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FLOOR CONSTRUCTION

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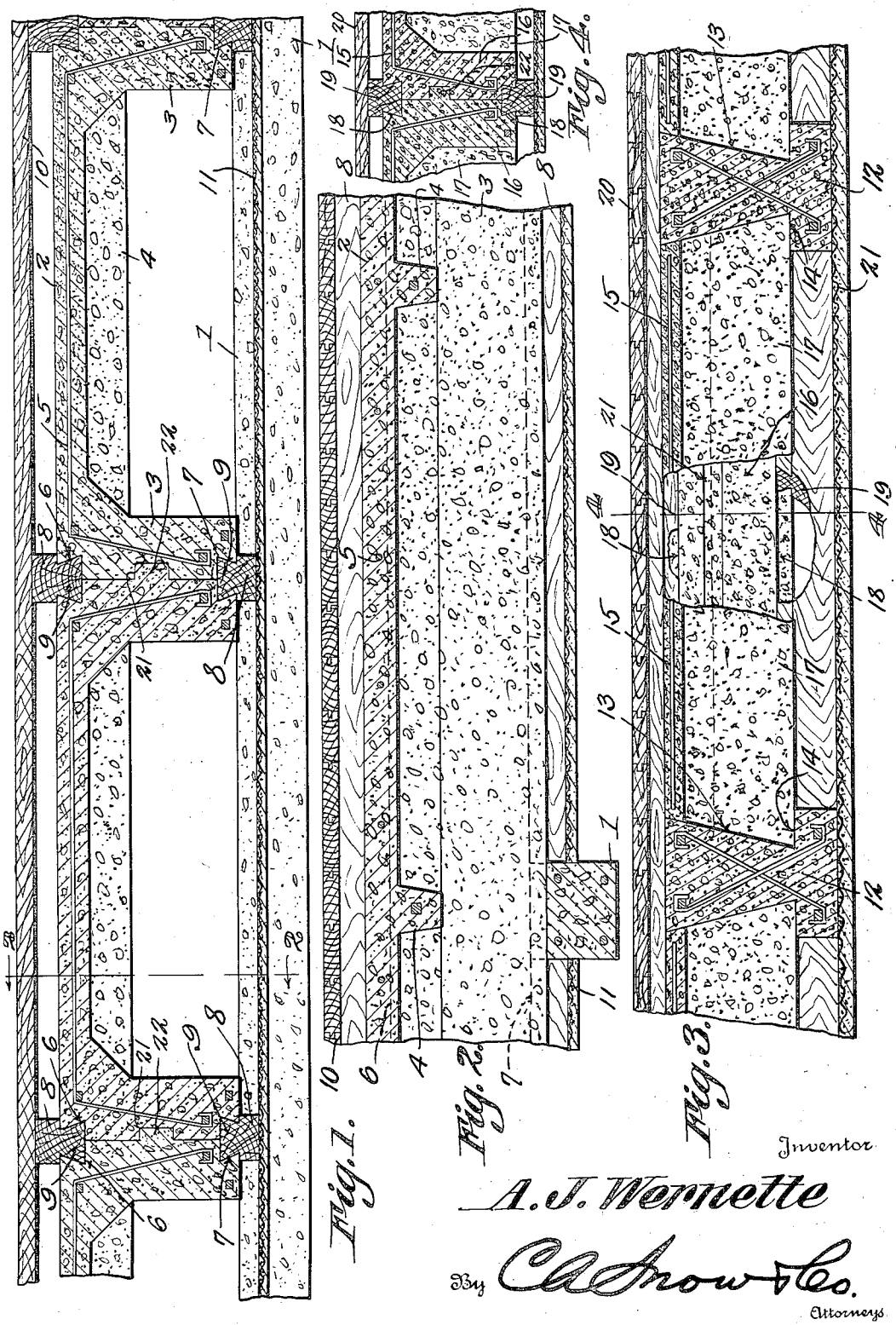


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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FLOOR CONSTRUCTION

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2 Claims. (Cl. 72—68)

This invention relates to a floor construction and its object is to provide reinforced concrete slabs of new and novel construction which can be assembled readily to form a sub-floor over which the ordinary flooring of wood can be laid.

It is a further object to provide slabs of this character which, when properly assembled, will cooperate to grip and hold nailing strips to which flooring can be fastened in the usual way or to which ceiling panels can be secured depending upon the location of these strips relative to the slabs.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred forms of the invention have been shown.

In said drawing

Figure 1 is a section through a portion of floor construction embodying the present improvements.

Figure 2 is a section on line 2—2 Figure 1.

Figure 3 is a section through a modified construction, a portion being broken away.

Figure 4 is a section on line 4—4 Figure 3.

