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(71) Applicant: **Beheermaatschappij De Boer Nijmegen B.V.**
NL-6541 BS Nijmegen (NL)

(72) Inventor: **Neyens, Hubertus Maria Jozef**
B-3670 Meeuwen-Gruitrode (BE)

(74) Representative: **Hoijtink, Reinoud et al**
Arnold & Siedsma,
Advocaten en Octrooigemachtigden,
Sweelinckplein 1
NL-2517 GK Den Haag (NL)

(54) Apparatus for manufacturing green bricks from clay for the production of bricks

(57) In an apparatus for manufacturing green bricks from clay for the production of bricks with a circulating conveyor driven in stepwise manner for carrying mould containers (3) sub-divided into compartments are disposed supply means for discharging pieces of clay from a discharge point into the compartments.

The supply means comprise the conveyor belts (4,5,6,7,8,9) placed at different heights such that the pieces of clay drop from the one conveyor belt onto the following and are covered with sand. The supply means are oriented in a direction transversely of the transporting direction of the moulds conveyor (2) and according to the invention, the discharge point with the reversing roller (10) and the vertical belts (11) is displaceable stepwise in the transverse direction (P1) of the moulds conveyor (2), which provides the advantage that only one supply device for pieces of clay is required to fill all compartments.

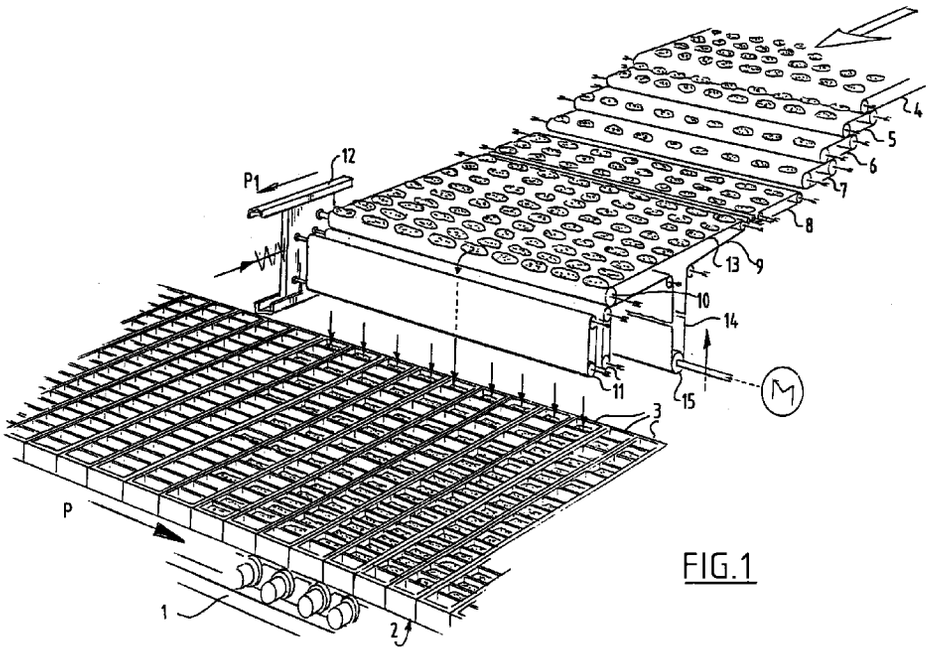

FIG.1

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Description

The invention relates to an apparatus for manufacturing green bricks from clay for the production of bricks, comprising a circulating conveyor driven in stepwise manner for carrying mould containers sub-divided into compartments by means of dividing walls, supply means for supplying a piece of clay at a discharge point to a plurality of compartments located in lengthwise direction of the conveyor.

Such an apparatus is known for instance from "Handbuch für die Ziegelindustrie", Willi Bender et al., 1982, Bauverlag GmbH, Wiesbaden and Berlin, ISBN 3-7625-1485-2, p. 209-215 and fig. 7 on p. 214.

It is the object of the invention to provide an apparatus with which compartments of the mould containers are successively filled with a single supply device. This enables efficient use of the apparatus.

This is achieved according to the invention in that the discharge point is displaceable stepwise in transverse direction of the conveyor.

The displacement is synchronized such that after a step of the movement of the conveyor has been performed the discharge point is displaced successively over two steps.

