

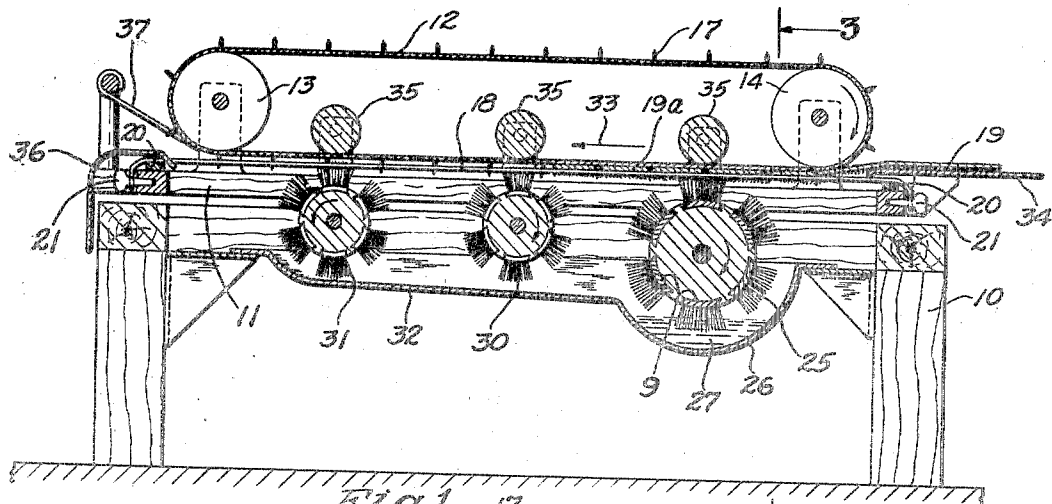
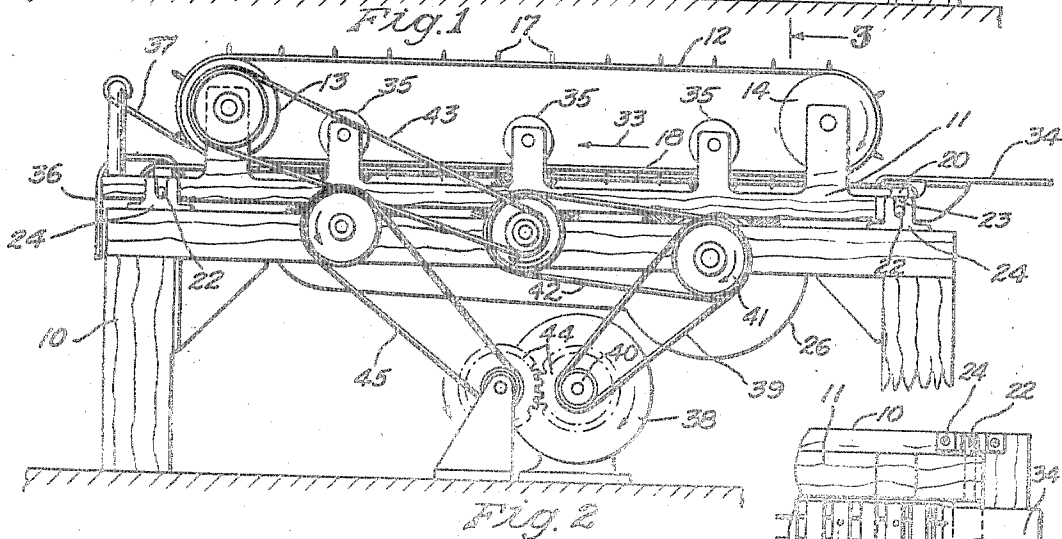
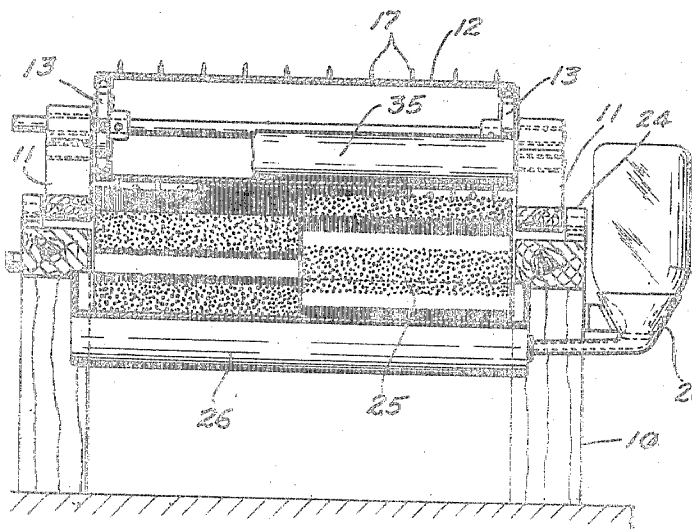
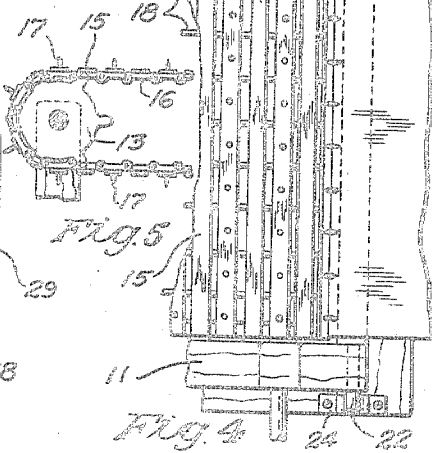
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HATTER'S FUR CARROTING MACHINE

