2 Sheets—Sheet 1.

J. A. TALPEY.

Machine for Unhairing, Scouring and Currying Hides:

No. 199,597. **Patented Jan. 22, 1878.**

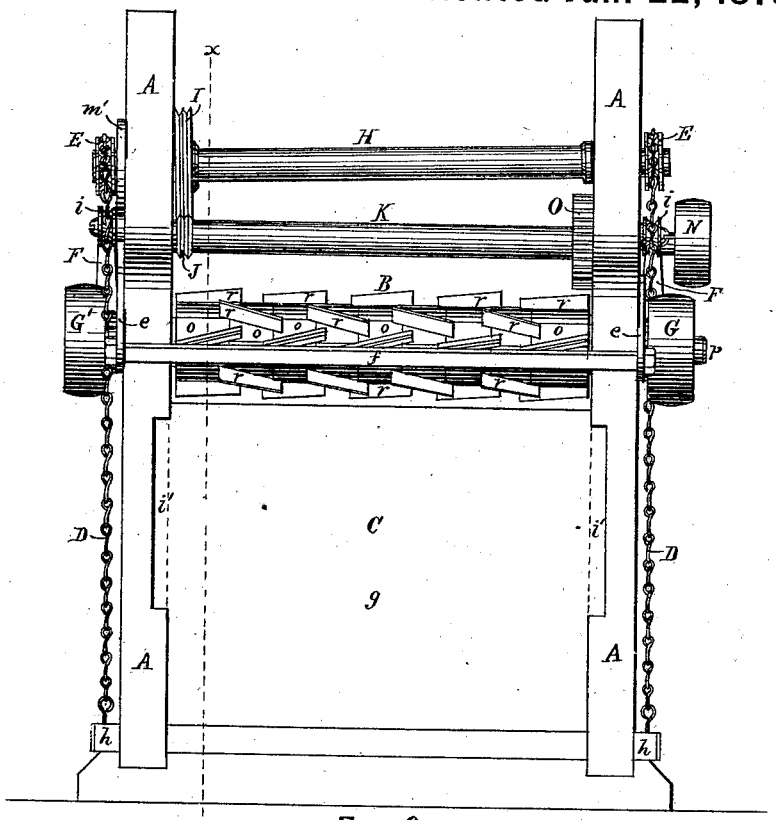

FIG. 2.

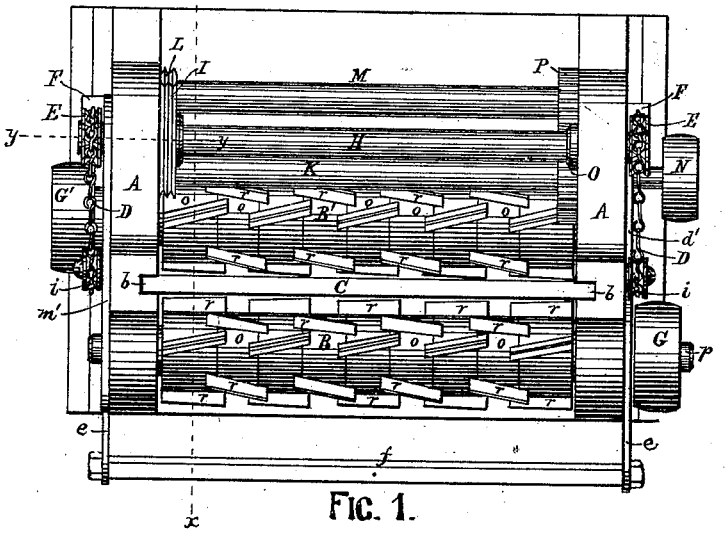

FIG. 1.

WITNESSES.

N. D. Lombard.

E. A. Hemmenway.

INVENTOR.

Joseph A. Talpey

2 Sheets—Sheet 2.

J. A. TALPEY.

Machine for Unhairing, Scouring and Currying Hides.

No. 199,597. Patented Jan. 22, 1878.

