

No. 658,497.

Patented Sept. 25, 1900.

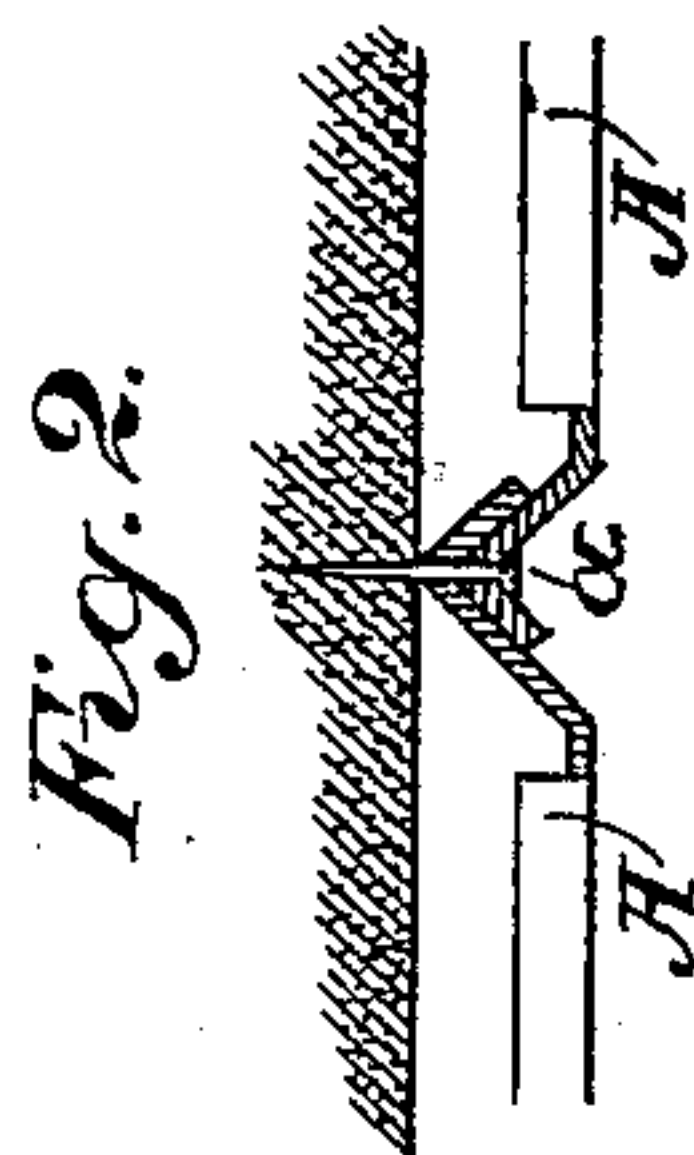
