United States Patent [19]

Brastow

[11] **3,759,219**

[45] **Sept. 18, 1973**

[54] **COATING MACHINE**

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[73] Assignee: **Jacob S. Kamborian,** West Newton, Mass.

[22] Filed: **Sept. 30, 1971**

[21] Appl. No.: **185,022**

[52] **U.S. Cl.** **118/261,** 118/7, 118/202, 118/204

[51] **Int. Cl.** **B05c 1/08,** B05c 11/00

[58] **Field of Search** 118/261, 7, 202, 118/204

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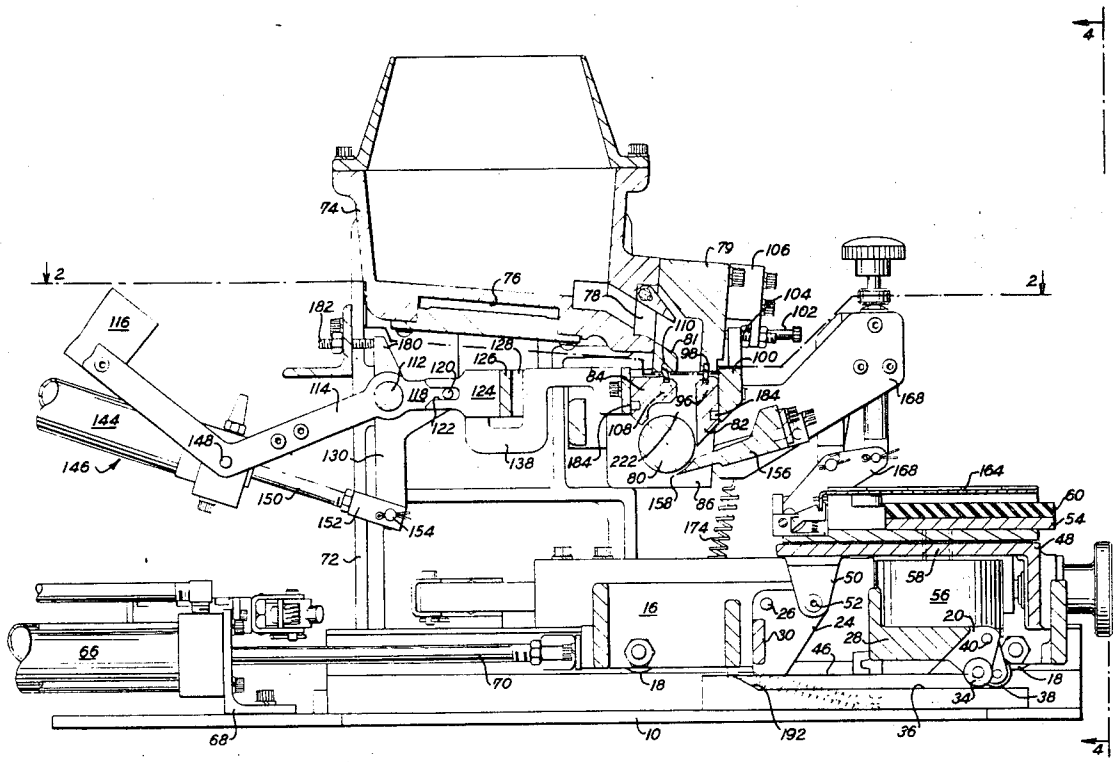
Primary Examiner—James Kee Chi

Attorney—Albert Gordon

[57] **ABSTRACT**

A machine for applying coating material, by means of an applicator roll and a scraper member, to a portion of the vamp of a shoe upper that is mounted on a carriage that moves past the applicator roll and the scraper member to form a box toe.