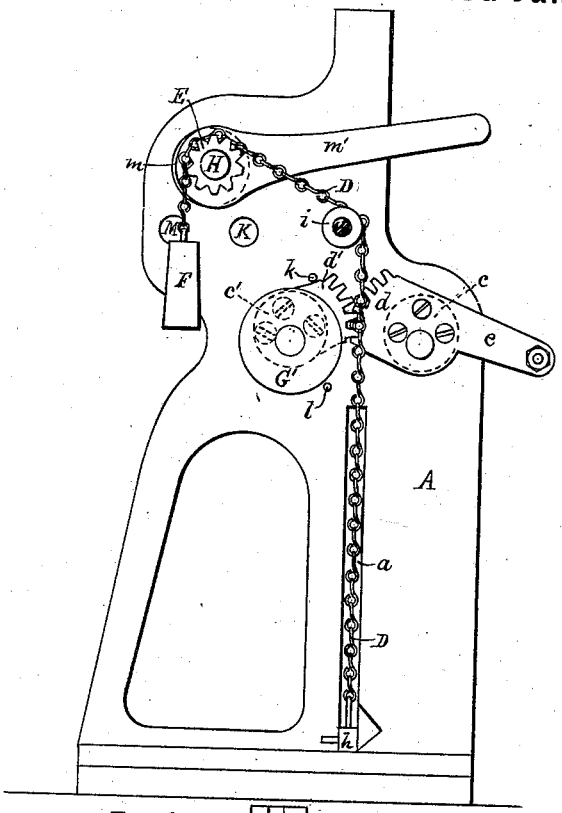

FIG. 3.

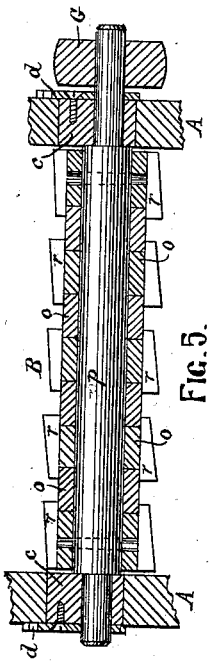

FIG. 5.

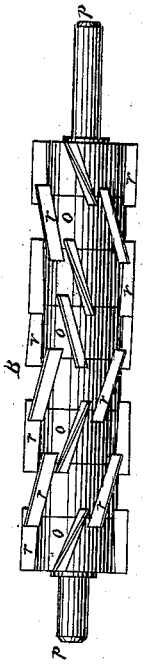

FIG. 7.

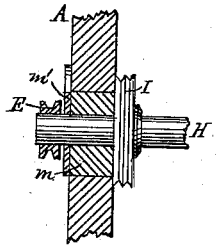

FIG. 6.

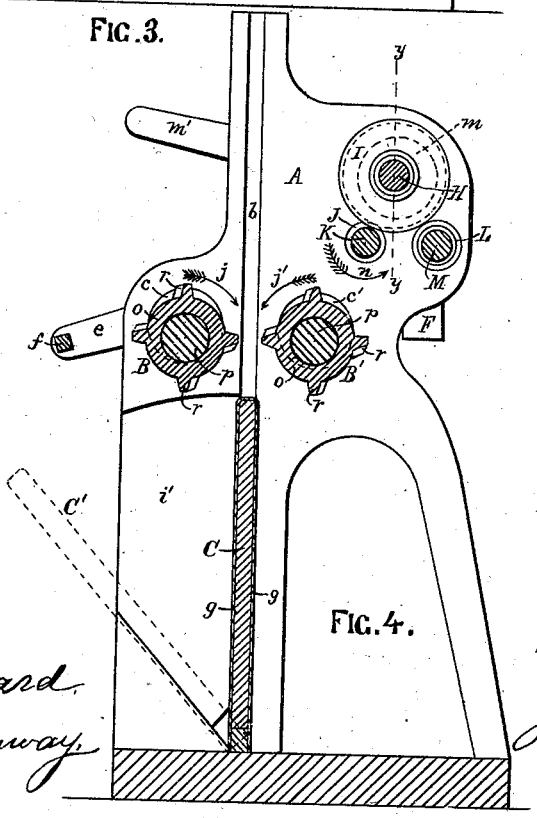

FIG. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOSEPH A. TALPEY, OF SOMERVILLE, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR UNHAIRING, SCOURING, AND CURRYING HIDES.

