May 16, 1967 W. L. BAKER ETAL 3,319,601

APPARATUS FOR APPLYING DECORATIVE COATINGS TO WOOD PANELS

Filed Nov. 20, 1964

6 Sheets-Sheet 1

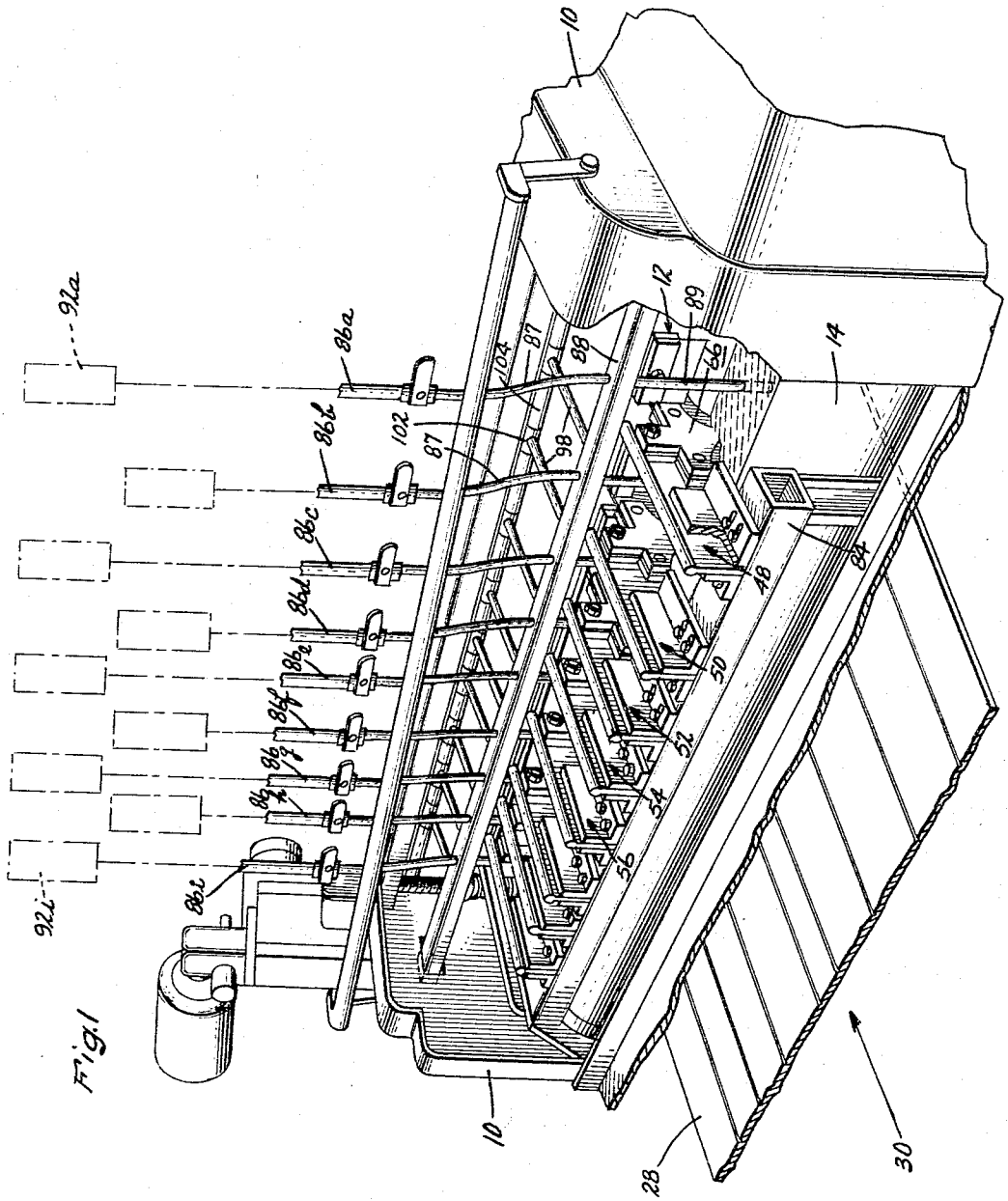


FIG. 1

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Filed Nov. 20, 1964 6 Sheets-Sheet 2