14 Claims, 11 Drawing Figures



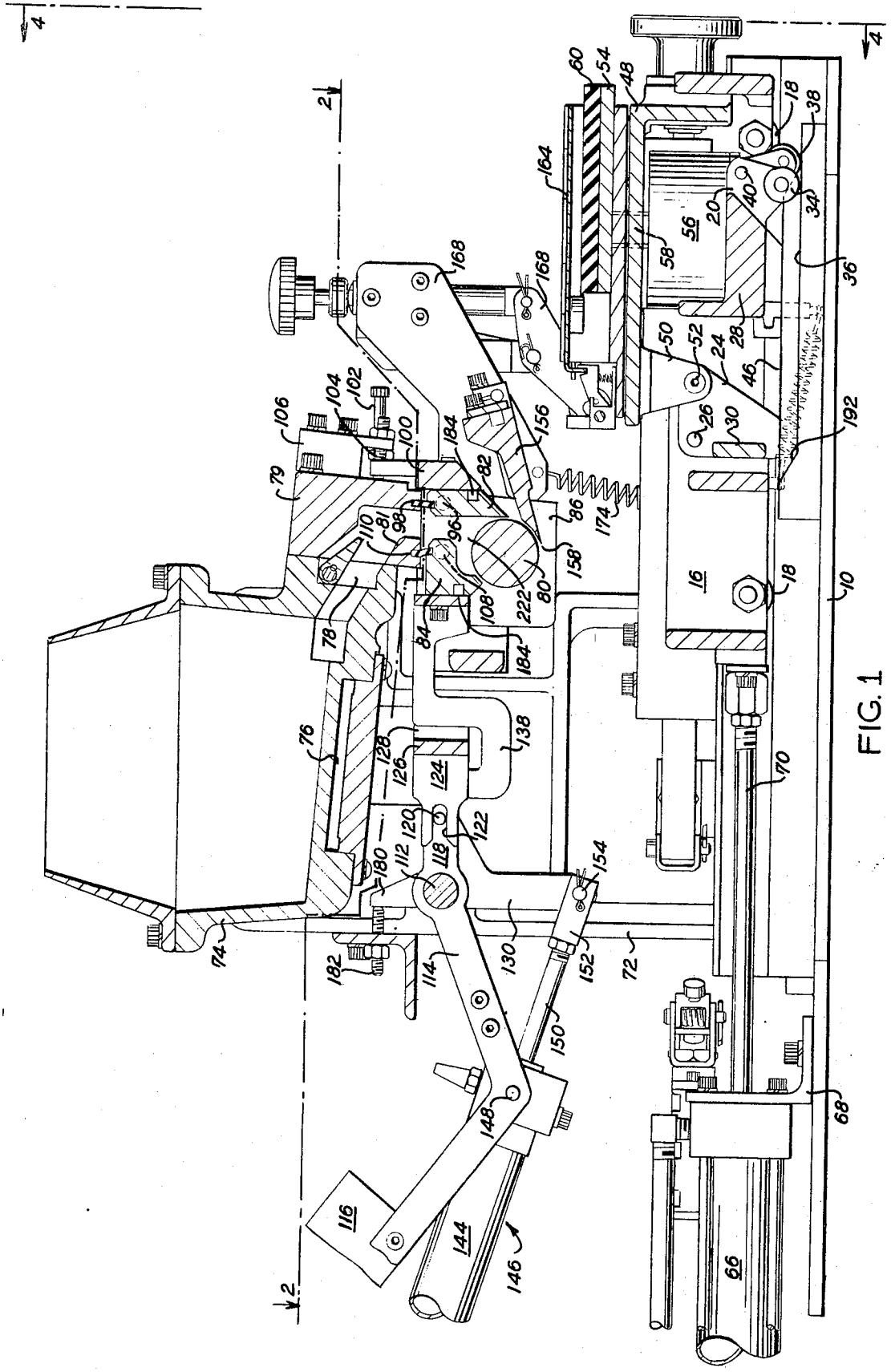


FIG. 1

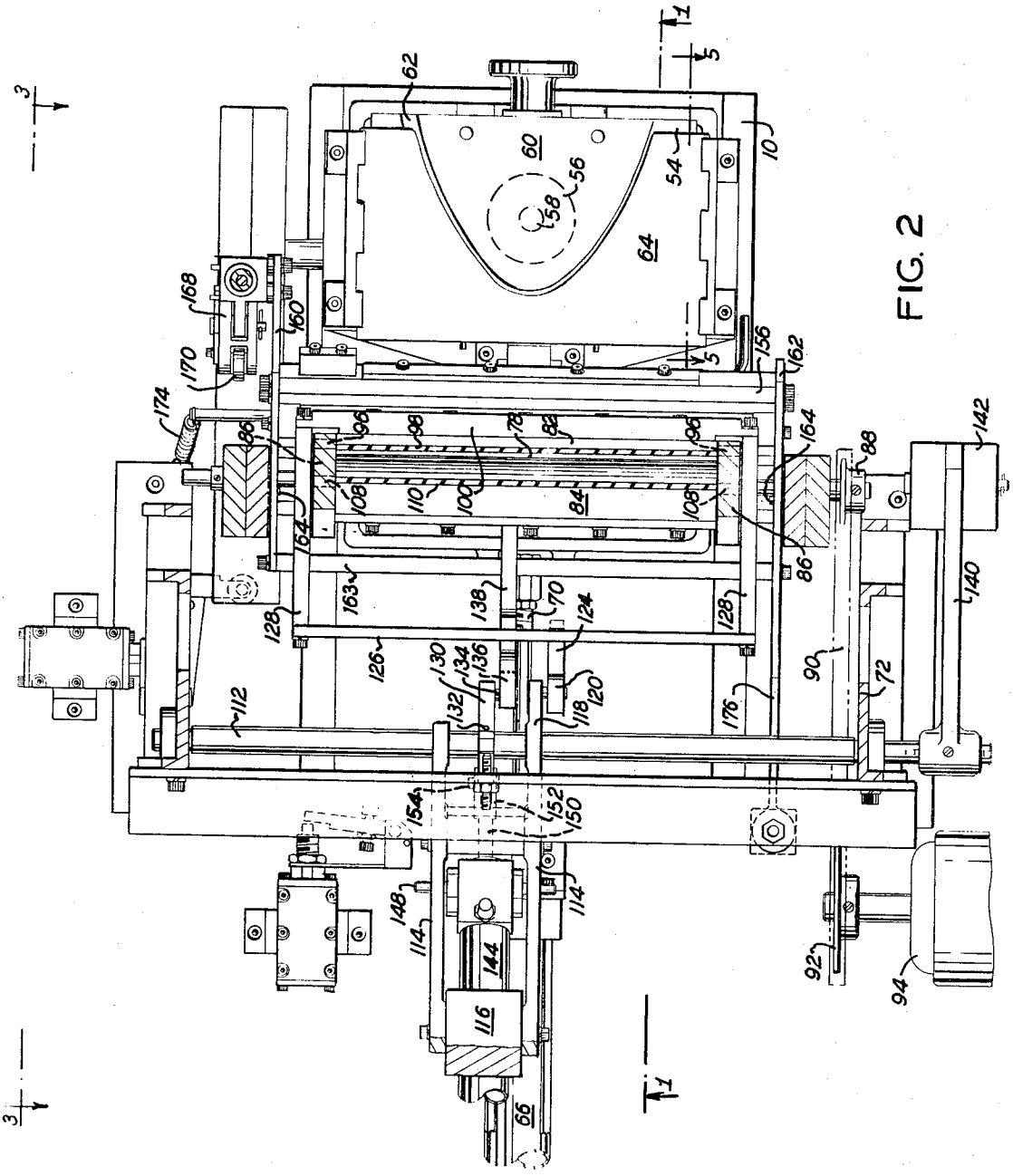


FIG. 2

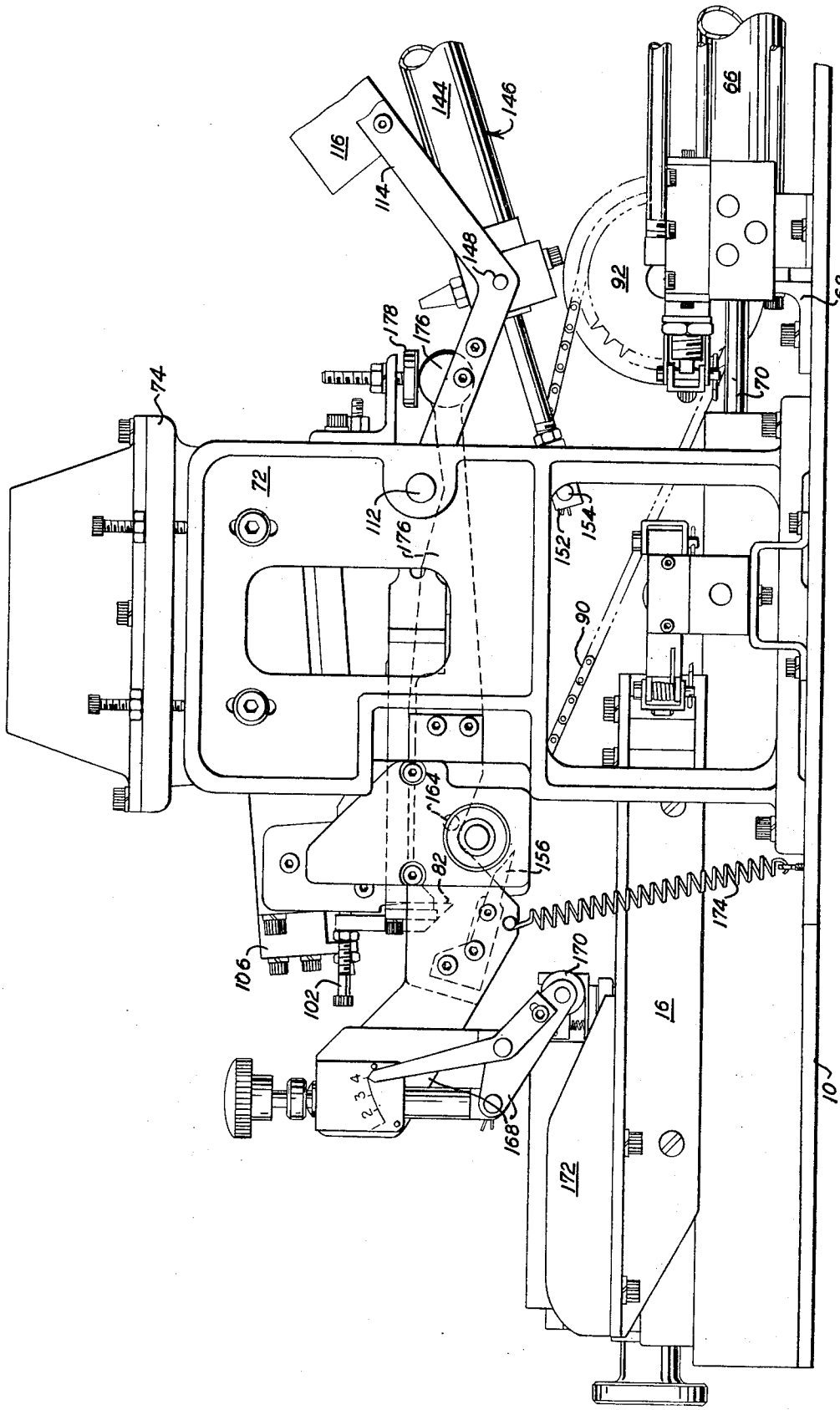

116
114
144
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148
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74
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176
92
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FIG. 3

