Jan. 20, 1953 B. S. DOMBROWSKI 2,625,904

MACHINE FOR COATING RULERS

Filed Sept. 26, 1949 3 Sheets-Sheet 1

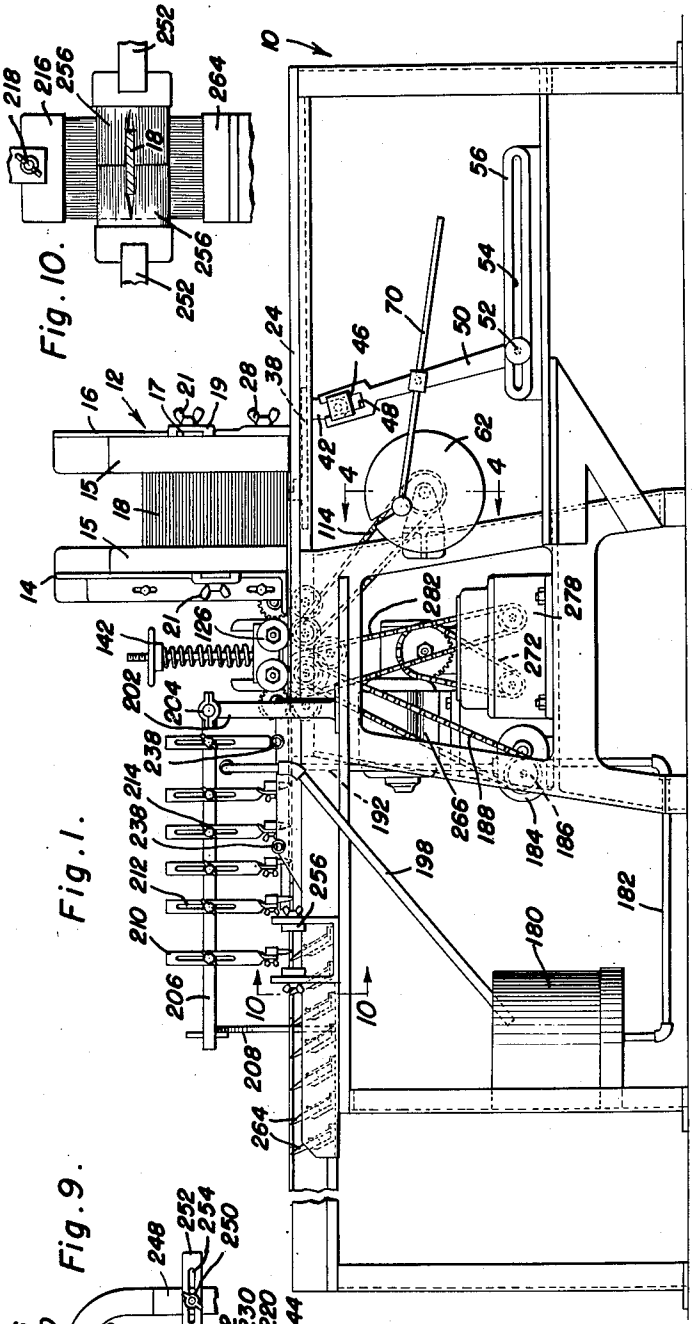


Fig. 1.

Fig. 10.

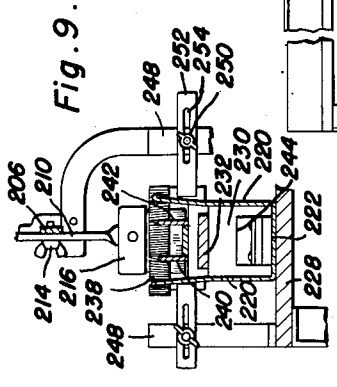


Fig. 9.

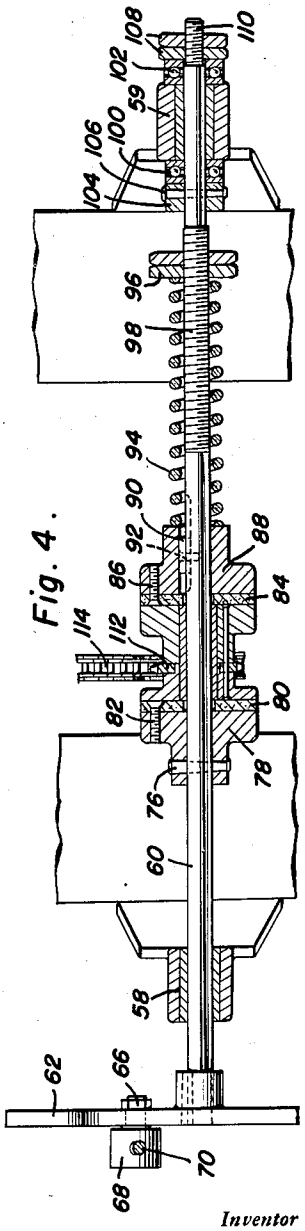


Fig. 4.

