



(11) Publication number: **0 494 324 A1**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number: **91100165.9**

(51) Int. Cl.⁵: **E04F 21/16, E04F 21/06, B24B 45/00**

(22) Date of filing: **07.01.91**

(43) Date of publication of application:
15.07.92 Bulletin 92/29

(84) Designated Contracting States:
DE ES FR GR

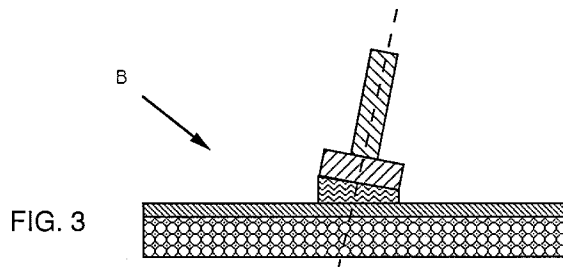
(71) Applicant: **Buonocchio, Luciano**
Via Sere 3
I-31020 San Vendemiano (TV)(IT)

(72) Inventor: **Buonocchio, Luciano**
Via Sere 3
I-31020 San Vendemiano (TV)(IT)

(74) Representative: **D'Agostini, Giovanni, Dr.**
D'AGOSTINI ORGANIZZAZIONE n. 17 via
G.Giusti
I-33100 Udine(IT)

(54) **A surface rotating smoothing tool particularly for mortar mural coatings.**

(57) A surface rotating smoothing tool (B) particularly for mortar mural coatings (A), operating with portable rotation driving means (C), having a smoothing flat surface plate (2) connected axially orthogonally in its back with a shaft (4) to be engaged in a portable rotating driving means (C) characterized in that said shaft (4) is connected to said smoothing flat surface plate (2) by means of an intermediate connector in plastic yielding material (3).



This invention has for object a surface rotating smoothing tool particularly for mortar mural coatings.

The invention finds particular even if not exclusive application as a rotational tool for a rotational displacement portable apparatus to allow the smoothing particularly of mortar coated walls.

In prior art the uniform mortar distribution on the walls is made manually, the mortar in fact is simply applied with the trowel on the wall and successively it is uniformly distributed on the wall or roof by darby, which as known has a handle supporting a generally spongy rectangular smoothing surface. Successively the wall is made planar with a wall levelling board to take away excessive mortar zones.

The principal drawback of said solution is evident, in fact the manual operation is long, heavy and expensive.

Mechanization is made with a complex and cumbersome apparatus, which comprises an on ground separate driving motor means that drive by rotating flexible shaft four disks in rotating head.

Furthermore the respective driving shaft needing a conical gearing transmission in the respective for disc rotating head coupled with well known planetary transmission, being necessary to operate with the respective handling shaft closely parallel to the wall.

This solution:

- does not allow operation in small areas/environments,
- is heavy and cumbersome such to be operate with two persons,
- is expensive.

Further problem derives from the manual movement that does not allow regular moving in parallel condition with the respective surface, articulated joint being notoriously further expensive and requiring frequent maintenance.

Scope of the present invention is to obviate to the mentioned drawbacks. This and other scopes are reached with the present invention according to characteristics of the annexed claims solving the exposed problems by means of a surface rotating smoothing tool particularly for mortar mural coatings, operating with portable rotation driving means (drill and similar portable tools) having a smoothing flat surface connected axially orthogonally in its back with a shaft to be engaged in a portable rotating driving means characterized in that said shaft is connected to said smoothing flat surface by means of an intermediate connector in plastic yielding material.

Advantageously said smoothing flat surface is like a darby, namely it is rectangular.

With this solution we do not need bulky, expensive and complex articulated joint, efficiency is im-

proved and costs are strongly reduced.

It is possible to lap walls fastly with any portable motor means, as a drill or similar cheap portable devices.

5 The new tool is easily replaceable to consent to vary the type of treating smoothing surface depending of the mortar extension and finishing level. Its reduced size is useful both for great works and small finishing workings being not heavy.

10 The access in environments particularly restricted is further allowed.

15 These and other advantages will be appreciated with the following description and drawings of a preferred solution which particular of execution are not to be considered limitative.

In the figures:

Figure 1 represents a schematic view of the smoothing tool mounted on a drill.

20 Figure 1A discloses a surface partially coated with mortar to be treated.

Figure 2 represents a schematic view axial section of smoothing tool of this invention.

25 Figure 3 the same tool of Figure 2 in which the respective shaft is tilted if compared to the finishing surface rotating plate.

Figure 4 represents a bottom view of the the finishing surface rotating plate.

