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(54) **Process and machine for manufacturing shaped profiles in curved plywood**

(57) A process and a machine for manufacturing shaped profiles in curved plywood are described. A plurality of several flat wooden sheets (1) with interposed adhesive (2) is subjected to temperature and pressure by means of a shaped press (3) at high temperature,

which makes the sheets themselves adhere with each other and bend up to a desired shape. Said pressure is obtained by inflating flexible pipes (9,10) placed parallel to each other along the longitudinal extension of the flat sheets (1).

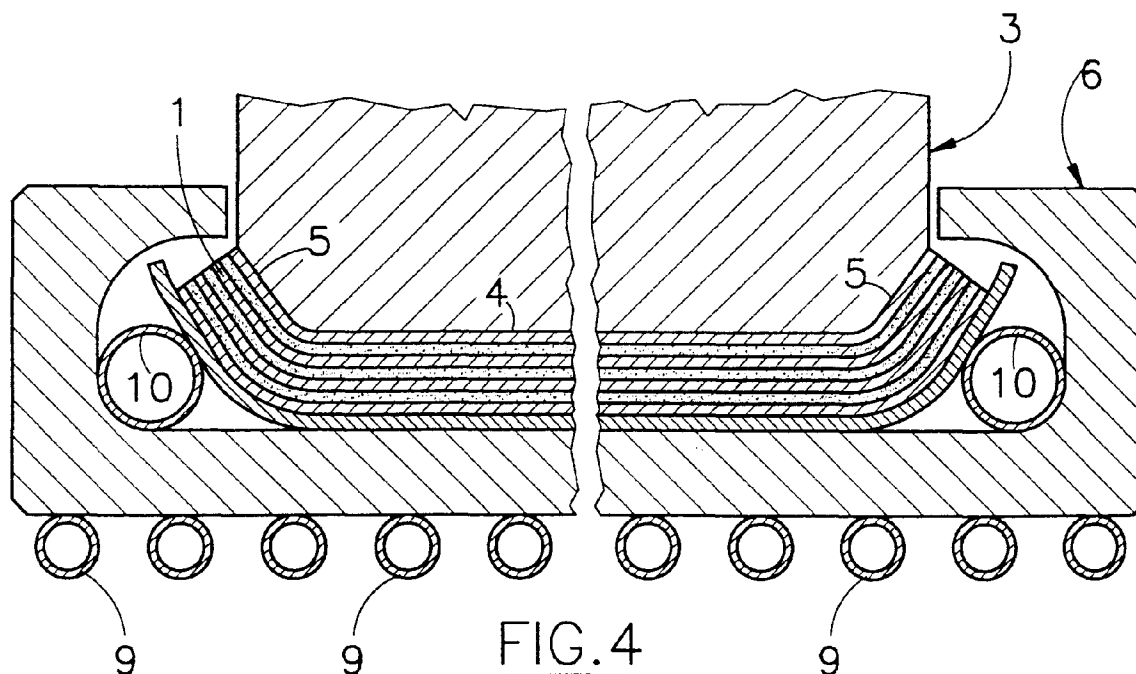


FIG. 4

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Description

The present invention relates to a process and a machine for manufacturing shaped profiles in curved plywood.

The traditional process of manufacturing of shaped profiles (skirting boards or other) in curved plywood provides for the overlay of several flat sheets with interposed adhesive, that adhere together by means of an heated press which compresses said sheets one against the other, also determining the bending in function of the shape of the press itself.

The application of the pressure by means of the pressing element is troublesome in the case of shaped profiles of considerable length.

As a matter of fact, an high pressure over a wide surface demands for the application of an higher force which is often difficult to obtain.

Moreover, if the wood thickness along the extension of the sheets is not perfectly uniform, structural imperfections occur which affect the final appearance of the finished profile.

In view of this state of the art, object of the present invention has been to provide a process and a machine specifically fit for manufacturing shaped profiles in curved plywood of considerable length.

In view of such an object a process for manufacturing shaped profiles in curved plywood has been provided, comprising overlay of several flat wooden sheets with interposed adhesive and application of pressure against said overlaid sheets by means of a shaped press at high temperature so as to make the sheets themselves adhere and to each other bend up to the desired shape, characterized in that said pressure is obtained by inflating flexible pipes placed parallel to each other along the flat sheets' longitudinal extension.

Correspondently, in order to carry out the process according to the invention a machine has been provided comprising a heated press shaped in function of the final appearance of the profile to manufacture and means for obtaining a pressure engagement between said press and a plurality of wooden sheets overlaid with interposed adhesive so as to make the sheets themselves adhere with each other and bend up to the desired shape, characterized in that said means for obtaining a pressure engagement consist of a plurality of inflatable flexible pipes placed parallel to each other along the longitudinal extension of the flat sheets.

