

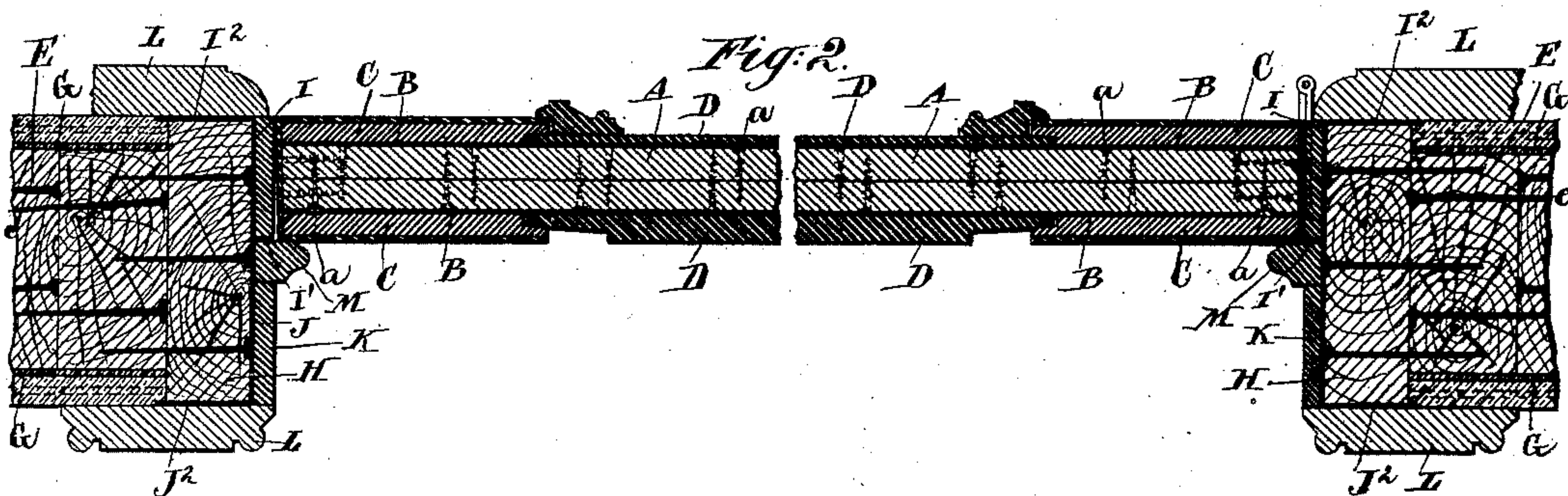
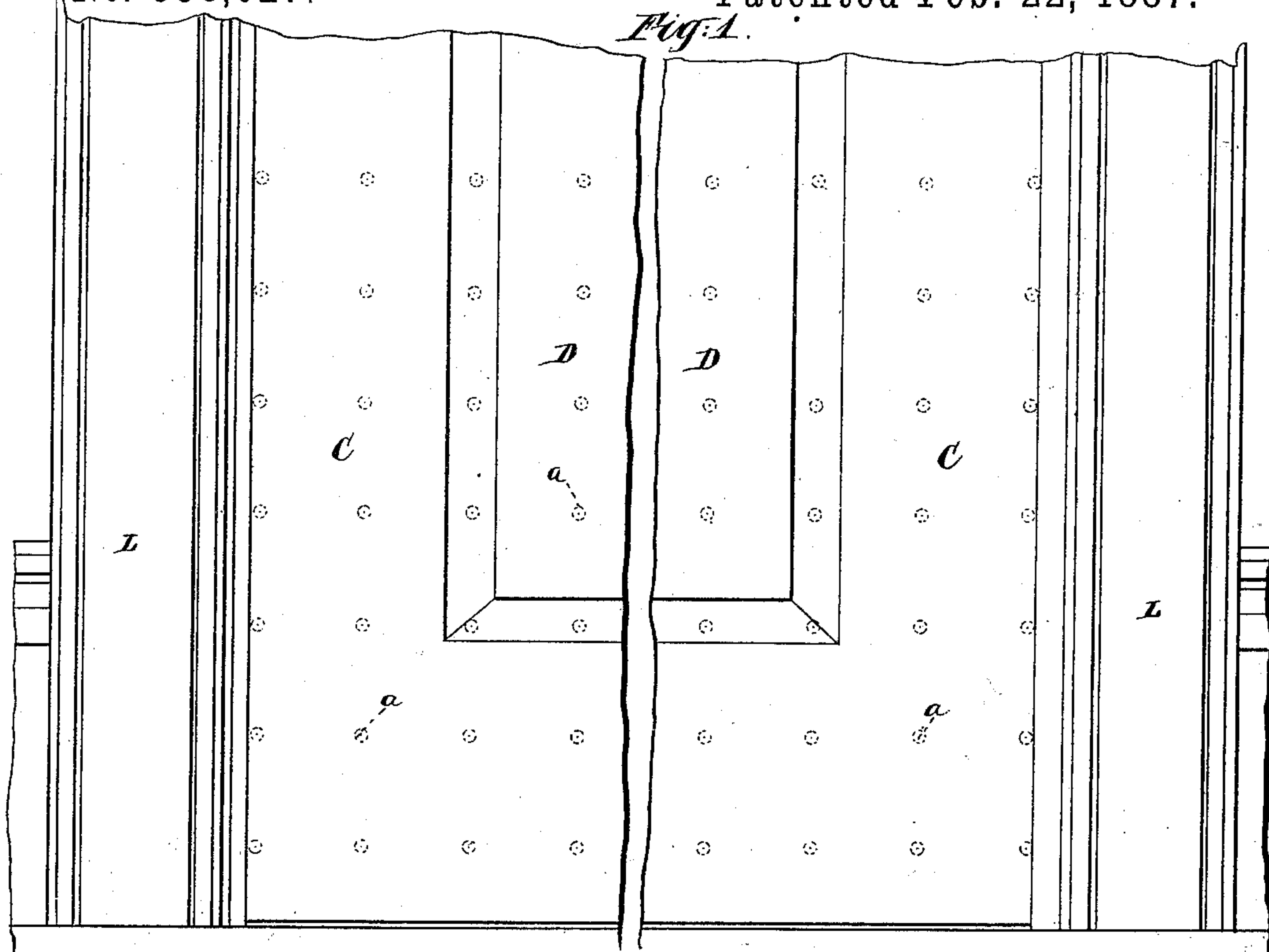
(No Model.)

