No. 795,549.

PATENTED JULY 25, 1905.

F. A. SCHULZ.

FIREPROOF FLOOR.

APPLICATION FILED MAR. 22, 1905.

Fig:1.

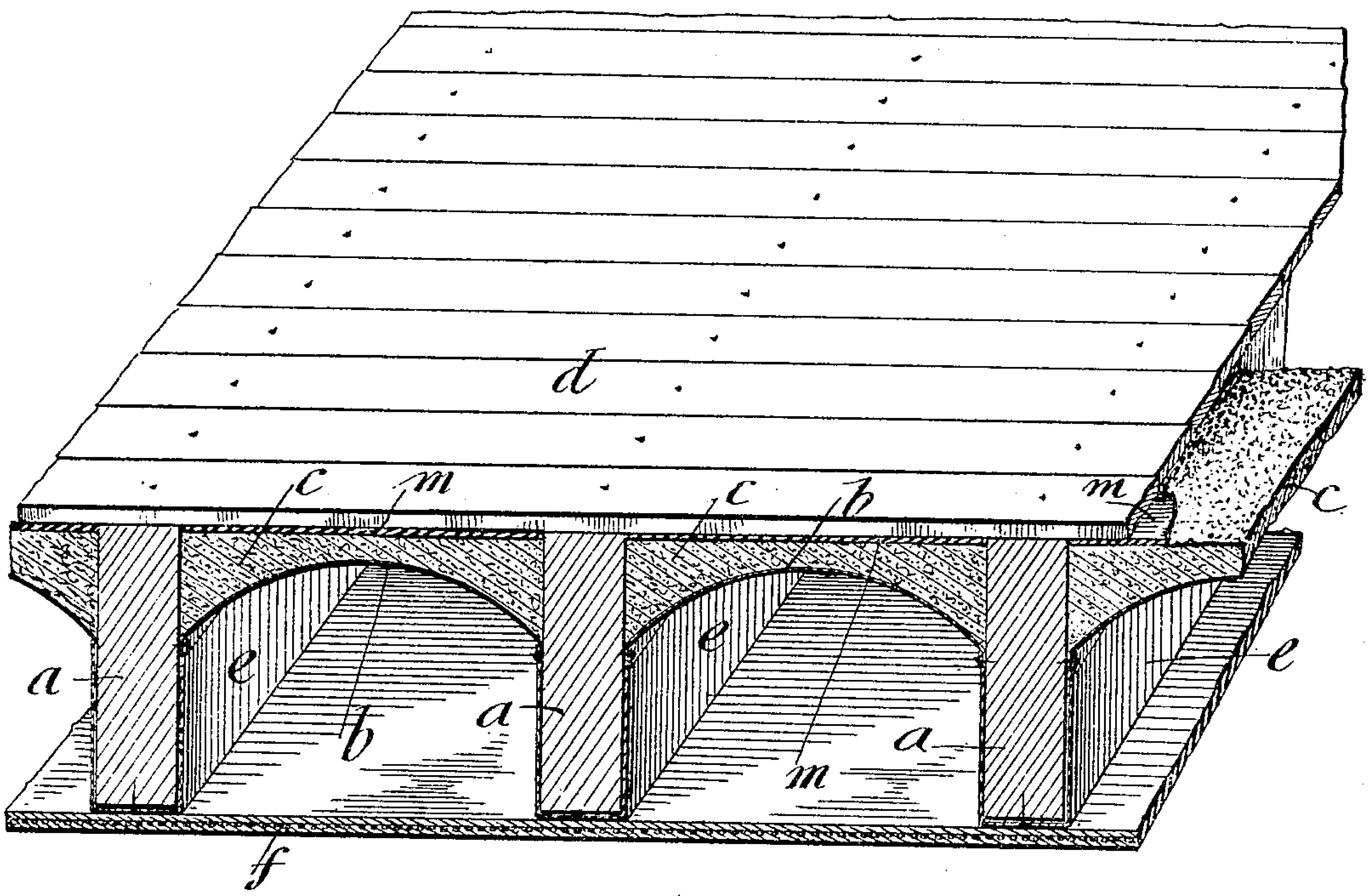


Fig: 2.

