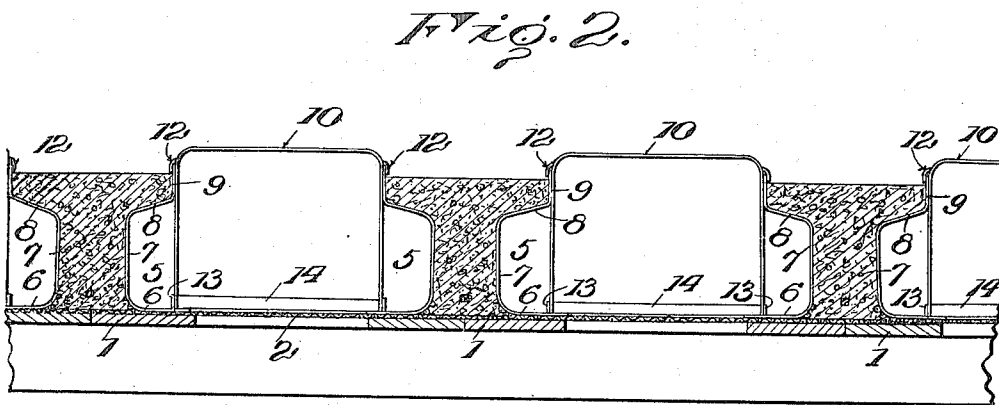
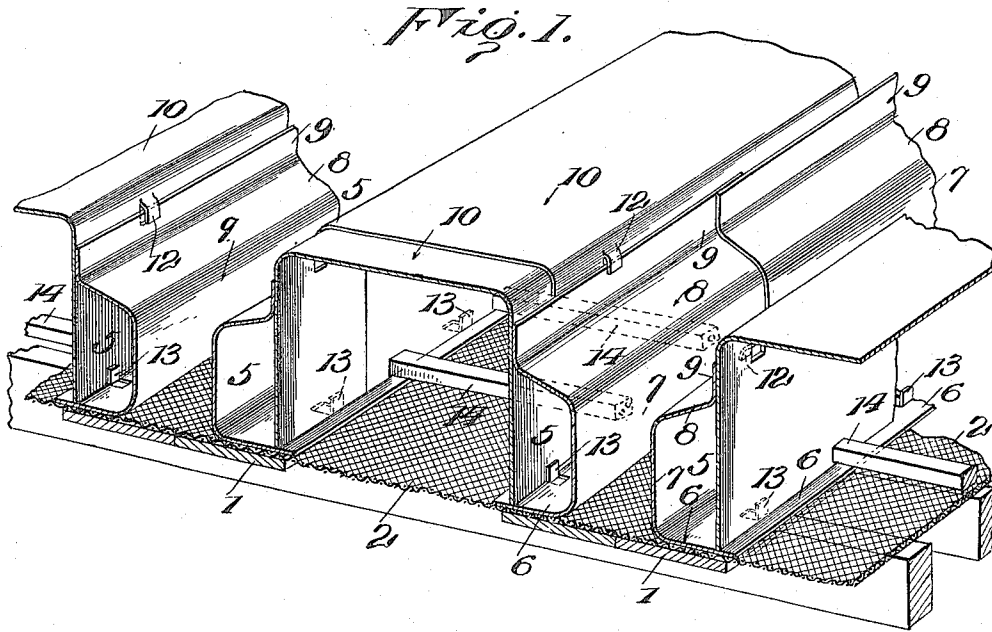


H. L. WELLS.
FORM FOR CONCRETE CONSTRUCTION.
APPLICATION FILED DEC. 20, 1916.

1,220,916.

Patented Mar. 27, 1917.
2 SHEETS—SHEET 1.