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HATTER'S FUR CARROTING MACHINE

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8 Claims. (Cl. 149—27.5)

This invention relates to a machine for carrotting hatter's fur while it is still on the skin, and has for an object to provide an improved and simplified means of uniformly and more

thoroughly applying the carrotting solution to the fur and to prevent waste of carrotting solution. It is also an object to provide a machine which will effectively and more uniformly apply the carrotting solution in such a manner as to give better felting of the fur than is secured with the usual hand operation.

With the foregoing and other objects in view I have devised a construction as illustrated in the accompanying drawing forming a part of this specification. It is however, to be understood that I am not limited to the exact construction and arrangement shown but various changes and modifications may be employed within the scope of the invention.

In this drawing:

Fig. 1 is a longitudinal section through the device;

Fig. 2 is a side elevation thereof;

Fig. 3 is a transverse section substantially on line 3—3 of Fig. 1;

Fig. 4 is a top plan view of one end portion of the machine; and

Fig. 5 is a side elevation of one end portion of the conveyor.

The machine comprises a supporting frame 10 on which is mounted a movable frame 11. The supporting frame 10 carries a means for applying a carrotting solution to the fur on the pelt while the movable frame 11 carries the means for feeding and holding the pelt while the carrot is being applied and worked into the fur. The feeding and holding means for the pelt comprises an endless conveyor or belt 12 running over suitable drums or sprockets 13 and 14 at its opposite ends. This holder and conveyor may be of different constructions and materials such as an endless rubber belt or it may be constructed of a series of transversely extending narrow metal strips 15 secured at their opposite ends to chains 16 running over the sprockets. This conveyor or belt must be of some material which is resistant to the action of the carrotting solution. Rubber is fairly resistant, and the metal strips could be of resistant metal, such as stainless steel.

This endless belt carries a series of pins or prongs 17 suitably spaced and of sufficient length to penetrate the skin of the pelt and feed it during the carrotting operation as well as hold it in proper position. Immediately below the low-

er run of the conveyor are a series of wires 18 extending longitudinally of the conveyor and closely adjacent the under surface thereof so as to support the pelt against the under surface of the conveyor. A pelt, such for example as a rabbit pelt, is shown just entering the machine at 19 and another is shown at 19a in a position to be treated. The wires 18 should be of a material resistant to the carrotting solution, such for example as stainless steel, and extend at their opposite ends over suitably mounted transverse supporting bars 20 and are connected to means 21 for individually adjusting the tension of these wires. The frame 11 has laterally extending pins 22 seated in vertical slots or notches 23 in bearing brackets 24 on the supporting frame 10. This holds the frame 11 and the parts carried thereby against longitudinal movement but permits up and down movement to allow for adjustment to accommodate pelts of different thicknesses and to insure uniform treatment of the fur of all pelts.

The carrotting solution is applied to the fur of the pelt by a brush 25 located under the lower run of the conveyor 12. At its lower edge this brush runs in a container 26 holding the carrotting solution 27, and the level of this solution is maintained constant by any suitable means, such for example as an extension 28 communicating with this receptacle and holding a bottle 29 containing the solution in the inverted position which, as is well known, will automatically feed solution from the bottle to the container and maintain the liquid level therein at the level of the lower end of the neck of the bottle. To the rear of the brush 25 is another rotating brush 30 and to the rear of the brush 30 is a third rotating brush 31. An inclined pan 32 under the brushes 30 and 31 returns any carrotting solution which may be dropped by the brushes 30 or 31 back to the receptacle 26 so that it is not wasted.

