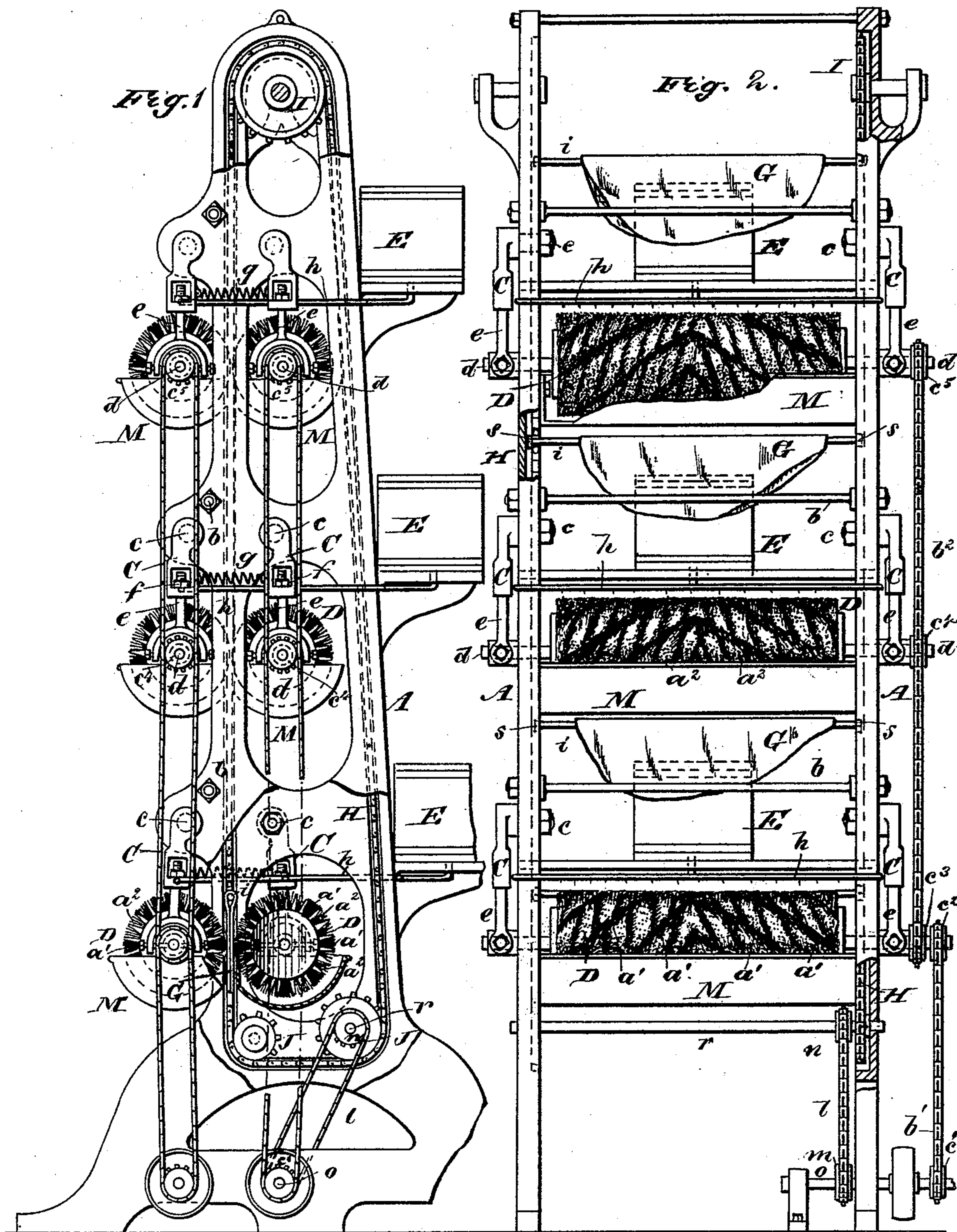


(No Model.)

A. F. JONES.
MACHINE FOR COLORING SKINS.

No. 498,120.

Patented May 23, 1893.



WITNESSES :

