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From: Pam Knapp [knapp@bpmlegal.com]
Sent: Tuesday, February 20, 2007 11:29 AM
To: EDOZIER@ROCHESTER.RR.COM
Subject: Filing of Application

Mr. Dozier,

Here is the receipt for your provisional application, showing the serial number of #60/890638. We filed it this morning.

I checked with Gene, and you are right. You will no longer need to have people sign nondisclosure agreements before explaining your invention – having your application on file is good enough.

We will send the official Patent Office filing receipt to you as soon as it is mailed to us. Please let us know if you need anything else.

Cordially,

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Electronic Acknowledgement Receipt

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Customer Number:	20808
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Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
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TILE MARKING DEVICE

TECHNICAL FIELD

Marking of tiles for cutting

BACKGROUND

5 Floor tiles are generally laid first in open areas of a floor and are then cut to fit gaps that occur along walls or around obstacles. Many tile marking devices have been proposed for marking tiles to be cut to fit into the resulting gaps. These generally measure a gap and then mark the measurement on a tile, proceeding one tile at a time. A manual method positions a whole tile upside down against a wall or obstruction so that the whole
10 tile overlaps a laid tile, and then a mark is made along the laid tile for a portion of the whole tile to be cut away and turned right side up to fit into the gap. All of these systems mark one tile at a time using procedures that are inconvenient and slow.

This invention aims at a faster and more efficient way of marking tiles to fit accurately within gaps between laid tiles and walls or obstructions. It also aims at
15 simplicity, low cost, convenience, and accuracy in quickly accomplishing the marking of tiles so they can be cut to fit whatever gap remains to be filled with tile pieces along walls or in corners.

SUMMARY OF THE INVENTION

The inventive system begins by positioning whole tiles on top of laid tiles, either
20 individually or along rows of laid tiles. In doing so, the invention applies to tiles of vinyl, ceramic, and other materials. A marking device having a probe and a marker separated by a tile width is moved along a single tile or preferably along a whole row of tiles. As the probe follows a wall or obstruction, the marker, which is spaced a tile width away from the probe, marks the tile or tiles along a line parallel with and spaced from the wall or
25 obstruction. The marked tiles can then be cut along the marked line, and the cut off pieces will fit accurately into the space between the laid tiles and the wall or obstruction.

A preferred way of accomplishing this is with a base that includes a fence that can guide along the edges of laid tiles and the superposed tiles. The base also includes a spring that lightly presses the probe away from the fence to contact and stay engaged with a wall or obstruction as the base moves along. The superposed whole tiles are restrained by the fence from moving toward the wall or obstruction, and a board or straight edge can be laid along the edge of the superposed tiles opposite the wall to keep the superposed tiles from moving as the base slides along the tile edges. The marking tool can be moved by hand, or a handle extending upward from the base can facilitate the movement along the tile row. The result is then a whole row of tiles accurately marked to fit a gap between laid tiles and a wall or obstruction. The tile marking accomplished this way can automatically follow variations in gap dimensions between the laid tiles and a wall or obstruction.

A special arrangement allows the marking device to mark a corner tile so that it can be cut to fit into a corner gap between two walls or between a wall and an obstruction.

DRAWINGS

15 Figures 1-3 are partially schematic side elevations of a preferred embodiment of the inventive tile marker deployed to mark tiles for different dimensions of gaps between a laid tile row and a wall.

Figure 4 is a schematic plan view showing how a spring within a base biases a probe and marker rod.

20 Figure 5 is a schematic plan view similar to the view of FIG. 4 showing a transverse probe arm clampable to the main probe for corner marking.

Figures 6 and 7 show how rows of tiles can be marked to approach a corner.

Figures 8 and 9 show how a corner tile can be marked to fit into a corner gap where two tile rows intersect.

25 Figure 10 is a schematic side elevation showing how a handle can be extended above a marking base to facilitate tile marking allowing the user to stand while operating the device.