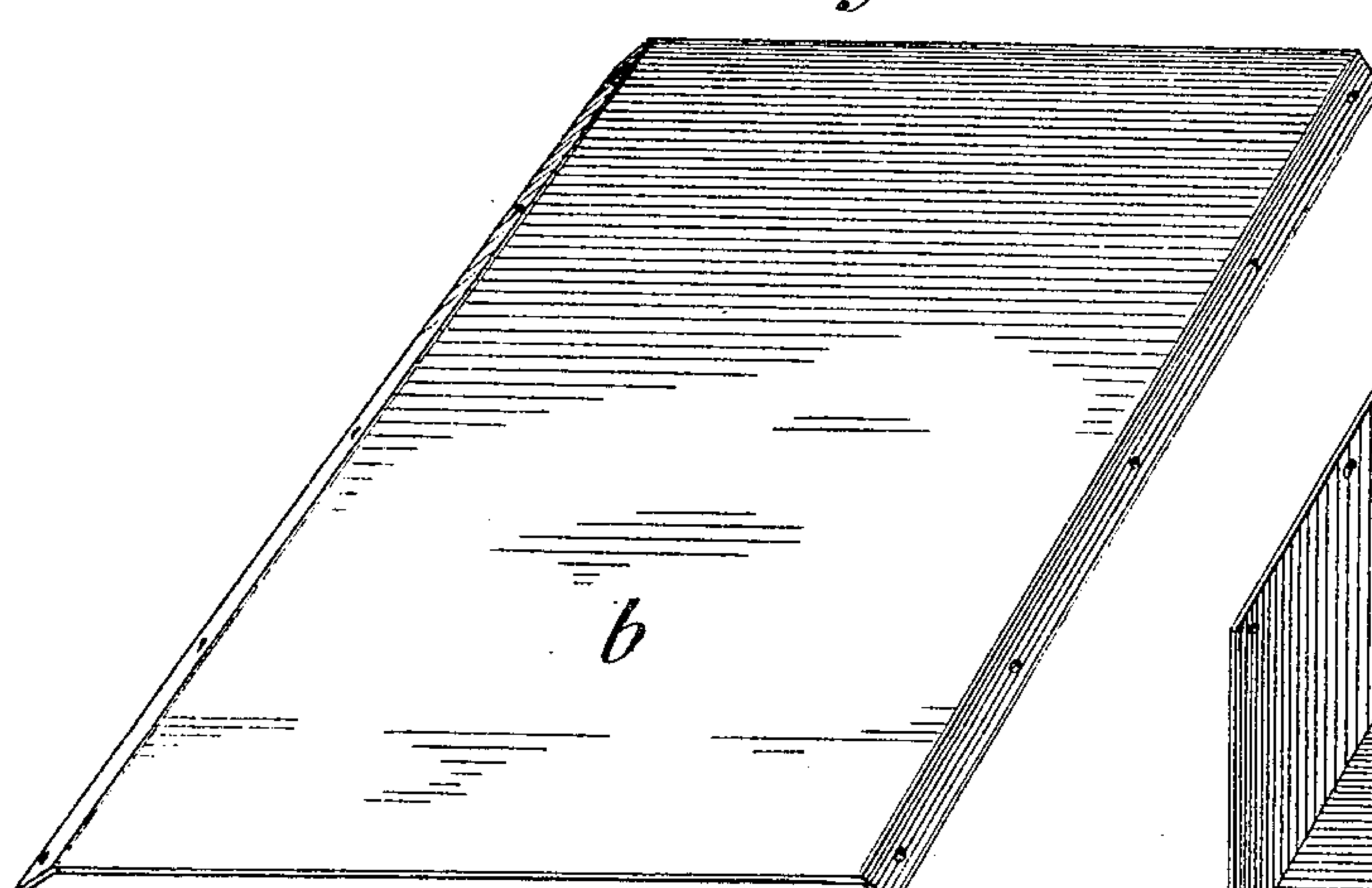
