Sept. 7, 1954 R. CANNARD 2,688,291

COVERING OF TERRACE WORK

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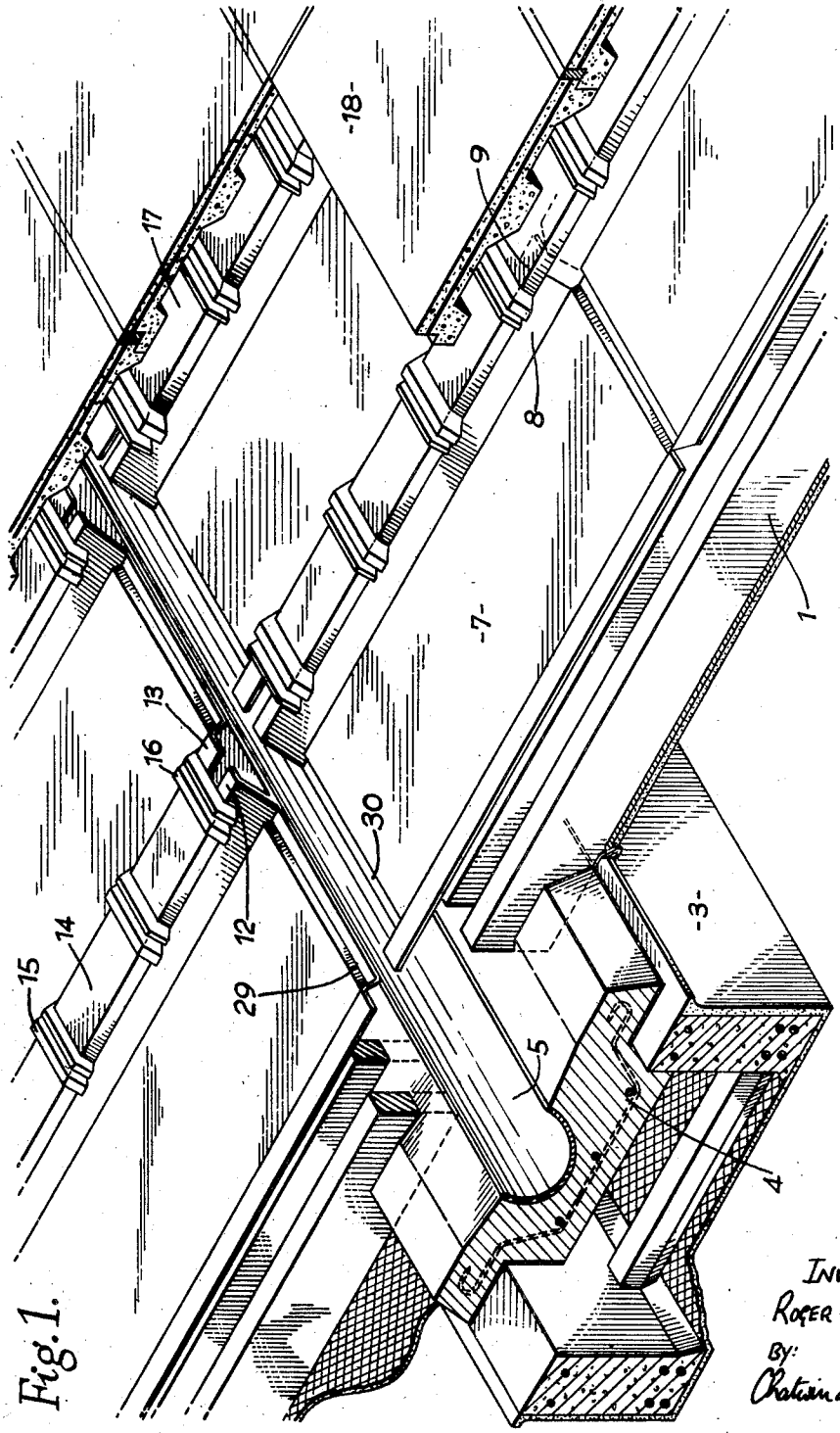

Fig. 1.

