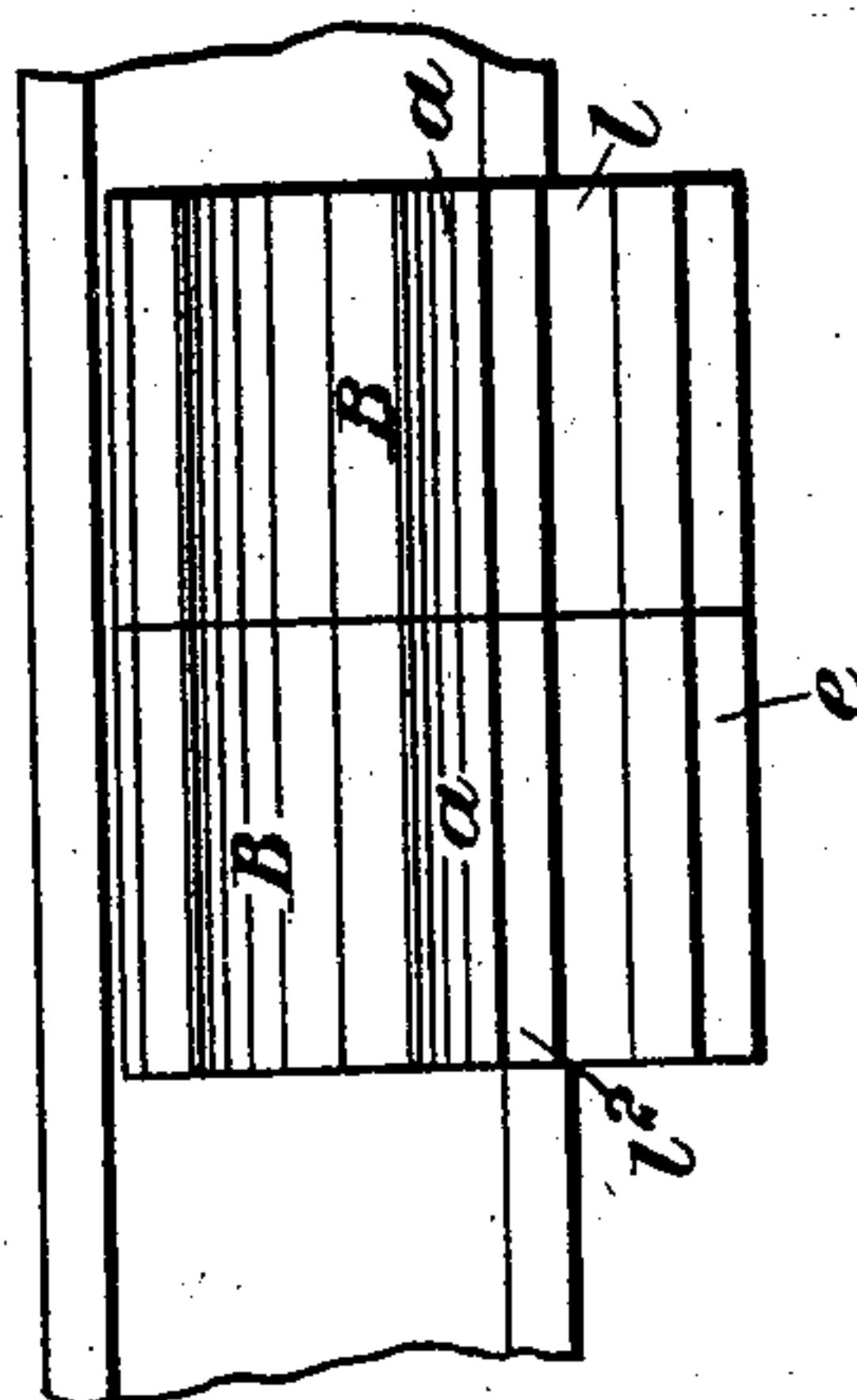


2 Sheets—Sheet 1.

No. 556,998.

Patented Mar. 24, 1896.



Inventor
Charles Major
By his Attorneys
Hovson and Hovson

(No Model.)

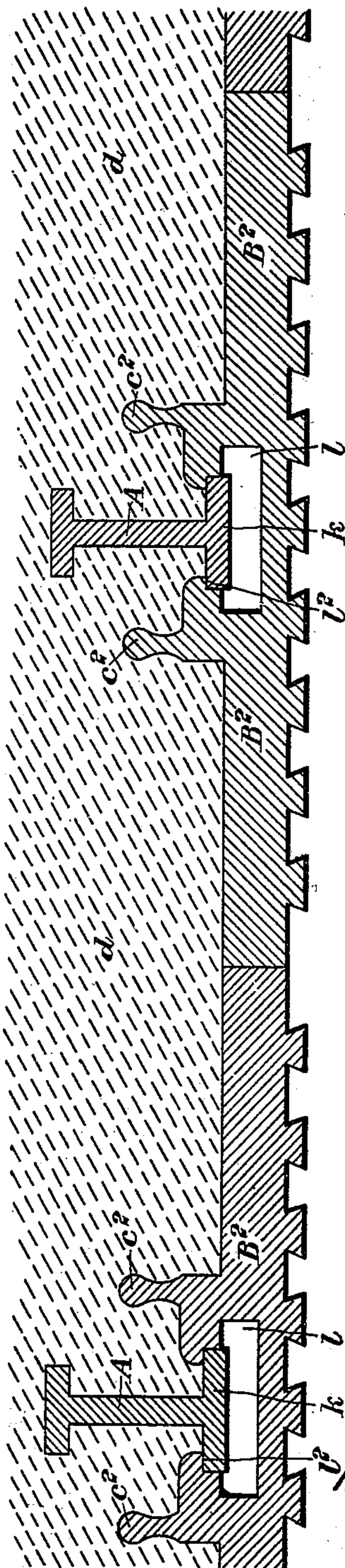
2 Sheets—Sheet 2.

