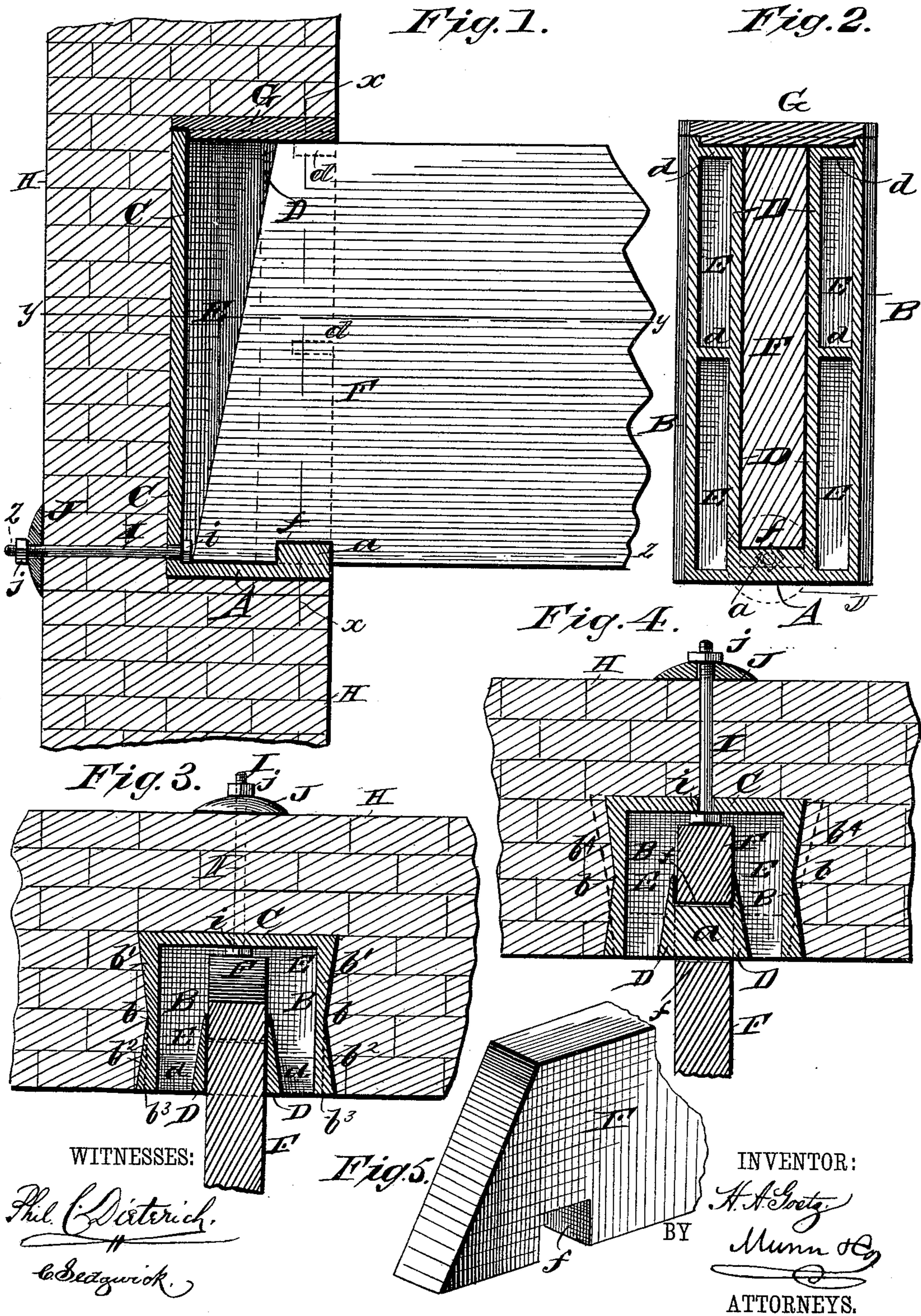


(No Model.)

H. A. GOETZ.
BEAM END PROTECTOR.

No. 386,976.

Patented July 31, 1888.



UNITED STATES PATENT OFFICE.

HENRY A. GOETZ, OF NEW ALBANY, INDIANA.

BEAM-END PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 386,976, dated July 31, 1888.

Application filed January 27, 1888. Serial No. 262,097. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. GOETZ, 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 built into brick or stone walls, and has for its object to provide for setting the beams into walls in a manner to protect them from dampness and rotting, and at the same time form effective lateral braces to the walls of a building and allow fall of the beams in case of fire and without damaging the walls.

