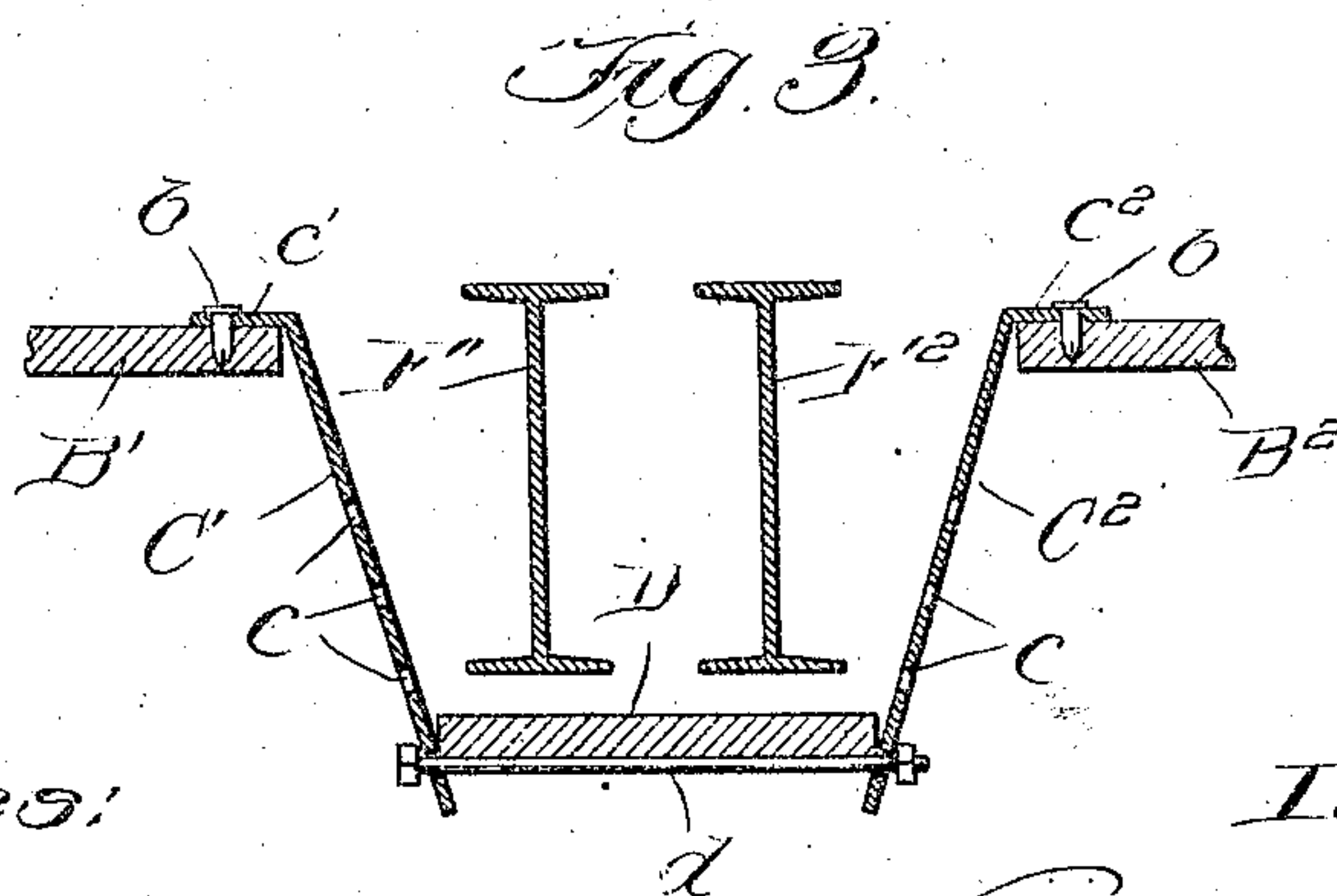
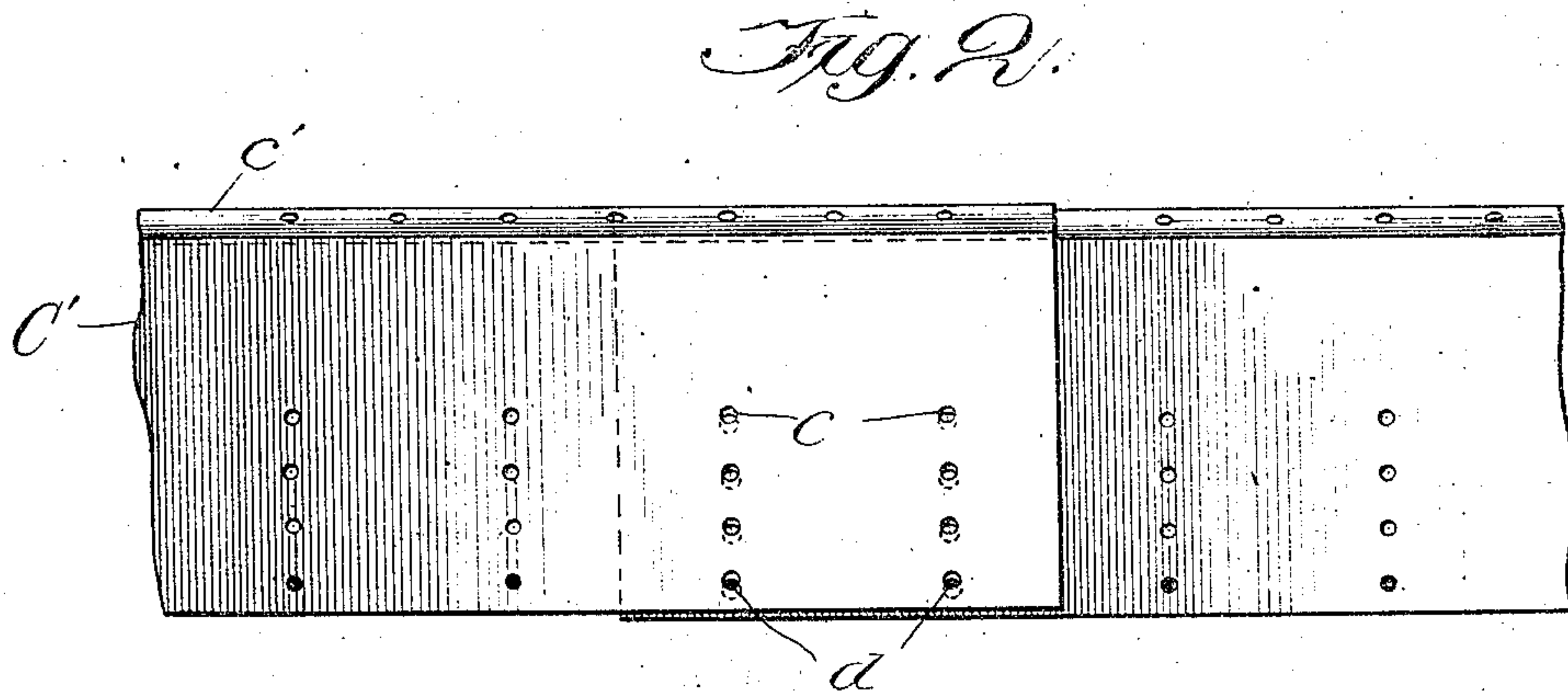
