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(54) Process and machine for manufacturing shaped profiles in curved plywood for covering columns and the like

(57) A process and a machine for manufacturing shaped profiles in curved plywood are described .A set of flat wooden sheets (1) with interposed adhesive (2) is submitted at temperature and pressure by means of a shaped press (3) at high temperature which determines the mutual adhesion of the sheets and their bending up to the desired shape. Said pressure is obtained by means of inflating an inflatable flexible sack (5) which substains said flat sheets (1) beneath said press (3).

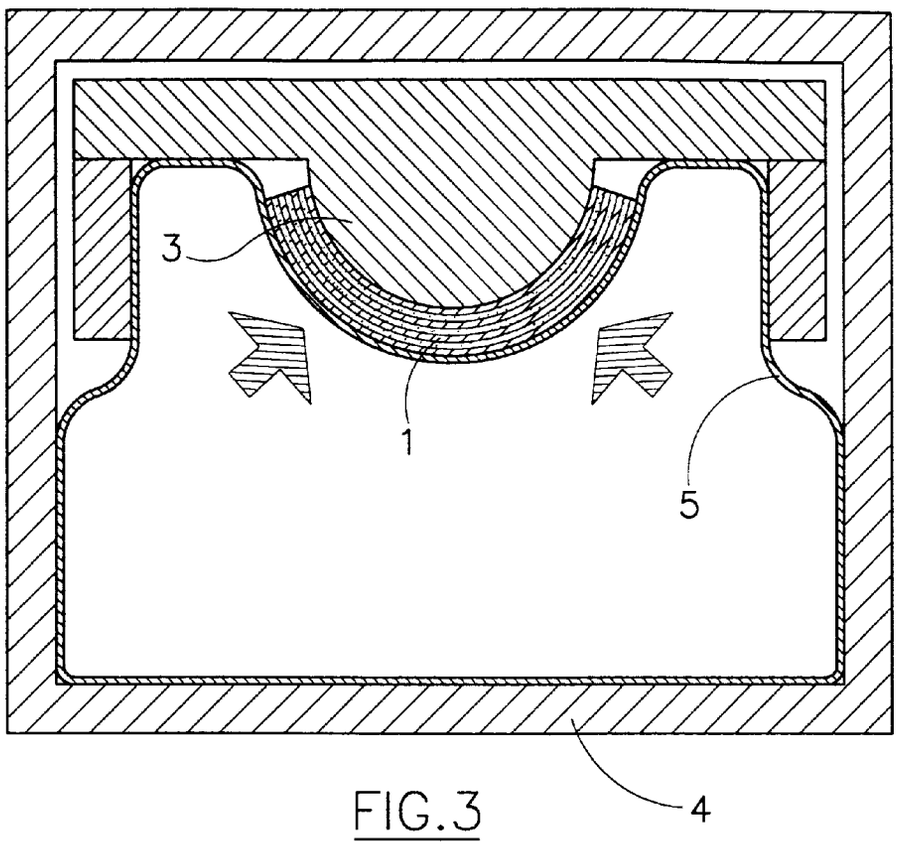

FIG.3

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Description

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

The traditional process of manufacturing of shaped profiles in curved plywood for covering columns and alike provides for the overlay of several flat wooden sheets with interposed adhesive, that are made adhere to each other by means of a heated press of substantially semicircular section, which compresses said sheets one against the other determining the bending with a curvature radius correspondent to that of the press itself.

The application of the adhering and bending pressure by means of the press is troublesome in the case of shaped profiles of considerable length.

As a matter of fact, a high pressure over a wide surface demands for the application of a 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 able to affect the final appearance of the finished profile.

To face 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 of considerable length in curved plywood.

In view of that 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 over said overlaid sheets by means of a shaped press at high temperature for the mutual adhesion of the sheets themselves and their bending with a desired curvature radius, characterized in that said pressure is obtained by inflating an inflatable flexible sack which substains said flat sheets beneath said press.

Correspondently, in order to carry out the process according to the invention a machine has been provided comprising a heated press of curved section correspondent to that desired for the profile to manufacture and means for providing a pressure engagement between said press and a set of wooden flat sheets overlaid together with interposed adhesive to determine the adhesion of the sheets themselves and their bending up to a desired shape, characterized in that said means for providing a pressure engagement comprise an inflatable flexible sack which substain said flat sheets beneath said press.

With the process and the machine according to the invention the wooden overlaid sheets, even if of considerable length, are submitted under any desired pressure, which is able to adapt itself to possible small differences of the sheet thickness, thus originating an absolutely perfect curved finished profile.

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

In the drawings :

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

Fig. 2 shows schematically a machine according to the invention loaded with a set of overlaid sheets as the one of fig. 1;

Fig. 3 shows said machine in the step of manufacturing a profile in curved plywood;

Fig.4 shows in cross section a profile in curved plywooden manufactured by the machine of Figures 2-3.

In Fig. 1 is shown schematically in perspective view a set of wooden flat sheets 1, between a layer of adhesive 2 working at high temperature is interposed.

