

R. M. JONES.
 PROCESS OF FORMING AND MAKING CONCRETE POLES, PILES, AND COLUMNS.
 APPLICATION FILED FEB. 17, 1911. RENEWED FEB. 24, 1913.
 1,064.742. Patented June 17, 1913.

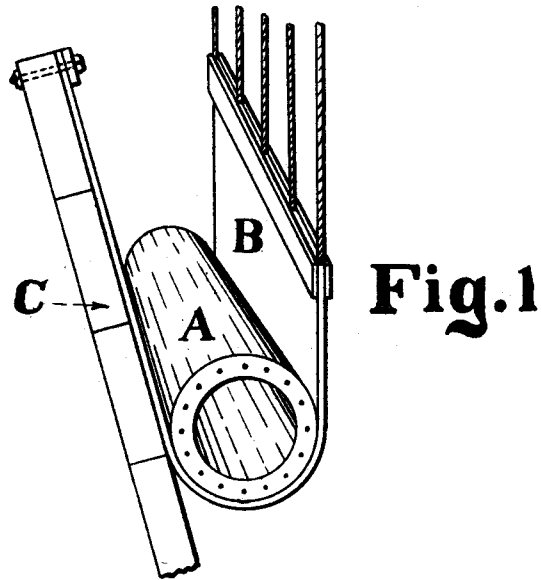
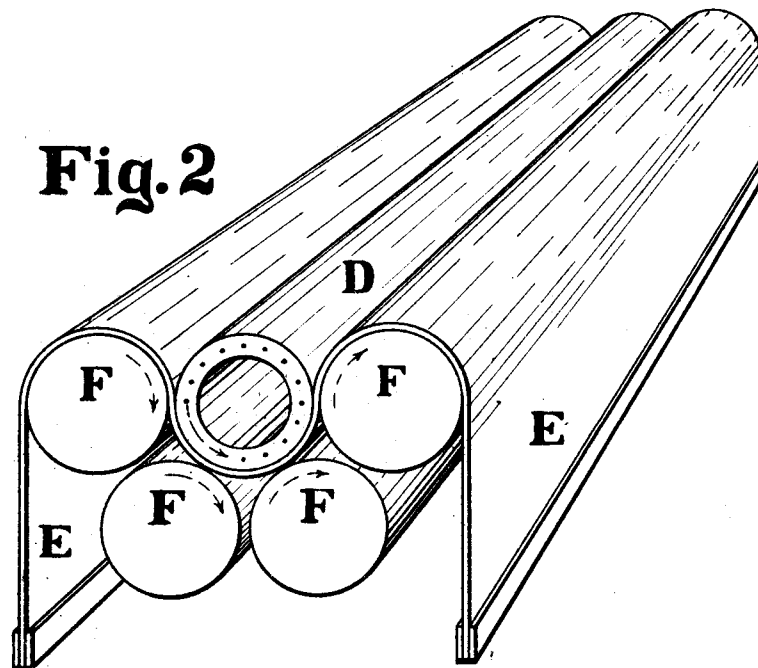


Fig. 2



Witnesses
Robert M. Jones
Ralph H. Parsons

Inventor
Robert M. Jones

UNITED STATES PATENT OFFICE.

ROBERT M. JONES, OF DENVER, COLORADO.

PROCESS OF FORMING AND MAKING CONCRETE POLES, PILES, AND COLUMNS.

1,064,742.

Specification of Letters Patent.

Patented June 17, 1913.

Application filed February 17, 1911, Serial No. 609,170. Renewed February 24, 1913. Serial No. 750,415.

To all whom it may concern:

Be it known that I, ROBERT M. JONES, a citizen of the United States, residing at 1142 Humboldt street, having offices at 805
5 Ideal Building, Denver, county of Denver, State of Colorado, have invented a new and useful Process of Forming and Making Concrete Poles, Piles, and Columns, of which the following is a specification.

10 This invention relates to the process of forming concrete into cylindrical form, either solid concrete from its center to its surface, or formed around an internal core to its surface, including ample provision for
15 embedding reinforcing steel longitudinally in and through the cylindrically formed article, all to be accomplished without the aid of an exterior form or mold.