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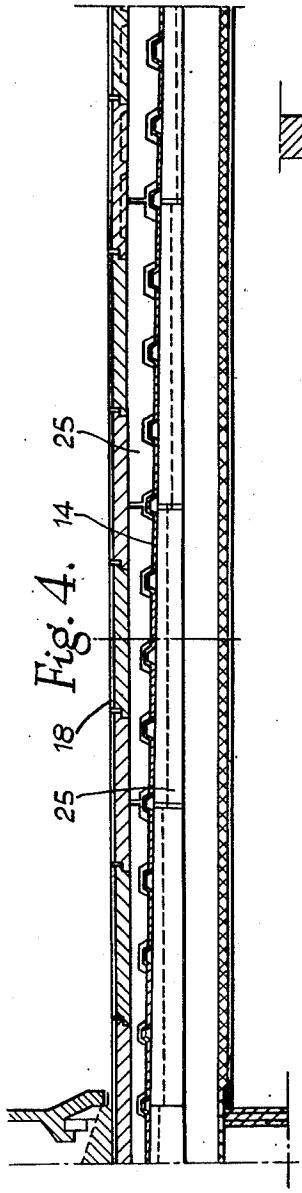

Fig. 4.

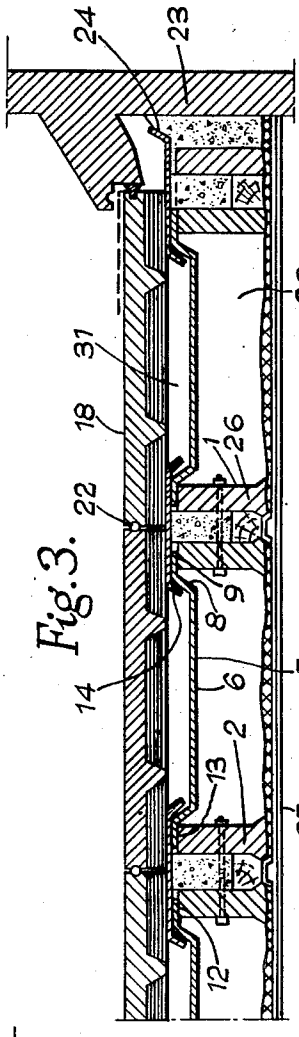

Fig. 3.

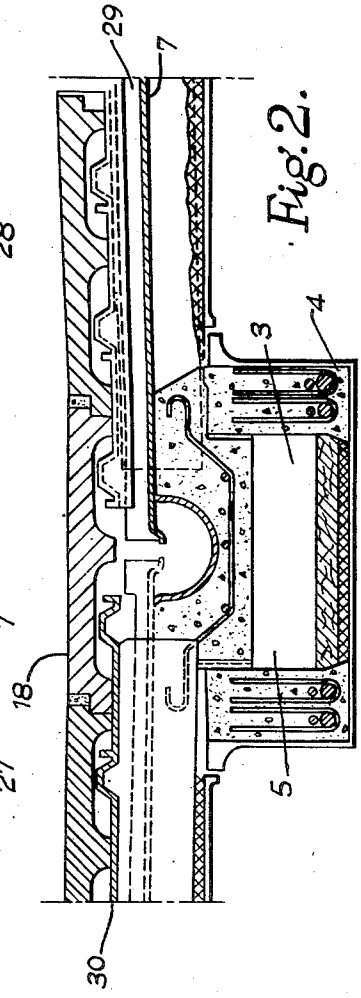

Fig. 2.

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Fig. 5.

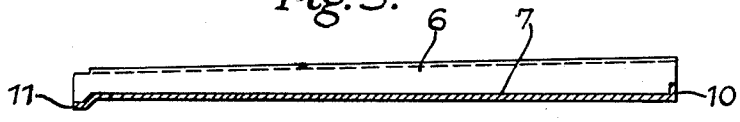


Fig. 6.

