No. 707,201. Patented Aug. 19, 1902.

S. G. BRINKMAN.

FIREPROOF CEILING AND FLOOR.

(Application filed Aug. 2, 1901.)

(No Model.) 2 Sheets—Sheet 1.

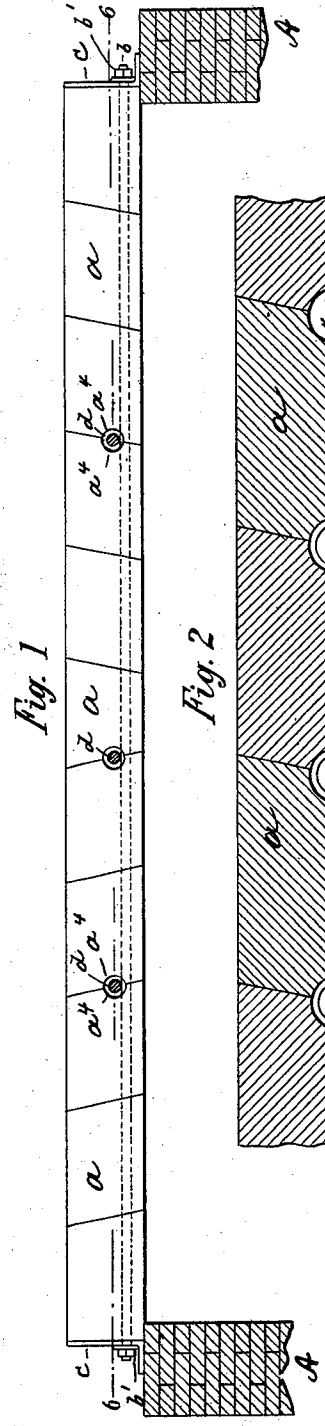


Fig. 1

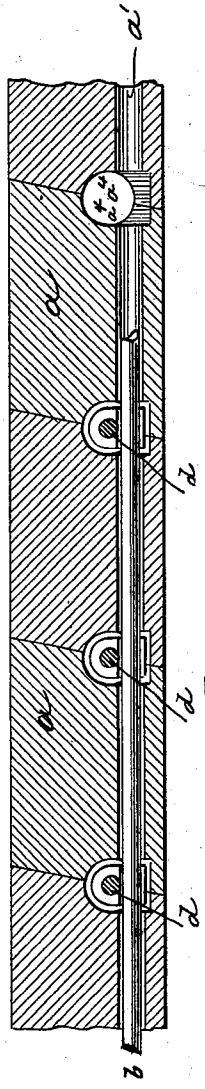


Fig. 2

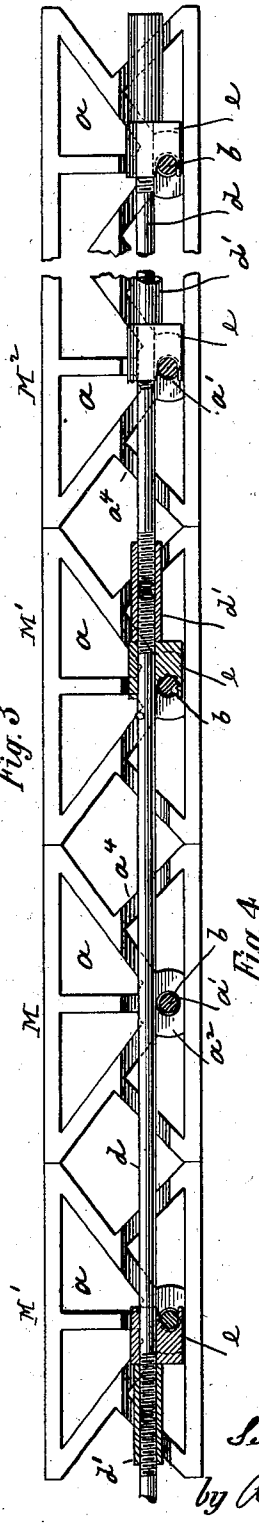


Fig. 3

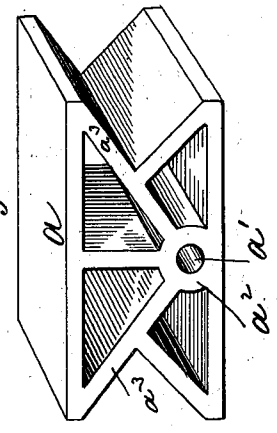


Fig. 4

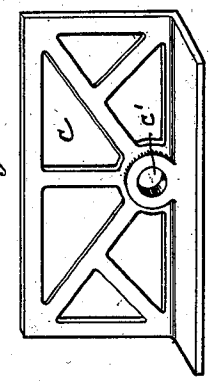


Fig. 5

Witnesses:
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William Schulz.