Specification forming part of Letters Patent No. **199,597**, dated January 22, 1878; application filed November 6, 1877.

To all whom it may concern:

Be it known that I, JOSEPH A. TALPEY, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Unhairing, Scouring, and Currying Hides and Skins, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the construction and arrangement of the working-cylinders, and the manner of presenting the hide or skin to the action thereof, and certain other mechanical devices which are necessary to the proper operation of the working-cylinders and the feeding apparatus; and it consists, first, in the use, for the purpose of removing the hair from hides and skins, and for scouring, currying, or working out the same, of a revolving cylinder, having formed upon its periphery a series of short oblique ribs or blades, arranged in rows, extending around the circumference of said cylinder, and at different angles thereon, the ends of the ribs or blades in one row extending longitudinally of said cylinder beyond the ends of the ribs in the next contiguous row, upon either side thereof, so that any single rib or blade shall be sure to work the hide or skin beyond the line to which the rib or blade at the right or left of it, and immediately preceding it in the revolution of the cylinder, has worked.

My invention further consists in making up the working-cylinder from a series of ring-sections, each provided with one or more projecting ribs or blades, arranged obliquely upon its periphery, and extending a short distance beyond one or both of the radial faces of said ring, said ring-sections being fitted to and firmly secured upon a central shaft or arbor, with the ribs or blades of one section lapping over onto the barrel of the next section, and the ribs or blades on one half of said sections being inclined in one direction, and those upon the other half of said sections being inclined in the opposite direction.

My invention further consists in the use of two working-cylinders, arranged parallel to each other and a short distance apart, and adapted to revolve in unison in opposite directions, in combination with a plate or carrier-plate, adapted to receive the hide or skin folded over its edge, and to be fed, with the hide or skin thereon, between said working-cylinders in such a manner that both of said cylinders may act upon the hide or skin upon opposite sides of said carrier-plate at the same time, thereby reducing, by one-half, the length of feed to be given to the hide or skin to remove the hair therefrom or to perform any of the other operations thereon.

My invention further consists in so hanging and operating said carrier-plate that when it is withdrawn from between the working-cylinders it may be swung into an inclined position, convenient for removing a hide or skin therefrom and placing another thereon, as will be described.

My invention further consists in mounting the working-cylinders in eccentric bearings or boxes geared together, in combination with a bar and levers, connecting the gearing upon opposite ends of the machine, so that by a simple movement of said bar said working-cylinders may be moved toward or from each other, so that said cylinders may at any time be simultaneously placed in working contact with the hide or skin, or removed therefrom, at the will of the operator.

My invention further consists in the use, in combination with two working-cylinders arranged as set forth, of a carrier-plate made of metal, wood, or other comparatively non-elastic material, and covered with a thin sheet of rubber or other elastic material, firmly secured thereto, said plate being adapted to receive the hide or skin folded over its edge and hanging or resting in about equal proportions upon opposite sides thereof, and to be fed between said working-cylinders, while both of said cylinders revolve in contact with the hide or skin upon opposite sides of said carrier-plate, the covering of rubber serving to compensate for the variations in the thickness of the hide or skin.

My invention further consists in a peculiar arrangement of mechanism for operating the carrier-plate, whereby its motion may be instantly reversed, which will be more readily understood by referring to the description of the drawings, as follows:

Figure 1 of the drawings is a plan of my

improved machine. Fig. 2 is a front elevation of the same; Fig. 3, an end elevation. Fig. 4 is a vertical transverse section on line *x x* on Figs. 1 and 2. Fig. 5 is a longitudinal section through one of the working-cylinders. Fig. 6 is a section through the eccentric bearing of the feed-shaft on line *y y* on Figs. 1 and 4.