Referring to the figures by characters of reference, 1 designates a frame member or sill formed of concrete or the like and it is to be understood that a number of these will be used in the structure of the building. They are adapted to be directly engaged by and to support the slabs constituting the subject matter of the present invention. If these slabs are to be used in the formation of a basement floor, they can rest directly on sills or other suitable foundations but where used in the construction of upper floors, the slabs will rest on frame members of any suitable construction such, for example, as the concrete one indicated at 1.

The sub-floor is made up of any required number of slabs and in the structure illustrated in Figures 1 and 2 each slab includes a flat top portion 2 having depending side flanges 3 extending throughout the length of the slab. The top portion of the slab can be reinforced by ribs 4 molded upon the lower surface thereof and connecting the flanges. Each slab is formed of concrete molded in one piece and is preferably reinforced by means of metal rods or fabric 5 or the like embedded not only in the top portion 2 but also in the flanges 3.

The sides of each slab are provided at their tops with V-shaped grooves or channels 6 extending longitudinally thereof and if desired, similar grooves or channels 7 can be formed in the sides at the bottoms thereof. Thus when two slabs are placed together side by side the channels 6 therein will cooperate to form a dove-tail groove and the same will be true of the channels 7.

It is to be understood of course that the slabs constituting the sub-floor units can be made of any sizes and shapes desired and if they are to be used solely for the bottom floor of a building, the channels 7 can be dispensed with. If they are to be used solely for the roof of the building the channels 6 can be dispensed with. Intermediate floors, however, are preferably constructed with slabs such as shown in Figures 1 and 2 so that both floor boards and ceiling panels can be joined thereto.

When assembling the slabs or sub-floor units they are placed on their supports 1 with their sides spaced apart and nailing strips 8 having dove-tail tongues 9 are then placed upon the adjacent faces of the units so that the tongues 9 will rest within the dove-tail grooves formed by the cooperating sub-floor units. With the nailing strips 8 thus positioned between the sub-floor units, the said units are moved toward each other so as to grip the tongues 9 and hold the nailing strips firmly with portions thereof bearing upon the upper and/or lower faces of the sub-floor units. After all of the sub-floor units have thus been assembled with their nailing strips, flooring such as indicated at 10 can be fastened to the upper nailing strips 8 and ceiling panels 11 can be fastened to those nailing strips gripped by and supported beneath the sub-floor units.

Under some conditions the sub-floor slabs or units can be constructed and mounted as shown in Figure 3. In that figure reinforced concrete beams are provided in parallel relation as shown at 12, the sides of these beams being formed with angular recesses 13 so as to provide supporting shoulders 14 formed by the lower walls of the recesses.

Each sub-floor unit designed for use in connection with these beams can be substantially the same as the units heretofore described with the exception that the flat top portion 15 has side flanges 16 extending crosswise between the beams and one or more transverse ribs 17 of any desired proportions can be made integral with

the bottom portion of the slab and located wherever desired to best reinforce the structure. The slabs shown in Figure 3 have their sides made angular so as to fit properly within the recesses 13 and on the shoulders 14 and between the meeting ends of the slabs are provided dove-tail grooves 18 for receiving nailing strips 19 similar to those heretofore described. Thus the flooring indicated at 20 will be extended parallel with the beams 12. The channels or grooves 18 will be located in the corner portions of the slabs in the same manner as shown in Figure 1 and the nailing strips 19 will be shaped and held in the same manner as the strips 8.

It is to be understood that various modifications of the invention can be made within the scope of the claims.

In any or all constructions the floor slabs can, if desired, be formed with matching tongues and grooves 21 and 22 respectively, at the sides thereof so that the slabs will be held positively against relative up and down movement and vibration will be eliminated.

What is claimed is:

1. A concrete floor construction comprising assembled, prefabricated units and including reinforced concrete supports having inset longitudinal shoulders with overhangs, reinforced slabs positioned side by side and having depending side flanges, said slabs abutting endwise and interposed between the supports and bearing against their shoulders and overhangs, and interfitting means at the meeting flanged sides of the slabs of each pair for holding them against relative movement, the meeting sides of the slabs having channels cooperating to provide dove-tail channels opening at the adjacent exposed surfaces of the slabs for holding dove-tail nailing strips.

2. A concrete floor construction comprising assembled, prefabricated units and including reinforced concrete supports having inset longitudinal shoulders with overhangs, reinforced slabs positioned side by side and having depending side flanges, said slabs abutting endwise and interposed between the supports and bearing against their shoulders and overhangs, and interfitting means at the meeting flanged sides of the slabs of each pair for holding them against relative movement, the meeting sides of the slabs having channels cooperating to provide dove-tail channels opening at the adjacent surfaces of the slabs, and nailing strips having dove-tail tongues seated in the dove-tail channels, said strips overlying the exposed surfaces of the slabs adjacent to the channels.

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