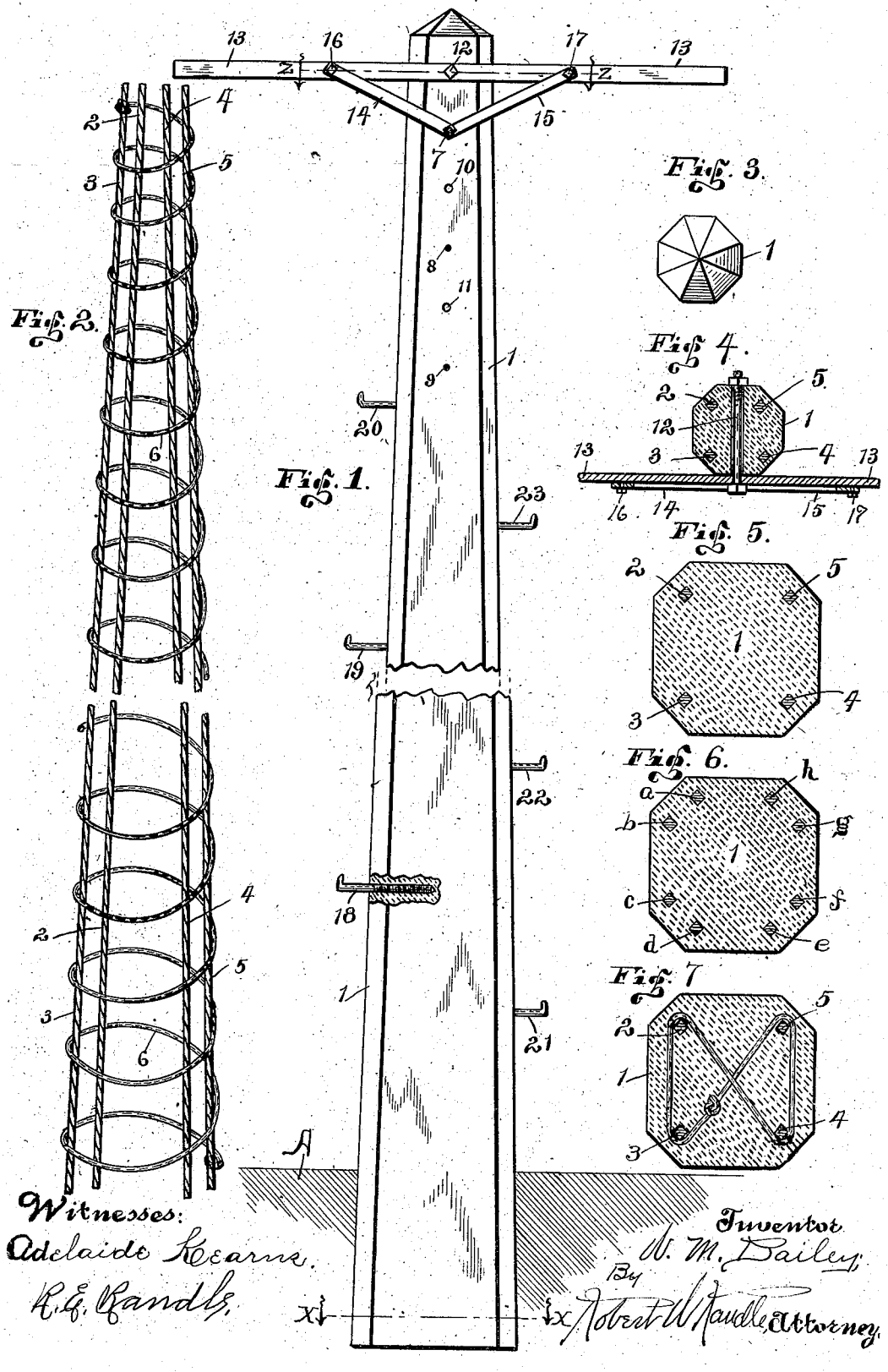
No. 867,335. PATENTED OCT. 1, 1907.

