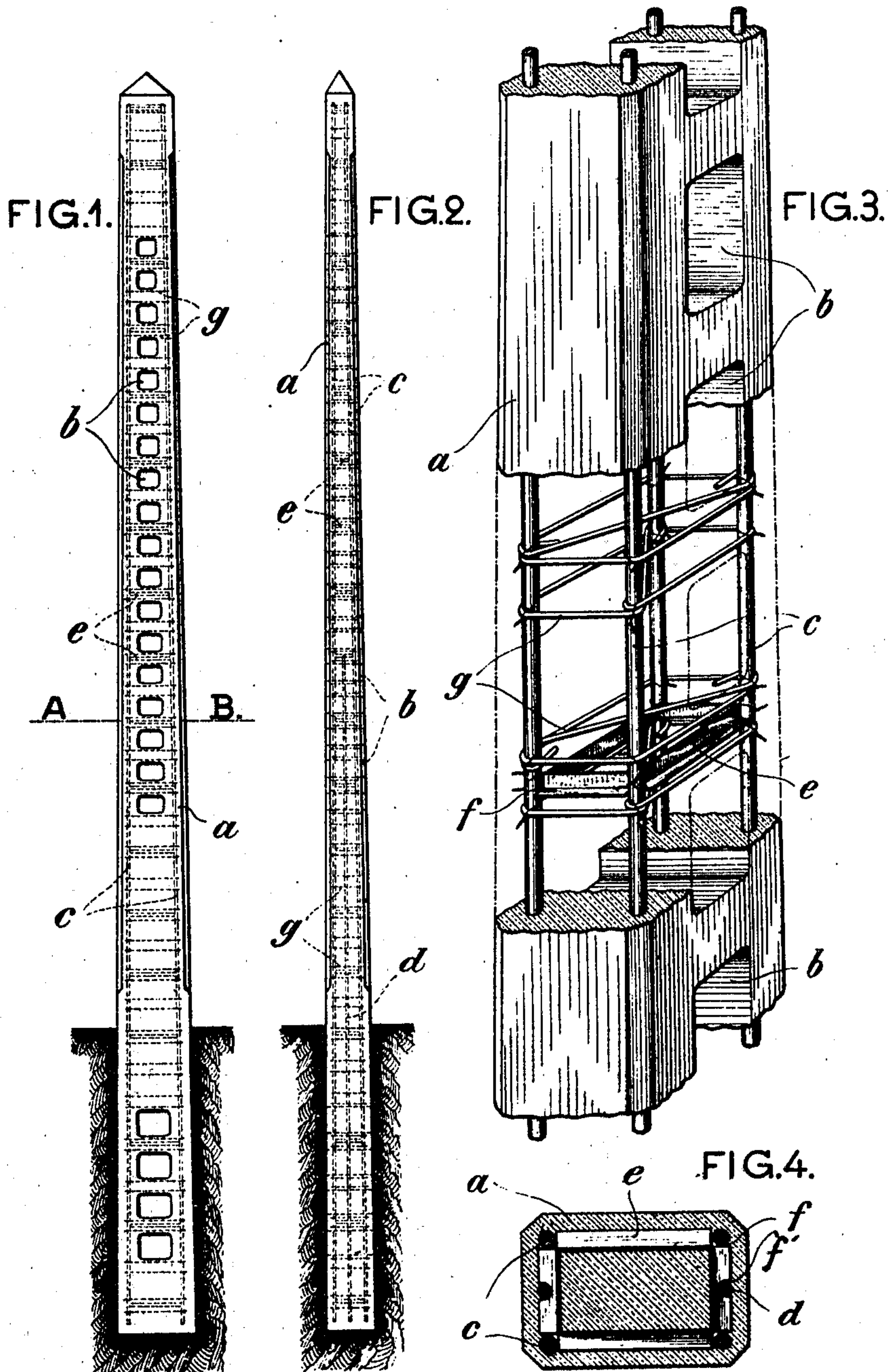


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POLE OF REINFORCED CONCRETE.  
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993,136.

Patented May 23, 1911.



Witnesses:  
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for Drafting Business



# UNITED STATES PATENT OFFICE.

RUDOLF WOLLE, OF LEIPZIG, GERMANY.

POLE OF REINFORCED CONCRETE.

993,136.

Specification of Letters Patent.

