J. W. GUERNSEY.

Machines for Clipping Animals.

No. 149,036. Patented March 31, 1874.

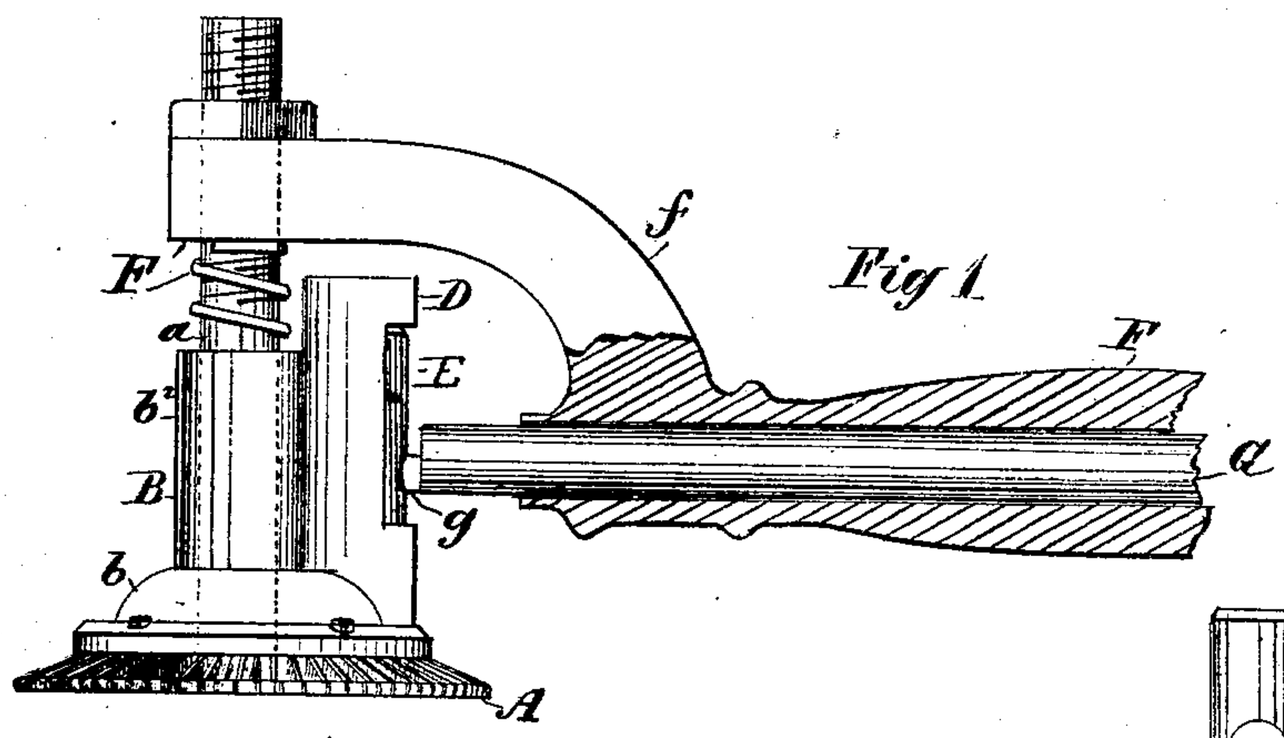


Fig 1

Fig 2

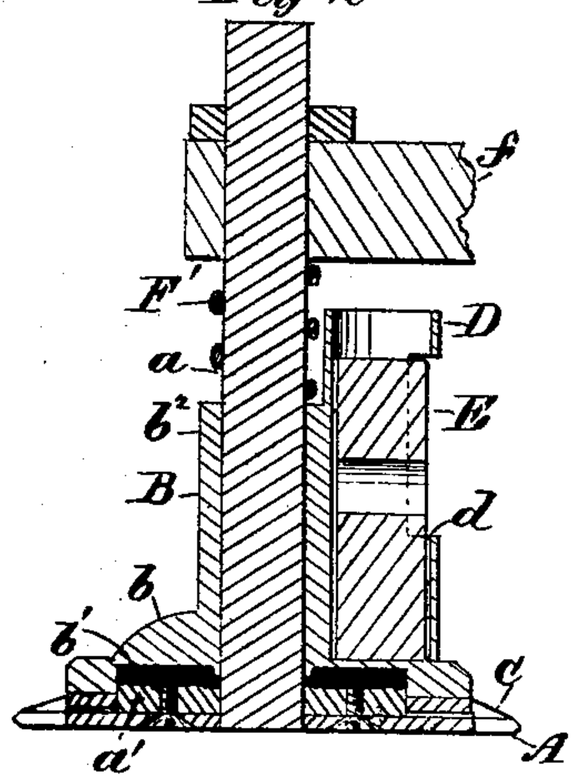


Fig 3.

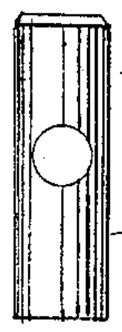


Fig 4.

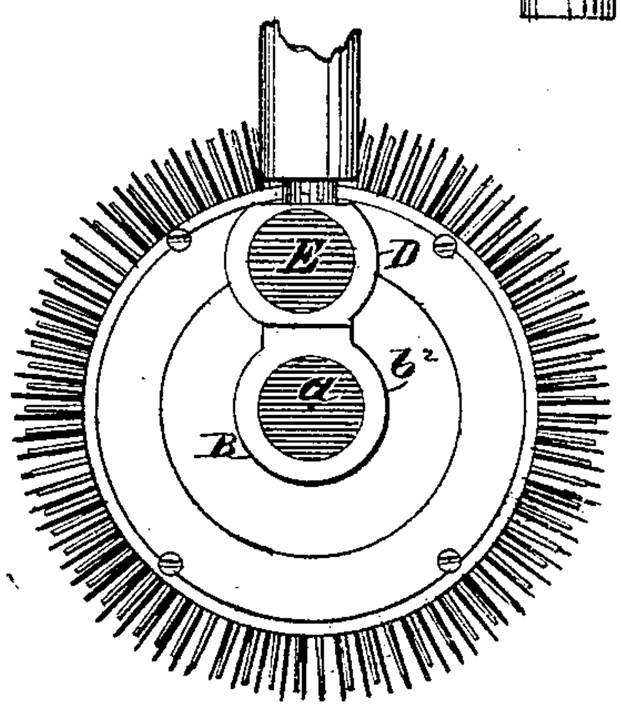


Fig 5

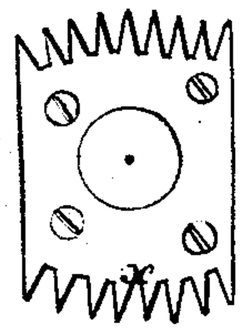
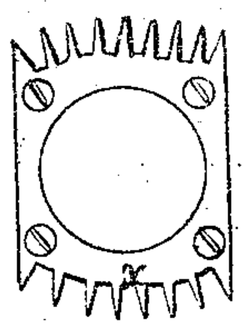


Fig 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES W. GUERNSEY, OF WINCHESTER, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CLIPPING ANIMALS.

Specification forming part of Letters Patent No. **149,036**, dated March 31, 1874; application filed March 24, 1873.

To all whom it may concern:

Be it known that I, JAMES WATROUS GUERNSEY, of Winchester, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Machine for Clipping Animals; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention consists, mainly, in the combination, with a central steady-pin and a socket-drum of peculiar construction, carrying the upper and lower cutters, of a sliding and oscillating pin, and the crank-pin communicating motion to the moving cutter. It further consists, also, in the combination and arrangement of the various parts, whereby an improved clipper is obtained, as will be fully described hereinafter.