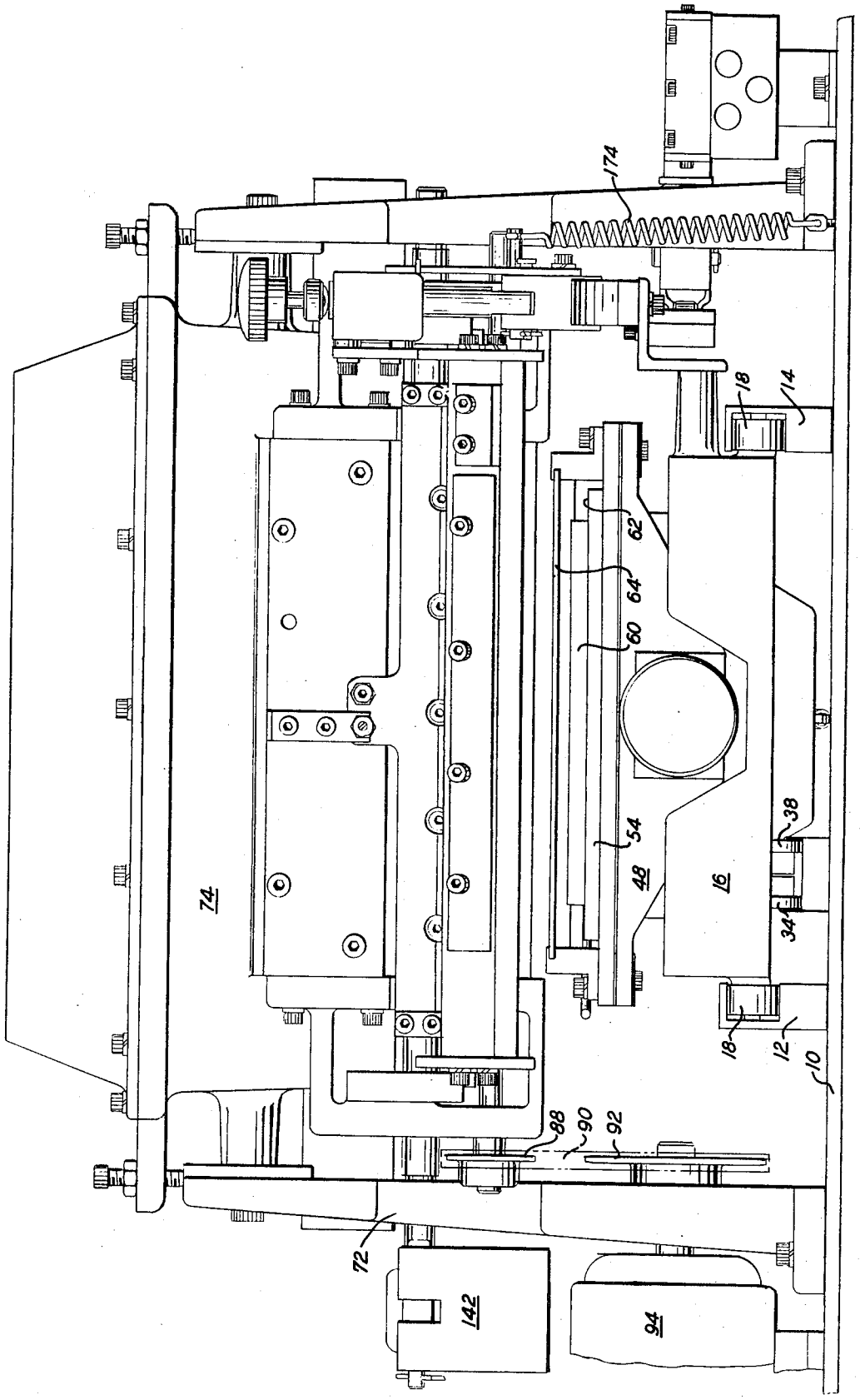


FIG. 4

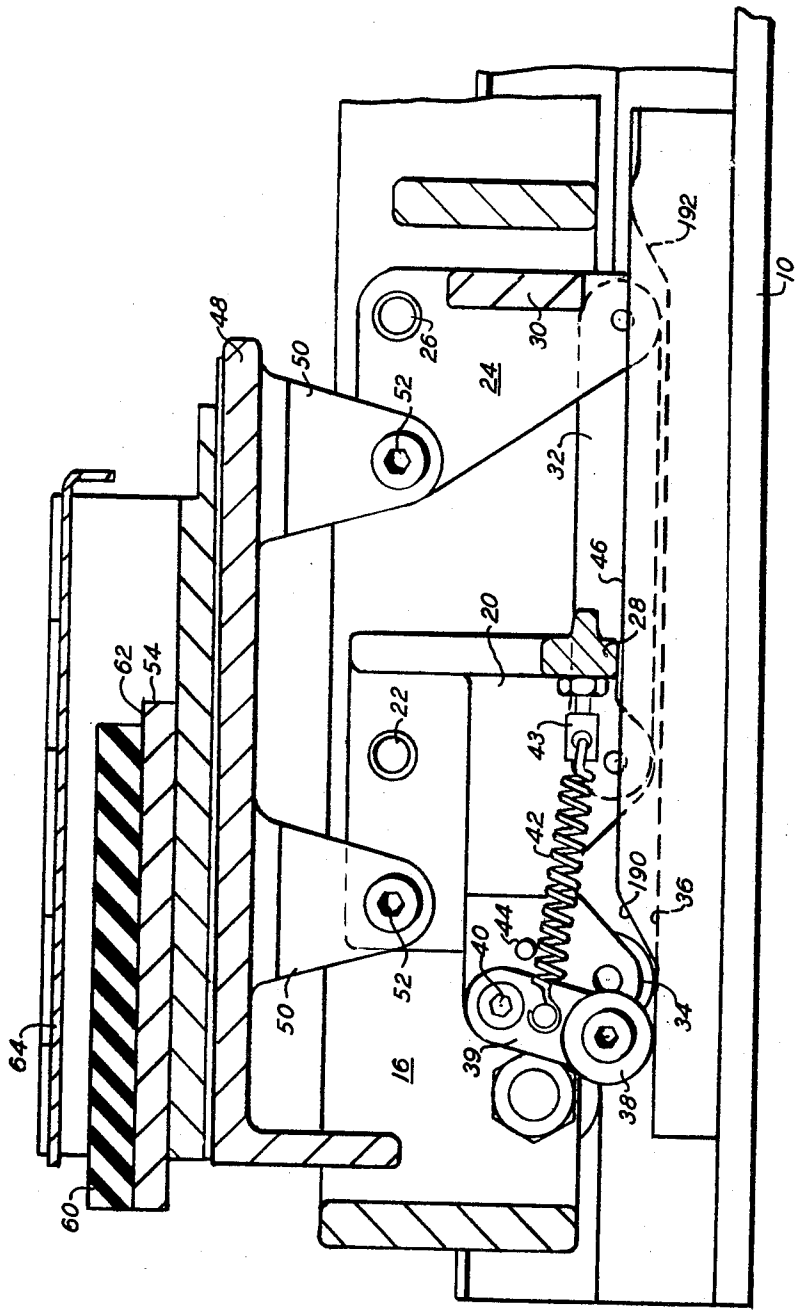

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30
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190
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39
34
38
60

