Feb. 10, 1931. E. H. YARWOOD 1,791,881

FORM FOR CONCRETE CONSTRUCTION

Filed Feb. 16, 1924

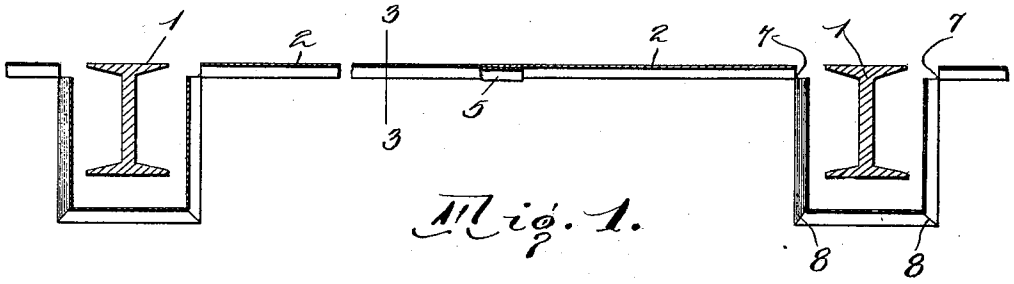


Fig. 1.

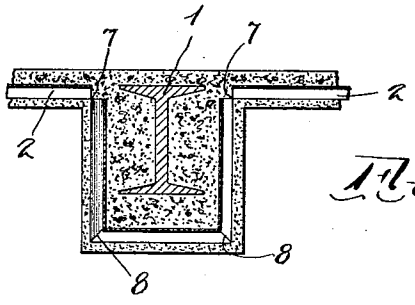


Fig. 2.

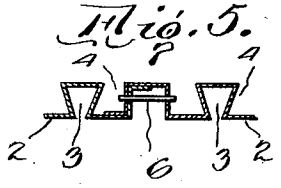


Fig. 5.

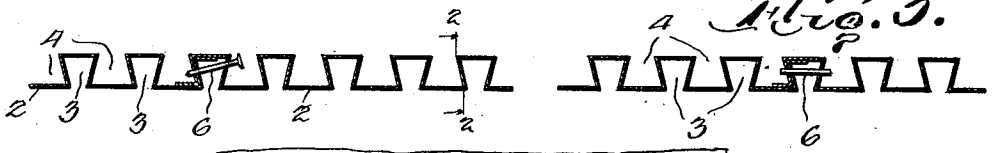


Fig. 3.

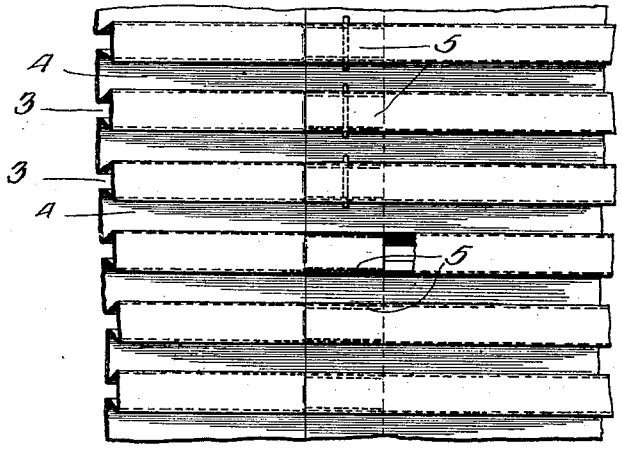


Fig. 4.

Inventor,
Emanuel H. Yarwood.

By Joshua R. H. Potts
Attorney

Patented Feb. 10, 1931 1,791,881

UNITED STATES PATENT OFFICE

EMANUEL HIBBERT YARWOOD, OF NEWARK, NEW JERSEY

FORM FOR CONCRETE CONSTRUCTION

Application filed February 16, 1924. Serial No. 693,237.

My invention relates to concrete construction and particularly to improvements in the forms used in concrete construction.

The usual practice in concrete construction is to provide wooden or other forms which are held in place until the concrete sets, and are then removed. It requires considerable labor to put up and take down these removable forms, and furthermore, the concrete surface is not such that the plaster will readily and firmly adhere thereto.