30 The wall (A) is coated with mortar and mortar is easily distributed on the wall surface by means of a drill (C) on which mandrel a mortar smoothing tool (B) is keyed by means of its shaft (4) that supports the respective smoothing plate (1, 2) by a yielding and resilient plastic material amortizer cushion means (3).

35 The smoothing plate has a rectangular metallic support plate (2) on which two rectangular pieces of spongy material (1) are glued.

40 This spongy material being well known in barby operating prior art can be of any convenient material as foamed plastic material or fibrous material. Advantageously the two pieces of smoothing spongy material are separated with a space (5) which principal scope is to group and deviate mortar clots or other eventual impurities accumulated during the smoothing action.

45 Operation is made impugning the drill (C) and placing the smoothing plate (2-3) of the smoothing tool (B) on the wall (A), rotating the smoothing tool (B) and moving it with a respective drill on the wall surface (A).

50 In this way the mortar will be easily distributed on the respective wall.

55 In a preferred solution the smoothing plate (1-2) and respective supporting axis (3-4) is covered by a bell carter (6).

Claims

1. A surface rotating smoothing tool (B) particularly for mortar mural coatings (A), operating with portable rotation driving means (C), having a smoothing flat surface plate (2) connected axially orthogonally in its back with a shaft (4) to be engaged in a portable rotating driving means (C) characterized in that said shaft (4) is connected to said smoothing flat surface plate (2) by means of an intermediate connector in plastic yielding material (3). 5
10
2. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is rectangular. 15
3. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is coated with separate mortar smoothing coating materials pieces (1). 20
4. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is coated with two separate mortar smoothing coating materials pieces (1). 25
5. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is coated with at least two separate mortar smoothing coating materials pieces (1), said separate mortar smoothing coating materials pieces (1) being rectangular. 30
6. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is coated with at least two separate mortar smoothing coating materials pieces (1), said separate mortar smoothing coating materials pieces (1) being distanced one from the other with an intermediated free space realizing a transverse or radial recess (S) to allow in movement to receive in it, respective mortar clots and impurities. 35
40
45
7. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is coated in spongy material. 50
8. A surface rotating smoothing tool (B) according to claim 1., characterized in that said smoothing flat surface plate (2) is coated in fibrous material. 55
9. A surface rotating smoothing tool (B) according to claim 1., characterized in that it is covered with a bell carter (6).