FIG. 5

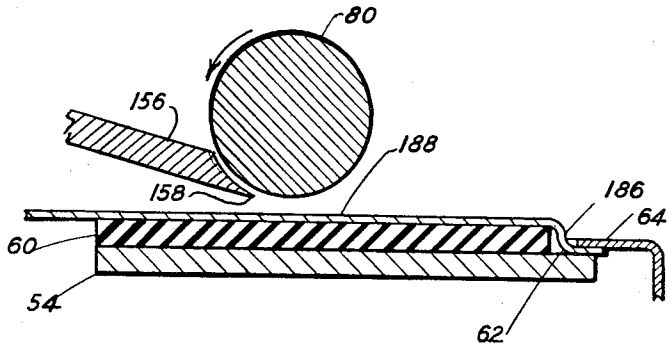


FIG. 6

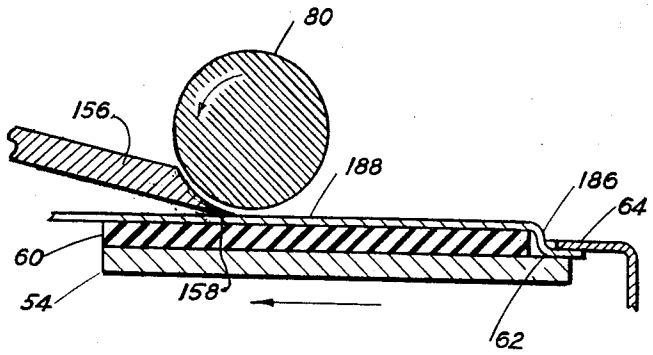


FIG. 7

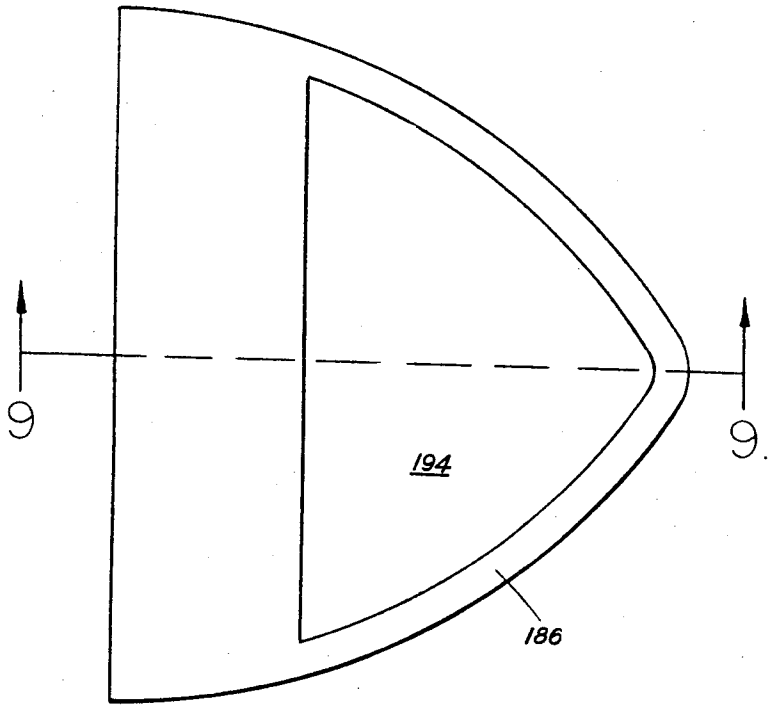


FIG. 8

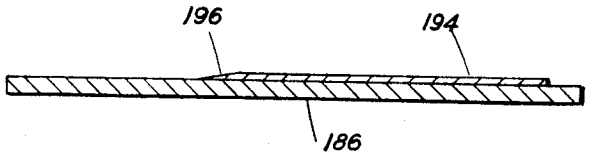


FIG. 9

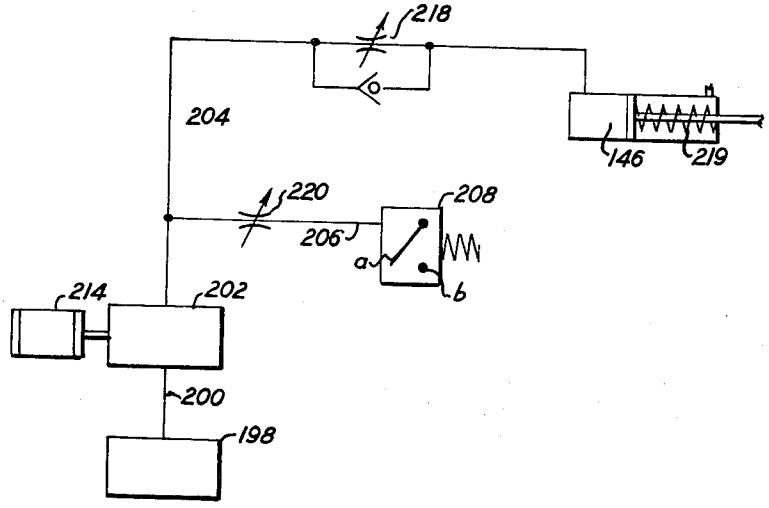

218
204
146
219
220
208
206
a
b
214
202
200
198

FIG. 10

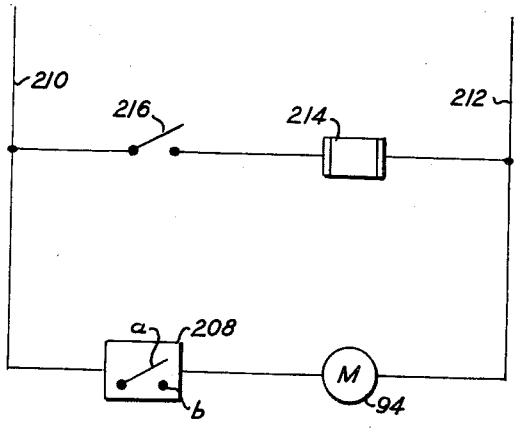

210
216
214
212
a
208
M
94
b

FIG. 11

COATING MACHINE

BACKGROUND OF THE INVENTION

This invention is an improvement of the coating machine disclosed in my application Ser. No. 69,069 filed Sept. 2, 1970.

The earlier disclosure discloses a machine for applying a coating to a workpiece by an applicating assembly, the applicating assembly being constituted by an applicator member and a scraper member that is located forwardly of the applicator member. The workpiece is mounted on a carriage below the applicating assembly for forward-rearward movement, and the applicating assembly is mounted for heightwise movement. While the applicating assembly is in an upper position, the carriage, with the workpiece thereon, is moved rearwardly from a front position to a back position. After the carriage has commenced rearward movement and is in an intermediate position between the front and back positions, the carriage is temporarily stopped and the applicating assembly is lowered, after which the carriage continues its rearward movement. As a result, any blob of coating material that had been formed on the scraper member during a preceding machine cycle is wiped onto a portion of the workpiece that will subsequently be coated. The carriage is then moved forwardly to the front position to enable the applicator member to apply a coating to the workpiece to a thickness determined by the spacing between the scraper member and the workpiece.

An applicating mechanism of said earlier disclosure for applying the coating material to the workpiece comprises a housing having a hollow interior defined by a front wall and a back wall. An applicator roll is rotatably mounted between the walls. When the roll is rotated, coating material supplied to the top of the rotating roll is transferred by the bottom of the roll that is located between the bottoms of the walls onto a workpiece. When the applicating mechanism is shut off, the roll is caused to cease its rotation and the walls are moved into engagement with the roll to thereby trap the coating material in the housing interior above the roll.

SUMMARY OF THE INVENTION

A first aspect of the invention is concerned with an improved arrangement for operating the machine in a faster and improved manner while still enabling the blob on the scraper member to be wiped onto the workpiece during the rearward movement of the carriage and to overcome disadvantages developing in operating efficiency by having the carriage temporarily stop during its rearward movement. This is accomplished by so constructing the machine that the carriage is moved continuously from its front position to its back position and a workpiece holder, mounted to the carriage for heightwise movement, is raised during the movement of the carriage through an intermediate position between the front and back positions.

