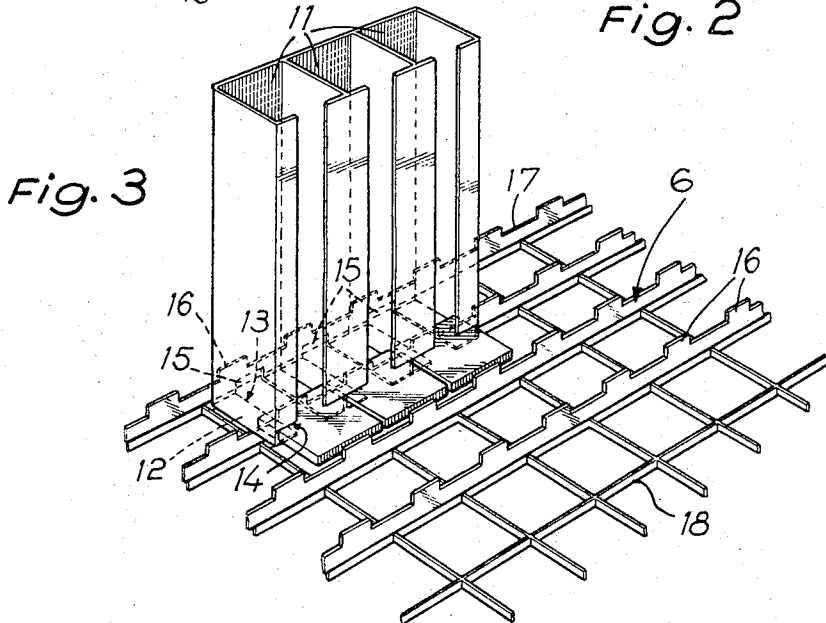
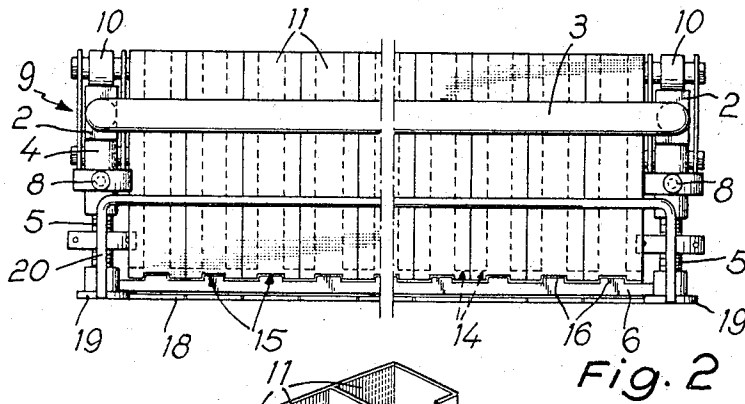
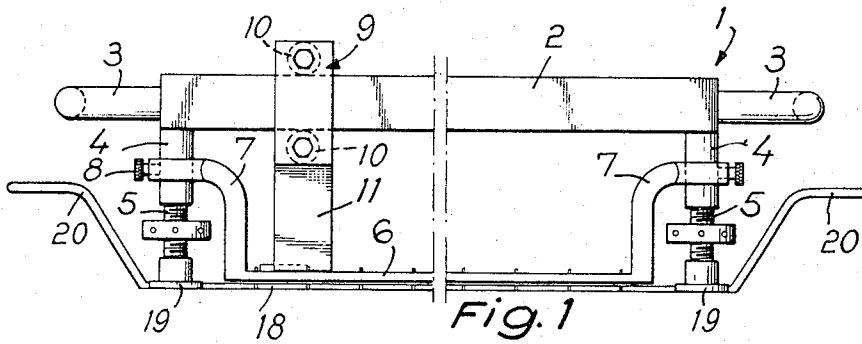