Inventor

H. L. Wells.

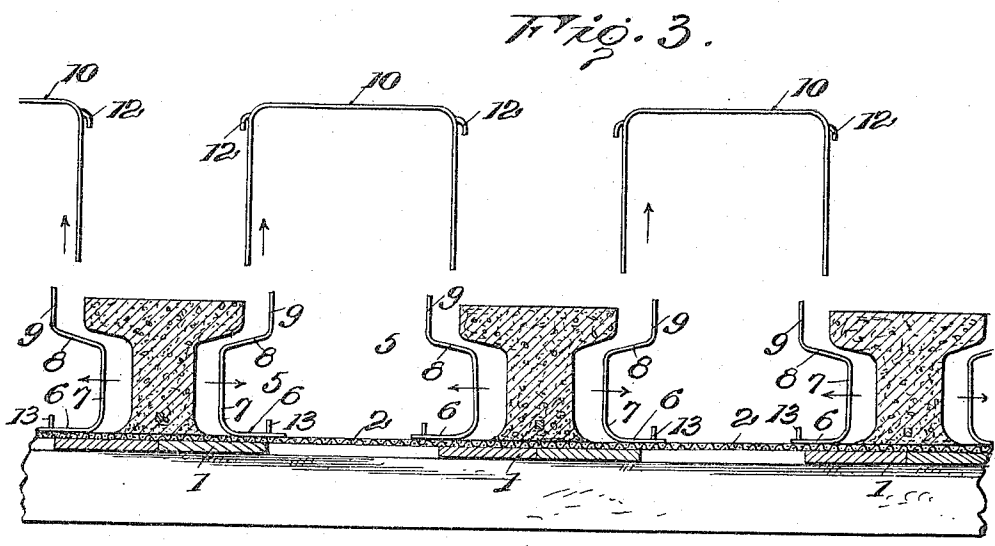
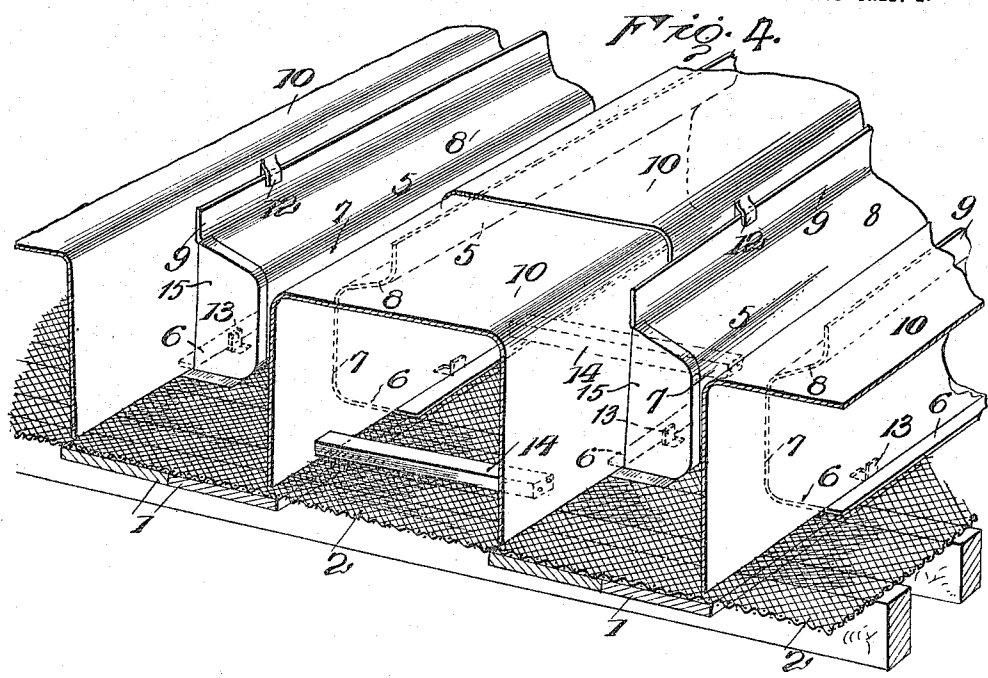
By

Wells and Associates
Attorneys

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 his Attorneys

UNITED STATES PATENT OFFICE.

HEWITT L. WELLS, OF WASHINGTON, DISTRICT OF COLUMBIA.

FORM FOR CONCRETE CONSTRUCTION.

1,220,916.

Specification of Letters Patent.

Patented Mar. 27, 1917.

Application filed December 20, 1916. Serial No. 138,054.

To all whom it may concern:

Be it known that I, HEWITT L. WELLS, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Forms for Concrete Construction; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In an application for Letters Patent filed by me April 10, 1916, Serial No. 90286, I described a method of constructing concrete beams or joists for supporting dead weight of construction and the loads to be supported thereon which included the positioning of a series of spaced apart supporting members, usually a part of the structural false-work, upon which a ceiling support or undercovering is placed, joist molds being arranged upon the spaced apart supporting members with a portion of the ceiling or other undercovering interposed between the molds and the supporting members, the mold spaces then being filled with concrete, the molds being removed upwardly after the concrete has sufficiently set. In my application I illustrated a means of carrying out my method, the joists being rectangular in cross section, the side boards or forms used for molding these joists being of channel shape. Where a rectangular joist is to be formed no difficulty whatever is encountered in removing the mold boards from the side of the joists and lifting the same upwardly. On the other hand, where the joists are formed with a top flange or T to secure a maximum resistance of the compression stresses in the joists, a mold must be provided for forming the joist of T-shape and such mold must be capable of quick and easy removal for use in another portion of the building.

It is the object of my present invention to provide a simple and efficient mold for forming T-beams or joists which may be used with facility in carrying forward the steps of my improved method in concrete construction as set forth in the hereinbefore noted application, the mold being also capable of use in the ordinary methods of forming concrete beams and joists *in situ*.