A second aspect of the invention is concerned with the mechanism for moving the front and back walls against the roll and terminating the rotation of the roll when the machine is shut off. The walls are yieldably urged against the roll and are held by powered means away from the roll when the roll is rotating. When the machine is shut off, an actuating means for operating the powered means is deactuated so that the yieldable means causes the walls to move against the roll and a mechanism operating in correlation with the deactuation of the actuating means causes the roll to terminate its rotation. This arrangement enables the walls to be brought into engagement with the roll and the roll to terminate its rotation quickly and efficiently when the machine is shut down deliberately and also enables this to take place automatically in the event of a breakdown in any of the power mechanisms for operating the machine.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevation, partially in section, of the machine;

FIG. 2 is a plan view of the machine, partially in section, taken on the line 2—2 of FIG. 1;

FIG. 3 is a side elevation of the machine taken on the line 3—3 of FIG. 2;

FIG. 4 is a front elevation of the machine taken on the line 4—4 of FIG. 1;

FIG. 5 is a view taken on the line 5—5 of FIG. 2;

FIG. 6 is a representation of the workpiece and the applicating assembly after the carriage has commenced its rearward movement and before it is raised;

FIG. 7 is a representation of the workpiece and the applicating assembly when the carriage is in its back position at the completion of its rearward movement;

FIG. 8 is a plan view of the workpiece with the coating applied thereto;

FIG. 9 is a view taken on the line 9—9 of FIG. 8;

FIG. 10 is a view of a part of the pneumatic control circuit of the machine; and

FIG. 11 is a view of a part of the electrical control circuit of the machine.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The operator is intended to stand to the right of the machine as seen in FIG. 1. The parts and positions closest to the operator will be designated "front" and the parts and positions furthermost from the operator will be designated "back". Movements toward the operator will be designated as "forward" and movements away from the operator will be designated as "rearward."

Referring to FIGS. 1–4, the machine comprises a mount 10 to which are secured a pair of spaced channels 12, 14 (FIG. 4). A carriage 16 is mounted to the mount 10 for forward-rearward movement by means of rollers 18 that are rotatably mounted to the carriage and are received in the channels 12, 14.

Referring to FIGS. 1 and 5, front links 20 are pivoted to the carriage 16 by pivots 22 and back links 24 are pivoted to the carriage 16 by pivots 26. While only one link 20 and one link 24 are shown in FIGS. 1 and 5, a pair of each of these links is provided on opposite sides of the carriage 16, the front links 20 being connected by a tie bar 28 and the back links 24 being connected by a tie bar 30. A connecting link 32 is pivoted at its front to each front link 20 and is pivoted at its back to each back link 24. A cam follower 34 is mounted to the bottom of one of the front links 20 and is adapted to bear against a cam track 36 that is secured to the mount 10 and extends in a forward-rearward direction. A cam follower 38 is mounted to a lever 39 that is pivoted to said front link 20 by a pivot 40. A tension spring 42, interposed between the lever 39 and a holder 43 that is secured to the tie bar 28, yieldably urges the

lever 39 rearwardly against a stop 44 that is secured to said front link 20. The cam follower 38 is adapted to bear against a cam track 46 that is secured to the mount 10 alongside the cam track 36 and also extends in a forward-rearward direction.

A base 48 has depending prongs 50 that are pivoted to the links 20 and 24 by pivots 52. A plate 54 is mounted to the base 48 for heightwise movement. An air-operated motor 56, mounted to the base 48, has an upwardly extending piston rod 58 that extends through the base 48 and is secured to the plate 54. The plate 54 is so constructed that its sides are rearwardly convergent. A block 60 is secured to the top of the plate 54. The sides of the block 60 converge rearwardly similarly to the sides of the plate 54 but are located inwardly of the sides of the plate 54 so as to form a step 62 in the sides of the plate 54. A clamp 64 is secured to the base 48. The sides of the clamp 64, which are located outwardly of the sides of the block 60 and converge rearwardly similarly to the sides of the plate 54 and the block 60, are located above the step 62.

An air operated motor 66, mounted to a bracket 68 that is secured to and extends upwardly of the mount 10, has a piston rod 70 that is secured to the carriage 16 so as to effect forward-rearward movement of the carriage.

A housing 72 is mounted to the mount 10 to extend upwardly thereof. A cement melting chamber 74 is mounted to the top of the housing 72 and has a strip heater 76 (FIG. 1) located in its bottom. A channel 78 is located between channel walls 79 and 81 and extends from the chamber 74 to a position above an applicator roll 80 and between a front wall 82 and a back wall 84. The applicator roll 80 and the front and back walls 82 and 84 are located between side walls 86 (FIG. 2) of the housing 72. The applicator roll 80 is rotatably mounted in the side walls 86 and is connected via a sprocket 88, a chain 90 and a sprocket 92 to an electric motor 94 that is adapted to rotate the roll clockwise as seen in FIG. 1.

The front wall 82 is pivotally mounted to the side walls 86 for swinging by pins 96 so that its bottom may be moved towards and away from the periphery of the applicator roll 80. A flexible seal 98, made of a heat resistant material such as silicone, extends between the front wall 82 and the channel wall 79. The front wall 82 is mounted to a bracket 100 that has a pin 102 extending therethrough. The pin 102 is adapted to bear against the channel wall 79 to limit the extent to which the front wall 82 may swing counterclockwise (FIG. 1) about the axes of the pins 96. A screw 104, mounted to an extension 106 of the wall 79, is adapted to bear against the bracket 100 to limit the extent of clockwise movement (FIG. 1) of the front wall 82 about the axes of the pins 96.

The back wall 84 is pivotally mounted to the side walls 86 for swinging movement by pins 108 so that its bottom may be moved towards and away from the periphery of the applicator roll 80. A flexible seal 110, constructed similarly to the seal 98, extends between the back wall 84 and the channel wall 81.

As shown in FIGS. 1 and 2, a transverse shaft 112 is rotatably mounted to the housing 72. A pair of levers 114 are swingable about the shaft 112 and extend rearwardly thereof. A weight 116 is secured to and extends between the backs of the levers 114. One of the levers 114 has a projection 118 extending forwardly of the shaft 112. A pin 120 in the projection 118 is received in a slot 112 formed in a strut 124. The strut 124 is secured to a transverse bar 126, and each of the ends of the bar 126 is secured to the back of longitudinal bar 128. The fronts of the bars 128 are secured to the bracket 100 which, as stated above, has the front wall 82 mounted thereto.

A lever 130 is secured to the shaft 112 for unitary movement therewith by a pin 132. A leg of the lever 130 that extends forwardly of the shaft 112 has a pin 134 secured thereto that is received in a slot 136 formed in the back of an arm 138. The front of the arm 138 is secured to the back wall 84. An arm 140 is secured to the shaft 112 for unitary movement therewith and extends forwardly of one end of the shaft 122. A weight 142 is connected to the front of the arm 140.

The cylinder 144 of an air operated motor 146 is pivoted by a pin 148 to the levers 114. The piston rod 150 of the motor 146 has a clevis 152 secured thereto that is pivoted by a pin 154 to a leg of the lever 130 that extends downwardly of the shaft 112.

A scraper blade 156 (FIG. 1) is located below the front wall 82 and forwardly of the applicator roll 80. The back of the scraper blade 156 extends circumferentially about the applicator roll 80 and terminates in a scraping edge 158 that is located below the applicator roll. The blade 156 is mounted at its opposite ends to a pair of longitudinal bars 160 and 162. A transverse bar 163 is secured to and connects the bars 160 and 162. The bars 162 are pivoted to the housing 72 by pins 164. A housing 168, secured to the bar 160, has a downwardly depending cam follower 170 that is in intersecting relationship with a cam 172 (FIG. 3) that is mounted to the carriage 16. A spring 174, interposed between the mount 10 and the housing 168 acts to yieldably urge the scraper blade 156 clockwise (FIG. 1) about the axis of the pins 164 to a position wherein the end of an extension 176 (FIG. 3) of the bar 162 abuts against a stop 178 that is secured to the housing 72.