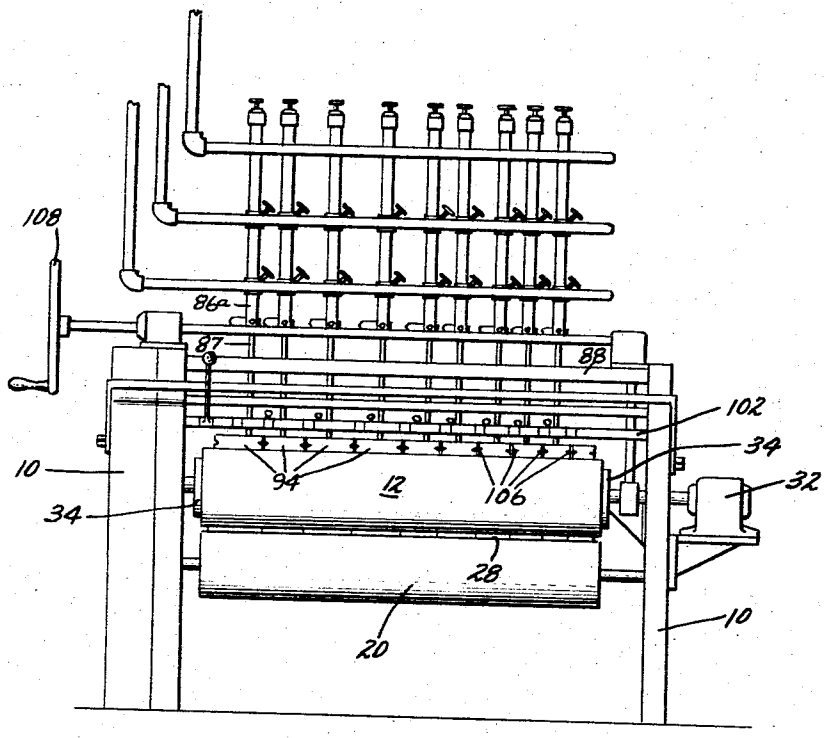


Fig. 2

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6 Sheets-Sheet 3

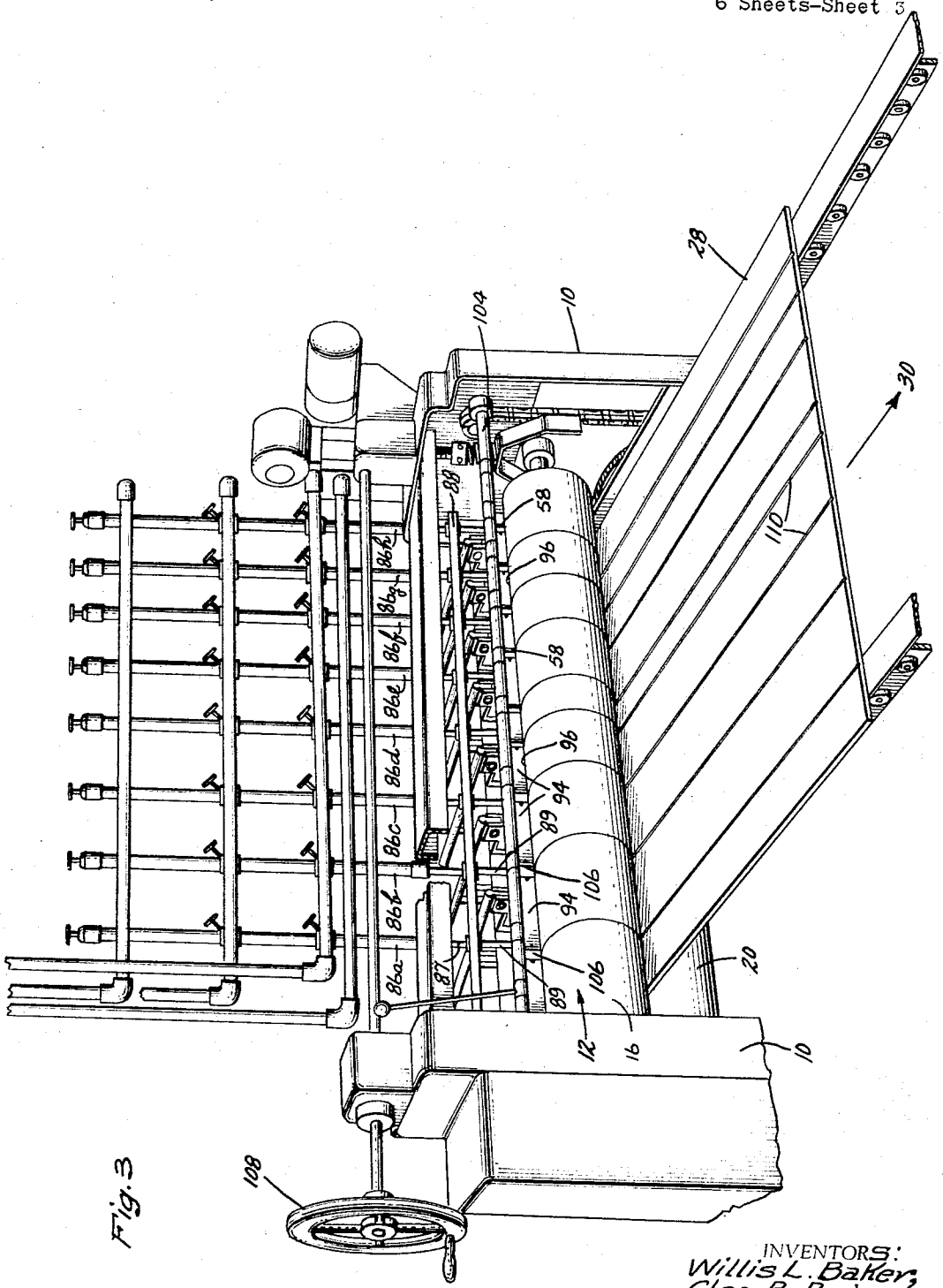


Fig. 3

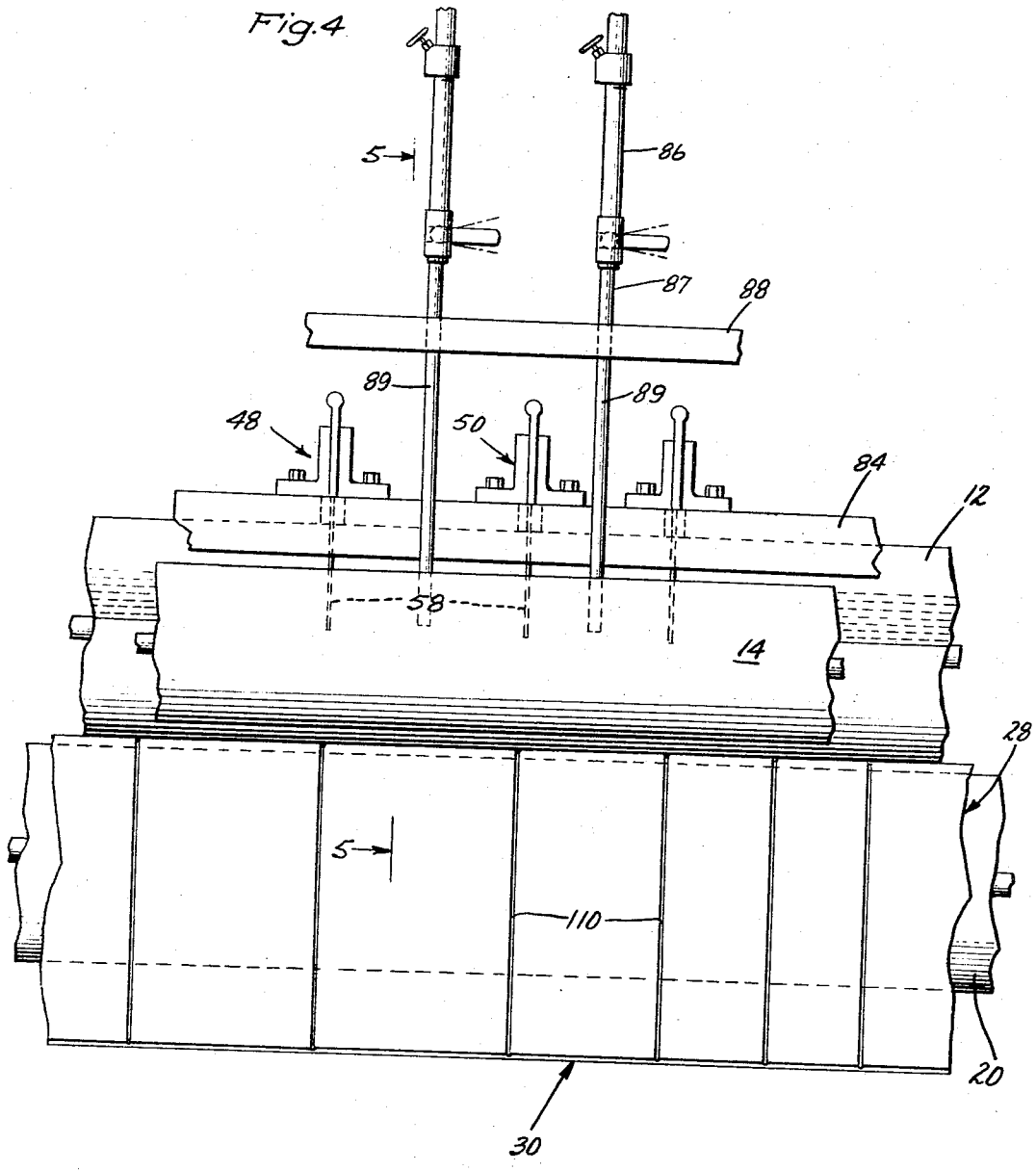
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APPARATUS FOR APPLYING DECORATIVE COATINGS TO WOOD PANELS

