

Marshall & Thursby,

Cutting Leather.

N^o 3743.

Patented Sep. 14, 1844.

Fig. 1.

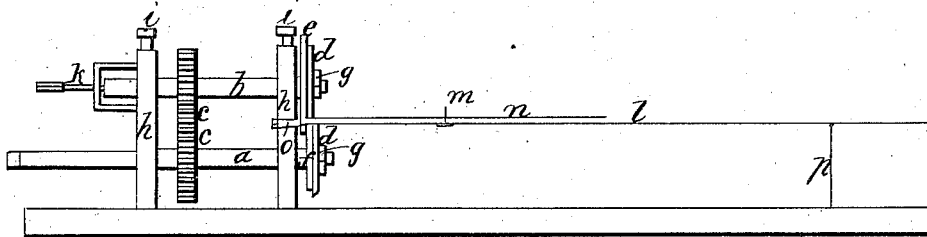


Fig 2.

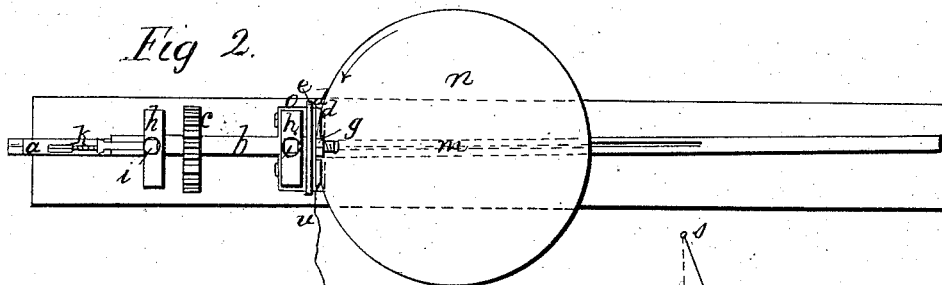
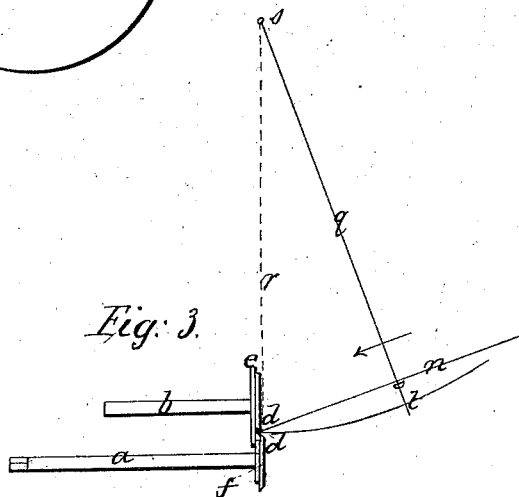


Fig. 3.



UNITED STATES PATENT OFFICE.

WILLIAM MARSHALL AND J. B. THURSBY, OF BROOKLYN, NEW YORK.

MACHINE FOR CUTTING RAWHIDES.

Specification of Letters Patent No. 3,743, dated September 14, 1844.

To all whom it may concern:

Be it known that we, WILLIAM MARSHALL and JOHN B. THURSBY, of the city of Brooklyn, county of Kings and State of New York, have invented a new Method of Cutting Rawhide by Machinery; and we hereby declare that the following is a full and exact description thereof.

The nature of our invention consists in the application of circular cutters or shears in combination with guards, and a traversing pin, made in such manner, as to determine the width to be cut, and maintain a circular and lateral movement of the hide in its way toward the shears. The shears by a circular movement being brought to act upon, and cut a strip from, the outside edge of the hide, of the requisite size, for making rope, or for other use.

To enable others skilled in the art to make and use our invention, we will proceed to a description of the machine.

The same letters of reference are used to describe the same parts, wherever they are employed.

Figure 1 represents a side view of the machine. *a*, the driving shaft, to which power is applied to move the machine. *b*, the upper shaft, connected in its movement to the lower shaft, *a*, by gear (*c, c*). *d, d*, are two circular cutters placed on the ends of the two shafts, *a, b*, together with the two guards, *e*, and *f*. The cutters, *d, d*, are two flat circular pieces of steel, brought to a sharp edge on one side, and so placed, as to face, and lap a short distance upon, each other, and thereby in their revolution act upon and cut the hide (which is placed between them) into strips of any determined width. The guard, *e*, placed upon the upper shaft, *b*, and the guard, *f*, placed upon the lower shaft, *a*, immediately behind, and in close contact with, the two cutters, *d, d*, being firmly secured by strong nuts (*g, g*), upon the screwed ends of the shaft, *a* and *b*. The guards, *e* and *f*, are made flat, of a circular form and of nearly the same thickness of the cutters, but the guards, *e* and *f*, are made square upon the edge and not intended to cut the hide. They also differ in their respective diameters. The guard, *e*, upon the upper shaft, *b*, is much larger in diameter than the cutter *d*, immediately before it, which has been intended to keep the hide (in its rotary and lateral movement upon the traversing pin) from entering too