When the machine is running in its idle condition: the piston rod 58 is retracted into the motor 56 so that the plate 54 and the block 60 are in a lower position with the step 62 spaced from the clamp 64; the piston rod 70 is projected out of the motor 66 so that the carriage 16 is in a forward position; the motor 94 is rotating the applicator roll 80 clockwise (FIG. 1); the piston rod 150 of the motor 146 is projected out of the cylinder 144 to thus urge the levers 114 clockwise (FIG. 1) which, through the members 118, 120, 122, 124, 126, 128 and 100, urges the bottom of the front wall 82 forwardly about the axis of the pins 96 to a position wherein it is spaced from the applicator roll 80, and to thus urge the lever 130 counterclockwise until a lug 180 (FIG. 1) on the lever 130 engages a stud 182 fixed to the housing 72 which, through the members 134, 136, and 138 urges the bottom of the back wall 84 rearwardly about the axis of the pins 108 to a position wherein it is spaced from the applicator roll 80; the spring 174 is urging the scraper blade 156 downwardly and clockwise (FIG. 1) about the axis of the pins 164 to a position wherein the bar extension 176 engages the stop 178; and molten thermoplastic coating material is being supplied from the heated chamber 74 through the channel 78 to the rotating applicator roll 80. The coating material, which is maintained in a molten viscous state by electric cartridge heaters 184 in the walls

82 and 84, adheres to the rotating roll 80 and forms a film on the periphery of the roll.

Referring to FIGS. 6 and 7, the vamp 186 of a shoe upper is placed on the block 60 in such a manner that its convergent sides are draped on the step 62 below the spaced from the clamp 64. The motor 56 is now actuated to raise the piston rod 58 together with the plate 54 and the block 60 to clamp the sides of the vamp between the step 62 and the clamp 64, as seen in FIG. 6, with an exposed portion 188 of the vamp 186 which is to be coated situated above the clamp 64. The plate 54, block 60 and clamp 64 thus form elements of a workpiece holder.

Now the motor 66 is actuated to move the carriage 16, together with the clamped vamp 186, rearwardly. When the machine is running in its idle condition, the cam followers 34 and 38 are in the FIG. 5 position with the cam follower 34 bearing against the cam track 36 and the cam follower 38 bearing against the cam track 46. At this time, the lever 39 is swung clockwise (FIG. 5) about the pivot 40 away from the stop 44. Shortly after the carriage 16 commences its rearward movement, the cam follower 38 rises on an incline 190 of the cam track 46 so that the lever 39 swings further away from the stop 44.

Near the end of the rearward movement of the carriage 16, the cam follower 34 rises on an incline 192 to cause the front links 20 and the back links 24 to respectively swing clockwise (FIG. 5) about the pivots 22 and 26 and thus raise the block 60, the clamp 64 and the vamp 186 to a position wherein the exposed vamp portion 188 is proximate the applicator roll 80 and the scraping edge 158. As a result of this rise of the members 60 and 64, the cam follower 38 and the lever 39 clear the top of the cam track 46 and are swung counterclockwise (FIG. 5) by the spring 42 to a position wherein the lever 39 bears against the stop 44. In this position the lever 39 is inclined downwardly and rearwardly (rightwardly in FIG. 5) from the pivot 40. The carriage 16 completes its rearward movement when the parts arrive in the FIG. 7 position with the applicator roll 80 and the scraping edge 158 proximate to the exposed vamp portion 188. When the parts are in the FIG. 7 position, the cam follower 170 is forwardly (leftwardly in FIG. 3) of the cam 172 so that the scraping edge 158 is in a relatively low position spaced close to or in contact with the top of the vamp portion 188.

Now the motor 66 is actuated to move the carriage 16 forwardly to its starting position. The movement of the cam follower 34 past the rise 192 at the beginning of this forward movement does not affect the heightwise position of the block 60, the clamp 64 and the vamp 186 as the cam follower 38 bearing against the cam track 46 serves to keep the block 60, the clamp 64 and the vamp 186 in their upper positions due to the bearing of the lever 39 against the stop 44 with the aforementioned inclination. During this forward movement of the carriage 16, the film of thermoplastic material on the periphery of the roll 80 is transferred onto the exposed vamp portion 188 to form a coating 194 (FIGS. 8 and 9) on the vamp. The thickness of the coating is determined by the spacing between the scraping edge 158 and the vamp portion 188 with the scraping edge scraping off that portion of the coating material that intersects it. The scraped off coating material is returned upwardly of the roll 80 into the area between the walls 82 and 84 by the rotating roll 80. As the carriage 16 commences its forward movement, the cam follower 170 is moved upwardly by the cam 172 to thereby, by means of the members 160 and 168, swing the scraper blade 156 upwardly about the axis of the pins 164 and further away from the vamp portion 188. The coating 194, as indicated in FIG. 9, therefore is of graduated thickness at one end, as indicated by the number 196.

Near the end of the forward movement of the carriage 16 and after the coating 194 has been applied to the exposed vamp portion 188, the cam follower 38 moves down the rise 190 to thereby respectively swing the links 20, 24 clockwise (FIG. 5) about the pivots 22, 26 and thus lower the block 60, the clamp 64 and the vamp 186 until the cam follower 34 bears against the cam track 36. During this lowering movement, the cam follower 38 and the lever 39 swing clockwise (FIG. 5) about the axis of the pivot 40 against the force of the spring 42 into the Fig. 5 position.

When the carriage 16 has returned to its initial forward position, the piston rod 58 is retracted into the motor 56 so as to lower the plate 54 and the block 60 and thus release the vamp 186 from the clamp 64.

The coating 194 rigidifies into a stiffener or box toe on the vamp 186 which, in a completed shoe, stiffens the toe portion of the shoe. The graduated portion 196 of the coating 194 forms the feathered edge which is desirable in box toes.

It has been found that at the end of a machine cycle a residue of coating material tends to adhere to and form a blob on the scraping edge 158 and the portion of the scraper blade 156 contiguous thereto. If this blob is not wiped off before the commencement of the coating operation during the forward movement of the carriage 16 in the next machine cycle, the blob can be transferred onto the vamp portion 188 forwardly (leftwardly in FIG. 8) of the front of the coating to the left (FIG. 8) of the graduated portion 196. The raising of the vamp 186 by the rise 192 before the carriage 16 has completed its rearward movement at the beginning of a machine cycle causes the blob to be wiped off the scraper blade 156 by the vamp portion 188 during this rearward movement. Since the blob thus wiped onto the vamp portion 188 forms a part of the coating 194 that is applied to the vamp portion 188 during the subsequent forward movement of the carriage 16, the wiping off of the blob onto the vamp portion 188 does not adversely affect the coating operation.

Referring to FIG. 10, the motor 146 is maintained with the piston rod 150 projected out of the cylinder 144 by pressurized air going from a source 198 through a line 200, a valve 202 and a line 204 to the blind end of the motor 146. Air from the line 204 also passes through a line 206 to a pressure operated switch 208 to move this switch from terminal *a* to terminal *b* to close the switch. Referring to FIG. 11 wherein the lines 210 and 212 lead to a source of electric power, the closure of the switch 208 causes the motor 94 to operate to rotate the applicator roll 80. The valve 202 is maintained in a position to enable air to pass therethrough from the line 200 to the line 204 by a solenoid 214, and the solenoid 214 is energized in response to the closure of a switch 216.

