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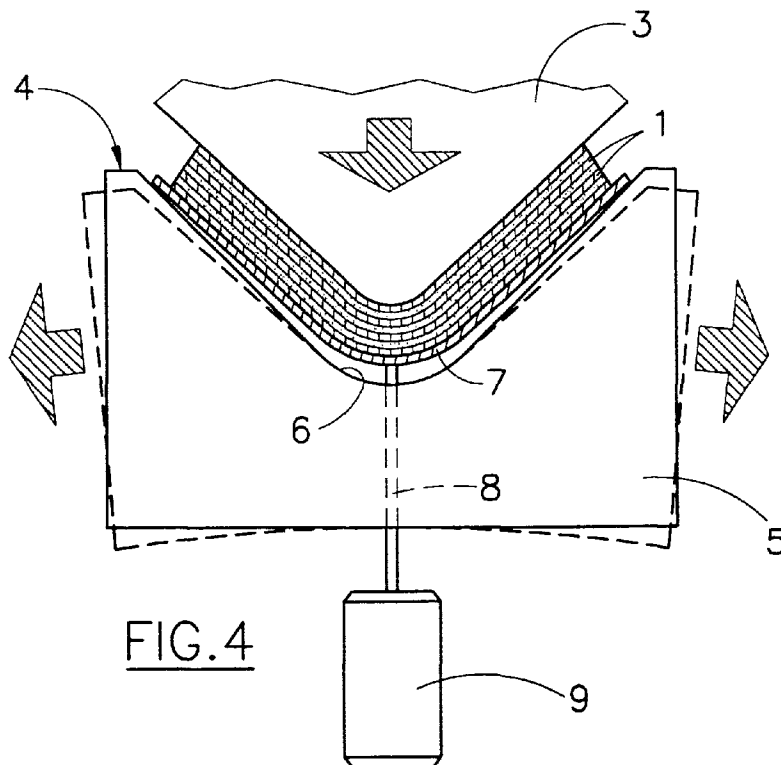
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AL LT LV RO SI(30) Priority: **31.07.1996 IT MI961645**(71) Applicant: **Xiloform S.p.A.****32035 S. Giustina (Belluno) (IT)**(72) Inventor: **De Zanet, Benigno****32037 Sospirolo (Belluno) (IT)**(74) Representative: **Mittler, Enrico****c/o Mittler & C. s.r.l.,****Viale Lombardia, 20****20131 Milano (IT)**

(54) **Process and machine for manufacturing shaped profiles in curved plywood, particularly for covering pipes 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 to determine the

mutual adhesion of the sheets themselves and their bending up to the desired shape. Press (3) is operated against a counterpress (4) shaped in substantially complementary way which causes the lateral block of the flat overlaid sheets (1) before the application of a final sheet bending pressure.

**FIG. 4****EP 0 822 041 A2**

Description

The present invention relates to a process and a machine for manufacturing shaped profiles in curved plywood, particularly but not exclusively for covering pipes and alike.

The traditional process of manufacturing of shaped profiles in curved plywood provides for the overlay of several flat wooden sheets with interposed adhesive, that are caused to adhere to each other of a heated press which compresses said sheets one against the other, also determining their bending in function of the shape of the press itself.

The application of pressure by 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 very high force which is often difficult to obtain.

Moreover, if the 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 up to the desired shape, characterized in that said press is operated against a counterpress shaped in substantially complementary way which causes the lateral block of the flat overlaid sheets before the application of a final sheet bending pressure.

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 desired appearance of the profile to be manufactured and means for providing a pressure engagement between said press and a plurality of wooden overlaid sheets with interposed adhesive to determine the adhesion of the sheets themselves and their bending up to a desired shape, characterized in that it comprises a counterpress shaped in substantially complementary way to cause the lateral block of the overlaid sheets before the application of a final sheet bending pressure.

With the process and the machine according to the invention the wooden overlaid sheets get an initial bending at fairly reduced pressure, and then, after their lateral block caused by the shape not precisely complementary of the counterpress, a final bending at high pressure which lets the wooden sheets reach the desired bending.

