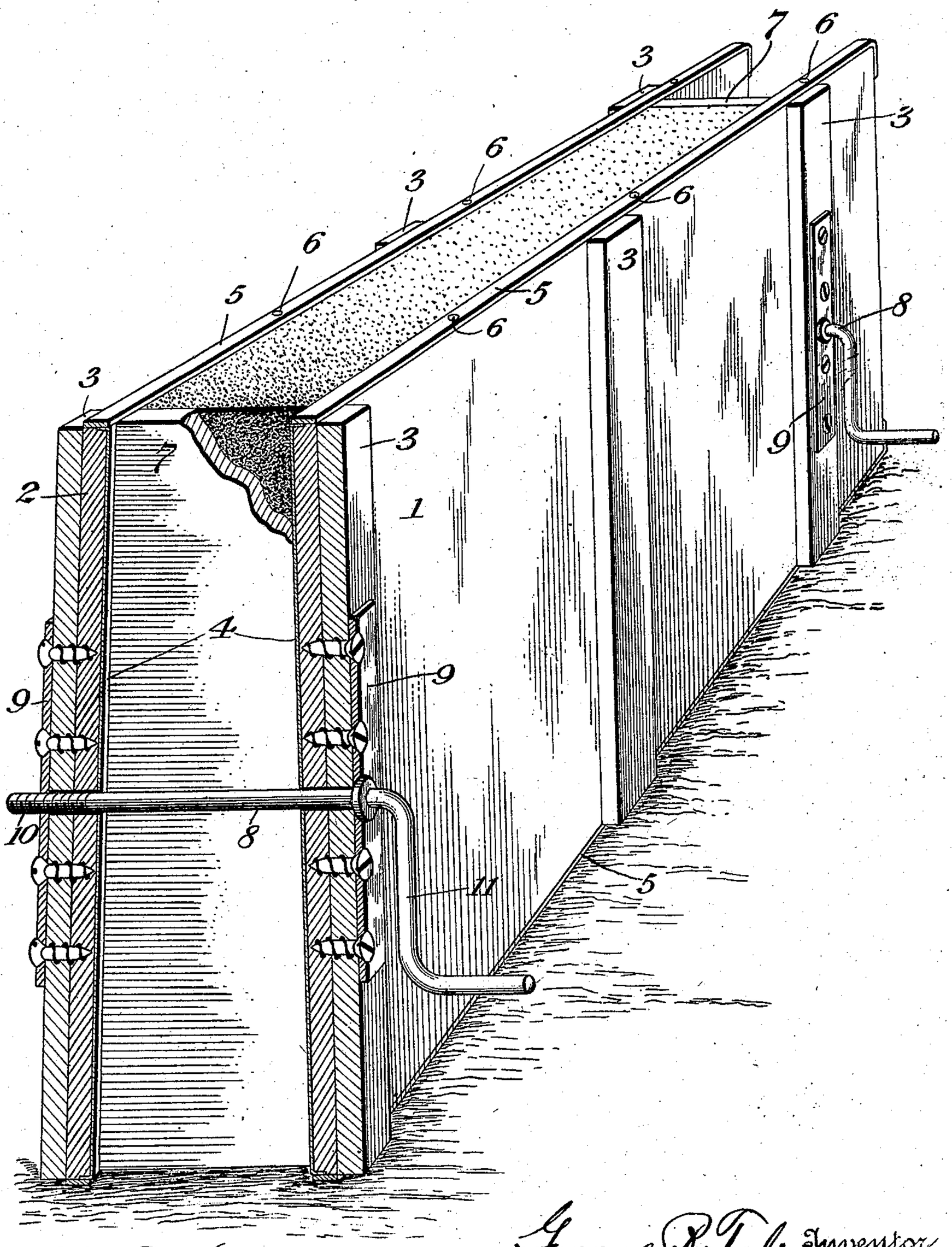
No. 854,856. PATENTED MAY 28, 1907.

G. B. TYLER.

APPARATUS FOR MANUFACTURING CONCRETE BLOCKS.

APPLICATION FILED AUG. 25, 1906.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MANUFACTURING CONCRETE BLOCKS.

No. 854,856. Specification of Letters Patent. Patented May 28, 1907.

Application filed August 25, 1906. Serial No. 331,958.

To all whom it may concern:

Be it known that I, GEORGE B. TYLER, a citizen of the United States, residing in Hastings, county of Adams, and State of Nebraska, have invented a new and useful Improvement in Apparatus for Manufacturing Concrete Blocks, of which the following is a specification.

This invention relates to apparatus for the manufacture of concrete structures, and it is specially designed for use in constructing street curbing, walls, steps, and other concrete structures in place.