J. T. FANNING.

DOOR AND JAMB.

No. 358,027.

Patented Feb. 22, 1887.



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

JOHN T. FANNING, OF MINNEAPOLIS, MINNESOTA.

## DOOR AND JAMB.

SPECIFICATION forming part of Letters Patent No. 358,027, dated February 22, 1887.

Application filed September 8, 1886. Serial No. 213,016. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. FANNING, of Minneapolis, in the county of Hennepin, in the State of Minnesota, have invented a new and useful Improvement in Doors and Jambs, of which the following is a specification.

I employ wood for the hearting or main body of the door and of the jamb. I believe that with the precautions to be described wood may contribute its strength and its non-conducting qualities to the work without defeating, but rather contributing to, the slow-burning qualities desired in buildings. The term "slow-burning" is better descriptive of the qualities than fire-proof. I esteem it impracticable to make absolutely fire-proof buildings.

Wood is cheap, and is easily worked. Properly used, it is durable. When exposed to fire, it is very slow to burn or to transmit heat through it to burn other material beyond unless air is admitted in liberal quantities to make and support flame. I defend the wood against the access of air.

I provide, further, for presenting on the exteriors of my doors and jambs a surface of wood or other ordinary or suitable material, which may be easily made to conform to any ordinary style of finish, and will make the work in all ordinary and extraordinary conditions tasty, and, if desired, luxurious. The fire-proof or slow-burning casing is effectually covered and concealed. It becomes developed only when the emergency arises.

Ordinary constructions are either quick-burning or unsightly. The metal or other material employed to make the building fire-proof or slow-burning is usually left in sight, and such cannot well be made to present an agreeable and elegant appearance.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a face view of the lower portion of the door and casing, the middle of the breadth being removed and the sides drawn inward to show the construction on a large scale. Fig. 2 is a corresponding horizontal section.

Similar letters of reference indicate corre-

sponding parts in all the figures where they occur.

A is the head or main body of a door made of wood, by preference in two layers, with the grain of one layer crossing that of the other layer and firmly secured together by nails or screws. I have so represented the construction of this portion, *a* being screws of proper length and thickness, extending nearly through both layers and binding them stiffly together, to serve as one piece of wood.

B B are extended plates of sheet iron or steel, completely covering each face and strongly secured against warping or other failure, so long as the wood A remains in tolerable condition. The metal plating B is preferably held by the same screw-nails, *a*, which hold the two layers of A together, and I have represented the parts as so fastened.

I attach special importance to the fastening of the parts near the edges. The best work may be produced by previously punching the holes in the metal B a little small, and then by a suitable tool depressing the metal conically, sometimes called "countersinking" each hole, to an extent just equal to the heads of the screw-nails to be applied. In very nice work the wood A may be correspondingly countersunk by a suitable tool before the plates are applied. In cheaper work the conical form of the sheet metal may be relied on to sink itself under the strong force of the screw. When thus equipped, the door is strong and slow burning; but I wish for a more elegant surface, in harmony with the interior finish of the room.

