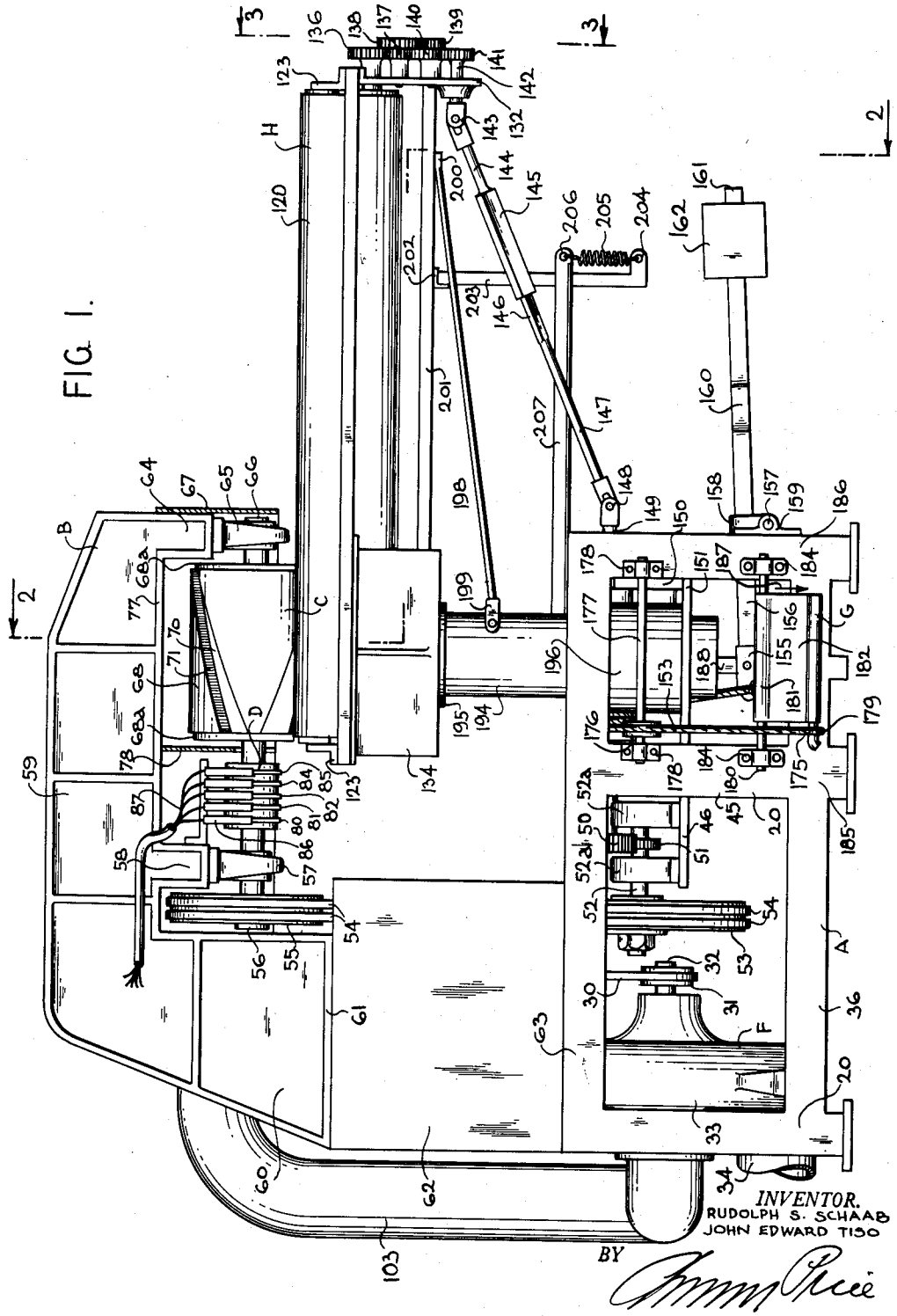
July 5, 1955 R. S. SCHAAB ET AL 2,712,230

MACHINE FOR PROCESSING FUR AND PILE FABRICS

Filed Sept. 27, 1949 3 Sheets-Sheet 1

FIG. 1.



