

J. A. GRIFFIN.
SECTIONAL REINFORCED CONCRETE POLE.
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1,033,887.

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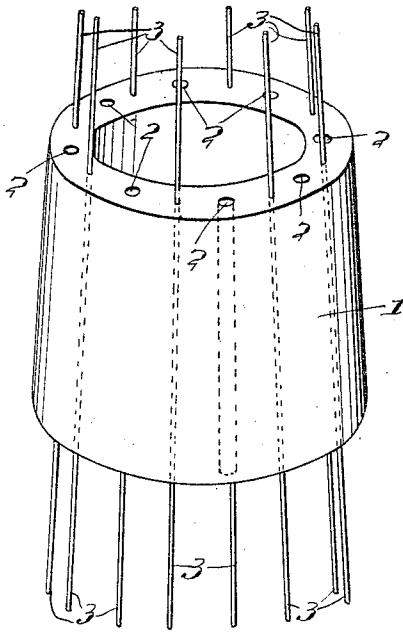


Fig. 1.

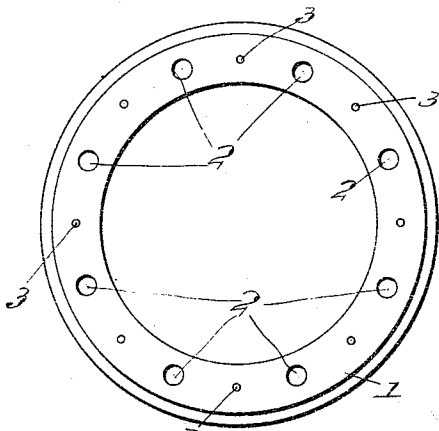
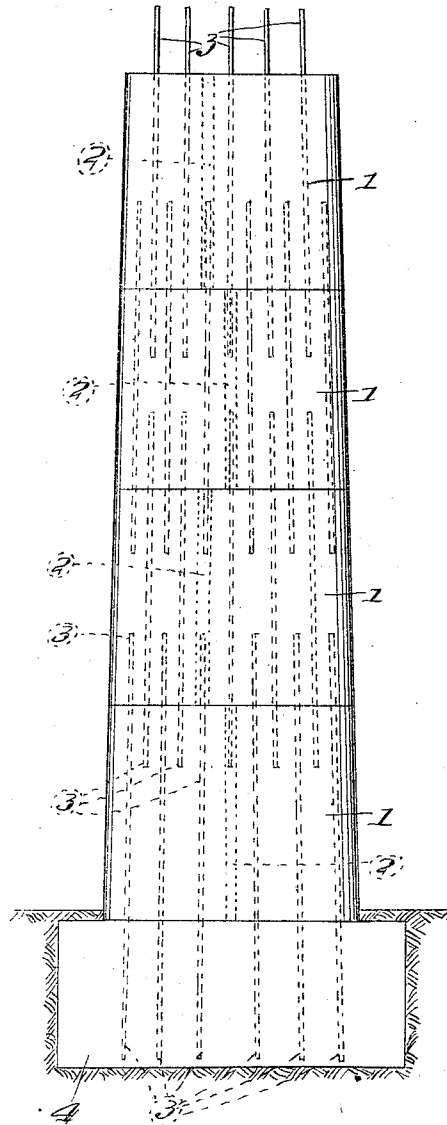


Fig. 2.

Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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SECTIONAL REINFORCED-CONCRETE POLE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN A. GRIFFIN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Sectional Reinforced-Concrete Poles, of which the following is a specification.

This invention relates to certain new and useful improvements in sectional reinforced concrete poles.

The essential object of the invention is to provide a structure of this type wherein the pole is made in sections at the factory or other place, and conveyed or transported to the point or points at which the poles are to be erected, and the invention further aims to provide a pole which has strength equivalent to that of a monolithic pole and possesses the advantage over the latter of safety and economy in transportation, manufacture and erection.

Further and other objects will be later apparent.

In the drawings: Figure 1 is a perspective view of one of the sections, Fig. 2 is a top plan view thereof, and Fig. 3 is a side elevation showing a pole in the process of erection.

In accordance with the present invention the pole is made of a plurality of sections 1 which are of suitable shape and dimensions. In the present instance I have illustrated a pole of tapering form in which the same is wide at the base and decreases in diameter toward the top. The sections are depicted in the drawings as of annular or cylinder-like conformation, having hollow interiors. It will be understood however, that any other cross sectional shape of the sections may be employed without departing from the spirit or scope of the invention.