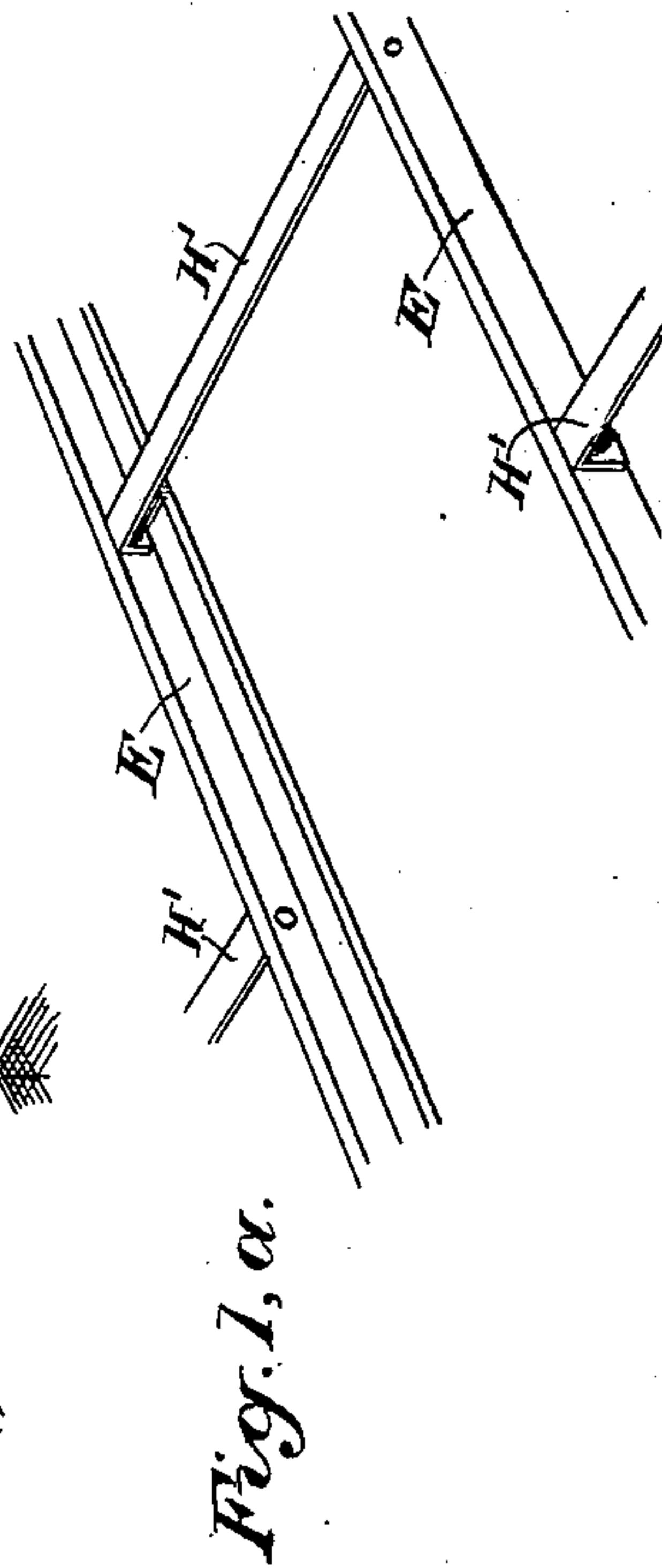
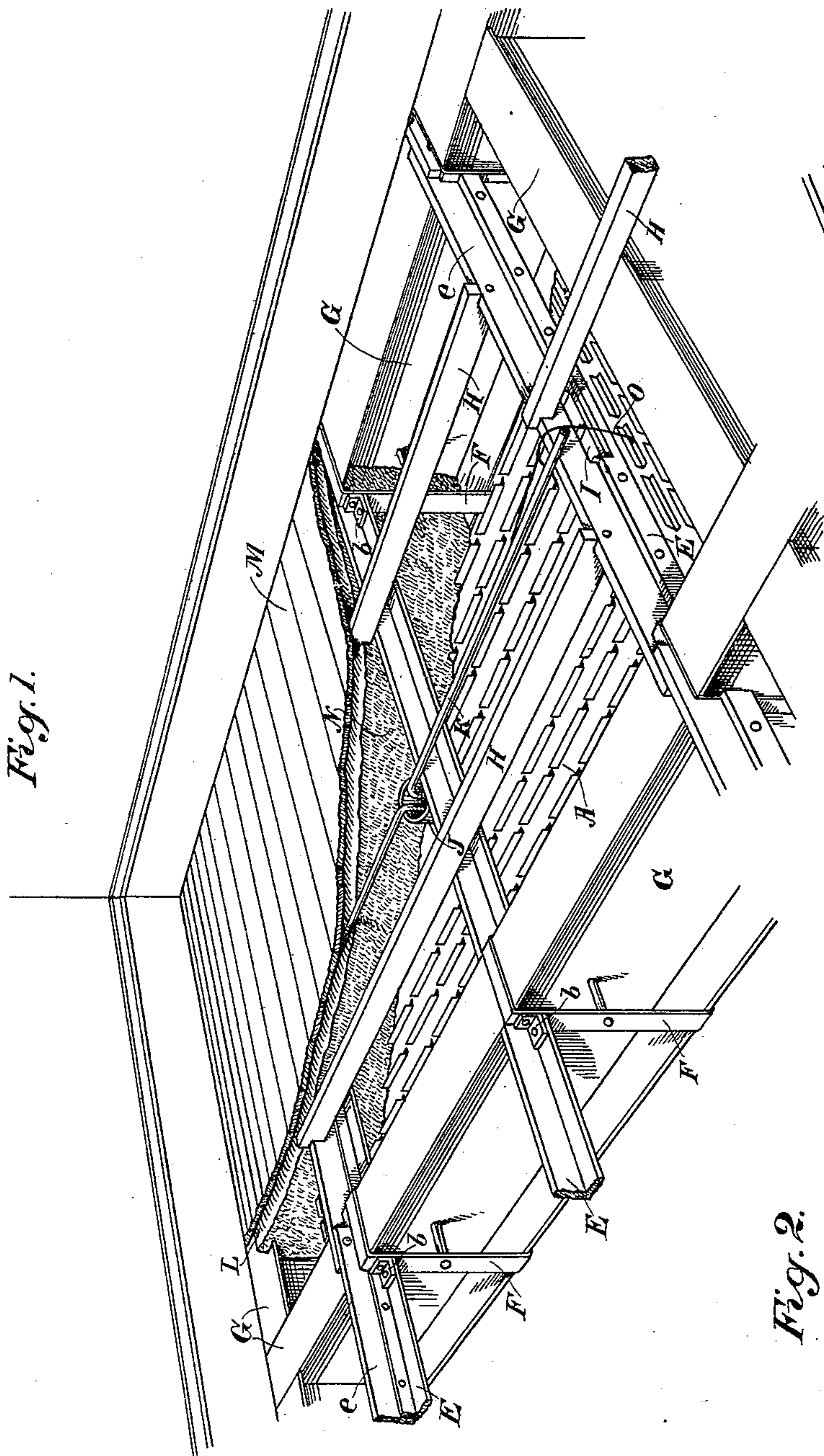
M. CARRICK.