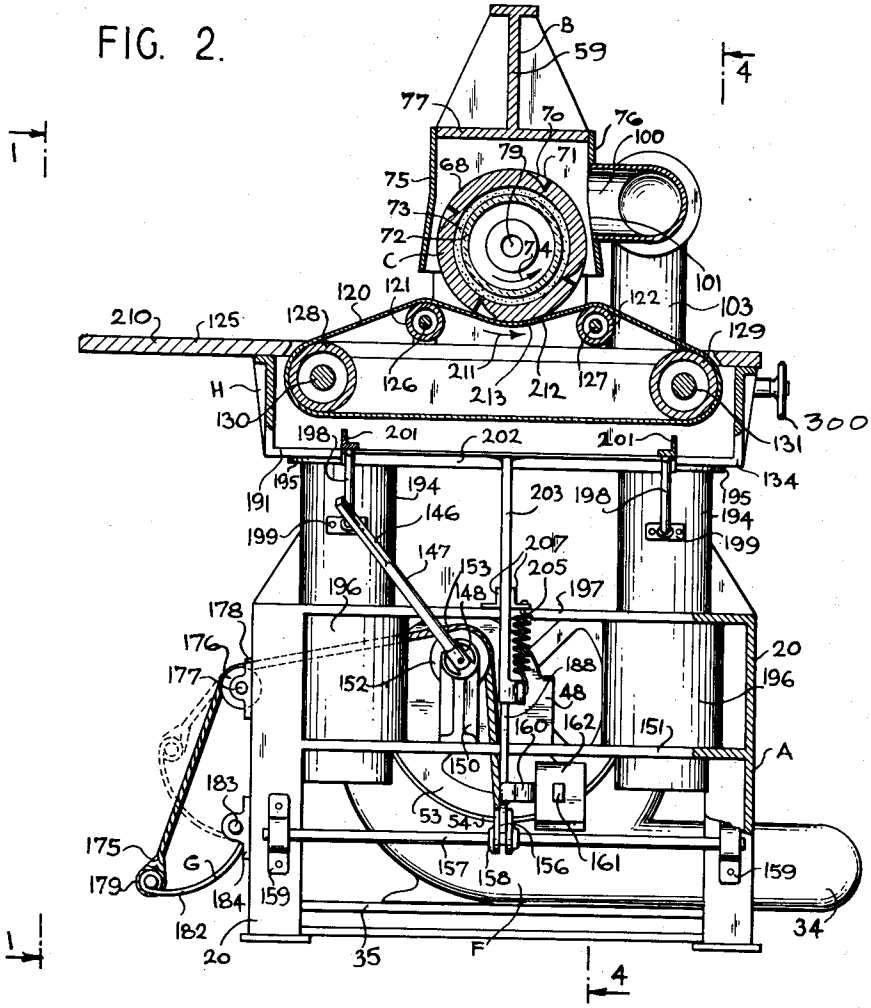
INVENTOR.
RUDOLPH S. SCHAAB
JOHN EDWARD TISO
BY
ATTORNEY.

July 5, 1955 R. S. SCHAAB ET AL 2,712,230

MACHINE FOR PROCESSING FUR AND PILE FABRICS

Filed Sept. 27, 1949 3 Sheets-Sheet 2

FIG. 2.



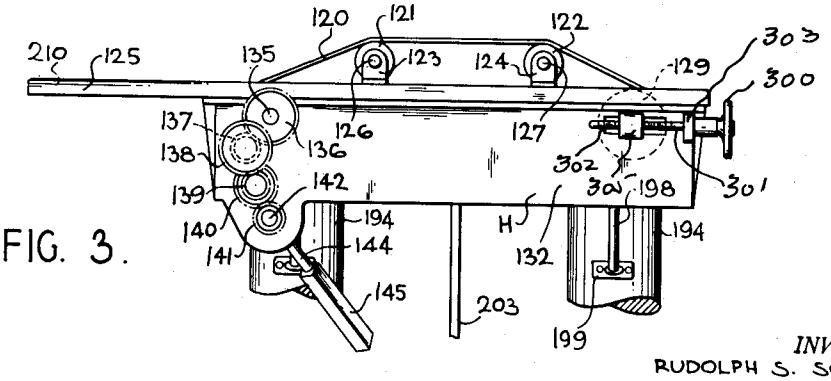


FIG. 3.

