

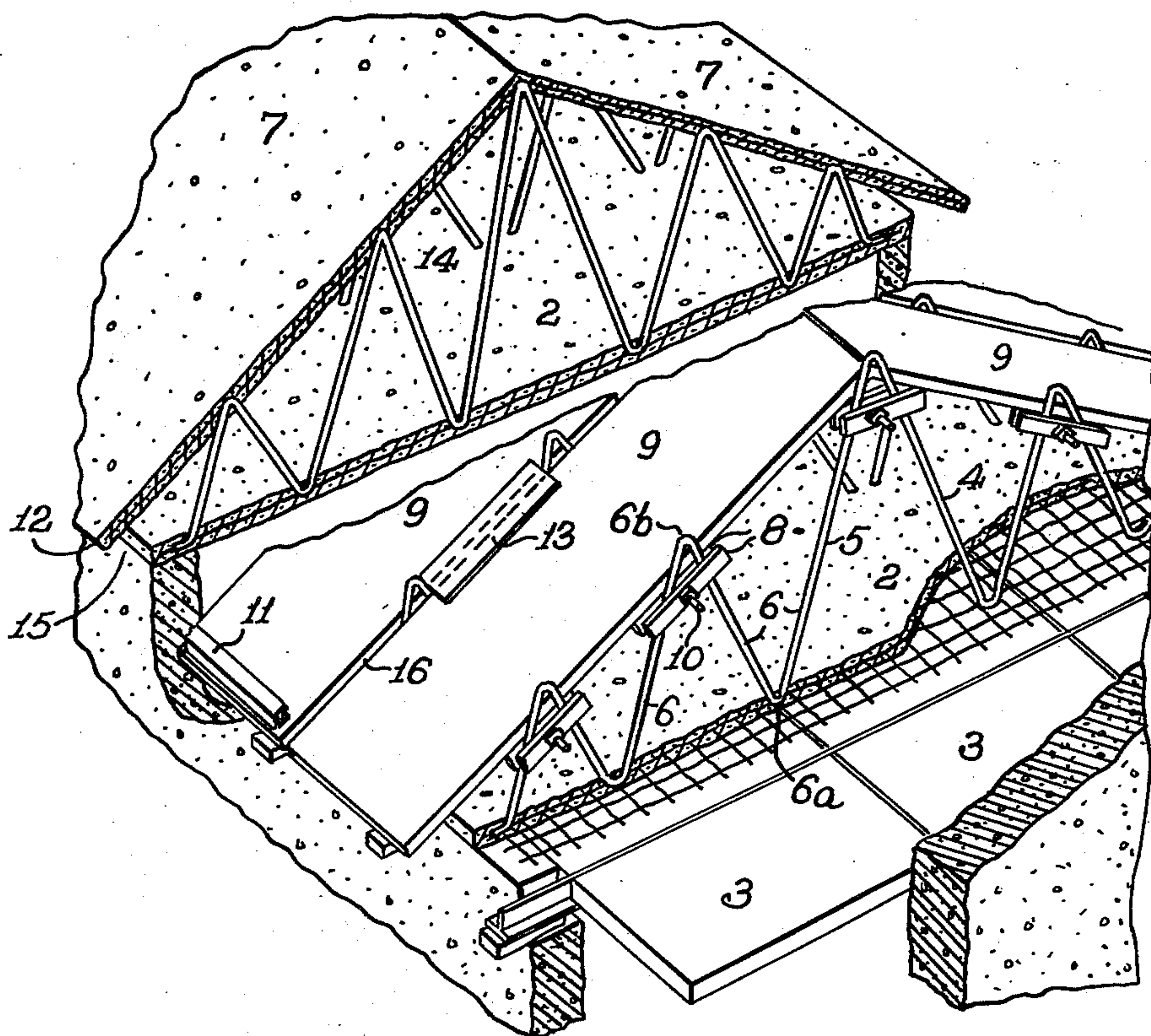
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PROCESS FOR MOLDING BUILDING SLABS IN POSITION

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PROCESS FOR MOLDING BUILDING SLABS
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2 Claims. (Cl. 25—154)

1

The invention relates to a process for moulding in position a concrete building slab that is supported by vertically-extending structure the upper portion of which is incorporated into the slab when the latter is moulded; said slab having a considerable horizontal component of direction, such as a floor or ceiling or roof slab that is completely horizontal, or a pitched roof slab that is inclined to the horizontal. The term concrete is used in this specification to mean any appropriate building material that is moulded in a plastic condition and, being then caused or allowed to set, becomes solid building material.

