(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 145 729 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
20.01.2010 Bulletin 2010/03

(21) Application number: **08381024.2**

(22) Date of filing: **17.07.2008**

(51) Int Cl.:
B24B 9/00 *(2006.01)* ***B24B 9/06*** *(2006.01)*
B28B 11/18 *(2006.01)* ***B28D 7/04*** *(2006.01)*
B65G 47/244 *(2006.01)*

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA MK RS

(71) Applicant: **Maincer, S.L.**
12200 Onda (ES)

(72) Inventor: **Vigil Fernandez, Francisco**
12200 Onda (Castellón) (ES)

(74) Representative: **Esteban Perez-Serrano, Maria Isabel**
UDAPI & ASOCIADOS
Explanada, 8
28040 Madrid (ES)

(54) Machine for unifying tile profiles

(57) A machine for unifying profiles which is situated following firing of the tiles and prior to their classification, and is provided with a dry calibration line which simultaneously calibrates the two parallel sides of the tiles, using diamond grinders.

EP 2 145 729 A1

Description

OBJECT OF THE INVENTION

[0001] This invention refers to a machine for unifying tile profiles, which functions in dry conditions without water, following firing of the tiles and prior to their classification.

BACKGROUND TO THE INVENTION

[0002] The same applicant has also filed an application for patent no. 200700372 which describes a rectifying machine for tiles.

[0003] Tiles are rectified prior to placing them in the furnace so that problems of rectification of fired tiles are eliminated, as are the need for energy required due to the hardness of the tiles and the water required to clean up the clay which forms.

[0004] The present invention includes a stage following rectification, in which the profiles are unified following firing, which is materialised in a dry calibration line.

DESCRIPTION OF THE INVENTION

[0005] This invention resolves the problem of unifying profiles without the need to use large amounts of energy or water.

[0006] The profile unification machine which is the object of the invention functions in a dry state, and is situated following firing of the tiles and prior to their classification, and is provided with a dry calibration line which simultaneously calibrates the two parallel sides of the tiles, using diamond grinders.

[0007] In order to unify the four sides of a tile two machines are placed in line, between which a tile rotator is situated, and a squarer at the entry of the second machine, thus giving rise to a tile profile unification system.

DESCRIPTION OF THE DRAWINGS

[0008] The present descriptive report is complemented by a set of plans illustrating a preferred embodiment of the invention, but which is in no way restrictive.

[0009] Figure 1 shows an example of a rectifying system representing the machine of the invention.

PREFERRED EMBODIMENT OF THE INVENTION

[0010] In this example of an embodiment a continuous process unifying profiles for tiles is carried out.

[0011] In order for the unification of the tile profiles to be complete, two machines (1) of the invention are placed in line, and between these a rotator (2) is placed in order to vary the part's position by 90°, from the first machine to the second, and a squarer (3) at the entry of the second machine, in order to ensure that the entry of the tile in the second machine is made with a perfect square.

[0012] In this example of an embodiment, the rectifying machine (1) of the invention is made from a varnished steel chassis. Said chassis is provided with height regulation.

[0013] In order to place the tile on track through the machines, entry guides are shown with an opening and closing system on the central axis of the machine and lateral translation.

[0014] In maximum cutting it is 5 to 6 tenths of a millimetre on each side of the part.

[0015] The parts are transported by means of toothed belts with a linatex surface.

[0016] The machine is provided with four 6.5 CV - 3000RPM at 50Hz, two on each side, with cup type diamond grinders.

[0017] Transmission takes place through a geared motor with elastic connection, toothed pulleys and a grooved axis which permits opening and closure of the pulleys.

[0018] The machine (1) is also provided with a lateral translation arrangement of belts and motors which enables the belts to be opened and closed for the adjustment to be made in the gears.

[0019] The machines (1) in this invention are provided with aspiration openings for the dust created during rectification, and an electric control panel for safety management, according to European Community regulations.

