No. 762,552. PATENTED JUNE 14, 1904.

T. O'SHEA.

FIREPROOF FLOOR AND CEILING CONSTRUCTION.

APPLICATION FILED FEB. 29, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

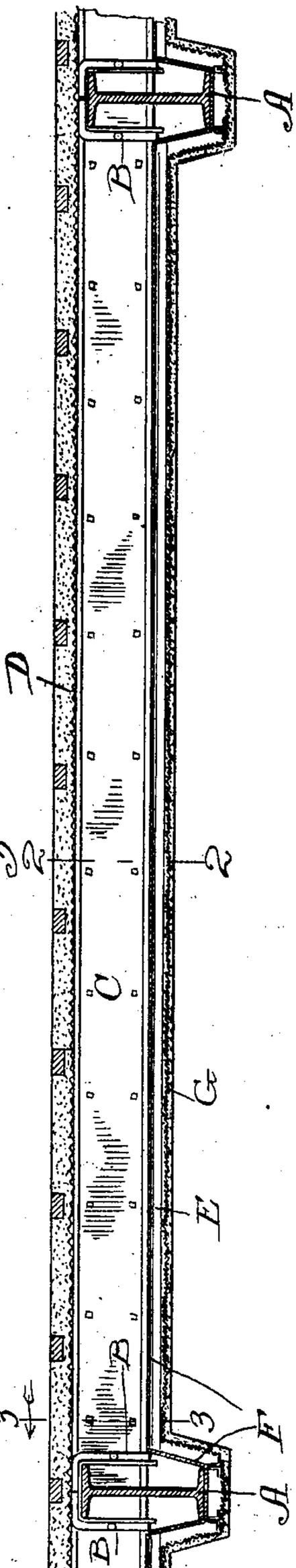


Fig. 2.

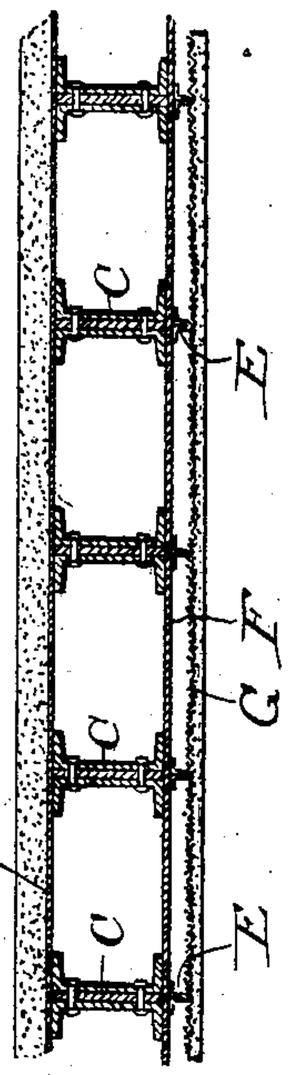


Fig. 4.