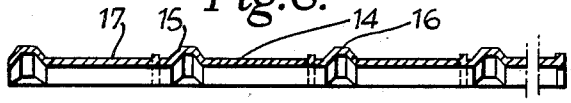
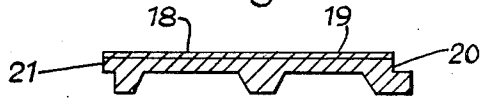


Fig. 7.



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2,688,291

COVERING OF TERRACE WORK

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Application July 22, 1952, Serial No. 300,163

Claims priority, application France April 16, 1952

4 Claims. (Cl. 108—1)

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The object of the invention consists in the provision of a process for the covering of terrace work permitting to obtain perfect watertightness and isothermy.

The lightness of the elements used as well as their linking together gives the possibility of a construction which is rapid, economical and of extreme robustness, which can be adapted to all climates and all temperatures.

It is characterised by the means used taken together as well as separately and more particularly by a double collection device for water formed by an external protecting paving and by drainage elements and flowing elements for water disposed beneath the primary covering.

This superposition of the covering surfaces permits the production of terrace work with one or more falls, with isothermal spaces, the whole forming a perfectly protected and homogeneous assembly.

On the accompanying drawings, given by way of non-limiting example of one of the forms of construction of the object of the invention:

Fig. 1 shows, in perspective and with part sectioned, the assembly of the device.

Figs. 2 and 3 show, seen in longitudinal and transverse section, the linking of the elements constituting the covering.

Fig. 4 represents, seen in longitudinal section, the application of the assembly with spacing elements for a terrace of very slight slope.

Figs. 5, 6 and 7 represent, seen in longitudinal section, the lower and upper covering elements.

The device, Figs. 1, 2, 3, rests on joists 1, 2, and others bearing on the linking and on the longitudinal beams 3 by a joint 31. The joists form a single piece with the cradle of reinforced concrete 4 supporting the gutter 5.

Between each joist 1, 2 are disposed the lower drainage elements for the water.

These collection plates 6, Figs. 5 and 3, comprise a basin 7 disposed between the shaped walls 8 and prolonged by an overlapping flange 9.

These collection plates, Fig. 5, are provided at each of their extremities with shaped portions 10 and 11 for hooking, assuring at the same time their watertightness and their connection.

The basins 7 have a slight inclination directed towards the gutter 5, Fig. 1.

The connection between the supporting flanges 12, 13 of the collection plates is effected with the aid of capping plates 14, Figs. 1, 3, 6 of trapezoidal shape with projecting portions 15, 16 and others, forming at the interior a groove starting the section, when necessary, separated by plane surfaces 17.

These plane surfaces serving as bearers for the

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covering paving stones 18, Fig. 7, comprise at their upper part a plane surface 19 having at each of their peripheral extremities a shaped jointing portion 20 and 21 with a groove 22, Fig. 3, for a joint in the transverse direction.

The end elements 23 are formed by collection plates with inverted flanges 24 disposed beneath the water stream Fig. 3.

When it is a case of roofing with a very slight fall, Fig. 4, there are adjoined spacing elements 25 having an appropriate slope, which will be interposed between the lower collection elements and the upper paving elements.

The advantages will be seen of the assembly assuring a double collection of the waters at the same time as a useful carrying surface.

Hitherto, it was practically impossible to obtain a watertight covering of terrace work.

The superposition of the heterogeneous covering elements such as cement, paving, bitumen and others having different coefficients of expansion, brings about ruptures, breaks and shrinkage, above all at the point of junction with the building proper.

Furthermore, this compact, non-isothermal and noisy ducting would prevent this species of covering.

First of all, the elements of the device, according to the invention, are completely independent and their movement cannot ever cause the least disjunction leading to lack of watertightness either by direct passage of the water or by capillarity.

The joisting constituted by the joists 1, 2 and others coupled or not, having a double bearing point, forms a frame maintained with or without elastic joints, along the whole length of the linkage and the longitudinal elements 3 forming a single piece with the cradle of reinforced concrete supporting the flow channel.