The length of each step performed by the discharge point corresponds to twice the width of a compartment.

As supply means can be used means which consist of a roughly horizontal conveyor. The discharge point is then located close to a reversing roller of the conveyor, wherein the reversing roller is displaceable parallel to itself. Preferably also arranged is the second vertically displaceable reversing roller which is driven synchronously with the first reversing roller in order to perform a displacement. Due to this construction the active part of the conveyor belt, i.e. the upper part, can be adapted in the length to the displacement of the discharge point. A vertically disposed, driven belt pair connects onto the discharge point in order to accelerate the speed of fall of the piece(s) of clay.

The invention is further elucidated with reference to the accompanying figures of an embodiment.

In the drawings:

Fig. 1 shows a perspective view of a part of a first embodiment, and

Fig. 2 shows schematically the filling pattern of the compartments of the mould containers as seen in time.

The apparatus according to the invention comprises a frame 1, inside which a conveyor is displaceable stepwise in the direction of arrow P. The conveyor carries mould containers, for instance 3, placed one behind another and divided in transverse direction into a plurality of compartments by dividing walls. In this case 18 compartments are arranged per mould container.

Pieces of clay are dispensed by a forming device and supplied to a cascade of a series of conveyor belts 4, 5, 6, 7, 8, 9 respectively. The conveyor belts 4, 5, 6, 7 and 8 are placed at different heights such that the pieces of clay drop from the one conveyor belt onto the following and are thus covered with sand on all sides. Connecting onto conveyor belt 8 is a conveyor belt 9 of specific construction according to the invention. On the end of conveyor 9 at the position of reversing roller 10 is disposed a vertical belt pair which connects onto the discharge point and which is driven such that the transporting or falling speed of a piece of clay in the direction of conveyor 3 is accelerated. Using the driven frame 12 which is driven in the direction of arrow P1, the reversing roller 10 is displaceable in transverse direction of conveyor 2. In order to enlarge or reduce the active length of conveyor belt 9, i.e. the upper part 13 thereof, the lower part 14 of the conveyor belt is trained round a reversing roller driven for vertical displacement by a motor M. The displacement of reversing roller 15 in vertical direction runs synchronously with the displacement of reversing roller 10. In this way the belt always remains tensioned.

Fig. 2 shows the filling pattern of the different compartments of the mould containers as seen in time after starting operation of the apparatus. After a time all the compartments of the mould containers are filled with clay.

According to the invention an efficiently operating apparatus is obtained in that with a supply device for clay all compartments of the mould containers placed in a row are filled with clay.

Claims

1. Apparatus for manufacturing green bricks from clay for the production of bricks, comprising a circulating conveyor driven in stepwise manner for carrying mould containers sub-divided into compartments by means of dividing walls, supply means for supplying the pieces of clay at a discharge point to a plurality of compartments located in lengthwise direction of the conveyor, **characterized in that** the discharge point is displaceable stepwise in transverse direction of the conveyor.

2. Apparatus as claimed in claim 1, **characterized in that** after one step of the movement of the conveyor has been performed the discharge point is displaced successively over two steps.

3. Apparatus as claimed in claims 1-2, **characterized in that** the length of each step performed by the discharge point corresponds to twice the width of a compartment.

4. Apparatus as claimed in claims 1-3, **characterized in that** the supply means consist of a roughly horizontal conveyor.

5. Apparatus as claimed in claim 4, **characterized in that** the discharge point is located close to a revers-

ing roller of the conveyor and the reversing roller is displaceable parallel to itself.

6. Apparatus as claimed in claim 5, **characterized by** a vertically displaceable second reversing roller which is driven synchronously with the first reversing roller in order to perform a displacement.

7. Apparatus as claimed in claims 4-6, **characterized in that** a vertically disposed, driven belt pair connects onto the discharge point.

