P. A. & L. P. DESLAURIERS.

MEANS FOR CONSTRUCTING CONCRETE COLUMNS.

APPLICATION FILED MAY 25, 1907.

942,169.

Patented Dec. 7, 1909

3 SHEETS—SHEET 1.

Fig. 1

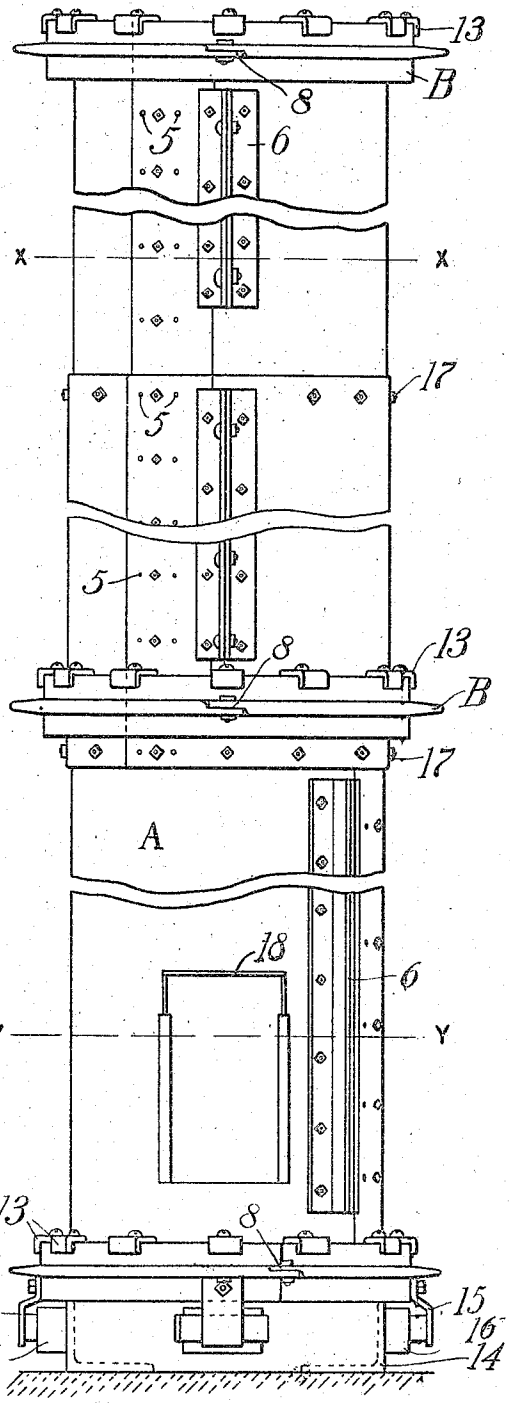

Fig. 2

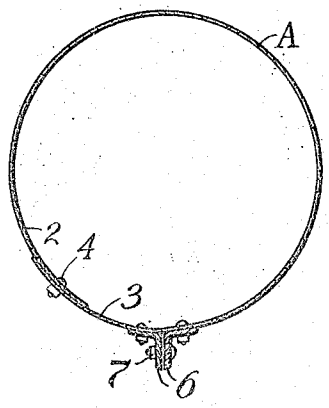

Fig. 3

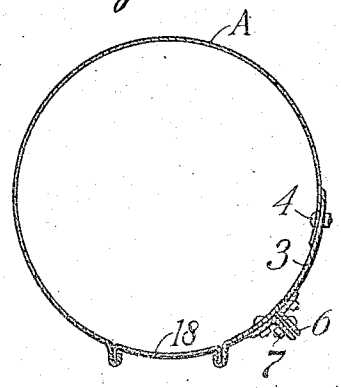

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Fig. 4

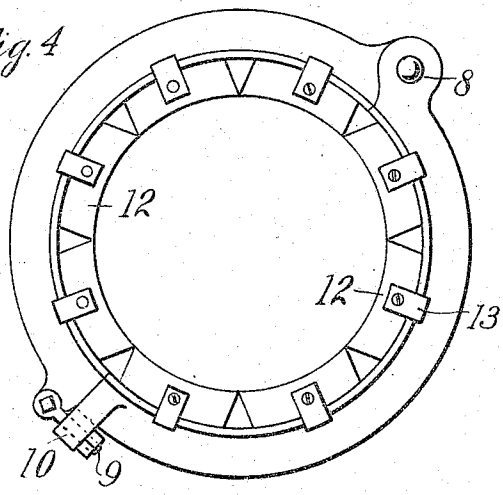


Fig. 6

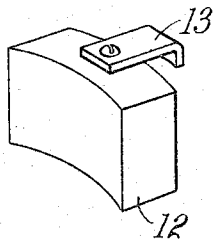


Fig. 5

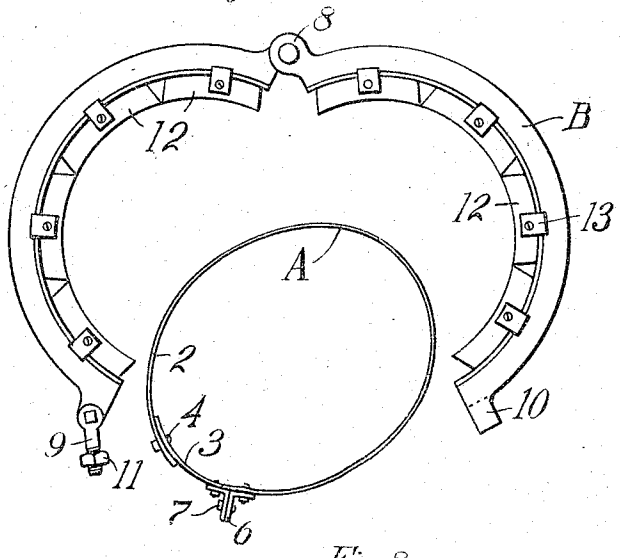


Fig. 9

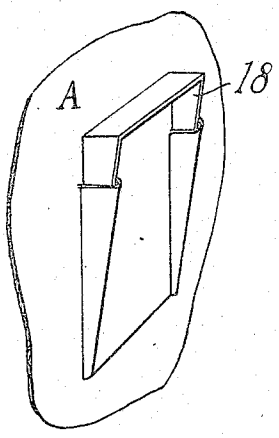


Fig. 7

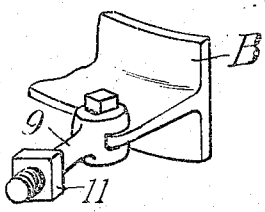
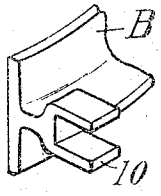


