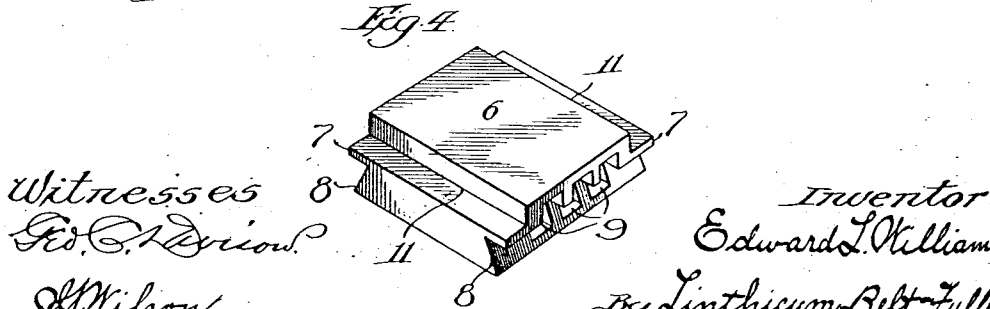
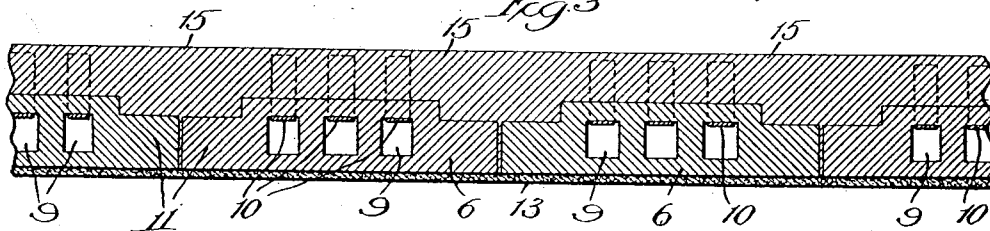
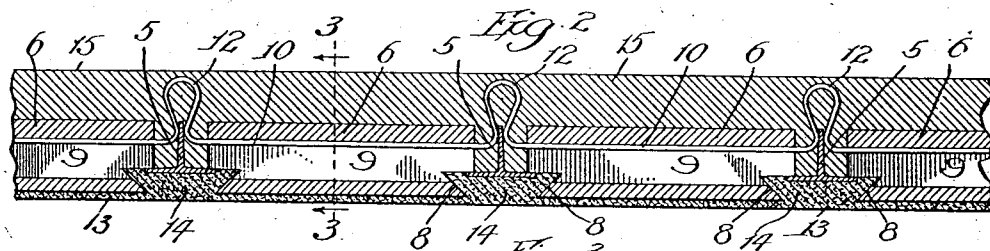
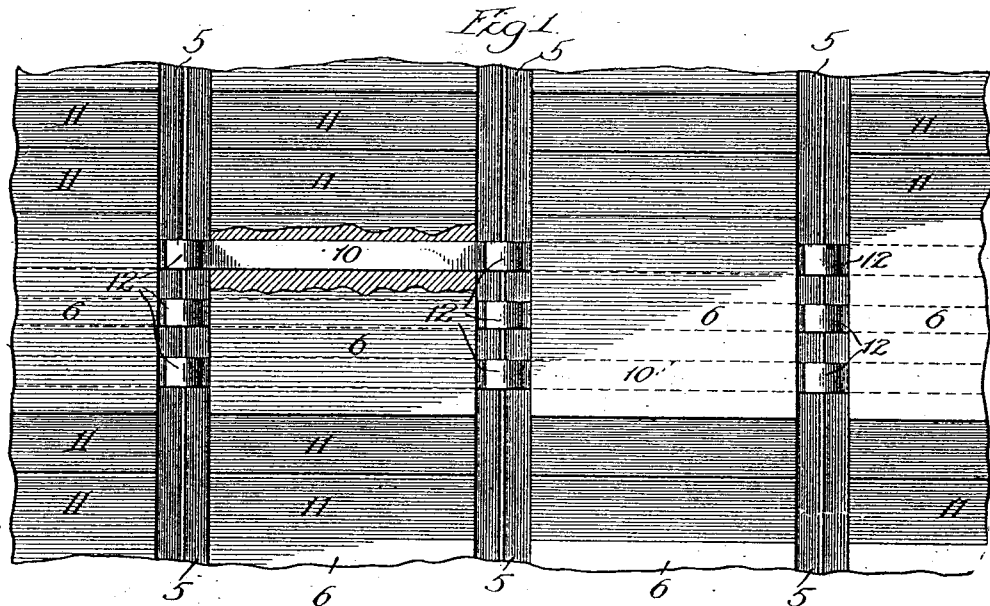


