No. 714,047. Patented Nov. 18, 1902.

P. T. SHIELDS.

FIREPROOF FLOOR.

(Application filed Mar. 15, 1902.)

(No Model.)

Fig. 1.

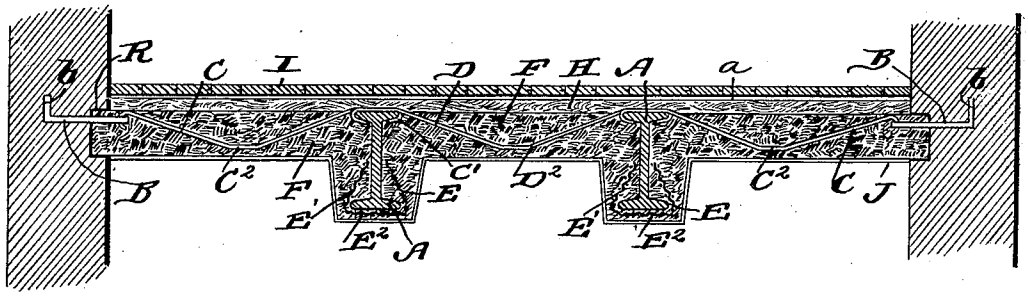


Fig. 2.

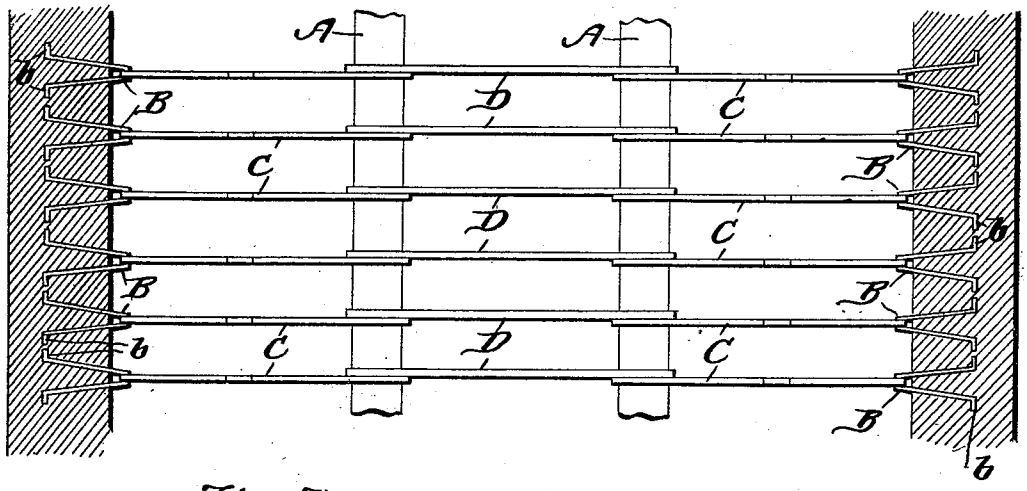


Fig. 3.

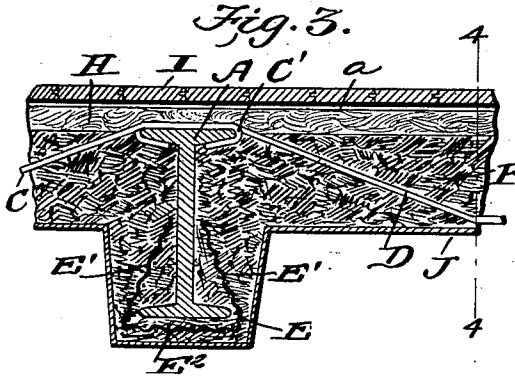
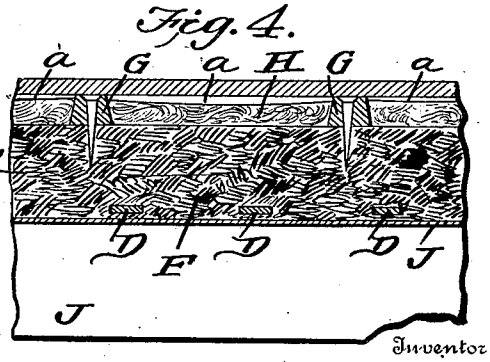


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

PATRICK T. SHIELDS, OF SAN ANTONIO, TEXAS.

FIREPROOF FLOOR.

SPECIFICATION forming part of Letters Patent No. 714,047, dated November 18, 1902.

