

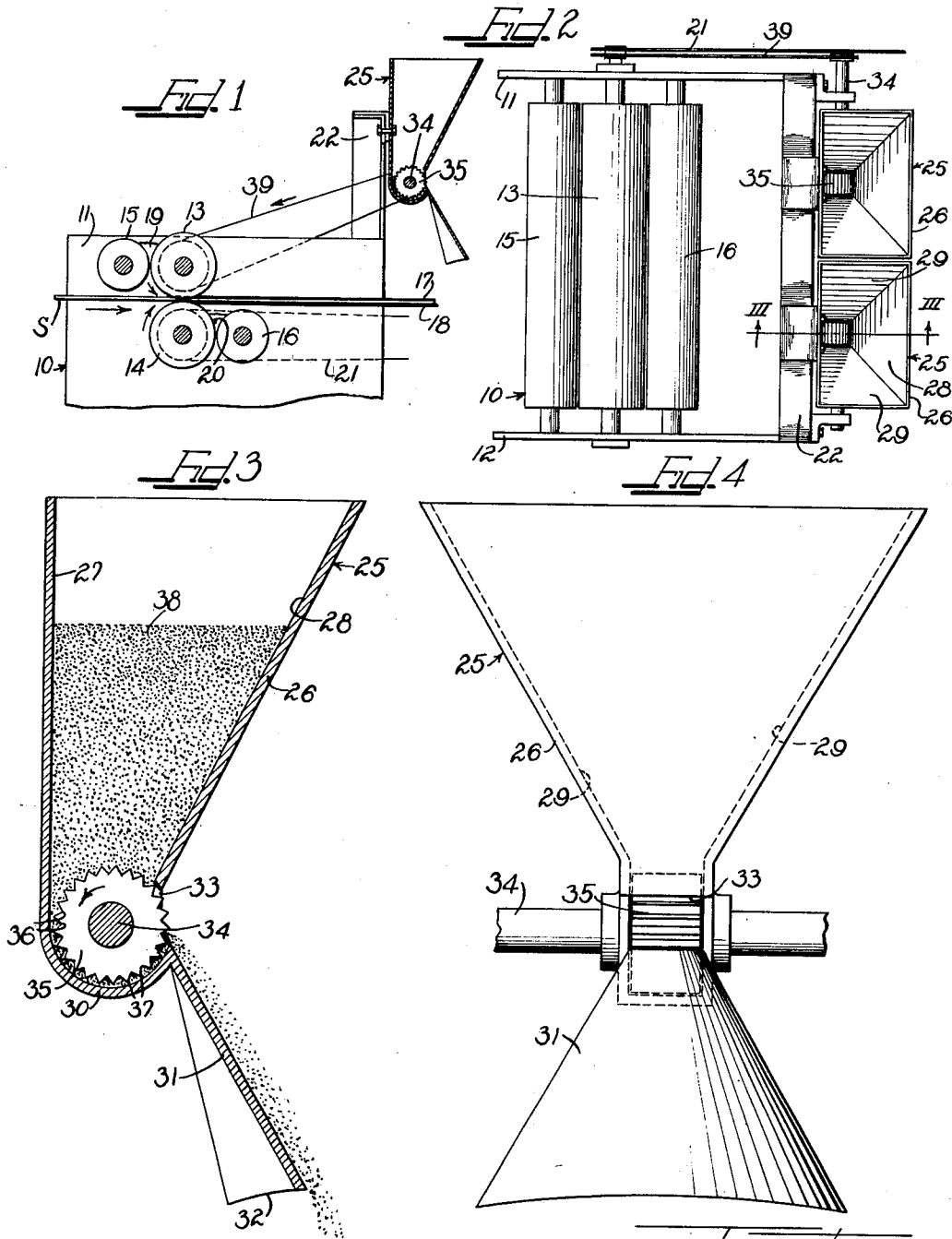
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SPREADER MACHINE

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SPREADER MACHINE

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1 Claim. (Cl. 91—43)

This invention relates to a device for sprinkling or distributing a mass of loosely associated solid material such as grains, flakes, powders, small lumps, seeds and the like over a surface.

More specifically the invention relates to a machine for spreading flakes or particles of an identifying material over a freshly glued veneer sheet.

While the invention will hereinafter be specifically described for use in spreading or sprinkling identifying flake material over a glued surface of veneer sheets, it should be understood that the invention is not limited to such use and that the patent to be granted on the invention is intended to cover any use of the machine.

In the manufacture of plywood it is highly desirable that the manufacturer be able to identify his product even after the same has been cut into small boards or panels. It has been the practice to burn trade-marks into the edges of plywood panels for identifying their origin. However, when the edges are cut away, the remaining portion of the panel usually has no identifying means.

Now, it has become the practice for plywood users to test the adhesive strength of the bonds between the constituent plies forming the panel. This test is effected by inserting a sharp tool, such as a knife point, along a glue line of a plywood panel to pry off the surface veneer sheet. Such action will cause a splitting or failure of the wood at the glue line, but will also expose some of the glued surface. If an identifying material is dispersed along this glued surface the same will be readily visible and will serve to identify the product.

