(No Model.) 3 Sheets—Sheet 1.

A. TRAVIS.

MACHINE FOR COLORING SKINS.

No. 456,605. Patented July 28, 1891.

FIG. 1.

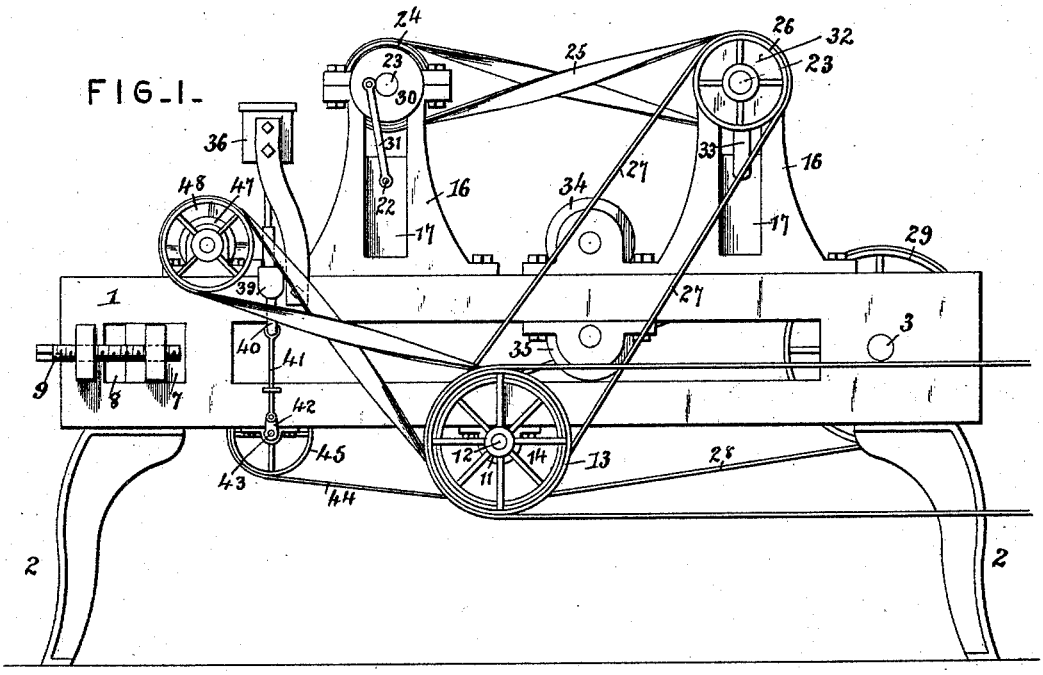
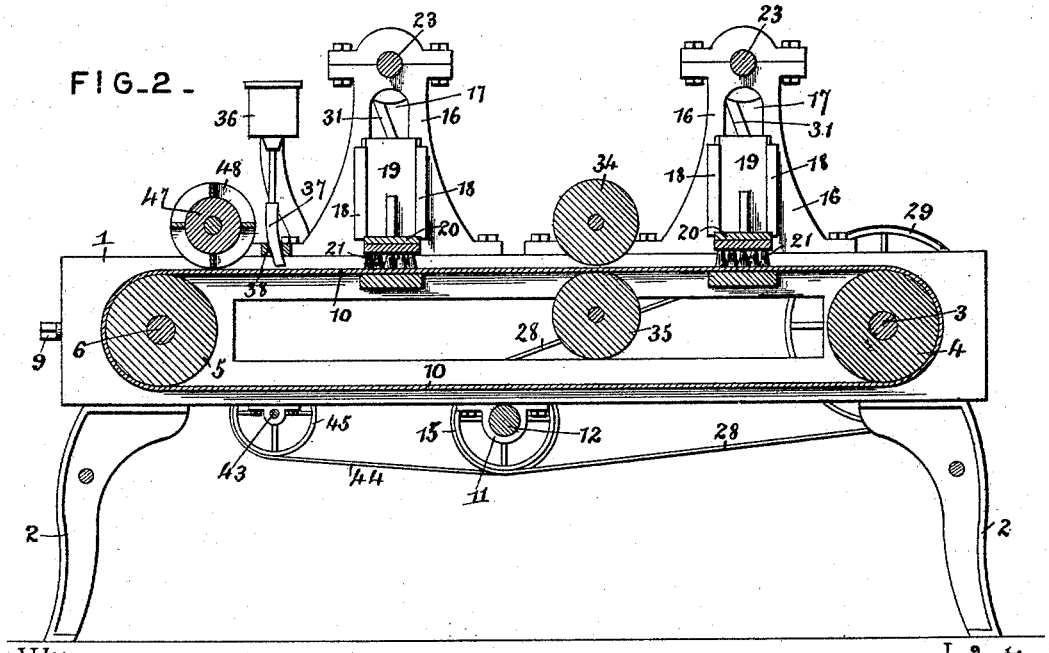