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MACHINE FOR COATING RULERS

Filed Sept. 26, 1949 3 Sheets-Sheet 2

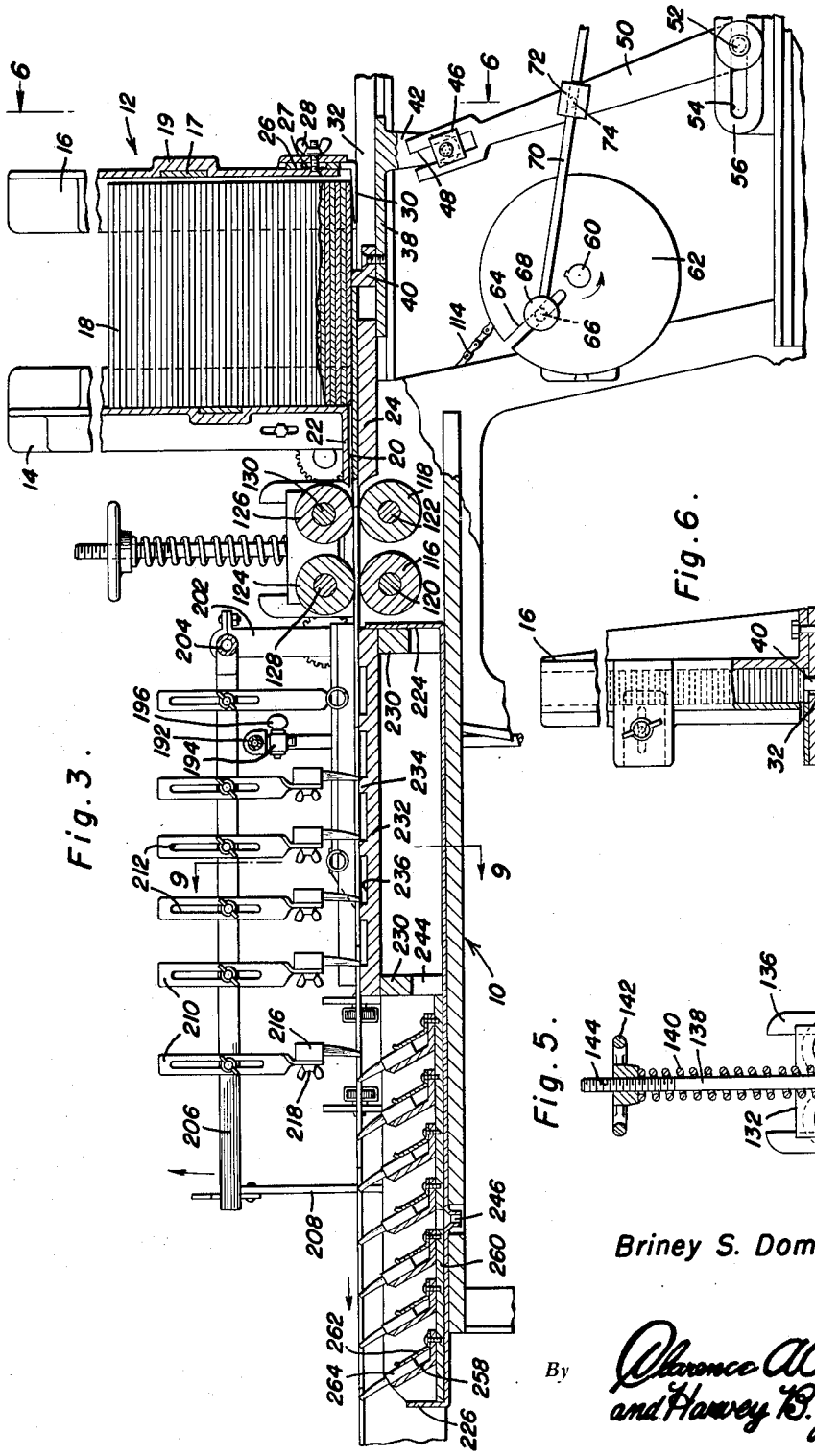


Fig. 3.

Fig. 6.

Fig. 5.