METALLIC LATHING AND FIREPROOF CONSTRUCTION FOR BUILDINGS.

(Application filed Nov. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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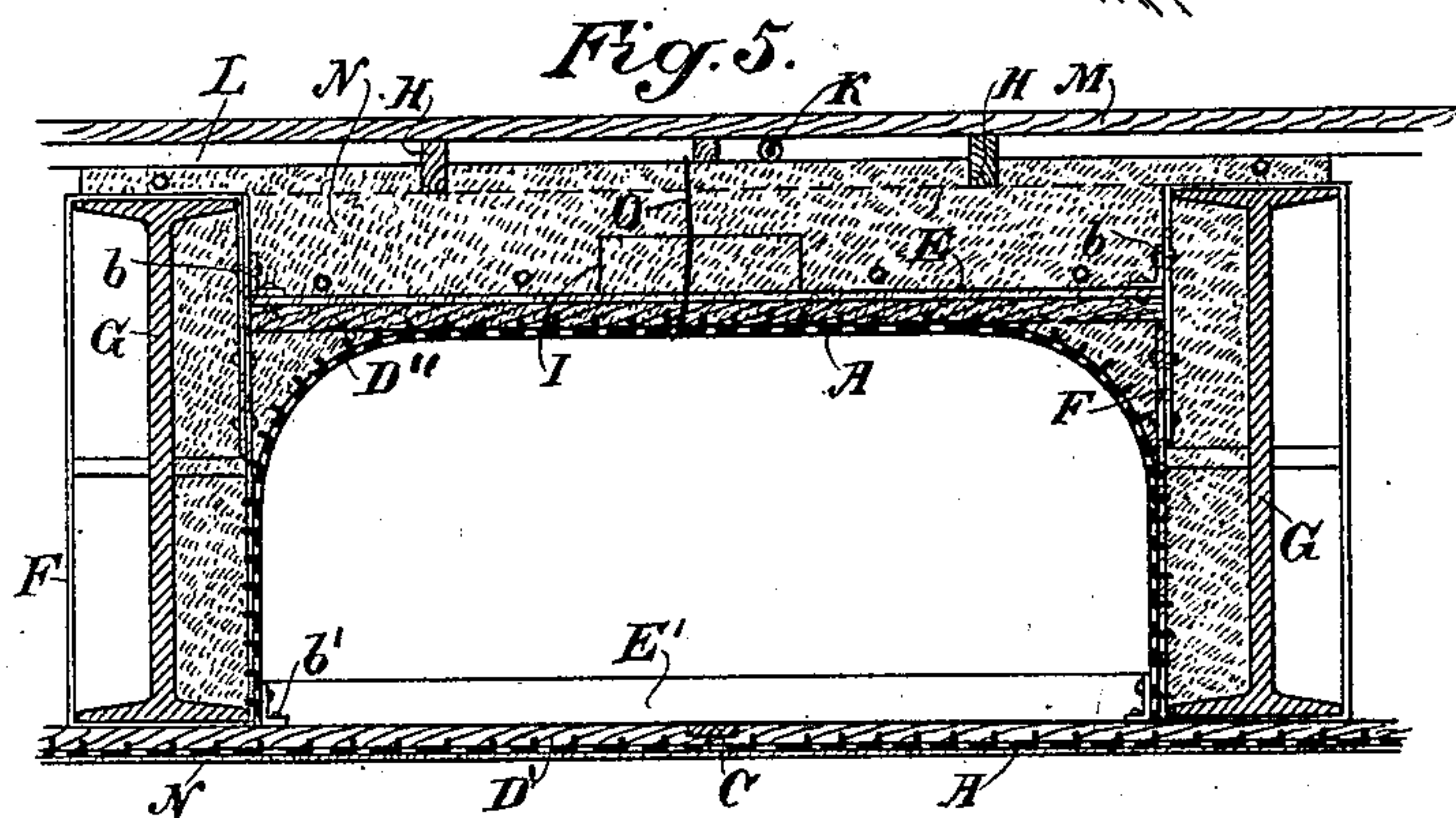
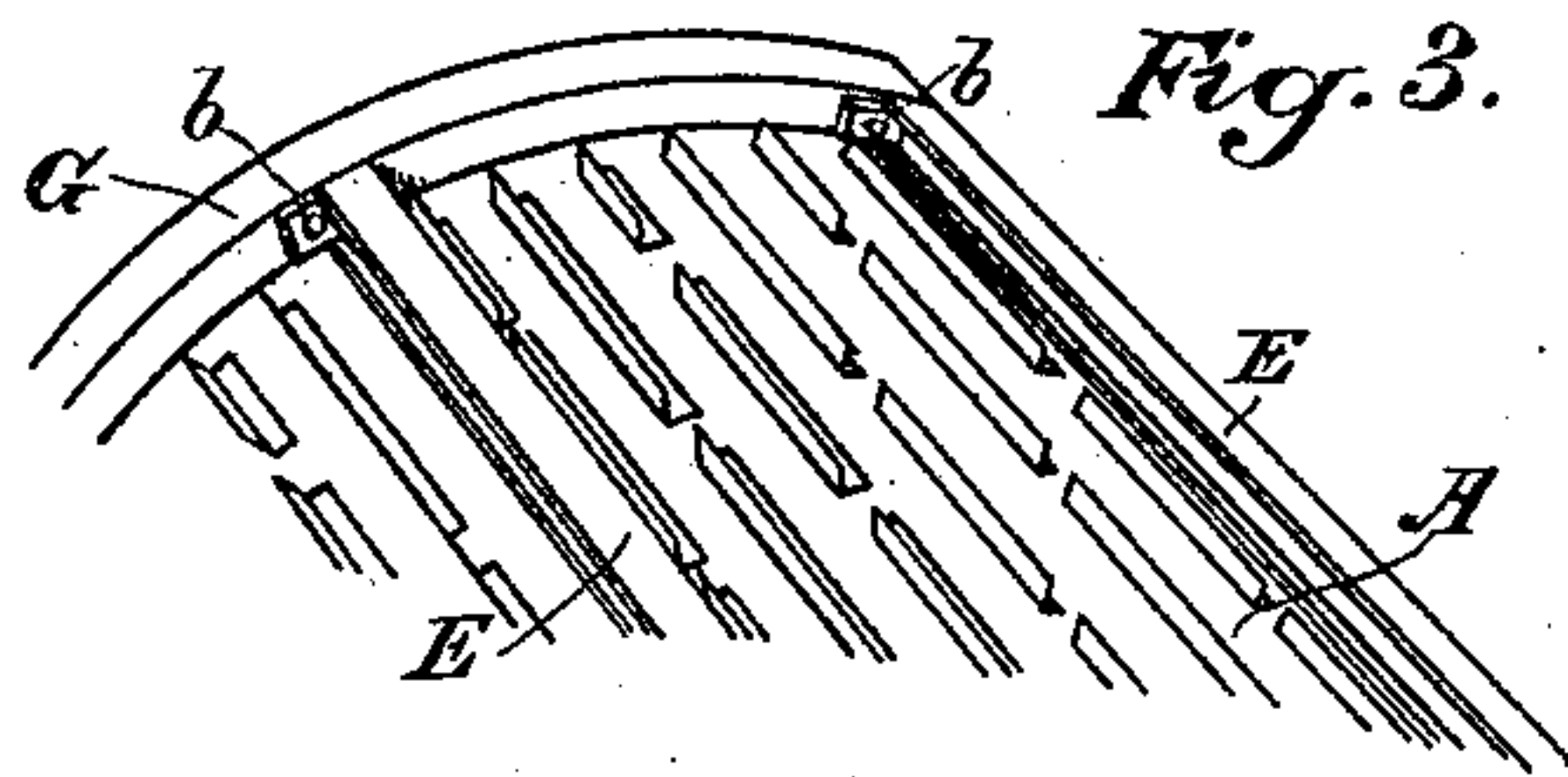
