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(71) Applicant: **TECNOSINT S.r.l.**
41053 Maranello (MO) (IT)

(72) Inventor: **Arcobello, Tullio**
41043 Formigine (MO) (IT)

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(74) Representative: **La Ciura, Salvatore**
Via Francesco Sforza 3
20122 Milano (IT)

(54) Tool for use on machines designed for polishing tiles, marble and the like

(57) This invention relates to a tool for use on machines designed for polishing tiles, marble and the like.

In particular it relates to a tool designed to be fitted to machines of known type equipped with a rotating head on which multiple smoothing/polishing tools are mounted, including tools of the aforesaid type.

In detail, said tool comprises an annular support plate (1) to which are attached a number of plastic wires (5) in which an abrasive powder is embedded, thus forming a tool constituted by a brush able to polish tiles, stone slabs and the like.

In particular the tool according to the invention is suitable for polishing tiles made, for example, of fire-clay.

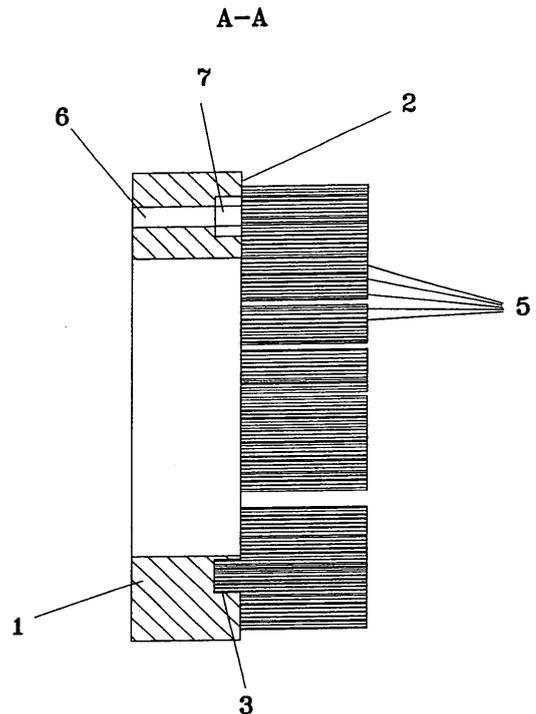


Fig. 4

EP 1 905 540 A1

Description

[0001] This invention relates to a tool for use on machines designed for polishing tiles, marble and the like.

[0002] In particular it relates to a tool designed to be fitted to machines of known type equipped with a rotating head on which multiple smoothing/polishing tools are mounted, including tools of the aforesaid type.

[0003] In detail, said tool comprises an annular support plate to which are attached a number of plastic wires in which an abrasive powder is embedded, thus forming a tool constituted by a brush able to polish tiles, stone slabs and the like.

[0004] In particular the tool according to the invention is suitable for polishing tiles made, for example, of fire-clay.

[0005] For this type of work, the machines according to the state of the art comprise a satellite head consisting of a rotating bell which presents a plurality of arms to which are attached a number of tools consisting of blocks of abrasive material of suitable particle size embedded in a binder, for example of the type described in US patent 6,808,447.

[0006] Another type of tool for polishing tiles, marble and the like, according to the prior art, comprises an annular support element made of a soft material which presents a series of radial seatings into which abrasive sectors, such as diamond sectors, are inserted.

[0007] An example of said tool is described in patent EP 1,284,175.

[0008] The problem encountered when said tools according to the prior art are used is that during their advance, said tools leave slight circular traces on the polished surface.

[0009] Although these signs are often only visible when the surface is observed against the light, they penalise the finish of the polished product.

[0010] To eliminate said problem, this invention offers a tool designed for use on machines for polishing tiles, marble or the like, of the type comprising an annular support plate to which a number of tufts of bristles or wires made of plastic, preferably nylon or the like, are attached, which said bristles or wires contain a powder made of abrasive material of suitable particle size, so as to form a brush which, due to the flexibility of its bristles, polishes tiles without leaving the marks on the surface that constitute the typical drawback of the tools according to the prior art.

[0011] This invention will now be described in detail, by way of example but not of limitation, by reference to the annexed figures wherein:

- Figures 1 and 2 are two perspective views of a tool according to the invention;
- Figure 3 is a front view of the tool according to the invention;
- Figure 4 is a view in cross-section of the tool according to the invention.

[0012] As shown in the annexed figures, the tool for use on machines designed for polishing tiles, marble and the like comprises a round or annular plate 1, preferably made of plastic such as teflon, ABS or the like.

5 [0013] A series of cylindrical seatings 3, arranged in a number of concentric circles, are formed on the lower surface 2 of said plate 1. Tufts 4, formed by a number of plastic wires 5, are inserted into seatings 3 and secured with an adhesive, resin or other known system.

10 [0014] Said wires 5, preferably made of nylon or similar materials, contain a powder made of abrasive material of suitable particle size, such as diamond powder or the like.

15 [0015] The diameter, and consequently the flexibility, of the wires can vary according to the type of material to be polished.