J. A. Bergstrom
L. Edgwick

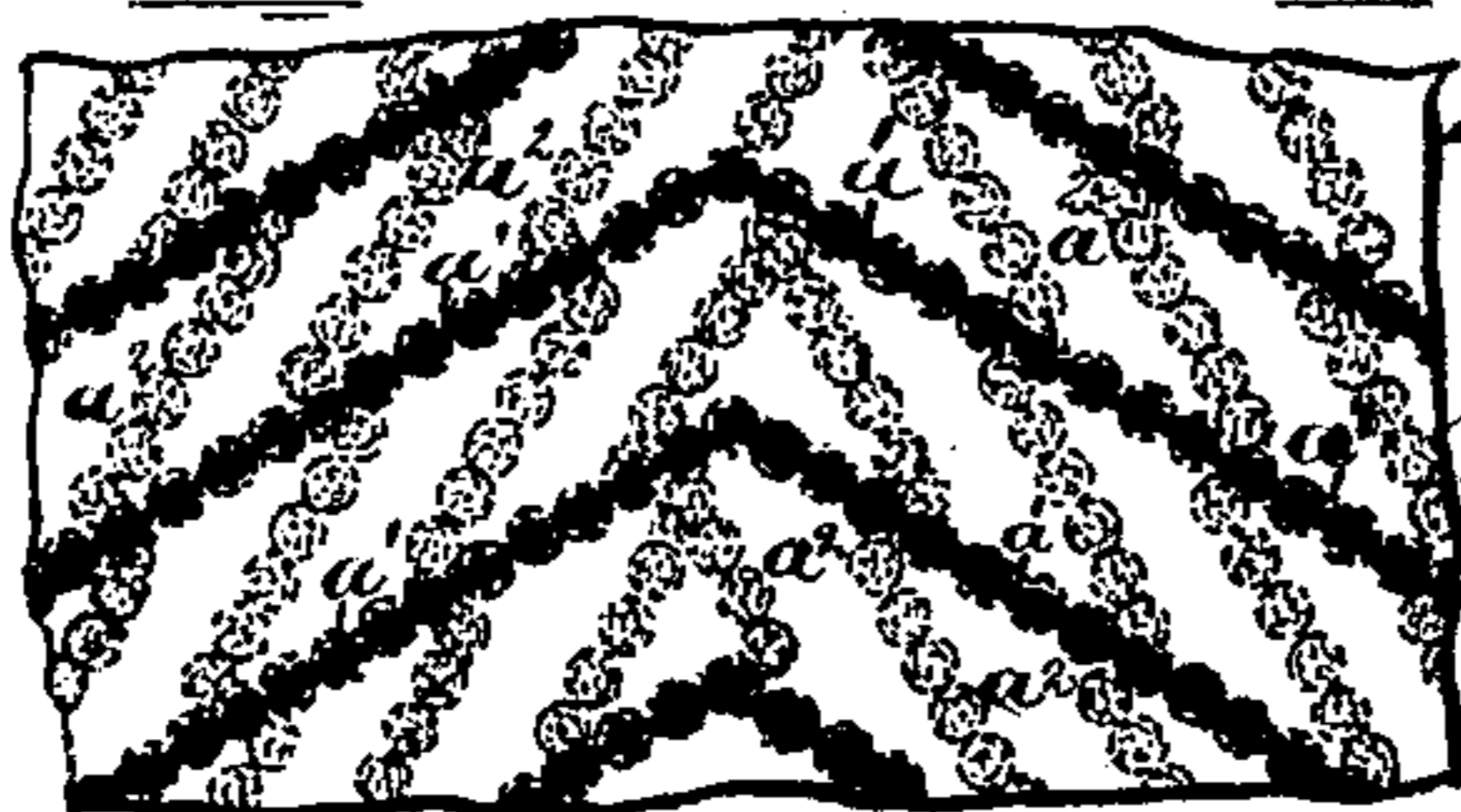


Fig. 3

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MACHINE FOR COLORING SKINS.

SPECIFICATION forming part of Letters Patent No. 498,120, dated May 23, 1893.

Application filed March 30, 1892. Serial No. 427,092. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. JONES, of Salem, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Machines for Coloring Skins, of which the following is a full, clear, and exact description.

This invention relates to machines for coloring animal skins for various manufacturing purposes and uses, by subjecting the skins to the action of revolving brushes which rub the coloring liquid on to and into the skins as the latter are traveled to come in contact with the brushes.

It is mainly designed to operate on sheepskins and goat skins, and the invention consists in certain novel constructions and combinations of parts, substantially as hereinafter described and more particularly pointed out in the claims, whereby the desired end is very perfectly and quickly attained.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a machine embodying my invention, a portion of the frame-work being broken away to more clearly exhibit certain working parts. Fig. 2 is a partly sectional and broken front view of said machine in part, showing also a series of skins in the course of being colored; and Fig. 3 is a longitudinal view of one of the brushes, in part, showing the arrangement of the bristles.

A, A, are the uprights or side frames of the machine, preferably made of cast iron and held together at their proper distance apart by cross bars or connections *b* of any suitable kind, the whole constituting the frame of the machine, which frame if desired may be of any suitable shape and construction.

In the side frames A A are bored holes at proper distances apart to form bearings for the journals *c* of a series of pendent or swing boxes C, C, disposed in pairs laterally of the machine, and each pair one above the other on both side frames A, A. At the lower end of these pendent boxes are adjusting screws to hold the boxes to the brush shafts *d* which the boxes form the bearings for. Said pendent boxes are each constructed in two parts,

that is to say an upper and a lower part, the lower part *e* being made capable of sliding up and down within or through the upper part and so that it may be adjusted by a nut *f* to determine its position as a holder of the brush shaft and bring the adjacent brush shafts opposite each other to secure a proper action of the brushes on the skins. The brushes D, D, thus carried and made capable of revolving together with their shafts *d*, are disposed in pairs, one pair above the other, at a suitable distance apart, the axes of the brushes being horizontal and the brushes in each pair being opposite each other laterally for the skins to be colored to pass between them. It should be observed that the journals *c c* of the pendent or swing boxes C, C, are arranged to one side or out of vertical central line with said boxes, so that there will be a tendency by gravity, of the brush shafts and brushes in any one pair, to approach each other and the adjacent pendent boxes C, C, are connected together by springs *g* which hold the brushes in each pair in close proximity to each other while working on the skins.