INVENTOR.
RUDOLPH S. SCHAAB
JOHN EDWARD TISO
BY
ATTORNEY.

July 5, 1955 R. S. SCHAAB ET AL 2,712,230

MACHINE FOR PROCESSING FUR AND PILE FABRICS

Filed Sept. 27, 1949 3 Sheets-Sheet 3

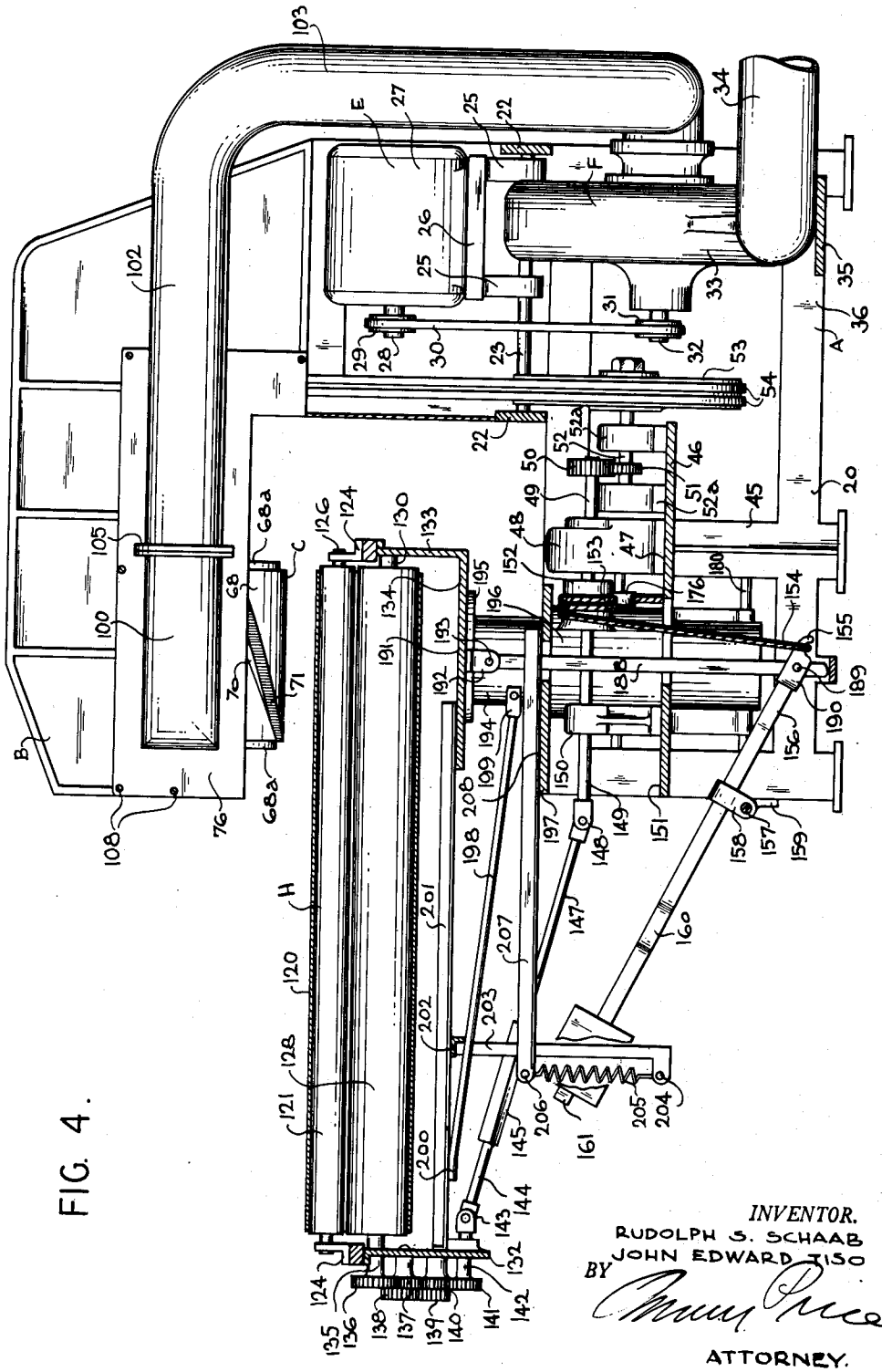


FIG. 4.

