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(72) Inventors:
• **Asumus, Matti**
60550 Nurmo (FI)
• **Lehtikevari, Tapani**
61820 Kainasto (FI)

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(74) Representative: **Nieminen, Taisto Tapani**
Patenttitoimisto T. Nieminen Oy,
Kehräsaari B
33200 Tampere (FI)

(71) Applicant: **VESME SYSTEMS OY**
61850 Kauhajoki (FI)

(54) **Method for placing a manufactured laminated beam or similar into a glueing press and a glueing press**

(57) A Method and a glueing press for placing into and pressing in pressing unit (2) pieces of wood to be laminated into multiple timber, a beam, log and similar, whereby in the method pieces (1) with glue-prepared surfaces are taken on transportation track (17) to pressing unit (2), where pieces (1) are pressed against each other by means of movable pressing surfaces (3,10) until the glue gets dry. There are several pressing units located one after another and a transportation track

leading to them. Piece unit (1a,1b,1c) to be pressed is steered to one or several preferred consecutive units (2) to get pressed and, further, piece unit (1a,1b,1c) to be pressed is lifted at the pressing unit off the track (17) against upper counterparts (18) to the level of pressing surfaces (3,10) of pressing unit 2, piece unit (1a,1b,1c), is taken between pressing surfaces (3,10) for pressing, and transportation rack (17) can freely convey other piece units below element unit (1a,1b,1c), which is being processed.

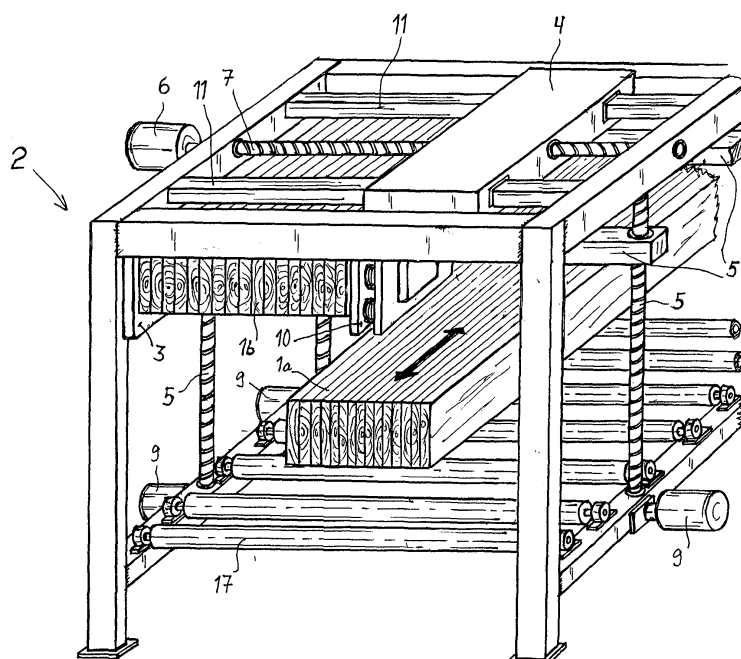


Fig. 2

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Description

[0001] The invention relates to a glueing press and a method to place pieces of wood into said glueing press in order to produce multiple timber, a laminated beam, log or similar, whereby the pieces to be laminated have glue-prepared surfaces and are taken on a transportation track to the pressing unit, where the pieces are pressed by means of movable pressing surfaces as long as the glue gets dry.

[0002] A number of disposable glueing presses are known of same type as above presented. In those ones the pieces to be pressed are stacked into the press and when the glue has dried the pressed pieces are removed the same way from the press. Also known is a feed-through press, where it is possible to press only pieces of same dimension on the same line. Furthermore, a press is known, where different dimensions are arranged to travel on different lines.

[0003] The disadvantage of these presses is the unsuitability to pieces with changing dimensions. Even if the press would have a length for simultaneous pressing of two pieces, yet it is not possible if the dimension of the pieces varies in the pressing direction.

[0004] In order to settle these problems a new method is developed for placing the pieces to be glued and pressed into the glueing press and the invention is characterized in that

- there are several pressing units one after another and a transportation track leading to them,
- the element unit to be pressed is steered to be pressed by one or several preferred consecutive units,
- the piece unit to be pressed is at the pressing unit lifted off the track against counterparts to the level of the upper pressing surfaces of the pressing unit,
- the piece unit is taken between the pressing surfaces to get pressed and the transportation track is free for moving other piece units below the piece unit being processed in the press.

[0005] The glueing press as per the invention is characterized in that it comprises several pressing units one after another and the transportation track is fitted to run to them, whereby the element unit can be steered to pressing by one or several preferred consecutive units in stopping the motion of the piece unit to a preferred spot on the track, whereafter by means of the lifting device in the press the piece unit can be lifted against the upper counterparts of the press to the level where the pressing surfaces that carry out the actual glueing of the pressing unit are located, and that the transportation track can freely convey other piece units below the piece unit, which is being processed.

[0006] The advantage of the method as per the invention is that it allows simultaneous pressing of pieces of different size: The pieces can be placed in and removed

from the press independent of other pieces being pressed in it. This, however, provides that the altogether length of the pieces is shorter than the total length of the press, so that they could be placed one after another..

Accordingly, the press is suited for flexible and changeable production, it can be through-fed if necessary, and the pieces in it can pass each other.

[0007] In the following the invention is disclosed with reference to the enclosed drawing, where

Fig. 1 is a schematic side view of the glueing press.

Fig. 2 is a diagonal side view of a pressing unit.