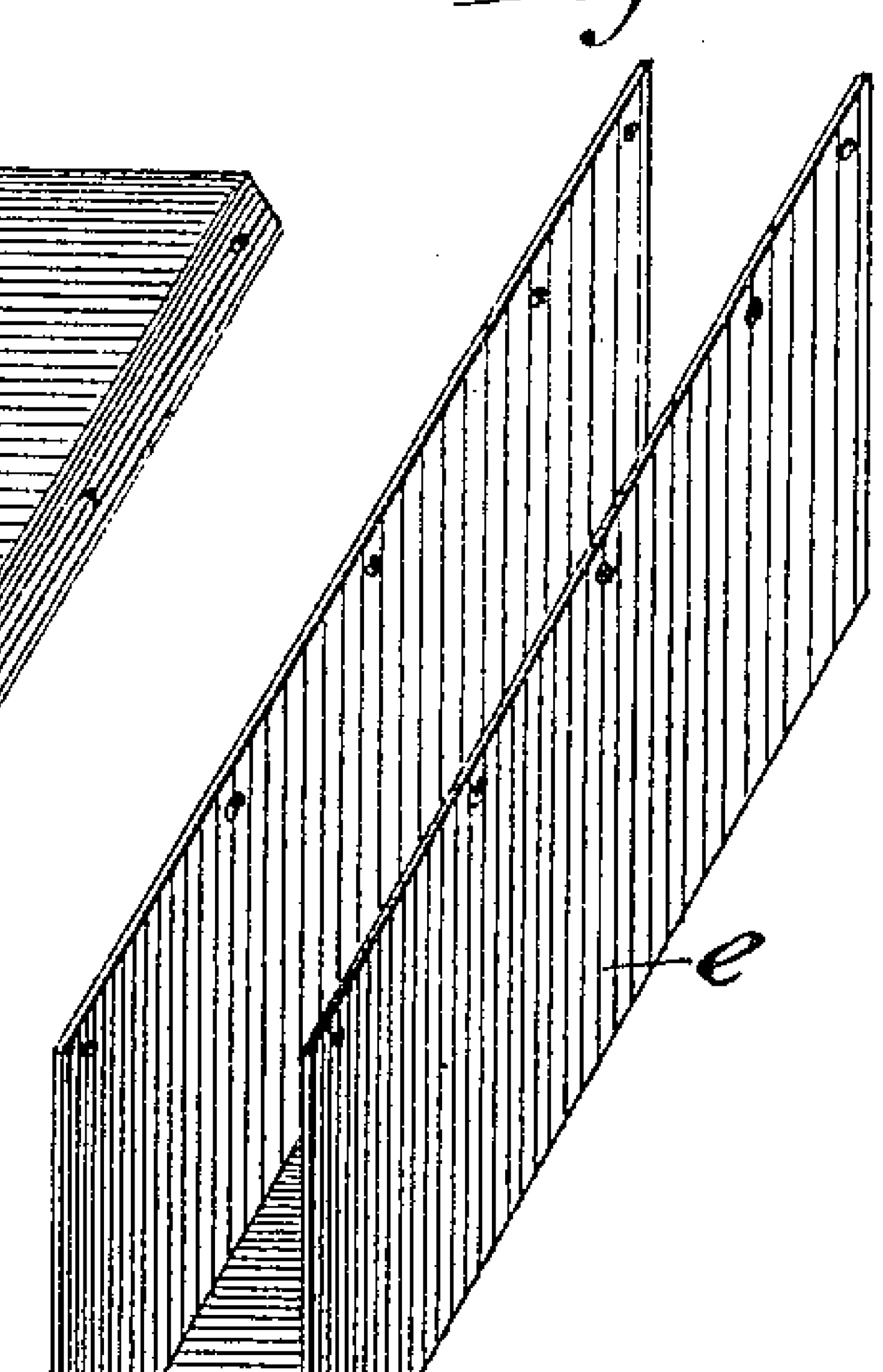