A machine according to the invention is schemati-

cally shown in the enclosed drawings and will 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 overlaid sheets with interposed adhesive before being inserted in a machine according to the invention;

Fig.2 shows in perspective view a machine according to the invention loaded with a set of flat sheets as the one of Fig. 1;

Fig.3-5 show schematically in cross section following stages of the manufacture of the wooden sheets of Fig.1 in a machine according to the invention; Fig.6 shows in schematic cross section a curved plywood shaped profile manufactured by the machine of the preceeding figures.

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

According to the invention, if the object is to provide a plywood curved shaped profile, by way of example for covering pipes and alike, the set of Fig.1 is inserted in a machine as the one in Fig. 2, comprising a wedge shaped press 3, heated at high temperature, and a counterpress 4 with adjacent flexible sheets 5, equipped with a cavity 6 shaped in substantially complementary way with respect to that of press 3, but with an angle width slightly inferior to that of the press itself.

To support the flat sheets a flexible metallic plate 7 is provided which is usually kept in horizontal position, as in Fig.2, by a vertical shaft 8 stressed by an elastic reaction member 9.

The initial descent of press 3 determines, at fairly reduced pressure, the adhesive melting adhesion and the progressive bending of the wooden sheets 1 and of the metallic plate 7 (Fig.3) until, because of the wider angle of press 3 in comparison with cavity 6 of counterpress 4, the lateral edges of the wooden sheets 1 and of the metallic plate 7 are blocked between press 3 and counterpress 4.

Progressing the descent of press 3, the flexibility of side by side sheets 5 that form counterpress 4 (Figures 4 - 5) lets cavity 6 of said counterpress to house the press itself, thus letting it cause, at final high pressure, the ultimate bending of the wooden sheets 1 up to the desired shape.

At the end of the process the curved profile is obtained which is shown in Fig.6.

Bending of the profile can naturally be modified by varying the front shape of press 3. Also it is possible to obtain a profile curved in asymmetrical way, by overlaying in that case to plate 7 a lateral thickness able to compensate for the absence, over that side, of the flat sheets 1.

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 up to the desired shape, characterized in that said the press (3) is operated against a counterpress (4) shaped in substantially complementary way which causes the lateral block of the flat overlaid sheets (1) before the application of a final sheet bending pressure.
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2. Process according to claim 1, characterized in that said press (3) is wedge shaped and said counterpress (4) is equipped with a cavity (6) for accommodating said press (3) which has an angle width slightly inferior to that of the press itself.
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3. Machine for manufacturing shaped profiles in curved plywood, comprising of a heated press (3) shaped in function of the final desired configuration of the profile to manufacture and means for providing a pressure engagement between said press (3) and a set of wooden overlaid sheets (1) with interposed adhesive (2) to determine the adhesion of the sheets themselves and their bending up to a desired shape, characterized in that it comprises a counterpress (4) shaped in substantially complementary way to cause the lateral block of the overlaid sheets (1) before the application of a final sheet bending pressure.
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4. Machine according to claim 3, characterized in that said press (3) is wedge shaped and said counterpress (4) is equipped with a cavity (6) for accommodating said press (3), which has an angle width slightly inferior to that of the said press (3).
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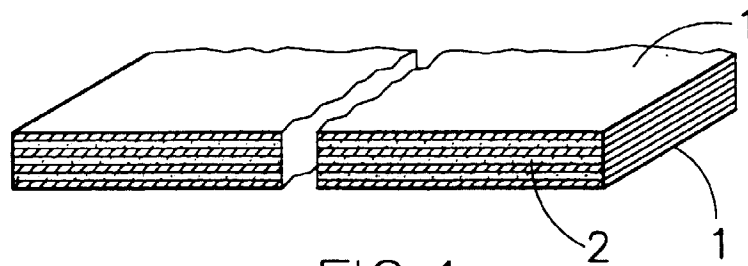