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Fig. 4



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APPARATUS FOR APPLYING DECORATIVE COATINGS TO WOOD PANELS

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Fig. 5

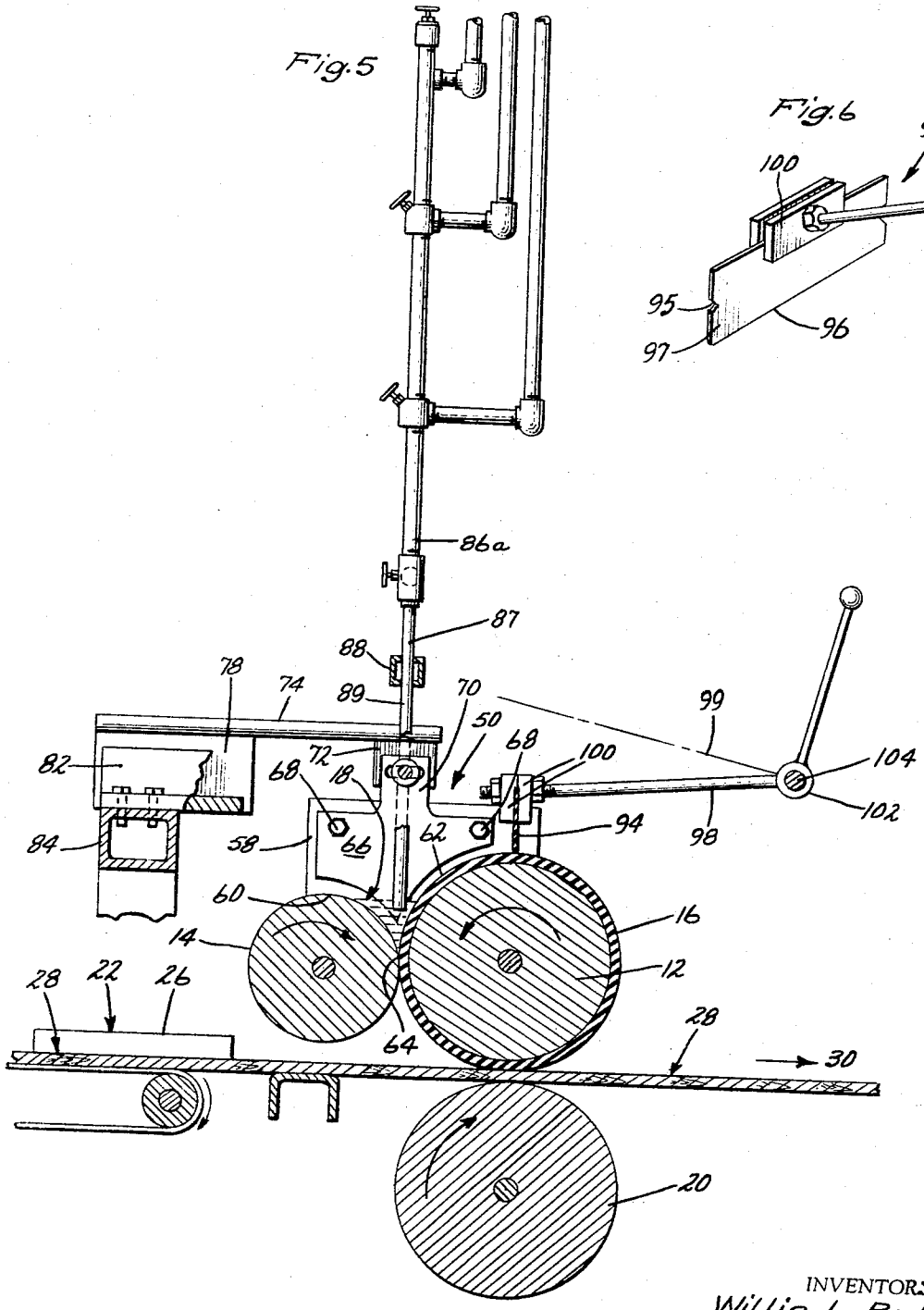


Fig. 6

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APPARATUS FOR APPLYING DECORATIVE COATINGS TO WOOD PANELS

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6 Sheets-Sheet 6

Fig. 7

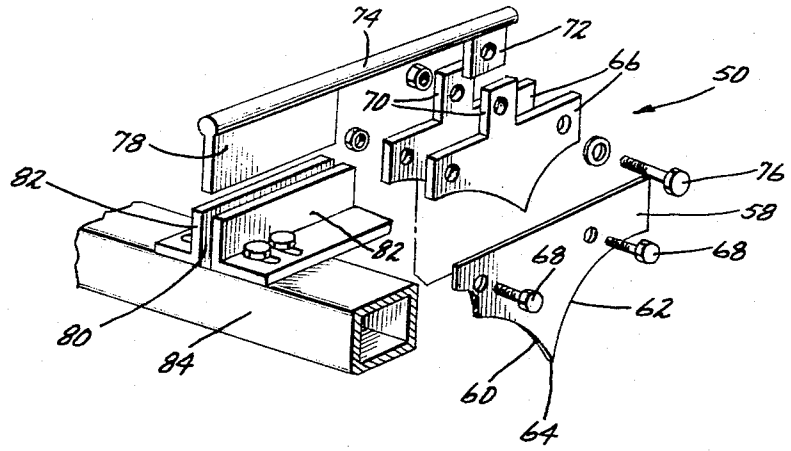
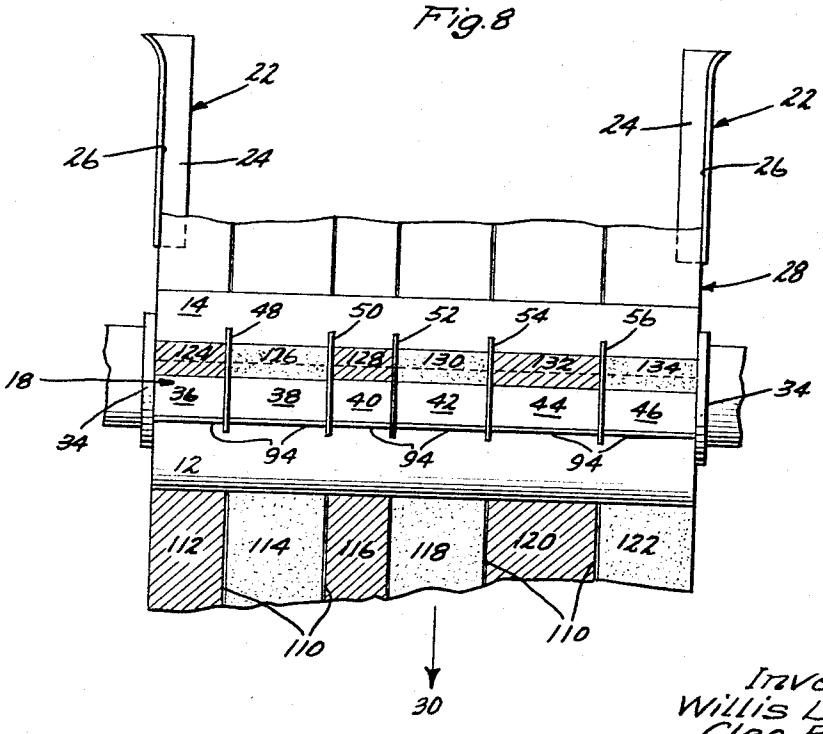


