J. K. ALWOOD.

Sheep-Shearing Machine.

No. 79,179. Patented June 23, 1868.

Fig. 1.

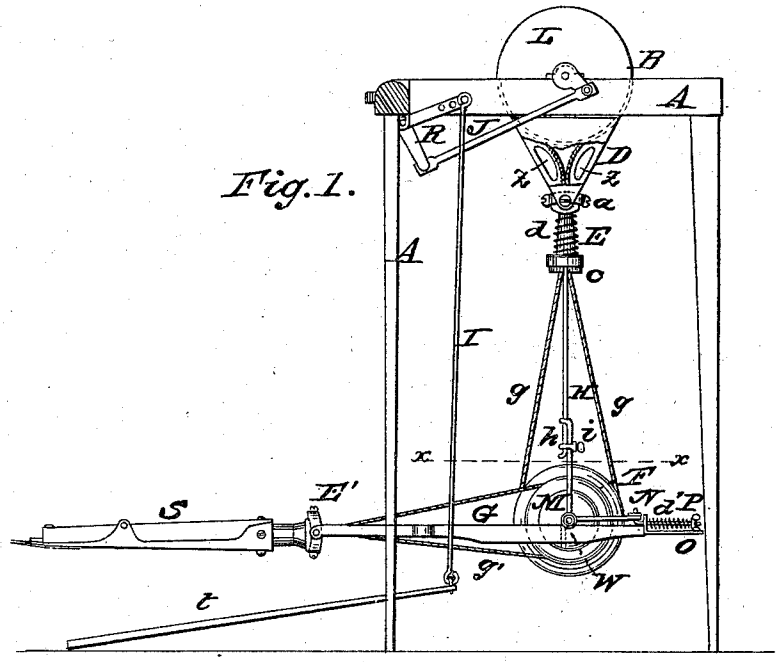


Fig. 2.

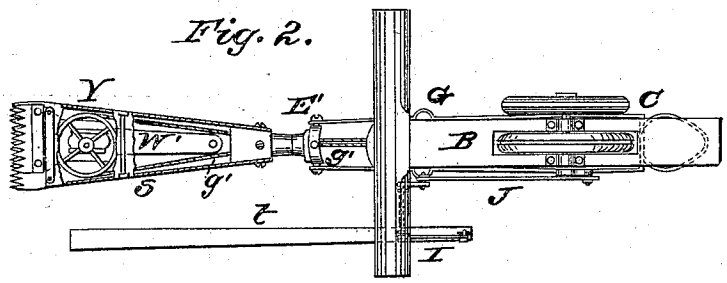
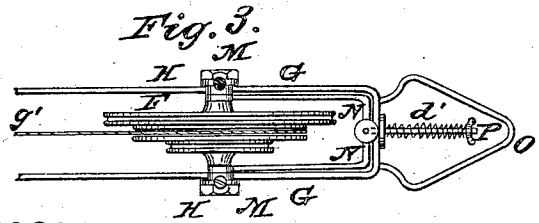


Fig. 3.



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J. K. ALWOOD, OF DELTA, OHIO.

Letters Patent No. 79,179, *dated June* 23, 1868.

IMPROVEMENT IN MACHINE FOR SHEARING SHEEP.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. K. ALWOOD, of the town of Delta, in the county of Fulton, and State of Ohio, have invented a new and improved Device for Shearing Sheep; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification, and in which—

Figure 1 is a side elevation, being broken away to show the construction.

Figure 2 is a top plan view, and

Figure 3 is a horizontal section through the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The whole machine consists of parts, and may be described as follows:

The frame is composed of two beams, framed one into the other, in the form of the letter T, supported by three legs under the extremities, marked A A A in the drawings.

The drive-wheel B revolves in a longitudinal slot formed in the main beam. A balance-wheel, C, is secured to one extremity of the same shaft.

The pitman, J, couples the crank L, which is on the end of the shaft opposite to the balance-wheel, with an arm, K, of the rock-shaft, which shaft is hinged, by means of two staples, with the cross-beam of the frame against its under side.

The rock-shaft, as just described is connected, by the treadle-rod I, with the treadle *t*, which is hinged to the pedestal of the fleecing-cradle, and where the driving-power is applied. A pair of swivel-holders, D, are fastened against the under side of the main beam, and are provided upon their inner sides with two bone or glass guides, Z Z, placed in an inclined position, as shown in fig. 1. Between these guides the operating-cord *q* passes from the wheels B F.

A universal-swivel-thimble joint, E, is suspended between the lower ends of the swivel-holders, just described, and consists of a joint ring, *a*, in which is hinged, by two screws on opposite sides, a tube, which is encircled in its middle with a spiral tension-spring, *d*, a slide-swivel encircling the tube or thimble-joint just described, near its lower end, and being itself partially encircled by said spring. A bar, *n*, which supports the slide-swivel *e*, encircles the lower muzzle of the tube or thimble described.