INVENTOR.
RUDOLPH S. SCHAAB
JOHN EDWARD TISO
BY
ATTORNEY.

United States Patent Office

2,712,230

Patented July 5, 1955

2,712,230

MACHINE FOR PROCESSING FUR AND PILE FABRICS

Rudolph S. Schaab, Bronxville, and John Edward Tiso, New York, N. Y.

Application September 27, 1949, Serial No. 118,133

4 Claims. (Cl. 69—27)

The present invention relates to a fur renovating machine and it particularly relates to a machine for renovating and refurbishing and renewing furs although it may also be used for processing woven pile fabrics.

It is among the objects of the present invention to provide a fur renovating machine which, with a minimum of labor and at a relatively high speed, will effectively renovate and refurbish furs, and particularly moutons, by efficiency, without streaking the furs and with removal of all dirt, dust and hairs which arise during the process.

Another object is to provide a simple, inexpensive means and method for renovating fur and pile materials of a textile nature, which will improve the nap, luster and finish of the garments.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood, however, that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes therein may be made by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects, it has been found most suitable to provide a relatively wide carrier member for carrying the fur coat or other fur garment to be processed, which carrier at the same time may be raised and lowered at the will of the operator to present it to a heated ironing roller. The device is so arranged that the operator may move the coat laterally so that one strip after another is finished or renovated without excessive strain upon either the legs or arms of the operator and with assurance that at all times dust, dirt and hair will be removed from the vicinity of the rapidly rotating roller without danger to the operator or garment.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Fig. 1 is a side elevational view of one form of machine according to the present invention, with parts of the shields removed to more clearly shown the internal construction, Fig. 1 being taken upon the line **1—1** of Fig. 2.

Fig. 2 is a transverse vertical offset sectional view taken upon the line **2—2** of Fig. 1.

Fig. 3 is a fragmentary transverse vertical elevational view taken upon the line **3—3** of Fig. 1, showing the details of the carrier belt for the garment being treated.

Fig. 4 is a vertical side elevational view, partly in section, taken upon the line **4—4** of Fig. 2, showing the opposite side of the mechanism from that shown in Fig. 1 but with belt carrier lowered.

Referring to the embodiment of Figs. 1 to 4, the machine is provided with a frame structure A having an overhanging extension member B carrying the ironing roller C and the slip rings and brushes D. The frame also carries the motor E, the exhaust fan F, the elevating mechanism G and the belt carrier H.

The frame A has the members **20** with the cross members having the bars **22** (see Fig. 4). Between the bars **22** is a rod **23** which supports the depending brackets **25** from the base plate **26** of the motor **27**. The motor **27** drives the shaft **28** and the pulley **29** of the belt **30**. The belt **30** drives the pulley **31** of the shaft **32** which in turn drives the exhaust fan **33** having the outlet connection **34** resting upon the transverse support **35** between the side members **36** of the frames **20**.

Between the vertical elements **45** of the frame structures **20** is positioned the platform **46** on which the base plate **47** of the small motor **48** is mounted. This motor has an internal reduction gearing and drives the shaft **49** and in turn the meshing gears **50** and **51**. The gearing **51** drives the shaft **52** having the bearings **52*a***. On the shaft **52** is the large pulley **53** having the belts **54** extending to and driving the large pulley **55** (see Fig. 1).

The large pulley **55** turns the shaft **56**. The shaft **56** has a bearing **57** mounted on the extension **58** of the overhead frame member B. The overhead frame member B has a horizontal section **59** with a rearward and downward extension **60** which is mounted at **61** upon the housing **62**. The block **62** extends to the upper portion **63** of the side frames **20**.

The forward end of the frame B also has a downwardly projection portion **64** carrying the bearing **65** for the end **66** of the shaft **56**. Desirably, a cover **67** is attached to the machine to cover the end of the shaft **66**.

The heated roller C consists of a cast-iron element **68** with the end plates **68*a*** which encloses a ceramic cylinder **72** containing ½ to 1% nickel and ½% chromium, carrying the coil heating resistance wire. The roller has about four spiral grooves **70** with the cold-rolled, replaceable contact plates **71** which act directly upon the fur.