The invention consists in certain novel features of construction of the beam-end protectors and in their combination with the walls of a building, 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 elevation of a portion of a brick wall with the end of one of the floor-beams set into the protector, which is built in the wall. Fig. 2 is a vertical section taken across the protector and beam and on the line *x x* in Fig. 1. Fig. 3 is a plan view in horizontal section on the line *y y* in Fig. 1. Fig. 4 is a detail plan view in horizontal section on the line *z z* in Fig. 1, and Fig. 5 is a perspective view of the end of the beam.

I make the beam-end protector of metal, preferably cast metal, and in box-like form, and with a bottom plate, A, two opposite side walls, B B, and a back wall, C, and two interior vertically-ranging plates, D D, which extend but part way back from the outer face or edge of the main casting, to provide an air-space, E, at the end of the beam F, which rests on the bottom plate, A, and is notched at *f* near its end to fit over an upwardly-projecting lug, *a*, cast upon the plate A between the beam-holding and guide plates D D. Connecting ribs or webs *d* may be cast between the walls B and plates D, as shown.

The main body or casting of the protector is open at the top, which allows the end of the beam to be readily set into it from above during the building of the wall, whereupon a metal

cover, G, will be placed on the top of the main casting and over the beam to protect it from the dampness of the wall at the top, the main casting having the air-space E serving to fully protect the sides and end of the beam from dampness; hence the beam will not be liable to rot or decay where built into the wall, as it otherwise would be.

It will be seen in Figs. 3 and 4 of the drawings that the sides B B of the body of the protector are beveled inward from both the front and back of the body to central points at *b b*, and that the wall H is built in closely to the side walls, B B, of the protector, which securely binds or anchors it, so that it cannot be pulled out of or pushed into the wall.

It is not necessary that the front portions, *b² b²*, of the side walls, B B, be inclined to prevent the pulling of the protector from the wall; hence these portions may be made straight or at right angles with the face of the wall, as shown by the dotted lines *b³ b³* in Fig. 3; or the dovetailed portions *b' b'* of the protector side walls may be inclined from the extreme inner face of the protector to its outer face, as indicated by the dotted lines *b⁴ b⁴* in Fig. 4 of the drawings, each of these three constructions serving to dovetail or anchor the protector into the wall, so that it cannot be pulled out by the falling beam in case of fire, but will allow the beam to fall without damaging the wall. This dovetailed anchorage of the protectors into the opposite side walls of a building, in connection with the interlocking of the notched ends of the beams with the lugs *a* of the protectors, makes every beam a strong lateral brace to both side walls of the building, which greatly increases the strength of it over that it would have with other methods of construction.

At times I will use bolts I on every eighth or tenth beam-end protector along the wall H, these bolts being passed through the back walls, C, of the protectors next their bottom plates, A, and having their heads *i* inside of the protectors, while their nuts *j* will be screwed hard up to brace-plates J, placed on the bolts against the outer face of the wall. These bolts and stay-plates I J give additional security to the protectors in the wall and promote the strength of the entire structure.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. A beam-end protector made with its lateral side or sides dovetailed exteriorly in horizontal plane, whereby it is adapted to interlock with a wall into which it may be built, to prevent pulling of it from the wall, said protector also having an upwardly-extending lug at its bottom adapted to interlock with a notched beam end, substantially as herein set forth.

2. A beam-end protector made with a dovetailed exterior adapted to interlock with a wall into which it may be built, to prevent pulling of the protector from the wall, an upwardly-extending lug at its bottom adapted to interlock with a notched beam end, and interior plates, as D D, adapted to receive the beam end between them and provide an air-space at the end of the beam, substantially as herein set forth.

3. Beam-end protectors made with a lateral side or sides dovetailed exteriorly in horizontal plane, whereby they are adapted to interlock

with opposite walls into which they are built, to prevent pulling of them from the walls, and said protectors also having upwardly-extending lugs at their bottoms, in combination with a beam set into two opposite protectors, and having notched ends interlocking with the bottom lugs of the protectors, substantially as described, for the purposes set forth.

4. A beam-end protector made with side walls, B, having double dovetailed form horizontally, or with reversely-inclined faces b' b'' , to prevent pulling of the protector from the wall or pushing it into the wall into which it is built, substantially as herein set forth.

5. The combination, with a beam-end protector, of a bolt, I, fitted into the lower part of the protector and into a wall, substantially as herein set forth.

HENRY A. GOETZ.

Witnesses:

JACOB L. YANNEY,
MANUEL W. MITCHELL.