2 Sheets—Sheet 1.

C. T. & S. A. FORD.

Machines for Scouring and Dressing Sheep and Goat Skins.

No. 196,793. Patented Nov. 6, 1877.

Fig. 1

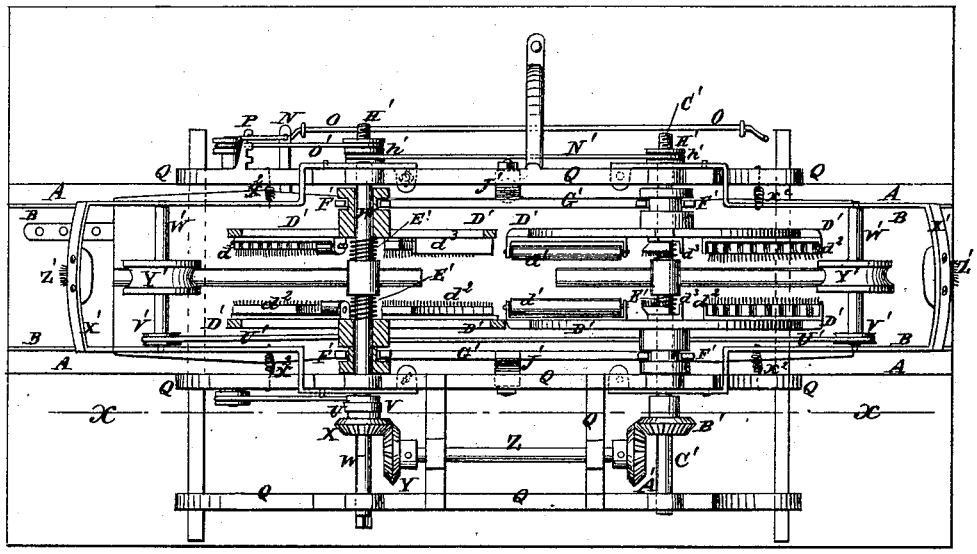
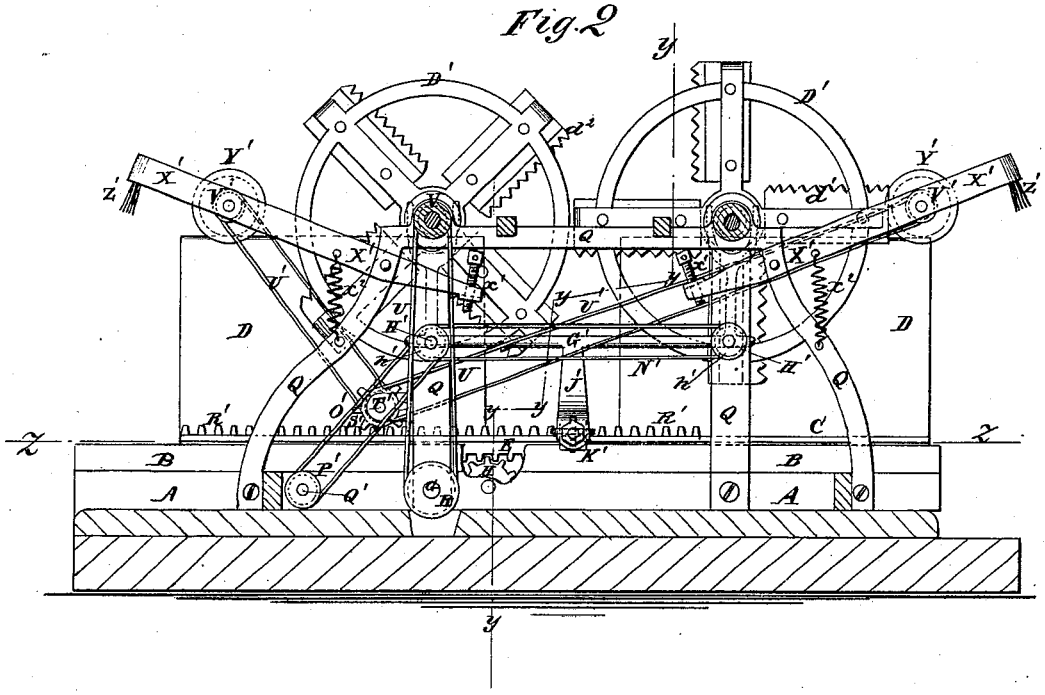