C C are thin wood stiles connected by corresponding rails, (not shown,) and D D are wood panels engaged with the stiles and rails in the usual manner, so that any shrinking and swelling are allowed without changing the dimensions of the door.

I have shown two shapes of the parts. Any other ordinary or suitable forms may be adopted. The door presents on each side the ordinary finished appearance of paneled wood doors done in ordinary material. Veneering, moldings, or other surface decoration may be used, if desired. The hinges, locks, bolts, &c., should be strongly secured to the hearting A, so that the door will remain securely in place after a fire on one side or the other has at-



tacked and nearly or quite destroyed the facing C D exterior to the iron plating B on that side.

The main body of the partition may be of any construction desired. I prefer a slow-burning partition composed of solid wood with efficient fire-proof material on each face and which is partially represented, E being the wood heart of the partition, e the long nails which fasten its several parts together, each to the next, and G G being a fire-proof or good heat-enduring layer of asbestos paper, metallic lathing, and good plastering and hard finish.

H is a substantial upright timber, constituting the door-frame or part of the partition immediately adjacent to the door.

A sheet of iron or steel is bent sharply by hand or machinery along the proper lines to closely fit upon this timber H, and also to extend across the small space between said timber and the edge of the door. I indicates this sheet of metal on one side, and J a corresponding sheet fitted on the opposite side. Certain portions of each will be designated, when necessary, by additional marks, as I' J', &c. The portion of I which is folded at right angles to the main part to extend out to the door is marked I'. The portion folded the other way, to lie in one face of the partition, is marked I<sup>2</sup>. The portion of J corresponding to I<sup>2</sup> is marked J<sup>2</sup>. There may be an edge of J turned outward toward the door adjacent to I'; but I have not so represented it, and do not believe such to be generally necessary. The sheet metal J stops at or near the line of contact with I. Both sheets I and J are firmly held by screws i, which the metal is countersunk to receive, and which take hold firmly in H. The metal plating I J is concealed.

M is a stop-rail, against which the door shuts.

K K are facing-boards, and L L are facing-boards standing at right angles to K. All are held by nails or other strong fastenings, inserted through the metal I or J, as the case may be, and taking hold of H.

When the fire obtains sufficient access to either side of the partition with a liberal supply of air, the material exterior to the metal plating, not only of the door, but also of the jamb, will be burned on that side; but the hearting of the door and jamb, not obtaining air, will only char, and the charring will proceed slowly. The board K, which lies directly against the edge of the door, will get but little air, and will burn very slowly. It will be mainly charring, if the work fits tightly; but there is an obvious liability to a strong draft of air through any looseness of fit, which is liable to occur between the door and jamb. Under any ordinary conditions the turned-out portion I' of the sheet

metal I is of great service in checking the progress of the fire through this usually undefended or body-appearing part of the building. I secure a good defence against fire, while presenting the usual appearance of a wood jamb.

Modifications may be made in the forms and proportions without departing from the principle or sacrificing the advantages of the invention. The plate J may extend a considerable distance under I. The plates I and J may extend farther, or may connect with other plates, which shall in effect be extensions in the faces of the partitions. Other means than screws may be used to fasten the parts. The security against fire may be made less complete on one side, according as the liability to fire, or the seriousness of the consequences, may be anticipated. Thus a door leading from a main building into a vestibule or an unimportant extension may be strongly defended against the progress of fire into the main building, and less defended or not at all against the progress of fire out of the main building.

I do not in this patent claim the fire-proof walls, such being made the subject of a separate application for patent, filed September 9, 1886, Serial No. 213,099. I do not claim anything shown in the patent of June 26, 1877, No. 192,400, or in the patent of April 29, 1884, No. 297,730.

I claim as my invention—

1. The slow-burning door and jamb described, composed of a hearting of wood, a concealed plating of metal over the hearting, and an ornamental surface of wood or analogous material over the plating, combined and arranged to serve as herein specified.

2. A door and jamb of wood, two coverings of sheet metal, one on each face of the main wood part, and two exterior facings of wood or analogous material, giving an ornamental finish to each side, arranged to present a tasty appearance and resist fire in either direction, as herein specified.

3. In a slow-burning construction for buildings, the sheet metal I', extending across a space between a slow-burning door, as A B C D, and a slow-burning jamb and partition, as H I J, in combination with such door and jamb, and with the facing-boards K K, and arranged to serve therewith, as herein specified.

In testimony whereof I have hereunto set my hand, at Minneapolis, State of Minnesota, this 26th day of August, 1886, in the presence of two subscribing witnesses.

JOHN T. FANNING.

Witnesses:

RENNIE B. FANNING,  
EDWIN A. KIMBALL.