The conveyor 12 is moved in the direction of the arrow 33 so that the lower run of this conveyor moves to the left as viewed in the drawing. The pelts indicated at 19 are fed in between this conveyor and the supporting wires 18 and this may be done from a convenient feeding table 34. The pelts are fed into the machine with the fur side down and tail end first so that the natural lie of the fur is in the direction of movement of the pelt through the machine. The pins or prongs 17 penetrate the skin of the pelt and slide it along on top of the supporting wires 18, first over the brush 25 and then over the brushes 30 and 31 in that order. As the pelt is

carried over the brush 25 the carroting solution is carried from the supply 27 by the bristles of this brush and applied to and rubbed into the fur of the pelt, and the brush 25 is rotated clockwise as indicated by the arrow so that the bristles of the brush move in a direction opposite to the direction of the movement of the pelt and also opposite to the direction of the natural lay of the fur so that the carroting solution is more evenly and thoroughly applied to the fur. This brush therefore brushes up the fur and applies carroting solution to it right down to the skin. As the pelt advances after the carroting solution is applied to the fur it comes over the brush 30. This brush 30 also rotates clockwise so that its bristles move in a direction opposite to the direction of movement of the pelt and opposite to the direction of natural lay of the fur on the pelt. This brush is to work or rub the carroting solution which has been applied by the brush 25 thoroughly into the fur and right down to the skin, and also to spread the carroting solution so that it is uniformly applied to all of the fur. Then as the pelt further advances it comes under action of brush 31. This brush 31, however, rotates counterclockwise or in the opposite direction to that of the brushes 30 and 25 so that its bristles move in the direction of the natural lay of the fur. This brush slicks and lays down the fur in its natural position on the pelt and also removes surplus carroting solution. As previously indicated the frame 11 carrying the conveyor and the supporting wires is free to move up and down and therefore to yield to pelts of different thicknesses and also to insure uniform treatment of all pelts. Above the lower run of the conveyor and in line with each brush there may be a backing up roller 35 to back up the flexible conveyor and prevent its yielding out of position under pressure of the various brushes. The brush 25 is preferably somewhat larger than the brushes 30 and 31. Brush 25 may be about 9" in diameter and brushes 30 and 31 about 6". The bristles may be mounted on bars 9 tapered and slidable from one end into suitably shaped grooves in the center drum so the brushes may be easily renewed as they become worn or are eaten away by the carroting solution. This arrangement may place the bristles in spaced clumps or rows as shown and therefore in order to make a smoother action the clumps of bristles on one-half the brush may be staggered in relation to the other half as shown in Fig. 3. With this arrangement bristles are in engagement with the pelt at all times.

It will be seen that as the pelts are supported by the wires 18 and the skin is punctured by the pins 17 these elements together effectively hold the pelt against being shifted out of position under action of the brushes, and it will so hold the pelt against shifting in either direction that it can be thoroughly brushed and operated on by the brushes operating in either direction without the pelt being dislodged or forced out of position. This combination also makes a very effective means for feeding the pelt at a uniform speed during the brushing and treating operation.

At the outlet end the pelts may be carried over the supporting means for the wires by means of a suitable apron 36, and there is also provided a series of stripping fingers 37 to strip the pelt from the conveyor and prevent it being carried around on to the top thereof. The various brushes and the conveyor may be driven by any suitable driving means. One form is shown diagrammatically

in Fig. 2 comprising an electric motor 38 driving the brush 25 by a suitable chain drive 39 running over sprockets 40 and 41. The brush 30 may be driven in the same direction from the shaft for the brush 25 by a chain drive 42 running over suitable sprockets, and a similar chain drive 43 may be used for driving the conveyor belt 12. As the brush 31 must be driven in the opposite direction from the brushes 25 and 30 the motor 38 may drive a pair of spur gears 44 driving a sprocket for a chain drive 45 for the brush 31.

Important features are the series of wires 18 supporting the pelt under the belt or conveyor carrying the prongs 17 so that the pelt is positively held and fed forwardly as the carroting solution is applied and worked into the fur by the brushes 25 and 30 rotating against the natural lie of the fur, plus the brush 31 rotating in the opposite direction to lay and slick the fur and remove surplus carroting solution. This gives a better result than hand carroting as it is more thorough and uniform as the carroting solution is applied uniformly to all parts of the pelt and is also worked into the fur uniformly throughout the entire area of the pelt. This prevents applying too much solution in some parts and too little in others, saves carroting solution, and gives a better felting fur. It is also much easier on the operators as all they have to do is to feed the pelts in tail end first with the fur side down as indicated.