Three pairs of brushes, one pair above the other, are here shown, as ordinarily three different colorings are successively applied to the skins. The coloring fluids are supplied to the several brushes from tanks E, E, E, by horizontal pipes *h h h* having perforations in their lower surfaces to sprinkle the coloring fluids on the brushes while the latter are revolving. The skins G to be colored first pass up between the lower pair of brushes to receive the first coloring and then between the other two pairs of brushes above in succession to receive their further colorings, after which the skins are conveyed by the wires *i*, which carry them, to the top of the machine, and finally removed therefrom.

The wires *i*, which carry the skins and are arranged at a suitable distance apart to insure each skin passing separately between each pair of coloring brushes D in succession, are respectively and suitably carried at their ends by trolleys or carriers arranged to work in grooves in each side frame A and attached to endless pitched chains H, each of which passes over and engages with a sprocket wheel I at or near the top of either side frame

A and round or under sprocket wheels J, J, at or near the bottom of each side frame. Motion may be given to these endless chains to traverse the skin-carrying wires up and
 5 down through the machine by any suitable driving mechanism, as for instance by a pitched chain l engaging with sprocket wheels m n on a driving shaft o and shaft r of one of the sprocket wheels J. The wires i are
 10 held perfectly straight by tightening up nuts s on their ends, so that they will pass up straight between the revolving coloring brushes with the skins folded equally over the wires. After the wires i have reached
 15 the top of the machine and the colored or finished skins are lifted off them, said wires pass down the back part of the side frames A and on each wire as it nearly reaches the bottom the operator puts another skin to be colored and in this way keeps up a continuous
 20 supply of skins to the machine.

The brushes D are each constructed of a wooden hub made fast on the brush shaft d , and in this hub are bored a number of spirally
 25 arranged rows of holes around said hub in which are inserted bristles a' , and at a suitable distance from them are a like number of more rows of bristles a' spirally arranged also around the hub. These rows of bristles meet
 30 in the center of the length of the hub and reversely incline at a slow angle toward either end of it, and between these rows of bristles a' are spirally arranged branch rows of bristles a^2 , at a quicker angle than the others
 35 and set so as to break joint with each other and the first named rows. In operation, the branch rows of bristles a^2 serve to hold the skin as it were, while the long rows a' distribute and rub the coloring fluid into it. By
 40 the branch rows of bristles a^2 breaking joint, the middle of the skin will receive the same amount of brushing as the sides. The several brushes may be rotated by any suitable mechanism, but for convenience of illustration, they are shown as actuated by chains b'
 45 b^2 engaging with sprocket wheels c' c^2 c^3 c^4 and c^5 on the driving shaft o and brush shafts d . Troughs M are arranged under the brushes to catch any scattered or escaping, coloring
 50 fluid, which may be returned to the tanks again that supply the brushes.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

55 1. In a machine for coloring skins, the combination of a series of pairs of revolving coloring brushes, arranged one above another, traveling upright endless chains on opposite sides of the machine, and rods carried by said

chains adapted to receive the skins over them 60 and arranged to work between the brushes in each pair of brushes, substantially as specified.

2. The combination with the revolving coloring brushes, arranged in pairs as described, 65 of a series of tanks and attached perforated sprinkling pipes extending over and discharging upon the said brushes to supply said brushes with the necessary coloring fluids, and the endless skin carrier having cross rods 70 or wires over which the skins may be folded; one run of the carrier passing between the brushes of each pair, essentially as set forth.

3. The combination with the upright frame, of the series of pairs of depending swinging 75 boxes hung eccentrically thereon at their upper ends to gravitate the lower ends of each pair toward each other, a coloring brush mounted in the lower end of each box, and the skin carrier passing vertically between 80 the boxes of every pair, substantially as set forth.

4. In a machine of the character described, the revolving coloring brush constructed with reversely spiral main rows of bristles meeting 85 in or about the center of the length of the brush, and with a series of spiral branch rows of bristles between the main rows and at a quicker angle or pitch than the latter, substantially as specified. 90

5. In a machine for coloring skins, the combination with a pair of suspended coloring brushes normally swinging toward each other, and an endless skin carrier one run of which passes between the said brushes, said carrier 95 having cross rods or wires over which the skins may be folded substantially as set forth.

6. In a machine for coloring skins, the combination with the frame, of a rotary cylindrical coloring brush provided with reversely 100 spiral rows of bristles meeting in or about the center of its length and with a series of spiral branch rows of bristles between the main rows and at a quicker angle or pitch than the latter, and means for subjecting the skins to the 105 action of said brush, substantially as set forth.

7. In a machine for coloring skins, the combination with the frame and the longitudinally adjustable swinging hangers, of rotary coloring brushes journaled in the lower mem- 110 bers of the hangers, and the endless skin carrier, one run of which passes vertically between said brushes, substantially as set forth.

ALBERT F. JONES.

Witnesses:

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 ISABELLA MCCALGAN.