DETAILED DESCRIPTION

FIGS. 1-3 schematically show how a simplified preferred embodiment 25 of the inventive marking device can be used for marking different dimensions of gaps between a laid tile 16 on floor 15 and a wall or obstacle 20. Tile 17 to be marked is superposed over laid tile 16, and a fence 27 of base 26 guides along the edges of tiles 16 and 17. This allows base 26 and fence 27 to move along a whole row of laid tiles 16 and superposed tiles 17 while marking a line on superposed tiles 17.

Fence 27 keeps tile 17 from moving toward wall 20. This is because fence 27 also guides on laid tile 16 and thus prevents superposed tile 17 from moving past the edge of laid tile 16. A board or straight edge 18 can be positioned against the rear edge of a superposed tile 17, such as shown in FIG. 1, so that board 18 can run along a row of superposed tiles 17 and help stabilize them against movement away from wall 20 while base 26 and fence 27 slide along the tile edges.

A marking rod 30 is mounted on base 26 to move back and forth under a bias preferably provided by a spring 40, alternative embodiments of which are shown in FIGS. 1 and 4. Different forms of springs can be arranged to accomplish this, and many different connections are possible for different source of springs. The rod 30 includes a probe 31 arranged near a forward end and a marking element 35 arranged near a rear end. The bias of spring 40, however attached to marking rod 30, urges probe 31 gently against wall or obstruction 20 as base 26 and fence 27 move along a tile edge or row of tile edges while marking element 35 marks a line on a superposed tile 17.

The distance between a tip of probe 31 and marking element 35 mounted on rod 30 is preferably equal to a width of tiles 16 and 17. With fence 27 engaging tile edges 16 and 17 and probe 31 engaging wall 20, marker 35 is then positioned to mark off a dimension on superposed tile 17 equal to the gap distance between laid tiles 16 and wall 20. When tile 17 is so marked, the piece of tile 17 between marker 35 and board 18 fits in the gap between laid tile 16 and wall 20. The width of the gap and the corresponding width of the

piece to be cut from a superposed tile 17 can vary as marker 25 proceeds along a row of tiles.

Marker 35 can be any convenient marking instrument, such as a ballpoint pen, felt tip marking pen, pencil, chalk, or knife. Selection of an appropriate marking element 35 is based on low cost and reliability in marking a line that can be followed to cut a tile. Probe 31 can have a ball bearing or wheel arranged to roll smoothly with reduced friction along a wall or obstruction.

FIG. 2 schematically illustrates the same marking device 25 as illustrated in FIG. 1, but positioned to mark a narrower piece of superposed tile 17 fitting a narrower gap between laid tile 16 and wall 20. FIG. 3 schematically illustrates the same tile marking device 25 as illustrated in FIGS. 1 and 2, but positioned to mark for the wider gap between laid tile 16 and wall 20.

As also illustrated in FIG. 3, a notch in a bottom of body 26 serves as a rear fence 28 that can be used to guide along the tile edges instead of front fence 27. Motion of probe 31 and marker arm 35 back and forth within base 26 is limited by the width of base 26, so that rear fence 28 provides an alternative to front fence 27. Fence 28 can then be used, as shown in FIG. 3, when a wide gap exists between laid tile 16 and wall or obstruction 20.

A front vertical notch 23, as shown in FIG. 2, provides a recess to accommodate probe 31 when measuring a narrow gap, and a rear vertical notch 24, as shown in FIG. 3, provides a recess to accommodate marker 35 when measuring a wide gap. Altogether, base 26 is preferably dimensioned to enable marking of both the smallest and largest possible cuts from superposed tile 17 and any dimension of cut in between these.

FIG. 5 schematically shows a corner probe 50 clamped to marker arm 30 to aid in corner marking. Probe arm 50 extends from arm 30 by one tile width, just as the distance between probe 31 and marker 35 equals one tile width. Probe arm 50 allows tool 25 to guide along an adjacent wall while marking a corner tile 17C for a cut shaped to fit a corner gap, as explained below.

FIGS. 6 and 7 show how rows of tiles 17 can be marked to approach a corner 21 between two walls 20A and 20B. FIG. 7 shows how a row of superposed tiles 17 can be

positioned on top of laid tiles (not shown) and possibly stabilized by a board 18 as the tile row extends along wall 20A approaching corner 21. The tiles marked with line 36 can then be cut to fit into the gap between the tile row and wall 20A.