Fig: 3.



Witnesses
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[illegible]

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UNITED STATES PATENT OFFICE.

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FIREPROOF FLOOR.

No. 795,549. Specification of Letters Patent. Patented July 25, 1905.

Application filed March 22, 1905. Serial No. 251,436.

To all whom it may concern:

Be it known that I, FRANK A. SCHULZ, a subject of the German Emperor, residing in New York, borough of Brooklyn, in the State of New York, have invented certain new and useful Improvements in Fireproof Floors, of which the following is a specification.

This invention relates to an improved fireproof floor which is mainly intended for tenement-houses, apartment-houses, private residences, and similar buildings in which wooden beams or joists are usually employed for supporting the different floors, the invention being designed with a view of protecting the individual wooden beams or joists of the different floors against the spread of fire from one floor to the other.

The invention also aims to provide a floor which will act as an effective sound-deadener between the different stories of the building; and with these ends in view the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompany drawings, Figure 1 is a perspective view of my improved fireproof floor. Fig. 2 is a perspective view of a blank of sheet metal for one of the sheet-metal arches that is sprung in between the beams, shown as bent up and perforated at the edges; and Fig. 3 is a perspective view of one of the sheet-metal covers for the lower part of the beams.

Similar letters of reference indicate corresponding parts throughout the several views.

Referring to the drawings, *a* denotes the beams of a tenement-house, apartment-house, or other building. The beams are made of wood of the usual size and are connected transversely between each other by means of sheet-metal plates *b*, that are sprung in in the form of arches between the beams, said plates being provided at their lower edges with bent-up and perforated edge edges, so as to facilitate the bending and nailing on of the sheet-metal arches to the beams. The sheet-metal arches *b* are attached to the side faces of the beams in such a manner that in practice their highest point is preferably about two inches below the level of the upper faces or edges of the beams. After the arches are attached in position between the beams the spaces above them are filled with a suitable non-conductor of heat *c*, such as ashes covered by a layer of mortar or cement, the ashes being tamped in and covered with the cement or other mortar up to a level with the top of the beams, over which the flooring *d* is laid in the usual manner. The lower part of the beams below the sheet-metal arches is inclosed by U-shaped coverings *e*, which overlap the lower edges of the arches and are attached to the beams by nails or similar fastenings. To the beams is then attached the ceiling *f*, which is made of plaster of any suitable construction, preferably plaster-boards of suitable size over which a finishing layer of plaster is applied.

The sheet-metal plates by which the arches are formed are bent up at the edges at an angle corresponding to that formed between the beams and the sheet-metal arches, said bent-up edges being perforated at a proper distance from each other, so as to provide the nail-holes for the carpenter who springs the arches in position and nails them to the beams, the nail-holes serving for facilitating the quick and convenient attachment of the arches to the beams. After the arches are sprung in position the ashes are tamped into the spaces above the arches and a thin covering layer *m*, of mortar or cement, placed over the same, after which the flooring is laid over the beams and intermediate non-conducting body of material. The U-shaped covering, made of sheet metal, is also provided with nail-holes in its upper edges, so as to permit the quick and convenient covering of the lower parts of the beams, said U-shaped covering overlapping the edge strips of the arches, they being nailed in the same manner as the arched sheets, so that thereby a sheet-metal covering for the lower part of the beams is provided, as shown in Fig. 1.

When the floor is finished in the manner described, fire cannot make headway from one floor to the other by the burning of the connecting-braces and the beams, the floor resisting for a considerable length of time the progress of the fire, so that the occupants of the tenements or apartments will have ample time for escape.

As the material employed—sheet metal and ashes—is comparatively cheap and the weight inconsiderable, the entire fireproofing of the floor can be attended to at a small expense, so that not only tenement-houses and apartment-houses, but also private-houses to some extent, can be made fireproof between the stories. Another advantage of my improved fireproof floor is that the house is kept much warmer and that the filling of non-conducting material acts in the nature of a deadener, so that the noise from one story cannot be transmitted to the adjacent story.

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

1. In a fireproof floor, the combination, with the beams, of sheet-metal arches sprung in between the same and provided with bent-up side edges, means for attaching said edges to the side faces of the beams, and coverings inclosing the lower portions of said beams and extending upwardly to the lower side edges of said arches, said coverings being likewise attached to the side faces of the beams.

2. In a fireproof floor, the combination, with the beams, of sheet-metal arches sprung in between the same and provided with bent-up side edges, means for attaching said side edges to the side faces of the beams, and U-shaped coverings inclosing the lower portions of the beams and overlapping the lower edges of said arches, said coverings being attached at their upper edges to the side faces of said beams.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANK A. SCHULZ.

Witnesses:
PAUL GOEPEL,
HENRY J. SUHRBIER.