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MACHINE FOR COATING RULERS

Filed Sept. 26, 1949 3 Sheets-Sheet 3

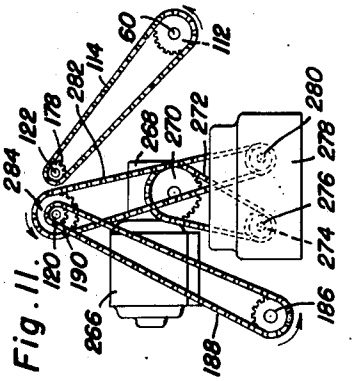


Fig. 11.

Fig. 2.

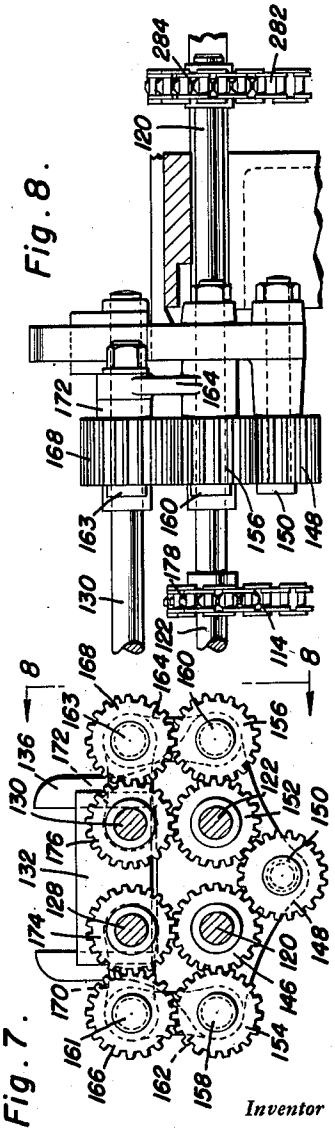


Fig. 8.

Fig. 7.

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Patented Jan. 20, 1953 2,625,904

UNITED STATES PATENT OFFICE

2,625,904

MACHINE FOR COATING RULERS

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Application September 26, 1949, Serial No. 117,818

5 Claims. (Cl. 118—100)

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This invention comprises novel and useful improvements in a machine for coating rulers and in general pertains to an apparatus for automatically applying a liquid coating to slats of any desired character such as rulers, blind slats and the like.

The primary purpose of this invention is to provide an apparatus for automatically applying a coating to slats efficiently, expeditiously and which may be readily adjusted to accommodate different sizes of slats as desired.

A further object of the invention is to provide an apparatus in which a plurality of slats may be stored and whereby the slats may be successively and intermittently fed from the place of storage, then positively passed through a station where a coating may be applied thereto, and thence moved through a brush assembly whereby the coating may be evenly spread over the entire surface of the slat.

A further object of the invention is to provide a slat hopper in an apparatus as set forth hereinbefore, which may be readily adjusted to accommodate itself to different dimensions of slats, and which when so adjusted will not affect the operation of the means for discharging the slats from the hopper and the means for feeding the slats so discharged through the spraying and brush assemblies of the apparatus.

Yet another object of the invention is to provide a hopper which will accommodate various thicknesses of slats without alteration in the slat discharging means from the hopper, and despite the provision of a discharge opening which is fixed as to its dimension and position.

A still further object of the invention is to provide a slat discharging means for intermittently removing slats from the hopper and delivering the same to a feeding mechanism for passage thereby through the spray and brush assemblies, which operating means is capable of handling various sizes of slats by employing or rendering effective only certain predetermined portions of its operating stroke.

These, together with various ancillary features and objects of the invention which will later become apparent as the following description proceeds, are attained by the present device, the preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a side elevational view of a preferred embodiment of the apparatus, parts being broken away and certain concealed parts being indicated by dotted lines therein;

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Figure 2 is a top plan view of the apparatus of Figure 1, parts being broken away and certain concealed parts being indicated by dotted lines therein;

Figure 3 is a vertical longitudinal sectional view taken substantially upon the plane of the section line 3—3 of Figure 2 and illustrating upon an enlarged scale the association of the hopper, the slat discharge means, the slat feeding roller assembly, the spraying device and the brush assembly;

Figure 4 is a vertical transverse sectional view taken upon an enlarged scale substantially upon the plane of the section line 4—4 of Figure 1 and illustrating the variable driving mechanism of the slat discharge means;

Figure 5 is a vertical sectional view of the adjustable and yieldable feed roller assembly of the invention;

Figure 6 is a vertical sectional view taken substantially upon the plane of the section line 6—6 of Figure 3 and illustrating the association of the slat discharge means and the slat retaining hopper of the invention;

Figure 7 is a vertical sectional view taken substantially upon the plane of the section line 7—7 of Figure 2 and illustrating the gearing assembly for driving the feed rollers of the invention;

Figure 8 is a sectional view taken substantially upon the plane of section line 8—8 of Figure 7;

Figure 9 is a vertical transverse sectional view taken substantially upon the plane of the section line 9—9 of Figure 3, and illustrating certain details of the brush assembly of the invention;

Figure 10 is a vertical sectional detail view taken substantially upon the plane of the section line 10—10 of Figure 1 and illustrating certain details of a portion of the brush assembly; and

Figure 11 is an elevational view of a drive gearing forming a part of the invention.