FIG. 2.



Witnesses

Jas. K. McCathran

Wm. Bagger

Inventor

Albertus Travis

By his Attorneys,

C. A. Snow & Co.

(No Model.) 3 Sheets—Sheet 2.

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FIG. 3.

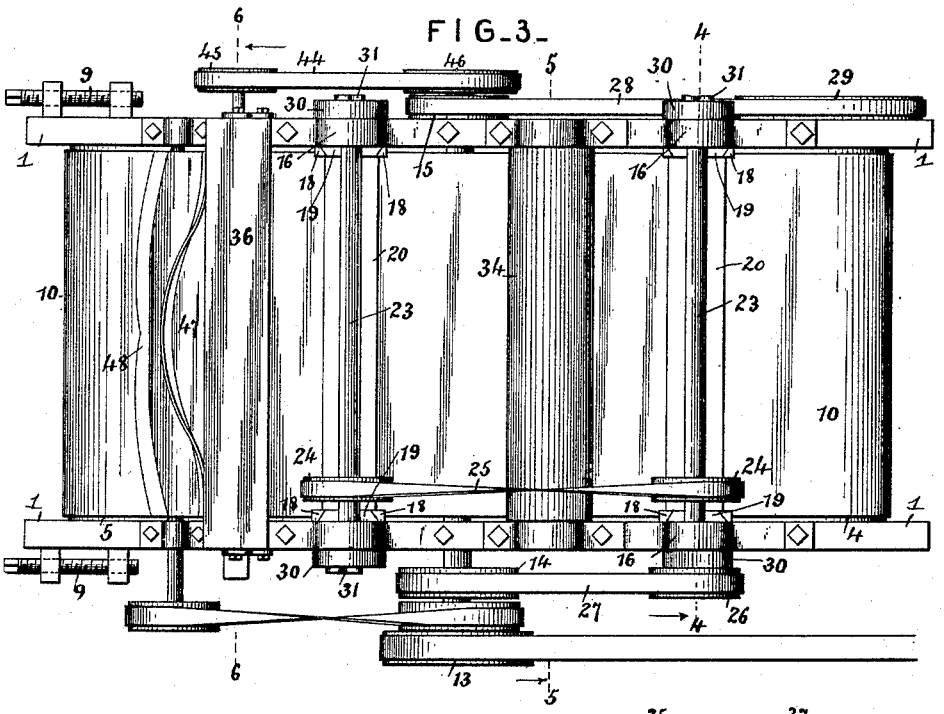

FIG. 4.

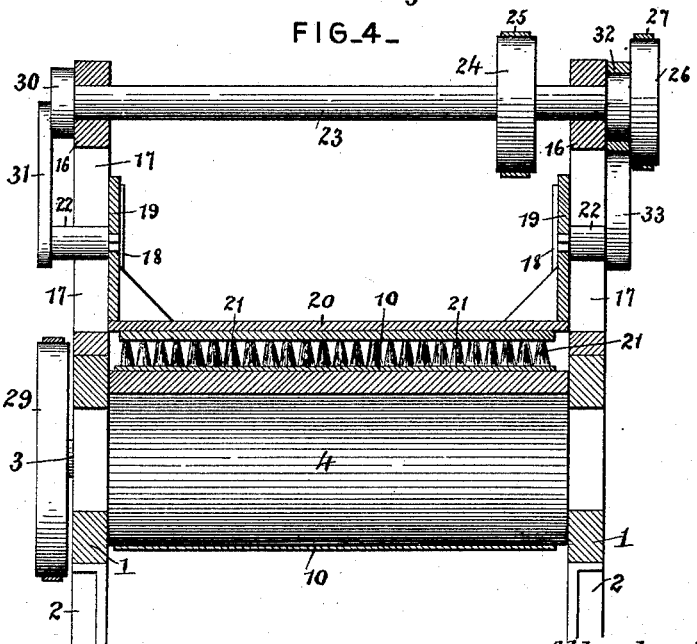

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FIG. 5.