Fig. 8



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United States Patent Office 3,319,601
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3,319,601

APPARATUS FOR APPLYING DECORATIVE COATINGS TO WOOD PANELS

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Filed Nov. 20, 1964, Ser. No. 412,707
6 Claims. (Cl. 118—255)

This invention relates to an apparatus for applying decorative coatings to wood panels, and more particularly to an apparatus for color toning plywood panels which are pregrooved for the purpose of simulating elongated, decorative wood planks laid edge-to-edge on a wall.

Natural wood has a definite grain pattern and basic color which are conventionally utilized in fabricating decorative wall surfaces. Walls, partitions and the like are constructed of various wood materials, of these being rectangular sheets of plywood and elongated planks fitted together to provide a wall surface. Plywood panels conventionally are produced in sizes approximately 4 feet wide and in various lengths, such as 8, 10 or 12 feet long, and are conventionally grooved for the purpose of simulating the appearance of a wall constructed of elongated planks. Such elongated planks are conventionally formed to sizes of ¾ of an inch in thickness, for example, 3 to 10 inches in width and about 8 feet long. Inasmuch as plywood panels in natural form vary considerably in color, it has proven to be true that the use of some of the less expensive plywoods in sheet form treated such as to simulate planking has been obvious as a substitute and unsatisfactory due to the differences in color from panel to panel when used in forming a wall.

Lauan mahogany plywood, more specifically, has been found to possess the basic fault in the respect that when it is formed into a finished wall composed of several panels laid edge-to-edge, a 4-foot color pattern, extending horizontally, is produced due to the fact that the individual panels are of different colors. Current methods used in industry in connection with the fabrication and utilization of such plywood panels precludes, for reason of economics, the preselection of panels for walls which match in color; therefore, such wood is not popular for use in fabricating walls which are desired to have a high quality appearance.

It has been discovered, as disclosed in application Serial No. 305,742 filed August 30, 1963 by Keppler et al. and assigned to the same assignee as this application, that a particular pre-treatment of mahogany plywood panels coupled with the grooving of the same to provide for simulated planks laid edge-to-edge and then color toning the individual planks in a particular manner results in the achievement of color consistency from panel to panel when several of these particular panels are laid edge-to-edge in forming a wall. In the prefinishing of these panels, the adjacent, simulated planks are coated with paint of different color tints of, for example, brown, green, grey and the like. Thus, one particular plank may be tinted with a transparent coating of brown paint, the next adjacent plank with a tint of green, the plank next to this a tint of grey, and so on. The particular coatings are significant in that the amount of pigment used in the coating is so slight as hardly to be discernible upon first viewing and in coating form on the panels is so diluted as to be substantially transparent so that the wood grain clearly shows therethrough.

As one of the objectives of this invention, it is desired to provide an apparatus for color-toning simultaneously all of the planks of a given panel of plywood with different colors, the colors of any given simulated plank not extending over and encroaching upon an adjacent plank.

It is yet another object of this invention to provide a roll-coating machine of relatively simple design which is capable of applying a plurality of stripes of differently colored paint to a plywood panel simultaneously without requiring any special design for the rollers used in the machine.

It is yet another object of this invention to provide an apparatus for applying a plurality of differently colored stripes of paint to a plywood panel through the use of a single paint-applying roller of uniform diameter throughout the length thereof by the use of mechanism in direct engagement with the roller which stores a plurality of precisely defined reservoirs of paint which may be applied to the roller for application to a panel.

Other objects will become apparent as the description proceeds.

The above-mentioned and other features and objects of this invention and the manner of attaining them will become more apparent and the invention itself will be best understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a partial perspective view of an embodiment of this invention, taken from the entry or front side thereof;

FIG. 2 is an elevation of the back or exit side of the embodiment or machine of FIG. 1;

FIG. 3 is a perspective view of the exit or rear side of the machine showing a panel in the process of being painted;

FIG. 4 is a fragmentary front elevation of the same machine somewhat enlarged for the purpose of more clearly illustrating certain of the components as to construction and position;

FIG. 5 is a fragmentary cross-sectional view taken substantially along the section line 5—5 of FIG. 4;

FIG. 6 is a perspective view of one of the wiper blades used in conjunction with the paint applying roller of the machine of the preceding figures;

FIG. 7 is a perspective exploded view, partially sectioned and broken away for clarity of illustration, of a partition device used in the machine of the preceding figures; and

FIG. 8 is a top plan view in diagrammatic form of the machine of the preceding figures, which is used in explaining the operation of the invention.

Referring to FIGS. 1 through 5, the roll-coating machine there illustrated comprises a stationary frame having two end supports **10** which stand upright in spaced parallelism and which are fixedly secured in position. The construction of this frame and these uprights **10** is conventional and may be as disclosed in the aforesaid application Serial No. 305,742. Rotatably mounted on these end supports **10** and extending therebetween is a paint-applying roller **12** which is of uniform diameter from end-to-end thereof and having its axis horizontal. A doctor or metering roller **14** is also rotatably supported by the end supports **10** with its axis also being horizontal and parallel to the axis of the roller **12**. Preferably, the roller **12** is a cylinder of steel having a relatively thick layer **16** of rubber-like material, such as neoprene, thereon; however, in the alternative, the roller **12** may be formed entirely of the rubber-like or neoprene material. The doctor roller **14**, uniform in diameter, is preferably formed of stainless steel but other equivalent materials well known in the art may be used instead. The two rollers **12** and **14** are engageable with each other so as to form a paint-retaining trough **18** therebetween which is of generally V-shape.