The present apparatus is provided to enable slats of different sizes and dimensions to be automatically handled for applying a liquid coating thereto such as varnish or the like, and then smoothly and evenly distributing the coating throughout and over the entire surface of the slat and removing excess coating therefrom, all in an uninterrupted operation as the slat is caused to travel through the various parts of the apparatus.

The apparatus as disclosed hereinafter consists of five sub-assemblies all mounted upon a single frame and incorporated into a single apparatus for successively but in synchronized relation performing their various functions. These elements

consist of a hopper assembly for storing and dispensing the slats as desired, a ram assembly comprising a slat discharging means for intermittently removing slats successively from the hopper, a roller feeding assembly for positively feeding the slat removed by the discharging ram throughout the spray and brush assemblies of the invention, a coating assembly for applying charges of liquid coating to the slats, and a brush assembly for distributing the coating evenly over the slats and removing excess coating therefrom.

Although the same is not essential, to carrying out the principles of this invention, the apparatus may conveniently comprise a supporting framework indicated generally by the numeral 10 upon which the various elements of the apparatus may be supported and mounted in the necessary relative positions. It is of course understood that the same assemblage of elements could be employed upon separate supports rather than upon a single supporting frame.

Hopper construction assembly

The hopper assembly indicated generally by the numeral 12 is illustrated in Figures 1–3 and 6, and comprises front and rear frame members 14 and 16 which are suitably secured upon any desired support such as the supporting framework 10 in any convenient manner. The members 14 and 16 conveniently assume the form of vertically disposed channel members having their channels facing each other for receiving a stack of slats 18. Preferably, one of the channel walls 15 of each of the members 14 and 16 is of a construction which permits lateral adjustment towards the other wall, whereby the width of the channel may be varied to accommodate slats of different width. For this purpose, the members 14 and 16 have laterally extending guides 17 slidably received in channels 19 of the members 15 together with wing nuts 21 for securing the walls 15 in laterally adjusted position. Similarly, the members 14 and 16 may be adjusted relative to each other so that the same may accommodate slats of different length.

At its lower extremity, the forward member 14 is provided with a horizontal discharge opening or slot 20 which is of sufficient height and width to accommodate the widest and thickest slat with which it is intended to employ this apparatus. Conveniently, this discharge opening or slot may be formed by a laterally extending horizontally disposed flange 22 integrally or otherwise carried by the front member 14, together with the upper surface of a table or the like 24 forming a part of the support frame 10.

Since the discharge opening of the hopper is of fixed dimensions, it is desirable to position the lowermost slat of the stack of slats in vertically adjusted positions so that but a single slat, which is the lowermost of the pile of slats, registers with the discharge opening 22. For this purpose, a slat positioning means consisting of a vertically extending plate 26 is secured to the exterior and rearward surface of the rear member 16, and is adjustable vertically thereupon as by means of elongated slots 27 and wing nuts 28, the lower end of this member 26 having a forwardly or inwardly turned flange forming a foot 30, this flange being receivable under the lowermost of the pile of slats through a suitable opening in the member 16 whereby the entire pile of slats may be raised or lowered by proper adjustment of the plate 26. By this means, the pile of slats, regardless of the dimensions of the same, may be so adjusted that the lowermost slat only is in registration with the discharge opening so that the same may be pushed from the hopper in a manner set forth hereinafter.

Slat discharging ram

A means is provided for automatically dispensing slats intermittently and successively from the slat discharge opening of the hopper. This means conveniently comprises a reciprocating ram which is intermittently operated and with a variable stroke by a continuously rotating shaft. For this purpose, the table 24 directly beneath the pile of slats and in longitudinal alignment and disposed medially of the same is provided with a slot 32, and depending from the table 24 upon opposite sides of the slot are a pair of flanged members 34 and 36 which are spaced from each other to constitute a guide for a plate 38 forming a slide therein. This plate has an upstanding lug 40, see Figures 3 and 6, which extends through the slot 32 and sufficiently above the upper surface of the table 24 to engage the rear end of one of the slats 18. It will thus be seen that when the ram is moved forward or to the left as viewed in Figure 3, the lug 40 will push a slat 18 from the bottom of the pile ahead of the ram and through the discharge opening 20. When the slat has been completely withdrawn from its discharge opening, and when the ram has been returned to its original position, the pile of slats will now drop down so that the next slat is positioned for discharge upon the next forward movement of the ram.