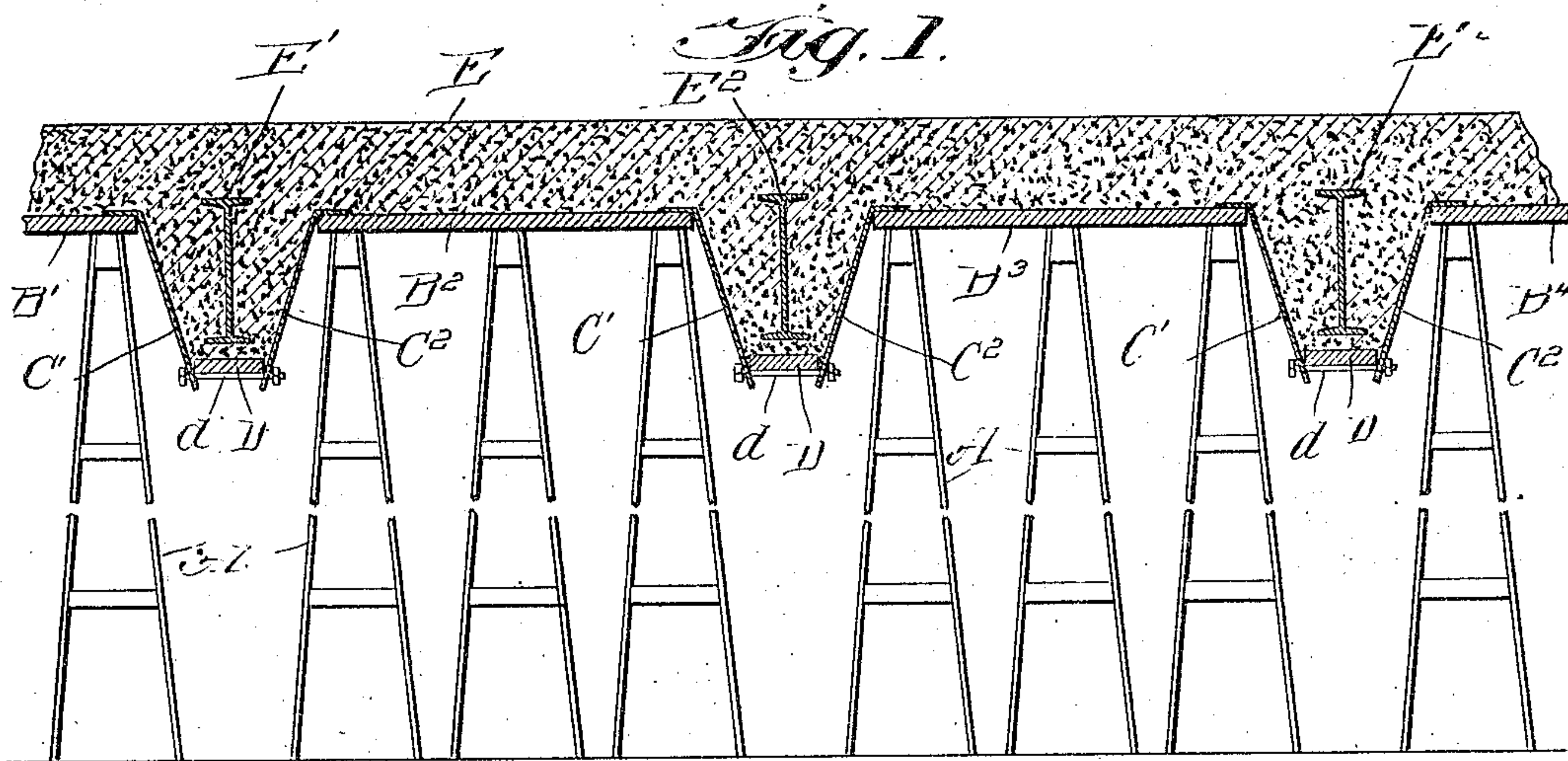