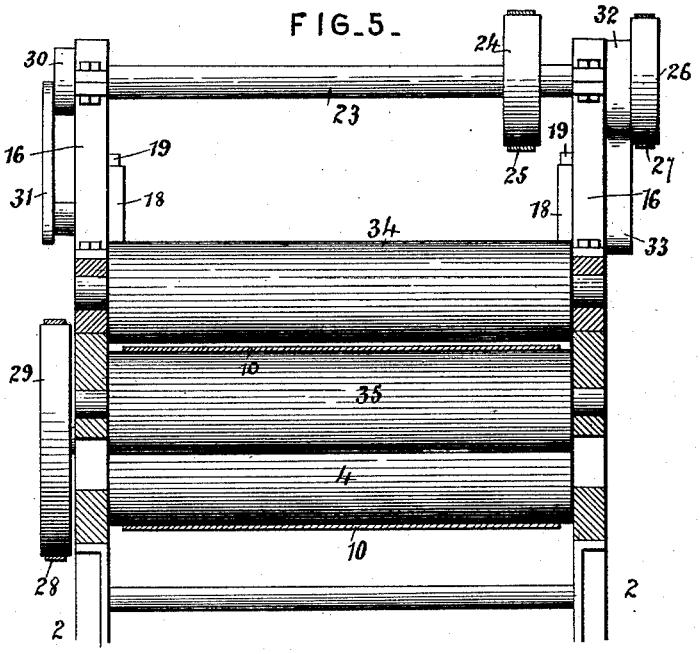
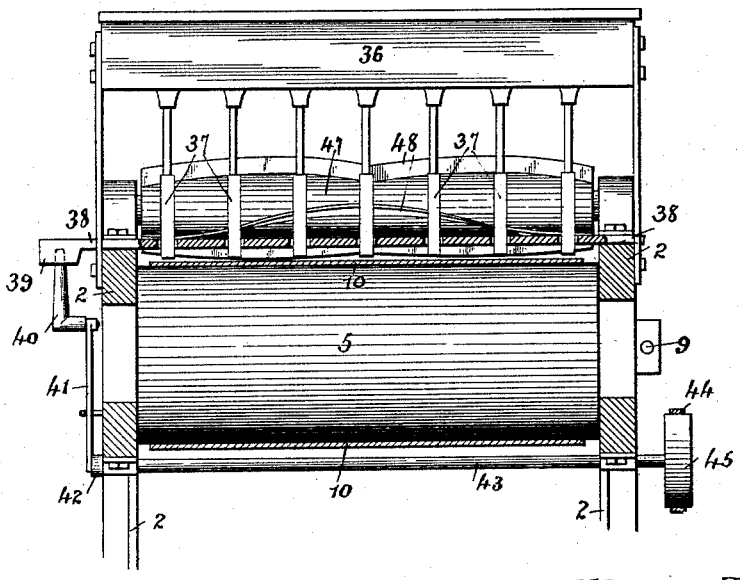


FIG. 6.



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UNITED STATES PATENT OFFICE.

ALBERTUS TRAVIS, OF GLOVERSVILLE, NEW YORK.

MACHINE FOR COLORING SKINS.

SPECIFICATION forming part of Letters Patent No. 456,605, dated July 28, 1891.

Application filed February 13, 1891. Serial No. 381,319. (No model.)

To all whom it may concern:

Be it known that I, ALBERTUS TRAVIS, a citizen of the United States, residing at Gloversville, in the county of Fulton and State of New York, have invented a new and useful Machine for Coloring Skins, of which the following is a specification.

This invention relates to machines for coloring skins of that class in which the skins to be treated are mounted upon an endless apron or carrier and carried under a series of tubes, through which coloring-matter is supplied to the skins, and afterward under brushes, by means of which the coloring-matter is evenly distributed.