E. L. WILLIAMS.
BUILDING CONSTRUCTION.
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1,046,701.

Patented Dec. 10, 1912.



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EDWARD L. WILLIAMS, OF SANTA CRUZ, CALIFORNIA.

BUILDING CONSTRUCTION.

1,046,701.

Specification of Letters Patent.

Patented Dec. 10, 1912.

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To all whom it may concern:

Be it known that I, EDWARD L. WILLIAMS, a citizen of the United States, residing at Santa Cruz, in the county of Santa Cruz and State of California, have invented new and useful Improvements in Building Constructions, of which the following is a specification.

This invention relates to improvements in building constructions, and particularly to the construction of floors.

One of the objects of this invention is to produce a floor constructed of concrete or terra-cotta tile blocks, without the use of false work or temporary structures, such as are ordinarily employed and which have heretofore been considered indispensable in laying a floor of this type.

Another object is to provide blocks of new and improved shape which can be laid upon and are supported directly by the flanges of the cross-beams of the building. The blocks are constructed to provide in conjunction with the beams a mold into which the concrete may be poured without the use of a false bottom. When the concrete sets, the blocks are immovably fixed to the beams thereby producing a strong and rigid floor construction.

A further object is to strengthen the construction and firmly bind the blocks and beams together by means of metal straps which are passed over the beams and through the blocks, and are fixedly embedded between the blocks in the concrete filling.

Still another object is the provision of a floor construction which will afford bonding places for the plaster which may be applied to the ceiling formed by the bottom of the floor, whereby the plaster will be securely anchored to the ceiling.

In order that my invention may be fully understood, I have described in the following specification a preferred embodiment thereof, and have illustrated the same in the accompanying drawings, in which,

Figure 1 is a plan view of the floor beams, blocks and metal strips before the concrete filling has been applied. Fig. 2 is a vertical section transversely of the beams of a completed floor; Fig. 3 is a sectional view taken on the line 3-3 of Fig. 2; and Fig. 4 is a perspective of one of my improved floor blocks.

Referring to the drawings, 5 designates

the floor beams which are preferably of T-bar formation, arranged with the flanges at the lower side of the beams with the web projecting upwardly therefrom. The beams are spaced a suitable distance apart so as to accommodate a block 6, such as is illustrated in Fig. 4 between them. The blocks are arranged in a series between the beams with the shoulders 7 at either end of the blocks resting upon the flanges of the beams. Each end of the block below the beams is beveled or inclined inwardly so that the lower edge will project slightly beneath the flanges of the beams.

Each block is provided with a plurality of longitudinally extending channels or openings which render the blocks lighter than they would be if constructed solid, and also provide passageways for the insertion of flexible metal straps 10. The upper edges of the blocks are preferably cut away to provide the channels 11, into which the concrete 12 flows, and securely anchors the blocks against lateral movement.

After the blocks have been laid in position between the beams, a metal strap 10 is passed through each of the longitudinal openings 9 and is looped at 12 over the beams, as shown in Figs. 1 and 2. The straps 10 may be simply round metal rods or they may be flat straps of hoop iron or heavier stock if preferred. The lower ends of the loops 12 are formed to engage with the upper part of the beam webs to maintain the straps in the top of the passageways through the blocks until the concrete is poured and set.

