



(No Model.)

2 Sheets—Sheet 2.

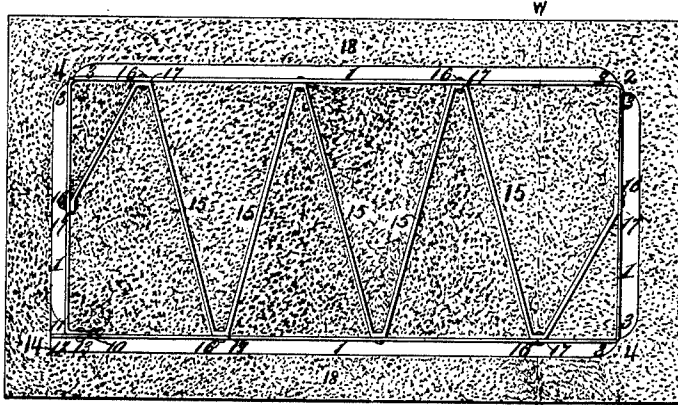
O. A. STEMPEL.

CONCRETE POST, DOOR STEP, TABLE TOP, &c.

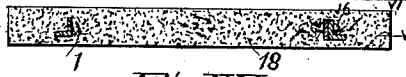
No. 468,268.

Patented Feb. 2, 1892.

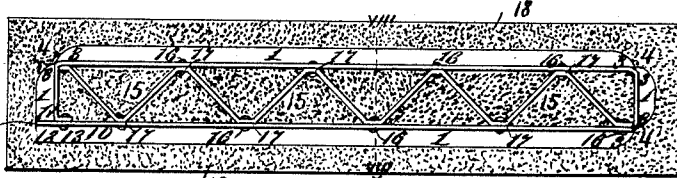
*Fig. V.*



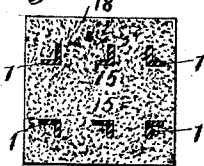
*Fig. VI.*



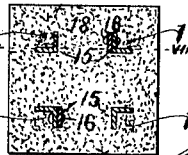
*Fig. VII.*



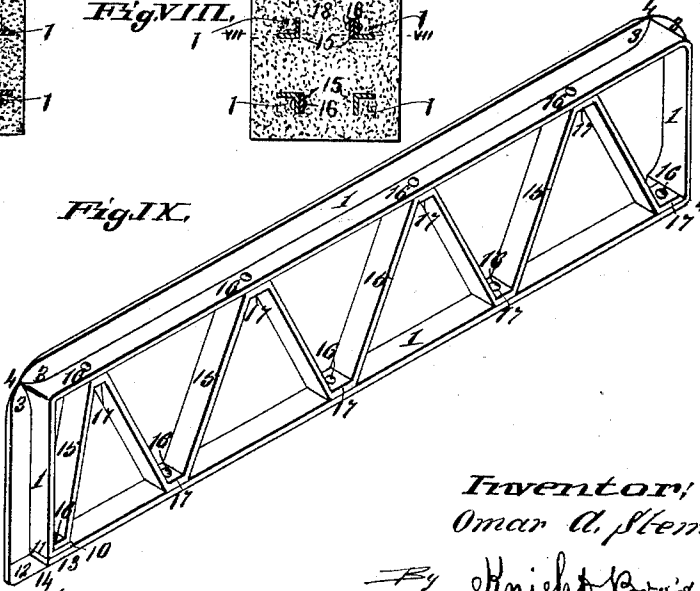
*Fig. IX.*



*Fig. VIII.*



*Fig. IX.*



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# UNITED STATES PATENT OFFICE.

OMAR A. STEMPEL, OF ST. LOUIS, MISSOURI.

## CONCRETE POST, DOOR-STEP, TABLE-TOP, &c.

SPECIFICATION forming part of Letters Patent No. 468,268, dated February 2, 1892.

Application filed June 6, 1891. Serial No. 395,317. (No model.)

*To all whom it may concern:*

Be it known that I, OMAR A. STEMPEL, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Concrete Posts, Door-Steps, Table-Tops, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention is an improvement on my previous invention on posts, rail-ties, beams &c., for which I filed application for a patent June 25, 1888, and a patent for which was issued September 17, 1889, No. 411,360.

The invention relates to concrete posts, door-steps, mounting-blocks, tomb-stones, table-tops, and other like articles that are molded from concrete or any other suitable indestructible material and reinforced by a braced-metal frame embedded within said material; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is an elevation of one of my concrete posts and shows holes therein for seating the staples that hold the wires when it is used for upholding a wire fence. Fig. II is an enlarged perspective view of the angle-brace iron frame that is prepared to be embedded within the concrete post when the material is set in the mold and shows the brace angle-iron that stiffens the side of said frame, and the stamped and thus flattened cross-junction ends and spaces of the bars where the cross-sections are riveted together. Fig. III is an enlarged horizontal section taken on line III III, Fig. I, and shows the top of the riveted metal frame embedded in the concrete posts. Fig. IV is an enlarged horizontal view taken on line IV IV, Fig. I, and shows the angle-iron side sections of the frame and one of the perforations through the post, either for the insertion and retention of the staples that hold the fence-wire, or for the direct passage of said wire through said posts. Fig. V is a horizontal section taken on line V V, Fig. VI, and shows a table top or slab, which may be concreted of marble-dust or any other suitable material, with a suitable proportion of cement, and shows the angle-iron of which the main rectangular frame is constructed, flattened at certain points at