The assembly of the joists after cementing the extremities forms an independent monolithic grille on insulating joints capping the assembly of the fixture.

Their upper parts will serve as bearing points for the overlapping plates 6, themselves assembled one to the other by caps 14 according to the shapes of linkage described, assuring an absolute watertightness by overlapping without loss of continuity.

These jointing shaped portions, by their overlapping and counter slope, assure even watertightness against infiltrations by capillarity.

The spacing between the beds 27 and the collecting basins 7 forms a chamber 28 which is isothermal and not noisy.

Without the collectors with double slope, the

assembly of the linkages **29** and **30** terminates at the evacuation gutter **5** which carries out the drainage of the waters.

The upper coverings at least of the pavings **18** form by their surface of bearing a space **31** constituting a second isothermal and non-noisy chamber.

This external paving, disposed according to the present methods, assures a superficial protection which stops excessive water and guards the external collection elements against any cause of deterioration.

The horizontal terraces, or terraces with slight slope, Fig. 4, are obtained by the interposition between the caps of collection bearers **14** and the covering pavings **18**, of spacing elements **25** with appropriate slope.

This superposition, characterising the invention, assures the total suppression between the plates of any recirculation of water through the vent, or of any condensation at the beds, and limits to one channel and to one descent pipe the evacuation installation, whilst furthermore, the lightness, the robustness and the facility of assembly gives to this device a maximum of useful effect.

Nevertheless the shapes, dimensions, dispositions, methods of jointing of the various elements as well as the materials used for their manufacture could be varied without thereby changing the general conception of the invention which has just been described.

I claim:

1. A floor construction comprising parallel spaced joists, a series of shallow U-channel trays supported in a continuous row by and between each adjacent pair of joists to form water flow channels, cap members arranged in a continuous row along each joist and serving to cover the adjacent edges of the trays supported by each joist, and paving blocks supported by the cap members in spaced relationship above the trays to form a floor surface.

2. A floor construction comprising spaced parallel beams, spaced parallel joists supported thereon and running at right angles thereto with a gap between the ends of aligned joists supported by each beam, a gutter formed in the upper surface of each beam between the ends of the joists, a series of shallow U-channel trays supported by and between each adjacent pair of joists in a continuous row extending along the length of each joist between adjacent beams to form water flow channels adapted to empty into the gutters of the beams, cap members arranged

in a row along each joist and serving to cover the adjacent edges of the trays supported by each joist, and paving blocks supported by the cap members in spaced relationship above the trays to form a floor surface.

3. A floor construction comprising parallel spaced joists, a series of spacing elements of decreasing height disposed along the top of each joist, a series of shallow U-channel trays supported in a continuous row by and between the spacing elements carried by each adjacent pair of joists to form water flow channels, cap members arranged in a continuous row along each joist to cover the adjacent edges of the trays, other spacing elements arranged in series of height decreasing to the same extent but in inverse direction to the first spacing elements, said other spacing elements being arranged along and carried by the cap members, and paving blocks supported on the said other spacing elements to form a floor surface parallel to the plane of the joists.

4. A floor construction comprising spaced parallel beams, spaced parallel joists supported thereon and running at right angles thereto with a gap between the ends of aligned joists supported by each beam, a gutter formed in the upper surface of each beam between the ends of the joists, a series of spacing elements, of height decreasing in the direction of a gutter, disposed along the top of each joist, a series of shallow U-channel trays supported in a continuous row by and between the spacing elements carried by each adjacent pair of joists to form water flow channels dropping towards and arranged to empty into a gutter, cap members arranged in a row along each joist to cover the adjacent edges of the trays, other spacing elements arranged in series of height decreasing to the same extent but in inverse direction to the first spacing elements said other spacing elements being arranged along and carried by the cap members, and paving blocks supported on the said other spacing elements to form a floor surface parallel to the plane of the joists.

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