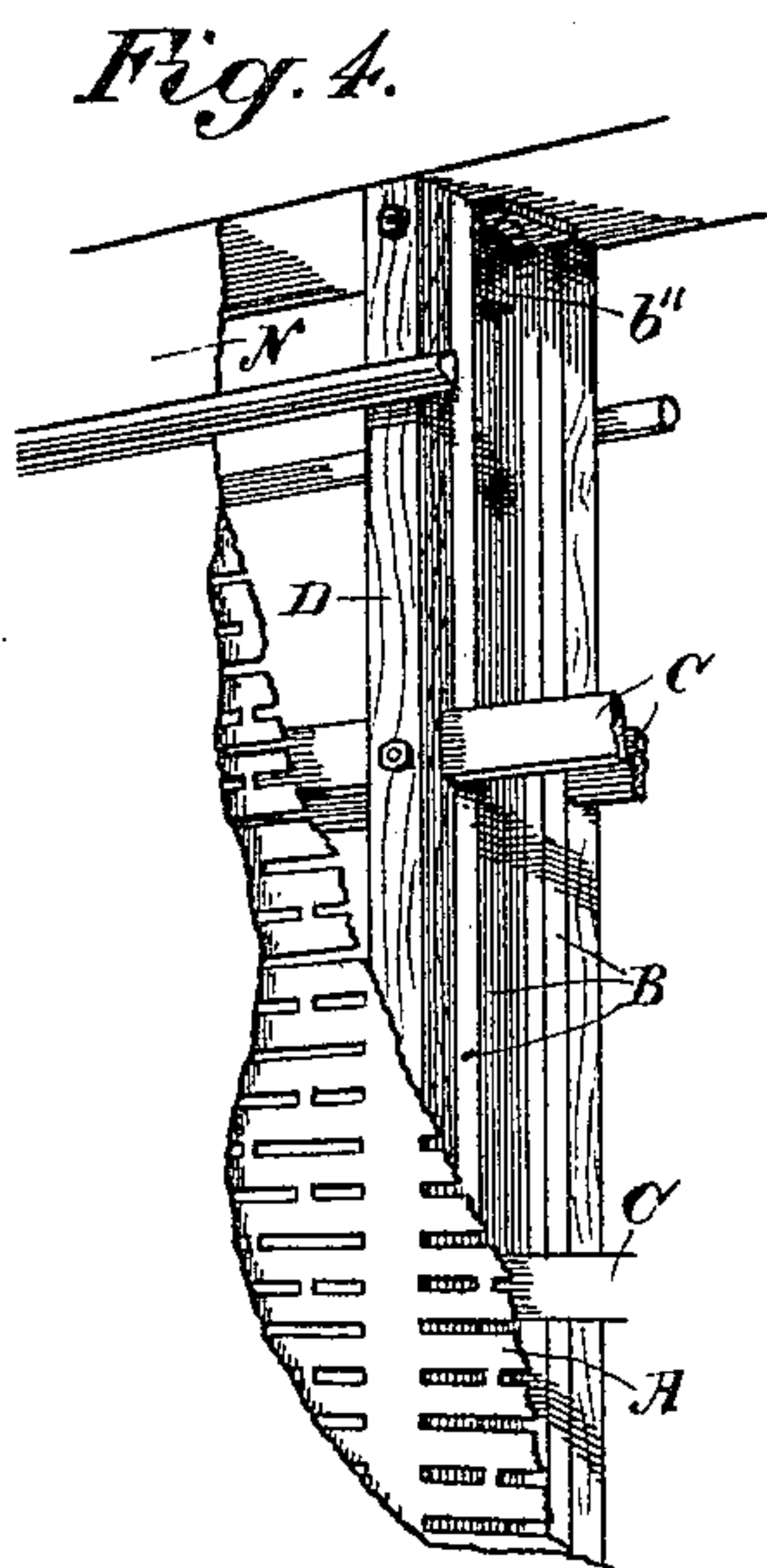
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METALLIC LATHING AND FIREPROOF CONSTRUCTION FOR BUILDINGS.

