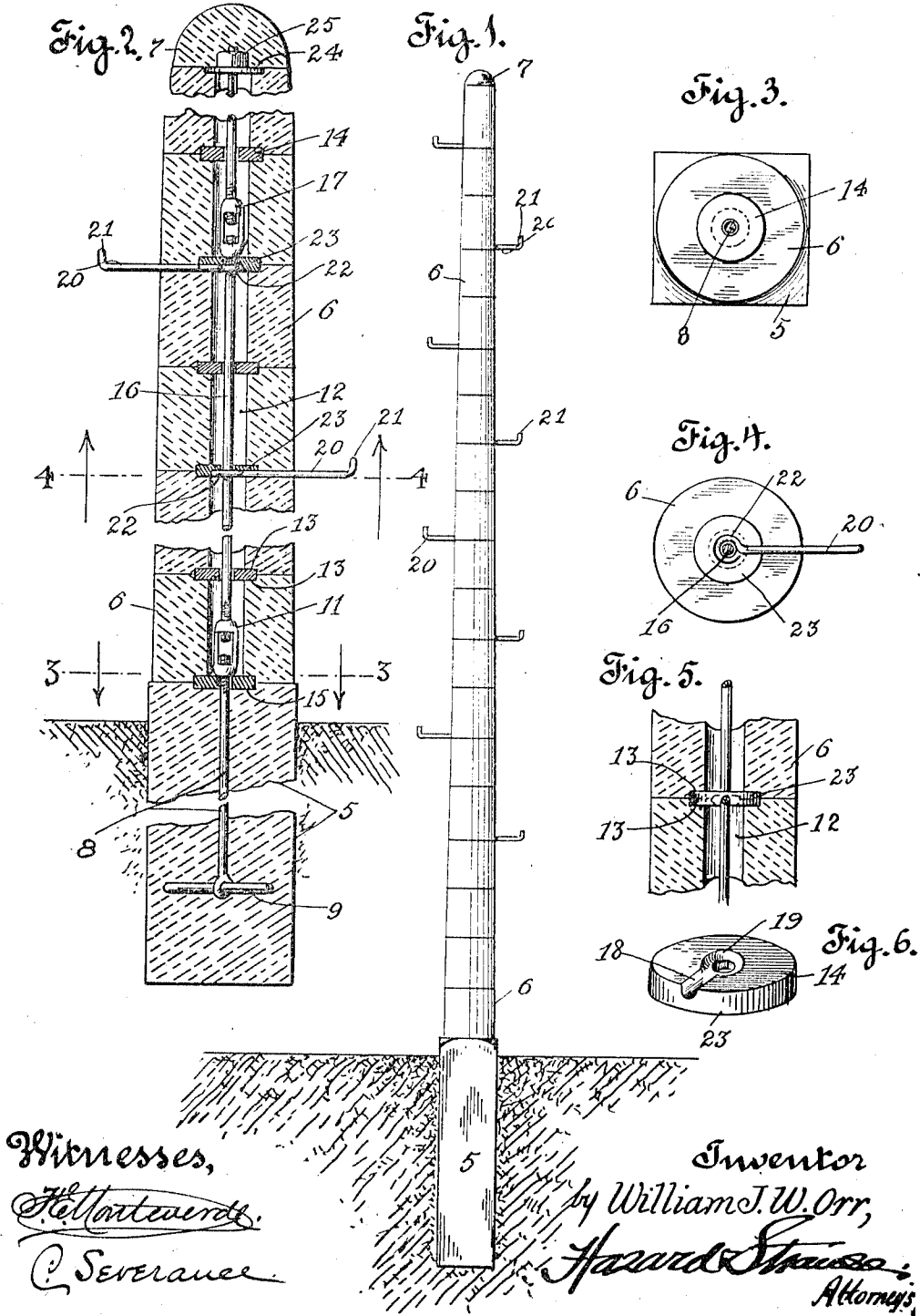


W. J. W. ORR.
SECTIONAL CONCRETE TELEGRAPH POLE.
APPLICATION FILED DEC. 27, 1910.

1,012,423.

Patented Dec. 19, 1911.



UNITED STATES PATENT OFFICE.

WILLIAM J. W. ORR, OF ANAHEIM, CALIFORNIA.

SECTIONAL CONCRETE TELEGRAPH-POLE.

1,012,423.

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed December 27, 1910. Serial No. 599,591.

To all whom it may concern:

Be it known that I, WILLIAM J. W. ORR, a citizen of the United States, residing at Anaheim, in the county of Orange and State of California, have invented new and useful Improvements in Sectional Concrete Telegraph-Poles, of which the following is a specification.

This invention relates to improvements in poles and particularly to telegraph poles and it is the object of the invention to provide a composite pole that may be built up of sections made of any suitable material, and connected so as to be held firmly together.

It is a further object of the invention to provide a composite pole with end to end sections, having step pieces inserted at intervals, the whole structure being held together by an internal sectional bolt mechanism.

