(No Model.)

H. KLEIN & E. ROWENHAGEN.

METHOD OF CONSTRUCTING BUILDINGS.

No. 525,847. Patented Sept. 11, 1894.

Fig. 1

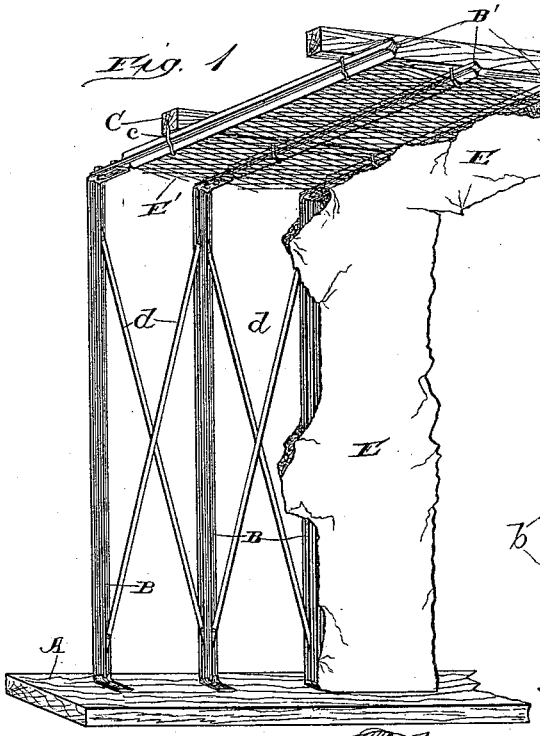


Fig. 2. Fig. 3.

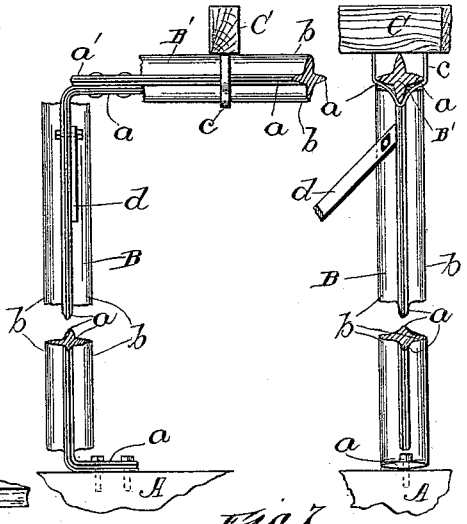


Fig. 4.

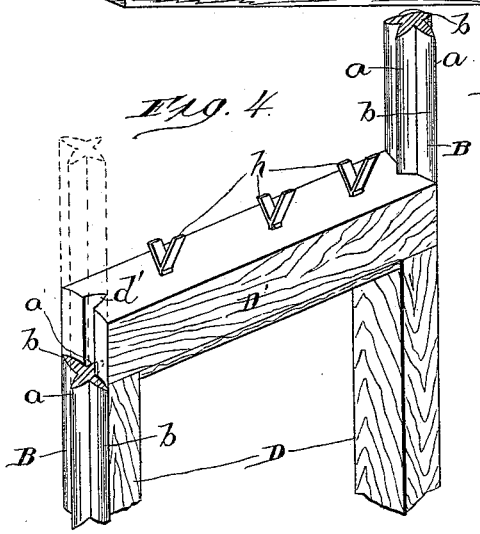


Fig. 5.

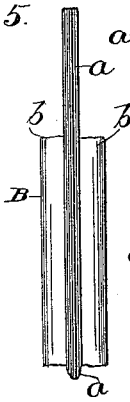


Fig. 7.

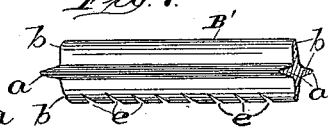


Fig. 8.

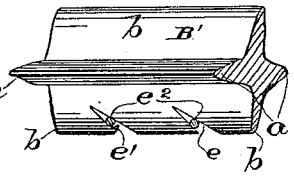
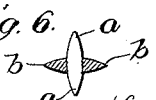


Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY KLEIN AND EMIL ROWENHAGEN, OF CHICAGO, ILLINOIS.

METHOD OF CONSTRUCTING BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 525,847, dated September 11, 1894.

Application filed April 9, 1894. Serial No. 506,930. (No model.)

To all whom it may concern:

Be it known that we, HENRY KLEIN, a subject of the Emperor of Germany, and EMIL ROWENHAGEN, a citizen of the United States, both residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Methods of Constructing Buildings, of which the following is a specification.