Inventor
Sebastian G. Brinkman
by Roeder & Brieux Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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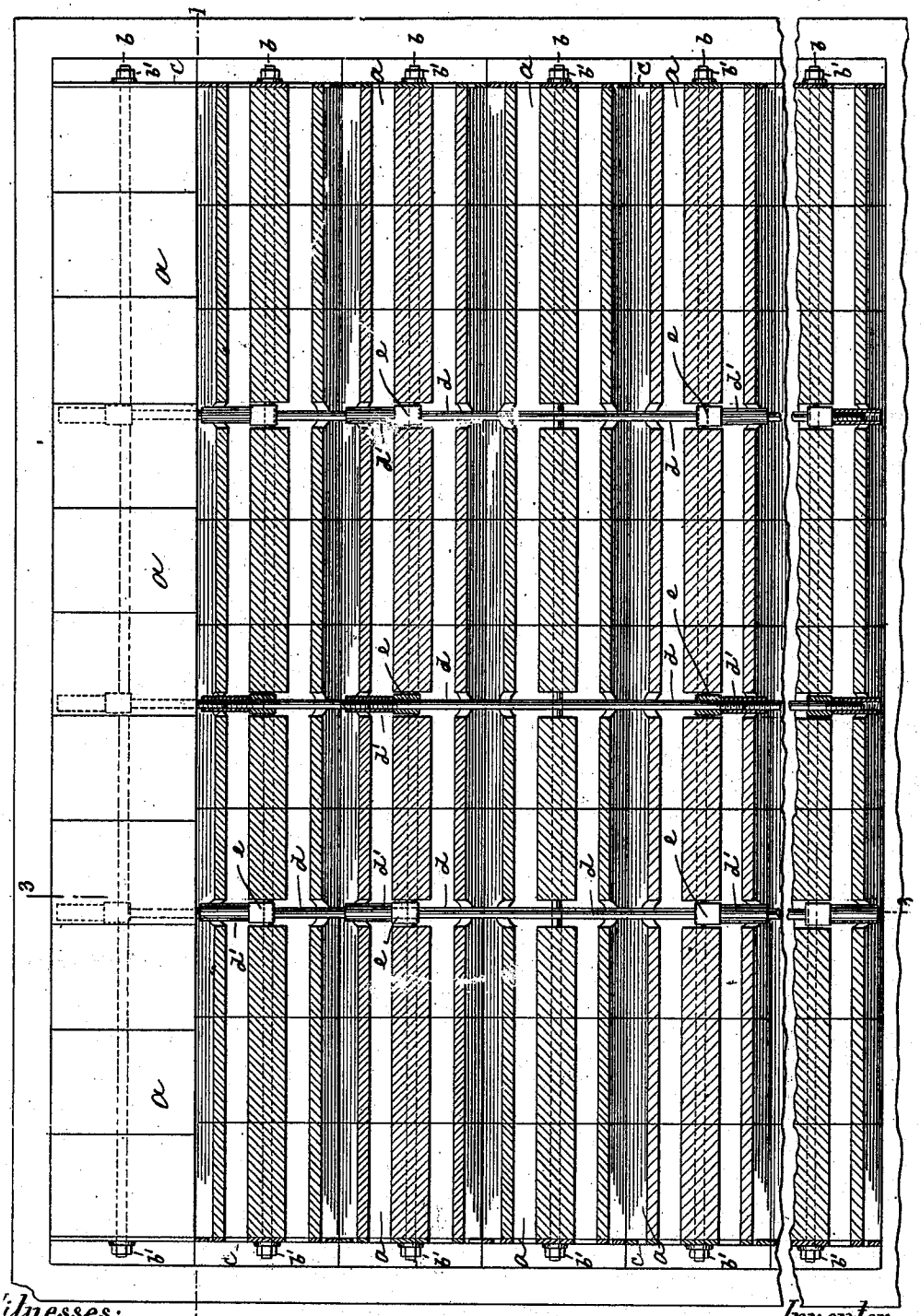


Fig. 6

Witnesses:
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UNITED STATES PATENT OFFICE.

SEBASTIAN G. BRINKMAN, OF NEW YORK, N. Y.

FIREPROOF CEILING AND FLOOR.

SPECIFICATION forming part of Letters Patent No. 707,201, dated August 19, 1902.

Application filed August 2, 1901. Serial No. 70,613. (No model.)

To all whom it may concern:

Be it known that I, SEBASTIAN G. BRINKMAN, a citizen of the United States, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Fireproof Ceilings and Floors, of which the following is a specification.

