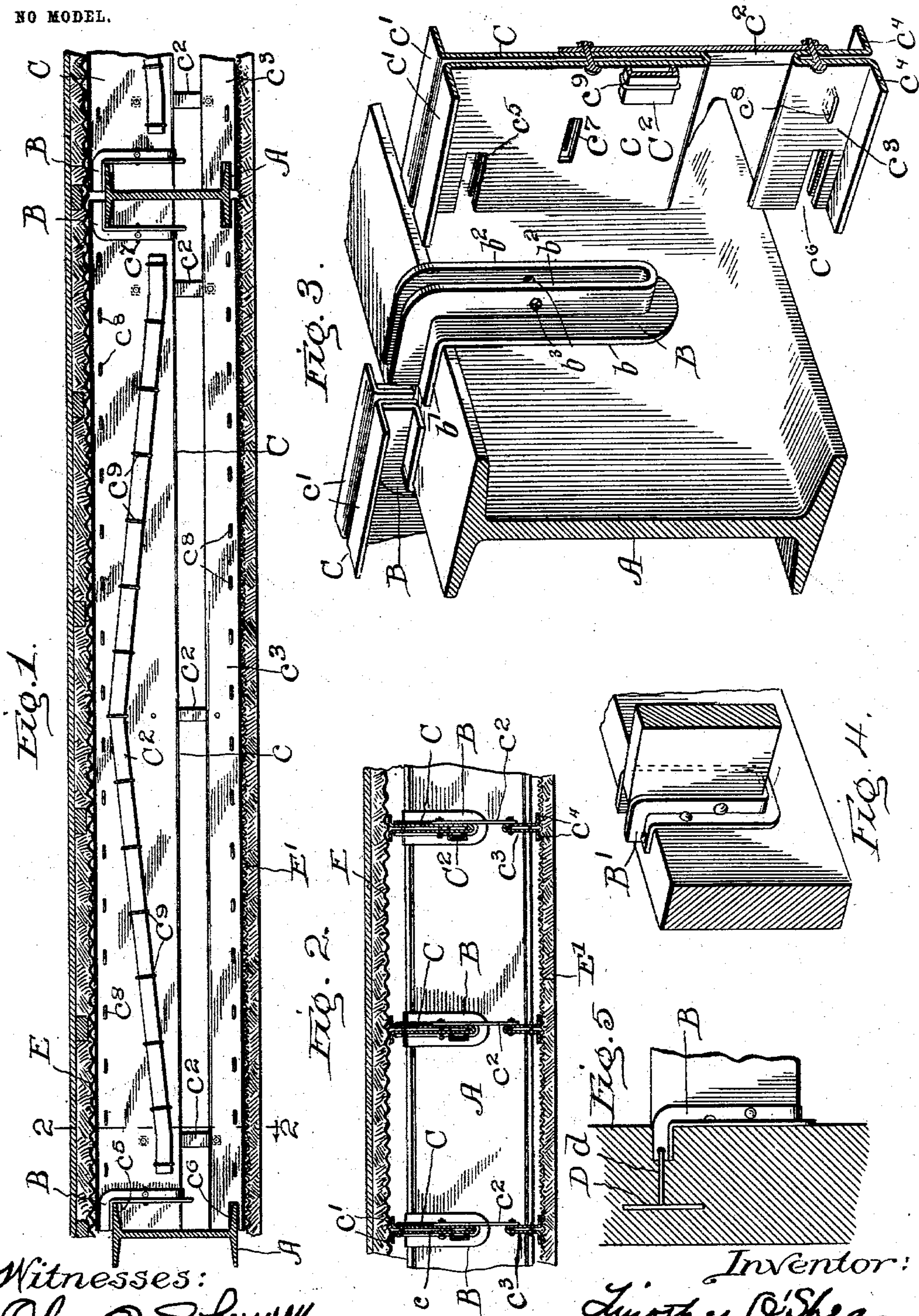


No. 741,066.

PATENTED OCT. 13, 1903.

T. O'SHEA.
BUILDING CONSTRUCTION.
APPLICATION FILED MAR. 23, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

TIMOTHY O'SHEA, OF CHICAGO, ILLINOIS.

BUILDING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 741,066, dated October 13, 1903.

Application filed March 23, 1903. Serial No. 149,077. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY O'SHEA, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Building Constructions, of which the following is a specification.

My invention relates to certain new and useful improvements in building constructions; and its object is to produce a structure which shall be stronger and cheaper than similar structures heretofore in use.

To these ends my invention consists in certain novel features of construction, which are clearly illustrated in the accompanying drawings and described in the following specification.

