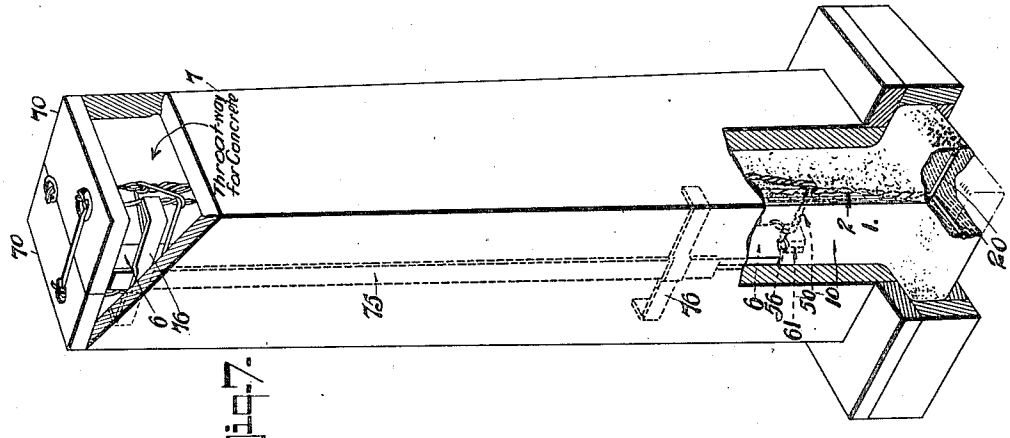
J. P. KIMBLE.

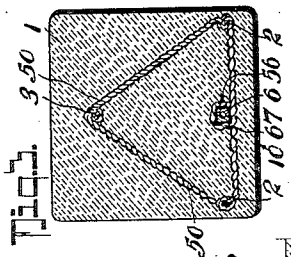
REINFORCED CONCRETE POST.

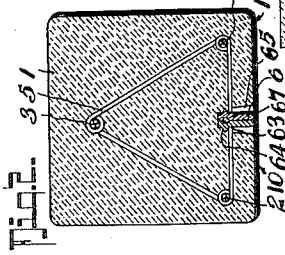
APPLICATION FILED NOV. 17, 1914.

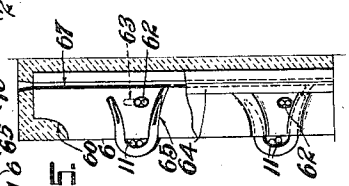
1,163,241.

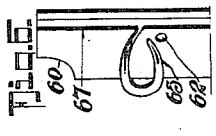
Patented Dec. 7, 1915.

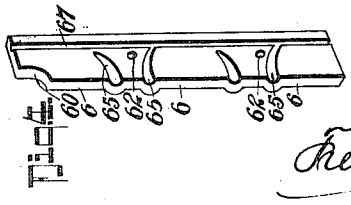












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UNITED STATES PATENT OFFICE.

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REINFORCED-CONCRETE POST.

1,163,241. Specification of Letters Patent. Patented Dec. 7, 1915.

Original application filed May 19, 1914, Serial No. 839,618. Divided and this application filed November 17, 1914. Serial No. 872,552.

To all whom it may concern:

Be it known that I, JAMES P. KIMBLE, residing at What Cheer, in the county of Keokuk and State of Iowa, have invented a new and Improved Reinforced-Concrete Post, of which the following is a specification.

My invention has reference to improvements in reinforced posts formed of plastic material, and it primarily has for its object to provide a new and improved reinforced concrete post of a simple and economical construction, that can be readily constructed at concrete plants or such places where it is to be used, and which effectively serves its intended purposes.

My invention, in the practical embodiment thereof, comprehends a post of the character described, in which the reinforcing elements are such and coöperatively so arranged with an anchoring means that holds the wire supporting staples, so that the wires are securely held clamped up against the face of the post and in such a manner that the necessity of grooving or chipping the edges of the post body, as is usual in many forms of concrete posts, is entirely avoided.

My invention, in its more complete make-up, also includes an improved arrangement of the reinforcing elements that add stability and strength to the post at the ground line, where the post is usually subjected to the greatest strain.

