



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 688 229 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
09.08.2006 Bulletin 2006/32

(51) Int Cl.:
B27M 1/08^(2006.01) B27M 3/00^(2006.01)

(21) Application number: **06100658.1**

(22) Date of filing: **20.01.2006**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI
SK TR**
Designated Extension States:
AL BA HR MK YU

(71) Applicant: **BIESSE S.p.A.**
61100 Pesaro (IT)

(72) Inventor: **Bernardi, Paolo**
47841 Cattolica (IT)

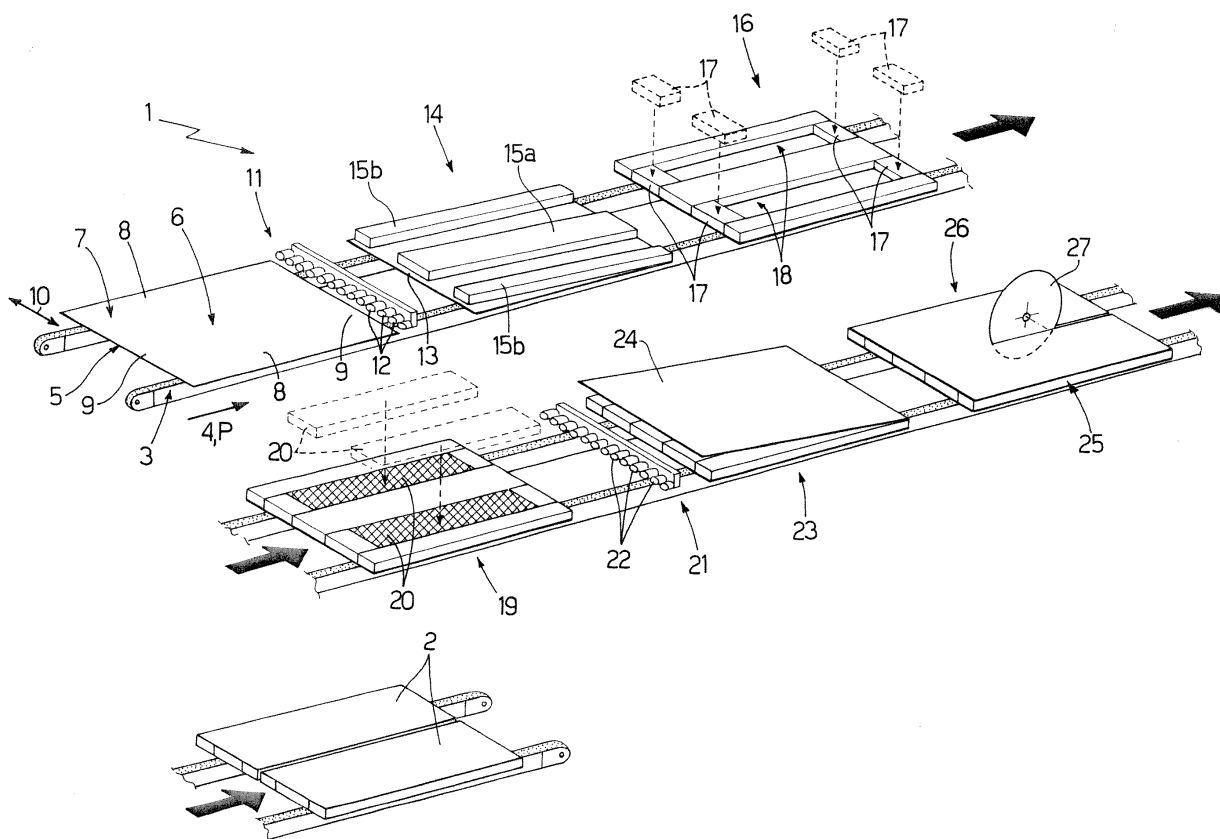
(74) Representative: **Jorio, Paolo et al**
Studio Torta S.r.l.
Via Viotti, 9
10121 Torino (IT)

(30) Priority: **28.01.2005 IT BO20050043**

(54) **Method of producing panels of wood or similar**

(57) A method of producing components (2) of wood or similar, whereby each component (2) is obtained from a panel (25) formed by fixing at least three parallel strips (15a, 15b) to a first sheet (5) of wood; inserting a honey-comb structure (20) inside each clear portion (18) defined

on the first sheet (5) by the three strips (15a, 15b); and fixing a second sheet (24) of wood to the strips (15a, 15b); the panel (25) being cut along a longitudinal plane of symmetry of the strip (15a) located at an intermediate portion (13) of the first sheet (5), to form at least two components (2).