A drive roller **20** is also supported for rotation by the end supports **10** and is situated immediately beneath the

roller 12 in parallelism therewith and also in operative engagement therewith. The roll coating machine thus far described is conventional in the art and may be constructed as disclosed in Baker Patent No. 3,106,480 or as the one disclosed in the aforesaid Keppler et al. patent application Serial No. 305,742 with the exception that the three rollers are of uniform diameter throughout the lengths thereof whereas in the aforesaid application they are of stepped diameter.

Two horizontally aligned guide shelves, generally indicated by the numeral 22, are rigidly mounted on the machine frame and fixedly supported with respect to the end supports 10 as shown more clearly in FIG. 8. These two guide shelves include upper horizontal surfaces 24 which lie in a plane passing between the two rollers 12 and 20 (FIG. 5) and also straight upright flanges 26 which are straight-line extensions of the end edges of the rollers 12 and 14 as shown in FIG. 8. The flanges 26 of the two shelves 22 are also parallel. The purpose of these two shelves 22 is to guide a sheet of plywood 28 or the like horizontally between the two rollers 12 and 20 in such a manner that the roller 12 can engage the top surface of the sheet 28 and the roller 20 can engage the bottom of the sheet to propel it in the direction of the arrow 30.

An electric motor 32 (FIG. 2) is mounted on the right-hand support 10 as shown in FIG. 2 and is connected through the use of conventional means (not shown) to the shafts of the three rollers 12, 14 and 20 to rotate the same at the same peripheral velocity. The two rollers 12 and 14 are rotated counterclockwise and clockwise, respectively, and the roller 20 is rotated clockwise, all as shown in FIG. 5. The arrows associated with each of these rollers indicate the direction of rotation thereof.

As stated previously, the engaging rollers 12 and 14 define therebetween an upwardly facing, elongated paint-receiving well or trough 18. Conventional stationary dam plates 34, respectively, engage the opposite ends of the two rollers 12 and 14 to close the ends of the trough 18, these plates 34 being supported in place in one form of the invention by being suitably mounted on the shafts of the two rollers 12 and 14. The apparatus comprising the three rollers 12, 14 and 20 and the two dam plates 34 is conventional and needs no further elaboration.

As shown more clearly in FIG. 8 in diagrammatic form, the trough 18 is divided into a plurality (six in number in FIG. 8) of trough sections indicated by the numerals 36, 38, 40, 42, 44 and 46 by a plurality (5 in this case) of partitions or dividers indicated by the numerals 48, 50, 52, 54 and 56. These dividers 48 through 56 provide walls or dams which seal off the trough sections 36 through 46 from each other such that each trough section 36 through 46 may contain a different colored paint which will be kept separated from the paint in the adjacent trough section. The particular construction of the various dividers or partition devices 46 through 56 will now be described and since all of these devices are of the same construction, the description of one will suffice for all.

As shown more clearly in FIGS. 1, 5 and 7, each partition device (denoted by the numeral 50 in FIGS. 5 and 7) comprises a flat, rigid and self-supporting plate 58 of a suitable material such as tetrafluoroethylene plastic. Other materials may be used instead; however, this particular plastic material is preferred. This plate 58 is shaped such that the bottom edge thereof is generally of V-shape which conforms identically to the cross-sectional shape of the trough 18, the side edge 60 having a curvature of the same radius as the outer periphery of the roller 14 and the side edge 62 having a curvature of the same radius as the outer periphery of the roller 12. These two side edges 60 and 62 join in a point or vertex, indicated by the numeral 64.

The plate 58 is disposed in a vertical plane normal to the axes of the two rollers 12 and 14, and further than this the plate 58 rests with the bottom edges 60 and 62 engaged with the peripheral surfaces of the rollers 14 and 12, respectively, and with the vertex 64 disposed contiguous to the point of engagement between the two rollers 12 and 14. The plates 58 and 60 are precisely machined such that liquid in the trough sections on the opposite sides of the plate 58 will not readily seep therepast between the contacting portions of the plate 58 and the two rollers 12 and 14.

A pair of steel plates 66 are clamped to the opposite sides of the plastic plate 58 and are secured thereto by means of suitable bolts 68. Also secured between two upstanding ears 70 on the two plates 66 is a lug 72 which is welded or otherwise secured to one end of a straight, rigid rod 74. A suitable bolt 76 is used for securing these parts 70 and 72 together.

The bar 74 extends horizontally toward the front of the machine, the longitudinal axis thereof lying substantially in the vertical plane of the plastic plate 58. A rectangular steel plate 78 is welded or otherwise secured to the opposite end of the bar 74 and depends in the same vertical plane to fit into an upright slot 80 formed between two angle irons 82. These angle irons 82 are securedly mounted on top of a horizontally extending frame member 84 which is fixedly secured with respect to the machine frame which includes the end supports 10. The slot 80 is of such size as to receive the plate 78 with sliding clearance such that the plate 78 may be free to move vertically and horizontally in the vertical plane of plate 58 but not laterally.

Thus, it will now be understood that flat plate 58, which perimetrally projects beyond plates 66, gravitationally rests on the two rollers 12 and 14 and is maintained in position by means of the supporting structure which includes the two plates 66, bar 74, plate 78 and slot 80 formed between the two angle irons 82. The two rollers 12 and 14 are free to rotate with plate 58 resting thereon, and plate 58 is accurately held in the same position axially of the two rollers 12 and 14 by the supporting structure just described. If there should be any slight eccentricities or undulations in the peripheral surfaces of the two rollers 12 and 14, plate 58 is free to move vertically and horizontally in the vertical plane thereof by reason of the floating support provided by the fit between the plate 78 and the slot 80.

As shown more clearly in FIGS. 1, 3 and 4, there are a plurality of the partition devices shown in FIGS. 5 and 7, all of these devices having plates 58 which are spaced apart and parallel so as to provide the various trough sections 36 through 46 (FIG. 8) therebetween.

