

No. 668,530.

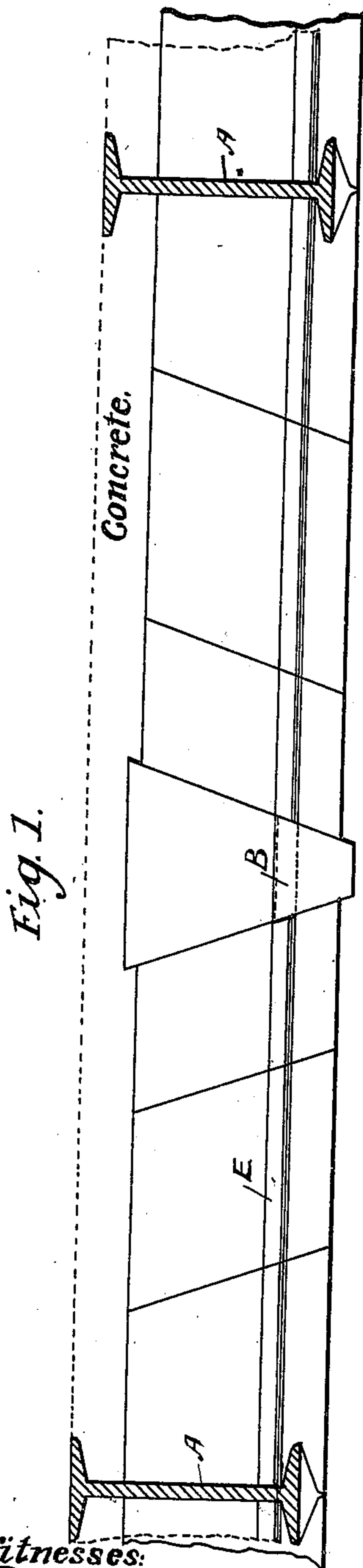
Patented Feb. 19, 1901.

S. LORD.

FIREPROOF ARCH.

(Application filed Nov. 1, 1899.)