The ceramic cylinder **72** is held in position by a good heat conducting ceramic cement **73**, as indicated in Fig. 2, so that the heat from the resistance coils on the ceramic cylinder **72** will be promptly transmitted to the cast-iron facing or cylinder **67**.

An air space may be provided if desired between the heating unit and interior of roller C. The resistance unit may be enclosed in a copper sheath and be made readily replaceable. The heated roller C is rapidly rotated in the direction **74** through the belts **54** and the shaft **56** from the motor **48**. The cylinder is desirably enclosed in the forward shield **75** and the rearward shield **76** depending downwardly from the horizontal flange **77**.

These front and back shields **75** and **76** together with the side shields **78** and **67** form a substantially complete enclosure for the heated roller C.

Through the interior **79** of the hollow shaft **56** will extend the electrical connections to the contact arrangement D, having five slip rings **80**, **81** and **82** for the triple-phase current and **84** and **85** to the thermostat control to regulate the temperature of the rapidly rotating ironing roller C.

Each of these slip rings is provided with a contact brush **86** and with the cables **87** which lead to a suitable control box, for turning off and turning on the current to the coils of the ceramic cylinder **72** to regulate a predetermined temperature.

The entire electrical conduit at D is preferably enclosed in a shield to protect it, which is removable for repair and replacement.

From the housing formed by the plates 67, 75, 76 and 78 is the rearwardly extending conduit 100 which has an opening at 101 in the shield 76. This conduit has an inside extension 102 and a downward extension 103 to the exhaust fan F. The exhaust fan F will remove most of the dirt, fibers and dust arising during the ironing operation. The sections 100 and 102, as shown in Fig. 4 of the exhaust connections are joined by the flanges 105 and are mounted by the plate 76 and the bolts 108 upon the rear of the overhanging structure B.

The vertically reciprocating carrier element H is provided with a relatively wide canvas belt 120 which, for example, may be 60" to 70" in width, which is carried by the rollers 121 and 122 mounted upon the brackets 123 and 124 extending upwardly from the table 125 (see particularly Fig. 3). These rollers are provided with the shafts 126 and 127.

As shown best in Fig. 2, the canvas belt 120 also passes over the front roller 128 and the rear roller 129 carried on the shafts 130 and 131. The shafts 130 and 131 are carried on the sides 132 and 133 of the box 134. The shaft 130 is provided with an extension 135 (see Figs. 3 and 4) through the side 132 of the box which carries the gear 136.

The gear 136 forms past of a gear train which includes the gears 137, 138, 139, 140 and 141. The gear 141 is positioned on the shaft 142 which has a bearing in the plate 132. The shaft 142 is turned through the universal connection 143 and the shaft 144 which has a square end 145 which receives a correspondingly shaped projection 146 from the shaft 147. The shaft 147 is driven through the universal joint 148 from the shaft 149 carried in the bearing 150. The shaft 149 is driven by the motor 48.

The bearing 150 is supported upon the transverse member 151 extending between the side frames 20. Also carried on the shaft 149 is the pulley 152 around which is wrapped the rope 153. The rope 153 extends downwardly at one end 154 to engage the hook or catch 155 of the lever 156. The lever 156 is pivotally mounted at 157 by the clip 158 on the bracket 159 of the frame 20 and it extends forwardly and is offset at 160 toward the end projection 161, upon which is adjustably positioned the weight 162. The other end 175 of the rope 153 passes over the roller 176 having the shaft 177 on the brackets 178 and is looped at 179 to the rod 180 extending sidewardly from the sleeve 181 on the treadle member 182. The treadle member has bearings 183 in the brackets 184 on the vertical members 185 and 186 of the side frames 20.

When the treadle 182 is depressed, as indicated by the arrow 187 in Fig. 1, lowering the counter-weight 162, the rod 188 connected by the pivot 189 to the clevis 190 will elevate the box structure 134 through the floor 191, to which it is connected by the bearing connection 192 and the pivot 193. The guide cylinders 194 are connected by the top flanges 195 to the floor 191 of the box 134. These cylinders 194 are guided by the sleeves 196 mounted between the cross members 151 and 197 of the frame structure A.