These individual trough sections 36 through 46 are supplied with liquid paint, and the means for providing these trough sections with paint are the pipes indicated by the numerals 86*a* through 86*i* as shown in FIG. 1. These pipes 86*a* are provided with flexible lower sections 87 which are operatively secured to a crossbar or frame member 88 movably mounted in the end supports 10. Depending nozzles 89 of stiff conduit material are attached to the lower ends of the flexible sections 87, these nozzles being fixedly secured to the crossbar 88. This crossbar 88 is longitudinally reciprocable in suitable guide apertures in the end supports 10, thereby moving the nozzles 89 therewith. The extent of reciprocation is limited to about two inches, or just enough to agitate the paint in the trough sections. Suitable hand valves 90 may be connected in series with the various pipes 86*a* through 86*i* so as to control the flow of paint therethrough and into the various trough sections 36 through 46.

The other ends of the pipes 86*a* through 86*i* are connected by suitable conduits to individual reservoirs of paint indicated generally by the numerals 92*a* through 92*i*, and these reservoirs may be located above the machine of FIG. 1 so as to provide for gravitational flow

of paint through the pipes 86*a* through 86*i* or in the alternative may be located at a lower level and used in conjunction with pumps (not shown) which force the paint from the reservoirs through the pipes to the individual trough sections 36 through 46.

Used in direct conjunction with the partition devices 48 through 56 and the trough sections 36 through 46 therebetween are a plurality of blades or wipers 94 as shown individually in FIG. 6. There is one such blade 94 for each trough section 36 through 46 (or whatever number of trough sections may be used), and these blades are mounted for individual operation whereby they may be swung into or out of operative engagement with the roller 12 (see FIG. 5). Each blade 94, substantially rectangular in shape, preferably is formed of some suitably thin self-supporting and rigid material (such as plastic or metal), with the bottom edge 96 thereof being straight and the two ends 97 being upright. Each plate 94 is fixedly secured to one end of a rod 98 by means of jaws or clamps 100, the other end of the particular bar 98 being secured to a collar 102 rotatably mounted on a stationary bar 104. This stationary bar 104 is fixedly mounted with respect to the machine frame and extends in parallelism with respect to the rollers 12, 14 and 20. Also, the bar 104 is situated to the rear of the roller 12 and slightly above the same as shown more clearly in FIG. 5.

As shown in FIG. 3, there are a plurality of blade 94 and rod 98 assemblies, there being one for each trough section as explained previously. Each blade 94 is adapted to engage the upper surface of the roller 12 as shown more clearly in FIG. 5 with the straight edge 96 extending axially thereof. In this position, the supporting rod 98 is substantially horizontal such that it may be swung upwardly to the dashed line position 99 to lift the blade 94 off the roller 12.

As is more clearly shown in FIG. 8, the various trough sections 36 through 46 are of different lengths, the spacing between the partition devices determining these lengths. Each blade 94 has a length corresponding exactly equal to the spacing between facing surfaces of adjacent plates 58 such that adjacent blades 94 have a spacing therebetween which corresponds identically with the thickness of the plate 58. This spacing is indicated by the numeral 106 in FIG. 3.

As shown in FIG. 5, each blade 94 is situated between and in engagement with adjacent plates 58, the plate 94 itself also being vertical when engaged with the roller 12. Also, the plates 58 extend rearwardly of the machine beyond the blades 58.

The bars 98 are individually pivotable upwardly so as to lift the respective blade 94 out of engagement with the roller 12. The reason for this will be explained later on.

Momentarily considering the operation of the machine just described, as the sheet of plywood 28 or the like is being fed to the two rollers 12 and 20 (FIG. 5), the sheet is guided along the shelves 22 in sliding engagement along the edges thereof with the flanges 26 and is engaged on the upper and lower sides thereof by the rollers 12 and 20, respectively. The roller 12 is adjusted downwardly by means of the adjusting wheel 108 with a sufficient force against the upper surface of the panel 28 to apply paint to the upper surface of the panel 28 from roller 12. The roller 20 provides a backing against which the roller 12 operatively engages, the sheet 28 being interposed therebetween.

The force with which the roller 12 engages the upper surface of the panel 28 is such that paint in the trough sections 36 through 46 may be properly transferred from the surface of the roller 12 to the plywood panel.

Before discussing the operation of this invention further, reference is made to FIGS. 3, 5 and 8 wherein a typical plywood panel of from 3/16 inch to 1/4 inch thick and 4 feet wide and 8 feet long is shown. A series of straight-line grooves 110 of conventional construction as shown in detail in the aforesaid application Serial No. 305,742 of uniform width and depth are cut into the upper surface of the panel 28 from end-to-end thereof as shown. Further than this, these grooves 110 are spaced apart and parallel to simulate planks, laid edge-to-edge, of different widths. As shown in FIGS. 3, 4 and 8, several such planks are simulated; however, different numbers of planks may be simulated without departing from the spirit and scope of this invention. The number of planks, however, are directly related in size and number with the individual trough sections 36 through 46 as shown more clearly in FIG. 8. The apparatus and method for forming the grooves 110 are conventional such that they need no further elaboration here. The grooves 110 are approximately 1/8 inch wide and formed to a depth of about 1/16 inch. Otherwise, these grooves 110 correspond in width to the plastic plates 58, these plates 58 also being approximately 1/8 inch thick.

For any given machine arrangement, all of the panels fed to that particular machine have an identical groove and plank pattern thereon, this pattern being related to the sizes of the various trough sections 36 through 46.

As stated previously, the individual planks on a given panel 28 are of the same width as the respective trough sections. This is shown diagrammatically more clearly in FIG. 8 wherein the planks 112 through 122 have widths corresponding precisely to the widths of the trough sections 36 through 46. Stated differently, the various partitions 48 through 56 lie in a vertical plane which includes respective grooves 110. The significance of this will become apparent from the description that follows.

Before operating the machine, paint of different colors in the reservoirs 92*a* through 92*i* (FIG. 1) is fed to the individual trough sections 36 through 46 to a suitable level as indicated in FIG. 5. These various reservoirs may have the same or different colors or the color arrangement may be such that only two or three different colors are used, but they are spaced apart such that usually no two adjacent trough sections will be supplied with the same color. In FIG. 8, different colored paint in adjacent trough sections is illustrated by the numerals 124 through 134 and by the cross-hatching and stippling, respectively. Thus, the paint indicated by numeral 124 in trough section 36 is of different color than the paint 126 in trough section 38, and so on.

With all the trough sections 36 through 46 properly supplied with paint, and the blades 94 in position between the respective plates 58 as previously explained, the rollers 12, 14 and 20 are set into motion to receive a pregrooved panel 28. This panel 28 is fed between the rollers 12 and 20 under the lateral guiding influence of the shelves 22 such that the grooves 110 coincide precisely vertically with the individual partition devices 48 through 56. As the rollers rotate, these peripheral sections of the roller 12 in engagement with the respective trough sections 36 through 46 deposit paint therefrom directly onto the respective plank portions 112 through 122. Thus, viewing FIG. 8 the plank 112 is coated from edge-to-edge thereof with paint 124 from trough section 36. Similarly, plank 114 is coated from edge-to-edge thereof with paint 126 from trough section 38. The remaining planks are coated with paint carried around by roller 12 from the respective trough sections 30.