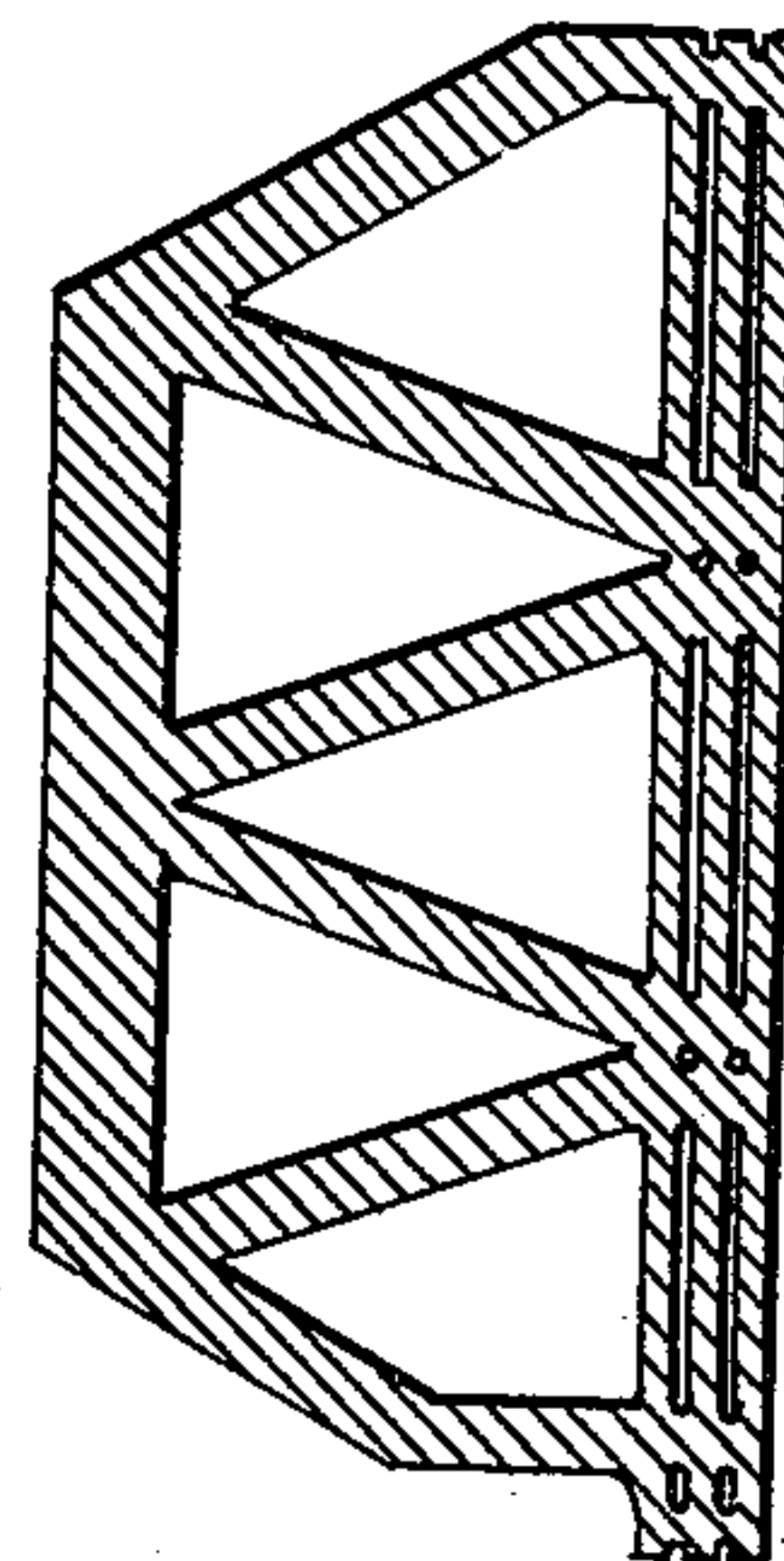
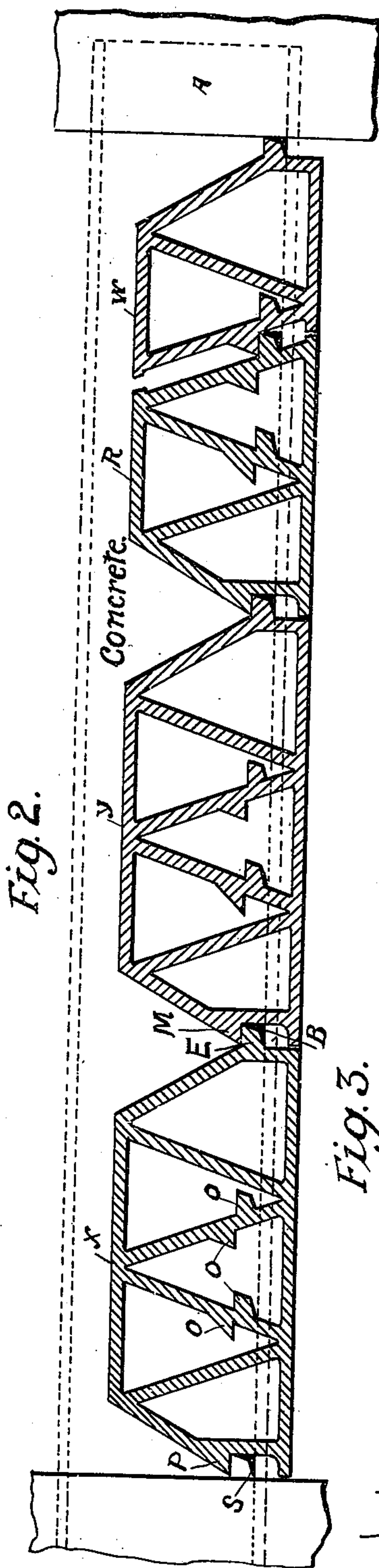
(No Model.)



Witnesses:

Fred L. Miller

Daniel M. Miller



Inventor:

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UNITED STATES PATENT OFFICE.

SAMUEL LORD, OF NEW YORK, N. Y.

FIREPROOF ARCH.

SPECIFICATION forming part of Letters Patent No. 668,530, dated February 19, 1901.