[0016] For example, in the case of fire-clay it has been found that good results are obtained with a nylon wire having a diameter approx. from 1 to 1,5 millimetres, and preferably of 1,2 millimeters.

20 [0017] Plate 1 also presents three holes 6, each of which contains a hexagonal seating 7 designed to receive a nut, not shown in the figure, which secures the tool to the head of the machine.

25 [0018] As stated, the drawback of the tools according to the prior art is that slight traces are left by the advance of the tool on the polished surface, which are visible, for example, if the surface is observed against the light.

30 [0019] The present invention has the advantage that the tool uses wires containing an abrasive powder, and can consequently bend and deform, so that it more closely follows the contours of the surface, adapting to it, without leaving the thin lines which have so far been unavoidable.

35 [0020] Thus a more polished surface, with a better finish than those polished with traditional tools, can be obtained with a cheap tool that is easy to make.

40 Claims

1. Tool for use on machines designed for polishing tiles, marble and the like, **characterised in that** it includes a plate (1) in which seatings (3) are formed, arranged in one or more concentric circles, a tuft formed by a plurality of plastic wires (5) containing an abrasive powder being inserted into each of said seatings.
- 45 2. Tool for use on machines designed for polishing tiles, marble and the like, as claimed in claim 1, **characterised in that** said abrasive material is diamond powder.
- 50 3. Tool for use on machines designed for polishing tiles, marble and the like, as claimed in claim 1 or 2, **characterised in that** said wires (5) have a diameter from 1 to 1,5 mm.

4. Tool for use on machines designed for polishing tiles, marble and the like, as claimed in claim 3, **characterised in that** said wires (5) have a diameter of 1,2 mm.

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5. Tool for use on machines designed for polishing tiles, marble and the like, as claimed in claim 1, **characterised in that** three holes (6) are drilled in said annular plate, each of which contains a hexagonal seating (7) designed to receive nuts for attaching the tool to the head of the machine.

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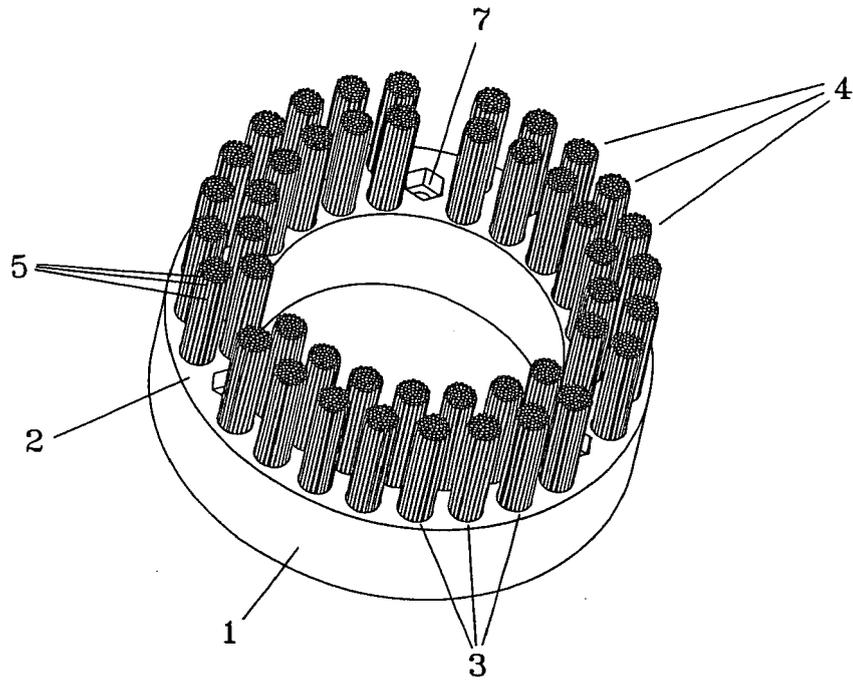


