METHOD OF MAKING PLYWOOD FROM WOOD WASTE
AND PRODUCT RESULTING THEREFROM

Fig. 3

Fig. 4

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METHOD OF MAKING PLYWOOD FROM WOOD WASTE AND PRODUCT RESULTING THEREFROM

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This invention relates to a method of making a wood product from waste wood strips.

In the manufacture of plywood sheets, the edges of the plywood sheets are trimmed as a final operation to bring the sheets to size and to provide straight edges on the sheets. Thus the strips that are removed from the plywood sheets are waste material.

In the manufacture of plywood the veneer sheets are placed on both sides of a core sheet and it is necessary that the veneer sheets overlap the core sheet at the edges to insure bonding of the veneer sheets throughout the entire extent of the plywood. Thus the edges of a plywood are irregular in shape because of the projecting veneer sheets. It is necessary to make the plywood sheet somewhat larger than actual finished size because of the irregularities that occur in the edges. The irregular edges of the plywood sheet are then removed by a suitable sawing operation to square the edges of the plywood sheet and bring it to size.

It is, therefore, an object of this invention to provide a method of making a wood product utilizing the waste edge strips that are removed from plywood sheets in the trimming operation.

It is another object of the invention to provide a method of making a wood product from waste edge strips removed from plywood sheets in the sawing operation of them whereby the wood strips can be arranged in a pattern to give a patterned wood product as a result of an assembly of the waste strips together.

It is another object of the invention to provide a method of making a wood product utilizing the waste wood strips produced in the sawing operation of plywood sheets wherein the wood strips are assembled in a manner that the irregular edges face one another and the spaces between the irregular faces of the strips are filled with comminuted wood particles including a binder so as to bond the wood strips together by means of the comminuted wood particles, such as sawdust, when the binder contained in the filling is set in any suitable manner.

Further objects and advantages will become apparent from the drawings and the following description.

In the drawings:

Figure 1 is a perspective elevational view of a wood product made according to the method of this invention.

Figure 2 is a perspective elevational view of a conventional plywood sheet and illustrating the manner in which the waste strips are obtained from such a sheet.

Figure 3 is a perspective elevational view of a plywood product made according to the method of this invention and illustrating the manner in which panels of predetermined thickness can be obtained.

Figure 4 is a perspective elevational view of a wood product made according to the method of this invention, but illustrating a modified arrangement of the waste wood strips relative to another.

In Figure 2 there is illustrated a conventional five-ply plywood sheet consisting of the core board, the veneer plies 11 and 12 on one side of the core board and the veneer plies 13 and 14 on the opposite side of the core board. The veneer plies 11 and 14 form the face plies of opposite sides of the plywood sheet 18.

In the manufacture of the plywood sheet 18, the plywood board 10 has assembled thereon the veneer sheets 11, 12, 13, and 14 with a suitable adhesive between the sheets. The veneer sheets extend over the edges of the core board 10 to completely cover the same, and the entire assembly is slightly larger than the dimensions of the finished plywood sheet to avoid any requirement of extreme accuracy in the sizing of the veneer sheet and the core board in the manufacture of the plywood sheet.

After the veneer sheets have been bonded to the core board 10 and to one another, the edges of the plywood sheet 18 are trimmed by a suitable sawing operation as along the saw lines 16 and 17 whereby narrow strips 18 and 19 are removed from the edges of the plywood sheet 18. Normally these edge strips 18 and 19 are waste material and must be thrown away or burned.

Each of the waste strips 18 and 19 has the flat faces 20 and 21 that are the normal face sheets of the plywood sheet 18. When the trimming operation is performed to square the edges of the plywood sheet 18, a third flat face 22 is provided on the strip 19, for example, this leaves the face 23 as an irregular face. Thus, the strips could not be assembled together in the form as removed from the plywood sheet 18 because any assembly of the strips would have an irregular face, or hollow portions would be provided between adjacent strips.

To utilize the waste strips to their fullest extent, without removing any of the good wood from the strips, it is the purpose of this invention to provide means wherein the irregular faces of the strips can be filled with comminuted wood.
particles, such as sawdust, and thereby provide for the production of a solid wood article from the waste trim strips removed from the plywood sheet.