A pair of tension-rods, H, are pivoted at their upper extremities, in the slide-swivel C, and consist each of two pieces, each of which is so arranged, by means of the slide-loop *h*, and the loop or thumb-screw *i*, as to be shortened or lengthened at pleasure, to regulate the tension of the cord which passes between them, the pieces sliding by one another.

A pair of cylindrical boxes, M M, are encircled by the rings or eyes at the lower extremities of the tension-rods, which rods support said boxes, and allow them a rocking motion when in use, and when the tension-bars are swung forth and back.

F is a driving or pendant-wheel, and may be oscillated in any direction, being hinged by the universal-swivel joint above described, and turns on its axis, whose journals play in the cylindrical boxes just described.

N N are a pair of tension-hooks, whose eyes encircle the shaft or pulley F, or the boxes M M, at their inner ends, and by which said boxes are connected with the tension-screw in the rear of the drive-wheel, and with the tension-bars beneath. From these eyes extend two hooks, W W, which support the tension-bars.

The hooks N N, at their other extremity, are bent to make a right angle laterally, and are furnished each with an eye. These eyes lap over one another, and through them is inserted the bent end of the tension-screw P.

This tension-screw passes through a post on the rear end of the bars G G, and is encircled by a spiral spring, *d'*, which slides it rearward, and, by its connection with the tension-hooks, keeps up the tension of the cord that connects the drive and shear-wheels.

G G are a pair of tension-bars, which consist of a piece of iron, so bent as to form two bars, connected

at the rear end, lying parallel, between which the drive-wheel F revolves, and on which its boxes appear to rest and slide back and forth, as regulated by the tension-screw; but said bars G G really rest in the minute hook W, at the lower extremities of the short arms of the tension-hooks.

The office of said bars is to steady the drive-wheel F and its fixtures, so that the tensity of its cord may be kept up, and it may be drawn forward or thrust backward or turned laterally, at pleasure, being coupled with the shear-case S by the universal-swivel joint E′. With said bars at the rear is connected a feeder, O, which prevents the tension-screw from striking against the rear leg of the frame in its oscillations.

A universal-swivel-thimble joint, E′, couples the tension-bars with the shear-case S, and which differs from the pendant universal-swivel-thimble joint in this particular, that its swivel *e* does not slide, as does the swivel C, in the joint before described. Its offices are precisely the same in other respects, although its thimble or tube is externally different, one end being made prismatic, to fit the rear interior of the shear-case S.

The shear-case S is composed of three pieces, so shaped and fitted as to compose a whole, somewhat prismatic in shape, exteriorly, but hollow. Its rear end is square, while its opposite or front end, by a gradual convergence of two opposite sides, and divergence of the other two from the rear to the front end, make the proportion of the height of the sides at the front end to the top and bottom, as one to five.

Its cover is composed of two pieces, so hinged near the front end that they open vertically, and if both opened at once they meet. They may each be opened one hundred and eighty degrees. The main body of the case is of one whole piece, with its sides turned upwards. In it the shear-wheel Y revolves, and the shear-stem vibrates laterally.

A shear-wheel is placed in the front or broad end of the shear-case, whose periphery is grooved, so as to be whirled by a cord, *g′*, which connects it with the drive-wheel, and whose shaft has an eccentric protrusion on one side about its middle, so that when it whirls in the longitudinal slot in the shear-stem W′, it gives it a vibrating motion laterally.

The shear-stem W′ is hinged in the rear end of the shear-case, and vibrated laterally by eccentric-shaft of the shear-wheel Y, playing in the longitudinal slot near the front end. Its front end is widened and perforated, to receive, by screws, the shear-plate or cutting-device, which operates after the manner of a harvester, and is old and need not be described.

The machine is cheaply and easily constructed, simple in its operations, and not easily injured, placing it within the reach and management of all classes, and recommending itself to the favor of all. The farmer or shepherd may trust it in the hands of the most obtuse hireling without risk.

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

1. The combination and arrangement of the pendant-wheel F with the tension-rods H, bars G, hook-bars N, spring *d*, screw *p*, and cylindrical boxes, substantially as described for the purpose specified.

2. The slotted vibrating-arm W in the shear-case S, when operated by the cord *g g′* and wheel Y, as herein described for the purpose specified.

3. The universal-swivel joint E, constructed as described, of the hinged joint-ring *a*, spiral spring *d*, encircling the central tube, the bar *n*, and slide-swivel *e*, as herein set forth.

4. The construction of the swivel-holders or guides D, as herein described, for the purpose specified.

5. The combination of the universal thimble-joints E, tension-rods H, bars G, pulleys B F, and shear-case S, substantially as described, for the purpose specified.

6. The portable sheep-shearing device, operated by means of the treadle *t*, pivoted to the rod I of the driving-mechanism, as herein described, for the purpose specified.

J. K. ALWOOD.

Witnesses:

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W. O. DINIUS.