Depending from the slide 38 of the ram is a lug 42 having a laterally extending pin 44 upon which is journaled a block forming a cross head 46, this cross head being slidably received in a slot 48 at the upper extremity of and extending longitudinally of a ram operating lever 50, which is pivoted upon a pin 52 at its lower extremity for oscillatory movement.

It will now be seen that the lever 50 oscillates, the slide 38 will be reciprocated, and the necessary relative motion between the slide and lever is permitted by the block or cross head 46 sliding in the slot 48 of the lever. In order to vary the limits of movement of the slide, as when it is necessary to adjust the two hopper members 14 and 16 to accomodate different lengths of slats, the pin 52 is adjustably received in an elongated slot 54 of an adjusting bracket 56 mounted upon any suitable part of the frame 10. It will now be seen that by adjusting the pivot pin 52 of the lever 50 forwardly or rearwardly of the slot 54, the position of the slide 38 will also be adjusted forwardly or rearwardly to thereby regulate the limits of its travel.

Rotatively journaled in suitable bearing assemblies 58 and 59 of the supporting frame 10 (see Figs. 4 and 2), is a shaft 60 which is rotated by a mechanism to be subsequently described, this shaft constituting a driving means for oscillating the lever 50 and thus reciprocating the ram slide 38. The shaft 60 at one extremity is provided with a plate 62 which is keyed or otherwise non-rotatively attached thereto, this plate having a slot 64 within which is adjustably mounted a crank pin 66 having a collar 68 journaled thereon, a connecting rod 70 being terminally connected to this collar 68, as indicated in Figures 1, 3 and 4, the connecting rod

being further adjustably secured and slidably received in a retaining member 72 which is pivotally connected as at 74 to the lever 50 intermediate its extremities. It will now be seen that the stroke of the lever may be varied by varying the relative distance of the pin 66 and collar 68 from the center of rotation of the shaft 60 by adjusting the same along the slot 64, whereby the amplitude of the stroke of the connecting rod can be readily adjusted. By means of the block 74 and its adjustable engagement upon the connecting rod 70, the aforesaid adjustment of the lever 50 by means of the pivot pin 52 adjustable in the slot 54 may be effected without variation of the stroke of the connecting rod and the consequent degree of oscillation of the lever.

As will now be seen, upon rotation of the shaft 60 the lever will be oscillated, the slide will be reciprocated and slats will be intermittently and successively discharged from the hopper. Also, by means of the above mentioned construction, the position or limits of the slide travel and/or the extent or overall length of slide travel can be easily regulated.

Attention is now directed primarily to Figure 4 for an exposition of the operation of the shaft 60 and of a yieldable friction coupling connecting this shaft to its driving means. Fixedly but detachably secured to the shaft 60 as by a tapered pin 76 is a coupling member 78 having a friction lining 80 secured to its face as by screws 82. A similar lining 84 is secured as by screws 86 to a clutch member 88 which is non-rotatively keyed to the shaft 60 as by a key 90, the latter in turn being fixed to the shaft as by a set screw or pin 92. The clutch member 88 is thus non-rotatively but slidably received upon the shaft and is urged towards the first clutch member 78 as by a compression spring 94 which is adjustably compressed against the clutch member 88 as by a pair of lock nuts 96 carried by the screw threaded portion 98 of this shaft. Axial or endwise movement of the shaft 60 in its bearings 58 and 60 is prevented as by means of ball or roller thrust bearing assemblies 100 and 102 engaging opposite sides of the bearing assembly 59, and retained as by a collar 104 secured by a taper pin 106, and by a pair of lock nuts 108 secured to the screw threaded extremity 110 of the shaft. Loosely and rotatively journaled upon the shaft 60 between the clutch members 78 and 88 is a sprocket gear assembly or unit indicated generally by the numeral 112 and which is rotated as by a sprocket chain 114 from a power source to be later described.

It will now be seen that the constantly rotating sprocket chain will rotate the gear unit 112, and through the yielding friction coupling members 78 and 88 will drive the shaft 60. However, when the latter is subjected to a load which is greater than that for which the yieldable clutch has been adjustably set by the adjusting nuts 96, the clutch linings 80 and 84 will slip upon the driving member 112, so that although the latter continues to rotate, the shaft 60 will cease its rotation and consequently the ram slide and its oscillating lever will likewise stop their operation.