The invention, which may be described as being an improvement on the machine of this class for which Letters Patent of the United States No. 441,991 were granted to myself on the 2d day of December, 1890, has for its object to simplify the construction, to improve the means for distributing the coloring-matter, to provide means whereby the skins shall be more thoroughly impregnated with the coloring-matter than by the action of the brushes alone, and to simplify the construction, arrangement, and operation of said brushes.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a side elevation of a machine constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a plan view. Fig. 4 is a transverse sectional view taken on the line 4 4 in Fig. 3. Fig. 5 is a transverse sectional view taken on the line 5 5 of Fig. 3. Fig. 6 is a transverse sectional view taken on the line 6 6 of Fig. 3, and showing the means for supplying the liquid coloring-matter to the skins.

Like numerals of reference indicate like parts in all the figures of the drawings.

The frame of my improved machine is preferably rectangular in shape, and is composed, essentially, of suitably-connected side pieces 1 1, having legs or supports 2 2. The said side pieces are provided near one end of the frame with bearings for a transverse shaft 3, carrying a roller 4. A similar roller is mounted upon a shaft 6, which has its bearings in blocks or boxes mounted to slide in longitudinal slots 8 in the side pieces 1 near the opposite end of the frame. The boxes 7, which in the drawings hereto annexed have been shown at the front end of the frame, are adjustable longitudinally by means of set-screws 9, thus enabling the endless apron or carrier 10, which is mounted upon the rollers 4 and 5, to be stretched and kept taut.

The side pieces of the frame are provided on their under sides with boxes or bearings 11 for a transverse shaft 12, carrying a pulley 13, adapted to receive motion by means of a belt or band from motive power of any suitable description. The shaft 12 also carries the pulleys or band-wheels 14 and 15, which are mounted upon the said shaft adjacent to the sides of the frame. The sides 1 1 are provided with uprights 16, of which two or more pairs may be used. Said uprights are provided with vertical slots 17, adjacent to which, on the inner sides of said uprights, are arranged the dovetailed flanges 18, forming bearings for the vertically-movable slides 19, the lower ends of which are connected by cross-pieces 20. Brushes 21, of ordinary construction, are secured detachably to the under sides of said cross-pieces in such a manner that they may be readily detached and exchanged for new ones when desired. The slides 19 are provided with arms 22, extending through the slots 17 of the uprights 16. The other ends of the uprights 16 are provided with bearings for the transverse shafts 23, which are provided with pulleys or band-wheels 24, connected by a crossed band 25. One of the shafts 23 carries at its outer end a pulley 26, which is connected by a band 27 with the pulley 14 upon the shaft 12. The pulley 15 at the opposite end of said shaft is connected by a belt or band 28 with a pulley 29 upon the shaft 3, carrying the roller 4, supporting one end of the apron 10.

The shafts 23 are provided with disks 30, connected by pitmen 31 with the arms or brackets 22, extending from the slides 19 through the slots 17. The disk adjacent to the pulley 26, however, is mounted eccentrically upon its shaft and is provided with an eccentric-ring 32, having an arm 33, which is

connected with the arm 22 of the adjacent slide 19. In view of this construction, however, the pulley 26 might be connected with the slide 19 by means of a pitman, as 31.

The side pieces 1 of the frame are provided with bearings for a pair of rollers 34 and 35, arranged between the uprights 16. Said rollers are arranged closely together, so as to merely admit the endless apron 10, which passes between said rollers. The latter will thus serve to compress the skins, which in practice are caused to pass between them.

A suitable tank 36 for the purpose of supplying coloring-matter is mounted near the front end of the machine, and is provided with a series of flexible tubes or spouts 37, which may be provided, when desired, with valves of suitable construction for the purpose of regulating the flow. Such valves, however, form no part of my present invention and need not be shown or described in detail. The lower ends of the flexible tubes or spouts 37 are connected by a cross-bar 38, which is mounted to slide transversely in suitable bearings. Said cross-bar is provided at one end with downwardly-extending lugs 39, between which is fitted one arm of a bell-crank lever 40, which is suitably pivoted to the frame of the machine. The other end of said bell-crank lever is connected by a pitman 41 with a crank 42 upon a transverse shaft 43, which may receive motion by a belt or band 44, connecting a pulley 45 on said shaft with a pulley 46 upon the transverse shaft 12.