Fig. 2



WITNESSES:

A. W. Almqvist

J. H. Scarborough.

INVENTORS

C. T. Ford.

S. A. Ford.

BY Munn & Co

ATTORNEYS.

C. T. & S. A. FORD.

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Fig. 3

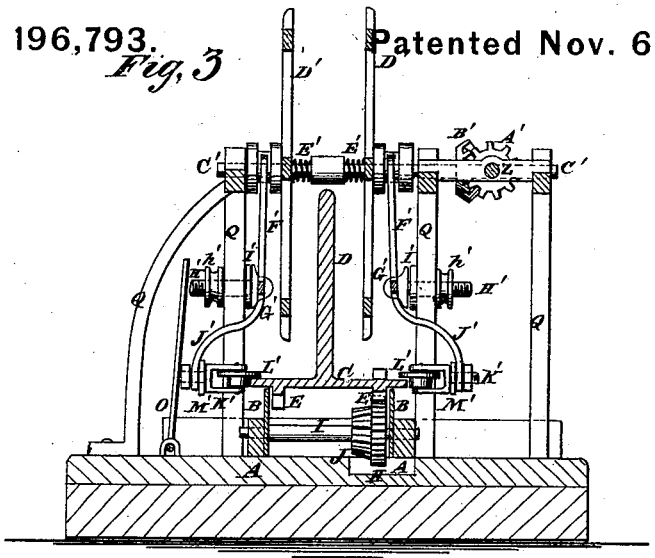


Fig. 4

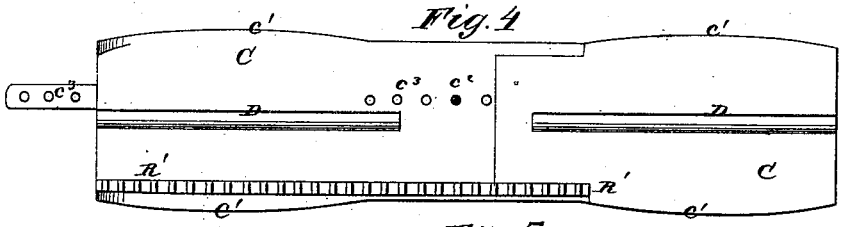


Fig. 5

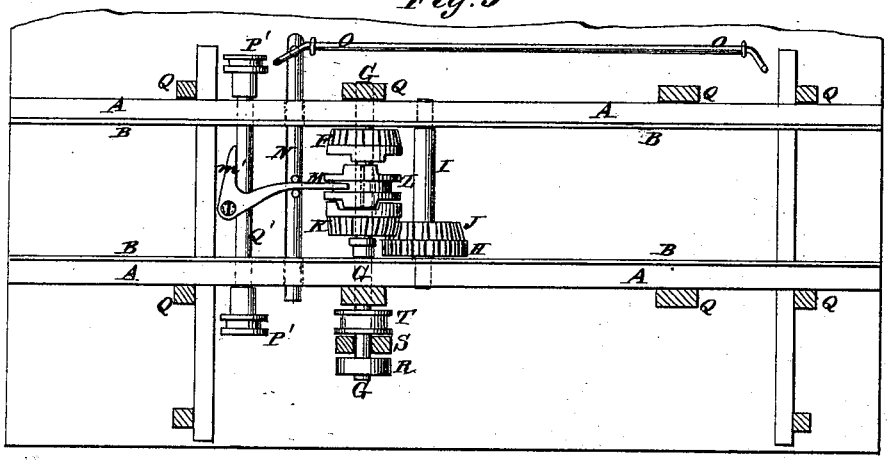
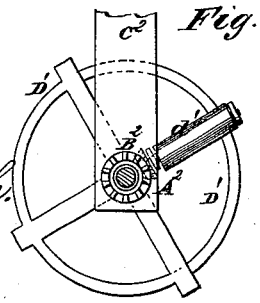


Fig. 6



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Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES T. FORD AND SAMUEL A. FORD, OF SALEM, ASSIGNORS TO CHARLES W. PERKINS, OF PEABODY, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR SCOURING AND DRESSING SHEEP AND GOAT SKINS.