This invention relates to an improved fireproof floor and ceiling which is of simple construction and combines lightness with superior strength.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of my improved fireproof floor and ceiling on line 1 1, Fig. 6. Fig. 2 is a detail longitudinal section of part of the same; Fig. 3, a detail cross-section on line 3 3, Fig. 6; Fig. 4, a perspective view of one of the fireproof blocks; Fig. 5, a perspective view of one of the angle-plates; and Fig. 6, a longitudinal section, partly in plan, on line 6 6, Fig. 1.

a a represent the fireproof blocks, made of suitable configuration and provided with a perforation *a'*, extending from face to face. The blocks *a* should be made hollow, and the perforation *a'* is formed within a cylindrical or hub-like section a^2, which is arranged between the top plate and bottom plate of the block and is connected thereto by means of diagonal sides or braces a^3, Fig. 4. These braces extend in the same direction as the perforated hub and at right angles to the supporting walls or beams of the building.

In constructing a floor and ceiling from the blocks *a* the latter are, by means of suitable scaffolding, arranged in rows or tiers, and through the perforations *a'* of each row is passed a longitudinal rod *b*, which thus connects all the blocks of one and the same row. The sides of the blocks *a* are preferably inclined toward the center, Fig. 1, so that the blocks of each row form a flat arch. The end blocks are supported directly upon the walls A of the building and are flanked by elbow-plates *c*, which are strung upon the ends of rods *b*. The upright section of each plate *c* is of a configuration to correspond to that of the blocks *a* and is perforated at *c'* in alinement with the perforations *a'*. The horizontal section of each plate *c* rests directly upon the wall A. The ends of the rods *b* are threaded to constitute bolts, and after the parts have been assembled in the manner described nuts *b'*, tightened upon the threads, will force the plates *c* against the end blocks *a* and will securely connect the component parts of each row into one firm and rigid structure. The longitudinal rods *b* are at suitable intervals connected to one another by transverse braces that unite the several rows into one integral structure. These transverse braces are composed, preferably, of three parts—viz., short transverse rods *d*, having threaded ends, tubular threaded coupling-sleeves *d'*, adapted to engage said ends, and claws or hooks *e*. The entire transverse braces are arranged between some of the adjoining blocks *a*, such adjoining blocks being grooved along their sides, as at a^4, so as to jointly form continuous perforations at right angles to the perforations *a'*. The hooks *e* all face toward the center row of blocks, (marked M in Fig. 3,) so that the strain is equalized. A rod *d* is slipped through block M and adjoining blocks M', Fig. 3, and a hook *e* is fitted upon each end of the rod, so as to engage rods *b* of blocks M'. The couplings *d'* are then screwed up against the hooks until the latter are brought into firm engagement with the rods *b*. After the next rows of blocks M^2 have been laid rods *d* are passed through the openings a^4 of the same and screwed with their inner ends into the outer ends of the couplings *d'*, while hooks *e* are fitted upon the outer ends of the rods, so as to grasp the rods *b* of the rows M^2. In this way the construction is continued until the floor is completed.

It will be seen that by my improved construction of ceiling and floor I dispense entirely with the use of the usual T and I beams. The structure is of great strength, of superior lightness, and may be put up at reduced cost.

What I claim is—

1. A fireproof ceiling and floor composed of perforated blocks arranged in rows, longitudinal rods engaging the perforated blocks, means for locking the rods to the blocks, and transverse braces at right angles to the rods, substantially as specified.

2. A fireproof ceiling and floor composed

perforated blocks arranged in rows, longitudinal rods engaging the perforated blocks, hooks engaging the longitudinal rods, and transverse rods between the hooks, substantially as specified.

3. A fireproof ceiling and floor composed of perforated blocks arranged in rows, longitudinal rods engaging the perforated blocks, hooks engaging the rods, transverse rods engaging the hooks and blocks, and couplings for forcing the hooks against the longitudinal rods, substantially as specified.

4. A fireproof ceiling and floor composed of blocks provided with perforations and grooves arranged at right angles to each other, longitudinal rods engaging the perforations, and transverse rods engaging the grooves, substantially as specified.

5. In a fireproof ceiling or floor, a block composed of a top plate, a bottom plate, an intervening perforated hub, and diagonal braces that extend in the same direction as such hub, combined with a rod passing through the perforated hub, and means for supporting the ends of the rod, substantially as specified.

Signed by me at New York city, county and State of New York, this 1st day of August, 1901.

SEBASTIAN G. BRINKMAN.

Witnesses:

WILLIAM SCHULZ,

F. V. BRIESEN.