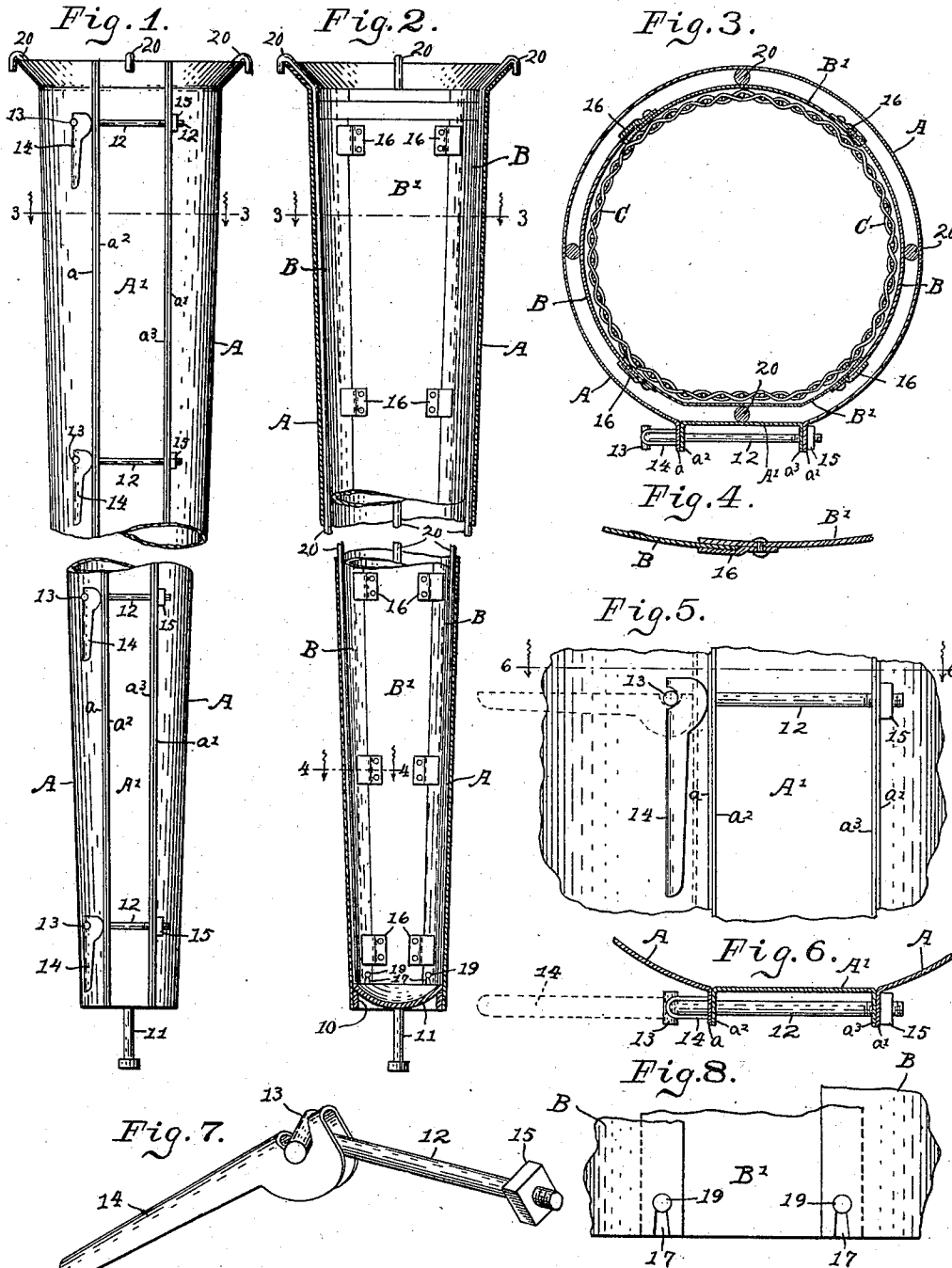


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MOLD FOR POSTS.
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1,045,028.

Patented Nov. 19, 1912.



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UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM T. HICKS, a citizen of the United States, residing at Bloomington, Monroe county, and State of Indiana, have invented and discovered certain new and useful Improvements in Molds for Posts, of which the following is a specification.

