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**INVENTION S.R.L.**  
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(54) **Method for obtaining relief decorations on ceramic tiles**

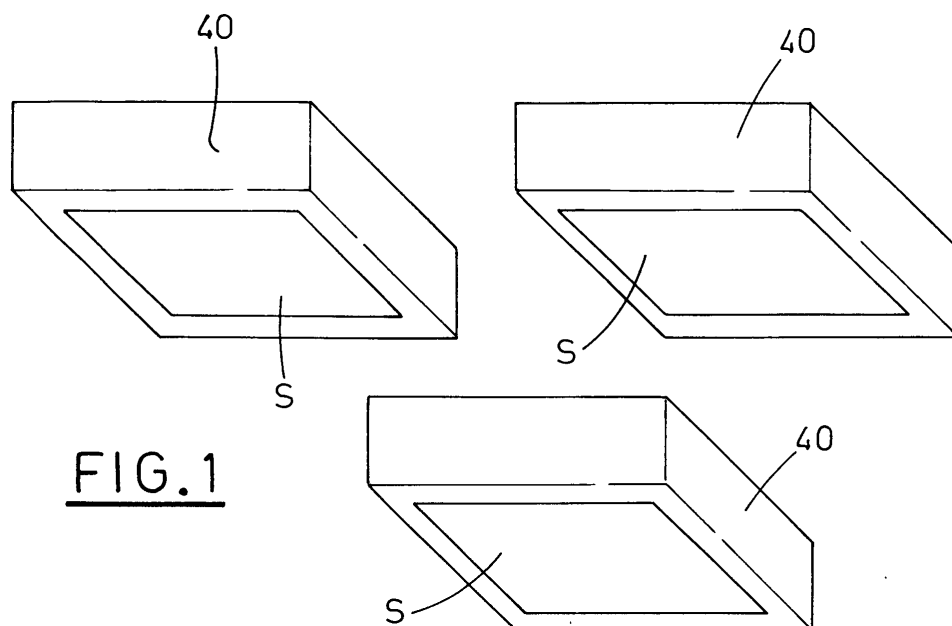
(57) The method includes the application of a smooth layer (S), of a material, which can be processed with laser, on punches (40), which are to be mounted on a press (4), and then the cutting of the decoration mold (M) on the layer (S) of a punch (40) by a laser beam controlled by an electronic processor. The so obtained punch (40) is mounted on said press (4) and a series of test tiles are molded. If the result is satisfactory, the production is started by the same punch (40), otherwise, the corrections

are performed and a new mold (M) is cut on the layer (S) of another punch (40).

The punch is substituted and other tests are carried out, until the final decoration is obtained.

It is possible to start the production with the mold (M) defining the final decoration.

When the mold (M) is considered worn, a new mold (M), with the identical decoration, is cut on the layer (S) of another punch (40), which will substitute the punch with the worn mold.



**FIG.1**

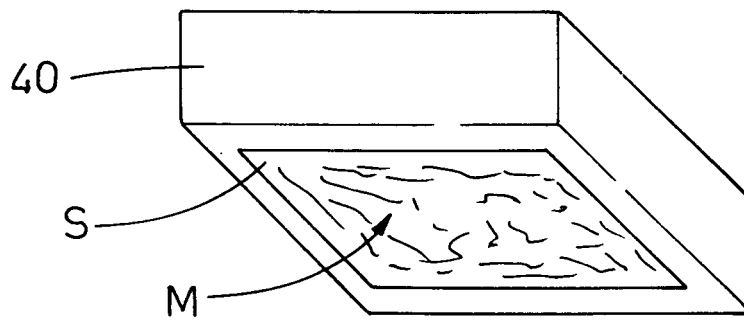


FIG. 2



European Patent  
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# EUROPEAN SEARCH REPORT

Application Number  
EP 05 02 0414

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 1 403 018 A (SERIGRAFICA TOSI S R L [IT]) 31 March 2004 (2004-03-31) * the whole document *	1-6	INV. B28B7/34 B28B3/02
A	EP 1 083 062 A (TOSI SERGIO [IT]) 14 March 2001 (2001-03-14) * abstract; figures *	1	
A	WO 01/81084 A (GRAVURE ET PREC AYANT POUR SIG [FR]; EHANNO DANIEL [FR]) 1 November 2001 (2001-11-01) * abstract; figures *	1	
A	US 6 616 974 B1 (LORIG HEINZ [DE] ET AL) 9 September 2003 (2003-09-09) * abstract; figures *	1	
A	CA 2 418 619 A1 (SCANNI IBERIO E [CA]; SCANNI NINO V [CA]) 10 August 2004 (2004-08-10) * abstract *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			B28B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 23 March 2007	Examiner Labre, Arnaud
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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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 02 0414

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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23-03-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1403018	A	31-03-2004	IT B020020402 A1	24-12-2003
EP 1083062	A	14-03-2001	IT M0990181 A1	08-03-2001
WO 0181084	A	01-11-2001	AU 5645201 A	07-11-2001
			EP 1276613 A1	22-01-2003
			FR 2808240 A1	02-11-2001
US 6616974	B1	09-09-2003	AT 214328 T	15-03-2002
			CA 2279370 A1	01-07-1999
			DE 19756327 A1	01-07-1999
			DK 963287 T3	08-07-2002
			WO 9932275 A1	01-07-1999
			EP 0963287 A1	15-12-1999
			ES 2174534 T3	01-11-2002
			JP 2001524901 T	04-12-2001
CA 2418619	A1	10-08-2004	US 2004154153 A1	12-08-2004

EPO FORM P0459

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