Specification forming part of Letters Patent No. **196,793**, dated November 6, 1877; application filed April 16, 1877.

To all whom it may concern:

Be it known that we, CHARLES T. FORD and SAMUEL A. FORD, of Salem, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Machine for "Putting Out" Sheep-Skins, &c., of which the following is a specification:

Figure 1, Sheet 1, is a top view of our improved machine, partly in horizontal section to show the construction. Fig. 2, Sheet 1, is a vertical longitudinal section, taken through the line *x x*, Fig. 1. Fig. 3, Sheet 2, is a cross-section of the same, taken through the line *y y*, Fig. 2. Fig. 4, Sheet 2, is a detail top view of the table and its bed. Fig. 5, Sheet 2, is a horizontal section of the machine, taken through the line *z z*, Fig. 2. Fig. 6, Sheet 2, is a detail view of the device for revolving the rollers of the wheels.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for putting out or dressing sheep-skins, goat-skins, and other similar skins, which shall be so constructed as to force out the water and stretch the skins, causing them to dry in much less time than when put out by hand, and rendering it unnecessary to nail the skins to boards to stretch and dry them, thus greatly economizing time, labor, and room.

The invention consists in the combination of the sliding bed-plate, the vertical table or tables, and the four wheels or sets of radial arms, provided with rollers, brushes, and slickers, with each other and with the ways, the shafts, and the frame; in the combination of the forked upper arms, the rods, and the lower arms with the hubs of the wheels or arms, the frame, and the swells formed upon the bed-plate of the vertical tables; in the combination of the rubber or other springs with the adjustable supports for the armed rods and with the adjustable supports for the friction-rollers connected with the lower arms of said armed rods; in the combination of the springs with the shafts and the four wheels; in the combination of the bands or equivalent connecting-rods and wheels, and the pulleys and shaft with the wheel-nuts of the adjustable supports for the armed rods; in the combination of the racks, the gear-wheels, and the double clutch with the bed-plate of the vertical tables; in the combination of the clutch-lever, the sliding bar, the U-lever, and the catch-bars with the double clutch and the frame; in the combination of the toe and the adjustable stop-pins with the clutch-lever and with the bed-plates provided with the series of holes; in the combination of the grooved wheels, the brushes, and the pivoted U bars or frames with the frame of the machine and the sliding vertical tables; in the combination of the rack, the gear-wheel, and the bands with the bed-plate of the vertical tables and with the grooved wheels; and in the combination of the gear-wheels, the stationary gear-wheels, and the holding-bar with the shafts and the rollers of the wheels or arms, as hereinafter fully described.

A represents a pair of sills or bars, to the sides or tops of which are attached slides B, upon which a bed-plate, C, moves back and forth. To the bed-plate C, near one or both ends, are attached one or two tables, D, upon which the skins are spread to be dressed. To the under side of the bed-plate C, near its side edges, are attached racks E, which racks should be alike when two tables are used; but when only one table is used, one of said racks or gears may be made larger than the other, to cause the table D to move faster in one direction than in the other.

The teeth of one of the racks E mesh into the teeth of a gear-wheel, G, that runs loose upon the driving-shaft F. The teeth of the other rack E mesh into the teeth of a gear-wheel, H, attached to a shaft, I, which is pivoted to the side A. With the gear-wheel H is rigidly connected a gear-wheel, J, the teeth of which mesh into the teeth of a gear-wheel, K, running loose upon the shaft G. Upon the shaft G, between the gear-wheels F K, is placed a double clutch, L, which may be slid upon the shaft G to engage with either of said gear-wheels F K, or to stand midway between them.