EP 1 688 229 A1

Description

[0001] The present invention relates to a method of producing components of wood or similar.

[0002] In wood component manufacturing, a machine is known comprising a conveying device for feeding along a given path a first sheet of wood or similar, which is substantially rectangular and bounded laterally by a peripheral edge comprising two substantially parallel longitudinal portions, and two substantially parallel transverse portions perpendicular to the longitudinal portions.

[0003] The path extends through a first gluing station for attaching a first pair of strips of wood or similar along the longitudinal portions, and a second pair of strips of wood or similar along the transverse portions; a filling station for inserting a honeycomb structure inside the clear portion defined by the strips on the first sheet; and a second gluing station for attaching to the strips a second sheet of wood or similar, substantially identical to the first sheet, to complete the component.

[0004] Known machines of the above type for producing components of wood or similar have several drawbacks, mainly due to the fairly poor flexibility of the machines, which must be set up each time according to the format of the components for manufacture.

[0005] It is an object of the present invention to provide a method of producing components of wood or similar, designed to eliminate the aforementioned drawbacks.

[0006] According to the present invention, there is provided a method of producing components of wood or similar, as claimed in the accompanying Claims.

[0007] The present invention will be described with reference to the accompanying drawing, which shows a schematic view in perspective of a non-limiting embodiment.

[0008] Number 1 in the accompanying drawing indicates as a whole a machine for producing components 2 of wood or similar, and comprising a known conveying device 3 extending along a given path P and in a given direction 4.

[0009] Device 3 feeds along path P a substantially flat supporting sheet 5, which, in the example shown, is substantially rectangular and made of materials derived from wood, such as so-called MDF (Medium Density Foam) or HDF (High Density Foam) materials.

[0010] Sheet 5 has a top major face 6 bounded laterally by a peripheral edge 7 comprising two longitudinal portions 8 substantially parallel to direction 4, and two transverse portions 9 parallel to each other and to a direction 10 crosswise to direction 4.

[0011] Device 3 feeds sheet 5 through a first gluing station 11 having a number of nozzles 12 aligned in direction 10 and for applying a given amount of glue firstly to the leading portion 9 in direction 4, then to portions 8 and an intermediate portion 13 of sheet 5 substantially parallel to portions 8, and finally to the trailing portion 9 in direction 4.

[0012] From station 11, sheet 5 is fed through a first

feed station 14 where respective longitudinal strips 15 of wood or similar are glued to portions 8 and portion 13; which strips 15 are substantially parallelepiped-shaped with a substantially rectangular cross section, are parallel to one another and to direction 4, and, in the example shown, are of a length, measured parallel to direction 4, substantially equal to the length of sheet 5, also measured parallel to direction 4.

[0013] In this connection, it should be pointed out that the strip 15 (hereinafter indicated 15a) glued to portion 13 is substantially twice the width, measured parallel to direction 10, of each of the strips 15 (hereinafter indicated 15b) glued to portions 8.

[0014] Sheet 5 and strips 15a, 15b are then fed through a second feed station 16 where respective transverse strips 17 of wood or similar are glued to portions 9 and between strips 15a, 15b; which strips 17 are substantially parallelepiped-shaped with a substantially rectangular cross section, and, together with strips 15a, 15b, define two clear portions 18 of sheet 5.

[0015] From station 16, sheet 5 and strips 15a, 15b and 17 are fed through a filling station 19 where a respective honeycomb filling structure 20, made, for example, of cardboard, is inserted inside each clear portion 18.

[0016] At this point, the whole defined by sheet 5, by strips 15a, 15b, 17, and by filling structure 20, is fed along path P through a second gluing station 21 having a number of nozzles 22 aligned in direction 10 and for applying glue to strips 15a, 15b, 17, and then through a finishing station 23 where a supporting sheet 24, of substantially the same shape, size and material as sheet 5, is glued to strips 15a, 15b, 17 to complete a panel 25.