In the practical arrangement of my invention, an anchoring element is included that is so combined with the reinforcing members that the entire metallic structure of the post, can be readily supported within the mold box during the operation of casting the plastic body and with the wire holding eyes or staples firmly clamped to the anchor member, the reinforcing means also including horizontal members for trussing and bracing the vertical members thereof, the latter also having their lower or base portions formed with lateral extensions adapted for being transversely embedded in the plastic body and which renders the handling of the wire reinforcing sections and the shipping of such sections, the more convenient.

With still further objects in view, all of which will be hereinafter explained, my invention comprises a post of the character stated that embodies the peculiar features of construction and the detailed combination of parts, all of which will be fully described, specifically pointed out in the appended claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of my improved reinforced concrete post, the plastic body portion being indicated in faint lines to the more clearly illustrate the construction and arrangement of the reinforcing and anchoring elements. Fig. 2 is a horizontal section thereof on the line 2—2 on Fig. 1. Fig. 3 is a similar view on the line 3—3 on Fig. 1. Fig. 4 is a perspective view of a portion of one of the sections of the "anchor" device hereinafter referred to. Fig. 5 is a vertical section of a portion of the said anchor device with the wire staples or holders in place thereon. Fig. 6 is a detail view of a slightly modified form of the staple sockets in the anchor device. Fig. 7 is a perspective view of a mold box and illustrates the manner in which the plastic body is cast around the anchoring device and the reinforcing elements.

In my improved reinforced concrete post, (the general construction of which is clearly shown in Fig. 1 of the drawings), 1 designates the plastic (concrete) body of the post, which is molded upon the reinforcing elements and the anchoring device presently fully described, in the manner to be hereinafter explained in detail.

The reinforcing elements consist of a plurality of vertically extended members, which may be of any desired number, but preferably three, arranged in triangular position, two of such members, designated 2—2, being located near the corners of the front face 10, of the post, while the other or rear one 3, is located near the back face of the post body and centrally thereof, as is clearly shown in Fig. 3.

The front members 2—2 are formed of two wire strands twisted about each other, while the rear one 3 of the said members is formed of a greater number of twisted strands to give it the strength necessary to stand the strain thereon.

The several reinforcing members 2—2 and 3 are braced by horizontal bracing or binder members, as many of which are utilized as the particular size of the post may require, the purpose of such bracing or binding members being to provide the desired rigid-

ity or reinforcement for the post body, and all of the said binder or bracing members, except the one next to the ground line, may be in the nature of a single wire strand 5, that is twisted about the front and end vertical members 2—2 and 3 and whose free ends extending inwardly from the front members 2—2 and engage with the anchoring device presently again referred to. The lower ends of each of the vertical members 2—2 and 3 are bent to form lateral extensions 20—30, and the said extensions form holds for conveniently handling the said members 2—2 and 3 in shipping, they also form interlocking members, since they are laterally embedded in the concrete body when the plastic material is poured into the mold, as hereinafter explained.

The binder or bracing member 50, located at the ground line of the post, is made of two or more wire strands twisted about each other, and the said binder 50 is twisted about the vertical members 2—2 and 3, is wound about the lower end of the anchor device and has its ends joined to each other, the same forming, as it were, an endless horizontal bracing member. By reason of making the bracing member 50, as stated, and locating it at the ground line of the post, additional strength is added to the post at the base or ground line thereof where the greatest strain on the post exists, and to still further increase the stability of the post, at the said ground line, the binder or brace 50 is of somewhat larger size than the other or upper binders 5, to thereby bulge the said members 2—2 and 3 outwardly, to give them a trussed effect.

The anchoring device is formed of two metal half section plates 6—6, whose upper and lower ends, at the front edges thereof, are cutaway to form shoulders 60—61, the lowermost one 61 serving as a means for positively holding the wrapped part 56 of the binder or brace 50 in a proper clamped connection with the anchor, the upper shouldered portion 60 permitting, as it were, a proper shaping or filling of the upper end of the plastic body 1, see Fig. 1.

To provide for a positive embedding of the anchor and for the desired lateral bracing of the front reinforced members 2—2, the ends of the braces 5 are projected through apertures 62 in the members 6, the said ends being bent to form shoulders 63 for bearing against the sides of the anchor, the latter also having vertical ribs 64.

Each of the members 6, (see Fig. 4) is formed with a pair of half section pockets or grooves 65 arranged in pairs and which may be shaped, as shown in Figs. 4 and 5, in which the said grooves are shown as diverging from their outer or entrance end, or they may be made converging as shown in Fig. 6. Each section 6 is also formed with a drain groove 67 that extends from the top thereof to near the bottom at which point it extends laterally to form a discharge through the front face of the anchor and the said drain grooves each communicate with the staple pockets or grooves 65 so as to drain them.