A process of forming a concrete building slab in position, according to this invention, comprises the erection on a rigid base of structure vertically-extending upwards from the base and suitable to support the slab permanently and comprising elements which are spaced apart in plan suitably for deck shuttering to be placed between them in position for the slab to be moulded on it and with at least the major vertical extent, and preferably the upper extremity of the vertically-extending structure in the moulding space; said vertically-extending structure being suitable also to permit the deck shuttering to be lowered from said moulding position. Means for supporting the deck shuttering in said moulding position are detachably attached to the vertically-extending structure; and the deck shuttering is rested on said supporting means. The slab is then poured and incorporates said upper extremity of the vertically-extending structure permanently in the slab. Thereafter the erected shuttering is dismantled by a procedure including displacement of the supporting means to allow the deck shuttering to be dropped from the slab while the vertically-extending structure is left in position.

Shuttering according to this invention, for moulding a concrete building slab in position comprises the above described vertically-extending structure, deck shuttering placed between the elements of the vertically-extending structure and in position for the slab to be moulded on it and for at least the major vertical extent and preferably the upper extremity of the vertically-extending structure to be in the moulding space, said structure permitting the deck shuttering to be lowered from said moulding position. The shuttering further includes means detachably attached to the vertically-extending structure beneath the deck shuttering in position for sustaining the deck shuttering in said moulding position.

Also according to this invention, the vertically-

2

extending structure is erected on a concrete base in which its lower extremity is incorporated by moulding.

In a specific form of the invention, the slab is a roof slab.

The vertically-extending structure preferably comprises a number of rod-like elements with their upper ends positioned in the moulding space for the slab. The upper ends of said rod-like elements are preferably disposed, in plan view, in parallel rows between which the deck shuttering is placed.

A convenient means for supporting the deck shuttering in its moulding position comprises cleats temporarily clamped to the rod-like elements.

The invention is illustrated by the accompanying drawings, which shows successive stages in the construction of the concrete roof slab of a pitched roof.

2 indicates a ceiling slab which is moulded in place with the aid of removable deck shuttering 3. Before said slab is moulded, vertically-extending structure 4 is placed in the position where its lower portions are within the space to be occupied by the slab material; so that said lower portion becomes incorporated in the finished ceiling slab.

The vertically-extending structure 4 shown consists of a number of truss-like units 5 each formed by bending a length of concrete reinforcing bar back and forth in one plane to form a series of legs 6 united to one another by lower and upper bends marked 6a and 6b respectively, and sloping alternately one way and the other. Said units 5 are positioned parallel with one another so that the upper bends 6b form parallel rows between which the deck shuttering 9 fits. When the roof slab 7 is cast at a later stage, said units 5 form the means by which the roof slab 7 is supported by and above the ceiling slab 2, and spaced from and united to the latter. With that object, the upper bends 6b of the truss-like unit are incorporated into the material of the roof slab 7 when that slab is cast.

Before that occurs, the units 5 are made use of as part of the shuttering for the roof slab. The legs 6 form convenient means for temporarily clamping thereto pairs of cleats 8 which constitute adequate temporary supports for the deck shuttering 9 on which the roof slab 7 is actually cast. When the ceiling slab 2 has set and the units 5 have consequently become firm in their upright position, the cleats 8 of each pair are placed at the opposite sides of a pair of the legs

3

6 and are clamped in position by means of a through bolt 10. The cleats 8 are positioned below the upper bends 6b sufficiently to cause said bends to be the space to be occupied by the roof slab 7. The deck shuttering 9—wide enough to span the distance between a pair of adjacent units 5—is laid on the cleats 8, and thin metal slips 13 are placed to cover the gaps 16 between the panel edges caused by the legs 6 coming between them.

Means such as 11 having been placed for moulding the edge 12 of the roof slab 7, the roof slab 7 is cast; incorporating the upper bends 6b into itself. After the slab 7 has set, the cleats 8 are loosened, allowing the deck shuttering 9 to drop at least sufficiently to part from the slab 7. The fact that the units 5 lie in parallel vertical planes, allows the deck shuttering to drop that distance without obstruction. The cleats 8 and deck shuttering 9 are then removed from the now covered roof cavity 14. One convenient exit for the deck shuttering is a gap 15 left between the slabs 7 and 2 at the eaves; which gap need not necessarily be filled in.

The completed roof is left; consisting of the ceiling slab, the roof slab and the units 5 uniting and spacing said slabs.

I claim:

1. The process of forming a concrete roof slab in position, which consists in first moulding a concrete base in position; during such moulding operation immovably embedding in the base so as to be permanently embedded therein the lower

4

ends of a series of vertically extending rod-like elements suitable to support shuttering temporarily and the slab permanently and which are spaced apart in plan suitably for deck shuttering to be placed between them in position for the slab to be moulded on it and suitably also for the shuttering to be lowered from the moulding position; detachably attaching to the elements means for supporting the shuttering in the moulding position after the base has set, resting the shuttering on the supporting means and pouring the slab; and dismantling the erected shuttering by a procedure including displacement of the supporting means to allow the deck shuttering to be dropped from the slab leaving the elements in position supporting the slab.

2. The process claimed in claim 1 in which the base is a ceiling slab.

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