This invention relates to improvements in the construction of buildings, and consists in certain peculiarities of the material used and the manner of putting it in position, as will be hereinafter more fully set forth and specifically claimed.

The objects of our invention, are, first, to provide a means whereby a structure may be quickly and economically erected, in such a manner that it shall be strong and durable; and, second, to construct a building, which shall be absolutely fire-proof.

In order to enable others skilled in the art to which our invention pertains to make and use the same, we will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the wall or partition and a part of the ceiling of a building embodying our invention. Fig. 2, is a view in side elevation of one of the studs or uprights (foreshortened for the convenience of illustration), and a part of one of the joists, showing the method of securing the two together, and in position on the floor and ceiling. Fig. 3, is a view of said parts, looking in another direction. Fig. 4, is a perspective view of a part of the door-frame. Fig. 5, is a view of a portion of one of the uprights or standards, showing it in condition or prepared to be united with the floor or one of the joists. Fig. 6, is a cross sectional view thereof. Fig. 7, is a view in side elevation of a portion of one of the joists, showing it prepared to receive the wire-lathing or netting; and Fig. 8, is a similar view, showing a part of the wires in place and the manner of securing them.

Similar letters refer to like parts throughout the different views of the drawings.

A, represents a portion of the flooring of a building to which is secured at suitable distances apart, usually about three feet, a number of uprights or studs B, which are formed in cross-section in the shape of a four-pointed star or cross, as is clearly shown in the drawings, and more particularly in Fig. 6 thereof. At each end of these studs or upright standards, a portion of the arms *a*, or *b*, thereof, is cut-away, thus leaving the other arm extended, as shown in Fig. 5, in which figure the arms *b*, have been cut-away. The arm or piece *a*, at each end of the standard may then be bent at substantially a right angle to the body of the upright, as shown in Figs. 1, and 2, and that part of the stud adjacent to the flooring may be firmly bolted or otherwise secured thereto. To the upper portion of the standard or its arm *a*, which has been bent as before stated, is secured an arm *a'*, of the joist B', which is likewise constructed of metal, and is in cross section in the form of a four-pointed star or cross. The joists B', being thus united to the uprights B, extend horizontally across the ceiling, and are secured to the beams C, by means of suitable hangers *c*, which are bolted or otherwise fastened to said beams. The standards or uprights B, are firmly held in a vertical position, and in alignment with one another by means of braces *d*, which are secured near the top and bottom of the standards, and extend obliquely from one to the other, as is clearly shown in Fig. 1, of the drawings. The lower arms *b*, of the joists are provided with "V"-shaped recesses or niches *e*, for the reception and retention of the strands of wire forming the lathing or netting for the ceiling. The strands of wire are placed in said niches, when by a blow, the projecting portions *e'*, of the arms *b*, may be clinched on the strands e^2, as is shown in Fig. 8, which operation will securely hold the wire-netting or lathing in position to receive the plaster, or cement E, of which the ceiling is made. Between the uprights is placed a quantity of cement, mortar, plaster-of-paris or other non-combustible material, which is held in position until it becomes hardened, by means of boards placed on each side of the row of uprights. The plaster or material of which the ceiling is made may be applied in a like manner, so as to cover or envelop the lathing E', which as before stated is preferably made of wire. In Fig. 4, we have illustrated

a portion of the door-frame to show the method of securing the same between the uprights or standards B. The jambs D, of the door are provided on their surfaces adjacent to the standards with "V"-shaped grooves d', within which one of the arms a, of the uprights fit, thus securely retaining the door-frame in position. On the upper sill D', of the door, and secured thereto, is a number of "V"-shaped pieces h, which have their apexes secured or driven into the said sill, thus presenting their flaring portions upward to receive and engage the mortar, cement or other material, which is placed between the studs or standards, and which constitutes a portion of the wall or partition.

From the foregoing it will be seen and understood, that by employing our construction, we are enabled to quickly erect a structure and at very small expense, and that as no combustible material is used, except in the door-frame, and for the beams, it will be virtually fire-proof.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a building the combination of the star-shaped studs B, having the arms a, and b, and the bent ends to secure them to the floor and ceiling, with the star-shaped joists B', having the arms a, and b, the latter provided with the "V"-shaped niches to receive the wire strands of the lathing, said lathing having a covering of non-combustible material, and a quantity of non-combustible material placed between the studs, substantially as described.

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