far between the cutters, *d, d*. The space between the guard, *e*, and the cutting edge, of the cutter, *d*, determines the width of the strip to be cut by the shears from the hide. This distance may be increased or diminished, either by employing cutters, and guards, of greater or less dimension as it respects their thickness. Or by the simple application of set, or brace, screws, made to enter and go through, either the face or back side of the cutters, *d, d*, and hold the guards, *e, f*, at a greater or less distance from the cutters, *d, d*. The lower guard, *f*, on the driving shaft, *a*, is made much smaller in diameter than that of *e*, and less than the size of the cutter, *d*, before which it stands. This difference in the size of the guards is necessary not only to prevent the shears from taking too deep a hold of the hide, but to form a free passage for the strip of hide cut by the shears, *d, d*. *h*, frame, supporting the movements of the machine; *i, i*, screws for regulating the stroke of the shears, and for keeping the upper cutter, *d*, down. *k*, brace screw, employed to carry the upper cutter, *d*, forward and bring its cutting edge in firm contact with that of the lower cutter, *d*. *l*, ways, upon which the traversing pin, *m*, is made to move and carry the hide, *n*, toward the shears. The ways are formed by making a small narrow aquiline slit in a flat piece of metal of sufficient strength to bear the weight of the traversing pin, *m*, with the hide, *n*, in its movement toward the shears. The ways, *l*, are hung to a strap of metal seen at, *o*, fastened by small bolts to the frame, *h*, in such manner as to admit of the ready adjustment of this end of the ways and to bring the traversing pin, *m*, with the hide, *n*, down upon a proper line, toward the shears. The upper end of the ways, *l*, are supported by a small prop or brace, *p*, at a convenient elevation to favor the movement of the hide on the ways. The traversing pin, *m*, is made of a small round piece of metal set in a small oblong square block of soft metal, grooved on each side lengthwise, in such manner as to fit to, and be brought to bear, and move upon, the ways, *l*, and easily slide with the hide, *n*, up to the shears, or cutters, *d, d*.

Fig. 2, represents a vertical view of the same machine with the hide, *n*, upon the traversing pin, *m*, as it appears when the shears are ready to be brought into operation. On examining this diagram, it will be

seen, that the ways, *l*, are so placed as to make the traversing pin, *m*, move with the hide, *n*, on an angle of some four degrees from a direct line, with the shafting of the shears. This position of the ways, *l*, has been found necessary in order to make the cutters, *d*, *d*, take hold of and run properly upon the hide, *n*, the traversing pin, *m*, being made to stand on the head of the ways, *l*, to the right of a direct line, with the center of the shears, and at the foot of the ways, near the cutters, *d*, *d*, to the left of a direct line, from the center of the shears, as indicated in this diagram by the dotted lines, along the course of the ways, *l*, to the shears.

Fig. 3, represents the method of effecting the movement of the hide, *n*, by its own gravity, and without the friction of its weight resting exclusively on the ways, *l*, by which method the hide, *n*, will naturally fall toward the shears. *s*, point vertical to the cutting edge of the shears, (which are placed below on the line, *r*,) and to which a small cord, chain, or rod, *q*, is extended, and made fast, to suspend the hide, *n*, and carry it laterally toward the shears, on the arc of a circle, *t*, as indicated by the dart. (←) The hide being held by a nut screwed upon the end of the rod, *q*, or in case a cord or chain should be employed to a swivel-socket, on the end of the cord, or chain, by which means the largest, as well as most unevenly stretched and heavy hides may be carried to the shears and cut into strings with the least possible degree of friction, or difficulty in its movement. The ways, *l*, in this method of suspending the hide, may still be employed as a guide to the lower end of the rod, *q*, in its lateral movement toward the shears, the entire weight of the hide, *n*, being sustained by the rod, *q*.

Having thus described the construction and connection of the several parts of this combination of machinery, we will now proceed to describe the mode of its operation in cutting the raw-hide. The raw-hide being first prepared in circular sheets, dried, and

laying as nearly as possible on a horizontal plane, are perforated in the center, and placed on the traversing pin, *m*, after which, one edge of the hide is brought between the cutters, *d*, *d*, as represented in diagrams under Figs. 1, and 2, after which power being applied to the main shaft, *a*, the circular sheet of raw hide, *n*, is by the strong hold and action, which the cutters, *d*, *d*, have upon the edge of the sheet of raw hide, *n*, carried around upon its axis (the traversing pin, *m*,) and while the cutters, *d*, *d*, continue to operate. The sheet of raw-hide, *n*, is thereby made to revolve, and consequently a continuous strip, *u*, is cut from the outer edge of the circle of raw-hide, corresponding in width with the space, between the cutting edge of the upper cutter, *d*, and the face side of the guard, *e*, and this process continues to go on, while the shears revolve, until the diameter of the circular sheet of raw-hide, *n*, is diminished so far, that its center, with the traversing pin, *m*, is brought by a lateral movement on the ways, *l*, up to the shears, where the traversing pin, *m*, stops, with its small button like remnant of the circle of raw hide against the lower cutter *d*, and the shears separate the connection of the string, *u*, from the diminutive piece of raw-hide left.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The application of the circular shears, in combination with the guards, to regulate the hold which the cutters take upon the raw hide, as herein described.

2. The application of the traversing pin, as an axis for the circular sheet of raw hide to revolve upon, and to carry the hide by a lateral movement toward the shears, in combination with the shears and guards, as herein described.

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JOHN B. THURSBY.

Witnesses:

HENRY A. MOORE,
JNO. CORTELYOU,
JOHN VANDERBILT.