A A are the frames of the machine, each provided with a slot, *a*, and upon its inner face with the groove *b*, extending from the top of the slot *a* to the top of the frame, as shown in Figs. 1 and 4. B and B′ are two working-cylinders, mounted eccentrically in cylindrical boxes *c c′*, fitted to and adapted to be oscillated in corresponding circular housings in the frames A A, said circular or eccentric boxes being each provided with a toothed segment, *d* or *d′*, formed upon or secured to its outer end, the segments *d′* upon the boxes *c′*, in which the cylinder B′ is hung, engaging with the teeth of the segments *d d*, which are provided with the levers or arms *e*, the outer ends of which are connected together by the rod *f* in such a manner that all of the eccentric boxes *c* and *c′* may be oscillated at one and the same time by raising or depressing the rod *f*, the oscillation of said boxes having the effect of moving said working-cylinders simultaneously toward or from each other, for the purpose of bringing said cylinders into working contact with the hide or skin folded over the carrier-plate C, or removing them from such contact.

The carrier-plate C is a thin plate, made of metal or wood covered with a thin sheet of rubber, *g*, or other suitable elastic material, and provided at its lower edge with the two ears *h h*, which project through the slots *a a*, and have connected thereto one end each of the chains D D, which extend upward over the guide-pulleys or sheaves *i i*, and the sprocket or chain wheels E E, and have attached to their other ends the counter-weights F F, as shown in Fig. 3.

The carrier-plate C, when in its lowest position, may be swung into the inclined position indicated in dotted lines at C′ in Fig. 4, to bring its upper edge into convenient position for the removal therefrom of the worked hide or skin, and placing thereon another hide or skin, and when swung again into a perpendicular position, or into line with the grooves *b b*, it may be moved edgewise between the working-cylinders B and B′, being guided in its movement by the grooves *b b*, into which its two ends fit, a portion of the thickness of each of the frames A being cut away, as shown at *i′ i′* in Figs. 2 and 4, to permit the carrier-plate C to be vibrated into the inclined position before described.

The working-cylinders B and B′ are each provided at one end with a pulley, G or G′, by means of which and suitable belts (not shown) leading therefrom to a driving-shaft, (also not shown,) rotary motion may be imparted thereto in opposite directions, as indicated by the arrows *j j′*.

The oscillations of the eccentrics *c* and *c′* are limited by the stop-pins *k* and *l*, set in the side of the frame A, as shown in Fig. 3.

The sprocket-wheels E E are firmly secured to the opposite ends of the shaft H, outside of the frames A A, and are adapted to engage with the links of the chains D D, to raise the carrier-plate C.

The shaft H is mounted at one end in a fixed bearing in one of the frames A, and at the other end in an eccentric, *m*, fitted to and adapted to oscillate in a cylindrical bearing in the opposite frame A, and has secured thereto, inside of the frame A, the grooved frictional wheel I, which may, by the oscillations of the eccentric *m*, be made to engage alternately with the driving frictional pinion J, formed upon or secured to the driving-shaft K, or a corresponding frictional pinion, L, formed upon or secured to the secondary shaft M, for the purpose of reversing the motion of the chain-wheels E E, according as it is desired to advance the carrier-blade between the working-cylinders or to withdraw the same.

The shaft K has secured to its outer end the pulley N, by means of which and a suitable belt (not shown) it may be revolved in the direction indicated by the arrow *n*, and has secured thereon the spur-gear wheel O, which engages with a smaller spur-gear wheel, P, secured to the shaft M, all the parts being so arranged that when the wheel I is made to engage with the pinion J, by depressing the movable end of the lever *m′*, formed upon or secured to the eccentric *m*, the carrier-plate C will be raised by the action of the chain-wheels E E upon the chains D D, and when the wheel I is made to engage with the pinion L, which may be done by raising the movable end of the lever *m′*, the motion of the chain-wheels E E will be reversed, and the carrier-plate C will descend by its own weight, but at a greater rate of speed than that at which it moved when advancing between the working-cylinders.