My said invention consists in a method and apparatus for forming posts composed of metal and concrete whereby such a post may be formed so that all of the component parts will be securely and permanently united in one homogenous structure and a post provided the main part of which is composed of comparatively inexpensive material united and combined in a solid form and veneered with the minimum amount of more expensive material required to give the post a finished appearance, thus providing such a post of great strength and durability and yet of comparatively inexpensive construction, and with a smooth, impervious and finished surface, all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a side elevation of a mold embodying my said invention, Fig. 2, a central section through the mold with the inner wall, or bulk-head, shown in elevation, Fig. 3, a cross section on the dotted line 3—3 in Figs. 1 and 2, Fig. 4, a detail section on the dotted line 4—4 in Fig. 2, Fig. 5, a detail view of a portion of Fig. 1 on an enlarged scale, with open position indicated by dotted lines, Fig. 6, a cross section through the same on dotted line 6—6, Fig. 7, a perspective view of the mold clamp, and Fig. 8, a detail view of the lower portion of Fig. 2 on an enlarged scale.

In said drawings the portions marked A represent the mold, B B¹ the sections composing the bulk-head and C the wire basket or post-form.

The mold body A is preferably of sheet metal, such as galvanized iron or steel, and is formed open on one side with vertical flanges a and a^1 along the respective edges of said opening. Its top is preferably flared, as shown, and on the inside of its lower end is secured a spring ring 10, open in line with the opening in body A, to strengthen said lower end and also form a shoulder on

the upper edge of which a concave plate 11 is adapted to rest when the mold is in a closed position. A removable section A¹ is adapted to fit within the longitudinal opening in body A and is formed with out-turned flanges a^2 and a^3 respectively which fit between the adjacent faces of flanges a and a^1 . Said section is preferably formed flat, as best shown in Fig. 3, so as to form a flat panel on one side of the post for the wire supports to rest upon. A series of bolts 12 extend through perforations in said flanges a , a^1 , a^2 and a^3 across section A¹, having transverse heads 13 cylindrical in form on which cam levers 14 are mounted. Said levers 14 have cam shaped heads with center slots through which the bolts 12 extend with the heads 13 resting in notches in the outer edge of said levers. Said levers are formed of sheet metal, bent to the form shown, and the two sides are bent so that they will bear against the sides of bolt 12 and turn on the head 13 as a fulcrum. The cam edges of said levers bear against the outer face of an outside flange a (or a^1) and nuts 15 on the opposite ends of bolts 12 are used to adjust their lengths so that when said levers are in the position shown in Figs. 1 and 5 the flanges will be clamped together, section A¹ secured in place in the body A and the mold closed, in which position the concave plate 11 will be supported on the upper edge of ring 10. When the levers are lifted up, as in the position shown in Fig. 7, the metal shell A will spring open so that the joints between the flanges will open, as shown in Fig. 7, releasing the contents of the mold so that it may readily be discharged.

The bulk-head is composed of several sections B and B¹, the sections B overlapping on the outside at both edges the adjacent edges of sections B¹. Said sections B¹ have a series of clips 16 riveted thereto at intervals along both their edges, forming ways or pockets into which the edges of the adjacent sections B may slide. Near the lower ends of sections B¹ are mounted rivets, the heads 19 of which project beyond the surface and form buttons over which notches 17 in the lower end of sections B may engage. When the parts are assembled, as shown in Figs. 2 and 3, the edges of the sections B are engaged by the clips 16 on the sections B¹ and the notches 17 engage under the rivet heads or buttons 16 and a band 18 sur-

rounds the top, holding said several sections together and forming a practically imperforate bulk-head, which surrounds and by the means above described, is held upon the outside of the woven wire basket C. Said wire basket or form C is formed of substantially the form desired for the post including the oval top thereof which is complete and in piece with the several sides of the basket each strand of wire running over the top and in a spiral direction down opposite sides thereof, thus tying all sides of said form together in a uniform manner and as an integral structure, all parts of which are adapted to resist strain on the post from every direction.

In use the shell A is closed by securing flat section A¹ in position by means of the clamping cam levers 14, as shown in Figs. 1, 3 and 5, and the concave plate 11 is dropped to position therein, closing the lower end of said mold. A small quantity of rich concrete is then dropped into the bottom of the mold and spread over the plate 11 sealing the joints between the edge of said plate and the shell A and forming the veneer finish for the top of the post. Rods 20 having hook shaped ends are hung over the top of the shell A and extend down to near the bottom of the mold lying against the sides of said shell and are spaced at intervals around the circumference thereof. The basket C, covered by the plates B and B¹ secured thereto as above described and forming a bulk-head structure, is then inverted and dropped into the mold, the rods 20 serving to guide and center it therein so that a narrow uniform space will surround this bulk-head structure on all sides. The wet concrete of a rich character is poured in the space between the bulk-head thus formed by the basket C and plates B and B¹ and the mold. A cheap coarse concrete composed largely of crushed stone, gravel, cinders, or like material, is poured into the interior of basket C until it is filled. Both the rich concrete on the outside of the bulk-head and the low grade concrete on the interior of the bulk-head are mixed wet and are of a character adapted to pass through the meshes or interstices in the wire basket, except such portions of the low grade mixture as are too coarse to pass through said interstices. The rods 20 are then withdrawn, plates B are then withdrawn, and finally the plates B¹ are withdrawn allowing the two grades of concrete to unite with each other, the coarse grade having already filled the interstices in the form or basket C between and among the meshes of the wire, the fine rich mixture, which has been retained outside said basket by the bulk-head, now settles against the surface of said structure composed of the coarse mixture and wire, and adhering thereto forms a thin