[0020] The second machine (1) is similar to the first, with a squaring system (3) which enables parts to be introduced into the 90° rotating process of the side on which the part is pushed into the interior of the machine.

[0021] The essential nature of this invention is not altered by any variations in materials, form, size and arrangement of its component elements, which are described in a non-restrictive manner, with this being sufficient to proceed to its reproduction by an expert.

Claims

1. Machine (1) for unifying profiles which can be used dry, **characterised in that** it simultaneously calibrates the two parallel sides of the tile, using diamond grinders.

2. System for unifying tile profiles **characterised in that** in order to unify the four sides of a tile two machines (1) are placed according to claim 1 in line, between which a tile rotator (2) is situated , and a squarer (3) at the entry to the second machine.

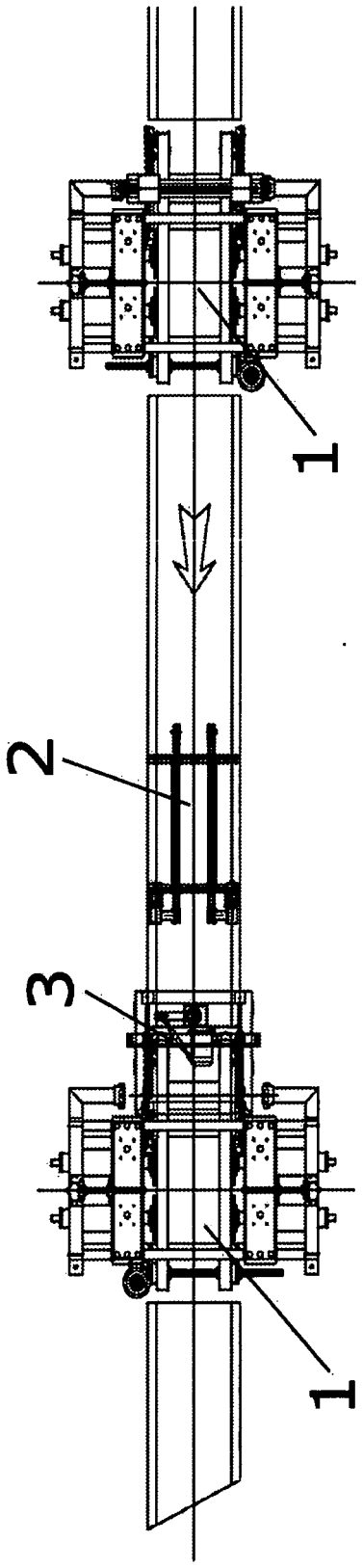

FIG.1

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 08 38 1024

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	EP 0 865 870 A (PRAGMA S R L [IT]) 23 September 1998 (1998-09-23) * abstract; claims 1,4,11,16 * * page 4, column 5, line 33 - column 6, line 4 *	1,2	INV. B24B9/00 B24B9/06 B28B11/18 B28D7/04 B65G47/244
Y	EP 1 422 024 A (BIESSE SPA [IT]) 26 May 2004 (2004-05-26) * page 3, column 3, paragraph 16 - column 4, paragraph 21; figure 1 *	1,2	
Y	DE 41 36 252 A1 (TONCELLI DARIO [IT]) 14 May 1992 (1992-05-14) * column 4, line 5 - line 43; figures *	1,2	

TECHNICAL FIELDS SEARCHED (IPC)

B24B
B28B
B28D
B65G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	26 January 2009	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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 38 1024

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-01-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0865870 A	23-09-1998	DE 69809986 D1	23-01-2003
		ES 2186934 T3	16-05-2003
		IT MO970039 A1	11-09-1998
		PT 865870 T	30-04-2003
EP 1422024 A	26-05-2004	AT 408476 T	15-10-2008
DE 4136252 A1	14-05-1992	ES 2048074 A2	01-03-1994
		IT 1242772 B	17-05-1994

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 200700372 A **[0002]**