W. M. BAILEY.

CEMENTITIOUS POLE FOR SUPPORTING OVERHEAD WIRES AND THE LIKE.

APPLICATION FILED DEC. 17, 1906.



Witnesses:
Adelaide Kearns.
R. E. Randle.

Inventor
W. M. Bailey,
By
Robert W. Randle, Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM M. BAILEY, OF RICHMOND, INDIANA, ASSIGNOR TO THE AMERICAN CONCRETE POLE COMPANY, OF RICHMOND, INDIANA, A CORPORATION.

CEMENTITIOUS POLE FOR SUPPORTING OVERHEAD WIRES AND THE LIKE

No. 867,335. Specification of Letters Patent. Patented Oct. 1, 1907.

Application filed December 17, 1906. Serial No. 348,131.

To all whom it may concern:

Be it known that I, WILLIAM M. BAILEY, of the city of Richmond, in the county of Wayne and State of Indiana, have invented new and useful Improvements in Cementitious Poles for Supporting Overhead Wires or the Like, of which the following is a complete and accurate specification and exposition, being such as will enable others skilled in the art to which the invention pertains to make and use the same with absolute exactitude.

This my present invention consists in a petrous or cementlike pole or post, intended more particularly for supporting overhead telephone or telegraph wires, although it may with equal aptitude be employed for other analogous purposes.

The object of my invention, broadly speaking, is the production of a solidified cementitious pole for supporting wires, cables, et cetera; which will be strong and durable in construction, having great tensile strength, which will be economically efficient, being impermeable to moisture, and which will not deteriorate by long usage or exposure to the weather.

More specifically my object is to produce a pole-like structure proportionable to the amplitude of its various requirements, comprising a petrous or stone-like body interiorly reinforced with metal whereby it may have a certain amount of flexibility without danger of breaking, and whereby the danger of its breaking or crumbling is practically *nil*.

Another object is to provide a cement pole containing a maximum height with a minimum diameter, which is obtained by reason of a predetermined amount of cementitious compo molded about a skeletonized fabrication of metal, which when completed and desiccated will present smooth superfices and, preferably, truncated corners. And, finally, my object is to provide a practically non-destructible and non-deteriorating pole which can be manufactured and sold at a comparatively low price, having means whereby cross-arms may be secured thereto, and having means whereby it may be scaled when it is in a vertical position.

Other objects and particular advantages will be made apparent in the course of the ensuing specification.

The preferred embodiment of my invention, and that which in practice has been determined the most practical is visualized in the accompanying drawings, in which—

Figure 1 shows a face view of my invention in operative or usable position and in its completed condition, showing the same of an indeterminable height and of the preferred dimensions in cross-section. Fig. 2 shows the skeleton or metal frame-work comprising a plurality of reinforcing means as contained in the completed pole. Fig. 3 is a plan view of the top of the pole. Fig. 4 shows a cross-section as taken on the line z—z of Fig. 1. Fig. 5 shows a cross-section as taken on the line x—x of Fig. 1. Fig. 6 shows a modification of the parts shown in Figs. 2, 4 and 5. And Fig. 7 shows another modification, or addition, which may be employed in the construction.

Similar characters denote like parts throughout the several views of the drawings.

In order that the construction and advantages of this invention may be the more readily understood I will now take up a detail description, in which I will refer to the various parts and the construction as briefly and as compactly as I may.