which eventually the corners are turned. It also shows the angle-bent strap-iron that braces obliquely athwart and across from side to side of the angle-iron to constitute a brace angle-iron frame for embedment within the molding-concrete. Fig. VI is a vertical transverse section taken on line VI VI, Fig. V, and shows a transverse section through the angle-iron, and the angling brace-iron riveted together and through the single angle-iron between its braced points. Fig. VII is a horizontal section taken on line VII VII, Fig. VIII, and shows a molded concrete door-step or other like construction reinforced with an angle-iron-embedded frame that is stiffened by an angling obliquely-bent brace-bar. Fig. VIII is a transverse section taken on line VIII VIII, Fig. VII, and shows a transverse view of the angle-iron riveted to the angling brace-iron and of said angle-iron between its braced points. Fig. IX is an enlarged perspective view and shows the angle-iron brace-frame reinforced by the obliquely-bent angling-iron that passes athwart from side to side of the angle-iron frame and reinforces the same. It also shows the stamped flattened form of said iron at the points at which it is intended to bend said iron to form the rectangular frame; and Fig. X is a modification in which angle-iron, as in the rectangular frame, is used instead of flat iron for the construction of the obliquely-bent-brace iron that passes back and forth athwart and reinforces said rectangular angle-iron frame, to which at its corner bends it is alike riveted. At said corner angle bends it is alike flattened with like brace approaches, as shown and described with said rectangular frames. (See Figs. V, VI, VII, VIII, and IX.)

Referring to the drawings, 1 represents the angle-iron sides of the reinforce-frame, and 2 are the flattened junction and corner spaces of said frame that facilitate the bending and junction attachments thereof.

3 represents the curvilinear-stamped approachments from the angle-iron to the flattened iron, which facilitates the bending of the corners 4 in both the outer frame and in the brace-bars, which stretch obliquely athwart back and forth between said outer frame when angle-iron is used in the construction of the angling brace-bars, as shown

in Fig. X. It will be seen that said gradual subsidence of the angle-iron to a flat surface at the corners, &c., constitutes a brace to said parts that have not, like the sides, the direct  
5 brace of the angle-iron to reinforce the same and where of necessity (to facilitate the bending of the metal) the angle-iron is flattened out.

The reinforce post-frames are preferably  
10 made of two duplicate individually-integral sections, (see Fig. II,) the angle-iron sides 1 being integrally connected in the middle with a stamped flattened portion, which constitutes the integral end 5 of one of said dupli-  
15 cates when the metal has been bent to produce the aforesaid angle corners 4. The individual ends 6 at the reverse end of said duplicate are alike stamped, flattened, and bent to a right angle. The duplicates are  
20 cross-lapped, the individual flat ends 6 of each duplicate cross-lapping the integral flat section 5, to which they are secured by the rivets 7.

8 represents the molded post, which may be  
25 formed of any suitable concrete or other indestructible material cemented together and shaped in molds of the required form, the reinforce metal frame being embedded in the concrete as it is filled into the mold.

9 represents perforations that pass through  
30 said molded posts, which are adapted for the insertion and retention of the staples that carry the fence-wire, or the wire when not barbed might be passed directly through one  
35 of each pair of holes.

When door-steps, mounting-blocks, and other constructions of a like form are molded, the same reinforce-frame as that described above for use in posts may also be used in  
40 their construction; but it is then generally preferred, especially when the construction is slab-shaped, as in broad steps or platforms, or with concreted marble table-tops, as shown in Figs. V and VI, that the reinforce metal  
45 frames, while they have substantially the same brace construction, may be somewhat varied in position to be better adapted to the form and usage of said articles, in which case, or in any case when so preferred, the position  
50 of the parts of said reinforce-frames may accord with those shown in Figs. V, VI, VII, VIII, IX, and X.

As in Fig. II, already described, the sides  
55 1 of the outer reinforce-frame are constructed of angle-iron, so as to brace, hold, and reinforce the concrete construction against any extreme strain that it may have to encounter. The ends which are integral with the sides are also of angle-iron, and said angle-iron  
60 sides and ends form together a rectangular frame, the outer flanges of whose corners 4 are stamped flat, as the corners 4, described in Fig. II, to facilitate their bending, and the same curvilinear brace approach from the  
65 outer flanges of the angle-iron to the flat corner 4 is formed as in Fig. II, and as the ends as well as the sides in this formation are of

angle-iron and alike marked 1, as they are with the sides, of continuous integral construction, therefore the approaches to the flat  
70 corners from the outer flange of the angle-iron ends are of the like brace form as that described from the sides. It will thus be seen that the angle corners are effectively braced  
75 from both ways by said divergent-arch formation in their approaches, in combination with the brace-reinforce of the angle-iron of both sides and ends.

