No. 881,183. PATENTED MAR. 10, 1908.

R. H. GUYER.

CEMENT COLUMN.

APPLICATION FILED MAR. 18, 1907.

Fig. 1.

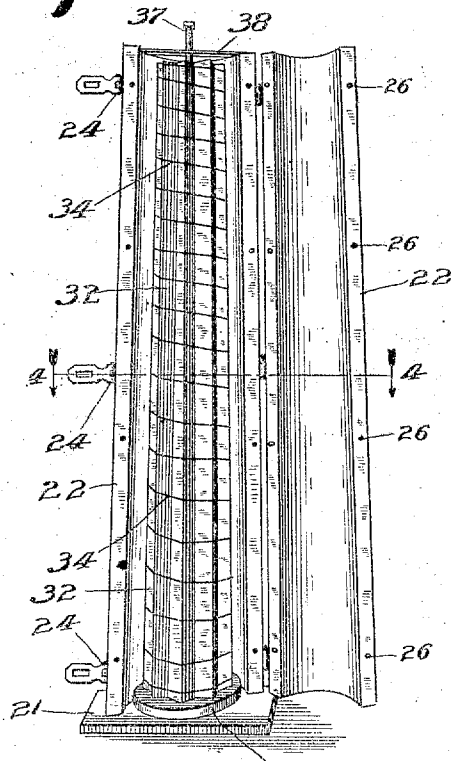


Fig. 3.

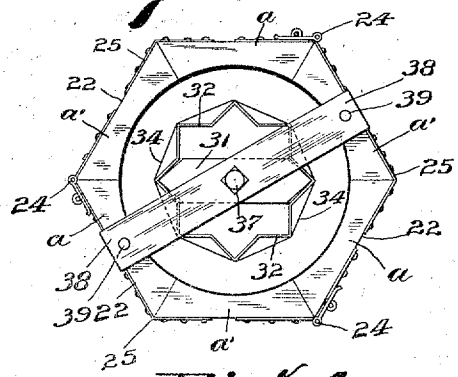


Fig. 4.

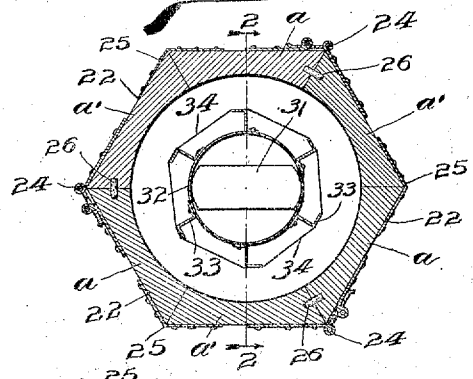


Fig. 2.

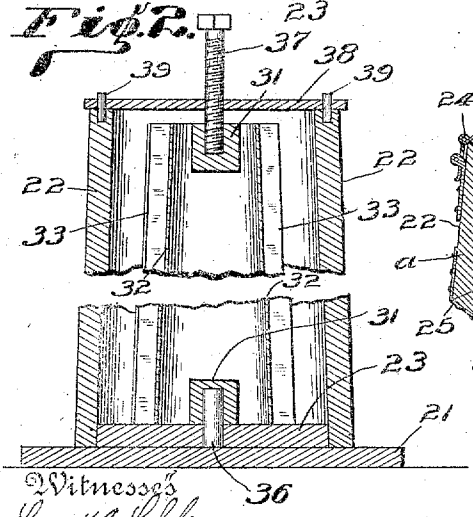
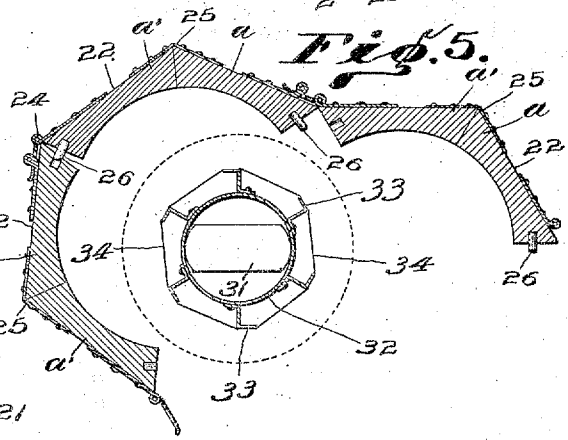


Fig. 5.



Witnesses
Grant A. Fahle
Thomas H. McMeans

Inventor
Richard H. Guyer
By Bradford & Hood,
Attorneys.

UNITED STATES PATENT OFFICE.

RICHARD H. GUYER, OF LA FAYETTE, INDIANA.

CEMENT COLUMN.

No. 881,183. Specification of Letters Patent. Patented March 10, 1908.

Application filed March 18, 1907. Serial No. 362,978

To all whom it may concern:

Be it known that I, RICHARD H. GUYER, a citizen of the United States, residing at La Fayette, in the county of Tippecanoe and State of Indiana, have invented certain new and useful Improvements in Cement Columns, of which the following is a specification.

In the manufacture of columns from artificial stone difficulties have been experienced in producing them of the proper length and strength.

It is the object of my present invention to provide a means whereby such columns may be produced, in one piece, of the required length and size, and may also be abundantly strong for the duty required.

Said invention consists in the construction of a suitable mold and in the combination therewith of an appropriate core, the novel features whereof will be hereinafter fully described.