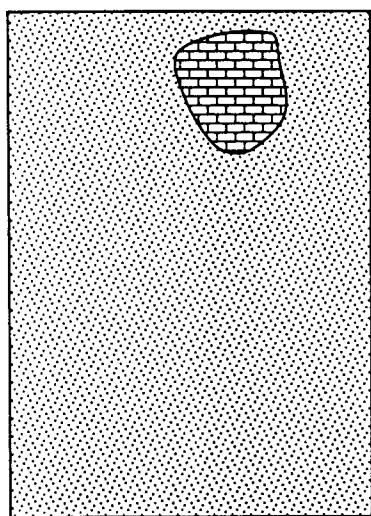


FIG. 1A

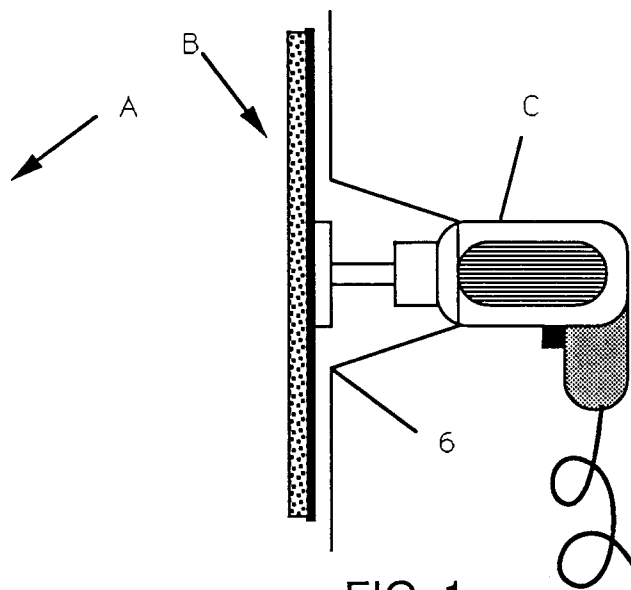


FIG. 1

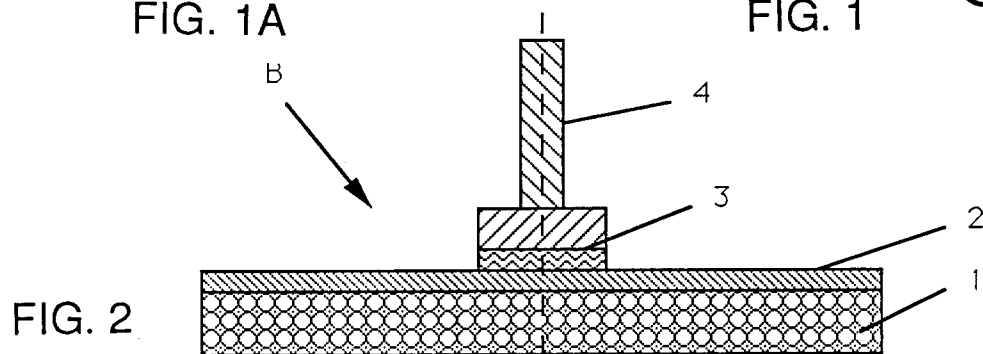


FIG. 2

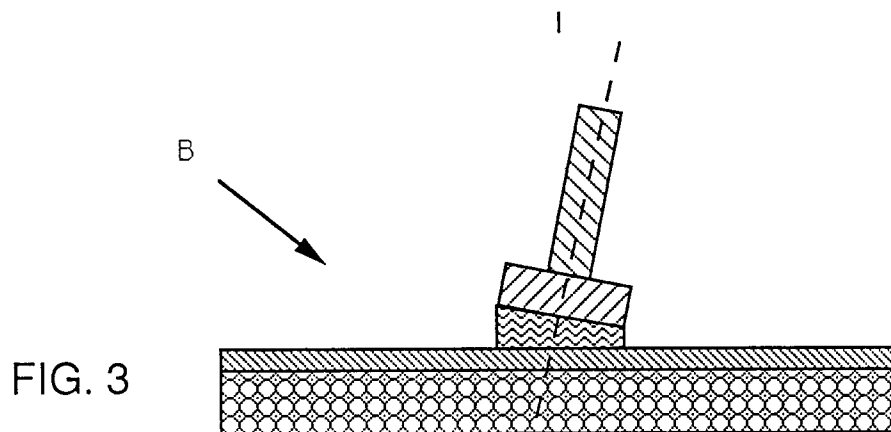


FIG. 3

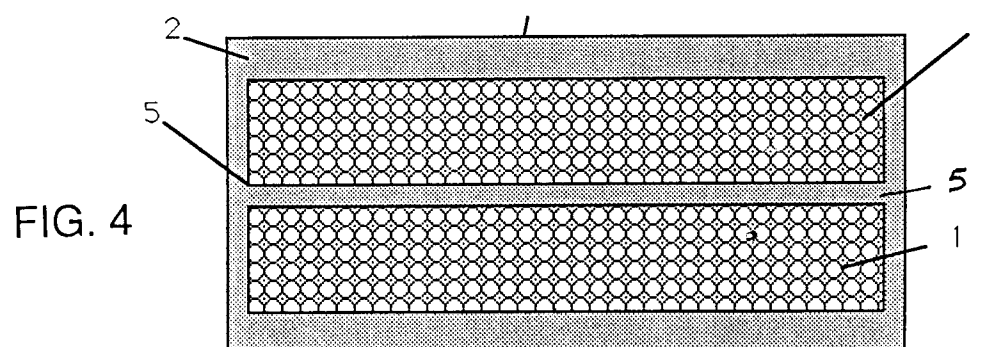


FIG. 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 91 10 0165

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	US-A-2 892 326 (PORTER)	1	E04F21/16
Y	* column 2, line 1 - line 46; figures 1-5 * ---	2-4	E04F21/06
X	US-A-3 053 063 (LILLEBERG)	1	B24B45/00
Y	* column 1, line 56 - column 2, line 34; figures 1-4 * ---	7,8	
Y	FR-A-2 518 151 (REINA) * page 2, line 23 - page 3, line 37; figures 1,2 * ----	1	
Y	US-A-3 068 664 (TOCCI-GUILBERT) * column 1, line 44 - column 3, line 25; figures 1-3 * ---	1	
Y	US-A-2 952 028 (ROBBINS)	2,7	
A	* column 3, line 72 - column 4, line 22; figures 3,4 * ---	1	
Y	EP-A-0 314 019 (REVELIN)	3,4	
A	* column 2, line 41 - column 4, line 25; figures 1-10 * ---	1	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
Y	DE-C-285 203 (SCHULTZE)	8	E04F
A	* the whole document * ---	2	B24B
A	AT-B-327 515 (KIMA-MASCHINEN KIWISCH & CO.) * page 2, line 42 - line 59; figure 1 * -----	1,9	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 AUGUST 1991	Examiner AYITER J.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document			