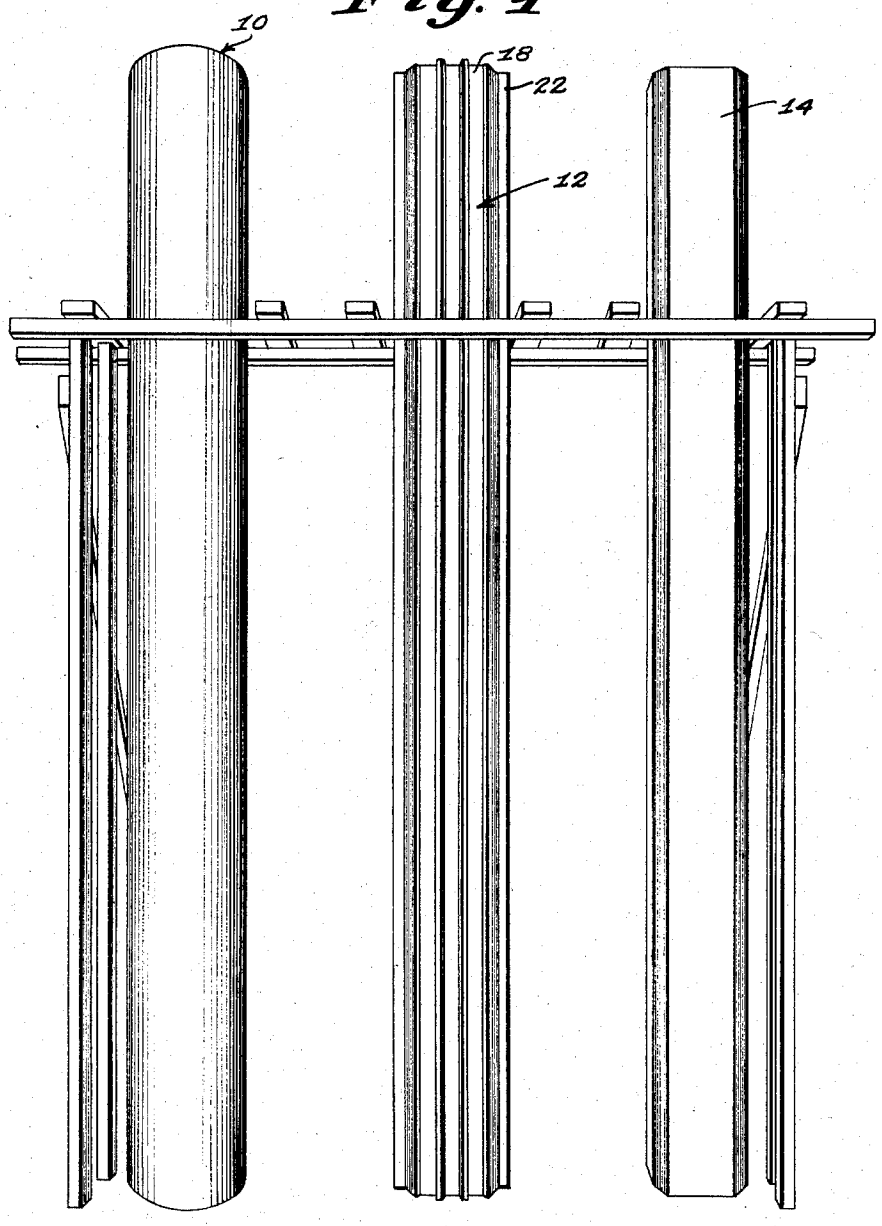
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CONCRETE COLUMN FORM FOR SQUARE COLUMNS