10 represents a perforate attachment lug that projects from the final junction end 11  
80 of the rectangular angle-iron frame, which is secured to its perforate initial end 12 by the screw-nutted bolt 13, that is seated and fastened in the registering perforations of said  
85 two ends. It will thus be seen that as the angle-iron does not have to be bent at the final junction corner 14, at the junction of the initial and final ends, the outer flange of the angle-iron is not therefore flattened or de-  
90 pressed at said corner, and said junction-corner alone of all the corners is square, the angle-iron effecting the bracing right to the corner not having to be flattened out. It thus reinforces said junction-corner directly.

15 represents the angling reinforce brace-  
95 iron, that is bent and passes obliquely from side to side and from end to end of the rectangular angle-iron frame, to which at all its points of junction it is securely attached by rivets 16. At said junction-points the angling-  
100 iron is turned at an angle at 17 to line in junction with, respectively, the sides or ends at the points of attachment. When said reinforce-brace angling-iron is made from angle-  
105 iron, as shown in Fig. X, as it preferably is where the concrete block is liable to be subjected to severe strain, then at the points along said angle-iron where the bent-junction corners are to be effected said angle-iron is  
110 stamped as for the corners of the rectangular frames described above, in which, where said corners are to be bent, the angle-iron is flattened and the approaches to said prospective corner from both ways has the same curvilinear-brace form, as shown in Figs. II, V, VII,  
115 and IX, that form a brace to said flattened portions at said corner-bends.

This invention is adapted for use in the construction of a great variety of articles that are capable of construction with either marble  
120 or common-stone concretes, &c., 18, in which my reinforced braced metal frame overcomes any fractious tendency in said concrete and binds it, so that even if said concrete were broken in two, which when so reinforced it is  
125 not as liable to be, yet even then, the metal frame remaining integral, the construction would still be held in place and firmly bound together. Among said articles adapted to be  
130 constructed by my invention are concrete fence and hitching posts, door-steps, coping, cornice, window-sills, mounting-blocks, concrete-marble mantels, table and dresser tops, monuments, tombstones, &c. While said re-

inforce-frames may generally be constructed of steel or iron, yet they might also be made of any other suitable metal. It will also be seen that the angle-iron or other angle metal of which the rectangular reinforce-frame is constructed, being of itself a brace formation, is itself a substantial improvement over my aforesaid invention, the subject of the Patent No. 411,360, as I have found it of great advantage, both in the process of molding and for withstanding all subsequent strains, that said reinforce metal frame should be of such a brace formation. Also right along the same important line of improvement is the angling brace-bar, that stretches across and across obliquely for any required number of times athwart from side to side and from end to end within said rectangular angle-metal frame, to which at its points of junction it is secured by rivets, the said angling-iron still further effectively bracing the angle-iron along the same line of improvement. This angling brace-iron may also be constructed of angle-iron, as shown in Fig. X, and preferably is so where the molded construction is liable to be subjected to great strains. Again, it will be seen that the angle-iron, both in the rectangular frame and in its obliquely-bent spanning-bar 15, presents two pressure-surfaces against the concrete, &c., 18, in which it is embedded at right angles to each other, so that it has a flat-pressure resistance in diverse directions to withstand any extreme strain to which the structure may eventually be subjected.

I claim as my invention—

1. The combination of the structure molded of indestructible material 18, the angle-metal brace-frame, and the angling reinforce-brace metal bar that passes athwart obliquely across from side to side and end to end of said angle-metal frame to which it is secured, substantially as and for the purpose set forth.

2. The combination of the structure molded of indestructible material 18, the angle metal brace-frame, the stamped flattened corners 4 of said frame, the angling reinforce metal bar 15, that spans obliquely from side to side and end to end of said angle-frame, the flat perforate attachment sections 5, 6, and 17 of said angle metal and said angling-bar, and the rivets 7 and 16, that secure together said parts to maintain their brace attitude, respectively, to each other and to the structure of indestructible material that they fortify, substantially as and for the purpose set forth.

3. The combination of the structure molded of indestructible material 18, the angle-metal brace-frame, the angling reinforce metal bar 15, that spans obliquely from side to side and from end to end of said frame, the flattened corner of said angle-metal frame and angle-metal brace-bar 15, the curvilinear brace approachments 3 from said angle metal to said corner, which it braces, the flat perforate junction-sections of said frame and angling-bar, and the rivets that fasten said parts in a brace attitude to each other and eventually to the structure that they are arranged to reinforce, substantially as and for the purpose set forth.

4. The combination of the concrete molded material 18, the angle-metal brace-frame, the angling reinforce brace-bar 15, that spans obliquely from side to side and from end to end of said frame, to which it is secured, the flat corner 4 of said angle-metal frame, and the curvilinear brace approachments 3 from said angle metal to said corner, which it braces, substantially as and for the purpose set forth.

OMAR A. STEMPEL.

In presence of—

BENJN. A. KNIGHT,  
SAML. KNIGHT.