Around the center of the double clutch L is formed a ring-groove to receive the forked end

of the lever M, which is pivoted to a support between the sills A, and passes between two pins attached to a bar, N. The bar N passes through and slides longitudinally in holes in the sills A, and to its end is pivoted one of the arms of the lever O, the middle part of which works in bearing attached to the floor or other support at the side of the machine. The arms of the lever O project upward at the end parts of the side of the machine, and move along catch-bars P attached to the frame Q of the said machine, and by which the said lever is held in any position into which it may be adjusted.

To the end of the driving-shaft G are attached a fast pulley, R, and a loose pulley, S, to receive the driving-belt, and to the said shaft is also attached a pulley, T, to receive a band, U, which also passes around a pulley, V, attached to the shaft W.

The shaft W revolves in bearings at one end of the top of the frame Q, and to it, or to the pulley V, is attached a bevel-gear wheel, X, the teeth of which mesh into the teeth of a bevel-gear wheel, Y, attached to the end of the shaft Z.

The shaft Z is placed at right angles with the shaft W, revolves in bearings in a side extension of the frame Q, and to its other end is attached a bevel-gear wheel, A^1, the teeth of which mesh into the teeth of a bevel-gear wheel, B^1, attached to the shaft C^1.

The shaft C^1 is placed parallel with the shaft W, and revolves in bearings at the other end of the top of said frame. The shafts W C^1 thus revolve in opposite directions and toward each other, and upon each of them, between the side bars of the frame Q, are placed two wheels or series of radial arms, D′. The arms of the wheels D′ are provided with rollers d^1, brushes d^2, and glass and rubber slickers d^3. The brushes d^2 are made with their forward edges serrated, and beveled upon the rear side. This construction diminishes the friction as the forward edges of said brushes strike the skins, and the bevels carry off the dirt taken from the skins, so that it cannot clog the machine or impede its working.

The wheels D′ of each pair are held apart or outward by spiral springs E′ placed upon the shafts W C^1, between the said wheels D′ and a collar formed upon the middle parts of the said shafts W C^1.

The outer ends of the hubs of the wheels D′ have ring-grooves formed around them to receive the forked upper ends of the arms F′, the lower ends of the pairs of which, upon each side of the machine, are rigidly attached to a horizontal rod, G′, the ends of which are pivoted to the heads of two bolts, H′. The bolts H′ have rubber blocks I′ placed upon them to give the necessary yield to the arms F′.

To the middle part of each rod G′ is rigidly attached a downwardly-projecting arm, J′, to the lower end of which is attached a screw, K′, having a small friction-wheel, L′, pivoted to its end, and having a rubber or other spring, M′, placed upon it to give it the necessary yield.

The friction-wheels L′ bear against the edge of the bed-plate C of the table D, or against a flange or rib formed upon said bed-plate, which edge, flange, or rib is made with swells c^1, in such positions as to force the arms J′ outward, when the tables D have fully entered the machine to force the wheels D′ against the sides of said tables D with the necessary force to produce the proper effect upon the skins, and to allow said wheels to be forced outward by the springs E′ when the tables are moving outward.

The nuts h' of the bolts H′ are made as pulleys to receive a band, N′, so that the two nuts h' upon each side of the machine may be turned together, and one of the nuts h' upon each side is made double to receive a second band, O′.

The two bands O′ also pass around pulleys P′ attached to the opposite ends of a short shaft, Q′, which passes through and works in bearings in the sills A, so that all four of the nuts h' may be turned to the same extent by turning one of them. The four nuts h' may be connected by gear-wheels and rods, if desired.

To the upper side of the bed-plate C of the tables D is attached a rack, R′, into the teeth of which mesh a small gear-wheel, S′, pivoted to the frame Q, and with which is rigidly connected a double pulley, T′, around which pass two bands, U′.