Patented May 23, 1911.

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*To all whom it may concern:*

Be it known that I, RUDOLF WOLLE, a citizen of Germany, residing at Gottschedstrasse 17, Leipzig, in the Kingdom of Saxony, Germany, have invented new and useful Improvements in Poles of Reinforced Concrete, of which the following is a specification.

The present invention deals with a pole of reinforced concrete specially devised for electric lines having an oblong cross section and openings or recesses allowing of climbing up to the top.

The reinforcement consists of longitudinal bars, transversely arranged clips passed around these and frames provided between the longitudinal bars and made of angle-iron or other similar material. These frames carry notches or recesses into which the longitudinal bars are pressed by means of clips. By the frames the longitudinal bars are directly adjusted to the exactly calculated position and are immovably retained therein during the stamping process.

The new pole is represented in the accompanying drawing, in which similar letters refer to similar parts throughout the several views, in one form of embodiment.

The Figures 1 and 2 show the pole in front and side view. Fig. 3 is a scenograph of a part of the pole with the concrete broken away here and there in order to show the reinforcement. Fig. 4 is a section taken on the direction of the line A to B of Fig. 1.

In the shown construction, the pole *a* has a rectangular cross-section and it is fitted at the broadside in the neutral sphere with the openings *b*. These latter are sufficiently big as to allow to put therein a foot and to climb up to the top of the poles without special expedients. The openings present still the further advantage that a saving in material is insured without affecting in the least the strain-resisting quality of the pole; they also allow the wind to pass through, thus reducing the wind-pressure.

In the corners of the pole there are arranged the iron-rods *c* passed longitudinally through it. Besides in the center-parts of the narrow sides of the pole are provided the longitudinal bars *d*, extending to nearly half its height. Intermediate these longitudinal bars *c* are provided oblong frames *e* composed of angle iron. Each frame comprises a horizontal flange and a vertical flange, the

latter being bent at right angles at the corners of the frame, while the former are here cut, so that rectangular corner recesses are formed within each horizontal flange. These recesses are adapted to accommodate bars *c*, arranged opposite the bodies of the horizontal flanges, so as to obtain a firm bearing against the edges thereof. The two shorter horizontal flanges of the oblong frame are provided with outer notches *f* adapted to accommodate rods *d*. Above and below each frame *e*, rods *c* are bound to each other by wire clips *g* which are passed around the longitudinal bars. In the shown form of embodiment two wire-clips are arranged at a small distance one above the other and intermediate two openings *h*, as the case may require. Each clip consists of a wire bent down in form of a hook at one extremity and catching with this end over one longitudinal bar. From this rod the wire is passed toward the diagonally opposite bar and therefrom outwardly around all the longitudinal bars. At the second extremity the wire catches then again with one hook over a longitudinal bar. The diagonal section of the clip arranged below frame *e*, connects two diagonally opposed bars *c*, while the diagonal section of the clip above the frame, intersects the lower diagonal clip section and connects the other two diagonally opposed bars, so that in this way all four bars are firmly tied to each other. By means of the clips *g*, attached to the separate longitudinal bars by binding wire or the like, the longitudinal bars are being firmly pressed into the recesses *f* of the frames *g*.

I claim:—

1. A concrete pole provided with a series of foot holes, a series of embedded frames formed of angle iron, each frame comprising a bent upright flange, and a horizontal flange having corner recesses, a series of upright bars fitted within the corner recesses and abutting against the horizontal flange-sections, and means above and below the frames for binding the bars to each other.

2. A concrete pole provided with a series of foot holes, a series of embedded frames formed of angle iron, each frame comprising a bent upright flange and a horizontal flange having corner recesses and outer notches, a first series of bars fitted into the corner recesses and abutting against the horizontal flange-sections, a second series of bars engag-



ing the notches, and means above and below the frames for binding the bars of the first series to each other.

3. A concrete pole provided with a series  
5 of foot holes, a series of embedded frames formed of angle iron, each frame comprising a bent upright flange, and a horizontal flange having corner recesses, a series of up-  
right bars fitted into the corner recesses and  
10 abutting against the horizontal flange-sec-

tions, binding wires encompassing the bars above the frames and diagonally connecting one pair of opposed bars, and binding wires encompassing the bars below the frames and diagonally connecting the second pair of op- 15  
posed bars.

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Washington, D. C."

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