No. 842,566.

PATENTED JAN. 29, 1907.

A. LANQUIST.
 APPARATUS FOR LAYING CONCRETE FLOORS.
 APPLICATION FILED NOV. 7, 1905.



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UNITED STATES PATENT OFFICE.

ANDREW LANQUIST, OF CHICAGO, ILLINOIS.

APPARATUS FOR LAYING CONCRETE FLOORS.

No. 842,566.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed November 7, 1905. Serial No. 286,292.

To all whom it may concern:

Be it known that I, ANDREW LANQUIST, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Apparatus for Laying Concrete Floors; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates in general to the construction of concrete floors, and more particularly to removable structures for supporting the concrete while in a plastic condition.

It is customary in laying concrete floors to embed therein supporting beams or girders in order to give to the floor the requisite structural strength. Temporary platforms are located intermediate of the beams to support the plastic concrete. Heretofore it has been usual to secure to the edges of the platforms at each side of a beam planks, which support at their lower edges a horizontal plank lying below the beam. These planks form a trough to support the concrete around the beam until it becomes hard. The construction of such troughs of planks is expensive, not only as skilled labor is required, but also as a comparatively short usage results in the planks becoming splintered and broken.

The primary object of my invention is to provide a supporting structure for use in laying concrete floors which may be erected by unskilled labor and which may be used repeatedly without injury.

A further object of my invention is to provide means for supporting plastic concrete around a beam which may be adjusted to conform to various sizes of beams and various numbers of beams grouped together.

A still further object of my invention is to provide a temporary structure for supporting plastic concrete in the construction of floors which will be simple and inexpensive in manufacture and efficient in use.

My invention, generally described, consists of a pair of metal plates having laterally-projecting flanges at their upper edges adapted to overlie and to be secured to the edges of

platforms at each side of one or more beams, said plates having holes therethrough at different distances above their lower edges, bolts extending through horizontally-alined holes in the two plates, and a horizontal plank supported by said bolts beneath the beam or beams.

My invention will be more fully described hereinafter with reference to the accompanying drawings, in which the same is illustrated as embodied in a convenient and practical form, and in which—

Figure 1 is a vertical sectional view; Fig. 2, an enlarged elevational view showing two overlapped sections of a plate, and Fig. 3 an enlarged sectional view showing my improvement in position around two beams.

The same reference characters are used to designate the same parts in the several figures of the drawings.

Reference characters B^1 , B^2 , B^3 , and B^4 indicate platforms composed of boards supported at a desired height by any suitable means—such, for instance, as scaffolds or horses A. The platforms are arranged intermediate of beams or girders E^1 , E^2 , and E^3 , space being left between the adjacent edges of the platforms and girders, so that the plastic concrete may surround the beams, thereby embedding the beams in the concrete floor. The concrete when hard results in the floor being securely supported by the beams. The foregoing method of constructing concrete floors is well known and in itself forms no part of my invention, my invention consisting in the means for supporting the plastic concrete around the beams.

