

(No Model.)

M. W. MITCHELL.

BEAM END PROTECTOR.

No. 387,004.

Patented July 31, 1888.

Fig. 1.

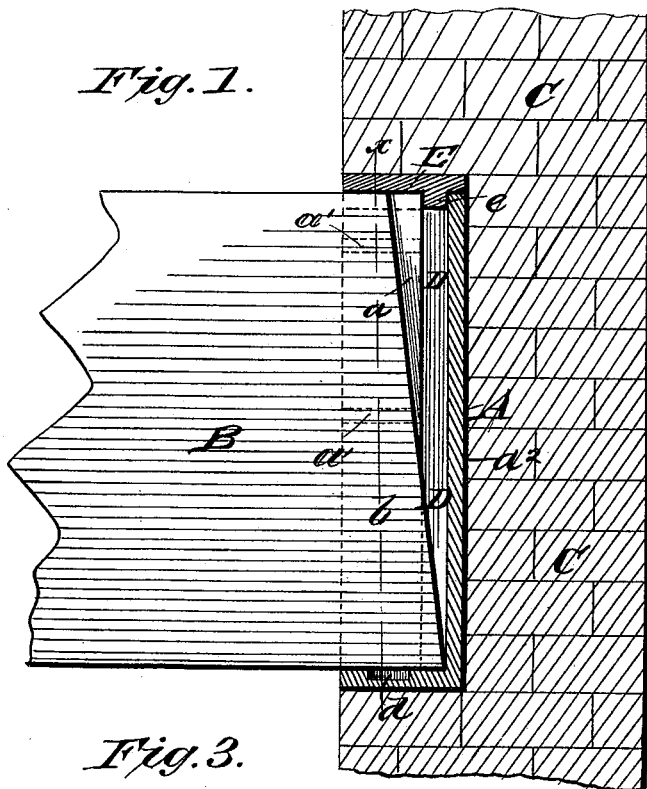


Fig. 2.

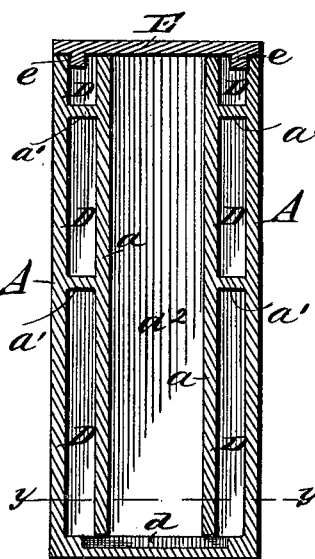


Fig. 3.

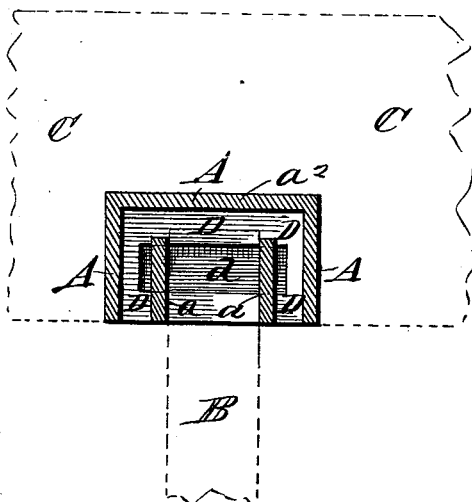
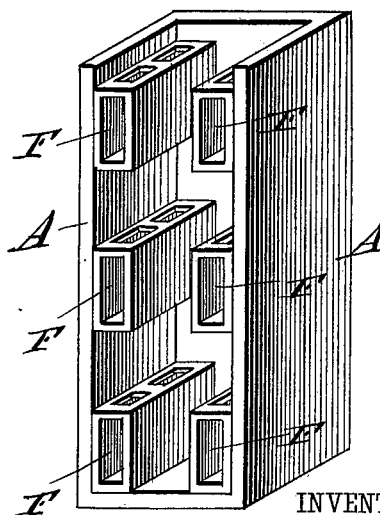


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## BEAM-END PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 387,004, dated July 31, 1888.

Application filed January 19, 1888. Serial No. 261,277. (No model.)