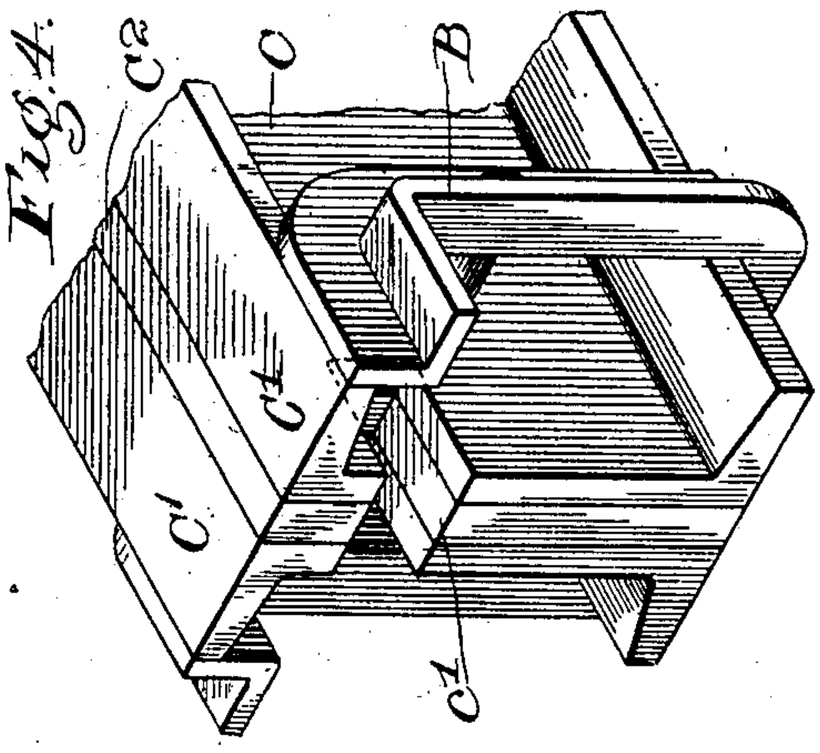


Fig. 5.

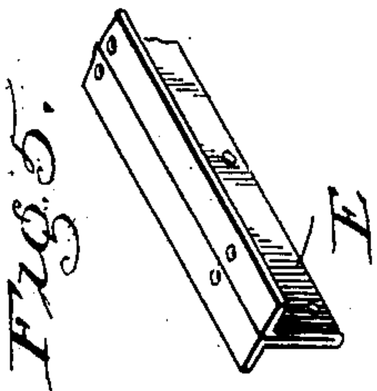
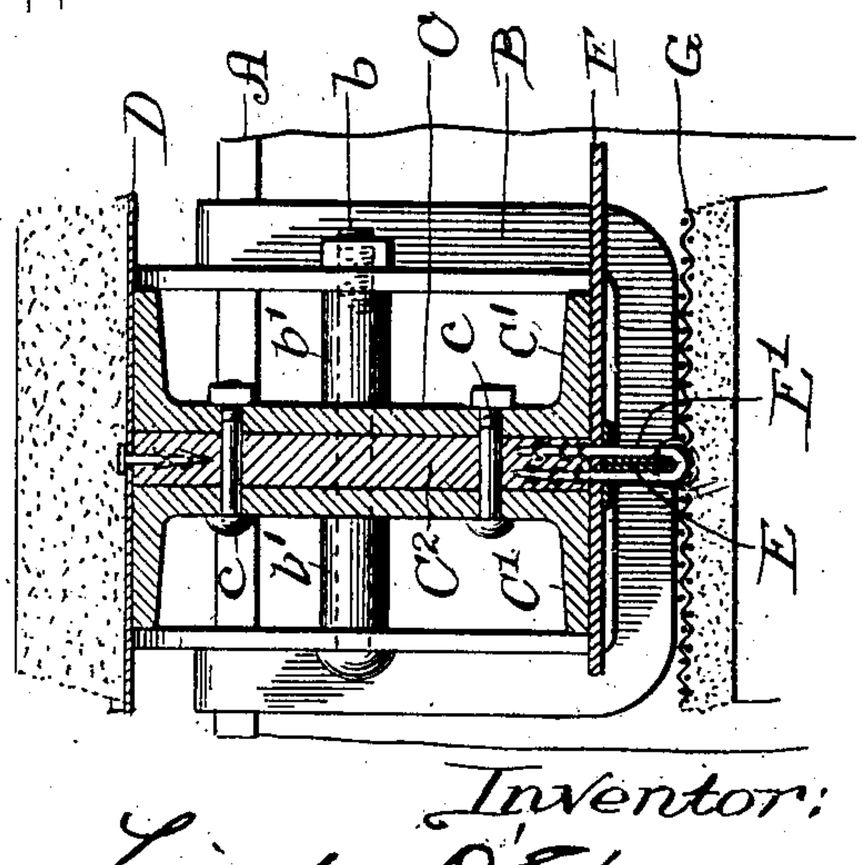


Fig. 3.



Witnesses:
Chas. O. Shurvey
Russell Wiles.

Inventor:
Timothy O'Shea
by H. P. Ritter.
Atty.

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T. O'SHEA.

FIREPROOF FLOOR AND CEILING CONSTRUCTION.

APPLICATION FILED FEB. 29, 1904.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 7.