5 In a similar way, tool 25 can move along tiles 17 in a direction parallel to wall 20B while marking line 37. For this step, the corner-most tile 17C is replaced to form a new tile row extending along wall 20B. Then, as illustrated in FIGS. 6 and 7, tile pieces cut along line 37 can then fit the gap between tiles 17 and wall 20B.

10 Once the tiles are marked with lines 36 and 37 and are then cut to form pieces that fit the gaps along walls 20A and 20B, what remains is an empty corner gap to be marked for a filling tile piece as shown in FIGS. 8 and 9. This requires use of an additional corner tile 17C and the use of corner probe 50, also illustrated in FIG. 5. Marking tool 25, with corner probe 50 attached, is moved along tile 17C to approach corner 21 between walls 20A and 20B. Corner probe 50 engages wall 20B and stops probe and marking arm 30 so that marker 35 stops one tile width short of corner 21. Then marking device 25 is slid
15 along a top face of tile 17C while holding probe 50 against wall 20B so as to mark line 37 parallel with wall 20B. A corner piece cut from tile 17C along lines 36 and 37 then fits into the tile gap at corner 21. Fence 27 is preferably vertically adjustable so it can be raised to facilitate movement of body 26 over the top surface of tile 17C during marking of line 37.

20 Since marking device 25 can quickly mark along a whole row of tiles, it is convenient to have a handle 55 extending upward from body 26 so that an operator, after laying a row of superposed tiles 17, can slide body 26 along the tile edges by using handle 55 to mark a whole row of tiles in a few seconds. This saves bending over and crawling about on hands and knees.

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I claim:

A tile marking system substantially as described and illustrated.