If it were not for the presence of the scraper blades 94 in engagement with roller 12 and fitted between adjacent divider plates 58, an uneven distribution of paint could develop on the roller 12. Also, the thickness of the paint on the roller 12 can become excessive such that a panel first passing by and being painted by the roller 12 will have an initial application which is too thick followed by a thinner application. This results in uneven and objectionable coloring of the panel. The blades 94 main-

tain the coating of paint on the roller uniform in thickness, such that a corresponding uniform coating is applied to the panel from end-to-end thereof. Also, without the blades **94**, the paint may migrate sideways until paint from one peripheral section of roller **12** will mix with paint on the adjacent section. This results in the edges of the various planks **112** through **122** having paint of these mixed colors applied thereto, such that the color of paint from edge-to-edge of the planks will not be uniform. Since this would obviously detract from the quality appearance of the finished panel, it should, of course, be avoided. The blades **94** in contact with the roller **12** scrape and collect paint from the surface of the roller and thereby prevents the same from flowing sideways. When such an accumulation of paint builds up against the side of the blades **94** as perhaps to overflow around the divider plates **58**, the blades **94** are lifted from contact with the roller **12** so as to permit the accumulation of paint to enter the respective trough section. Automatic overflow, alternatively, into the respective trough sections may be provided by notches **95** in end edges **97**, which are spaced a half (½) inch or more above edges **96**.

The blades **94** may be adjusted with respect to the surface of roller **12** to provide the thickness of paint desired thereon, and any suitable means may be used for obtaining this adjustment. For example, the arm **98** may be locked to the bar **104** by means of a set screw (not shown). Also, the weight of the blade **94** may be just sufficient to permit normal resting engagement as the only adjustment needed.

As the panel **28** passes longitudinally completely beneath roller **12**, each individual plank **112** through **122** is coated with differently colored paint, the paint which each plank receives being uniform in color from edge-to-edge thereof.

Preferably, the paints or lacquers used should have a pigment concentration which permits the background grain pattern of the wood to show through, the material being substantially transparent and containing just enough pigment to add perceptible color to wood. Panels may be fed to the machine in rapid sequence, and paint can be continuously supplied via the feeding conduits to the individual trough sections. The flow of paint to the individual trough sections can be governed by the valves **90** as previously explained.

While there have been described above the principles of this invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of the invention.

What is claimed is:

1. Apparatus for coloring a surface of a rectangular panel having a plurality of straight longitudinally extending simulated planks on said surface, said simulated planks individually being of uniform width from end-to-end of said panel and also being arranged edge-to-edge, comprising a roll-coating machine having a frame with upright spaced apart supports, first and second cylindrical rollers rotatably mounted on and extending between said supports, the axes of said rollers being parallel and spaced apart, said first and second rollers being horizontally arranged and engageable to provide a horizontal paint trough therebetween, said trough in cross-section having a generally V-shape, said first and second rollers engaging each other with sufficient force to retain liquid paint in said trough, said first roller being of metal, said second roller being of rubber-like material in the outer peripheral portion thereof, a plurality of partition devices disposed in said trough in spaced apart relation for dividing said trough into a plurality of separate trough sections; each partition device comprising a flat self-supporting rigid plate of tetrafluoroethylene plastic material disposed parallel to a vertical plane normal to the axes of said first and second rollers, said plate having a bottom edge shaped identically to the cross-sectional shape of said trough, said bottom edge having two opposite side portions which are curved to fit congruently the curvatures of said first and second rollers respectively, said two side portions joining in an apex which intimately fits the apex of said trough, said plastic plate extending above said second roller and having a forward edge which extends beyond a vertical diameter of said second roller, two rigid side plates clamped onto and secured to opposite sides of said plastic plate, a supporting bar secured to said side plates and extending horizontally over said first roller, two members secured to said frame and having two parallel spaced apart upstanding surfaces which define a vertical slot therebetween which extends parallel to a plane normal to the axes of said first and second rollers, said two members being positioned on the side of said first roller opposite said trough, a rigid guide plate secured to said bar and depending vertically therefrom, said guide plate being slidably received by said slot for vertical and horizontal movement therein, whereby slight vertical and horizontal motion imparted to said plastic plate by said first and second rollers is accommodated by the movable fit between said slot and said guide plate; a plurality of scraper blades having straight edges engaged with the peripheral surface of said second roller, said blades being flat and arranged in an upright plane in succession from one end of said second roller to the other, there being one blade for each trough section, each blade being fitted between two adjacent plastic plates rearwardly of the forward edges thereof, means supporting said blades in position for movement selectively into and out of engagement with said second roller, and a plurality of reservoirs having conduits extending therefrom to said trough sections, there being at least one conduit and reservoir for each section, each conduit being operatively supported by said frame and having an end which opens into the respective trough section, each conduit having a valve therein for controlling flow of paint therethrough, whereby different colored paint may be metered into and contained by said trough sections, said partition devices preventing the flow of paint between trough sections.

2. Apparatus for coloring a surface of a rectangular panel having a plurality of straight longitudinally extending simulated planks on said surface, said simulated planks individually being of uniform width from end-to-end of said panel and also being arranged edge-to-edge, comprising a roil-coating machine having a frame with upright spaced apart supports, first and second cylindrical rollers rotatably mounted on and extending between said supports, the axes of said rollers being parallel and spaced apart, said first and second rollers being horizontally arranged and engageable to provide a horizontal paint trough therebetween, said trough in cross-section having a generally V-shape, said first and second rollers engaging each other with sufficient force to retain liquid paint in said trough, said first roller being of metal, said second roller being of rubber-like material in the outer peripheral portion thereof, a plurality of partition devices disposed in said trough in spaced apart relation for dividing said trough into a plurality of separate trough sections; each partition device comprising a flat self-supporting rigid plate of tetrafluoroethylene plastic material disposed parallel to a vertical plane normal to the axes of said first and second rollers, said plate having a bottom edge shaped identically to the cross-sectional shape of said trough, said bottom edge having two opposite side portions which are curved to fit congruently the curvatures of said first and second rollers respectively, said two side portions joining in an apex which intimately fits the apex of said trough, said plastic plate extending above said second roller and having a forward edge which extends beyond a vertical diameter of said second roller, two rigid side plates clamped onto and secured to opposite sides of said plastic plate, a supporting bar secured to said side plates and extending horizontally over said first roller, two members secured to said frame and having two parallel spaced

apart upstanding surfaces which define a vertical slot therebetween which extends parallel to a plane normal to the axes of said first and second rollers, said two members being positioned on the side of said first roller opposite said trough, a rigid guide plate secured to said bar and depending vertically therefrom, said guide plate being slidably received by said slot for vertical and horizontal movement therein, whereby slight vertical and horizontal motion imparted to said plastic plate by said first and second rollers is accommodated by the movable fit between said slot and said guide plate; a plurality of scraper blades having straight edges engaged with the peripheral surface of said second roller, said blades being flat and arranged in an upright plane in succession from one end of said second roller to the other, there being one blade for each trough section, each blade being fitted between two adjacent plastic plates rearwardly of the forward edges thereof, and means supporting said blades in position for movement selectively into and out of engagement with said second roller.