*To all whom it may concern:*

Be it known that I, MANCEL W. MITCHELL, of New Albany, in the county of Floyd and State of Indiana, have invented a new and Improved Beam-End Protector, of which the following is a full, clear, and exact description.

My invention relates to protectors for the ends of beams or timbers set into walls of buildings or elsewhere, and has for its object to provide a simple, inexpensive, and efficient device of this character which will promote the durability of the beams and their supporting-walls.

The invention consists in certain novel features of construction of the beam-end protector, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical sectional view of a portion of a brick wall and my improved beam-end protector set therein, and shows also in side elevation the end portion of a beam fitted in the protector. Fig. 2 is a front vertical sectional view of the beam-end protector, taken on the line *xx* in Fig. 1. Fig. 3 is a sectional plan view of the protector, taken on the line *yy*, Fig. 2, and shows also in dotted lines portions of the wall and beam; and Fig. 4 is a perspective view of a modified form of the beam-end protector with its cap removed.

In the preferred method of carrying out my invention I make the beam-end protector A of cast metal of a size sufficient to receive the end *b* of a beam, B, or other timber support let into a brick or stone wall, C, and leave an air-space, D, around the end of the beam. It is immaterial how the interior of the body of the protecting-casing A is arranged to form an interior pocket for the beam end, to center it in the casing or protector. For instance, the casting A may be provided with two interior plates, *a a*, between which the opposite sides of the beam end fit easily, and these plates are or may be stayed or braced to the main side walls of the protector by webs or ribs *a' a'*, which preferably do not extend to the end wall, *a''*, of the protector, to assure a free air-circulation through the space D around the entire end portion of the beam.

A removable cap-plate or cover, E, having flanges or ribs *e* fitting tightly within the two side walls and end wall of the protector, shields the top of the beam end *b* from the superposed brick or stone or other material of the wall C, into which the protectors and beams are built, as above described. I make a recess, *d*, in the bottom wall or floor of the protector-casing A, to give free air-circulation below the beam without interfering with its firm support on the floor of the casing, said recess *d* being practically a part of the air-space D, which surrounds the end of the beam, all as will readily be understood from Figs. 1, 2, and 3 of the drawings.

In the modified form of the beam-end protector shown in Fig. 4 of the drawings the side guides or supports to the end of the beam consist of hollow boxes or box-like projections F, formed with or fixed to the opposite side walls of the protector A, and giving a free air-circulation around the end portion of a beam fitted in the protector or casing. This illustration is given merely to show one of many modified constructions of interior supports which the protector may have to hold and steady the beam in a manner to assure a constant air-circulation around the end of the beam.

Among the advantages resulting from the use of these beam-end protectors may be named the following: The protectors are simple and inexpensive and easily applied, and give a substantial support to the beams in the wall, and do not weaken the wall and allow falling of the beam ends in case of fire without seriously damaging the wall, and the protectors prevent spreading of fire from one set of beams in a party-wall to the other beams in the same wall. Furthermore, the air-space surrounding the beam ends prevents absorption by the beams of the dampness of the walls; hence the ends of the beams will not weaken by rotting and will be much more durable. The removable cover E of the protector allows easy placing of beams during progress of building, and the air-spaces D allow inspection of the ends of the beams at any time.

The herein-described beam-end protectors are made preferably of cast-steel, which may be coated with any approved rust-preventing

composition; but the protectors may be made of stone or terra-cotta ware or any other suitable material.

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

1. In a beam-end protector, the casing A, formed with interior side guides, *a a*, and provided with a floor-recess, *d*, forming a continuous air-space at the sides and bottom of the beam end, substantially as herein set forth.

2. In a beam-end protector, the casing A, formed with interior side guides, *a a*, which do not reach the back wall of the casing, and pro-

vide a continuous air-space at the sides and end of the beam, substantially as herein set forth.

3. In a beam-end protector, the casing A, formed with interior side guides, *a a*, which do not reach the back wall of the casing, and said casing formed, also, with a floor-recess, *d*, thereby providing an air-space entirely around the end of the beam, substantially as herein set forth.

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Witnesses:

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