Roller feed assembly

Reference is now made more specifically to Figures 2 and 5 for a consideration of the roller feed assembly for positively passing the slats through the coating applying and spreading portion of the apparatus. A lower set of spaced rollers 116 and 118, fixedly secured to supporting shafts 120 and 122, are positioned in the supporting frame 10 adjacent the discharge opening 20 and have their upper surfaces disposed for receiving and supporting the lower surface of a slat discharged from the discharge opening.

This lower set of rollers cooperates with an upper set 124, 126, mounted on shafts 128 and 130, which shafts are journaled between upper and lower slide members 132 and 134 which are vertically slidable in a guiding bracket 136. A standard 138 is secured to the supporting frame 10 and is surrounded by a compression spring 140 which presses downward upon the slide 132 to urge the upper set of rollers downwardly against the lower set, this compression spring being adjustably compressed as by a wheel 142 which is screw threaded upon the screw threaded extremity 144 of the upper end of the shaft 138. The arrangement is such that when a slat is delivered by the discharge ram to the two sets of feed rollers, the rotating rollers will draw the slat through the same and deliver the slat through the rest of the mechanism. The slide members 132 and 134 carrying the upper set of rollers is permitted to move upwardly against the bias of the spring 140 so that the upper set of rollers will yield to accommodate different thicknesses of slats, and to adjustably clamp the slat between the upper and lower sets of feed rollers. As soon as the slat is gripped by the upper and lower set of feed rollers, each of which is positively driven by a gearing assembly to be later set forth, it will be seen that the slat is positively advanced through the ensuing portions of the apparatus at a uniform and constant rate. It will further be seen that the slats are fed from the hopper assembly intermittently and at a non-uniform rate of travel of the slat, but although the end of a slat fed from the hopper may abut the rear end of a slat passing through the feed rollers, the same cannot accelerate the travel of the slat in the feed rollers but will occasion a yielding of the previously mentioned slip coupling members of the ram drive mechanism.

In a manner set forth more specifically hereinafter, the shaft 120 is connected with a driving source, and by means of a gear 146, which registers with a gear 148 on a stub axle 150, drives the gear 152 on the shaft 122. The gears 146 and 152 are continuously in mesh with gears 154 and 156 respectively journaled on stub axles 158 and 160 mounted upon any suitable support upon the framework 10.

It will thus be seen that a positive driving action is effected between the fixed mounting gears 154, 146, 148, 152 and 156. Upon the stub axles 158 and 160 are mounted links indicated in dotted lines at 162 and 164 in Figure 7, these links journaling gears 166 and 168 upon stub axles 161 and 163 and which are thus arcuately movable about but are constantly in mesh with their driving gears 154 and 156. A second pair of links indicated in dotted lines 170 and 172 are journaled upon the axis 161 and 163 of the gears 166 and 168, and at their outer extremities are provided with gears 174 and 176 which are fixedly secured to the shafts 128 and 130, and which constantly mesh with the gears 146 and 152. This arrangement is such that the gear 148 connects two sets of four interconnected gears, each of these sets constituting a parallel bar linkage, whereby the shafts 128 and 130 may be moved vertically with respect to the shafts 120 and 122

while retaining the driving connection therebetween. Thus, the upper sets of rollers are constantly driven from the lower sets of rollers while the previously mentioned yielding action between the sets of rollers is permitted.

As shown more clearly in Figure 8, the shaft 122 is provided with a sprocket gear 178 which drives the previously mentioned sprocket chain 114 by means of which the rotatable shaft 60 of the discharge ram actuating mechanism receives its power.

It will thus be seen that by this interconnected gearing assembly, the roller feed assembly and the discharge ram assembly are simultaneously driven from a common power source and in synchronized relation with respect to each other, while the discharge ram assembly is capable of independent adjustment to calibrate its action with that of the roller feed assembly.

Coating assembly

Upon emerging from the roller feed assembly, the slats are moved past a coating assembly whereby a liquid coating of any desired character, such as varnish or the like, is sprayed upon the slat for subsequent brushing upon the slat.

This coating assembly may conveniently comprise a storage tank and receptacle 180, see Figure 1, suitably mounted upon the framework 10 of the apparatus and preferably beneath the table 24 thereof. The tank 180 has a delivery conduit 182 which is connected to the intake side of a liquid pump 184 of any suitable character, and which is preferably operated (see Fig. 11) as by a sprocket wheel 186, a sprocket chain 188 and a sprocket gear 190 carried by the shaft 120. From the gear pump 184, the liquid coating is supplied by a pressure conduit 192, to a spray nozzle 194 having a manual adjusting valve 196 thereon, which nozzle is positioned for discharging liquid upon a slat passing thereby. Obviously, any desired number of these spray nozzles may be provided for applying the liquid coating to various portions of the slat passing thereby, such as the top, sides and ends of the slats if desired.