Fig. 8



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3 SHEETS—SHEET 3

Fig. 10

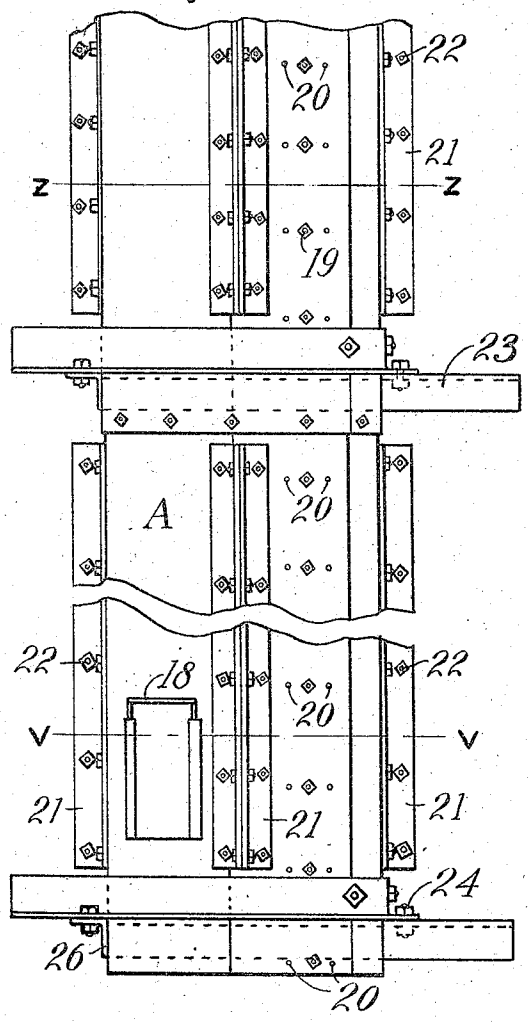


Fig. 11

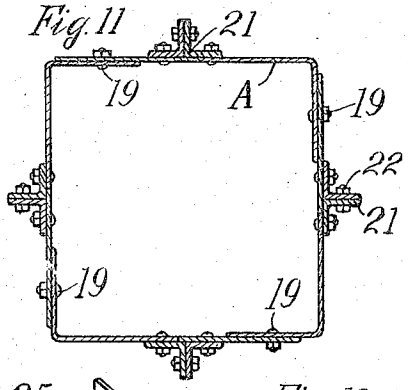


Fig. 13

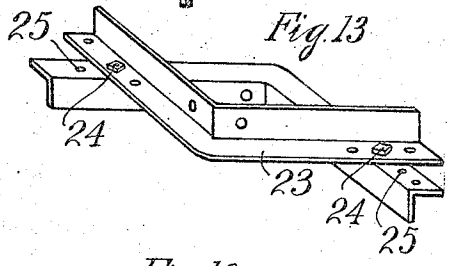
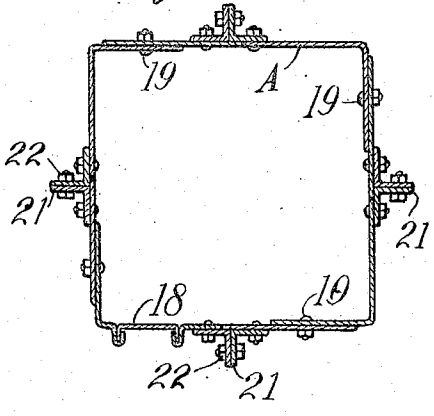


Fig. 12



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UNITED STATES PATENT OFFICE.

PHILIPPE A. DESLAURIERS AND LOUIS P. DESLAURIERS, OF ST. PAUL, MINNESOTA.

MEANS FOR CONSTRUCTING CONCRETE COLUMNS.

942,169. Specification of Letters Patent. Patented Dec. 7, 1909.

Application filed May 25, 1907. Serial No. 375,603.

To all whom it may concern:

Be it known that we, PHILIPPE A. DESLAURIERS and LOUIS P. DESLAURIERS, citizens of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Means for Constructing Concrete Columns, of which the following is a specification.

Our invention relates to improvements in means for constructing concrete columns, and consists particularly of an improved mold or casing for receiving the concrete to form the columns, together with means for holding said mold or casing in position.

To this end our invention consists in the features of construction and combination hereinafter particularly described and claimed.

In the accompanying drawings forming part of this specification, Figure 1 is an elevation of our invention; Fig. 2 is a section on line *x*—*x* of Fig. 1; Fig. 3 is a section on line *y*—*y* of Fig. 1; Fig. 4 is a detail of a templet frame; Fig. 5 is a similar view with the templet frame open and shown arranged in connection with the casing; Fig. 6 is a detail of a block used in connection with the templet frame; Figs. 7 and 8 are views of the interlocking ends of the templet frame; Fig. 9 is a perspective view of a door for the casing; Fig. 10 is an elevation of a modified form of our invention for forming square columns; Fig. 11 is a section on line *z*—*z* of Fig. 10; Fig. 12 is a section on line *v*—*v* of Fig. 10; and Fig. 13 is a detail of a templet frame used in connection with the modified form of casing shown in Fig. 10.