Since all of the waste strips are substantially alike they will all be referred to hereafter under the reference number 19.

In Figure 1 the waste strips 19 are placed in side by side relation with the flat faces 20 and 21 of the respective strips engaging one another so that the strips 19 are arranged in rows.

For example, a bottom row 25 of the waste strips 19 are assembled together as shown in Figure 1 with an adhesive provided between each of the strips.

Commuted wood particles 26, such as sawdust, are then placed upon the row 25 of wood strips to more than cover the highest edge of the wood strips 19.

A second or top row 30 of wood strips 19 are assembled in the same manner of the top row 25 with adhesive material between the strips and placed upon the top face of the wood, that has been placed on the bottom row 25. Preferably, the commuted wood particles 26, or sawdust, contains a binder either as an impregnant of the wood particles or as a granular material mixed with the particles.

If desired, a wood veneer sheet 31 is placed against the bottom row 25 of the wood strips and a similar wood veneer sheet 32 is placed on the top row 30 of the wood strips, suitable adhesive being provided between the wood veneer sheets 31 and 32 and the wood strips of the rows 25 and 30.

The binder included with the commuted wood particles 26 is set in any suitable manner, and the adhesive provided between the wood strips 19 and between the veneer sheets 31 and 32 and the strips 19 can all be set at the same time to cause a bonding of the wood particles together and to the wood strips, and a bonding of the wood strips together and to the veneer sheets.

It will thus be seen that a wood product, comparable with the usual plywood sheet can be produced from the waste strips normally removed from plywood sheets. Of course, it is understood that the veneer sheets 31 and 32 of the product illustrated in Figure 1 can be left off of the product if desired.

In Figure 3 there is illustrated an arrangement of a plurality of the assemblies illustrated in Figure 1 wherein each of the sheet assemblies 35 are placed one upon the other in stacked arrangement. These assemblies 35 are bonded together with an adhesive between the assemblies and if desired a single veneer sheet can be used between each of the assemblies in the place of two veneer sheets as illustrated in Figure 3, thus saving several veneer sheets.

The product illustrated in Figure 3 is preferably built up in the form of blocks in a length equal to the length of the waste wood strips 19, the blocks being of any suitable size, but conventionally being about 16” high and 16” wide. The block assembly illustrated in Figure 3 is then severed transversely into thin sheets 40 of predetermined thickness, the sheets 40 thereby each having a decorative pattern in it established by the arrangement of the assembly of the individual wood strips 19. The sheets 40 can be used in conventional manner for covering walls.

In Figure 4 there is illustrated another assembly arrangement of the waste wood strips 19 to give a different pattern from that illustrated in Figure 3 when the product is severed transversely to remove individual sheets of predetermined thickness from it. It will, of course, be understood that other pattern arrangements can be assembled from the waste wood strips 19.

While the method and the product disclosed herein is the preferred form of the invention, yet both the method and the product can be modified from that illustrated and described herein without departing from the spirit of the invention, and all modifications that fall within the scope of the appended claims are intended to be included herein.

Having thus fully described my invention, what I claim as new and desire to secure as new by Letters Patent is:

1. A method of making a built-up wood product from waste plywood strips which comprises the steps of assembling together a plurality of waste plywood strips, each of said wood strips having three flat surfaces matching the flat surfaces of the other strips and a fourth irregular surface, aligning said strips in a first row with the matching surfaces of adjacent strips in engagement and the irregular surfaces facing upwardly, filling the space between the irregular surfaces with commuted wood particles, placing a second row of wood strips aligned like said first row upon the body of wood particles with the irregular surfaces thereof facing downwardly and in opposed relationship to said first row, and filling the space between the irregular surfaces of said opposed rows to form a built-up wood product from waste plywood.

2. A plywood product comprising a pair of upper and lower rows of wood strips consisting of plywood scraps severed from the edges of plywood boards, each of said rows being similarly constructed and comprising a plurality of said wood strips arranged together to form a built-up panel of said strips, each of said strips comprising an elongated member having three flat surfaces and a fourth irregular surface, said irregular surface of each row facing in the same direction and the irregular surfaces of the upper and lower rows facing each other, the space between said upper and lower rows and between said irregular surfaces being filled with commuted wood particles.

CLARENCE U. GRAMELSPACHER.

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