This process of forming reinforced poles,
20 piles and columns without the use of exterior forms, I accomplish by enveloping concrete in a heavy flexible belt material, the belt to be somewhat longer than the article to be formed, and in width equal to twice
25 the circumference of the article to be formed in its largest part. The forming of the concrete into a round cylindrical form is accomplished by revolving the mass of concrete one or more revolutions slowly up and
30 down an inclined plane, or causing the belt, and mass to be formed, to revolve one or more revolutions alternately in one direction thence in the opposite direction upon and encircled in a series of rollers having
35 approximately the same size and shape of the article to be formed. In either or any event, the belt and the surface of the article being formed of concrete shall travel throughout the length of the article being
40 formed, at proportionate velocity, thereby preventing a twisting or torsional movement of the mass of concrete while it is in the process of being formed. For forming tapered articles such as poles, the proportionate quantity of concrete will be distributed to cause one end to be larger than the other. In such instances the enlarged diameter of the work must be driven at proportionately greater velocity, by such
45 procedure articles may be formed having any desired diameter at either end causing the article to be tapered in form as desired.

The mechanical devices for accomplishing the process of manufacture described may
50 be made in various forms. It is specially applicable to a machine for forming rein-

forced concrete poles, piles and columns upon which I have submitted to the United States Patent Office this day an application for patent.

60 Together with this, my application for patent upon "Process for forming reinforced concrete poles, piles and columns," I submit drawings (one sheet) illustrating two applications of the process.

65 In the drawings, Figure 1, represents a perspective view of an apparatus preferably employed in the practice of my process, with the mass of plastic material in the position it occupies while being molded, and,
70 Fig. 2, a view in perspective of a modified construction of the apparatus, likewise showing the plastic article in the position it occupies in the practice of my process.

Fig. 1 is described first, wherein, A represents the article being formed, which
75 revolves or turns in the belt B as the belt is raised or lowered. B represents the flexible belt material which envelops the article while it is being formed, one edge of belt B is clamped permanently to an inclined
80 plane C,—the other edge of the flexible belt B is raised and lowered slowly by means of cables leading to hoisting drums of proper diameters to cause the largest diameter end
85 to travel proportionately faster than the smaller end,—thereby preventing twisting or torsional action in the concrete article while it is being formed. C represents an inclined plane upon which the flexible belt
90 B and article being formed will travel in a revolving manner.

Fig. 2 is described second, wherein, D represents the article being formed, it
95 revolves upon and in the flexible belt E in unison with the travel of the belt E and rollers F. E represents the flexible belt material which envelops the article being formed,—it rests upon and revolves simultaneously with rollers F,—the belt E
100 terminates at either side with a weighing down strip. F represents a series of rollers built practically of the same diameter and taper which the article formed shall represent when completed. These rollers
105 partially encircle the article being formed and are to be operated by gears of even ratio causing all rollers represented to revolve at the same velocity and in the directions represented by indicating arrows.

I claim:

110 1. The process of molding articles of the

class described, consisting in imparting to a body of plastic material, a revolving motion by reciprocatory movement of a surface upon which it is loosely supported.

- 5 2. The process of molding articles of the class described, consisting in imparting to a body of plastic material, a revolving motion about a longitudinal axis by movement of a surface upon which it is loosely supported, in a direction transverse to said axis.
- 10 3. The process of molding articles of the class described, consisting in imparting to a body of plastic material a revolving motion about a longitudinal axis by a reciprocating movement of a sagging flexible surface upon which it is loosely supported, in a direction transverse to said axis.
- 15 4. The process of molding articles of the class described, consisting in imparting to a body of plastic material a revolving motion about a longitudinal axis by a reciprocating movement in a direction transverse to said axis, of the free end of a sagging, flexible surface upon which it is loosely supported, and whose opposite end is fixed.
- 20 5. The process of molding articles of the class described, consisting in embedding a

core in a body of plastic material, imparting to the latter a revolving motion in a direction transverse to the axis of said core, 30 by movement of a surface upon which it is loosely supported, and removing the core after the material has become hardened.

6. The process of molding articles of the class described, consisting in embedding reinforcing devices in a body of plastic material and imparting to said body, a revolving motion by movement of a surface upon which it is loosely supported. 35

7. The process of molding articles of the class described, consisting in imparting to a body of plastic material of longitudinally decreasing cross-sectional area, a revolving motion about its longitudinal axis by movement of a surface upon which it is loosely supported, transverse to said axis at rates of speed varying at different points of the said surface in ratio to the circumferences of said body at the said points. 40 45

ROBERT M. JONES.

Witnesses:

BARTON M. JONES,
GERTRUDE LEECH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."