Application filed March 15, 1902. Serial No. 98,379. (No model.)

To all whom it may concern:

Be it known that I, PATRICK T. SHIELDS, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Fireproof-Floor Construction, of which the following is a specification.

This invention relates to an improved fireproof floor and ceiling construction; and the object thereof is to provide a light, rigid, fire and sound proof flooring that is simple in construction, but possessing the qualities as above set forth.

Another object of my device is to provide a construction by which the walls of a building will be strengthened against sagging or bulging, and a still further object is to provide a continuous concrete-ceiling surface, so that the coating of plaster or other material may be securely held without the necessity of providing a supplemental surface to hold it.

With these objects in view the invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a sectional elevation showing the practical application of my invention. Fig. 2 is a plan view of the same, showing the anchors, beams, and stay-rods in position. Fig. 3 is an enlarged detail section taken through one of the beams. Fig. 4 is a detail section of the same about on the line 4 4 of Fig. 3.

In carrying out my invention I employ a series of I-beams A, which are preferably arranged longitudinally of the building and rest upon the end and partition walls, (not shown,) the number of beams being regulated by the distance between the walls. The side walls are provided with a series of anchors B, that are built into the wall and are preferably constructed V-shaped, with upwardly-bent ends *b*, that firmly and securely hold the anchors in position. The apex of these anchors project a slight distance from the wall, and each is engaged by one end by a tie rod or bar C, whose opposite end is bent over and around the upper flange of the beams, as shown at C′, and in cases where more than one beam is employed I connect the beam by means of similar bars D, which are arranged between the bars C and have their ends bent over and under the top flange of the beams, similar to the beams C. Each of the bars has its central portion bent downwardly, as at C^2 and D^2, respectively, the depth of the downwardly-bent portions being regulated by the thickness of the floor. After the frame is thus constructed the lower end of each beam is enveloped by a strip of wire-netting E, whose sides are bent over the flanges, as at E′, and thus temporarily held in place, with the bottom portion E^2 a slight distance below the bottom of the beam. A mold or base is then suspended or supported under the frame, which is then filled with cinder-concrete F, which extends into recesses R, formed in the walls, and which completely covers the bars and netting, and by arranging the said netting under the beams the thin layer of the concrete is firmly held under the beams for the purpose, as will appear later on. A series of dovetailed flooring-strips G are then laid across the beams and nailed to the concrete, the space between the strip being filled in with "strip-filling" H, after which the flooring-boards I are laid and securely fastened or nailed to the strip. When the concrete becomes thoroughly hard, the mold is removed, when the plaster J or other suitable coating may be applied to the concrete, and thus provide a complete construction.

It will thus be seen that I provide a simple, strong, durable, and sound and fire proof construction, and it will be particularly noted by arranging the netting under the beams the concrete is securely held thereto, and thus provides a continuous surface to which the coating of plaster may be applied and held. I also desire to say that by this arrangement the necessity of providing a special surface of netting or laths to hold the plaster is avoided and the ceiling is thus made cheaper and more durable, and, further, that after the concrete has become thoroughly hardened the netting is positively and securely held in position.

It will be noted, particularly in Figs. 3 and 4, that the strip-filling does not completely fill the space between the flooring-strips nor touch the lower surfaces of the flooring, thus leav-

ing air-spaces *a*, as shown most clearly in the said Figs. 3 and 4.

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

1. The combination of the side walls and beams, anchors held to the said walls, tie-rods connecting the said beams and anchors, a filling held by the said beams and rods, flooring-strips positioned upon the beams, a filling arranged between the said strips and flooring-boards arranged upon the said strips, leaving an air-space between the boards and filling, substantially as described.

2. In a fireproof flooring, the combination with the longitudinally-extending I-beams of V-shaped anchors secured in the side walls, having their apices projecting therefrom and their ends turned outwardly and upwardly, a tie-rod having a hooked end engaging the apex of each anchor, and having its other end curved around the I-beam, a wire-netting disposed about the lower portion, of the I-beam, a suitable filling material packed around said beams, tie-rods and netting while in a plastic state and held there until hardened, strips secured to the upper surface of such material, fillings placed between said strips and a suitable flooring laid on said strips.

3. The combination of the side walls and I-beams, anchors held in the said walls, said anchors being substantially V-shaped and having their apices projecting from the said walls, tie-rods having one end engaging the anchors and their opposite ends engaging the beams, tie-rods arranged between and connecting the said beams, and a filling supported by the said beams and tie-rods, substantially as described.

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