The principal object of the invention is to provide a simple, substantial, and easily manipulated apparatus by means of which concrete structures of various kinds may be molded in place and of any desired configuration.

Further objects of the invention are to provide apparatus of the character mentioned which is so constructed as to prevent any warping or twisting of the casing through the action of the moisture present in the concrete and to prevent absorption of moisture from the concrete by the walls of the apparatus.

In attaining the objects above stated, I preferably employ apparatus of the structure illustrated in the accompanying drawing and hereinafter described in detail, though it is to be understood that variations therein may be made within the scope of the appended claims without departing from the spirit of the invention.

Referring to the drawing by the reference characters marked thereon, 1 and 2 represent the front and rear walls respectively of a casing or mold for the concrete. These walls consist chiefly of plank, which combines the required degree of stiffness with lightness, and at intervals vertical braces 3 are provided on the outer surface of each wall to prevent bending on longitudinal lines of flexure. Each wall is provided with a protective lining 4 on its inner surface, these linings being preferably formed of sheet zinc which effectively resists the chemical action of the wet concrete, and, being entirely impervious to water, prevents the absorption of moisture from the concrete by the plank entering into the construction of the casing walls 1 and 2. Along the top and bottom, each of the casing walls is provided with a heavy binding or guard strip 5 of strap iron or steel, which is secured in place by nails or screws 6 placed at suitable intervals. These binding strips not only protect the edges of the lining 4 and the plank of the side walls from wear, but they also impart great longitudinal stiffness to the side walls and entirely eliminate the possibility of the warping of the casing, which is inevitable in casings constructed in the usual manner, and which soon becomes so pronounced as to render the further use of the casings impossible.

The front wall 1 is preferably set perfectly vertical and the rear wall 2 slightly inclined, as shown. The relative positions of the two walls may, however, be varied by altering the dimensions of the end pieces 7 which coöperate with the side walls to form the entire casing for the concrete. The casing members are secured in position by means of bolts 8 extending transversely through the side walls at suitable points. Each of the bolts 8 is threaded at one end to engage threaded apertures in one of the side walls of the mold and at the other end is preferably provided with an extension which is bent to the form of a crank which may be used for tightening or loosening the bolt, and between the crank and the shaft of the bolt a head is provided which serves as an abutment or shoulder against which one of the side walls of the mold rests. I preferably make use of only two such bolts, one being placed adjacent to each end of the apparatus and extending through two of the vertical braces 3 which are provided on the outer surface of the side walls. These braces 3 are provided with metallic plates 9 secured in place by screws, as shown, and one of the plates 9 is provided with a threaded aperture for engagement with the threaded portion 10 of the clamping bolt. The aperture of the other plate is unthreaded so that the bolt may be passed easily through it, and each bolt is provided with a crank 11 perferably formed integral therewith to facilitate the tightening or loosening of the bolt.

In the use of the apparatus the side walls and end pieces are set in position, as shown, and the bolts 8 are then inserted and tightened sufficiently to clamp the side walls against the end pieces. The concrete is then introduced into the top of the chamber formed by the casing and tamped firmly un-

til the entire space is filled. It is then allowed to "set," and, after the setting process has continued sufficiently long for the concrete to hold its form permanently, the bolts 8 are loosened or removed and the casings members are set in position for the molding of a second mass of concrete.

Ordinarily, the end pieces 7 will not be set between the bolts 8 but adjacent thereto, as shown. If, however, it is desired to mold the concrete in longer blocks, the end pieces may be placed nearer the extremities of the side walls of the casing, and in that event the bolts 8 will leave holes through the concrete when the casing is removed. These holes may be subsequently filled if desired, or, as they do not weaken the structure, they may be left unfilled in foundation work or curbing, in which the holes do not detract from the appearance.

I preferably incline the rear wall of the apparatus as shown in the drawing to facilitate the removal of the apparatus after the setting of the concrete. As will be readily seen, the upward taper given to the concrete structure by the apparatus when constructed this way makes it possible to lift the side walls after the clamping bolts 8 have been slightly loosened and renders the entire withdrawal of the clamping bolts and the separate removal of the two side walls entirely unnecessary. It will, of course, be understood that the side walls may be given any desired configuration on their inner faces by suitably carving the inner faces of the plank and forcing the metal lining into the depressions so produced.

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

In apparatus for manufacturing concrete blocks, a casing comprising wooden side walls provided on their longitudinal edges and corners with stiff binding strips adapted to prevent bending of said walls and having on their inner faces linings of material impervious to moisture which are extended under said stiffening strips and secured in place thereby, end members disposed between said side walls, and clamping devices for securing the side walls and end members in relation.

In testimony whereof, I have signed my name in the presence of two witnesses.

GEORGE B. TYLER.

Witnesses:
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Cally H. Wahlquist