Referring to the accompanying drawings, upon which similar reference characters indicate similar parts, Figure 1 is a perspective view of such a mold and core assembled, the sides of the mold being swung apart, however, to show the core in place within it; Fig. 2 a detail vertical sectional view of the apparatus with the mold sides brought together closing the mold, the middle portion, however, being broken away to enable the drawing to be made on an enlarged scale; Fig. 3 a top or plan view of the apparatus when in the condition shown in Fig. 2; Fig. 4 a horizontal sectional view through the structure at the point where the hinges are applied, as seen from dotted line 4—4 in Fig. 2, and showing also an alternative form of core construction, and Fig. 5 a view otherwise similar to Fig. 4, but with the mold sides swung apart, as shown in Fig. 1.

The mold is composed of a base 21 and an inclosing structure of the shape desired (usually substantially cylindrical, but somewhat tapering) which structure is preferably composed of three parts 22, each of which, for convenience, is composed of two pieces *a* and *a'*. These three pieces stand on the base 21 surrounding an end piece 23 to the mold, and are secured together by heavy strap hinges 24 at a suitable number of points. I have found (in molds for columns of the usual length) that three sets of these hinges serve the purpose. The parts *a a'* of each section are usually secured by heavy straps 25. The end piece 23 is secured to the base 21, and is of the shape and size of the lower end of the column to be made. When the mold is assembled the sides fit closely around this end piece, and are held tightly together by suitable locking devices at the hinged points. Dowel-pins 26 hold the adjacent edges of the parts 22 in flush relation when in use.

A central core is provided, as shown, and this core consists of a bar 31 (usually of wood) extending longitudinally of the structure, and this is surrounded by a sheet metal shell 32 which is provided with projecting points and adapted to extend into the material of which the column is to be composed. This sheet metal shell may either be round, as shown in Figs. 4 and 5, or star-shaped, as shown in Figs. 1, 2, and 3. If made star-shaped, the necessary projections are included within its own structure. If made round, longitudinal ribs 33 are fastened thereon. When the core is otherwise finished a wire 34 is wound (usually spirally) about it, from end to end; and the projecting points (either the points of the star, as in Fig. 3, or the outer edges of the ribs, as in Fig. 4) hold said wire out sufficiently from the surface of the core so that when the plastic material is poured into the mold the wire will become embedded therein, thus forming a very efficient bond or union between the core and the shell applied thereto, tying them securely together. In the case of the construction shown in Figs. 4 and 5, where the ribs 33 are used, said ribs may be Z-shaped, when the plastic material will engage directly therewith, and thus add to the efficiency of the union between the shell and the core. In arranging this mold for use, the mold is first erected to an upright position, substantially as shown in Fig. 1, and the sides of the structures 22 brought together and fastened. The core is united to the end piece by means of a pin 36 projecting from the center of said core and entering a corresponding hole in the center of the end piece 23. A corresponding pin 37 extends up from the upper end of the core, and a cross bar 38 secured to the sides of the mold (as by pin 39) engages with said pin, thus holding said core strongly and accurately to the desired central position while the mold is being filled. After the main body of the column is formed, a neck may be added surrounding the upper pin 37 around which neck an ornamental cap may be placed. As the neck extends through the cap, the cap will not be required to carry any of the load when the

column is in position. After the column is completely formed, the locking devices are unfastened and the molds swung apart, and the column removed. As will be readily understood, a core is used with every column which is formed; but the outer mold parts are capable of indefinite repeated use.

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

1. The combination, in a mold for artificial stone columns, of a base, an end piece carried by said base forming a head to the mold-chamber when the mold is in condition for use, an outer mold structure composed of sections hinged together, a tubular core having angular projections with a wire wound around said core and resting on said projections but standing free from the body of the core, a pin at each end of the core for holding the same centrally within the mold, one of said pins engaging with said end piece and the other pin engaging with a cross bar at the opposite end of the mold, and said cross bar.

2. The combination, in a mold for artificial stone columns, of a suitable surrounding structure forming the walls of the mold-chamber, and a core extending longitudinally through said chamber and secured centrally within said structure, said core having longitudinally arranged projecting ribs thereon and a wire wound around said core and bearing upon such ribs, but held thereby away from the adjacent portions of the core surfaces.

3. The combination, in a mold for artificial stone columns, of a surrounding structure forming the outer walls of the mold-chamber, and a core extending longitudinally through said chamber, said core being tubular in form and provided with longitudinally arranged projecting ribs upon its outer surface, and a wire wound around said core in contact with said ribs.

4. The combination, in a mold for artificial stone columns, of an outer structure constituting the walls of the mold-chamber, and a core secured centrally within said chamber, said core being composed of a central wooden piece, a sheet metal tube surrounding and secured to said wooden piece, and projections in the form of Z-bars secured to the external surface of said sheet metal tube.

5. The combination, in a mold for artificial stone columns, of an outer structure constituting the walls of the mold-chamber, and a core secured centrally within said chamber, said core being composed of a central wooden piece, a sheet metal tube surrounding and secured to said wooden piece, projections in the form of Z-bars secured to the external surface of said sheet metal tube, and a wire wound around said core and bearing upon the outer surfaces of said Z-bars.

6. The combination, in a mold for artificial stone columns, of an outer structure constituting the walls of the mold-chamber and a core secured centrally within said chamber, said core being composed of a central wooden piece, a sheet metal tube surrounding and secured to said wooden piece, projections secured to the external surfaces of said sheet metal tube, and a wire wound around said core and bearing upon the outer surfaces of said projections.

In witness whereof, I, have hereunto set my hand and seal at La Fayette, Indiana, this fourteenth day of March, A. D. one thousand nine hundred and seven.

RICHARD H. GUYER. [L. S.]

Witnesses:

C. R. SPURLING,

ED. CUNINGHAM.