In the drawing, Figure 1 represents a side elevation of my improvements as combined in a machine. Fig. 2 is a partial sectional elevation of the same. Fig. 3 is a detached view of the pin E. Fig. 4 is a plan view, and Figs. 5 and 6 plan views, of cutters adapted for shearing sheep.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents the comb or lower cutter, consisting of a steel disk provided with radial teeth, and which has rigidly attached, at right angles thereto, a central steady-pin, *a*, having its upper end threaded, as is shown. This steady-pin is secured to the comb by means of disk *a'*, which may be riveted or screwed thereto; or, if desired, the parts may be forged of a single piece. B represents a casting, which may be termed a drum or socket-disk, consisting of the enlarged horizontal part *b*, with recess b^1, and vertical tubular projection b^2, the interior diameter of which latter corresponds accurately with the diameter of the steady-pin. C represents the upper cutter, formed of a steel ring having radial teeth, as shown, the ring being rigidly attached to the lower surface of drum B. D represents a side socket, forming a part of the casting B, which has an opening, *d*, upon one side, as shown. E represents a loose pin adapted to rest in the socket D, and turn therein, or move freely in a vertical direction. F represents the handle, the main portion of which is tubular, as shown. It has at one end, however, an overhanging arm, *f*, provided with a vertical central orifice, through which projects the upper end of the steady-pin when the parts are in place, the latter being rigidly attached to the handle by means of a nut, as shown. F' represents a spring, which is interposed between the upper part of the socket and the arm *f* of the handle, the employment of which causes the upper cutter to rest upon the lower one at all times with an elastic adjustable pressure. G represents a rod located in the tubular handle F, one end of which is connected with any proper mechanism for giving it a revolving movement. The other end is provided with a crank-pin, which rests in a proper opening in the pin E, as shown. The comb or lower cutter has a number of teeth in excess of the upper cutter, the proportion being about that of eighty to sixty, by which means the efficiency of the knives in action is much increased, for the reason that space is left at all times between the teeth of the comb and the upper cutter for the admission of the hair, while, if the teeth of each are equal in number, the openings between the teeth are entirely closed one-half of the time.

In Figs. 5 and 6 are represented cutters especially adapted for shearing sheep. These resemble, in their general construction, those used for horses, but have the teeth arranged at different angles, and have the sides cut away, as shown. The teeth radiate from the center of the heel of the comb, as shown at *x*, by which means they are better adapted to penetrate the wool. By cutting away the sides, all liability to catch or clog is avoided, as only the actual cutting part of the implement comes into contact with the wool.

The operation of my improved machine is as follows: A revolving movement is communicated to the shaft by the well-known mechanism employed for that purpose, or by other suitable means. This movement is communicated to the socket-disk carrying the upper cutter by means of the crank-pin and pin E, the latter moving freely in its socket horizon-

tally and vertically, and thus avoiding undue friction. It will be observed, by the means employed, the revolving movement of the crank-pin gives reciprocating movement to the socket-disk carrying the upper cutter. The movement of the upper cutter upon the lower cutter gives the cutting action.

The machine is used in a similar manner to other machines of this class. The employment of a steady-pin rigidly attached to the comb, in connection with the socket-disk and handle, as described, is especially advantageous, because the parts are so constructed that they can be dressed and made to accurately fit each other without adjustment. The employment of the spring to give the elastic adjustable pressure of the upper cutter upon the lower is especially advantageous, because provision is thus made for the separation of the parts when they expand under the influence of heat, and also the necessary wear of the parts is compensated for. The means employed for communicating motion to the socket-disk carrying the upper cutter are especially advantageous, because the moving parts act upon each other with but little friction.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In combination with the pin *a* and socket-drum B, carrying the upper and lower cutters, the sliding and oscillating pin E and crank-pin *g*, substantially as described.

2. The clipper described, having the central sliding pin *a*, supporting cutter A, socket-drum B, carrying upper cutter *c*, pin E, crank-pin *g* upon shaft G, and overhanging arm *f* of handle F, combined and arranged as described, for the purpose set forth.

This specification signed and witnessed this 24th day of March, 1873.

JAMES W. GUERNSEY.

Witnesses:

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