3. Apparatus for coloring a surface of a rectangular panel having a plurality of straight longitudinally extending simulated planks on said surface, said simulated planks individually being of uniform width from end-to-end of said panel and also being arranged edge-to-edge, comprising a roll-coating machine having a frame with upright spaced apart supports, first and second cylindrical rollers rotatably mounted on and extending between said supports, the axes of said rollers being parallel and spaced apart, said first and second rollers being horizontally arranged and engageable to provide a horizontal paint trough therebetween, said trough in cross-section having a generally V-shape, said first and second rollers engaging each other with sufficient force to retain liquid paint in said trough, said first rollers being of metal, said second roller being of rubber-like material in the outer peripheral portion thereof, a plurality of partition devices disposed in said trough in spaced apart relation for dividing said trough into a plurality of separate trough sections; each partition device comprising a flat self-supporting rigid plate of tetrafluoroethylene plastic material disposed parallel to a vertical plane normal to the axes of said first and second rollers, said plate having a bottom edge shaped identically to the cross-sectional shape of said trough, said bottom edge having two opposite side portions which are curved to fit congruently the curvatures of said first and second rollers respectively, said two side portions joining in an apex which intimately fits the apex of said trough, said plastic plate extending above said second roller and having a forward edge which extends beyond a vertical diameter of said second roller, two rigid side plates clamped onto and secured to opposite sides of said plastic plate, means operatively mounting said side and plastic plates on said frame for guided vertical and horizontal movement in the plane of the plastic plate, and a plurality of scraper blades having straight edges engaged with the peripheral surface of said second roller, said blades being flat and arranged in an upright plane in succession from one end of said second roller to the other, there being one blade for each trough section, each blade being fitted between two adjacent plastic plates rearwardly of the forward edges thereof, means supporting said blades in position for movement selectively into and out of engagement with said second roller.

4. Apparatus for coloring a surface of a rectangular panel having a plurality of straight longitudinally extending simulated planks on said surface, said simulated planks individually being of uniform width from end-to-end of said panel and also being arranged edge-to-edge, comprising a roll-coating machine having a frame with upright spaced apart supports, first and second cylindrical rollers rotatably mounted on and extending between said supports, the axes of said rollers being parallel and spaced apart, said first and second rollers being horizontally arranged and engageable to provide a horizontal paint trough therebetween, said trough in cross-section having

a generally V-shape, said first and second rollers engaging each other with sufficient force to retain liquid paint in said trough, said first roller being of metal, said second roller being of rubber-like material in the outer peripheral portion thereof, a plurality of partition devices disposed in said trough in spaced apart relation for dividing said trough into a plurality of separate trough sections; each partition device comprising a flat self-supporting rigid plate of tetrafluoroethylene plastic material disposed parallel to a vertical plane normal to the axes of said first and second rollers, said plate having a bottom edge shaped identically to the cross-sectional shape of said trough, said bottom edge having two opposite side portions which are curved to fit congruently the curvatures of said first and second rollers respectively, said two side portions joining in an apex which intimately fits the apex of said trough, said plastic plate extending above said second roller and having a forward edge which extends beyond a vertical diameter of said second roller, means mounting said plastic plate for guided vertical and horizontal movement in the plane of said plastic plate, and a plurality of scraper blades having straight edges engaged with the peripheral surface of said second roller, said blades being flat and arranged in an upright plane in succession from one end of said second roller to the other, there being one blade for each trough section, each blade being fitted between two adjacent plastic plates rearwardly of the forward edges thereof, means supporting said blades in position for movement selectively into and out of engagement with said second roller.

5. For use in roll-coating apparatus, a partition device comprising a flat plate of tetrafluoroethylene plastic material having a bottom edge of generally V-shape, the two sides of said V-shape being arcs of circles, respectively, which merge in an apex, a pair of rigid flat members clamped onto said plate with the latter being secured therebetween, a straight bar member secured at one end to said flat members and extending in a direction which is transverse to a bisector of said V-shape, a flat rigid metal plate secured to the other end of said bar member and lying in the same general plane defined by said plastic plate, and frame means for supporting said metal plate, said frame means including a vertical slot which receives and guides said metal plate for movement in a single vertical plane.

6. Apparatus for coloring a surface of a rectangular panel having a plurality of straight longitudinally extending simulated planks on said surface, said simulated planks individually being of uniform width from end-to-end of said panel and also being arranged edge-to-edge, comprising a roll-coating machine having a frame with upright spaced apart supports, first and second cylindrical rollers rotatably mounted on and extending between said supports, the axes of said rollers being parallel and spaced apart, said first and second rollers being horizontally arranged and engageable to provide a horizontal paint trough therebetween, said trough in cross-section having a generally V-shape, said first and second rollers engaging each other with sufficient force to retain liquid paint in said trough, said first roller being of metal, said second roller being of rubber-like material in the outer peripheral portion thereof, a plurality of partition devices disposed in said trough in spaced apart relation for dividing said trough into a plurality of separate trough sections; each partition device comprising a flat self-supporting rigid plate of tetrafluoroethylene plastic material disposed parallel to a vertical plane normal to the axes of said first and second rollers, said plate having a bottom edge shaped identically to the cross-sectional shape of said trough, said bottom edge having two opposite side portions which are curved to fit congruently the curvatures of said first and second rollers, respectively, said two side portions joining in an apex which intimately fits the apex of said trough, two rigid side plates clamped onto and secured to opposite sides of said plastic plate, a sup-

porting bar secured to said side plates and extending horizontally over said first roller, two members secured to said frame and having two parallel spaced apart upstanding surfaces which define a vertical slot therebetween which extends parallel to a plane normal to the axes of said first and second rollers, said two members being positioned on the side of said first roller opposite said trough, a rigid guide plate secured to said bar and depending vertically therefrom, said guide plate being slidably received by said slot for vertical and horizontal movement therein, whereby slight vertical and horizontal motion imparted to said plastic plate by said first and second rollers is accommodated by the movable fit between said slot and said guide plate.

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