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Fig. 1



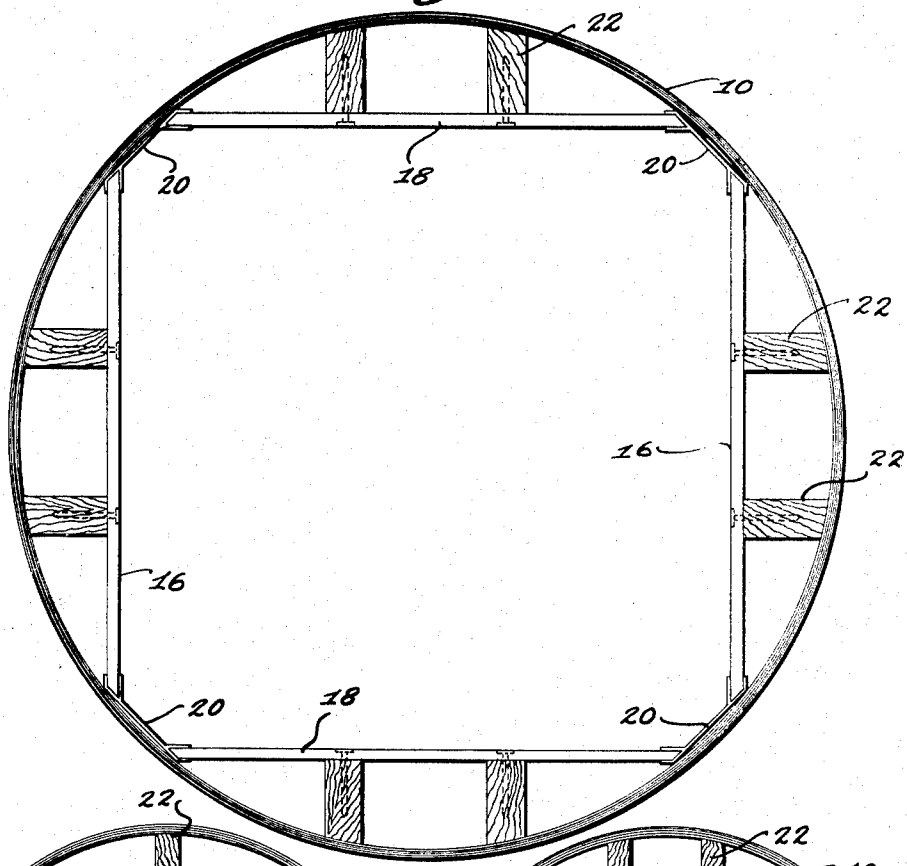

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Fig. 2



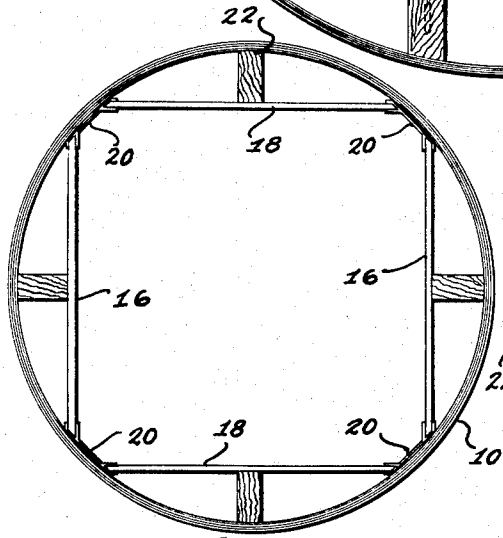




Fig. 3

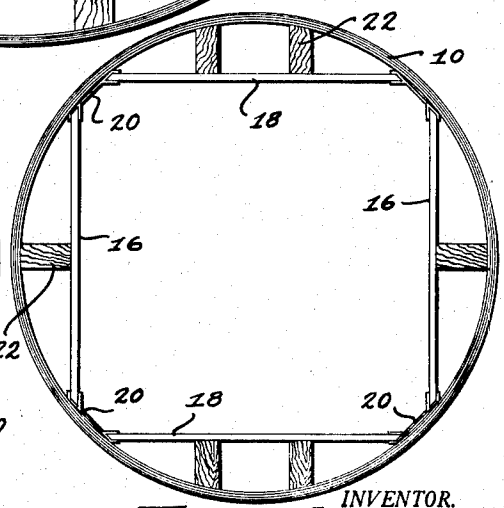



Fig. 4

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2,873,503

# CONCRETE COLUMN FORM FOR SQUARE COLUMNS

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Application June 13, 1956, Serial No. 591,237

8 Claims. (Cl. 25—118)

This invention relates to paper tube forms for use in molding concrete columns and the like, and more particularly, to the molding of square concrete columns.