[0008] Figure 1 shows a glueing press comprising several pressing units 2 one after another, which can be steered separately as well as in groups. Pieces 1a-c to be glued arrive along transportation track 17 at the press and the track leads further through the press. Piece 1a-c, which is formed of several elements and is to be glued and pressed, is stopped on track 17 at a preferred spot, where the pressing length is sufficient in regard to the length of the piece. A piece, as 1c, is by means of lifting device 5 in the press lifted up against upper counterpart 18, whereby elements 1 to be glued get tightly packed already vertically. Upper counterpart 18 is solid and lifting device 5 presses the element against upper counterpart 18, whereby the sideways movable actual glue-pressing surface 10 presses the piece against side counterparts 3.

[0009] Figure 1 shows that piece 1b, which is already getting pressed, can be removed from the first part of the press, while piece 1c is getting pressed. The lifting arms of device 5 are on the sides of the press and do not disturb the use of the transportation track. Thus the pieces are as to their length altogether shorter than the total length of the press and can be placed one after another and removed in wanted order and, further, due to individual steering the pieces can be different among themselves.

[0010] Figure 2 shows pressing unit 2 as per the invention, which has between pressing surfaces 3 and 10 piece 1b being pressed. On transportation track there is a not pressed or possibly pressed and glued piece 1a freely movable. In this example there are as lifting means elevating screws 5, a horizontal holder 5' moving up and down, while screws 5 are turning, and driving motors 9 of screws 5. Horizontal holder 5' is as broad as the whole press. It is let down between transportation rolls 17 below their upper surface, when lifting is not carried out. Lifting means 5, 5' do not block the travel of pieces on the track, no matter whether they are in upper or lower position, since screws 5 are on the edges of the press.

[0011] Side press devices in the upper part of pressing unit 2 carry out the pressing in the direction required by actual glueing. In the other edge of the unit there are solid counterparts 3, against which piece 1a-c is moved at first, which in this embodiment takes place so that side

press body 4 is run towards counterparts 3, till the movable pressing surfaces 10 in body 4 push the piece against counterparts 3 and pressing takes place. At the same time horizontal holders 5' are pressing from below. Side press body 4 is run by means of motor 6 and ball screw 7. Side press body 4 slides on sliding guide 11 in crosswise direction of press 2.

[0012] Since the movable pressing surfaces 10 are furnished with flexible organs, as springs, the tension transmitted through these surfaces gets well smoothed out.

[0013] In connection with pressing units 2 there is a control system, by means of which pieces 1a-c are placed one after another, if allowed by the total length of the press. Piece units 1a, 1b, 1c, are steered by means of the control system to convenient pressing units 2, placed into them for pressing, kept in pressing as long as necessary and removed from pressing unit 2, when the glue gets dry.

Claims

1. A method to place pieces of wood into a glueing press 2 in order to produce multiple timber, a laminated beam, a log or similar by said press, in which method pieces (1) with glue-prepared surfaces are taken on a transportation track (17) to pressing unit (2), where pieces (1) are pressed by means of movable pressing surfaces (3, 10) as long the glue gets dry, **characterized in that**

- there are several pressing units (2) one after another and a transportation track (17) leading to them,
- piece unit (1a, 1b, 1c) to be pressed is steered to be pressed by one or several preferred consecutive units (2),
- piece unit (1a, 1b, 1c) to be pressed is lifted off track (17) at the pressing unit against counterparts (18) to the level of the upper pressing surfaces (3, 10) of pressing unit (2),
- piece unit (1a, 1b, 1c) is taken between pressing surfaces (3, 10) to get pressed and transportation track (17) can freely convey other piece units below the piece unit being processed in the press.

2. A method according to claim 1 **characterized in that** by means of data transmitted to the control system in the press the piece unit (1a, 1b, 1c) is steered to a free unit/units (2) for pressing.

3. A method according to claim 1 **characterized in that** consecutive pressing units (2) are steered separately or in groups.

4. A glueing press for pressing adjacent pieces, which

are to be glued in order to make multiple timber, a laminated beam, log and similar by said press, whereby the press comprises a transportation track (17), by means of which pieces (1) with glue-prepared surfaces are taken to pressing unit (2), to which pressing surfaces (3, 10) are fitted, at least some of which are movable allowing pressing of pieces (1) against each other as long as the glue gets dry, **characterized in that** the glueing press has several pressing units (2) one after another and a transportation track (17) is fitted to lead to them, whereby piece unit (1a, 1b, 1c), can be steered to one or several preferred consecutive units (2) to get pressed in stopping the motion of the piece unit (1a, 1b, 1c) on a spot wanted on track (17), whereafter by means of a lifting device (5, 5') in the glueing press the element unit can be lifted against upper counterparts (18) to the level of pressing surfaces (3, 10) of pressing unit (2) that carry out the actual pressing, and that transportation track (17) can convey other piece units below element unit (1a, 1b, 1c), which is being processed.

5. A glueing press according to claim 5 **characterized in that** horizontal holders (5') for lining and lowering of the element unit is fitted to rise up from the open spaces between the rolls of transportation track (17).

6. A glueing press according to claim 4 **characterized in that** some pressing surfaces (10) are furnished with flexible organs.

7. A glueing press according to claim 4 **characterized in that** it has a control system for steering piece units (1a, 1b, 1c) of difference length, which have to be pressed, to suitable pressing units (2), and for placing them to get pressed in the units and to keep them in pressing as long as required and to remove them from pressing unit (2) when the glue is dry.