Application filed November 1, 1899. Serial No. 735,514. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL LORD, a citizen of the United States, residing at No. 447 St. Ann's avenue, in the city, county, and State

5 of New York, have invented a new and useful Improvement in Fireproof Arches, of which the following is a specification.

My invention relates to improvements in terra-cotta arch-blocks used in constructing

10 the floors, roofs, &c., of fireproof buildings, and has for its chief objects—

First. A new system of placing arch-blocks in position without the use of "hangers" and plank-centers.

15 Second. Means to prevent the large percentage in broken blocks caused by cutting around the tie-rods and hangers in the present systems. My invention effectually prevents this heavy loss by doing away with the

20 aforesaid cutting entirely.

Third. To make a truss-form block, thereby distributing the strain more evenly, and also to prevent the blocks from "warping" or twisting out of shape while being burned

25 in the kiln.

Fourth. To make an arch-block which will give a more level and even ceiling-surface than any block in use at the present time.

Fifth. To make a key-block which will take

30 up the difference in size in hard and soft burned blocks and tighten itself without the use of cement, slate, or other material.

Sixth. To make an arch-block which may be set with more rapidity than the systems in

35 use at present.

Seventh. A stronger arch with equal weight of material or a lighter arch with the same strength as those in use at present.

I attain these objects by means of an arch-

40 block illustrated in the accompanying drawings and by the use of temporary angle-iron centers.

Figure 1 represents a side view of a course of arch-blocks in position between the beams.

45 Fig. 2 represents a section of the small-size blocks. Fig. 3 represents the key-block.

Similar letters refer to similar parts throughout the several views.

The iron or steel beams A are set in the

50 walls in the usual manner, after which two lengths of angle-iron B S are cut the same length as span of beams. These bars of angle-

iron are laid at right angles to and on the lower flanges of said beams A. The course of blocks X is first laid, the external mem- 55 bers or lugs E P of which rest on the iron angles B S, and when keyed up the iron B is removed and placed in position to receive the next course of blocks Y, which is set precisely as was the course X, except that the 60 lug M of block Y will now rest on the lug E of block X. The entire arch is laid in like manner, and upon completion the lugs P on the first course and E of the last course of blocks are cutoff and the angle-irons removed, 65 to be used again in arches of equal span. It will therefore be noted that the arch is now entirely self-supporting.

The blocks are so constructed that they may be cut to fit any required space with 70 small loss of material, as the internal members or lugs O in broken blocks take the place of the external lugs E P in whole blocks. This is best illustrated by the blocks R W, which show the same cut on opposite ends to 75 fit a certain space. The blocks may be cut through the centers with like results.

The peculiar form of the key-block is a noteworthy feature of this invention. As is well known, terra-cotta blocks vary in size 80 considerably, which makes a standard-size key next to useless in keying up an arch laid without cement. This key having a plurality of false bottoms will effectually take up this difference and the arch must of ne- 85 cessity remain absolutely tight. After the arch is in place the keys projecting below the ceiling-line may be removed with a blow of the hammer.

I believe there are several forms of terra- 90 cotta arch-blocks already patented; but I am not aware that such a one as herein described and illustrated has been patented in this or any other country.

Therefore I desire to secure Letters Patent 95 on my invention and advance the following claims in support of my cause:

1. An arch-block made of burnt clay or other material, with internal and external members or lugs, substantially as shown by 100 E P O in the drawings.

2. An arch-block made of burnt clay or other material, whose upper and lower sur- faces, together with the inclined sides and

the series of internal diagonal braces, give it the form of a lattice truss or girder, substantially as shown in Figs. 2 and 3.

3. A key - block, comprising an inclosing
5 shell and diagonal brace-webs, provided with a plurality of false bottoms separated from each other by spaces, one or more thereof adapted to be broken from position, if projecting below the under level of the arch, sub-
10 stantially as described.

4. The combination with a series of arch-

blocks adapted to form a section or course, said blocks formed with supporting-lugs, of temporary angle-iron supports resting upon the flanges of the girders, and adapted to be 15 removed upon the completion of the section or course, substantially as described.

SAMUEL LORD.

Witnesses:

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