After the blocks and metal straps have been arranged in position, the top of the structure is covered with a layer of concrete 15 which flows down between the ends of the blocks and the beams upon which they rest and a short distance into the channels in the blocks. The flanges of the beams in conjunction with the blocks prevent the concrete from flowing through the structure at the bottom thereof, thereby eliminating the necessity of false work or temporary structures while the floor is being constructed. The concrete also flows into any spaces which may be left between the sides of adjacent blocks.

As will be evident from Fig. 2, the ends of the blocks do not sit closely against the webs of the beams, the space between the ends of the blocks and the beam being

filled with concrete, as above described. Since the concrete does not flow around and below the beams, it will be evident that a space will be left beneath each beam between the ends of adjacent blocks. This space or depression has upwardly inclined walls which are formed by the beveled portions 8 of the blocks. When plaster is applied to the bottom of this floor construction to form the ceiling of the room underneath, these depressions are filled by the plaster 13, which affords bonds 14 adapted to hold the plaster in place. If it is not desired to plaster the lower side of a floor construction, such as above described, the blocks may be extended at their lower edges to abut against each other and form a smooth and continuous surface. If such form of blocks is employed, it would be necessarily positioned between the beams from beneath, one end of the block being first inserted over the flange of a beam and then the other end being raised into position and the block being adjusted between the beams so as to be supported at either end upon the flanges.

A floor of the type above described may be constructed without the employment of any temporary or false structures, the blocks being simply laid in position between the beams with their ends resting upon the flanges thereof, the metal straps being inserted through the blocks and looped over the beam, and finally the concrete being poured over the whole, firmly binding the beams, blocks and strengthening straps into an integral construction, which is strong and durable.

Although I have shown and described a preferred embodiment of my invention, it will be obvious that it may be changed in various minor mechanical details without departing from the spirit of the invention, or sacrificing any of the material advantages thereof.

What I claim is:

1. A floor construction including a series of floor beams, blocks between the beams, each block having an open-ended channel disposed transversely of the beam, the channels of successive blocks being in alinement, and a continuous flexible strap extending through the channels of successive blocks and over successive beams, substantially as described.

2. A floor construction including a series of floor beams, blocks between the beams, each block having an open-ended channel

disposed transversely of the beam, the channels of successive blocks being in alinement, and a continuous flexible strap extending through the channels of successive blocks and provided with loops straddling the respective beams and rising above the latter and the blocks, substantially as described.

3. A floor construction including a series of floor beams, blocks between the beams, each block having an open-ended channel disposed transversely of the beam, the channels of successive blocks being in alinement, a continuous flexible strap extending through the channels of successive blocks and provided with loops straddling the respective beams and rising above the latter and the blocks, and concrete upon the blocks, beams and loops extending above the loops, substantially as described.

4. A floor construction comprising a series of beams, blocks between and supported upon the beams, each block having an open-ended channel extending transversely of the beam, the channels of successive blocks being in alinement, the bottom of each block extending below the beam, the edges of each block adjacent the beams being provided with under-cut grooves extending below the beam, the grooved edges of adjacent blocks on opposite sides of a beam being spaced apart to form a key-way for the reception of plaster, a continuous flexible strap extending through the channels of successive blocks and provided with loops straddling respective beams and rising above the beams and the blocks, and concrete covering the blocks and the loops, substantially as described.

5. In a building construction, the combination of a plurality of floor beams, a series of blocks positioned between said beams, each of said blocks having a shoulder at each end thereof resting upon the flange of a beam and having a plurality of longitudinally extending channels, the portions of the blocks beneath the shoulders being cut away to afford communication between the channels and the space between the adjacent ends of the blocks beneath the beams, and a layer of bonding material disposed between the blocks beneath the beams and entering the ends of the channel to produce an effective bond, substantially as described.

EDWARD L. WILLIAMS.

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