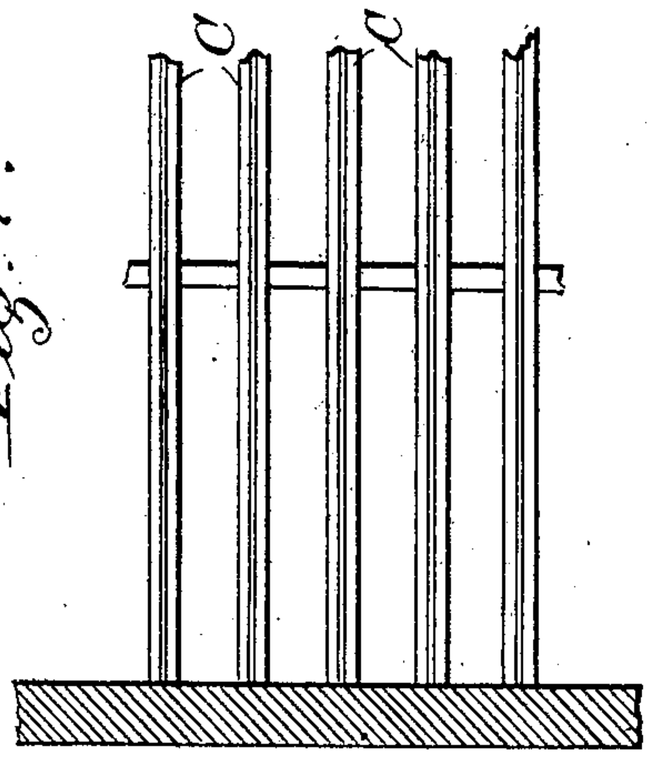


Fig. 8.