Fig. 1

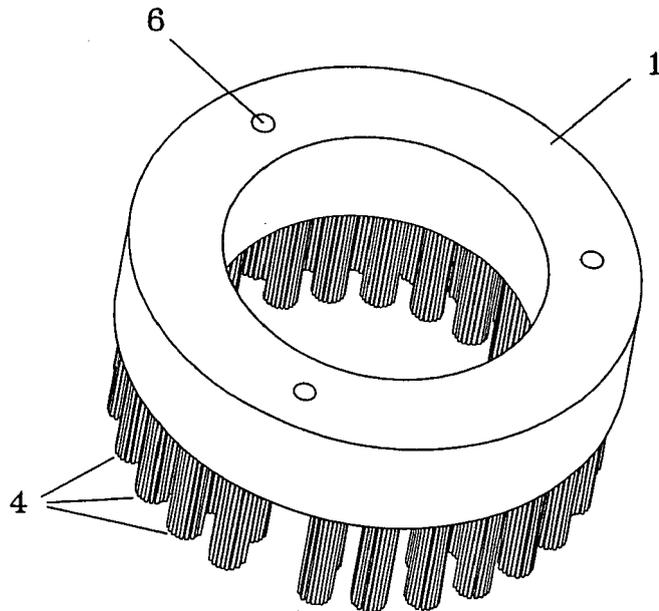


Fig. 2

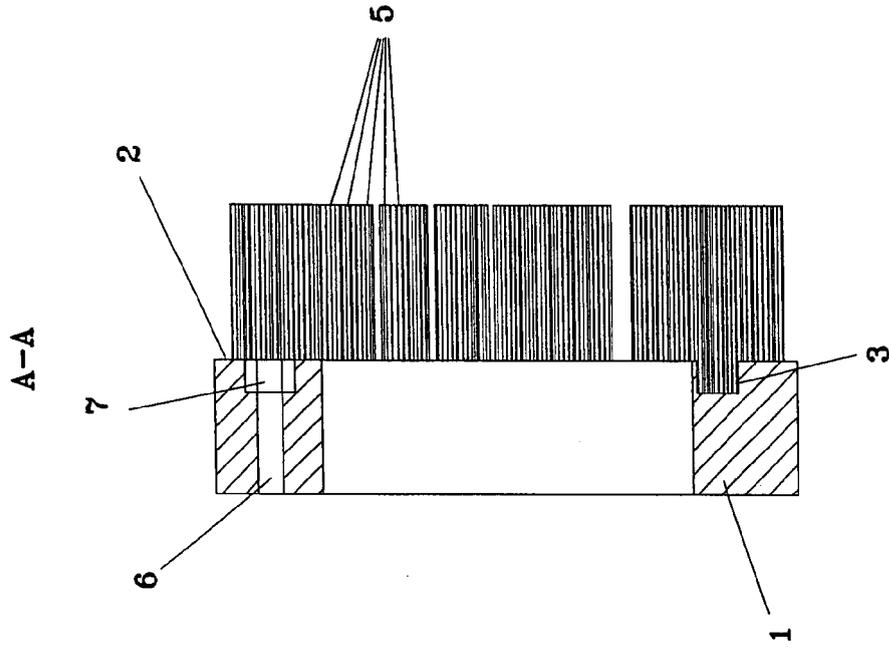


Fig. 4

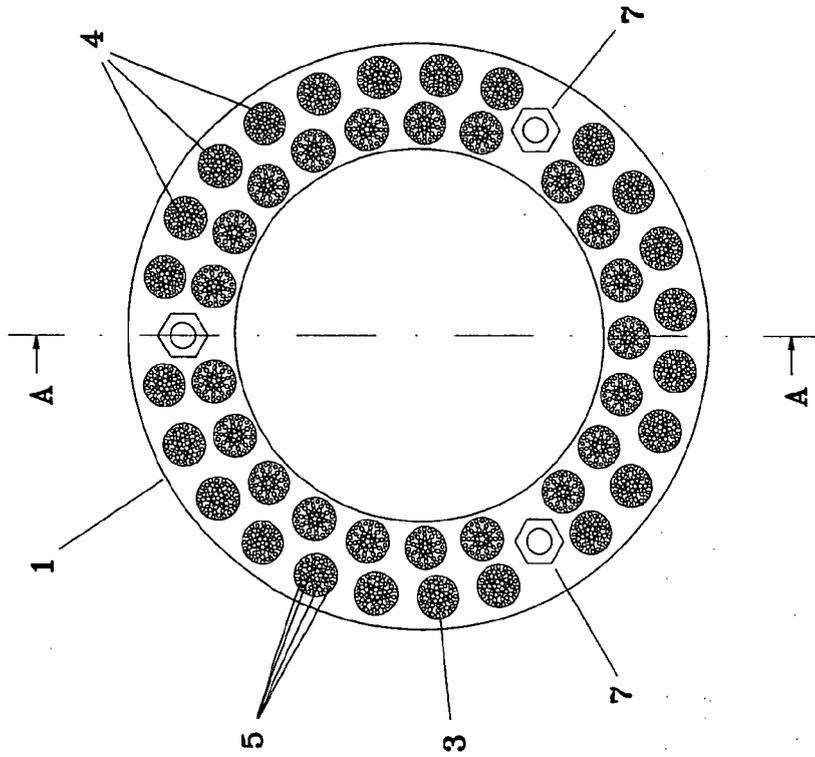


Fig. 3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 260 316 A (ASAHI GLASS CO LTD [JP]) 27 November 2002 (2002-11-27) * paragraph [0012] - paragraph [0030]; figures 1a,1b *	1-4	INV. B24B7/22 B24D13/14 B24D13/20
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A	----- EP 1 524 078 A (TENAX SPA [IT]) 20 April 2005 (2005-04-20) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			B24B B24D
Place of search		Date of completion of the search	Examiner
The Hague		10 January 2008	Eschbach, Dominique
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 L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 07 01 3666

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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10-01-2008

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- EP 1284175 A [0007]