(Application filed Nov. 23, 1899.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

MARTIN CARRICK, OF SAN FRANCISCO, CALIFORNIA.

METALLIC LATHING AND FIREPROOF CONSTRUCTION FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 658,497, dated September 25, 1900.

Application filed November 23, 1899. Serial No. 737,988. (No model.)

To all whom it may concern:

Be it known that I, MARTIN CARRICK, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Metallic Lathing and Fireproof Construction for Buildings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to lathing and finishing for buildings of that class known as "metallic and fireproof finish."

The object of my invention is to provide for the construction of complete walls, ceilings, and partitions in which spaces are provided for deadening sounds, means for protecting the plaster and making the construction vermin-proof, and means for providing air and ventilating spaces and passages through which conducting wires or pipes may be carried.

The invention is an improvement upon Patent No. 591,207, issued to me October 5, 1897, and comprises certain forms and details of construction not shown in the said patent.

Referring to the accompanying drawings; Figure 1 is a perspective view showing an inner angle of a room and illustrating the construction of the floors, walls, and ceilings. Fig. 1^a shows floor construction without floor-timbers H. Fig. 2 is a horizontal section taken through a wall. Fig. 3 shows the arch structure. Fig. 4 is a vertical perspective of the wall. Fig. 5 is a vertical section transverse of the I floor-beams, showing the floor and ceiling construction, respectively, above and below the same.

The lathing consists of sheet metal A cut into any suitable size, having long horizontal slits which are punched through the sheets, leaving one or more edges united with the sheet, so that the intermediate portion or portions may be turned inwardly at approximately right angles with the face of the sheet, so as to form shelves or bonds by which the plaster is locked in place and is also prevented from falling inside, this construction being well shown in my former patent.

If the lathing is to be put upon the solid wall, the sheets are bent to form vertical inturned grooves *a*, as shown in Fig. 2, and these inturned portions resting against the

wall serve to hold the sheets of lathing far enough away from the wall to leave the required mortar-space. Nails are driven through these grooves to secure the sheets to the wall, and at the ends each sheet has a similar bend, which may overlap the next adjacent sheet, so that a single nail driven through the overlapping angle holds the two sheets together.

When the sheets are to be put together to form a partition, the channel-irons B form vertical supports and are held in position at top and bottom by short angle pieces or brackets *b*". To the outside of the channel-irons B are fixed wooden strips D, and to these latter are nailed the lathing-sheets. Additional metal strengthening-strips C extend horizontally through the partition between the wooden pieces D and the channel-irons B.

When the lathing is to be secured to form arches, the I-beams (shown in Fig. 5) are connected by angle-iron strips E, to which the wooden strips D are secured, said strips E being secured at each end to the I-beams by the angle-brackets *b*, and the bands F and the sheets are secured to these angle-irons by wires or in any suitable manner.

