

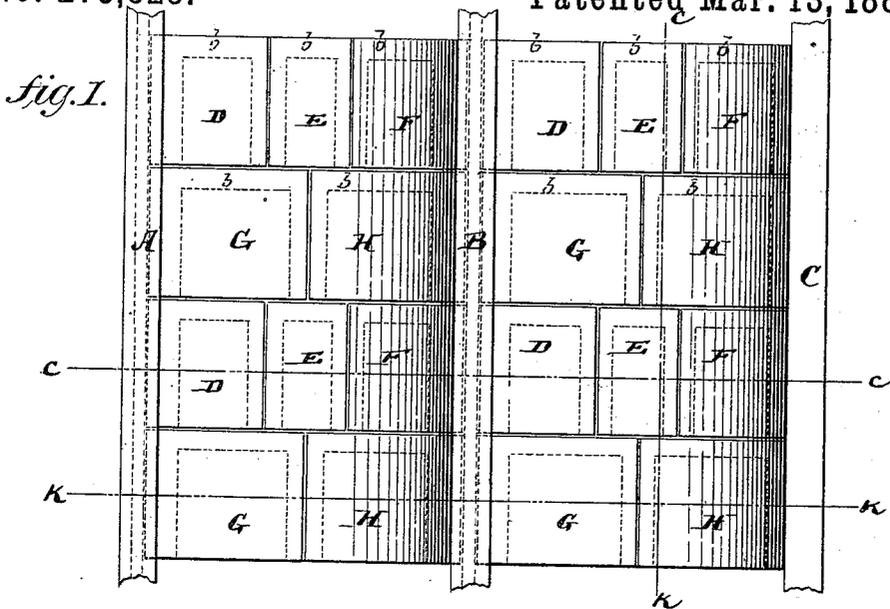
(No Model.)

J. H. DREYER.

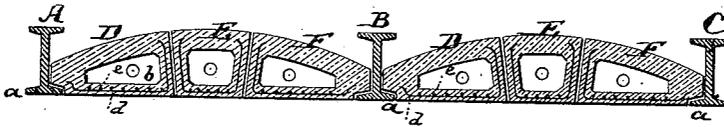
FIREPROOF CEILING OR FLOOR.

No. 273,825.

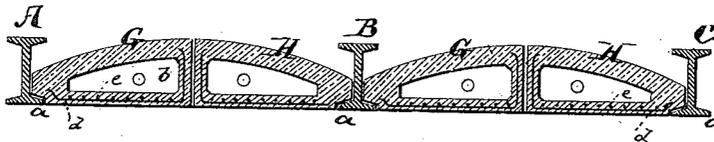
Patented Mar. 13, 1883.



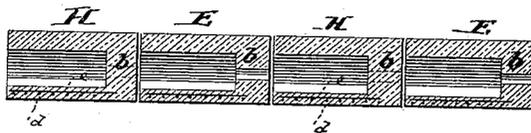
*fig. 2.*



*fig. 3.*



*fig. 4.*



WITNESSES:  
*Gustave Nestor*  
*John C. Timbridge*

INVENTOR  
*Johann Hermann Dreyer*  
 BY *Bones & Betts*  
 his ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHANN H. DREYER, OF NEW YORK, N. Y., ASSIGNOR TO CHARLES KOSTER, OF SAME PLACE.

## FIRE-PROOF CEILING OR FLOOR.

SPECIFICATION forming part of Letters Patent No. 273,825, dated March 13, 1883.

Application filed December 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHANN HERMANN DREYER, of New York, in the county and State of New York, have invented an Improved Fire-Proof Ceiling or Floor, of which the following is a specification.

Figure 1 is a plan or top view of my improved fire-proof ceiling or floor; Fig. 2. a vertical cross-section of the same on the plane of the line *c c*, Fig. 1. Fig. 3 is a vertical cross-section of the same on the plane of the line *k k*, Fig. 1. Fig. 4 is a vertical longitudinal section of the same on the line *c k*, Fig. 1.