The moor 146 operates to move the walls 82 and 84 away from the roll 80 against the yieldable force of the weights 116 and 142. These weights are of such magnitude and the levers 114 and the arm 140 are of such

length that the levers **114** and the weight **116** for the front wall **82** have a greater moment of force about the axis of the shaft **112** than the arm **140** and the weight **142** for the back wall **84**.

When it is desired to shut down the machine, the switch **216** is opened to deenergize the solenoid **214**. Deenergization of the solenoid **214** results in the shutting off of the flow of air from the line **200** to the line **204** to enable the pressurized air in the motor **146** and the switch **208** to vent to atmosphere through the valve **202**. The air is vented from the motor **146** at a controlled rate by a flow control valve **218** to enable the return spring **219** of the motor **146** to retract the piston rod **150** into the cylinder **144** at a controlled rate. Since the moment of force urging the front wall **82** towards the roll **80** is greater than the moment of force uring the back wall **84** against the roll **80**, the deenergization of the solenoid **214** will result in the front roll **82** moving against the roll **80** before the back roll **84** is moved against the roll **80**. The air is also vented from the switch **208** at a controlled rate by a flow control valve **220**. the pressure operated switch **208** and the flow control valves **218** and **220** are so set that the switch **208** moves from terminal b back to terminal a to shut off the motor **94** and thus terminate the rotation of the applicator roll **80** after the front wall **82** has engaged the roll **80** and before the back wall **84** has engaged the roll **80**.

From the foregoing, it can be seen that, when the machine is shut off, first the front wall **82** engages the roll **80**, then the roll **80** stops its rotation and then the back wall **84** engages the roll. The engagement of the front wall **82** with the downwardly rotating side of the roll cuts of the film of coating material on the roll periphery between the portion **222** (FIG. **1**) of the interior of the housing **72**, that is located above the roll **80** between the walls **82, 84** and **86**, and the front wall **82**. The film of coating material that extends clockwise (FIG. **1**) about the roll periphery from the front wall **82** to the back wall **84** is carried by the upwardly rotating side of the roll into the housing interior portion **222**. By the time the back wall **84** engages the stationary roll **80**, there is no film of coating material on the portion of the roll periphery that extends about the bottom of the roll between the walls **82** and **84**. Therefore, when the back wall **84** engages the stationary roll **80**, all of the coating material is trapped above the roll between the walls **82, 84** and **86** and the undesirable effects created by having coating material dripping downwardly of the stationary roll are avoided. Seals (not shown) are provided between the roll **80** and the side walls **86** to prevent leakage of the coating material between the roll **80** and the side walls **86** both when the roll **80** is rotating and when the roll **80** is stationary.

Should there be an electrical power failure which will cause deenergization of the solenoid **214**, the machine will still be shut off in the sequence set forth above. In addition, should there be a failure in the pneumatic system, such as leakage in the lines **204** or **206**, the machine will shut off in the sequence set forth above.

I claim

1. An applicating mechanism comprising: a housing having an interior portion defined by a front wall and a back wall; an applicator roll mounted for rotation in the housing between said walls with its front facing the front wall and its back facing the back wall; rotating means connected to the roll and operable to rotate it; means mounting the front wall for movement towards and away from the front of the roll; means mounting the back wall for movement towards and away from the back of the roll; means for supplying coating material into said housing interior portion above the roll so that, when both rolls are spaced from the roll and the rotating means is operating to rotate the roll, the coating material may be transferred by the bottom of the roll that is located between the bottoms of the walls onto a workpiece; yieldable means operatively connected to the walls to yieldably urge the walls toward the roll; powered means operatively connected to the walls and actuable to overcome the force of said yieldable means and move the walls away from the roll; an energizable actuating device so connected to said powered means as to actuate said powered means in response to energization of the actuating device and to deactuate said powered means in response to deenergization of the actuating device, the deactuating of said actuating device by its deenergization enabling the yieldable means to move the walls against the roll; means operable in response to the energization of said actuating device to operate the rotating means; and means operable in response to the deenergization of the actuating device to terminate the operation of the rotating means.

2. The mechanism as defined in claim **1** wherein said yieldable means comprises: a first weight; first connecting means so connecting the first weight to the front wall as to urge the front wall toward the roll under the influence of the first weight; a second weight; and second connecting means so connecting the second weight to the back wall as to urge the back wall toward the roll under the influence of the second weight.

3. The mechanism as defined in claim **2** wherein said powered means and the means operatively connecting said powered means to the walls comprise: a motor having two members relatively movable with respect to each other in a first direction in response to the energization of said actuating device and relatively movable with respect to each other in a second direction in response to the deenergization of said actuating device; means mounting one of said members to said first connecting means; and means mounting the other of said members to said second connecting means.

4. The mechanism as defined in claim **1** wherein said yieldable means and said powered means comprise: a rotatably mounted shaft; a first lever mounted for swinging movement about the shaft; a first lever mounted for swinging movement about the shaft; a first weight secured to the first lever; first connecting means so connecting the first weight to a first of said walls as to urge said first wall toward the roll under the influence of the first weight; a second lever secured to the shaft for unitary movement therewith; a second weight secured to the shaft for unitary movement therewith; a second connecting means so connecting the shaft to the second of said walls as to urge said second wall toward the roll under the influence of the second weight; a motor having two members relatively movable with respect to each other in a first direction in response to the energization of said actuating device and relatively movable with respect to each other in a second direction in response to the deenergization of said actuating device; means mounting one of said members to said first lever; and means mounting the other of said members to said second lever

5. The mechanism as defined in claim 1 wherein the rotating means rotates the roll in such a manner that its front moves downwardly and its back moves upwardly and further comprising: means so constructing and arranging the yieldable means and the means to terminate the operation of the rotating means that, in response to the deenergization of the actuating device, firstly the front wall is brought into engagement with the front of the roll, then the roll terminates its rotation, and then the back wall is brought into engagement with the back of the roll.

6. The mechanism as defined in claim 5 wherein said yieldable means comprises: a first weight; first connecting means so connecting the first weight to the front wall as to urge the front wall toward the roll under the influence of the first weight; a second weight; second connecting means so connecting the second weight to the back wall as to urge the back wall toward the roll under the influence of the second weight; means so constructing and arranging the first and second weights and the first and second connecting means that the front wall is urged against the roll under a greater force than the back wall; and further comprising: an operating member having a first position and a second position; means so relating the operating member to the rotating means as to cause operation of the rotating means when the operating member is in said first position and to terminate operation of the rotating means when the operating member is in said second position; and means for shifting the operating member from said first position to said second position in response to the deenergization of the actuating device in such a manner as to cause the operating member to arrive at said second position between the engagements of the front and back walls with the roll.

7. The mechanism as defined in claim 6 wherein said powered means and the means operatively connecting said powered means to the walls comprise: a motor having two members relatively movable with respect to each other in a first direction in response to the energization of said actuating device and relatively movable with respect to each other in a second direction in response to the deenergization of said actuating device; means mounting one of said members to said first connecting means; and means mounting the other of said members to said second connecting means.

8. The mechanism as defined in claim 5 wherein said yieldable means and said powered means comprise: a rotatably mounted shaft; a first lever mounted for swinging movement about the shaft; a first weight secured to the first lever; first connecting means so connecting the first weight to the front wall as to urge the front wall toward the roll under the influence of the first weight; a second lever mounted to the shaft for unitary movement therewith; a second weight secured to the shaft for unitary movement therewith; a second connecting means so connecting the shaft to the back wall as to urge the back wall toward the roll under the influence of the second weight; means so constructing and arranging the first and second weights and the first and second connecting means that the front wall is urged against the roll under a greater force than the back roll; a motor having two members relatively movable with respect to each other in a first direction in response to the energization of said actuating device and relatively movable with respect to each other in a second direction in response to the deenergization of said actuating device; means mounting one of said members to said first lever; means mounting the other of said members to said second lever; and further comprising: an operating member having a first position and a second position; means so relating the operating member to the rotating means as to cause operation of the rotating means when the operating member is in said first position and to terminate operation of the rotating means when the operating member is in said second position; and means for shifting the operating member from said first position to said second position in response to the deenergization of the actuating device in such a manner as to cause the operating member to arrive at said second position between the engagements of the front and back walls with the roll.

