

M. Abord.

Fire-Proof Building,

N^o 54,450.

Patented Aug. 21, 1866.

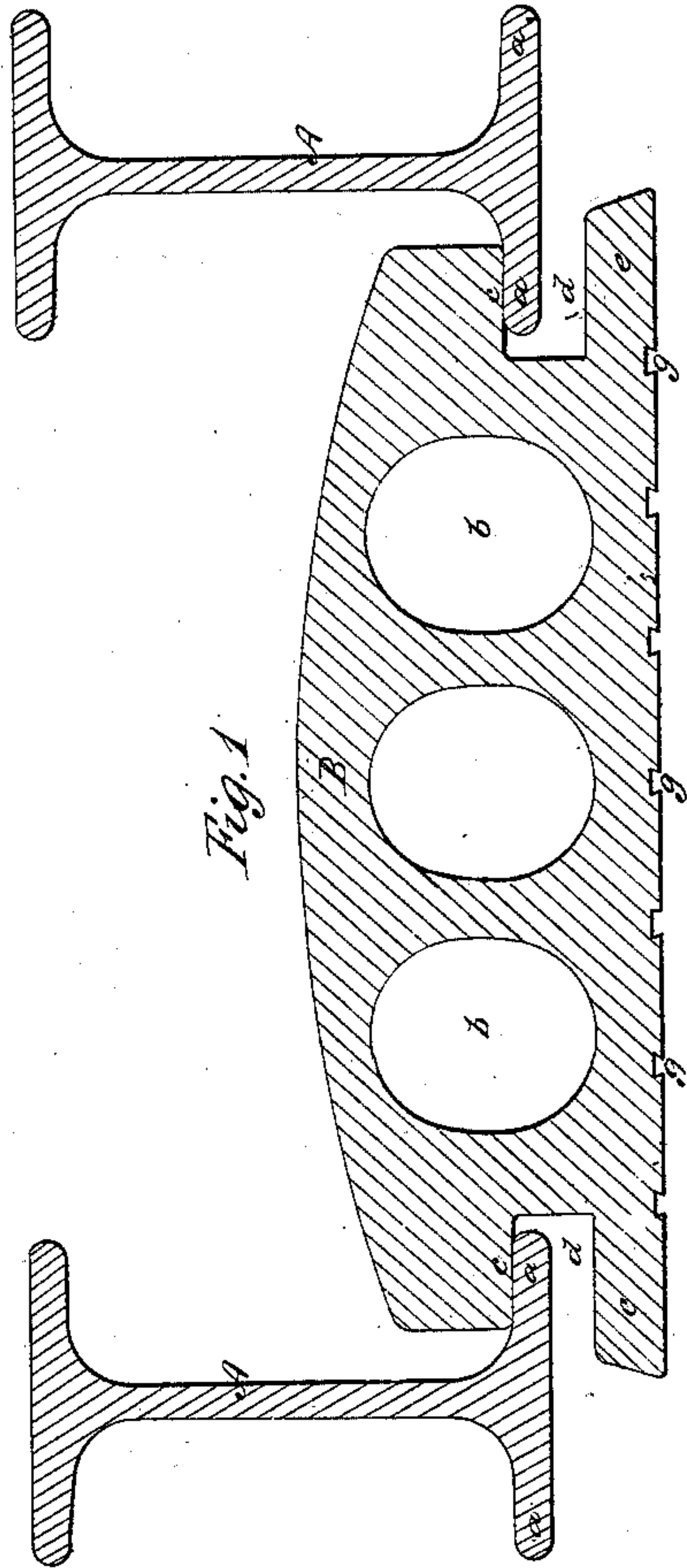


Fig. 1

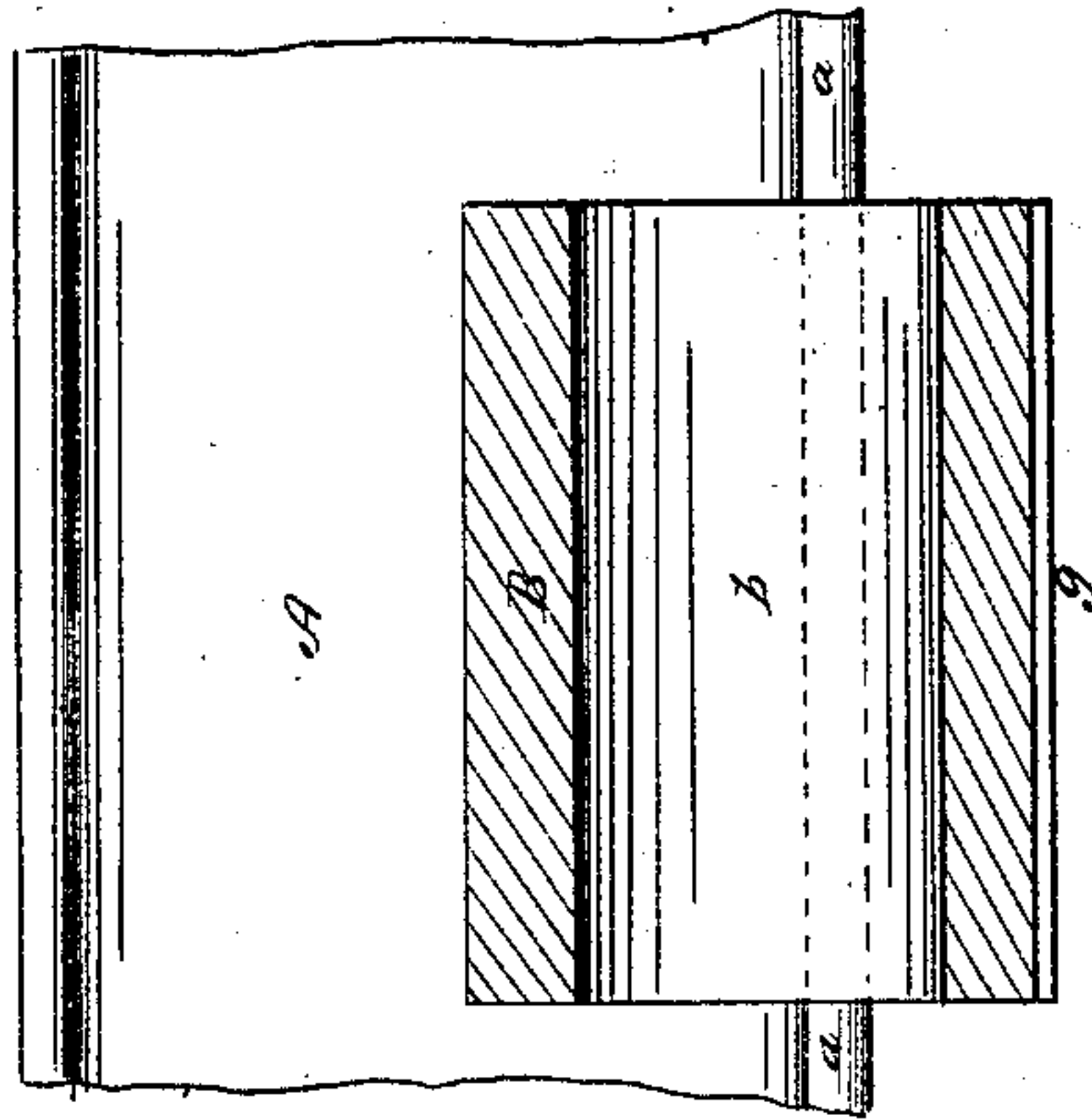


Fig. 2

Witnesses;

J. M. Coombs
G. W. Reed,

Inventor;

Maurice Abord
Per his attorneys
Brown Coombs & Co.

UNITED STATES PATENT OFFICE.

MAURICE ABORD, OF PARIS, FRANCE.

IMPROVED BRICK FOR CEILINGS.

Specification forming part of Letters Patent No. 57,450, dated August 21, 1866.

To all whom it may concern:

Be it known that I, MAURICE ABORD, of Paris, in the Empire of France, have invented certain new and useful Improvements in House and other Ceilings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 represents a vertical section of portion of a ceiling in illustration of my invention, and Fig. 2 also a vertical section of the same in a direction at right angles to Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

The nature of my invention consists in substituting for the ordinary lath and plaster, or, in the case of fire-proof structures, metal cross-ties, and the usual filling in between the girders, hollow or tubular bricks, so constructed and applied as that they will have a firm bearing or suspension on the beams or girders of the ceiling or adjoining floor, and at the same time form a solid and close ceiling beneath said beams or girders; and my invention further consists in so constructing and applying such hollow bricks by shaping and indenting them as that they will improve the hold of the plaster on the ceiling in cases where plaster is used and where the bricks themselves do not form the outer surface of the ceiling.