In the manufacture of my fence, any suitable means may be employed for suspending the anchor device and the reinforcing elements combined therewith during the process of molding the plastic body about the said elements and device.

As a simple and effective means for binding up the complete post, I employ the arrangement of parts shown in Fig. 7, which includes a mold box 7 formed of a closed bottom and sides, and of a depth sufficient for building up the desired height of the post. Coöperating with the box is a sectional top formed of two half members 70—70, that rest upon the top of the box 1, and have notches 71—71 through which the upper ends of the members 2—2 and 3 pass and which, during the operation of pouring the plastic material, are bent over the members 70, as shown, to provide for supporting the members 2—2 and 3 with their lower bent ends 20—30 some distance above the bottom of the mold box to allow for a proper flow of the plastic material under and over the said lower bent ends 20—30 to thereby thoroughly embed the said ends.

75 designates a metal cover plate that fits over the front face of the anchoring device during the pouring operation and it is held in place by a plurality of strap metal cross bars 76 whose ends are bent to fit against the opposite sides of the box, as is clearly shown in Fig. 7.

I also wish to state that the mold box is constructed with fillet corners so that the completed post may have rounded corners instead of having them square. While this is a mere detail it is of great value in extending the period of usefulness of the post, since with rounded corners, the danger of breaking off corners and large pieces is greatly lessened and the appearance and life of the post are consequently preserved.

This application is a divisional part of my co-pending application filed May 19, 1914, Serial No. 839,618, and in this application I make no claim to the construction of the wire anchor *per se*, as that forms the subject matter of my original application referred to.

What I claim is:

1. In a reinforced concrete post, a plurality of vertically disposed wire standards, horizontally disposed tie wires bent around said standards with their ends adjacent to each other, a pair of metal plates disposed in contact with each other and extending

vertically between a pair of said standards, said plates being apertured, said tie wires having their ends passed through said apertures and bent over to retain said plates and a concrete body embedding the aforesaid parts, said plates constituting wire retaining means.

2. A reinforced concrete post comprising a plurality of standards formed of strands of twisted wire, said standards extending in the longitudinal direction of the post, a pair of metallic plates in contact with each other and located between a pair of standards and extending parallel thereto in a plane at right angles to the plane containing the adjacent pair of standards, said plates having a series of apertures, horizontally disposed tie wires wrapped around said standards and having their ends brought through the apertures of said plates to opposite sides and bent over said plates, said tie wires being bent to form shoulders to abut said plates where the wire ends enter the plates, said shoulders and said bent over ends serving to retain said plates in position, and a concrete body embedding the aforesaid parts, said plates constituting wire retaining means.

3. A reinforced concrete post comprising a plurality of standards formed of strands of twisted wire, said standards extending in the longitudinal direction of the post, a pair of metallic plates in contact with each other and located between a pair of standards and extending parallel thereto in a plane at right angles to the plane containing the adjacent pair of standards, said plates having a series of apertures, horizontally disposed tie wires wrapped around said standards and having their ends brought through the apertures of said plates to opposite sides and bent over said plates, said tie wires being bent to form shoulders to abut said plates where the wire ends enter the plates, said shoulders and said bent over ends serving to retain said plates in position, said plates having their lower ends reduced in size and a horizontal tie wire twisted around said reduced end and around said standards, and a concrete body embedding the aforesaid parts, substantially as shown and described, said plates constituting wire retaining means.

4. In a reinforced concrete post, a plurality of longitudinal standards formed of wire and extending parallel to each other from the top toward the bottom of the post, a pair of such wires being located near the front of the post and at least one wire being located near the rear of the post, said standard wires being separated or bowed apart near the lower end of the post, a plurality of horizontal tie wires wound around said standards at intervals, a plate held by said tie wires between said standards and having apertures through which said tie wires project, said tie wires being shouldered and bent into retaining engagement with said plate, said plate having a reduced lower end terminating adjacent to the bowed portion of said standards and a heavy tie wire twisted around said standards and around the reduced end of said plate at said bowed portion and a concrete body embodying the aforesaid parts, said plate constituting wire retaining means.

JAMES PETER KIMBLE.

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