Much difficulty is encountered in erecting wooden forms for the pouring of concrete columns. The wooden forms require considerable external bracing as the internal pressure of the poured concrete is transmitted to the bracing, and if a column of considerable height is required, the problem of bracing becomes even more acute. Also, each wooden concrete form has to be carefully measured and aligned in order to obtain the correct dimensions and position. This requires a considerable amount of time and labor and in many instances results in a column slightly larger or smaller than its design due to the speed of erection.

According to the present invention, most of the difficulty involved in the building of square forms in place is removed. The concrete forms in this invention are preformed forms and the only labor required is in placing the preformed forms in the position where the finished columns are desired. After the preformed form is placed in position and aligned, a minimum amount of bracing is required for holding the form in the aligned position. There is no labor or time involved in measuring the form or in positioning various members as the preformed form is constructed for a predetermined height and diameter, and is available for the pouring of concrete or the like immediately after it has been erected and aligned.

This preformed form is usually constructed at a location remote from the area where it is to be employed and is shipped or transported to the construction site for immediate use. In the construction of this form, a circular, tubular paper tube is provided and two parallel pairs of panels are placed inside the paper tube. The internal hydrostatic pressure of the poured concrete within the area defined by the pairs of panels is transmitted to the wall of the paper tube and is equalized by the entire circular wall. This equalization of pressure by the circular wall allows for a minimum amount of bracing, much less than that required by the conventional square wooden or plywood form and also allows a minimum thickness for panels and the paper tube.

These and other features of the present invention are described in further detail below in connection with the accompanying drawings, in which:

Fig. 1 is a front elevation view showing the several steps involved in stripping the preformed form from a concrete column;

Fig. 2 is a top plan view of the preferred embodiment of the completed preformed form;

Fig. 3 is a top plan view of a modification of the completed preformed form; and

Fig. 4 is a top plan view of a further modification of the completed preformed form.

Referring now in detail to the drawings, and more particularly at first to Figure 1, the concrete preformed form of the present invention is preferably formed by



spirally winding a plurality of paper strips to form a laminated or multi-ply circular tubular body **10** of desired height, wall thickness and diameter, determined by the size of the concrete column desired. After the concrete is poured the tubular body **10** is stripped away by cutting or other means and the square form indicated generally by **12**, which will be explained more in detail later, remains in contact with the hardened concrete. The square form is next stripped from the finished concrete column **14** and the concrete column **14** remains in place in the desired position.

The square form **12** that is placed inside the circular tubular body **10** is disclosed more fully in Figs. 2, 3 and 4 in which two parallel pairs of panels **16, 18** are arranged with their edges against the interior face of the tubular body **10**. The panels **16, 18** are preferably made of plywood or Masonite panelwood of approximately ¼ inch to ¾ inches in thickness, although various other materials can be used to advantage. The edges of adjacent panels are not in contact with each other, but are spaced, being separated by a portion of the tubular body **10**.

Corner strips **20** are placed between the edges of adjacent panels primarily in order to provide a smooth beveled corner at each corner of the square column. Also, these corner strips act to position the panels and provide a smooth contact surface for the concrete that can be easily stripped from the finished concrete column. The preferred form of corner strips consists of two flat metal strips, such as United States Standard 30 gauge sheet metal, that have their outer edges bent inwardly at different widths. These two metal strips after bending are placed in face-to-face contact and thereby form pockets between the bent edges that receive and tend to position the panels.

Filler elements **22** are provided to give additional support to the panels and to transmit directly the internal hydrostatic pressure created by the poured concrete to the circular paper tube. Various forms and types of filler elements can be used, but one type that has proven to be most satifactory is wooden strips of 2 inches by 4 inches. The filler elements **22** are usually nailed or otherwise secured to the panels **16, 18** and to the circular tubular body **10**. Figure 2 shows a convenient form of filler elements consisting of two wooden strips between each panel and the interior face of the tubular body **10**. Fig. 3 discloses only one wooden strip behind each panel and Figure 4 discloses two wooden strips behind each of one pair of panels **18** and one wooden strip behind each of the other pair of panels **16**. It is obvious that an infinite selection of filler elements may be used in the present invention.