According to this invention there is now provided a machine for distributing or spreading flakes or grains of an identifying material at spaced intervals along the glue surface of a veneer sheet prior to the formation of a plywood panel. The veneer sheet having the identifying material sprinkled thereon is preferably a core or cross banding sheet that is coated on both sides thereof with an adhesive and sandwiched between surface veneer sheets for the formation of a plywood panel. The veneer sheets are united together by the glue coated onto the core sheet. If the glue is of a thermo-setting nature, the plies are inserted in a hot press for converting the glue into an infusible and insoluble bonding agent that permanently unites the sheets or plies.

It is, then, an object of this invention to provide a machine for sprinkling loosely associated material at spaced intervals over a surface.

Another object of this invention is to provide a spreading machine for distributing flake material over a glued surface.

Another object of this invention is to provide a sprinkling device for spreading vermiculite flakes at spaced intervals over the freshly glued surface of a wooden veneer sheet.

Another object of this invention is to provide a spreading machine for use in combination with a coating machine to distribute particles at spaced intervals over the freshly coated surface of an article passing through the coating machine.

Other and further objects of the invention will become apparent to those skilled in the art from the following detailed description of the annexed sheet of drawings which discloses a preferred embodiment of the invention.

On the drawing:

Figure 1 is a fragmentary vertical cross-sectional view taken through a coating machine equipped with spreader devices according to this invention.

Figure 2 is a top plan view of the machine shown in Figure 1.

Figure 3 is an enlarged vertical cross-sectional view taken along the line III—III of Figure 2.

Figure 4 is a front elevational view of the spreader device shown in Figure 3.

As shown on the drawing:

As shown in Figures 1 and 2, the reference numerals 10 designate generally a glue coating machine comprising side frame plates 11 and 12 having an upper coating roll 13 and a lower coating roll 14 extending therebetween and rotatably mounted therein. Feed rolls 15 and 16 are mounted adjacent the coating rolls 13 and 14 respectively and, like the rolls 13 and 14, are rotatably mounted in the frame plates 11 and 12.

A wooden veneer sheet S is adapted to be passed between the coating rolls 13 and 14 for receiving glue coatings 17 and 18 thereon from films of glue deposited on the coating rolls 13 and 14 by the feed rolls 15 and 16. Glue supplies 19 and 20 are maintained in the nips between the rolls 13 and 15; 14 and 16, respectively.

The bottom coating roll 14 can be driven by means of a belt or chain 21. The upper coating roll 13 is driven by contact with the sheet S fed over the driven roll 14.

The discharge end of the machine 10 is provided with a U-shaped frame 22 extending above the tops of the plates 11 and 12. This frame 22 carries thereon one or more spreader devices according to this invention.

The spreader devices 25 of this invention include an open topped hopper 26 having a flat back wall 27, a converging front wall 28 and converging side walls 29. The bottom of the hopper is rounded as shown at 30 in Figure 3. An apron 31 extends downwardly and outwardly from the front side of the rounded bottom 30. The apron 31 is curved as indicated at 32 and is of a somewhat fan shape.

An opening 33 is provided in the front wall 28 of the hopper immediately above the apron 31 and rounded bottom 30.

A shaft 34 extends through the bottom of the hopper and has a feed wheel 35 secured thereon in the hopper. The feed wheel 35 has a plurality of pockets 36 formed in the periphery thereof between pointed corrugations 37. The periphery of the feed wheel extends into the opening 33 and prevents discharge of material from the interior of the hopper when the wheel is at rest. However, when the shaft 34 is driven to rotate the wheel 35 loosely associated material such as vermiculite flakes 38 in the hopper 26 are carried through the opening 33 in the pockets 36 of the feed wheel. These flakes are thus discharged upwardly from the very bottom 30 of the hopper out of the opening 33 where they can fall freely over the apron 31. The apron 31 spreads the flakes outwardly to uniformly distribute the same.

As best shown in Figures 1 and 2, the shaft 34 carrying the feed wheel 35 in the hopper 26 is driven through a belt or chain connection 39 from the top coating roll 13. Thus the feed wheels 35 are only driven when a veneer sheet S is passed over the coating roll 14 to be driven thereby and moved against the coating roll 13 to rotate the same. The top glue film 17 on the sheet S then receives the flake material at spaced intervals thereon. This arrangement prevents loss of flake material when sheets are not being passed through the coating machine irrespective

of whether or not the coating machine is being driven.

From the above description it should be understood that this invention provides a simple, inexpensive device for spreading loosely associated material over a surface.

I am aware that many changes may be made and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I, therefore, do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim as my invention:

A spreader device for treating sheet material which comprises upper and lower rolls adapted to receive a sheet of material therebetween to deposit a coating at least on the top surface thereof, a spreader device mounted adjacent said rolls and above the sheet material issuing therefrom, said spreader device comprising a plurality of transversely spaced hoppers, each of said hoppers having a rounded bottom portion and an opening in a side wall thereof adjacent said bottom portion, a roller rotatably mounted in each hopper having a corrugated periphery contiguous with the rounded bottom portion thereof and extending across the opening to normally close the same, a single drive shaft extending through said hoppers and carrying the rollers thereon, means operatively connecting one of said rolls with said common drive shaft to rotate the corrugated rollers to carry material in particle form in the hoppers between the corrugations thereof around said bottom portions and upwardly to and out of said openings, and curved fan-shaped aprons extending downwardly from said openings to spread material issuing therefrom whereby a continuously uniform distribution of particles is effected across the width of the moving sheet material.

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