Excess liquid supplied to the nozzles and not delivered thereby to the slats by virtue of the setting of the manual control means 196 of the spray valve, may be returned as by conduit 198 into the tank 180. It will be seen that the volume of liquid coating supplied by the pump 184 to the spray nozzles will vary in accordance with the speed of travel of the slats, in view of the common driving gearing which connects the pump with the roller feed assembly.

Brushing assembly

It will be seen that after the liquid coating has been applied to the slats from the spray nozzles, the same will be unevenly applied to the surfaces of the slats, and it is therefore necessary that some means be provided for smoothing the liquid coating uniformly upon the surface of the slat and for removing excess liquid coating therefrom. This means according to the present invention conveniently takes the form of a first set of brushes which brushes the coating upon the upper surface of the slat, a second set of brushes which applies the coating evenly to the side edges of the slats, and a third set of brushes which serves to coat uniformly the bottom surface of the slats.

As shown best in Figures 1, 2 and 3, the upper brush assembly includes a pair of standards 200 and 202 suitably mounted upon the frame 10, and journaling therebetween a transverse shaft 204 having a horizontally extending arm 206 fixedly secured thereto. It will thus be seen that this arm may be swung in a vertical plane from the horizontal position shown in Figure 1, to an elevated position as desired, and when in the horizontal position may be rested in a support formed by a standard 208. A plurality of vertically disposed brush holders 210 are provided with medially disposed vertical slots 212 by means of which and through the aid of thumb screws 214, the supports may be vertically adjusted upon the member 206. Brushes 216 of any conventional design may be detachably secured as by thumb screws 218 to the lower extremities of the supports 210, the bristles of these brushes being positioned to properly engage the upper surface of a slat passing therebeneath, as will be apparent from Figures 3, 9 and 10.

As shown more clearly in Figure 3, throughout any desired portion of the travel between the upper set of brushes, there is provided a chute having, as shown in Figure 9, a pair of side walls 220 having an integral transverse web 222 forming therewith a U-shaped channel member which is provided with end walls 224 and 226. This channel member is supported upon a suitable platform 228 forming a part of the frame 10, and within the channel member there is provided a pair of supports 230 upon which is mounted a bed plate 232 having longitudinally spaced transversely disposed rib portions 234 defining recessed pockets 236 therebetween. These ribs extend above the end wall 224 so that a slat sliding upon the same will be disposed in convenient positions relative to the brushes.

Across the top of the side walls 220 are secured two or more transverse coil springs 238 which support depending guide walls 240 and 242, which engage the sides of a slat passing therethrough for centering the same and yieldingly guiding the slat in its passage through the chute.

The arrangement is such that as the slat passes through the chute, the depending brushes 216 serve to smooth and evenly distribute the coating material upon the upper surface of the slat, excess material being wiped therefrom, and deposited in the recesses 236 beneath the slat. From the lateral edges of these recesses, excessive material flows down into the trough or chute, passing through an opening 244 in the standard 230, and excess coating eventually finds its way through a discharge opening 246 through the web portion 222 of the channel member, and is conducted in a convenient manner back to the tank 180 for reuse. Slats coming through the machine pick up varnish for the bottom of the slats at 234 and 236 and the excess is brushed out smooth by the lower set of brushes as set forth hereinafter.

Beyond the end of the plate portion 232, the walls 220 of the channel shaped member forming the chute are of reduced height and are preferably substantially the same height as the standard 230, and on opposite sides of these walls are pairs of standards 248 upon which are adjustably mounted as by thumb screws 250, transverse supports 252 having longitudinally extending adjusting slots 254 therein. On the ends of these members 252, are laterally disposed brush assemblies indicated at 256 in Figures 9 and 10, these brush assemblies extending laterally or transversely of the path of travel of the slats for brushing the top and bottom surfaces and edges

of the same. Any desired number of this second set of brushes could be provided as deemed to be necessary, and as shown in Figure 3, this second set of brushes can be interdigitated with brush members of the first set.