Having thus set forth the nature of my invention, what I claim is:

1. In a fur carroting machine, an endless conveyor having a series of outwardly extending pins throughout the surface thereof, a series of supporting wires for a pelt under a lower run of said conveyor extending in the direction of movement thereof, said pins being adapted to penetrate the skin and feed the pelt along the wires and hold it in position thereon, three rotating brushes on the opposite side of the wires from the conveyor, one of said brushes being rotated in a direction contrary to the direction of movement of the pelt past the brush to apply carroting solution to and work it into the fur, a second brush to the rear of the first brush and rotating in the same direction to work the carrot applied by the first brush uniformly into the fur, and the third brush to the rear of the second brush and rotating in the opposite direction to smooth and lay down the fur into its natural position.

2. In a fur carroting machine, a series of laterally spaced supporting wires for a pelt, means on one side of the wires to grip the skin of a pelt and feed it along the wires and hold it in position thereon with the fur side against the wires, and a plurality of brushes on the opposite side of the wires past which the pelt is fed by said means, the first brush rotating in a direction opposite to the direction of the natural lay of the fur on the pelt to apply carroting solution thereto, a second brush behind the first brush rotating in the same direction to work the carrot applied by the first brush into the fur, and the third brush rotating in the opposite direction to smooth and lay the fur into its natural position.

3. In a fur carroting machine, a series of laterally spaced supporting wires for a pelt, means on one side of the wires to feed a pelt along the wires and hold it in position thereon comprising a movable member having a series of pins to penetrate the skin of the pelt and hold it in position with the fur side against the wires, and a plurality of rotating brushes on the opposite side of the wires including a brush for applying carroting solution

to the fur and rotating in a direction opposite to the natural lay of the fur, a second brush behind the first brush and rotating in the same direction to work the carrot uniformly into the fur, and a third brush behind the second brush and rotating in the opposite direction to slick the fur and lay it in its natural position.

4. In a fur carroting machine, a series of laterally spaced supporting wires, a movable endless conveyor on one side of said wires having a series of pins projecting outwardly therefrom to penetrate the skin of a pelt on the wires and feed it along and hold it in position on the wires, a plurality of spaced brushes on the opposite side of the wires, means for rotating one of said brushes in a direction opposite to the natural lay of the fur on the pelt to apply carroting solution thereto, a container below the brush for holding said solution and in which the lower side of the brush runs, a second brush behind the first brush and rotating in the same direction to work the carrot into the fur, and a third brush behind the second brush rotating in the opposite direction to slick and lay the fur in its natural position.

5. In a fur carroting machine, a series of laterally spaced supporting wires, feeding and holding means on one side of the wires including a series of pins to penetrate the skin of a pelt to feed it along the wires and hold it in position thereon with the fur side against the wires, a series of movable brushes on the opposite side of the wires, and means for operating said brushes to first apply carroting solution to the fur and work it into the fur in a direction opposite to the natural lay of the fur and then slick and lay the fur in its natural position.

6. In a fur carroting machine, a main supporting frame, a second movable frame, means for mounting the second frame on the first frame

holding it against longitudinal movement and permitting up and down movement, a plurality of rotatable brushes mounted in the first frame, a series of longitudinally extending supporting wires carried by the second frame at the upper sides of said brushes, an endless conveyor on said second frame above the wires and having a series of pins projecting outwardly therefrom to penetrate the skin of a pelt on the wires to feed the pelt along said wires and hold it in position thereon, a container for carroting solution under one of said brushes in which the brush rotates to pick up carroting solution and apply it to the fur of a pelt on said wires, means for rotating said brush in a direction opposite to the direction of natural lay of the fur to apply the carrot thereto, means for rotating another brush in the same direction to work the carrot applied by the first brush into the fur, and means for rotating a third brush in the opposite direction to smooth down and lay the fur in its natural position.

7. In a fur carroting machine, a series of longitudinally extending wires, movable means on one side of said wires comprising a series of pins to penetrate the skin of a pelt on the wires to feed it along the wires and hold it in position thereon, and brushing means on the opposite side of the wires to apply carroting solution to the fur and work it into the fur.

8. In a fur carroting machine, a series of longitudinally extending wires, an endless conveyor on one side of said wires having a series of pins to penetrate the skin of a pelt on said wires to feed the pelt and hold it in position thereon, and rotatable brushing means on the opposite side of the wires to apply carroting solution to the fur of a pelt on the wires and to work said carrot into the fur.

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