Preferably, said plurality of inflatable flexible pipes comprises a first set of inflatable flexible pipes acting on a counterpress to compress a central part of the overlaid wooden sheets against a flat central part of said press and a second set of inflatable flexible pipes acting on at least one side part of said overlaid sheets to force its bending and compression against a lateral part of said press.

By the process and the machine according to the invention the overlaid wooden sheets, even if of consid-

erable length, are subjected to any desired pressure, which automatically fits itself for possible small differences of the sheets' thickness, thus creating an absolutely perfect finished profile.

A machine according to the invention is schematically shown in the enclosed drawings and it will be described by way of example which does not limit the field of the invention as claimed further.

In the drawings :

Fig. 1 schematically shows in perspective view a plurality of wooden sheets overlaid with interposed adhesive before being inserted in a machine according to the invention;

Figs. 2-4 schematically show following stages of manufacture of the wooden sheets of Fig. 1 in a machine according to the invention;

Fig. 5 shows in schematic cross section a curved plywood shaped profile manufactured by the machine of the preceeding Figures.

In Fig. 1 are schematically shown in perspective view a plurality of wooden flat sheets 1, between which a layer of adhesive at high temperature is interposed.

According to the invention, if the object is to realize a plywood shaped profile curved on both sides, like by way of example a skirting board, the set of Fig. 1 is inserted in a machine comprising a shaped press 3, heated at high temperature, fitted with one flat central part 4 and two oblique lateral parts 5 and a counterpress 6 provided of a cavity 7 where said set is housed on a flexible metallic plate 8. The counterpress 6 is laid upon a first set of inflatable flexible pipes 9, initially deflated as shown in Fig. 2, while a further pair of inflatable flexible pipes 10, as well initially deflated as shown in Fig. 2, is interposed between the counterpress 6 and the two sides of the flexible metallic plate 8. Both pipes 8 and 9 are placed parallel to each other along the entire flat sheets' longitudinal extension.

Next, as shown in Fig. 3, compressed air is driven inside the flexible pipes 9, that swell and push the counterpress 6 and therefore the wooden sheets 1 against the central flat part 4 of the front of press 3.

Next also the flexible pipes 10 get inflated by means of supplying compressed air, thus determining the bending of the sides of sheets 1 against the oblique lateral parts 5 of the front of press 3, as shown in Fig. 4.

At the end of the process is obtained the shaped profile with curved edges, which is shown in Fig. 5.

Naturally, the edges' bending can be modified by varying the front shape of press 3. In the same way a profile can be obtained curved or otherwise bended over one side only.

Claims

1. Process for manufacturing shaped profiles in

curved plywood, comprising overlay of several flat wooden sheets (1) with interposed adhesive (2) and application of pressure against said overlaid sheets (1) by means of a (3) shaped press at high temperature so as to make the sheets themselves adhere to each other and bend up to a desired shape, characterized in that said pressure is obtained by inflating flexible pipes (9,10) placed parallel to each other along the longitudinal extension of the flat sheets (1).

2. Process according to claim 1, characterized in that said plurality of inflatable flexible pipes (9,10) comprises a first set of inflatable flexible pipes (9) acting on a counterpress (6) to compress a central part of the wooden overlaid sheets (1) against a central flat part (4) of said press (3) and a second set of inflatable flexible pipes (10) acting on at least one side part said overlaid sheets (1) to force its bending and compression against a lateral flat part (5) of said press (3).
3. Machine for manufacturing shaped profiles in curved plywood, comprising a heated press (3) shaped in function of the final appearance of the profile to manufacture and means (9,10) for obtaining a pressure engagement between said press (3) and a plurality of overlaid wooden sheets (1) with interposed adhesive (2) so as to make the sheets themselves adhere to each other and bend up to the desired shape, characterized in that said means for obtaining a pressure engagement consist of a plurality of inflatable flexible pipes (9,10) placed parallel to each other along the longitudinal extension of the flat sheets (1).
4. Machine according to claim 3, characterized in that said plurality of inflatable flexible pipes (9,10) comprises a first set of inflatable flexible pipes (9) acting on a counterpress (6) to compress a central part of the wooden overlaid sheets (1) against a central flat part (4) of said press (3) and a second set of inflatable flexible pipes (10) acting on at least a side part of said overlaid sheets (1) to force its bending and compression against a lateral part (5) of said press (3).