A final or third set of brushes is provided for uniformly coating the lower surface of the slats passing through the machine. This third set may conveniently comprise a plurality of upwardly inclined holders 258, each detachably secured as by screws to a base plate 260 mounted upon the web portion 222 of the trough or chute, suitable resilient springs 262 being provided for yieldingly retaining brush assemblies 264 against the supports 258. The brushes are so disposed as to engage the undersurface of a slat passing therethrough. The coating material for the various brushes is received from that originally deposited upon the surfaces of the slats by the spray nozzles, and picked up by the brushes contacting the slat thereafter. The opening 244 is merely to allow the excess varnish or finishing material to pass through towards point 246 where it passes into receptacle 180.

It will now be seen that after the coating material has been sprayed upon the slats, the same is uniformly distributed throughout the entire surface of the slat by the various sets of brushes. Further, the upper set of brushes may be raised or lowered as desired, the raising of the brushes permitting access to the same for servicing, and for cleaning the recesses 236, for removing the plate 232 and cleaning the chamber between the two standards 230 within the chute.

It will be readily apparent that each of the sets of brushes can be readily adjusted to obtain the most efficient operation as desired.

Power operating mechanism

The various instrumentalities of this apparatus derive their power from a common source, such as an electric motor 266 shown in Figures 1, 2 and 11 and mounted upon any suitable part of the framework of the apparatus. The motor 266 through a suitable reduction gearing, of any suitable design, the casing of which is indicated at 268, imparts power to a driving sprocket 270, which by means of sprocket chain 272 rotates a similar sprocket 274 upon an input shaft 276 of an adjustable variable speed transmission assembly the casing of which is indicated generally by the numeral 278, and which may be of any suitable desired and known construction.

This variable speed transmission is provided with an output sprocket 280 which by means of sprocket chain 282 operates a sprocket wheel 284 on the extended right hand end of the shaft 120 for driving the same.

As previously mentioned, the shaft 120 drives the shaft 122 through the gear 148. Similarly, the shaft 120 drives the liquid coating pump 184 through the sprocket chain 186, and sprocket gears 190 and 186. At the same time, the shaft 122 through the sprocket gear 176 and chain 114 drives the shaft 60 for actuating the ram assembly mechanism. Finally, the shafts 120 and 122 through the parallel bar linkage and the gears associated therewith operate the shafts 128 and 130, whereby the lower and upper sets of rolls of the feed roll assembly are positively actuated.

From the foregoing, it is felt that the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not desired to limit the invention to the exact construction shown and described, but all suitable modifications and equivalents may be resorted to falling within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A machine for coating slats comprising a hopper for receiving a vertical stack of slats, means for discharging slats from said hopper, a slat coating means, slat feeding means for delivering slats from said discharge means to said coating means, said discharge means comprising a reciprocable ram, a rotatable shaft having a crank, means connecting said shaft to said ram, said connecting means including a lever having a sliding connection with said ram, a pitman attached to said lever and crank for oscillating the lever upon rotation of the shaft, means for driving said shaft, and a yieldable friction coupling between said driving means and said shaft, a fulcrum for said lever, means for adjusting said fulcrum relative to said ram, means for adjusting the effective length of said pitman.

2. In a machine for coating slats, a channel through which slats are passed, a brushing means for wiping the top surfaces of slats comprising an elongated brush holder disposed longitudinally of said channel and thereabove, means pivotally mounting one end of said holder for vertical oscillation about a horizontal axis, supports spaced longitudinally of and mounted upon said holder, and brushes carried by each of said supports.

3. The combination of claim 2 wherein said supports comprise bars having medial longitudinal slots, fastening means on said holder and extending through said slots for pivotally and longitudinally adjusting said brushes upon said holder.

4. A machine for coating slats comprising a hopper for receiving a vertical stack of slats, means for discharging slats from said hopper, a slat coating means, slat feeding means for delivering slats from said discharge means to said coating means, said discharge means comprising a reciprocable ram, a rotatable shaft, a crank means on said shaft, means connecting the crank means on said shaft to said ram, said connecting means including a lever having a sliding connection with said ram and a pitman attached to said lever and crank for oscillating the lever upon rotation of the shaft, means for driving said shaft, a yieldable friction coupling between said driving means and said shaft, a fulcrum for said lever, means for adjusting the distance of said fulcrum from said ram, means for adjusting the effective length of said pitman, said ram having a pivot pin, said lever having a slot slidably receiving said pivot pin, said pitman being pivoted to said lever intermediate the ends of the latter, said crank means comprising a member fixedly secured to said shaft and having a slot extending radially of said member, a fastener slidably and adjustably secured in said slot in said member and to said pitman whereby the pitman is connected to said shaft in radially adjusted position.

5. The combination of claim 4 in which said means for adjusting the distance of said fulcrum

from said ram includes a support on said machine adjacent said hopper and shaft and having an elongated slot, means pivoting said lever to said support in adjusted position along said slot.

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