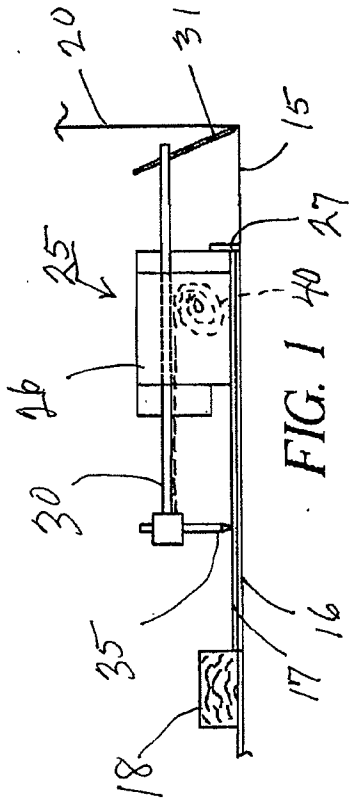


FIG. 1

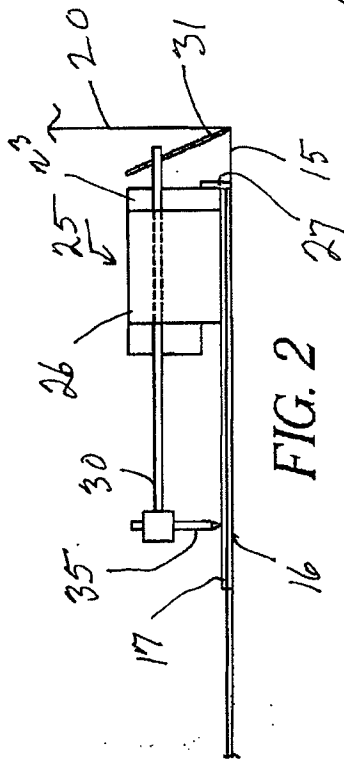


FIG. 2

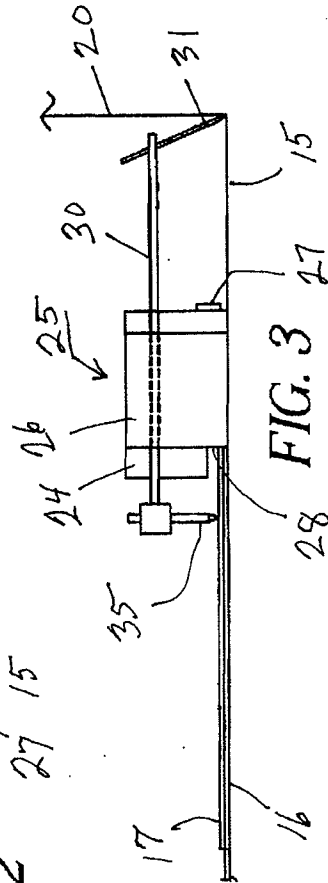
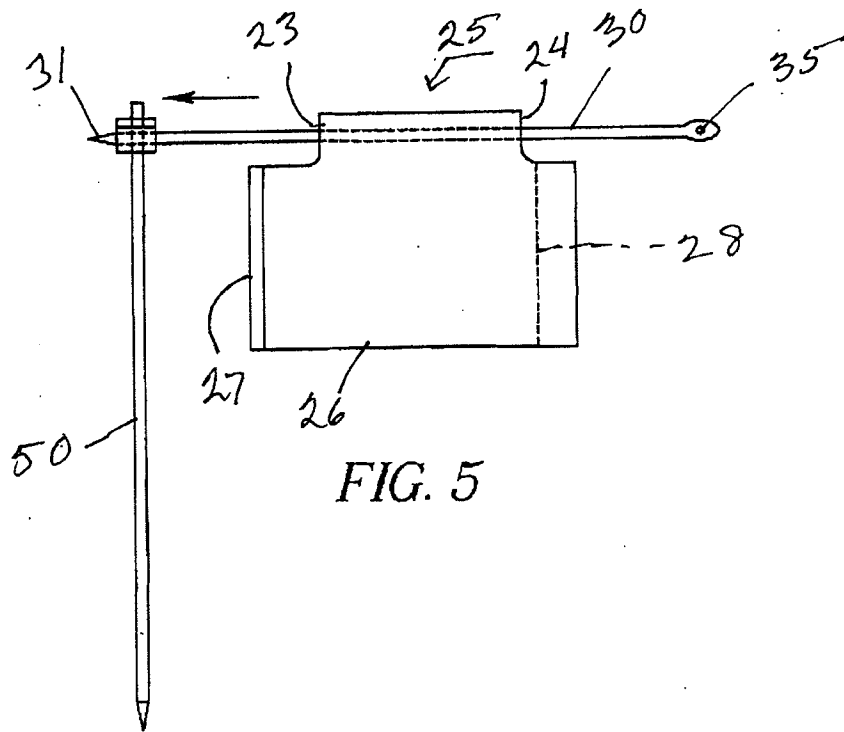
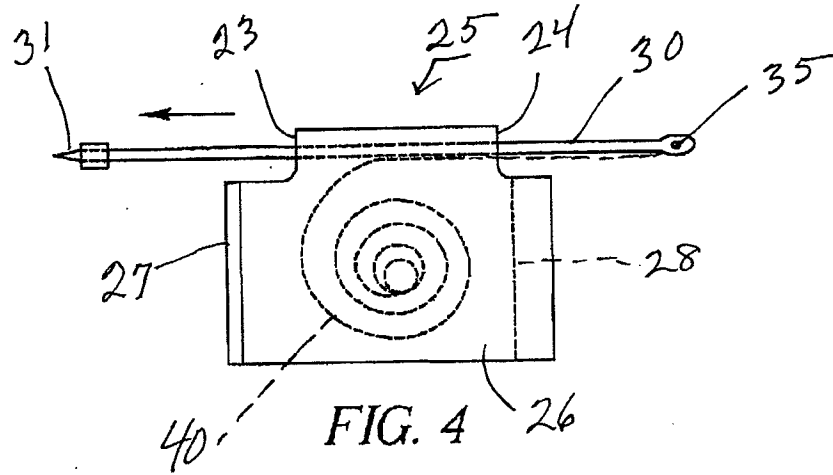
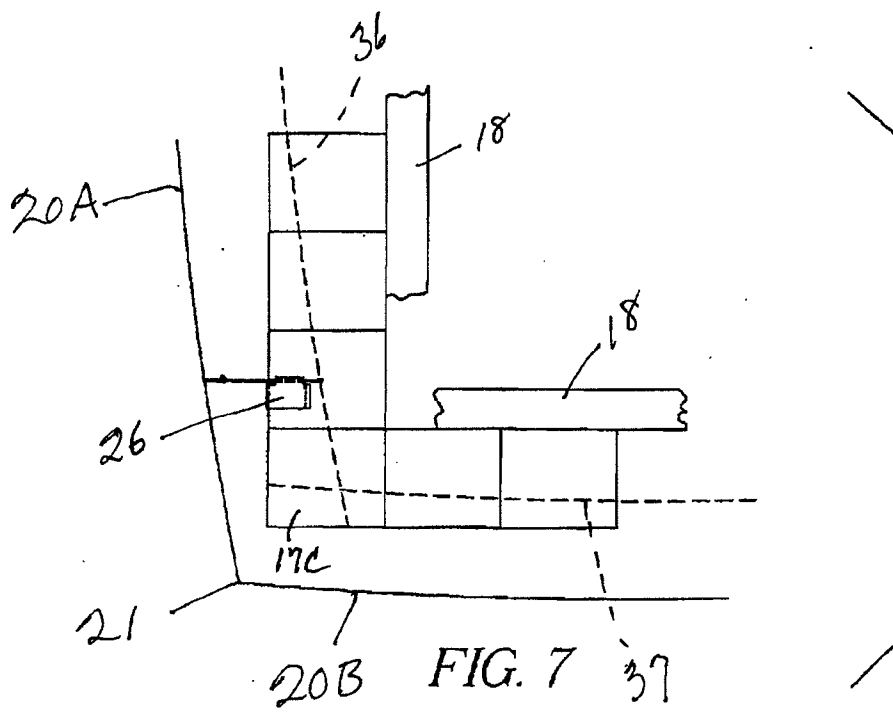
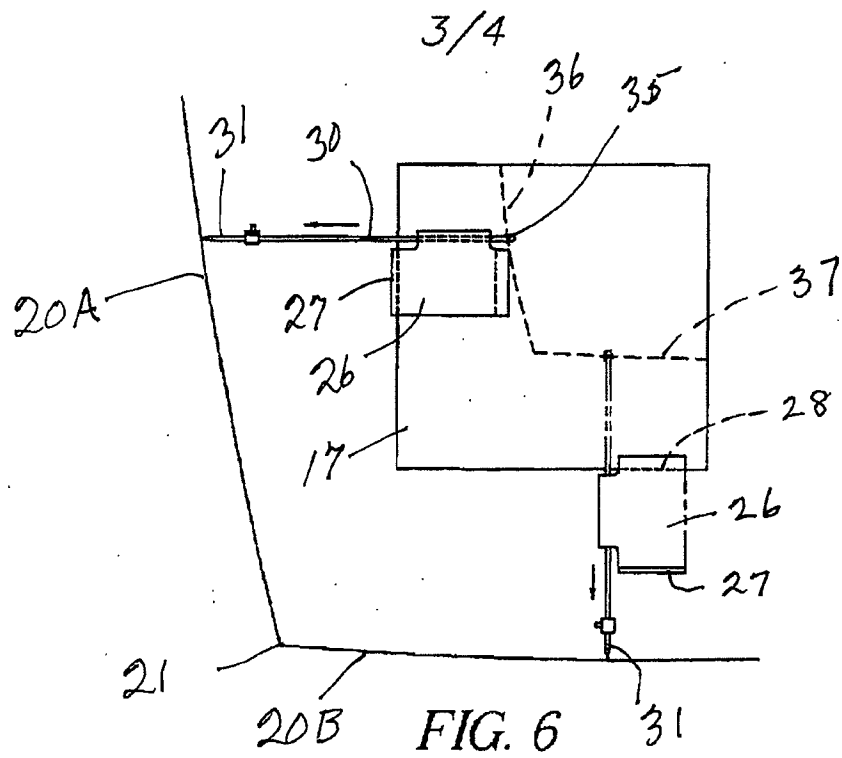
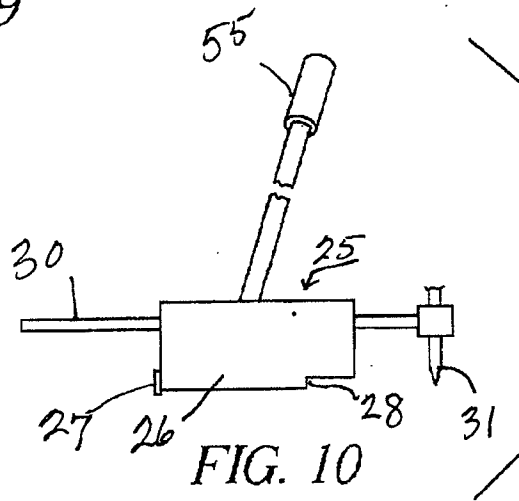