In carrying out my invention I provide a pair of metal plates C^1 and C^2 , having outwardly-projecting flanges c^1 c^2 along their upper edges, which overlie and are supported upon the adjacent edges of the platforms at each side of a girder or beam. Suitable means—such, for instance, as nails b —are driven through holes in the flanges along the plates in the platforms to support the plates in position at either side of the beam or beams.

The plates are provided with vertical series of holes c , the series being located suitable distances apart—as, for instance, one foot. The plates are preferably formed in sections, as indicated in Fig. 2, each section being a convenient length for handling—as, for instance, ten feet—and adjacent sections being

overlapped to form a continuous plate of a length corresponding to the length of the beam.

Bolts *d* extend through horizontally-aligned holes in the several vertical series of holes *c* in the pairs of plates *C'* and *C''*. The number of bolts is of course equal to the number of series of holes and are spaced apart distances corresponding to the spaces between the vertical series of holes.

A plank *D* is supported upon the bolts *d* and underlies the beam, at each side of which the plates are located.

When pairs of plates and boards supported thereby have been located around the beams throughout the horizontal plane at which the floor is to be formed, the concrete *E* is placed upon the platforms when in a plastic condition to a thickness corresponding to the thickness desired for the floor, plastic concrete also being received above the boards *D* and between the pairs of plates *C'* and *C''*, so as to closely surround the beams. When the concrete has hardened, the horses or scaffolds *A* are removed from beneath the platforms, so that they are lowered from beneath the concrete floor. The bolts *d* are disengaged from the holes through the various pairs of plates, thereby permitting the planks to be disconnected from the plates. The spikes or nails *b* may be readily removed from engagement with the platforms, so that the plates may be again used in the construction of other concrete floors.

The distance below the surface of the platforms at which the boards *D* are supported may be varied according to the dimension of the beams around which the concrete is to be formed by passing the bolts *d* through horizontally-aligned holes *c* in the plates at such distances below the platforms as to support the desired amount of concrete around the beams to embed the same therein. In this manner the same plates may be used in connection with various sizes of beams and to form around such beams the desired amount of concrete.

My invention may be used equally as well when a plurality of beams are used in lieu of a single beam, as indicated in Fig. 3, in which *F'* and *F''* designate two parallel beams, which are to be embedded in concrete when the floor is laid. It is merely necessary to use bolts *d* of the desired length and planks *D* of the desired width conforming to the number of beams which are to be embedded in the concrete.

The bolts *d* serve to unite the overlapped portions of adjoining sections of the plates, as shown in Fig. 2, as the holes *c* are of such size as to permit the bolts to pass through the overlapped sections of the plates, as indicated in Fig. 2.

From the foregoing description it will be observed that I have invented an improved

means for constructing concrete floors which is more economical than the means heretofore employed, as the supporting structure for the plastic concrete may be erected by unskilled labor.

My invention further results in a saving in lumber, as the plates may be repeatedly used, whereas in the method heretofore used the planks which form the troughs around the beams are soon destroyed by usage.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, and means supported by said plates below the beam for supporting the concrete around the beam.

2. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, a support for the concrete extending between said plates below the beam, and means for vertically adjusting said support relatively to said plates.

3. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, means detachably uniting said plates below the beam, and a support for the concrete carried by said means.

4. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, bolts uniting said plates below the beam, and a support for the concrete resting upon said bolts.

5. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, said plates having vertical series of holes therethrough, bolts extending through horizontally-aligned holes in said plates, and a support for the concrete resting upon said bolts.

6. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from the platforms at each side of the beam, outwardly-projecting flanges at the upper edge of said plates overlying the edges of the adjacent platforms, means for removably securing said flanges to the platforms, and

means supported by said plates below the beam for supporting the concrete.

7. In a temporary structure for laying concrete or similar floors, the combination with
5 platforms located at each side of and spaced apart from a floor-beam, of plates depending from platforms at each side of the beam, a board for supporting the concrete extending
10 between said plates below the beam, and bolts detachably uniting said plates upon which said board rests.

8. In a temporary structure for laying concrete or similar floors, the combination with
15 platforms located on each side of and spaced apart from a floor-beam, of plates depending

from the platforms at each side of the beam, laterally-projecting flanges at the upper edges of said plates overlying the adjacent edges of the platforms, said plates having vertical series of holes therethrough, bolts extending through horizontally-alined holes in said plates, and a plank supported upon said bolts beneath the beam.

In testimony whereof I sign this specification in the presence of two witnesses.

ANDREW LANQUIST.

Witnesses:

GEO. L. WILKINSON
C. A. MULLEN.