C. MAJOR.
FIREPROOF AND VENTILATING FLOOR.

No. 556,998.

Patented Mar. 24, 1896.

FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES MAJOR, OF BRIDGEWATER, ENGLAND.

FIREPROOF AND VENTILATING FLOOR.

SPECIFICATION forming part of Letters Patent No. 556,998, dated March 24, 1896.

Application filed April 5, 1895. Serial No. 544,564. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MAJOR, brick and tile manufacturer, a subject of the Queen of Great Britain and Ireland, residing at The Patent Tile Works, Bridgewater, in the county of Somerset, England, have invented certain Improvements in and Connected with Fireproof and Ventilating Floors, of which the following is a specification.

I will describe my invention with reference to the accompanying drawings, Figure 1 of which represents in vertical section a portion of a fireproof floor constructed with lintels made according to my invention, the said lintels being directly supported by the metal girders. Fig. 2 illustrates the mode of placing the lintels in position, and Fig. 2^a is an end elevation of two of the lintels placed side by side. Fig. 3 shows another form of lintel, which is directly supported by the metal girder.

Referring to Figs. 1, 2, and 2^a, A are ordinary metal girders of I-section, supported at their ends on piers or on the walls of the building, and B are lintels constructed according to my invention by molding in clay, concrete, or other suitable fire-resisting material. Each lintel is made of a length to reach from center to center of the lower flanges of two contiguous girders A and is formed at its ends with stepped or undercut projections *a* to admit of readily placing the said lintels in position, as hereinafter described. These lintels may be made of any suitable width (preferably about nine inches) and have formed therein horizontal openings or passages *b*, which, when several of the lintels are placed side by side to form a floor, coincide and form continuous passages extending from one end to the opposite end of the floor in a direction parallel to the girders A, by which the said lintels are supported. The said passages *b* may open into the outer air at either one or both ends to admit of the passage of cold air for cooling the rooms above and below the floor, or heated air may be introduced into the said passages for heating the said rooms. On the upper surface of these lintels are formed undercut projections *c*, which serve to key the lintel to the concrete *d*, filled in between the girders, and which covers the whole of the upper sides of the lintels and the metal gird-

ers A to the depth required to complete the floor. The under sides of the lintels are also preferably provided with undercut projections *e* to hold the plaster coating forming the ceiling to the apartment below the floor.

To admit cold or heated air from the passages *b* into the apartment above the floor, openings *f* are made through the concrete *d* above the lintels, corresponding openings or perforations *g* being also formed in the top of the said passages *b* in the lintels, thereby forming a communication between the external air or with heating-flues, as the case may be, and the apartment above the floor. Similar holes or perforations *i* are also provided in the bottom of one or more of the tubular passages *b* in the lintels, which are not provided with the openings *g*, through which perforations *i* vitiated air from the apartment below the floor can pass into the passages *b* and thence into the outer air.

The lintels may be placed in position on the girders A from below by first inserting one end, so that the lower flanges *k* of one of the supporting-girders will enter the deep part *l* of the undercut projection *a* on the said end of the lintel, as shown in Fig. 2, which will admit of the projection *a* on the other end of the lintel being raised past the bottom flange on the adjacent supporting-girder A. Then by a longitudinal movement of the lintel in the direction of the arrow in Fig. 2 the lintel may be lowered so as to cause the flanges on the two adjacent girders A to engage in the portions *l*² of the undercut projections *a* on the ends of the lintel, as shown in Fig. 1, in which position the lintels are securely held by the concrete filling *d*.

As before mentioned, the lintels are made of a length equal to the distance from the longitudinal center line of one supporting-girder to the center line of the adjacent girder, so that when the lintels are in position they extend under the girders and meet there, so as to efficiently protect such girders, especially in case of fire.

Instead of having the meeting lines of the lintels immediately under the girders, they may be at points between the girders, as indicated in the modification Fig. 3. In this case the lintels are in the form of blocks B² B² with the undercut stepped projections *l*² in

the middle of the lintels, as will be readily understood. The lintels in this modification, however, are likewise of a length equal to the distance between the center lines of adjacent
5 girders, and the lintels extend under and protect the girders, as in the construction shown in Figs. 1 and 2. I prefer in the construction shown in Fig. 3 to provide on the upper side of each block B² strengthening projections or
10 ribs v^2 to key into the concrete d .

I claim as my invention—

A fireproof flooring, consisting of flanged girders in combination with lintels of fire-resisting material, extending under the girders

to protect them, and of a length equal to the 15 distance between the center lines of adjacent girders, the lintels being provided with undercut stepped projections by which they are supported on the flanges of the girders, substantially as described. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES MAJOR.

Witnesses:

E. W. COZENS,
H. I. MAJOR.