In the drawings A represents a mold or casing made of sheet metal.

In order to make the casing expansible to mold different sizes of columns we construct it of two adjustably connected plates 2 and 3, the plate 3 being connected with the plate 2 by means of bolts 4 passing through the main plate 2 and through one of a series of openings 5 in the extension plate 3. The free edges of the casing are secured together by means of the outwardly extending angle bars 6 connected by bolts 7.

A series of angle bars 6 are employed as shown in Fig. 1 leaving a space between the adjacent pairs of bars to receive the templet frames B. In the preferred construction each templet frame is composed of two curved arms having hinge connection 8 and adapted to be connected at their free ends by means of a bolt 9 hinged to the end of one arm and adapted to extend through a socket-piece 10 extending outwardly from the end of the other arm, the bolt 9 carrying a nut 11 to bear against the inner side of the socket piece 10. The nut 11 may thus be adjusted to tightly clamp the frame upon the casing.

In order to decrease the diameter of the templet frames when the casing is adjusted to its smaller diameter we provide a series of blocks 12 each block carrying an outwardly and downwardly bent catch 13 to hook over the templet frame, as indicated in Fig. 1. The templet frame may thus be decreased in size to fit any size of casing by using blocks 12 of the proper thickness.

As shown in Fig. 1 a metal ring 14 is provided for the base of the column and the casing or mold A is supported upon said ring and is centered by means of arms 15 extending downwardly from the lowermost frame B and interspaced from the base ring 14 by suitable filling blocks 16.

The casing A may consist of a series of sections suitably secured together and connected by bolts 17. The casing near its bottom is provided with an opening closed by a suitable sliding door 18 so that the shavings and other refuse may be removed before the same is filled with concrete to form a column, and to allow access to the internal rods of the column.