9. An applicating mechanism comprising: a housing having an interior portion defined by a front wall and a back wall; an applicator roll mounted for rotation in the housing between said walls with its front facing the front wall and its back facing the back wall; rotating means connected to the roll and operable to rotate it; means mounting the front wall for movement towards and away from the front of the roll; means mounting the back wall for movement towards and away from the back of the roll; means for supplying coating material into said housing interior portion above the roll so that, when both walls are spaced from the roll and the rotating means is operating to rotate the roll, the coating material may be transferred by the bottom of the roll that is located between the bottoms of the walls onto a workpiece; a first weight; first connecting means so connecting the first weight to the front wall as to urge the front wall toward the roll under the influence of the first weight; a second weight; second connecting means so connecting the second weight to the back wall as to urge the back wall toward the roll under the influence of the second weight; powered means operatively connected to the walls and actuable to overcome the forces of said weights and move the walls away from the roll; actuating means actuable to actuate said powered means, the deactuation of said actuating means enabling the weights to move the walls against the roll; means operable in correlation with the actuation of said actuating means to operate the rotating means; and means operable in correlation with the deactuation of the actuating means to terminate the operation of the rotating means.

10. The mechanism as defined in claim 9 wherein said powered means and the means operatively connecting said powered means to the walls comprise: a motor having two members relatively movable with respect to each other in a first direction in response to the actuation of said actuating means and relatively movable with respect to each other in a second direction in response to the deactuation of said actuating means; means mounting one of said members to said first connecting means; and means mounting the other of said members to said second connecting means.

11. An applicating mechanism comprising: a housing having an interior portion defined by a front wall and a back wall; an applicator roll mounted for rotation in the housing between said walls with its front facing the front wall and its back facing the back wall; rotating means connected to the roll and operable to rotate it; means mounting the front wall for movement towards and away from the front of the roll; means mounting the back wall for movement towards and away from the

back of the roll; means for supplying coating material into said housing interior portion above the roll so that, when both walls are spaced from the roll and the rotating means is operating to rotate the roll, the coating material may be transferred by the bottom of the roll that is located between the bottoms of the walls onto a workpiece; a rotatably mounted shaft; a first lever mounted for swinging movement about the shaft; a first weight secured to the first lever; first connecting means so connecting the first weight to a first of said walls as to urge said first wall toward the roll under the influence of the first weight; a second lever secured to the shaft for unitary movement therewith; a second weight secured to the shaft for unitary movement therewith; second connecting means so connecting the shaft to the second of said walls as to urge said second wall toward the roll under the influence of the second weight; a motor having two members relatively movable with respect to each other in a first direction and relatively movable with respect to each other in a second direction; means so mounting one of said members to said first lever and so mounting the other of said members to said second lever that relative movement of the members in said first direction overcomes the forces of said weights and moves the walls away from the roll; actuating means actuable to actuate the motor to impart relative movement of the members in said first direction, the deactuation of said actuating means enabling the members to have relative movement in said second direction and the weights to move the walls against the roll; means operable in correlation with the actuation of said actuating means to operate the rotating means; and means operable in correlation with the deactuation of the actuating means to terminate the operation of the rotating means.

12. An applicating mechanism comprising: a housing having an interior portion defined by a front wall and a back wall; an applicator roll mounted for rotation in the housing between said walls with its front facing the front wall and its back facing the back wall; rotating means connected to the roll and operable to rotate it in such a manner that its front moves downwardly and its back moves upwardly; means mounting the front wall for movement towards and away from the front of the roll; means mounting the back wall for movement towards and away from the back of the roll; means for supplying coating material into said housing interior portion above the roll so that, when both walls are spaced from the roll and the rotating means is operating to rotate the roll, the coating material may be transferred by the bottom of the roll that is between the bottoms of the walls onto a workpiece; a first weight; first connecting means so connecting the first weight to the front wall as to urge the front wall toward the roll under the influence of the first weight; a second weight; second connecting means so connecting the second weight to the back wall as to urge the back wall toward the roll under the influence of the second weight; means so constructing and arranging the first and second weights and the first and second connecting means that the front wall is urged against the roll under a greater force than the back wall; powered means operatively connected to the walls and actuable to overcome the force of said weights and move the walls away from the roll; actuating means actuable to actuate said powered means, the deactuation of said actuating means enabling the weights to so move the walls towards the roll that the front wall is brought into engagement with the roll before the back wall is brought into engagement with the roll; an operating member having a first position and a second position; means so relating the operating member to the rotating means as to cause operation of the rotating means when the operating member is in said first position and to terminate operation of the rotating means when the operating member is in said second position; and means for shifting the operating member from said first position to said second position concomitantly with the deactuation of the actuating means in such a manner as to cause the operating member to arrive at said second position between the engagements of the front and back walls with the roll whereby the roll terminates its rotation between the engagements of the front and back walls with the roll.

13. The mechanism as defined in claim **12** wherein said powered means and the means operatively connecting said powered means to the walls comprise: a motor having two members relatively movable with respect to each other in a first direction in response to the actuation of said actuating means and relatively movable with respect to each other in a second direction in response to the deactuation of said actuating means; means mounting one of said members to said first connecting means; and means mounting the other of said members to said second connecting means.

14. An applicating mechanism comprising: a housing having an interior portion defined by a front wall and a back wall; an applicator roll mounted for rotation in the housing between said walls with its front facing the front wall and its back facing the back wall; rotating means connected to the roll and operable to rotate it in such a manner that its front moves downwardly and its back moves upwardly; means mounting the front wall for movement towards and away from the front of the roll; means mounting the back wall for movement towards and away from the back of the roll; means for supplying coating material into said housing interior portion above the roll so that, when both walls are spaced from the roll and the rotating means is operating to rotate the roll, the coating material may be transferred by the bottom of the roll that is between the bottoms of the walls onto a workpiece; a rotatably mounted shaft; a first lever mounted for swinging movement about the shaft; a first weight secure to the first lever; first connecting means so connecting the first weight to the front wall as to urge the front wall toward the roll under the influence of the first weight; a second lever secured to the shaft for unitary movement therewith; a second weight secured to the shaft for unitary movement therewith; second connecting means so connecting the shaft to the back wall as to urge the back wall toward the roll under the influence of the second weight; means so constructing and arranging the first and second weights and the first and second connecting means that the front roll is urged against the roll under a greater force than the back roll; a motor having two members relatively movable with respect to each other in a first direction and relatively movable with respect to each other in a second direction; means so mounting one of said members to said first lever and so mounting the other of said members to said second lever that relative movement of the members in said first direction overcomes the forces of said weights and moves the walls away from the roll; actuating means actuable to actuate the motor to impart relative move-

ment of the members in said first direction, the deactuation of said first actuating means enabling the members to have relative movement in said second direction and the weights to so move the walls towards the roll that the front wall is brought into engagement with the roll before the back wall is brought into engagement with the roll; an operating member having a first position and a second position; means so relating the operating member to the rotating means as to cause operation of the rotating means when the rotating member is in said first position and to terminate operation of the rotating means when the operating member is in said second position; and means for shifting the operating member from said first position to said second position concomitantly with the deactuation of the actuating means in such a manner as to cause the operating member to arrive at said second position between the engagements of the front and back walls with the roll whereby the roll terminates its rotation between the engagements of the front and back walls with the roll.

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