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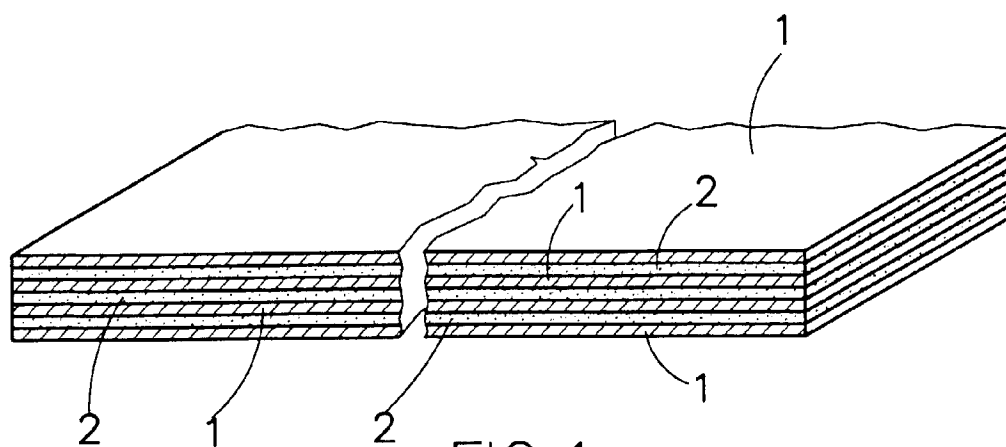