[0017] Finally, the newly formed panel 25 is fed through a cutting station 26 having a cutting blade 27 for cutting panel 25 parallel to direction 4 and along a longitudinal plane of symmetry of strip 15a to form, in the example shown, two components 2 from panel 25.

[0018] Obviously, in variations not shown:

the number of strips 15a is other than one;

panel 25 is formed by gluing further strips 17 to intermediate portions of sheet 5 and between adjacent strips 15, and is therefore also cut in direction 10 and along a longitudinal plane of symmetry of each of strips 17 glued to the intermediate portions of sheet 5;

the shape of sheet 5, and therefore of lateral edge 7, differs from that shown in the accompanying drawing; and

the shape, size, and arrangement of strips 15 and 17 differ from those shown in the accompanying drawing.

Claims

1. A method of producing components (2) of wood or similar from a first sheet (5) of wood or similar having

a continuous lateral edge (7) comprising two substantially parallel longitudinal portions (8), and two transverse portions (9) connecting the longitudinal portions (8); the method comprising the steps of:

fixing a first strip (15b) of wood or similar to each longitudinal portion (8) of said first sheet (5); and being **characterized by** also comprising the steps of:

fixing at least one second strip (15a) to said first sheet (5), the second strip (15a) being located between and parallel to said first strips (15b) and at an intermediate portion (13) of said first sheet (5), so as to define at least two clear portions (18) of the first sheet (5);

inserting a honeycomb structure (20) inside each said clear portion (18);

fixing to said first and second strips (15b, 15a) a second sheet (24) of wood or similar, of substantially the same shape as said first sheet (5), to form a panel (25) of wood or similar; and

cutting the panel (25) along a longitudinal plane of symmetry of each said second strip (15a) to obtain at least two said components (2).

2. A method as claimed in Claim 1, wherein each said second strip (15a) is of a width, measured crosswise to the relative longitudinal plane of symmetry, substantially equal to twice the width of a said first strip (15b).

3. A method as claimed in Claim 1 or 2, and also comprising the steps of:

fixing at least one third strip (17) to each transverse portion (9) of said first sheet (5), said first, second, and third strips (15b, 15a, 17) combining to define said clear portions (18);

inserting a said honeycomb structure (20) inside each clear portion (18); and

fixing the second sheet (24) to said first, second, and third strips (15b, 15a, 17) to form said panel (25).

4. A method as claimed in Claim 3, and also comprising the steps of:

fixing at least one fourth strip to said first sheet (5), the fourth strip being located between and parallel to said third strips (17) at a further intermediate portion of said first sheet (5), and said first, second, third, and fourth strips (15b, 15a, 17) combining to define said clear portions (18); inserting a said honeycomb structure (20) inside