Referring to the accompanying drawings, A A' represent double T-iron girders, the shape of which, however, may be varied; or, where the structure is not designed to be fire-proof, wooden beams of, say, an inverted-T shape or groove, or of a square or other form in their transverse section, with protruding strips secured to their lower edges, may be used. Such beams or girders may be arranged, at any suitable distance apart, parallel to each other along or across the top of the room it is desired to ceil, and their tops or upper surfaces be made to serve for the planking or flooring of the room above to rest upon.

B is the hollow brick, which is here shown of arched configuration at its top to increase strength; but it need not necessarily be arched, and its shape in many other respects may be varied without depriving it of the necessary provision for supporting or hanging and oth-

erwise meeting the several requirements to adapt it to ceiling purposes. It will be sufficient, however, to describe these bricks as illustrated in the drawings. These bricks are made of any suitable size and with any number and shape of holes, *b*, in or through them, preferably, however, running in a crosswise direction straight through them from side to side. They are made to rest, by means of shoulders *c*, formed by end recesses *d*, on the lower flanges, *a*, of the double T-girders A A'. These recesses *d* are shown deeper than the thickness of the girder-flanges on which they rest, so as to leave a space below said flanges, and the lower portions of the ends of the bricks are extended to form lips *e*, which, at their extremities, bevel or incline outwardly downward, and so that an adjoining brick on the same line in the direction of the length of the brick B will cause its corresponding lip to form a V-space with or between the extremity of the lip adjacent to it of the first-named brick. The object of such recesses *d* and V-shaped spaces is to allow of the introduction of plaster or mortar to unite and tie together the bricks lying contiguous to each other at their ends, and to give them a solid connection with the girders, at the same time permitting of their extreme lower ends meeting, or nearly so, to form a continuity of the brick surface to the ceiling.

It may not, however, always be necessary to use mortar or other filling in, in which case the depth of the recesses *d* may be diminished and the lip *e* be made straight at their ends.

The bricks may be slid in succession along the lower flanges of the girders, and, lying side by side, have their joints so formed filled in with mortar or cement.

Indentations or recesses *g* may be left in the lower surfaces of the bricks to give gripe or hold to the plaster underneath in cases where it is desired to form a plaster finish or cover to the ceiling. For this purpose said indentations should be made of dovetail or other equivalent locking shape—that is, wider within the brick than at their mouths or bottoms.

As, however, I do not restrict myself to any particular clay or earth out of which to form the bricks, or treatment of them after they are made, and it will be perfectly practicable to

give them a smooth or glazed and plain or ornamental finish having the appearance and character of porcelain and various well-known ornamental or glossed tiles, it may not always be required to coat them with plaster below, especially where the ceilings are exposed to a humid atmosphere, as in bath-rooms and other places in which the moisture injures the mortar or plaster. In this case the indentations or recesses *g* in the lower surfaces of the bricks may be dispensed with, and there are many instances, both as regards public and private dwellings, where a glazed and ornamental or plain exterior to the bricks at their bottoms may be preferred, in consequence of the facility which ceilings so made offer for cleaning by merely rubbing or brushing or washing them. Irrespective, however, of any such variations or modifications, which, apart from the facility offered for cleaning, are, as it were, mere subjects of embellishment, ceilings formed of hollow bricks thus strung together on beams or girders have many advantages over ordinary ceilings. Thus there is less labor in constructing them, as all independent cross-ties and filling in of loose materials are or may be avoided. A fire-proof character may be given to the ceiling. It is comparatively solid in its character, and, both from the nature of its material and the air-spaces formed by the tubu-

lar or hollow formation of the bricks, it will fail to harbor insects, deaden sound, and, being a bad conductor of heat, will contribute to health by reducing or rendering slower the transitions of a changeable climate or temperature.

What I claim herein as new and useful, and desire to secure by Letters Patent, is—

1. Constructing ceilings of tubular or hollow bricks supported or suspended on beams or girders, and strung thereon to form a continuity of surface, essentially as herein set forth.

2. A tubular or hollow brick having recesses *d*, whereby to suspend it on the beams or girders, the upper and lower lips of said recesses being so proportioned that the under lapping ones will meet those of the adjacent row and conceal the girder, substantially as shown and described.

3. Grooving or indenting the lower surfaces of the bricks to facilitate the hold of the plaster thereto, substantially in the manner specified.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

MAURICE ABORD.

Witnesses:

DUMAS,

F. F. RANDOLPH.