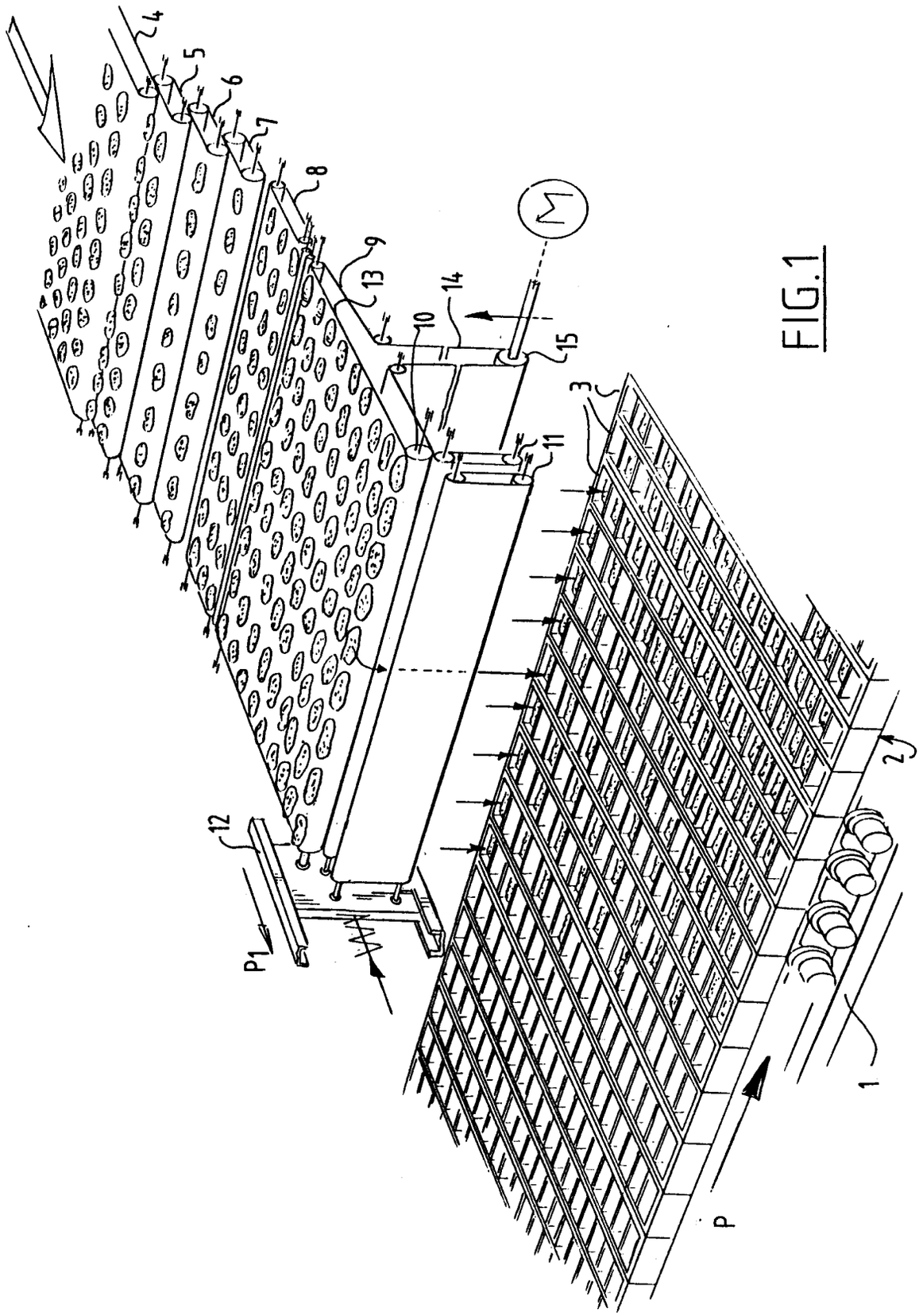

FIG.1

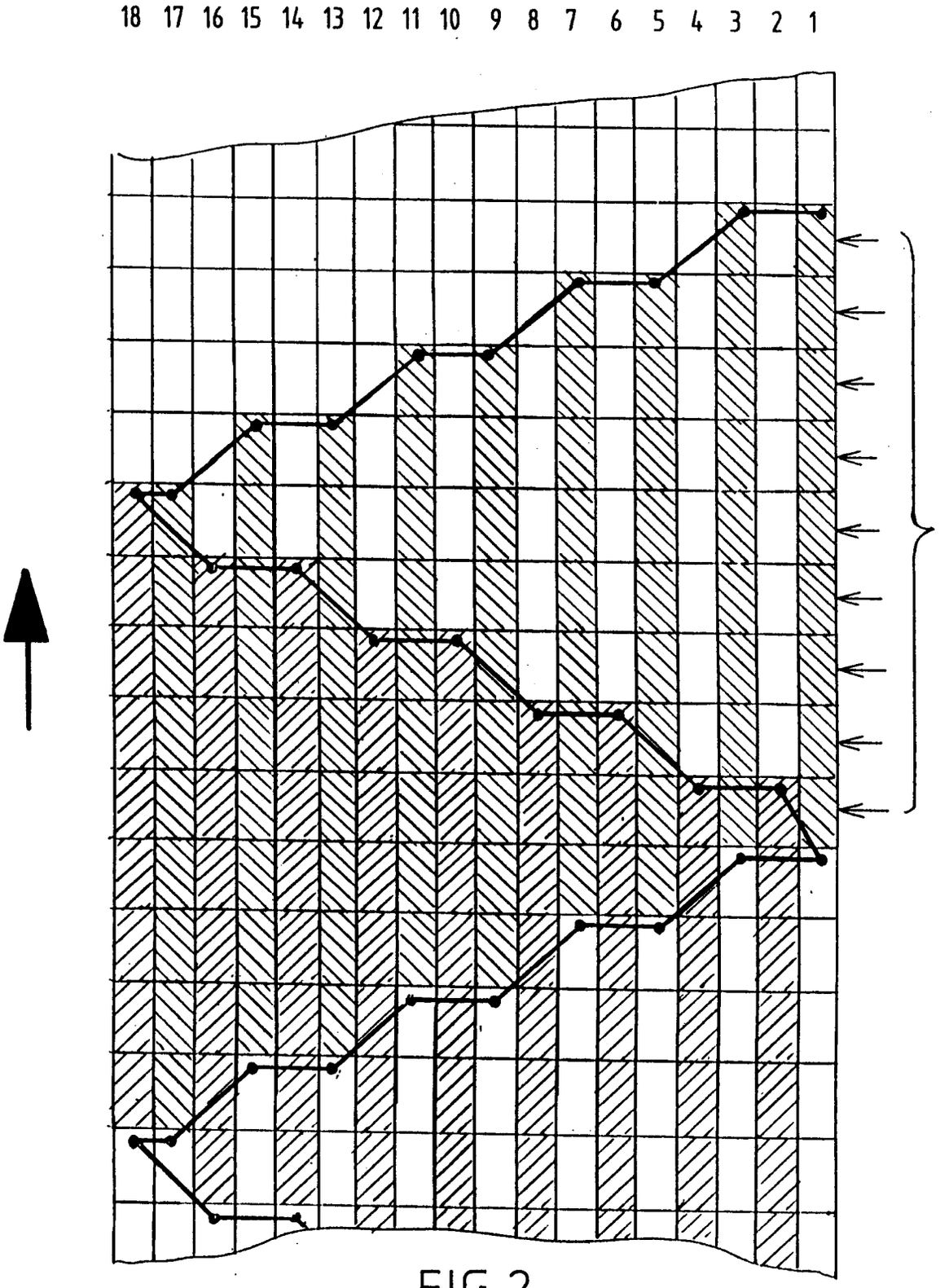

FIG.2

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EUROPEAN SEARCH REPORT

Application Number
EP 95 20 2746

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.6)
A	GB-A-J07574 (J. CALLOW) 28 September 1908 &GB-A-07574 A.D. 1909 * page 4, line 1 - page 5, line 22; figure 1 * &GB-A-07574 A.D. 1910	1,4-6	B28B13/02 B28B5/02
A	DE-B-12 83 171 (FR. WINKLER KG) 20 February 1969 * the whole document *	1,4-7	
A	US-A-3 106 280 (D. K. BAKER) 8 October 1963 * column 2, line 52 - column 3, line 72; figures 1-3 *	1,4-6	
A	EP-A-0 408 149 (HUBERT SNEEK MACHINEFABRIEK) 16 January 1991 * the whole document *	1	
A	DATABASE WPI Week 7721 Derwent Publications Ltd., London, GB; AN 77-E2317Y & NL-A-7 603 794 (MACHINEFABRIEK MATTIJSSEN B.V.) , 11 October 1977 * abstract *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B28B A21C
A	DATABASE WPI Week 8203 Derwent Publications Ltd., London, GB; AN 82-A5846E & NL-A-8 002 915 (MACHINEFABRIEK MATTIJSSEN N.V.) , 16 December 1981 * abstract *	1	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	23 January 1996	Gourier, P

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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