As clearly depicted in Fig. 1 of the drawings each section is formed with a plurality of spaced longitudinal perforations 2 which extend through the top and bottom of the section. Each section is molded with a plurality of longitudinal rods 3 which at their ends extend beyond the top and bottom faces of the sections, the rods 3 being located in the spaces between the perforations 2 as clearly shown in Figs. 1 and 2 of the drawings. It will be observed that the rods 3 are of less cross sectional area than that of the perforations 2 for a purpose shortly to be described.

By referring to Fig. 3 of the drawings it will be seen that a base block or other suitable foundation 4 which may be formed of concrete, is provided, the latter having a series of vertical perforations formed therein, into which the lower ends of the rods 3, that project from the bottom face of the lowermost section, project. The base 4 may be either molded with the perforations to receive the rods 3 or the latter may be forced into the base while the latter is in a semi-plastic state. The lower face of the lowermost section 1 seats on the top face of the base 4 and when the latter sets or hardens, it will be obvious that the lowermost section will be held rigidly against any movement. If the foundation 4 is previously formed with perforations, same are made sufficiently large to receive grout or wet concrete which will permit the rods of the lowermost section to be embedded therein.

After the lowermost section has been positioned as above set forth wet grout or concrete is poured into the perforations 2 thereof and before the same has set or hardened the lower ends of the rods 3 of the adjacent upper section are then inserted into the perforations 2 and are embedded in the concrete or grout therein. The upper ends 3 of the lowermost section project into the perforations 2 of the said adjacent upper section, and said perforations 2 of the latter are then filled with wet grout or concrete so as to completely fill said perforations and to completely surround the upper ends of the rods 3 of the lowermost section which extends in said perforations. The above operation is repeated until the pole has attained the desired height, after which a cap or other suitable top is either molded or secured thereon in any approved or suitable manner.

It will be seen from the above that the sections can be easily packed and safely transported or shipped, and that a pole may be made of any desired or required height. The pole can be made of the same diameter throughout instead of tapering as illustrated in the drawings, and since each section has rods which project above and below the same into the perforations of adjacent sections and the adjacent sections have rods which project into the first named section, the sections cooperate to reinforce and strengthen one another, and produce a pole which is possessed of great strength

and rigidity. Moreover, the rods of each section materially strengthen the same.

In Fig. 3 merely a few of the perforations 2 are indicated in dotted lines, the others being omitted for sake of clearness. Concrete bonds may also be placed in the joints between the ends of the adjacent sections.

In cases where the poles are used to support telephone or telegraph wires, a cross arm or cross arms of wood, concrete, or other material, can be attached to the poles at the desired height by bolting, clamping or by any other suitable means.

What is claimed is:

1. A concrete pole including a series of sections arranged in superposed order, each section having spaced longitudinal perforations that extend through the ends of the sections and rods in the spaces between the perforations whose ends project beyond the ends of the section, the rods of one section being received in the perforations of the two adjacent sections, and the rods of said two adjacent sections being received in the perforations of said first named section.

2. A concrete pole section composed of a hollow body having reinforcing rods therein which extend beyond the ends thereof, said body having a series of spaced longitudinal openings therein, located between said rods and extending through the ends of the body.

3. A concrete pole consisting of a base block, a vertically arranged section having its lower end seating on said base block, a series of spaced vertical rods embedded in said section and projecting beyond the top and bottom thereof, the lower ends of said rods projecting down into the base block, said section being formed with a series of vertical openings that are disposed in the spaces between said rods, a second vertical section having its lower end seating on the upper end of the first section, a series of

rods embedded in the second section and projecting beyond the top and bottom thereof, said second section having a series of vertical openings that extend through the ends thereof and are located in the spaces between said rods thereof, grout filling the openings of both of said sections, the lower ends of the rods of the second section extending into the openings of the first section and being embedded in said grout therein, a third section that seats on the upper end of the second section, said third section having vertical openings filled with grout into which the rods that extend from the top end of the second section project, and rods embedded in the third section in the spaces between the openings thereof and projecting down into the openings of the second section and being embedded in the grout therein.

4. A concrete pole including a plurality of vertically arranged sections, the lower end of one section seating on the upper end of the adjacent lower section, each section being formed with a series of spaced vertical openings that extend through the top and bottom thereof, a series of rods embedded in each section in the spaces between the openings thereof and projecting beyond the top and bottom thereof, and grout in said openings, the projecting ends of the rods of one section extending into the openings of the adjacent section and being embedded in the grout therein, whereby each rod at its ends extends across the joints formed by the abutting sections.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN A. GRIFFIN.

Witnesses:

L. P. ABELL,
ALBERT E. TIMMONS.