The object of this invention is to produce a hollow brick for fire-proof floors and ceilings, which brick shall constitute a transverse bracing or bridging to the structure into which it is laid, and also a reliable support for the flooring above.

The invention consists, principally, in making each hollow block with a transverse vertical rib or bridge-piece at one end, and also in making a floor wherein the blocks shall be laid in transverse series, each transverse series breaking joints with the series next adjoining.

The invention also consists in other details of improvement relating to the strengthening of the blocks, as hereinafter more fully described.

In the accompanying drawings, the letters A B C represent metallic or other floor-beams having lower flanges, *a*, on which to support the hollow bricks. These hollow bricks are laid in transverse rows of three (more or less) bricks, D E F, in each row, and in adjoining transverse rows of two or more bricks, G H, in each row, as shown in Fig. 1—that is to say, the bricks D E F of one transverse row, extending from beam to beam, are next to the bricks G H of the adjoining transverse row, that extend from beam to beam, and break joints therewith. Each brick is hollow, as indicated in Figs. 2, 3, and 4, and is made of suitable cement, and has an arched top and a vertical transverse rib, *b*, at or near one end, as clearly shown in Fig. 4. The sides of the bricks are also closed; but one end of each is open. In laying the bricks D E F the ribs *b* of that row are all aligned, and constitute thus a solid bridge of cement between the T-beams

A B, B C, &c., and likewise in laying the course of bricks G H the vertical ribs *b* thereof are aligned, as indicated by dotted lines in Fig. 1, so as to produce there another transverse bridging between the T-beams, &c. Small holes may be formed in these vertical ribs *b*, as indicated in Figs. 2 and 3, for the purpose of allowing proper ventilation and for other analogous purposes.

I am aware that floors made of hollow bricks are old, and I do not claim the use of hollow bricks for flooring, broadly; but in all such flooring, as heretofore made, the courses broke joints longitudinally—that is to say, the breaking of the joints was not between transverse rows, as in my plan, but between the longitudinal rows, and hence there was no such bracing or stiffening of the beams A B C as I obtain. When I begin to lay the floor according to my plan I first lay one transverse course from wall to wall between all the beams, and thereby obtain at once a stiffening and bracing of all the beams that are between said walls. Then, after having finished one transverse course, I lay the next, breaking joints therewith, and proceed again from wall to wall, and so on until the entire space between the walls has been filled in. By having the vertical bridge-pieces *b* in the hollow bricks I obtain a series of braces and stiffeners to the floor that could not be obtained from the old construction of hollow bricks, nor from the plan of laying the same. In order to permit me to make the lower and inner parts of these hollow bricks of as light material as possible, I propose to strengthen them by laying into them rods of metal that cross each other at suitable angles. Such rods are indicated in Figs. 2, 3, and 4, and are shown to consist of one series (marked *d*) which runs transversely across the bottom of each brick and up along one or both sides thereof, and of a longitudinal series, *e*, which extends lengthwise along the bottom. By these metallic rods or stiffeners crossing each other in the bricks their strength is greatly increased, allowing their weight to be diminished.

I claim—

1. A hollow brick made with arched top, closed sides, and with one open end, the other end, *b*, being closed, for the purpose of furnish-

ing a transverse bracing when the brick is placed with its sides parallel to the beams, substantially as specified.

2. The hollow bricks D E F, made with vertical bridge or bracing pieces *bb*, in combination with the adjoining transverse course of hollow bricks, G H, having also transverse bracing-pieces *b*, the adjoining courses of said bricks breaking joints, substantially as described.

3. A hollow brick constructed with inner stiffening-rods, *d e*, that cross one another in the bottom of the brick, the transverse rods *d* extending into the sides of the brick, substantially as herein shown and described.

JOHANN HERMANN DREYER.

Witnesses:

WILLY G. E. SCHULTZ,  
WILLIAM H. C. SMITH.