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(71) Applicant: **SYSTEM CERAMICS S.P.A.** [IT/IT]; Via Ghiarola Vecchia 73, 41042 Fiorano Modenese (Modena) (IT).

(72) Inventor: **GHIRELLI, Ivan**; Via Ghiarola Vecchia 73, 41042 Fiorano Modenese (Modena) (IT).

(74) Agent: **CASADEI, Giovanni**; BUGNION S.P.A., Via Veliani Marchi 20, 41124 Modena (IT).

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(54) Title: DISPENSING DEVICE FOR A MATERIAL IN FLAKES OR GRAINS, METHOD FOR PRODUCING CERAMIC TILES USING THE DISPENSING DEVICE AND CERAMIC TILE PRODUCED THEREBY

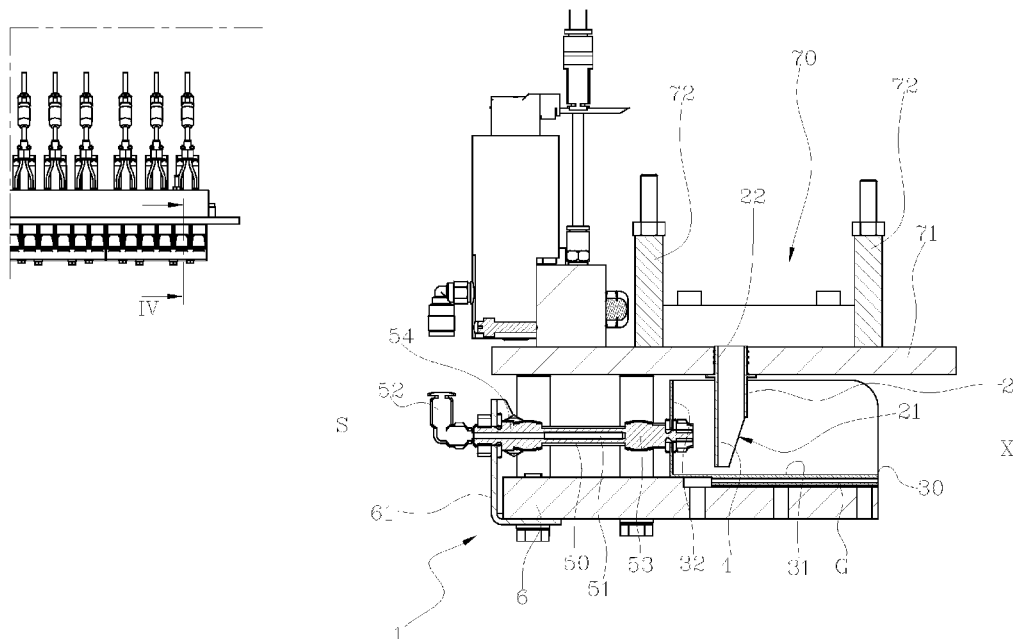


Fig. 1

(57) Abstract: A dispensing device for granular materials in flakes or grains, comprising: - a hopper (2), provided with a lower discharge opening (21); - a drawer (3), arranged below the discharge opening (21) of the hopper (2), which defines a containment space and is provided with a free edge (30) allowing the flow of the granular material along at least one main direction (X); - motor means (5), arranged to impart an alternating motion to the drawer (3) along the main direction (X); - a transverse wall (4), lying on a plane transverse to the main direction (X) and arranged at least partly inside the drawer (3); wherein the motor means (5) is arranged to implement an alternating relative motion along the main direction (X) between the drawer (3) and the transverse wall (4). A method for producing ceramic tiles using this dispensing device is also claimed, as well as a ceramic tile produced by said method.

RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,  
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,  
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- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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13 March 2025 (13.03.2025)

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**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/IB2024/055546

**A. CLASSIFICATION OF SUBJECT MATTER**

INV. B28B11/06 B28B11/00 B28B1/00 B28B13/02 B28B5/02  
B05C19/04 B05C19/06

**ADD.**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

B28B B05C A21C A23G A23P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 560 831 A (REDLAND ROOF TILES LTD) 13 February 1980 (1980-02-13)	1 - 3
A	page 1, lines 9-34, 77-79 page 2, lines 96-106, 118-130 page 3, line 1 page 4, lines 78-84, 91-101 figures 1, 3, 4	14 - 17
X	US 3 800 837 A (MIETZEL D ET AL) 2 April 1974 (1974-04-02) column 1, lines 7-9 column 2, lines 54-68 column 3, lines 1-25, 40-44, 55-61 figures 1, 3, 4	1 - 3

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

18 November 2024

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13/02/2025

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040,  
Fax: (+31-70) 340-3016

Authorized officer

Papakostas, Ioannis

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2024/055546

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 741 460 A (BLAIN WILLIAM A [US] ET AL) 3 May 1988 (1988-05-03) column 1, lines 6-7, 15-18 column 7, lines 39-43, 61-68 column 8, lines 1-15, 25-28 figures 1-3 -----	1-3
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X	WO 2023/047328 A1 (SACMI [IT]) 30 March 2023 (2023-03-30) page 8, lines 12-31 page 12, lines 13-22 page 17, lines 14-28 figures 1, 2, 4 -----	18,19
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2024/055546

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

**see additional sheet**

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:  
**1-3 (completely); 4-6, 13-19 (partially)**
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3 (completely); 13-19 (partially)

Dispensing device for granular materials according to claim 1, wherein the transverse wall is solidly constrained to the hopper; dispensing bar according to claim 1; method for producing ceramic tiles using the dispensing device of claim 1; and ceramic tile produced by said method.

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2. claims: 4-6, 13-19 (all partially)

Dispensing device for granular materials according to claim 1, comprising a support to which the drawer is slidably associated along the main direction; dispensing bar according to claim 4 (first alternative); method for producing ceramic tiles using the dispensing device of claim 4 (first alternative); and ceramic tile produced by said method.

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3. claims: 4-6, 13-19 (all partially)

Dispensing device for granular materials according to claim 1, comprising a support to which the transverse wall is slidably associated along the main direction; dispensing bar according to claim 4 (second alternative); method for producing ceramic tiles using the dispensing device of claim 4 (second alternative); and ceramic tile produced by said method.

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4. claims: 7-12 (completely); 13-19 (partially)

Dispensing device for granular materials according to claim 1, wherein the motor means comprises (i) an elastic sleeve provided with a cavity and (ii) feeding means, arranged to feed in a controlled manner an operating fluid to the cavity; dispensing bar according to claim 7; method for producing ceramic tiles using the dispensing device of claim 7; and ceramic tile produced by said method.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2024/055546

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