According to the invention, if the object is to provide a profile in curved plywood , by way of example for covering a column, the set of fig. 1 is inserted in a machine comprising a shaped press 3, by way of example of semicircular section, heated at high temperature.

Beneath press 3, as shown in Fig. 2, an inflatable flexible sack 5, initially deflated, which supports the set of wooden overlaid sheets 1 of Fig. 1, is placed inside an envelope 4.

Successively, as shown in Fig. 3, compressed air is forced inside the flexible sack 5, which swells pushing the set of wooden sheets 1 against the curved press 3.

Thus the bending of sheets 1 is obtained, up to a shape correspondent to that of the press 3, as shown in Fig. 3.

At the end of the process the profile in curved plywood is obtained, which is shown in Fig.4.

The edge bending can naturally be modified by varying the front shape of press 3.

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 shaped press (3) at high temperature for the mutual adhesion of the sheets themselves and their bending with a desired curvature radius, characterized in that said the press (3) is obtained by inflating an inflatable flexible sack (5) which substains said flat sheets (1) beneath said press (3).

2. Process according to claim 1, characterized in that said press (3) has a substantially semicircular section.

3. Machine for manufacturing shaped profiles in curved plywood, comprising a heated press (3) of curved section correspondent to that desired for the profile to manufacture and means (5) for providing a pressure engagement between said press (3) and a set of wooden flat sheets (1) overlaid together with interposed adhesive (2) to determine the adhesion of the sheets themselves and their bending up to a desired shape, characterized in that said means (5) for providing a pressure engagement comprise an inflatable flexible sack (5) which substains said flat sheets (1) beneath said press (3).