The floor and ceiling are constructed in the following manner: The I-beams G are at certain intervals inclosed by metal bands F, and to these bands are secured the angle-irons E by the usual bracket-pieces *b*, so that the upper and lower edges of the angle-beams E are in any desired position with relation to the top and bottom of the I-beams G. To these angle-irons are attached the supplemental strips *e*, extending horizontally and standing edgewise, with their upper edges projecting above the tops of the beams G, as shown. The meeting ends of the strips *e* overlap above these beams G and are fastened together. Upon the strips *e*, as shown, and the angle-irons E and extending at right angles with them are the wooden timbers H, to which the flooring M is nailed. The timbers H are grooved or channeled on the under side, so as to fit over the edges of the upwardly-projecting strips *e*, and they alternate, so that the ends of the timbers H may be nailed through the strips *e*, and when the concrete has been filled into the spaces, as will be hereinafter described, it will be made level with the top

of the strips *e*, and there will be a space left between it and the flooring *M* equal to the depth of the beams *H* above the tops of these strips. This space allows a circulation of air and ventilation, which will prevent the deterioration of the floor-boards by moisture, and it also provides space for the running of wires *K*, pipes, and the like. When the floor-surface is to be finished in concrete, the timbers may be omitted and metal strips like *H'*, Fig. 1^a, substituted. In either construction the surface of the concrete is divided into smaller sections and is not liable to become cracked. Apertures *I*, Fig. 1, are made through the extensions *e* and bars *E*, so that the concrete may pass through from one side to the other and form a bond for the whole mass, which is otherwise separated by the beams. A wire *O* may be passed around the irons *E*, going through the lathing in the center for additional strength. The lathing is now attached to the structure thus formed, being curved or arched on all sides, as shown plainly in Fig. 5, and extending down to the bottom flange of the beams *G*. Through the center or at other suitable part a tube or tubes *J* are passed to admit of the passage of pipes or wires and leading out to the ceiling underneath. The concrete having been filled into a level with the extensions *e*, as before described, leaves a space between it and the floor above. The ceiling below is formed in the same manner as described for the partitions. The bands *F*, which surround the beams *G*, have fixed to their lower ends the angle-iron bars *E'* by brackets *b'*, and to these irons are attached wooden strips *D'*, similar to those described for the vertical partitions, and the strengthening-bars *C* extend at right angles to the strips in the same manner. To these are secured the lathing, which forms the flat ceiling below, and this leaves a large empty space between this surface and the bottom surface of the concrete and iron structure, which forms the upper part, as previously described.

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

1. The combination with parallel channel or *I* beams, of transverse beams abutting therewith, bands surrounding the first-named beams and angle-pieces or brackets by which the abutting beams are secured thereto.
2. The combination with parallel floor-beams of bands surrounding and fixed to said beams, transverse beams extending between the main beams, and brackets by which the transverse beams are secured to the bands.
3. The combination with parallel floor-beams and the like, of transversely-connecting beams, bands surrounding the first-named beams and brackets by which the ends of the transverse beams are secured to the main beams, and wooden strips carried by the transverse beams and serving for the attachment of metallic lathing.

4. The combination with parallel floor-beams, with intermediate transversely-abutting beams and connecting-brackets secured to the latter and to bands surrounding and fixed to the first-named beams, of wooden strips carried by the transverse beams, for the attachment of flooring and the like.

5. The combination with parallel floor-beams, intermediate transversely-abutting beams and securing-brackets therefor, of supplemental strips, rabbeted and overlapping the main beams with their upper surfaces above the level thereof.

6. Parallel floor-beams, transverse abutting beams and connecting-brackets, in combination with wooden strips, the lower edges of which are parallel with the transverse beams, said strips being rabbeted to overlap upon the floor-beams, and with their upper edges above the level of said beams.

7. The combination with parallel floor-beams, transversely-abutting beams and intermediate securing-brackets, of strips supported parallel with the transverse beams with their upper edges above the tops of the floor-beams, and overlapping thereon, and wooden timbers transverse to said strips, with their ends supported thereon.

8. The combination with parallel floor-beams transversely-abutting beams and supporting-brackets of strips supported parallel with the transverse beams with their upper edges above the tops of the floor-beams, and overlapping thereon, wooden floor-supporting timbers with their ends fixed and supported upon said strips and at a higher level, and a body of plastic material filling the space with its upper surface level with the strips, and below the level of the floor-supporting timbers.

9. The combination with metal floor-beams and intermediate transverse beams, with strips thereon having their upper edges above the level of the floor-beams, of a body of plastic material filling the space to the level of the strips, wood timbers nailed transversely to said strips, and a floor laid thereon, with a space intermediate between it and the surface of the plastic material.