FIG. 1

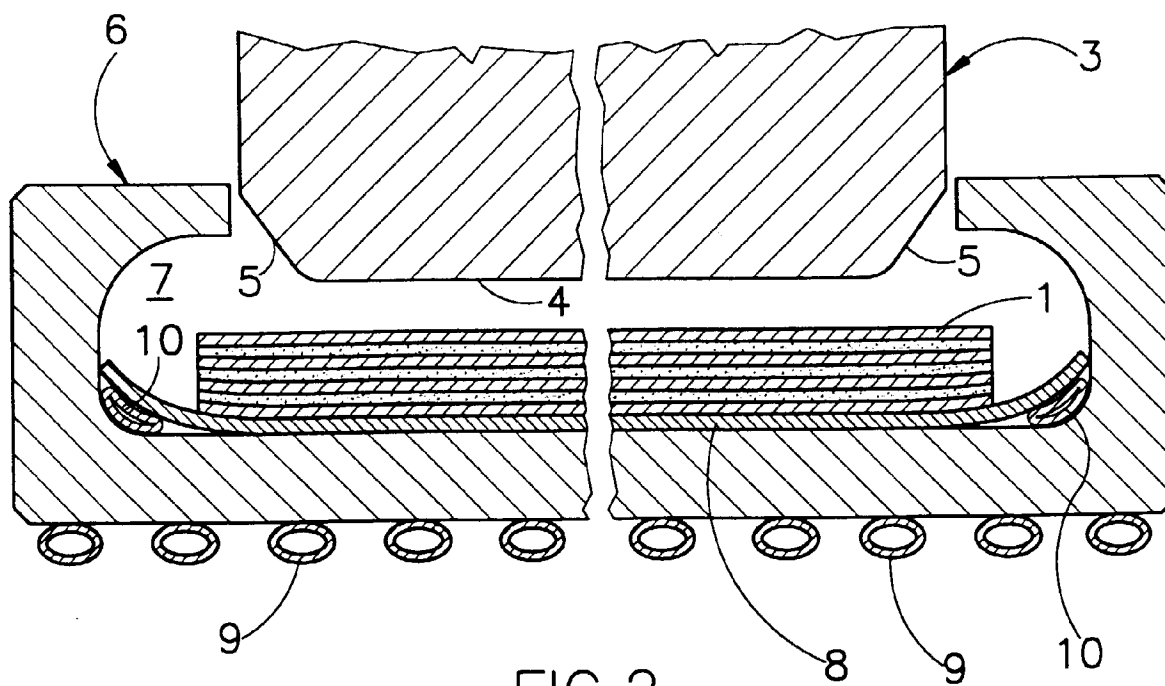


FIG. 2

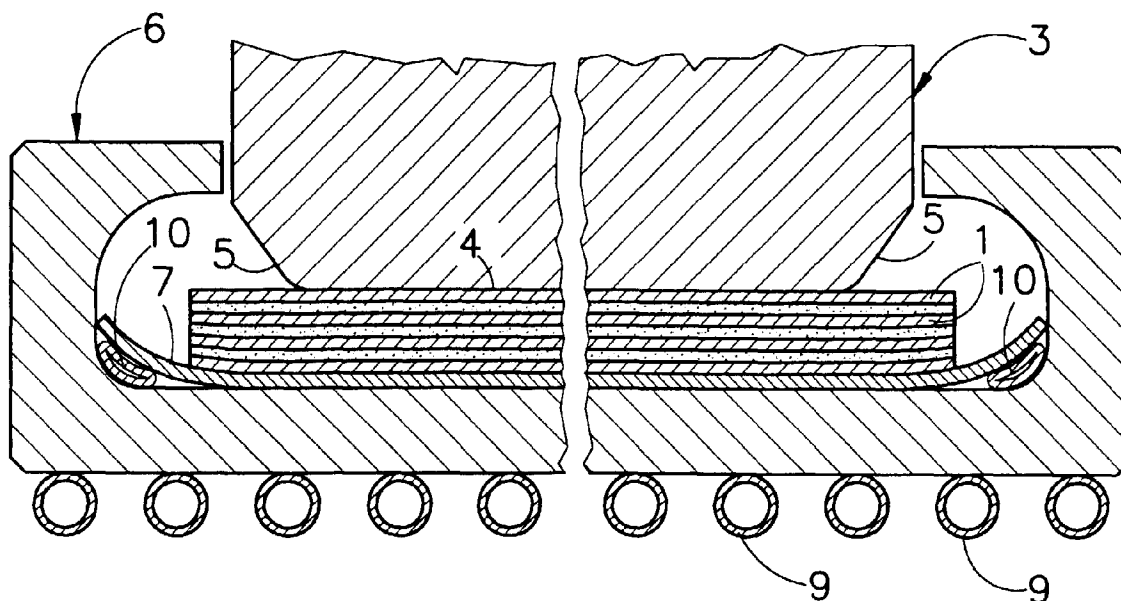


FIG. 3

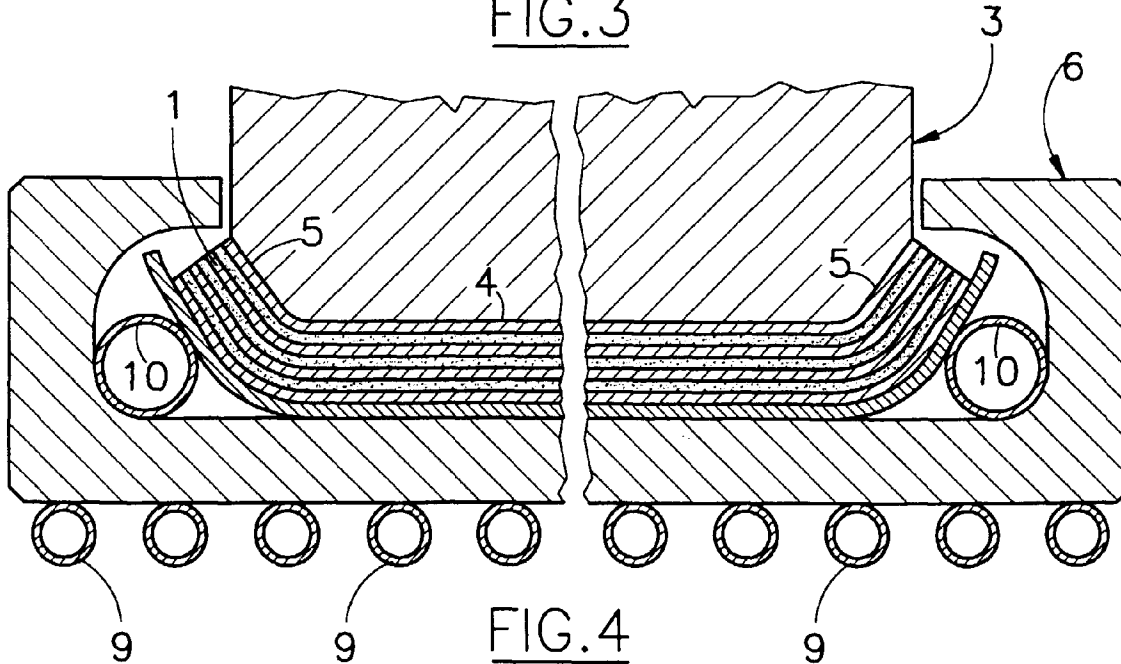


FIG. 4

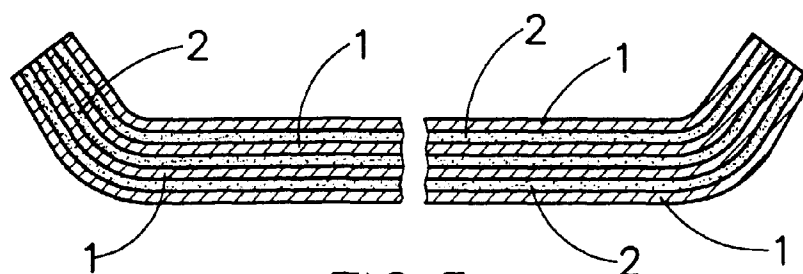


FIG. 5