In the accompanying drawings, Figure 1 is a view in perspective showing the molds or forms in position ready to receive the

concrete. Fig. 2 is a sectional view. Fig. 3 is a view showing the completed joists and some of the forms in stages of removal. Fig. 4 is a perspective showing an arrangement of the parts to form a joist of rectangular shape adjacent to its support and of T-shape in the central portion of its span.

Referring to the drawings, I arrange a series of spaced apart base plates 1 upon the usual false-work, such base plates forming a support for the metal lath of the ceiling or other undercovering 2. These base plates are also the supporting media for the beam molds which are arranged with the ceiling interposed between them and the base plates, and they likewise form the support for spacing elements to be hereinafter described.

The molds for the beams or joists comprise pairs of cores 5 arranged in spaced relation to each other and preferably formed of a single piece of metal bent to provide an approximately horizontally disposed base 6, then upwardly to form a vertically disposed portion 7, the bend being either curved or angular. The metal is then bent back upon itself as at 8 and then again upwardly as at 9. The complementary vertically disposed portions 7 of two cores form the space for the stem of the beam, the T or flange being shaped by the portions 8 and 9. To insure uniformity in the spaces between joists or beams as well as to hold the cores in a vertical position I provide inverted U-shape spacing elements 10. These are formed of a single piece of metal bent into required shape. Tangs 12 are struck up from the sides of the elements 10 at points near the top thereof, such tangs forming a fastening means for the cores 5, the upper edge of the vertically disposed portion 9 fitting under such tangs. To prevent any lateral movement of the lower portion of the cores toward the spacing elements I provide the base 6 of the cores with lugs 13 struck up from the base, these lugs contacting with the sides of the spacing elements at their lower edges and preventing inward movement of the base. In order to obviate any tendency of the sides of the spacing elements to be forced inwardly by the pressure of the wet concrete between the cores short strips 14 of wood may be nailed between the sides at intervals and readily removed when it is desired to nest the spacing elements.

The manner of use of my improved arrangement of molds is readily apparent. The metal lath is placed upon the base plates 1 and then the spacing forms are positioned. 5 The cores are then placed in position by lifting the spacing forms and inserting the base 6 thereunder the tangs 12 catching the edges of the portions 9 as such forms settle to position on the base of the cores. It is 10 understood, of course, that where the space between beam or joist supports is greater than the length of the spacing elements and cores a number of these parts may be used, the same being assembled in lap joint arrange- 15 ment, the tangs being spaced so as not to interfere with overlapping ends. After the introduction of the desired reinforcing material for the joists the parts are ready to receive the concrete which latter is poured 20 up to a plane slightly below the edge of the upper portion 9 of the core, or to any desired depth. In pouring the concrete, the horizontal portion of the spacing elements serves as a platform or as a support for a 25 platform. After the concrete has sufficiently set the spacing elements 10 are removed upwardly. The cores can then be readily removed. It is to be noted that both the spacing elements and the cores are of 30 nestable formation.

If desired, the mold members may be arranged to form a joist of rectangular shape at its ends and of T-shape in the intermediate portion. This is very readily accom- 35 plished, as indicated in Fig. 4, it being only necessary to telescope portions of the complementary cores within their companion core members and to close the ends by a cap 15. The sides of the spacing elements form 40 the mold for the vertical walls of the rectangular portion of the joist and the T portion is shaped by the setting of the mold members as before described.

I claim as my invention:

45 1. Means for forming spaced apart concrete beams including a series of spacing frames each having a platform like top and opposite side walls, and cores for forming

T-beams in juxtaposition to the sides of said frames and in parallelism therewith. 50

2. Means for forming spaced apart concrete beams including a series of spacing frames each having a platform like top and opposite side walls, and cores for forming 55 T-beams, said cores being detachably secured to said frames and in parallelism with the side walls thereof.

3. Means for forming spaced apart concrete beams having a top projecting flange including a series of spacing frames each 60 having a platform like top and supports therefor, and cores in juxtaposition to said supports, said cores having an interlocking engagement with said frames.

4. Molds for concrete construction including a series of spacing frames each having a platform like top and vertically disposed 65 supports therefor, and laterally projecting cores.

5. Means for forming concrete beams including spacing elements each having a 70 platform like top and opposite side walls, and cores paralleling said walls and in juxtaposition thereto, each of said cores comprising a vertically disposed stem forming 75 portion, and an overhanging flange-forming portion.

6. Means for forming concrete beams including spacing elements and cores in juxtaposition to the sides of said elements, each 80 of said cores comprising a horizontally disposed base designed to engage said spacing element, a vertically disposed stem forming portion, and a T-forming portion.

7. Means for forming concrete beams including a spacing element and beam cores 85 in juxtaposition to the sides of said element, each of said beam cores being shaped from a single piece of metal to provide a horizontally disposed base, a vertically disposed 90 stem-forming portion, then back upon itself and then upwardly to provide a T-forming portion.

In testimony whereof, I have signed this specification.

HEWITT L. WELLS.