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JEAN-JACQUES POURTAU
MECHANICAL DEVICE FOR LAYING
TILES OR MOSAIC FLOORING
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**MECHANICAL DEVICE FOR LAYING TILES
OR MOSAIC FLOORING**

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ABSTRACT OF THE DISCLOSURE

A dispensing carriage, having a plurality of vertical tile containers, is movably mounted on a support frame. A grating provided with rows upstanding projections for engaging and removing the lowermost tiles from the containers as the carriage is moved, is adjustably mounted vertically on the support frame and is disposed adjacent the bottom of the containers. A guide grid, for receiving tiles dispensed from the containers, is placed on the floor to be covered. The feet of adjustable jacks carried by the support frame are placed into frames of the guide grid to automatically align the grating with the guide grid.

It is well known that the tiling of the floor of a room is rather expensive, owing to the fact that specialized workmen needed are for manually laying the tiles, which is relatively time-consuming and entails high cost of labour.

In order to facilitate this work, there have been used gratings which are laid on the floor and wherein the tiles are arranged manually. This device facilitates aligning of the tiles, but in spite of this, it does not bring about a substantial decrease in the time required for doing this work.

In summary of the present invention is directed to an assembly of mechanical elements which are operated manually or electrically, and which serves for laying, aligning, adjusting and horizontally levelling of tiles and mosaics of coverings of all kinds, sizes and forms.

The present invention relates to a mechanical device for laying tiles intended to form floor coverings, which is characterized in that it comprises a carriage which is movable above and parallel to the surface to be tiled, and wherein the tiles are stacked flat in several vertical piles, and it equally comprises fixed projections in a number identical to the one of the piles. Upon displacement of the carriage the edge of the lowermost tile of each pile abuts a projection which causes same to fall on the floor in a predetermined place.

Additional features of the invention will become apparent from the ensuing detailed description, wherein reference is made to the accompanying drawings. It goes without saying that the description and the drawings are given by way of example and are not intended to limit the scope of the present invention.

As to be seen from the drawings:

FIG. 1 is a side elevational view of the device according to the invention,

FIG. 2 is a front elevational view of the device shown in FIG. 1, and

FIG. 3 is a perspective view of the tile-dispensing device and of the grating of the frame of the device according to the invention.

It has been shown in the drawings that the device for laying tiles according to the invention comprises a frame 1 formed of two parallel rails 2, whose ends are joined by the two U-shaped tubes 3, serving as handles for shifting the device.

These rails 2 are fixed on four vertical legs 4 provided with mechanical jacks 5 for adjusting the height of the rails 2, so that they are parallel to the floor on which the frame 1 rests.

Between these legs 4 there is mounted a grating 6, which is fixed to L-shaped arms 7. The latter are slidable on legs 4, whereon they may be fixed in any desired position by means of screws 8.

A dispensing carriage 9, containing the tiles to be laid, is placed between and supported by rails 2. Said carriage 9 which is moved manually, slides on rails 2 by means of rollers 10.

The carriage 9 comprises a series of tile containers 11, containing the tiles which are stacked flat one on the other.

Bottom 12 of each container 11 is provided with a slot 13, whilst near the bottom 12, one of the lateral walls of said container which is perpendicular to the direction of displacement of the carriage comprises an aperture 14 which allows the issuance of a single tile from the bottom of the pile. The opposite lateral wall is provided with an aperture 15 in prolongation of the slot 13 of base 12.

The height of grating 6 is adjusted in such a manner that the bases 12 of containers 11 are flush with said grating 6 when the carriage is being displaced.

Said grating 6 comprises projections 16, extending vertically upwardly, which are arranged on the traverse 17 of the grating, and they thus penetrate into slot 13 of each container through opening 15, and push the lowermost tile through aperture 14, so that it falls on the floor through grating 6, when the carriage is moved and hits projections 16.

With a view of facilitating the positioning of frame 1 and the laying-out of the tiles dispensed by carriage 9, a guiding grid 18 is placed on the floor, which forms a number of frames, each of which is intended to receive one tile.