veneer, completely covering the same and giving the post a finished smooth exterior and one that will resist moisture and all weather conditions. After the material has remained in the mold until the whole structure has hardened, or cured, the mold is inverted and the cam levers 14 are turned from the position shown in Figs. 1 and 5 to that shown in Fig. 7, allowing the metal shell A to expand, opening the joints between the flanges and permitting the post to be easily discharged.

It will be noted especially by reference to Fig. 3, that one side of the post is formed flat for a portion of its circumference. This flat portion is preferably formed by the removable section A¹ of the shell and extends throughout the height of the post and is intended as a bearing face for the plate of a wire support, such as forms the subject matter of my application filed herewith, and thus serves to hold said plate from turning around said post.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. An apparatus for forming metal and concrete posts comprising a mold shell with an opening along one side, means for uniting the edges of said shell, a lower end removably supported in said shell, a bulk-head made in sections and mounted within said shell with its sides substantially parallel to the sides of said shell and of a sufficiently smaller diameter to provide a thickness of veneering for a post molded within said bulk-head, guide rods for centering said bulk-head in said shell, and means for uniting and supporting the sections of said bulk-head so that they may be withdrawn after the material comprising the post has been deposited on each side thereof, substantially as set forth.

2. An apparatus for forming concrete posts comprising a shell open on one side, means for uniting said shell along the edges of its opening, an end plate removably supported in said shell, a bulk-head positioned within said shell a narrow distance therefrom and formed in sections, interlocking sliding connections for securing said sections together, and separate spacing devices for centering said bulk-head in said casing, whereby said parts are adapted to be removed after the material has been deposited on both sides thereof, substantially as set forth.

3. A concrete post mold comprising a shell formed with an opening in one side having out-turned radial flanges along the edges of said opening, a removable section adapted to fit therein and formed with corresponding flanges along its edges, clamping bolts extending through said flanges, levers with cam shaped ends mounted on the heads

of said bolts adapted to clamp said flanges together to close said mold, and a removable sectional bulk-head within said shell, substantially as set forth.

5 4. A mold for concrete posts comprising an outer shell formed of metal and with an opening in one side having out-turned flanges along the edges thereof, a removable section with corresponding flanges
10 mounted in said opening, bolts extending through said flanges, cam levers mounted on said bolts and adapted to clamp said flanges together, a removable end supported in the bottom of said mold, a sectional removable bulk-head mounted with-
15 in said mold, and means for spacing the same a uniform distance therefrom, substantially as set forth.

5 5. The method of forming a combined
20 concrete and metal post which comprises mounting a reticulated metal post-form within a mold, surrounding said post-form with removable plates in substantial contact therewith, pouring a low grade of concrete
25 within said post-form, pouring a fine grade of concrete in the space between the mold and the plates, withdrawing said plates and permitting the two classes of material to unite around said reticulated metal basket,
30 substantially as set forth.

6. The method of forming concrete and metal posts comprising forming a reticulated metal basket, or post-form, covering the same with metal plates removably se-

cured thereto in substantial contact there- 35
with, mounting said basket thus covered in a mold equi-distant from all sides of the surface of said mold, pouring a coarse grade of concrete into said reticulated metal basket, pouring a fine grade of con- 40
crete in the space between said plates surrounding the metal basket and the mold, withdrawing said plates, and permitting the two classes of material to unite and harden, substantially as set forth. 45

7. A mold for forming concrete posts comprising a shell formed with a flat and removable longitudinal section, clamping bolts extending through flanges on opposite edges of said section and adjacent flanges on the 50
edges of the shell formed with cylindrical heads adapted to serve as fulcrums, and cam levers mounted on said heads formed with cam shaped wings resting against the sides of the bolt and with their cam faces 55
adapted to operate upon the adjacent flange, whereby said shell may be held contracted or allowed to expand for the purpose of releasing the contents, substantially as set forth. 60

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Marion county, Indiana this 15th day of May, A. D. nineteen hundred and twelve.

WILLIAM T. HICKS. [L.S.]

Witnesses:

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