A smoothing-roller, as 47, having spiral flanges 48, may be arranged in suitable bearings at the front end of the machine. Such a roller, however, has been fully shown and described in my former patent, to which reference has been made above, and as it does not form an essential part of my present invention its detailed construction and mode of operation do not require further description.

In operation the skins which are to be treated are suitably attached to the endless apron or carrier 10, and motion is transmitted to the latter, as herein described, to carry the said skins successively under the flexible tubes or spouts, which are vibrated by the reciprocating bar 38, so as to distribute the coloring-matter over the entire surfaces of the skins. The latter then pass under one of the brushes next between the compressing-rollers and finally under the second brush, whereby the coloring-matter is thoroughly distributed and pressed into the skins.

I have found that the vertically-reciprocating brushes, arranged as herein described, are preferable to revolving brushes, such as have been shown in my previous patent, No. 441,991, to which reference has hereinbefore been made, for the reason that the cylindrical revolving brushes have a tendency to roll or curl the edges of the skins, while the tendency of the reciprocating brushes is to smooth and flatten the skins upon the endless carrier or apron.

My improved skin-coloring machine is exceedingly simple in construction, and the brushes, which are the only parts that are exposed to considerable wear, may be very easily detached and new ones substituted when necessary.

While I have in the foregoing described the preferred construction of the machine, I do not limit myself as to details, but reserve the right to make any changes and modifications to which recourse may be had within the scope of my invention.

Having thus described my invention, what I claim is—

1. In a machine of the class described, the combination, with an endless apron or carrier, of a tank for supplying coloring-matter, having flexible tubes or spouts, mechanism for reciprocating or vibrating the latter, and vertically-reciprocating brushes for distributing said coloring-matter, substantially as herein set forth.

2. The combination, in a machine of the class described, of the endless apron or carrier, the tank having the flexible tubes or spouts, a transverse bar connecting the said tubes or spouts, means for transmitting to said spouts a reciprocating motion transversely across the face of the endless apron or carrier, and means for distributing coloring-matter supplied from the tank through the flexible tubes or spouts, substantially as set forth.

3. The combination, in a machine of the class described, of the endless apron or carrier, means for supplying liquid coloring-matter to skins mounted upon the said carrier, and vertically-reciprocating brushes arranged above said carrier, substantially as set forth.

4. The combination of the endless apron or carrier, the tank having flexible tubes or spouts for supplying liquid coloring-matter to skins mounted upon said carrier, the vertically-reciprocating brushes, and the compressing-rollers, substantially as and for the purpose set forth.

5. In a machine for coloring skins, the combination, with an endless apron or carrier, of means for supplying liquid coloring-matter upon the skins mounted upon said carrier, the vertically-reciprocating brushes for distributing said coloring-matter, and compressing-rollers mounted in the frame of the machine a suitable distance apart between the uprights supporting the vertically-reciprocating brushes for the passage of the apron, substantially as set forth.

6. In a machine of the class described, the combination of the frame having the vertically-slotted uprights provided on their inner sides with dovetailed flanges, the slides mounted between said flanges and connected in pairs by cross-pieces and having arms extending outwardly through the slots in the

uprights, the brushes mounted upon the said cross-pieces, the shafts journaled in the upper ends of the uprights and connected by pitmen with the outwardly-extending arms of the vertically-movable slides, and suitable operating mechanism, substantially as and for the purpose set forth.

7. In a machine for coloring skins, the combination of a carrier adapted to support the skins, the vertically-reciprocating brushes arranged above said carrier for the purpose of distributing the coloring-matter upon the skins without rolling the edges of the latter, and suitable operating mechanism, substantially as set forth.

8. In a machine of the class described, the combination of the endless apron or carrier, the tank having flexible tubes or spouts, a transversely-reciprocating cross-bar connecting the said spouts, the vertically-reciprocating slides connected by cross-pieces at their lower ends, the brushes secured detachably to the under sides of said cross-pieces, the compressing-rollers, and suitable operating mechanism, all constructed and arranged substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALBERTUS TRAVIS.

Witnesses:
CHARLES OARE,
GEORGE MOAK.