4. Machine according to claim 3, characterized in that said press (3) has a substantially semicircular section.

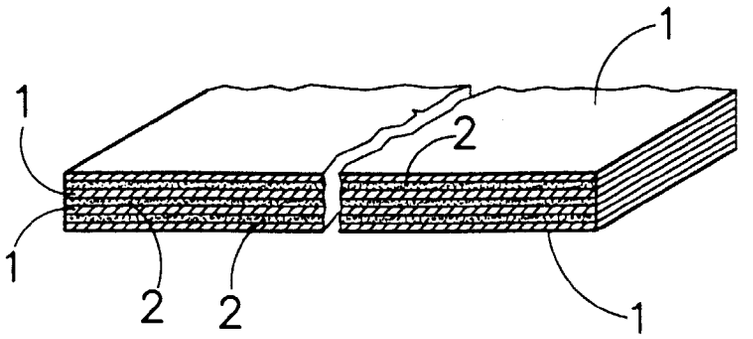

FIG. 1

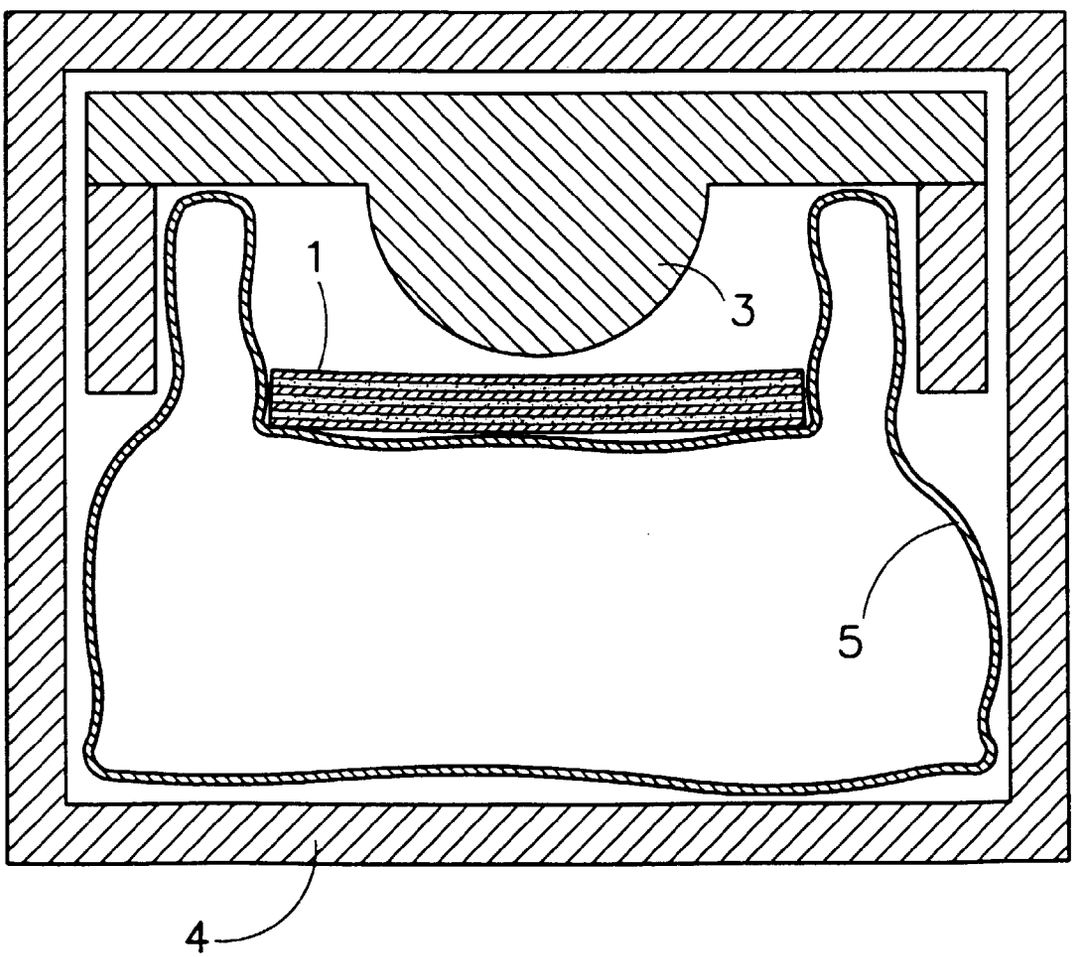

FIG. 2

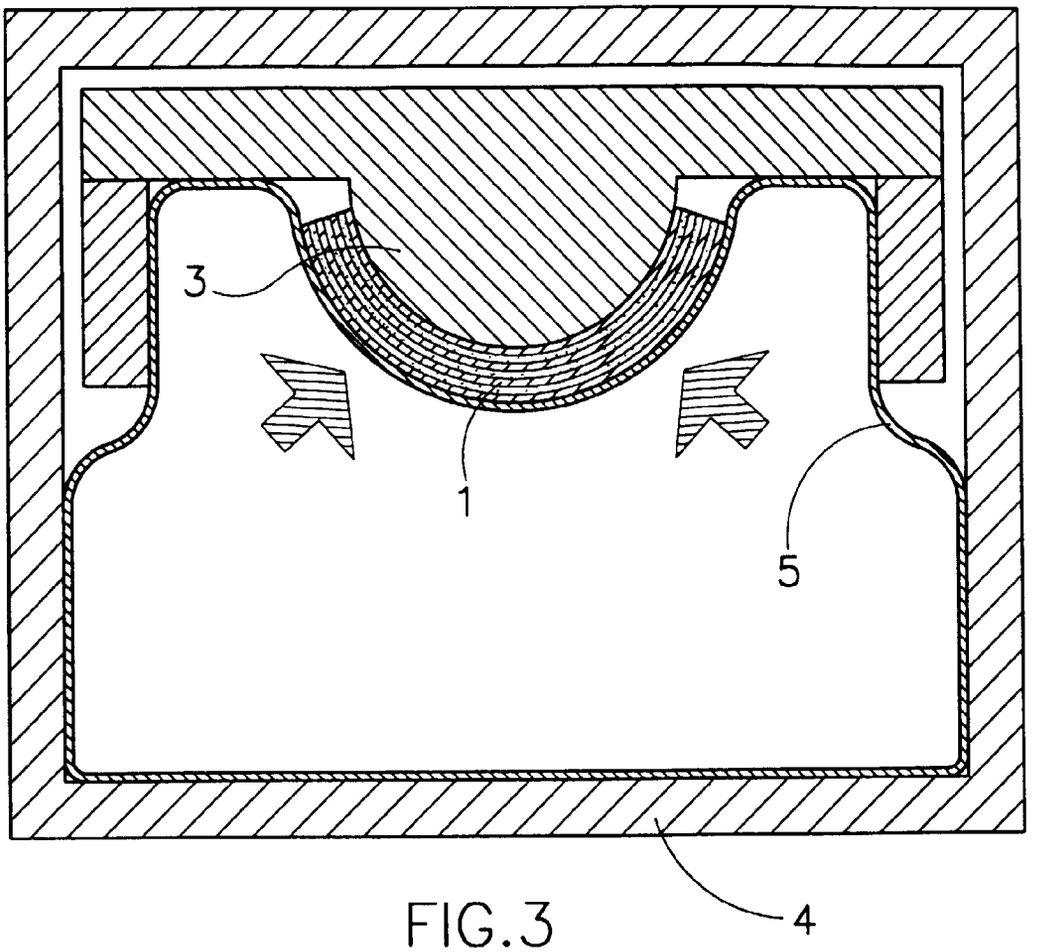

FIG.3

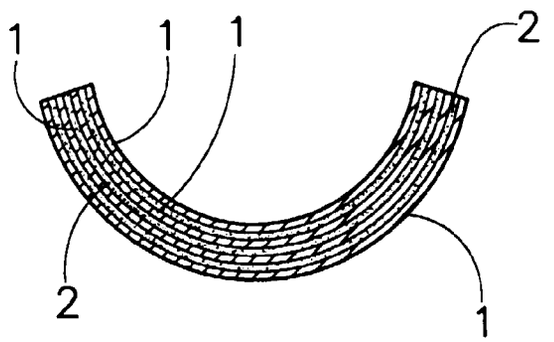

FIG.4