The pole proper, and the predominant element comprising the entire construction thereof, is the cementitious body 1 which should be formed tapering upwardly from base to apex as indicated, and it may be of any preferred configuration in cross-section, but I prefer that it be formed with four faces identical with each other, each face converging upwards. I also prefer that the pole be formed with truncated corners, forming four additional faces which are also identical with each other and of same width throughout their lengths, substantially as indicated in Fig. 1. The periphery of the top of the pole so formed describes a true octagon, from which it converges abruptly to the center forming a cone-like top, as is indicated in Figs. 1 and 3. The body so formed is reinforced by, preferably, four rods or bars, indicated by the numerals 2, 3, 4 and 5, which are square in cross-section. Said rods should be twisted separately forming each a spiral, as indicated in Fig. 1. Said rods I prefer to position near the corners of the pole, same being located substantially as indicated in Figs. 4 and 5, and they should extend longitudinally of the pole and from end-to-end thereof. In order to prevent said rods from pressing outwardly out of alinement with each other they should be encircled by a spiral wire 6 extending in convolutions therearound from top to bottom of the pole, as indicated in Fig. 2. This wire closely encircles the rods, and, as stated, confines them against outward displacement during the molding operation.

The numerals 7, 8 and 9 denote outwardly extending threaded bolts, their heads being embedded in the body 1, and their threaded portions protruding.

Formed through the upper portion of the pole are bolt-apertures 10 and 11, formed on a line with said bolts 7, 8 and 9. An aperture like unto the said apertures 10 and 11 is formed through the pole at a point above the bolt 7 through which passes the bolt 12. The numeral 13 designates a cross-arm which is secured in its center to the pole by said bolt 12. Said cross-arm is further secured by the two braces 14 and 15 whose overlapping inner ends are secured to the pole by the said

bolt 7, and the outer diverging ends of said braces are secured to the cross-arm by the respective bolts 16 and 17, as shown in Fig. 1. It is notably apparent that other cross-arms may be secured to the pole by passing bolts, like the bolt 12, through the apertures 10 and 11, and the braces for such additional cross-arms being securable by the bolts 8 and 9.

In order that the pole may be scaled I provide steps, as for instance the steps 18, 19 and 20, and 21, 22 and 23, each having its threaded end embedded in the body of the pole, as is shown by the step 18 in Fig. 1.

The letter A designates the ground-line, it of course being understood that the pole just described is to be secured in the ground substantially as is indicated in Fig. 1.

If found advisable the rods 2, 3, 4 and 5 may be further secured with relation to each other by inter-cross wiring, as indicated in Fig. 7, which may be located at any desired distances apart between the base and top of the pole. And it is apparent that various forms of and means of attaching said cross wiring may be adapted to accomplish the desideratum.

In order to further increase the strength of the pole I have found it advisable, under certain conditions, to employ eight longitudinal rods, in place of four as described, as is indicated by the rods *a*, *b*, *c*, *d*, *e*, *f*, *g* and *h*, as shown in Fig. 6, said rods being in every essential particular like the rods 2, 3, 4, and 5, except in arrangement with relation to the body 1. Said eight rods I prefer to arrange in pairs, although they may be interspersed as desired.

In practice the pole may be constructed horizontally in molds or the like and after desiccating and solidifying it may be raised in the usual manner; or, probably the most preferable, it may be built up and formed entirely in the position and at the point it is intended to permanently occupy.

From the above it is apparent that I accomplish the objects of my invention in a practical and mechanical manner, thereby providing a pole which will have all of the essential requisites.

While I have herein shown and described the best means to me known at this time for the carrying out of the objects of my invention in a practical manner, I desire to have it distinctly understood that I do not restrict myself to the exact details of construction shown and described, but hold that any changes or variations therein as would suggest themselves to the ordinary mechanic would clearly fall within the limits and scope of my invention.

Having now fully shown and described my invention, what I claim and desire to secure by Letters Patent of the United States, is—

A reinforced cement pole consisting of an elongated cement body inclosing a plurality of longitudinal rods or the like remote from each other and disposed about the longitudinal axis of the body, and a wire or the like disposed in a continuous spiral about and closely encircling said rods substantially from end to end of the body.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

WILLIAM M. BAILEY.

Witnesses:
ROBERT W. RANDLE,
R. E. RANDLE.