In the drawing forming a part of this specification, Figure 1 is a side elevation of a composite pole constructed in accordance with the present invention. Fig. 2 is an enlarged longitudinal central sectional view through the said pole, intermediate portions of the pole being broken away to permit of the parts being shown on the enlarged scale. Fig. 3 is a cross sectional view of the pole taken upon the line 3—3 of Fig. 2. Fig. 4 is a cross sectional view taken upon the line 4—4 of Fig. 2. Fig. 5 is a detail fragmentary view in section showing portions of adjacent pole sections, and the means for securing them together internally. Fig. 6 is a detail perspective view of one of the intermediate washers adapted for use in connection with a step piece, the said washer being inverted to show the groove upon the under side thereof.

Referring now more particularly to the parts, 5 indicates a base or foundation section, 6 intermediate sections applied end to end and 7 a cap piece placed upon the top of the pole. The base section 5 is made of suitable length to extend into the ground an ample distance to properly support the pole and is usually formed of cement or concrete having a central bolt rod 8 embedded therein. The lower end of the rod 8 engages a cross bar 9 also embedded in the cement or concrete, while the upper end of the rod projects a short distance above the upper end of the section 5 and is provided with screw threads, adapted to engage a turn-buckle as 11. The intermediate sections 6

are preferably made similar to each other throughout the length of the pole but are generally slightly tapered, each successive one above another being somewhat reduced in size, so that when they are all secured together the pole has the proper tapered shape from the bottom toward the top. The said intermediate sections are generally formed of cement or concrete or other similar composite material, and each of said sections is provided with a central bore 12 through which the bolt means for holding the parts of the pole together, passes. The meeting ends of the said sections are provided with counter sinks or recesses 13 forming the space between the sections for receiving washers or disks 14. The same kind of recess is also formed at 15 in the upper end of the base section 5. Each of the washers 14 is made of sufficient width to extend into the recesses or adjacent pole sections and thus prevent the said sections from slipping with respect to each other. One of the washers 14 is placed in position upon the upper end of the base before the turn buckle 11 is secured in place upon the end of the bolt rod 8. Another section of the bolt as for instance 16, is then secured into the upper end of the turn-buckle 11 and other pole sections and washers are threaded upon and put in place around the same. As many bolt sections may be employed as required for building the pole to the desired height. Other turn-buckles as 17 are also employed to connect the adjacent ends of the various bolt sections.

In making poles for telephones and telegraph use it is also desirable to provide steps at suitable intervals for affording means for climbing the said pole. For this purpose some of the intermediate washers between the pole sections 6 are provided with radial grooves 18 extending from the center out to the edge thereof, an annular groove 19 being also provided at the inner end of the groove 18 and surrounding the bolt or central tie rod. Steps are provided formed of rods 20 having their outer ends, preferably turned up at 21 to prevent slipping of the feet of the climber while their inner ends are formed with eyes 22 adapted to be threaded upon the central bolt or tie rod as the parts are assembled. The inner ends of such step pieces will fit in the grooves 18 and 19 of the washers 23 which are located at the points where the steps are to be placed.

After the pole has been built up to the desired height a washer 24 is placed upon the top section in the counter-sunk recess therein and a nut 25 is secured upon the end of the bolt or tie rod for binding the parts of the whole pole together. Any suitable cap as 7 preferably made of the same material as the pole section and formed with a recess to fit upon the nut 25 is placed upon the upper end of the pole as illustrated in Figs. 1 and 2.

It will be observed that such a pole can be readily made of indestructible material and can be built to various heights and accommodated to various purposes and will form a pole that will not be decayed.

What I claim is:--

1. A composite pole comprising a series of hollow sections, applied end to end, a sectional tie bolt passing longitudinally through all of said sections, turn-buckles connecting the adjacent ends of the tie bolt, the interior diameter of the section being ample to slip over the said turn-buckle, washers threaded upon the tie bolt and counter sunk in the adjacent ends of the pole sections for preventing their slipping, and step pieces mounted between some of the sections of the pole.

2. A composite pole comprising a series of end to end hollow concrete sections, the inner diameter being large enough to permit the section to slip loosely over the inner connection of the pole, an elongated base

section adapted to extend into the ground a distance and having a cord bolt section anchored therein, other bolt sections extending upwardly through the hollow pole sections, adjusting means for connecting the bolt sections, step pieces arranged between some of the pole sections, washers slipped upon the tie bolt and having recesses formed therein for receiving the ends of the said step pieces.

3. A composite pole formed of a plurality of concrete sections applied end to end and having opposing recesses extending into their meeting end portions, washers interposed between said concrete sections and seated in the recesses formed in the meeting ends thereof for preventing the slipping of the sections, a sectional bolt extending through the concrete sections and having adjusting connections for holding the bolt sections together, the bore of the concrete sections being large enough to slip loosely over said adjustable connections, a nut and washer at the upper end of the pole for binding the parts together and a cap piece fitting over the top of the pole and the said nut and washer for completing the structure.

In witness that I claim the foregoing I have hereunto subscribed my name this 16th day of December, 1910.

WILLIAM J. W. ORR.

Witnesses:

EDITH STADLMAN,
EARLE R. POLLARD.