For this purpose the ends of legs 4 of the frame are provided with slabs 19, whose shape corresponds to the one of the tiles to be laid, so that these slabs 19 may be inserted into the frames of guide grid 18, which automatically centers grating 6 with respect to guide grid 18.

Moreover, grid 18 is provided with handles 20, which facilitate shifting of the device.

The use of the device according to the invention is particularly easy. After having previously spread and levelled the mortar either manually or by means of a vibrating rule, the guide grid 18 is placed directly on the mortar layer which has been dusted.

The assembly according to the invention, comprising the support frame, the dispensing carriage 9 and grating 6, is placed on guide grid 18 in such a manner that the four slabs 19 of legs 4 of the support frame 1 are received by one frame each at the corners of the guide grid 18.

Each container 11 is then filled with tiles by the tiler, before which it should be observed that the carriage 9 was shifted to the rear of the support frame 1. Subsequently, and by means of levelling jacks 5 which are mounted on legs 4, the height of grating 6 is adjusted, so that it is flush with guide grid 18.

Carriage 9 is then moved towards the front part of support frame 1 by the workman, and every time said carriage passes over a traverse 17 of grating 6, each projection 16 causes one tile to fall into a corresponding frame of guide grid 18.

At the end of the travel of carriage 9, the containers will be empty and each frame of guide grid 18 will surround one of the laid tiles.

The guide frame assembly 1 will then be removed,

and the tiles thus laid are levelled by vibration by means of a "beater." The above-described operation will be repeated until the whole surface is covered.

It is obvious that the shape of containers 11 corresponds to the one of the tiles to be laid. Said containers are assembled in the carriage so that their arrangement corresponds to the pattern of the laid tiles.

What I claim is:

1. A mechanical device for laying tiles intended to form a floor covering, characterized in that it comprises a carriage which is movable above and parallel to the surface to be tiled, the tiles being stacked flat in said carriage in several vertical piles, a plurality of rows of fixed projection disposed below said carriage and in a number at least equal to the one of the piles, the edge of the lowermost tile of each pile abutting successive projections during the displacement of the carriage, whereby the lowermost tiles in each of said stacks are removed therefrom and fall on the floor in a predetermined place to form a floor covering.

2. A mechanical device for laying tiles intended to form a floor covering according to claim 1, characterized in that said carriage includes guide rails and said guide rails and the rows of projections are supported on a common support frame.

3. A mechanical device for laying tiles intended to form a floor covering according to claim 1, characterized in that the width of the projections of each row is at the most equal to the one of a tile, the distance between two adjacent ones of said projections being at least equal to the thickness of the joint between two laid tiles.

4. A mechanical device for laying tiles intended to form a floor covering according to claim 1, characterized in that the device is combined with a guide grid which is placed on the floor and which comprises frames receiving one tile each, issuing from the dispensing carriage.

5. A mechanical device for laying tiles intended to form a floor covering, according to claim 2, characterized in that the projections are provided on traverses which form a grating that is secured to the support frame, and that the dispensing carriage comprises an assembly of several vertical containers wherein the tiles are stacked flat, the bottom of each container being provided with a slot for the passage of the projections, one of the lateral walls of each container being perpendicular to the direction of displacement of the carriage and terminating above said bottom thereby forming an aperture of the thickness of one tile, whilst the opposite wall is provided with a passage for the projections.

6. A mechanical device for laying tiles intended to form a floor covering according to claim 5, characterized in that the device is combined with a guide grid which is placed on the floor, the support frame is mounted on four mechanical jacks, which allow of adjusting its height relative to the floor, whilst each of the feet of the jacks which have the shape of one of the frames of said guide grid and of the tiles to be laid, are placed into one of the frames of the guide grid, so that the grating of the support frame bearing the projections is automatically aligned with respect to the guide grid.

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