To support the left end of the carrier H, in Fig. 4, and the right end, in Fig. 1, the oblique support bars 198 are rigidly connected at 199 to the cylinders 194 and at 200 to the horizontal angle members 201. The transverse angle member 202 connected to the box 134 has a downwardly extending bar 203 with the inturned ear 204, which carries the spring 205. This spring is connected at its upper end to the end 206 of the bars 207, which are mounted at 208 upon the cross members 197 to counteract the weight of carrier H.

In operation, the fur garments or coat, having a maximum width when spread out of 80" to 120", may be spread out upon the table 210, which extends in front of the carrier H, and the fur coat may be moved sidewardly under the rapidly rotating heated roller C with the canvas belt 120 carrying it forwardly in the direction 211 against the direction 74 of said roller C, to give it a refurbishing and renovating action.

The treadle 182 when depressed through the rope 153 on the pulley 152 will elevate the rod 188 assisted by the counter-weight 162 through the table 134, with the cylinders 194 attached to the table 134 being guided by the sleeves 196.

As soon as the treadle 182 is released, the counter-weight 162 then will raise the carrier H together with the biasing spring 205 which tends to move the carrier H upwardly toward the rapidly rotating cylinder. The coat may readily move in the depressed portion of the belt at 212, where it will rest upon the middle portion of the belt at 213 and may be readily elevated therefrom, again to be treated and moved backwardly and forwardly under the rotating roller C with the belt 120 constantly moving the coat forward in one direction.

During this period the exhaust fan F will continuously remove any loose fur, dirt, dust and other particles from the fur coat, preventing these particles from getting into the air and constituting a danger to the operator.

Whereas the motor E only drives the exhaust blower, the motor 48 will drive the cylinder C through the belts 54 and will also drive the carrier H through the shafts 149 and 147 of the gear train 136 to 141. The connection between the square enclosure 147 and the projection 146 will permit relative movement between the shaft 144 and the shaft 147 as the roller H moves upwardly and downwardly.

The hand wheels 300 (see Fig. 3) have shafts 301 threaded at 302. The shafts 301 bear in brackets 303 and the threaded portions 302 engage ears 305. The ears 305 may be thus adjusted to move the roller 129 and tighten or loosen the belt 120.

It is thus apparent that the applicant has provided a simple, inexpensive and durable mechanism for finishing fur coats, which may be widely utilized with a minimum of manual effort and time to finish large numbers of fur coats, particularly moutons.

Although having particular application to moutons, the application may also be used in connection with other types of nap fabrics.

While there has been herein described a preferred form of the invention, it should be understood that the same may be altered in details and in relative arrangement of parts within the scope of the appended claims.

The embodiment of the invention shown and described herein is to be considered merely as illustrative, as the invention is susceptible to variation, modification and change within the spirit and scope of the appended claims.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. A fur processing machine comprising a frame, a motor driven high speed grooved ironing roller rotatably mounted in the upper part of said frame, a depending enclosure provided with an exhaust with its side walls extending down around the sides of said ironing roller with the bottom of the roller left unenclosed and free, a motor driven belt for carrying a fur garment with the lining against the belt and presenting the fur side to the roller, a carrier for said belt and means to elevate and lower the carrier vertically directly under the roller.

2. The machine of claim 1, said belt being substantially wider than the roller and extending laterally to the side of the roller.

3. The machine of claim 1, said carrier being provided with two small top rollers for carrying said belt, said rollers having their axes parallel to the axis of the ironing roller and being positioned on each side of and below the roller.

4. The machine of claim 1, said carrier extending substantially beyond said ironing roller and having a gearing arrangement on one end thereof and an oblique drive

shaft extending below the carrier and provided with a drive from the motor which drives the ironing roller.

References Cited in the file of this patent

UNITED STATES PATENTS

1,604,523	Kronson	Oct. 26, 1926
1,686,768	Schettler	Oct. 9, 1928
1,771,144	Ruhe	July 22, 1930
1,776,114	Friedman	Sept. 16, 1930
1,874,273	Friedman	Aug. 30, 1932
2,376,500	Nelson	May 22, 1945
2,407,380	Nelson	Sept. 10, 1946
2,477,448	Friedman	July 26, 1949

FOREIGN PATENTS

709,414	France	May 18, 1931