In the construction of my preformed form, I usually secure the filler elements **22** to the panels **16, 18** and then secure the corner strips **20** to the panels which are received in the pockets created by the corner strips **20**. This completes the preformed form except for placing of the panels, corner strips and fillers within the circular tubular body **10**. The next step therefore is placing the panels **16, 18** with the filler elements **22** and corner strips **20** secured thereto inside the tubular body **10** and securing the filler elements **22** to the tubular body **10** in order to hold the panels **16, 18** in place within the circular tubular body **10**. After this step, the preformed form is completed and available for shipment to the particular location in which it is desired. It should be noted that the preformed form can be made of various diameters and of different heights depending on its desired use. Its design is therefore, highly flexible and suitable for use in practically any type of construction where square columns are desired. The contractor or user needs only to

order the desired preformed column forms from a plant making the forms and the forms will be sent available for use immediately.

In use, the preformed concrete form is placed in the position where the finished column is desired and concrete is poured inside the column form and allowed to set. Next, the circular tubular body **10** is stripped by unwrapping its spiral plies or by cutting it longitudinally and then unwrapping it. The panels **16**, **18**, corner strips **20** and filler elements **22** can then be removed and the completed column remains.

The invention has been described above for purposes of illustration, and is not intended to be limited only by the appended claims:

I claim:

1. A concrete form adapted for use in molding square concrete columns comprising a tubular, paper body, and two parallel pairs of panels disposed within said tubular body, one pair of said parallel panels being in a perpendicular relation to the other pair of said panels, and means supporting said panels from said paper body against internal pressure.

2. A preformed concrete form adapted for use in molding square concrete columns comprising a circular tubular, paper body, two spaced parallel pairs of panels disposed within said tubular body, one pair of said parallel panels being in a perpendicular relation to the other pair of said panels, and filler means extending for the entire length of said panels and supporting said panels between each of said panels and said tubular form.

3. A preformed concrete form adapted for use in molding square concrete columns having chamfered corners comprising a circular tubular, paper body, two spaced parallel pairs of panels disposed within said circular body, corner forming means arranged at each corner of the enclosed area defined by said parallel pairs of panels, said corner means forming chamfered corners on the square concrete columns, and means supporting said panels from said paper body against internal pressure.

4. A concrete form adapted for use in molding square concrete columns comprising a tubular, circular paper body, two parallel pairs of panels disposed within said circular body, one pair of said parallel panels being in a perpendicular relation to the other pair of said parallel panels, corner forming means arranged at each corner of the enclosed area defined by said parallel pairs of panels, and means supporting said panels from said paper body against internal pressure.

5. A concrete form adapted for use in molding square concrete columns comprising a circular tubular paper body, two parallel pairs of panels disposed within said



circular paper body, one pair of said parallel panels being in a perpendicular relation to the other pair of said parallel panels and the edges of each of said panels being spaced from the edges of the adjacent panels and in contact with the interior face of said circular paper body, corner forming means arranged between the spaced edges of adjacent panels for forming chamfered corners on the concrete columns, and filler means between each of said panels and said circular tubular body for supporting said panels and transmitting internal pressure from the panels to the tubular body.

6. A concrete form adapted for use in molding square concrete columns comprising an outer, circular, tubular paper body, an inner, substantially square form arranged within said outer, tubular paper body and contacting the outer tubular body at the corners of said inner form, and filler means between said inner form and said outer paper body for supporting the inner form and transmitting internal pressure from the inner form to the outer paper body.

7. A concrete form adapted for use in molding square concrete columns comprising an outer, unitary cylindrical paper body, an inner form arranged within said outer paper body and contacting said outer paper body at four equidistant points along the circumferential interior surface thereof, and filler means arranged between and fixed to the inner form and the outer paper body for supporting the inner form and transmitting internal pressure from the inner form to the outer body.

8. A concrete form adapted for use in molding a square concrete column comprising an outer, circular, tubular paper body, a substantially square inner form arranged within and fixed to said outer paper body and extending for the entire length thereof, said inner form contacting said outer paper body at four points along the circumferential interior surface thereof, and filler means arranged between and fixed to the inner form and the outer paper body at each of the open spaces between said contacting points and extending for the entire length of said inner form.

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