10. The combination with metal floor-beams and intermediate transverse beams, with strips supported parallel to the latter, of wooden floor-timbers and a floor laid upon said strips, and metallic lathing secured below, a filling of plastic material to the level of the top of the edge strips and openings made through said strips to allow the plastic material to unite from opposite sides, and form a bond.

11. The combination with metal floor-beams and intermediate transverse beams, with strips supported parallel with the latter and having transverse apertures, floors above and metallic lathing below and a filling of plastic material having its upper surface level with the edgewise strips, and one or more vertical tubular openings through the plastic material.

12. The combination with I-shaped floor-beams of bands surrounding the beams transversely, other beams extending between the upper flanges of the floor-beams, with brackets by which they are secured to the bands, wooden strips secured to the transverse beams and metallic lathing secured to said strips and the bands, and a filling of plastic material above, beams extending between the lower flanges of the floor-beams, with brackets by which they are secured to the bands, and a surface of metallic lathing secured thereto to form a ceiling independent of the plastic filling above.

13. A horizontal partition or floor structure comprising parallel I-beams, metal bands surrounding said beams at right angles to their length, angle-irons abutting against the beams with the upper edges flush therewith, and brackets by which said angle-irons are secured to the surrounding bands, floor-supporting timbers extending parallel with the I-beams and supported by the angle-irons, metallic lathing-sheets having the parallel slots and inturned angular ledges, said sheets being secured to the bands surrounding the I-beams and forming arches and a filling of concrete between the beams and above the arched sheets.

14. A horizontal partition or floor consisting of parallel I-beams, vertically-disposed bands surrounding said beams transversely to their length, angle-irons extending between the I-beams, their upper edges flush with the top thereof and angular brackets by which they are secured to the beam-inclosing bands, metal strips secured to the angle-irons projecting above them and the I-beams, and forming overlapping riveted joints thereon, floor-supporting timbers channeled to fit the metal strips, arches formed of metallic sheets having parallel slots or channels cut there-through with inturned edges, said sheets secured to the lower sides of the angle-bars and being arched down to the bottom of the I-beams and secured to the beam-surrounding bands, and a filling of concrete extending therefrom up to the top of the metal strips whereby a space is left between said concrete and the wooden floor-surface above.

15. A horizontal partition or floor consisting of parallel I-beams, metal bands surrounding said beams transversely at intervals, angle-iron bars abutting against said bands at top and bottom and having their edges flush with the top and bottom surfaces of the I-beams, and angular brackets by which they

are secured to the bands, floor-supporting timbers resting upon the angle-iron bars and a floor secured thereto, an arched sheet-metal surface fixed to the bottom of the angle-bars extending down to the bottom flanges of the I-beams and secured to the beam-surrounding bands, a filling of concrete between said arch and the top of the angle-iron bars, and a ceiling formed beneath by sheets having parallel slots or channels cut there-through, with inturned ledges, said sheets being secured to wooden strips or the like, fixed to the angle-iron strips.

16. A horizontal partition or floor consisting of I-beams having transversely-surrounding metal bands at intervals, angle-iron bars supported between said beams by brackets at the ends, said brackets fastened to the beam-surrounding bands, arched metal surfaces formed by sheets secured to the lower sides of the angle-irons and to the bands and extending to the bottom of the I-beams, a ceiling-surface formed below by angle-irons extending between and secured to the bands flush with the lower faces of the I-beams, fastening-strips secured to said angle-irons and metallic sheet-lathing of the character described nailed thereto whereby open spaces are left between the arched sheets and said ceiling, and a filling of concrete above and around the arches and the I-beams, and a floor supported above and out of contact with the upper surface of the concrete.

17. A horizontal partition and floor consisting of I-beams with transversely-surrounding bands, intermediate angle-iron strips secured to the bands at top and bottom of the I-beams, extension-strips above the upper angle-iron beams, overlapping and secured together above the I-beams, floor-supporting timbers resting upon the angle-iron strips between the I-beams, the angle-iron strips and extensions having openings made through them at points between the I-beams, a supporting arched surface fixed to the bottom of the upper I-beams, and to the surrounding bands, a filling of concrete or the like above said arch surrounding the angle-iron beams and forming uniting-bonds through the openings made in said beams and strips.

In witness whereof I have hereunto set my hand.

MARTIN CARRICK.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.