In the modified construction shown in Figs. 10 to 13 we show our invention adapted for use in the forming of square columns. In this modification the casing A is composed of a series of plates adjustably connected by bolts 19 passing through openings 20 in the plates, a series of openings being arranged to allow adjustment of the plates. The plates as shown are bent to form a square casing and are adapted to be interlocked by means of angle irons 21 extending outwardly from the free ends of the plates and connected by bolts 22. In this construction the templet frame preferably consists of two right angle shaped bars 23 adjustably connected together by bolts 24 extending through openings 25 in the bars, a series of openings being provided to allow adjustment of the bars. Thus filling blocks 12 are not required in the form shown in Figs. 10 to 13. In this modified form we have shown the lowermost templet frame

bolted to brackets 26 carried by the base forming mold.

In use the casing will be set up as shown in the drawings, adjusted to the proper size, and reinforced and held in shape by the templet frames. The casing will then be filled with the concrete to form the column and when the same has been allowed to stand long enough to properly harden the templet frames and casing will be removed. One advantage of our construction is that we secure an effectively clamped or supported sheet metal casing or mold which is easily set up and removed and which may be used an indefinite number of times in the forming of columns. As shown, they may be adjusted to form different sizes of columns.

It will be evident that our invention may be employed for molding a hollow column in which case the casing A will be turned inside out and the templets arranged to fit within the casing instead of surrounding it.

We claim:

1. Means for forming concrete columns consisting of a longitudinally split casing composed of a plurality of telescoping sections, means detachably securing together the free edges of said casing, and a plurality of templet frames inclosing said casing each frame covering the overlapping edges of adjacent sections, and means for adjusting the size of each mold section.

2. Means for molding concrete columns comprising a split casing composed of telescoping sections, outwardly extending flanges carried by the free edges of each section of said casing, said flanges being cut away upon the telescoping portions of the sections and templet frames inclosing the overlapping portions of said sections between the cut away portions of said flanges and means for adjusting the size of each mold section.

3. Means for molding concrete columns comprising a split casing composed of telescoping sections, and means surrounding the overlapping portions of the outer sections for contracting the same upon the inner sections.

4. Means for forming concrete columns comprising a split casing composed of inner and outer sections, the outer sections telescoping over the inner sections, and means for adjustably clamping the overlapping portions of the outer sections upon the inner casing sections for the purpose set forth.

5. Means for molding concrete columns comprising a split casing composed of sections, the end of one section telescoping over the adjacent end of the next section and clamping means surrounding the overlapping portion of said outer section and extending beyond the free edge thereof to make a tight joint between said sections for the purpose set forth.

6. Means for molding concrete columns consisting of telescoping longitudinally split sections, means for forming a tight joint at the longitudinal opening in said casing and between the overlapping ends of the adjacent casing sections comprising templet frames surrounding the overlapping portions of said sections and flanges carried by the edges of separation of said casings and extending the length of said sections between said surrounding templet frames, one of said flanges overlapping the longitudinally split portion of said casing.

7. Means for molding concrete columns consisting of telescoping longitudinally split sections, means for forming a tight joint at the longitudinal opening in said casing and between the overlapping ends of the casing sections comprising securing means secured along one edge of separation of said split sections and overlapping the other edge of separation, and clamping means surrounding the overlapping ends of the outer casing sections and extending beyond the same to overlap the adjacent portion of the inner casing sections for the purpose set forth.

8. Means for molding concrete columns comprising a split casing composed of telescoping sections, each section being composed of a main clamping plate 2, an extension plate 3 adjustably connected to said main clamping plate, connecting means between the free edge of said extension plate and the free edge of said main plate and clamping means surrounding the overlapping portions of said telescoping sections.

9. Means for molding concrete columns comprising a split casing composed of telescoping sections, each section being composed of a main plate 2, an extension plate 3, an adjustable connection between said extension plate and main plate consisting of bolts cooperating with a plurality of rows of corresponding openings in the overlapping portions of said plates, means connecting the free edges of said main and extension plates and templet frames surrounding the overlapping portions of said telescoping sections, said templet frames being adjustable to correspond with the limits of adjustment of said sections as brought about by said bolts and the corresponding openings in said clamping plates.

10. Means for molding concrete columns comprising a longitudinally split casing composed of telescoping sections, means adjustably securing together the free edges of said casing, a side door in the lower end of said casing, a series of templet frames inclosing said casing, each frame consisting of hinged members, means for securing said members in closed position, and means for adjusting the size of said frames, for the purpose set forth.

11. Means for molding concrete columns comprising an expansible split casing, locking means for the free edges of said casing, a series of templet frames for said casing, each frame consisting of hinged members, means for adjustably connecting the free ends of said members, filling blocks, and means for supporting said blocks from said frames.

In testimony whereof we affix our signatures in presence of two witnesses.

PHILIPPE A. DESLAURIERS.
LOUIS P. DESLAURIERS.

Witnesses:
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HATTIE SMITH.