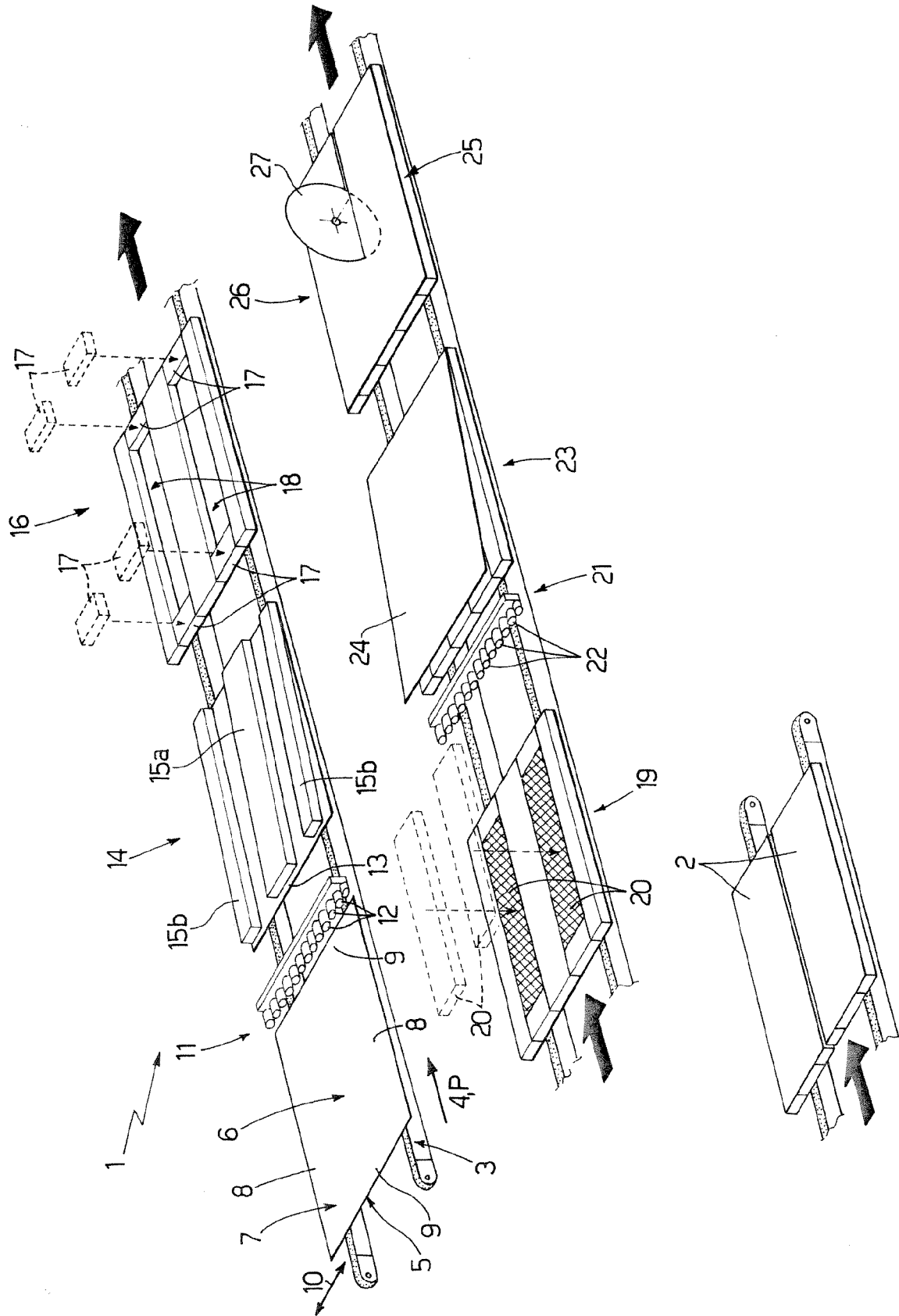
each clear portion (18); and

fixing said second sheet (24) to said first, second, third, and fourth strips (15b, 15a, 17) to form said panel (25).

5. A method as claimed in Claim 4, and also comprising the step of:

cutting the panel (25) along a longitudinal plane of symmetry of each said fourth strip to obtain a number of said components (2).

6. A method as claimed in Claim 4 or 5, wherein each said fourth strip is of a width, measured crosswise to the relative longitudinal plane of symmetry, substantially equal to twice the width of a said third strip (17).





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 10 0658

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	US 2003/209318 A1 (HENTHORN JOHN R) 13 November 2003 (2003-11-13) * paragraphs [0056], [0057], [0059]; figures 3,5 *	1-6	INV. B27M1/08 B27M3/00
X	----- WO 90/04515 A (MOEBELKNAGGEN AB) 3 May 1990 (1990-05-03) * abstract *	1-6	
X	----- GB 1 427 665 A (STATENS SKOGSINDUSTRIER AB) 10 March 1976 (1976-03-10) * page 2, lines 37-55; figure *	1,2	
			TECHNICAL FIELDS SEARCHED (IPC)
			B27M B27D B32B E04C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 May 2006	Examiner Meritano, L
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			

1
EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 10 0658

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.

18-05-2006

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2003209318	A1	13-11-2003	NONE		

WO 9004515	A	03-05-1990	AU	4411489 A	14-05-1990
			SE	461076 B	08-01-1990
			SE	8803753 A	20-10-1988

GB 1427665	A	10-03-1976	SE	384811 B	24-05-1976