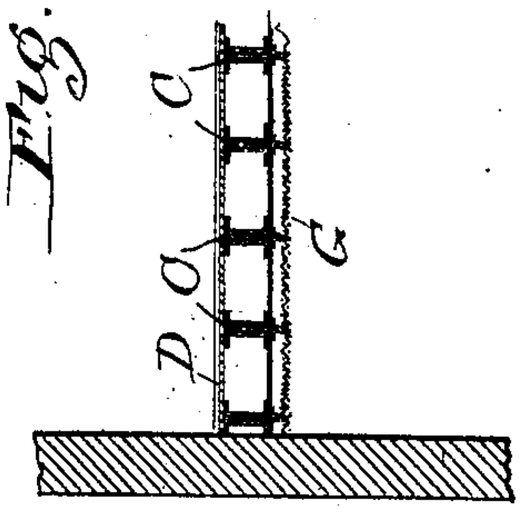
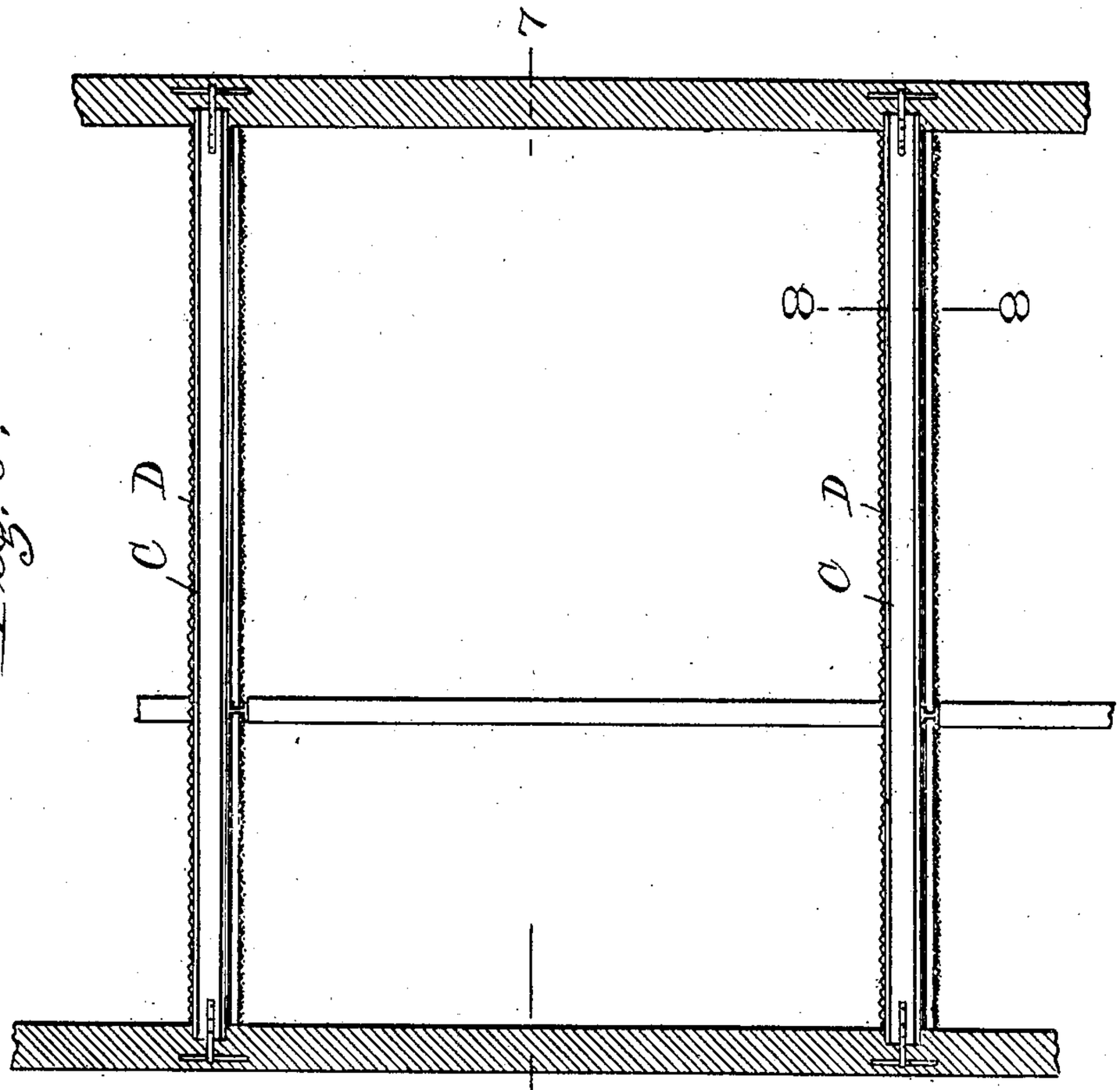


Fig. 6.



Witnesses:
Chas. O. Sherwey
Russell Wiles

Inventor:
Timothy O'Shea
by
H. Bellows
Atty.

No. 762,552. Patented June 14, 1904.

UNITED STATES PATENT OFFICE.

TIMOTHY O'SHEA, OF CHICAGO, ILLINOIS.

FIREPROOF FLOOR AND CEILING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 762,552, dated June 14, 1904.

Application filed February 29, 1904. Serial No. 195,797. (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 Fireproof Floor and Ceiling Construction, of which the following is a specification.

My invention relates to certain new and useful improvements in fireproof floor and ceiling construction; and its object is to produce a device of this class which shall have certain advantages, which will appear more fully and at large in the course of this specification.

To this end my invention consists in certain novel features of construction, which are shown in the accompanying drawings as embodied in my preferred form of construction.

In the aforesaid drawings, Figure 1 is a longitudinal section through a floor embodying my improved construction. Fig. 2 is a transverse section in the line 2 2 of Fig. 1. Fig. 3 is an enlarged transverse section in the line 3 3 of Fig. 1 looking in the direction of the arrow. Fig. 4 is a perspective of one end of one of the beams forming a part of my improved construction, together with a supporting-stirrup therefor. Fig. 5 is a perspective view of one of the T members used for supporting the ceiling and certain other fireproofing material. Fig. 6 is a longitudinal section through a portion of a building embodying my structure, the view showing means for supporting the beams in brick walls. Fig. 7 is a horizontal section in the line 7 7 of Fig. 6, the parts of the structure above the floor-beams being removed to expose the beams; and Fig. 8 is a transverse section in the line 8 8 of Fig. 6.