FIG. 1

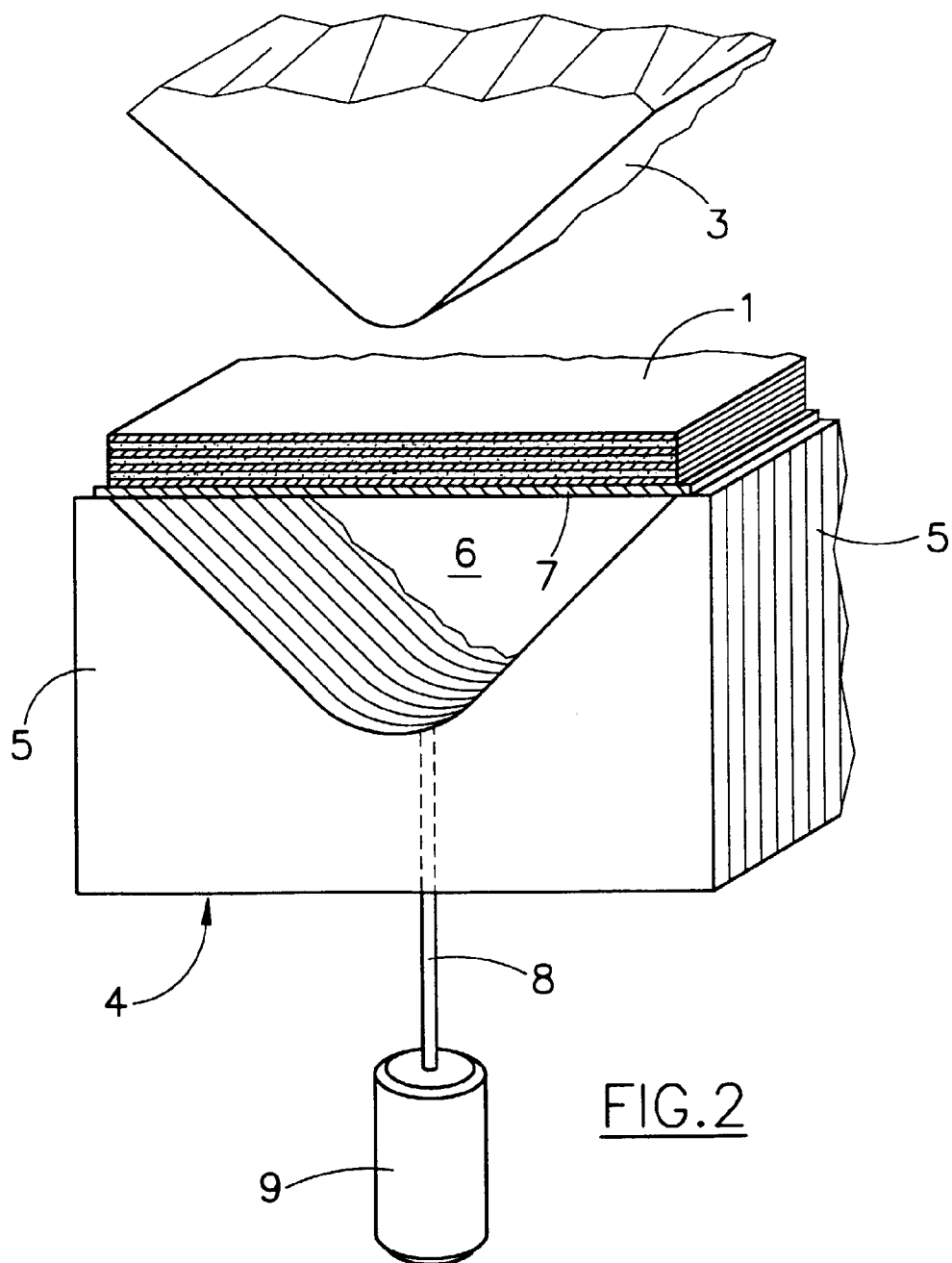