The bands U′ also pass around pulleys V′, attached to the short shafts W′, which are pivoted to the bars or frames x^1, near their outer parts or bends, and to the middle parts of which are attached grooved wheels y', to bear upon the upper edges of the tables D, to smooth out, stretch, and press the middle part of the skins.

To the bends of the bars or frames x^1 are attached brushes z', to operate upon the part of the skins passing over the upper edges of the tables D.

The arms of the bars x^1 are pivoted to the frame Q, and their ends extend inward, and have inwardly-projecting lugs formed upon them to receive the set-screws X′, the forward ends of which rest against the under sides of the top bars of the frame Q, to enable the wheels Y′ to be adjusted to bear with any desired force upon the upper edges of the tables D.

The outer parts of the bars x^1 are held downward, holding the wheels Y′ down upon the tables D by springs x^2, attached to the said bars and to the frame Q.

It will be observed that the direction of motion of the wheels Y′ will be changed as the direction of motion of the tables D and bed-plates C are changed. The movement of the bed-plate C and tables D may be stopped automatically at any desired point, when moving in either direction, by pins c^2 inserted in

one or another hole of the series of holes c^3, formed in the middle and end parts of said bed-plate, or in a bar attached to the end of the bed-plate, as shown in Fig. 4, which pins strike a toe, m', formed upon the clutch-lever M, and thus throw said clutch out of gear.

The rollers d^1 of the wheels or arms D′ have small gear-wheels A^2 attached to their inner ends, the teeth of which mesh into the teeth of stationary gear-wheels B^2, attached to the lower ends of the bars or beams C^2, and through which wheels and bars the shafts W C^1 pass. The upper ends of the bars or beams C^2 are attached to the ceiling of the room.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of the sliding bed-plate C, the vertical table or tables D, and the wheels or sets of radial arms D′, provided with rollers, brushes, and slickers, with each other and with the ways B, the shafts W C^1, and the frame Q, substantially as herein shown and described.

2. The combination of the forked arms F′, the rods G′, and the arms J′ with the hubs of the wheels or arms D′, the frame Q, and the swells c^1 formed upon the bed-plate C of the vertical tables D, substantially as herein shown and described.

3. The combination of the rubber or other springs I′ M′ with the adjustable supports H′ for the armed rods F′ G′ J′, and with the adjustable supports K′ for the friction-rollers L′, connected with the lower arms J′ of said armed rods F′ G′ J′, substantially as herein shown and described.

4. The combination of the table D, the springs E′ with the shafts W C′ and the wheels D′, substantially as herein shown and described.

5. The combination of the bands N′ O′, or equivalent connecting-rods and wheels, and the pulleys and shaft P′ Q′, with the wheel-nuts of the adjustable supports H′ for the armed rods F′ G′ H′, substantially as herein shown and described.

6. The combination of the racks E, the gear-wheels F H J K, and the double clutch L with the bed-plate C of the vertical tables D, substantially as herein shown and described.

7. The combination of the clutch-lever M, the sliding bar N, the lever O, and the catch-bars P with the double clutch L and the frame Q, substantially as herein shown and described.

8. The combination of the toe m' and the adjustable stop-pins c^2 with the clutch-lever M and the bed-plate C, provided with the series of holes c^3, substantially as herein shown and described.

9. The combination of the grooved wheels Y′, the brushes Z′, and the pivoted bars or frames x^1 with the frame Q and the sliding vertical tables D, substantially as herein shown and described.

10. The combination of the rack R′, the gear-wheel S′, and the bands U′ with the bed-plate C of the vertical tables D and with the grooved wheels Y′, substantially as herein shown and described.

11. The combination of the gear-wheels A^2, the stationary gear-wheels B^2, and the holding-bar C^2 with the shafts W C^1 and the rollers d^1 of the wheels or arms D′, substantially as herein shown and described.

CHARLES T. FORD.
SAMUEL AUGUSTUS FORD.

Witnesses:
WALTER H. MERRITT,
LUTHER L. ROBINSON.