The exact construction of the preferred form of my invention will be described in full in this specification; but I do not intend by describing the details of this construction to limit myself in any way thereto, the scope of my invention being fully pointed out in the claims following the specification.

Referring to the drawings, A A are suitable beams, here shown as I-beams, extending transversely through the building in the ordinary way and adapted to support the floor and ceiling. Upon the beams A A are hung stirrups B of the form illustrated, described, and claimed in my patent on building construction, No. 741,066, dated October 13, 1903. These stirrups support suitable longitudinally-extending beams C. The stirrups are preferably bolted to the beams C by bolts *b*, which pass through the webs of the beams C and are surrounded by struts *b'*, confined between the web of the beam and the sides of the stirrup. Each of the beams C, it will be noticed, consists of two channel-beams C' placed back to back, an interposed sheet C^2, of asbestos or other fibrous material, and suitable bolts or rivets *c*, securing the channel-beams C' together. By this construction I-beams are provided the vertical web of which consists of two parallel plates of metal with an interposed fibrous sheet. The purpose and function of this fibrous sheet will presently become apparent. The ends of the beams C are notched at the ends *c'* to pass up over the upper flanges of the I-beams A, so that the ends of the beams C upon opposite sides of a given beam A will meet and lie flush with each other.

To the tops of the beams C are secured sheets D, of corrugated metal or other desired material, these sheets D being held in place by nails or staples driven through the same and into the fibrous sheet C^2 between the channel-beams C' of the beams C, and in order to get a good hold on the fibrous material barbed nails or staples are used, as indicated in the drawings. Upon the sheets D is laid a floor construction of any desired form, the form herein indicated being composed of a concrete bed in which the floor-strips are laid. Immediately below each beam C is a T member E, the same being secured in place by barbed staples E' passing over and through it, as indicated in Fig. 3. These staples are also made with barbed points and enter the fibrous body C^2 between the halves of the beams C. Between the laterally-projecting flanges on the T member E and the lower surface of the beams C are secured sheets of asbestos or the like F. The vertical flanges of the T member E are perforated near their lower edges,

and metallic lathing G of some sort is secured to said T members by wires passing through the meshes of the metallic lathing and the perforations in the flanges. This metallic lathing is plastered in the ordinary manner to form a ceiling. At the intersections of the beams C with the I-beams the asbestos sheets F are carried down below the flanges of the I-beams and separated therefrom by means of T-irons, preferably of the construction illustrated in Fig. 5, the wire lathing being wired to them in the ordinary manner. In this way a structure is provided which is strong, cheap, and easily assembled and, furthermore, which is perfectly fireproof. A further advantage of the structure lies in the fact that an open air-space is provided between the ceiling and the sheet of asbestos above it.

Referring to Figs. 6, 7, and 8, it will be seen that when a comparatively short space of floor is laid, as in an ordinary dwelling, the I-beams A are dispensed with and the beams C are laid directly from wall to wall, being anchored in place in the ordinary way.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit myself to the specific form herein shown and described.

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

1. In a building construction a beam comprising two channel-beams placed back to back, and an interposed sheet of fibrous material of substantially the same size as the adjacent webs of the channel-beams, said sheet filling the entire space between said beams.

2. In a building construction, beams, each comprising two channel-beams, set back to back, and an interposed sheet of asbestos, a suitable floor and barbed nails passing through the floor into the asbestos sheets.

3. In a building construction, beams, each comprising two channel-beams placed back to back and an interposed layer of fibrous material, T members below said beams, staples passing over the vertical flanges of said T members and into the fibrous material in the beams, and a ceiling secured to said T members.

4. In a building construction, beams, each comprising two channel-beams placed back to back and an interposed layer of fibrous material, T members below said beams, staples passing over the vertical flanges of said T members and into the fibrous material in the beams, a ceiling secured to said T members, and a layer of fireproof material interposed between said T members and said beams.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 25th day of February, A. D. 1904.

TIMOTHY O'SHEA.

Witnesses:
CHAS. O. SHERVEY,
RUSSELL NILES.