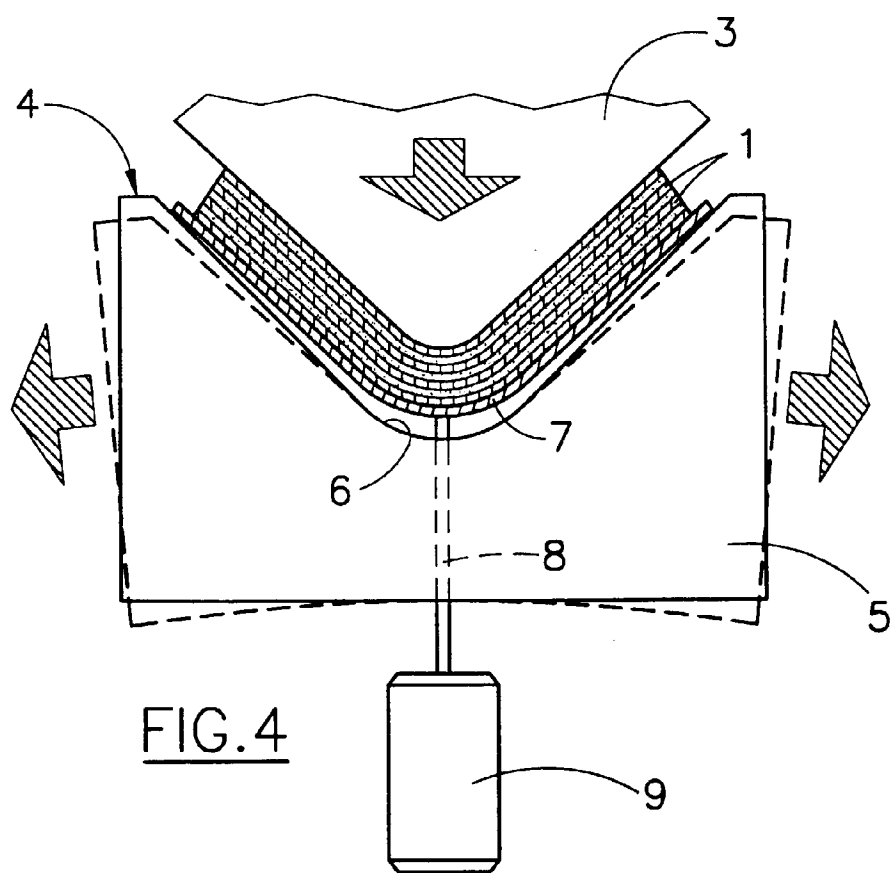
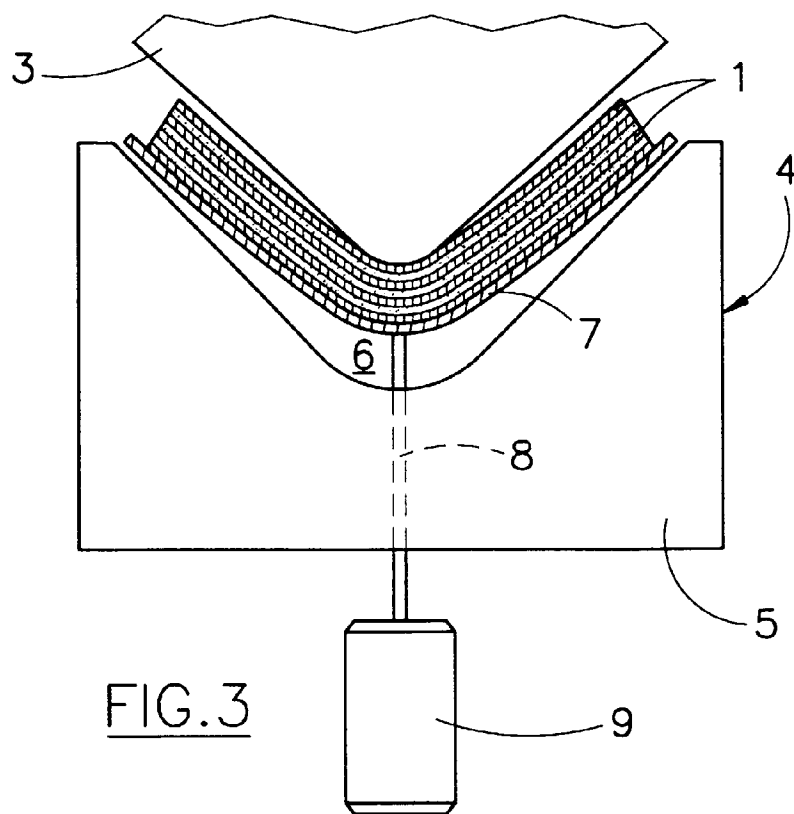