The object of my invention is to provide a form for the concrete which will become a part of the complete structure, thereby saving the necessity of putting up and taking down the usual forms. A further object of my invention is to provide a device as mentioned which will furnish a proper surface for securing the plaster thereto. A further object of my invention is to provide a device as mentioned which will constitute a reinforcing element for the concrete slabs and beams. A further object of my invention is to provide a device as mentioned which may be furnished in standard sizes and used to construct the forms without any waste of material whatever, irrespective of the distance between beams and the dimensions of the same. A further object of my invention is to provide a device as mentioned of such construction that the adjacent ends of the same will securely interlock. Other objects will appear hereinafter.

With these objects in view my invention consists generally in providing sheet metal corrugated members which are adapted to be placed in position to constitute the forms for the concrete, the corrugations forming both a lock into the concrete and a key for the covering coats of plaster. These corrugated sheets are provided with interlocking ends so that the joints between the same may occur at any place in the structure without being objectionable; and by transversely cutting the upper portion of the corrugations they may be shaped about the steel beams without difficulty and without opening the bottom of the form plates at the joints. My invention further consists in a concrete construction comprising a corrugated form member locked to the concrete and spaced from the steel structural elements and providing means for keying the plaster thereto. My invention further consists in various details of construction and arrangements of parts all as will be fully described hereinafter and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which—

Fig. 1 is a detail sectional view illustrating the form plates in position,

Fig. 2 is a similar fragmentary detail illustrating the concrete and plaster in place, the section being taken on substantially the line 2—2 of Fig. 3,

Fig. 3 is a transverse section on the line 3—3 of Fig. 1 upon an enlarged scale,

Fig. 4 is a plan view of the interlocked ends of adjacent plates, and

Fig. 5 is a detail sectional view of a slight modification.

Referring now to the drawing 1—1 indicates I-beams of a steel structure, such as the usual floor beams, and 2—2 indicates the form plates embodying the novel features of my invention. These form plates are provided with parallel dovetailed corrugations 3 and 4, the former opening downwardly and the latter upwardly for a purpose hereinafter described. The corrugations at one end of each plate are slightly enlarged as at 5 to snugly receive the ends of the adjacent plate as shown clearly in Figs. 1 and 4. By this arrangement, it is obvious that the form may be provided in standard sizes and may be placed into position without waste due to cutting, as with the interlocking ends these joints may occur at any place in the construction. The edges of the plates are provided with corrugations which interlock as illustrated in Figs. 3 and 4, and if desired a nail or pin 6 may be driven thru the adjacent ends as illustrated. These edge corrugations may be of the dovetail type as shown in Fig. 3 or may be vertical channels as illustrated in Fig. 5.

To shape the form about the beams 1 a vertical cut 7 is made for the upper angles

and a V-shaped cut 8 is made for the lower angles. In making the cut 7 and 8 only those portions above the bottom of the plate are cut, and the bottom faces are readily bent, and keep joints closed at the bends.

It is obvious that with my invention as above described, the expense of removable forms and the labor incident to removing the same is obviated. Also the entire surface of the concrete is corrugated so that the plaster will be firmly keyed thereto. Furthermore, the forms, which form a permanent part of the completed structure constitute reinforcing means for the same. It is also obvious that the form plates may be made in any desired standard size and may be placed in position with interlocking ends and bent joints, without waste of material, irrespective of the distance between the beams or the size of the finished concrete beams, as the joints may occur at any point in the structure.

I claim:

1. In a concrete construction the usual steel beams, forms for the concrete spaced from said beams and comprising corrugated metal plates, said plates being bent around and spaced from said beams, the bends in said plates being transverse of said corrugations, and the corrugations being unsevered from the plates throughout their length, concrete slabs and beams above said form, and plaster keyed to said plates, substantially as described.

2. A device as set forth in claim 1 in which the corrugations are cut through without cutting the body of the plates or separation of the corrugations from the body to permit ready bending of the same, substantially as described.

3. A form for concrete construction adapted to form a permanent part of the completed structure and comprising metallic plates spaced from structural steel elements and provided with longitudinally disposed dovetailed corrugations, said dovetailed corrugations at the adjacent lateral edges being interlocked, and means for securing said edges together in interlocked relation, substantially as described.

In testimony whereof I have signed my name to this specification.

EMANUEL HIBBERT YARWOOD.