The working-cylinders B B′ are each made up of a series of cylindrical rings, *o*, firmly secured upon the central shaft *p*, each ring having formed upon or secured to its periphery one or more projecting ribs or blades, *r*, arranged thereon obliquely to the axis of said ring, each of said ribs or blades projecting at one or both ends a short distance beyond the radial face or end of said ring, so that when said rings are placed side by side upon the shaft *p* the blade of one ring shall overlap the outer surface of the next ring, so as to insure the working of every part of the hide or skin, the outer edges of all of the blades being turned off true and concentric with the axis of the shaft *p*.

The object of making the working-cylinders in this manner is to reduce the cost of manufacturing said cylinders, and also to render

the cylinders capable of being modified to adapt them to different kinds of work without involving the expense of entire new cylinders.

With two patterns, each of a length equal to the length of one of the rings *o*, and having the blades *r* set thereon obliquely to its axis, but inclined in an opposite direction to the blades upon the other pattern, a cylinder of any desired length may be made by using a greater or less number of the rings, and the oblique blades may be arranged, as shown in Figs. 1 and 2, with the ribs or blades upon each alternate ring inclined in one direction, and those upon the intermediate rings inclined in the opposite direction; or the rings may be so arranged on the shaft that all of the ribs or blades on one side of the center of the length of the cylinder shall be inclined in one direction, and those upon the other side of the center in the opposite direction, as shown in Fig. 7.

Instead of the chains D D and the sprocket-wheels E E for operating the carrier-plate C, a rack and pinion upon each end of the machine may be used by locating the shaft H nearer to the front side of the machine, and securing upon its ends spur-gear pinions in place of the sprocket-wheels E, and connecting the lower ends of the racks, with which said pinions engage, to the ears *h h* of the plate C.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a machine for unhairing, scouring, or currying hides or skins, a cylinder having formed upon or secured to its periphery a series of short oblique ribs or blades, arranged in rows around the cylinder and at opposite angles to the axis of said cylinder, with the ends of the blades in one circumferential row extending longitudinally of the cylinder beyond the contiguous ends of the ribs in the next circumferential row, substantially as and for the purposes described.

2. In a machine for unhairing, scouring, or working out hides or skins, a working-cylinder, made up of a series of ring-sections, each provided with one or more projecting ribs or blades, arranged obliquely upon its periphery, and extending at one or both ends beyond the radial end face of said ring, substantially as and for the purposes described.

3. The combination, in a machine for working hides or skins, of two working-cylinders, arranged parallel with each other, and adapted to revolve in unison in opposite directions, and each provided with one or more oblique working-blades, adapted to scrape the surface of the hide or skin, and a carrier-plate, adapted to receive the hide or skin folded by its middle over the edge thereof, and to be moved edgewise alternately in opposite directions between said cylinders, substantially as and for the purposes described.

4. The carrier-plate C, adapted to be reciprocated between the working-cylinders, and to be swung into an oblique position, to facilitate the application and removal of the hides or skins, substantially as described.

5. The reciprocating carrier-plate C, made of metal or other non-elastic substance, and covered with rubber or other elastic material, in combination with the two working-cylinders B and B′, arranged parallel to each other, and adapted to revolve in unison in opposite directions, and in contact with a hide or skin folded over the edge of the carrier-plate, substantially as and for the purposes described.

6. The combination of the working-cylinders B and B′, eccentric boxes *c* and *c′*, toothed segments *d* and *d′*, and rod or bar *f*, all arranged and adapted to operate substantially as and for the purposes described.

7. The combination of the carrier-plate C, chains D D, sprocket-wheels E E, shaft H, and the counter-weights F F, all arranged and adapted to operate substantially as and for the purposes described.

8. The shaft H, having mounted thereon the chain-wheels E E and the grooved frictional wheel I, and mounted and adapted to revolve in a fixed bearing at one end, and in an eccentric box, *m*, provided with a lever, *m′*, at the the other end, in combination with the shafts K and M, adapted to revolve in opposite directions, and the frictional pinions J and L, adapted to be alternately engaged with the wheel I, substantially as set forth and described.

Executed at Boston, Massachusetts, this 3d day of November, A. D. 1877.

JOSEPH A. TALPEY.

Witnesses:
N. C. LOMBARD,
E. A. HEMMENWAY.