FIG.2



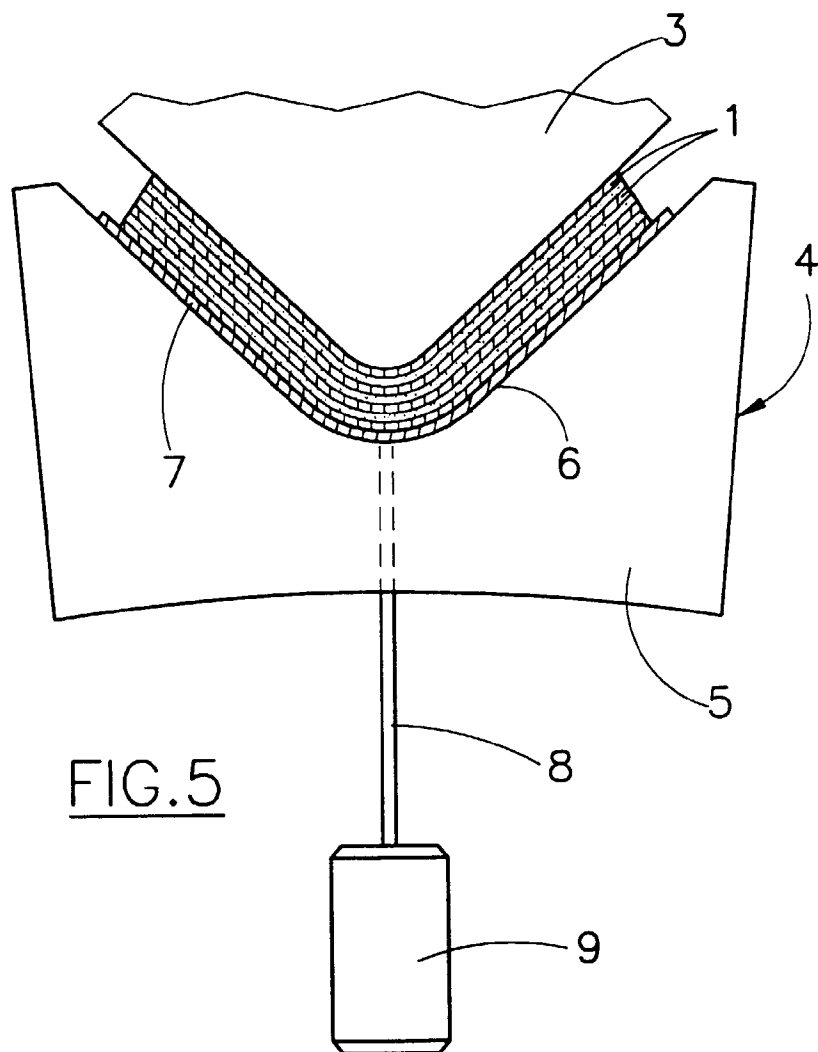


FIG. 5

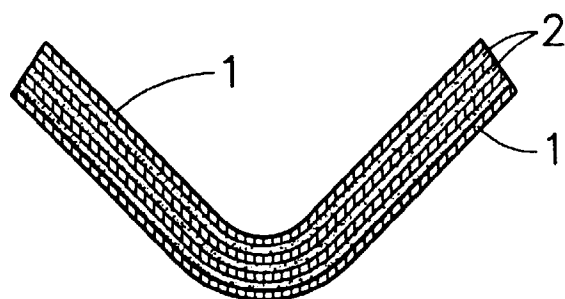


FIG. 6