In the aforesaid drawings, Figure 1 is a section through the floor and the ceiling, showing the general form of my construction. Fig. 2 is a section in the line 2 2 of Fig. 1. Fig. 3 is a perspective of one of the girders, stirrups, and the end of one of the joists used. Fig. 4 is a perspective showing the adaptation of my construction for use in connection with wooden joists and girders, and Fig. 5 is a section showing the method by which my construction is adapted for use in connection with brick or other solid wall.

Referring to Figs. 1 to 3, inclusive, A represents girders, preferably in the form of I-beams. Upon these girders are hung, after the manner shown in the drawings, stirrups B. These stirrups B are made, preferably, from angle-iron bent as follows: Each piece is first bent upon itself at its center, so as to form two parallel portions with a narrow slot between them. The two ends of the material are then bent at right angles to the first portion thereof, as shown in the drawings, so that the completed stirrup has, practically speaking, two flanges b b' at right angles to each other and having a central longitudinal slot and two other flanges, b^2 , at right angles to the flanges b b' and parallel to each other, said flanges b^2 lying in the two inner edges of the longitudinal slot in the flanges b b' . In the flanges b^2 are punched holes b^3 . In connection with these stirrups I use joists C, preferably of the form shown in the drawings. Each consists of a U-shaped portion c , adapted to support the floor and provided

with outwardly-turned flanges c' , connecting portions c^2 , and second U-shaped ceiling portions, c^3 , also provided with outwardly-turned flanges c^4 . Notches c^5 c^6 are provided in the ends of the U-shaped portions c c^3 , respectively, so that the joists may be placed in position, as will now be explained, and slots c^7 are provided, through which bolts are passed in fastening the joists to the stirrups, the bolts passing also through the holes b^3 in the latter. The open ends of the U-shaped portions of the floor and ceiling joists may be fastened together by staples or rivets c^8 to prevent accidental spreading thereof, and the floor-joists c are preferably trussed by means of channel-bars C^2 , secured thereto by staples c^9 .

The entire framework of the structure is assembled by hanging the stirrups loosely from the upper flanges of the girders and slipping the ends of the joists into place between the flanges b^2 b^2 of the stirrups, the notches c^5 c^6 encompassing the projecting flanges on the girders. The joists, as will be seen in the drawings, are then bolted into place in the stirrups, the latter having been forced tightly against the flanges of the I-beams, thus forming a perfect wind-brace. Corrugated-metal sheets E are secured to the joists by nails, which are driven into the cracks between the two halves of the U-shaped joists and tightly held in place, and wire-mesh lathing E' is likewise secured to the ceiling portions c^3 preferably with barbed staples. In this way the basis for floor and ceiling structure can be readily secured to the joists.

Fig. 5 shows the method by which my construction is adapted for use in connection with a brick wall, in which case an anchor D is provided, secured by a link d to the upper end of the stirrup in which the end of the joist is placed. When it is desired to use this method of assembling the joists and girders with wood material, the stirrups are made with wider slots, as shown at B' in Fig. 4, to receive wooden joists, and the stirrups are preferably nailed in place on the girders and to the joists, although this is not essential. The particular advantage of this construction lies in the fact that the joists are merely hung upon the girders and are not riveted thereto. In this manner great economy in construction is

attained. A further advantage lies in the fact that the joists thus hung are particularly cheap and simple and have great strength, and, further, that they are adapted to receive
 5 ordinary staples to secure in place the usual material for floor and ceiling constructions.

I realize that considerable variations are possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit
 10 myself to the specific form herein shown and described, except as pointed out in the claims.

I claim as new and desire to secure by Letters Patent—

15 1. In a building construction, a plurality of girders, stirrups hung upon the girders, and a plurality of joists hung in the stirrups, each of said joists consisting of two U-shaped members, and suitable connecting means between
 20 the same.

2. In a building construction, a plurality of girders and stirrups hung upon their upper edges, and not otherwise secured thereto, each of said stirrups consisting of strips of angle-
 25 iron bent upon themselves and having their ends bent at right angles, and joists suspended in the stirrups.

3. In a building construction, the combina-

tion with suitable girders, of a plurality of stirrups hung upon the upper edges thereof
 30 and not otherwise secured thereto, each of said stirrups having two centrally longitudinally slotted portions at right angles to each other, and two flanges adjacent to the central slots in said first-named portions at right an-
 35 gles to said first-named portions, and suitable joists suspended in the stirrups.

4. In a building construction a plurality of girders, a plurality of joists each consisting of two U-shaped members and suitable means
 40 for connecting them, and means securing said joists to said girders.

5. In a building construction, a plurality of girders, a plurality of joists, each consisting of two U-shaped members, and a plurality of
 45 suitable strips of metal connecting said U-shaped portions, and means for securing the joists to the girders.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in
 50 the county of Cook and State of Illinois, this 20th day of March, A. D. 1903.

TIMOTHY O'SHEA.

Witnesses:

W. J. McALLISTER,
 CHAS. O. SHERVEY.