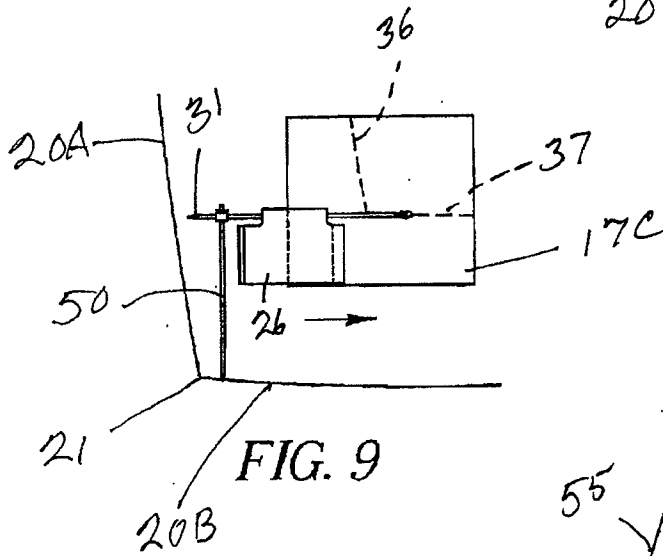
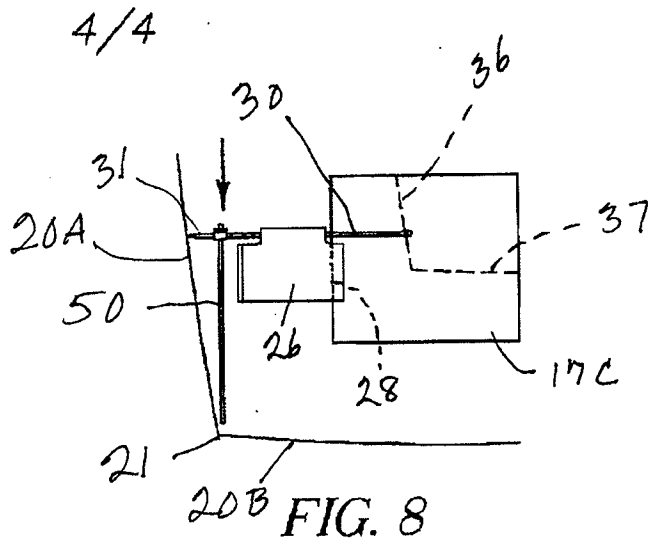


FIG. 3

2/4



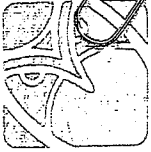




1	Application Data Sheet	US_ADS_Form_SB_14.pdf	913840	no	4
Warnings:					
Information:					
2	Claims	Claim.pdf	4773	no	1
Warnings:					
Information:					
3	Drawings	Drawings_final.pdf	50838	no	4
Warnings:					
Information:					
4	Specification	Specification.pdf	32020	no	5
Warnings:					
Information:					
5	Fee Worksheet (PTO-06)	fee-info.pdf	8088	no	2
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Total Files Size (in bytes):			1009559		
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