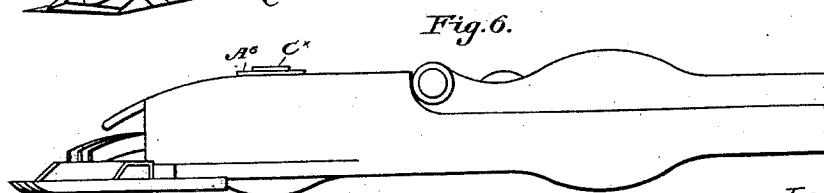
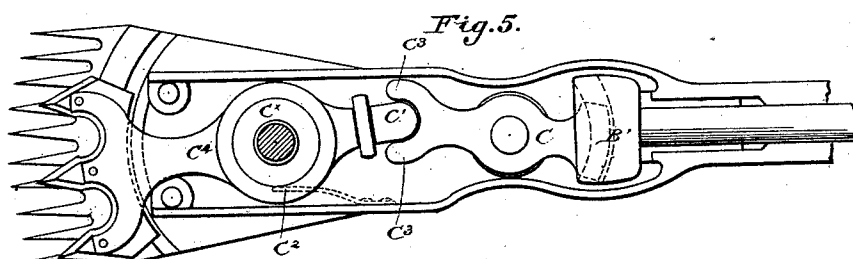
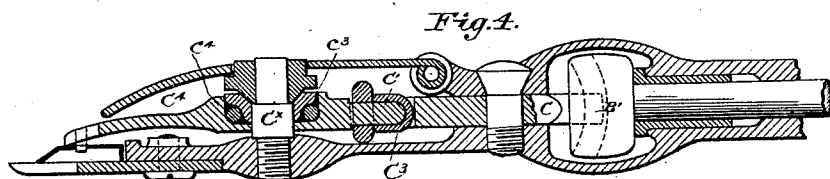
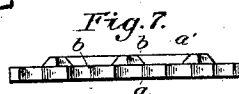
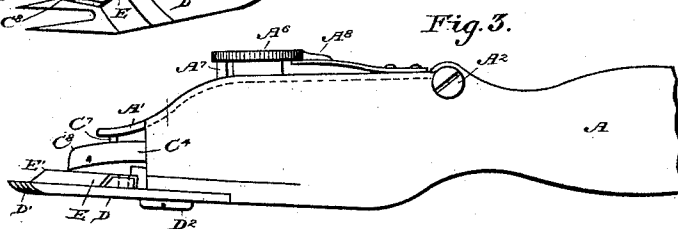
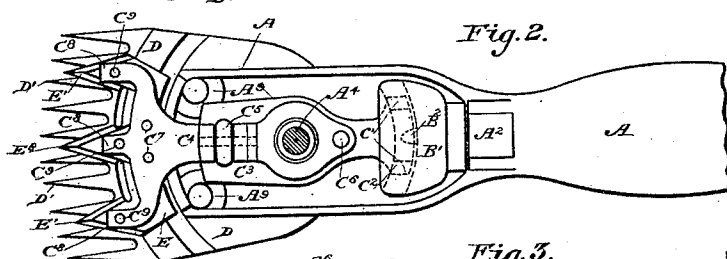
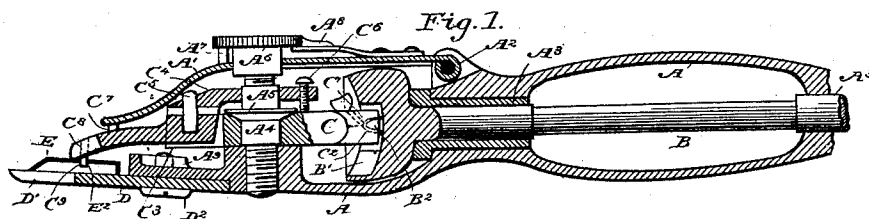


P. BLACKIE & J. NISBET.
ANIMAL SHEARS.

Patented Sept. 29, 1891.



Witnesses

Wm. Norton
H. W. Elmore

By their Attorneys.

*Inventors,
Patrick Blackie
John Nisbet*

Richard Lee.

UNITED STATES PATENT OFFICE

PATRICK BLACKIE, OF REDFERN, NEAR SYDNEY, AND JOHN NISBET, OF COOLABAH, NEW SOUTH WALES.

ANIMAL-SHEARS.

SPECIFICATION forming part of Letters Patent No. 460,357, dated September 29, 1891.

Application filed October 13, 1890. Serial No. 368,048. (No model.)

To all whom it may concern:

Be it known that we, PATRICK BLACKIE, engineer, residing at Redfern, near Sydney, in the British Colony of New South Wales, and JOHN NISBET, grazier, residing at Coolabah, in the said colony, both subjects of the Queen of Great Britain, have invented new and useful Improvements in Sheep-Shearing Machines, of which the following is a specification.

This invention relates to those machines having a cutter reciprocating over a comb-plate, principally used for shearing the wool from sheep and now generally termed "sheep-shearing machines," and it has been devised in order to produce a neat and handy machine for the purpose.

Our invention consists in certain parts and combinations thereof, hereinafter more fully described and claimed; but in order that this invention may be clearly understood reference will now be made to the drawings herewith, in which—

Figures 1, 2, and 3 are sectional elevation, plan with cover removed, and side elevation, respectively, of a sheep-shearing machine constructed according to this invention; and Figs. 4, 5, and 6 are similar views of a modified construction of same. Fig. 7 is a front sectional elevation of the comb and cutter.

A is casing or frame; B, driving-spindle; C, main lever; D, comb; E, cutter.

A' is cover and tension-plate hinged at A²; A³ A³, bearings; A⁴, stud or fulcrum; A⁵, shoulder; A⁶, ratchet-nut; A⁷, stud; A⁸, spring-pawl; A⁹, snugs.

B' is a femestar or cam-grooved rotary head, and C' diametang or arm adapted to fit the groove of the said head and to be oscillated by the rotation of the latter; B², center-piece or steadying-pin; C², slot; C³, jaws; C⁴, lever; C⁵, friction-roller; C⁶, screw; C⁷, friction-pieces; C⁸, toes; C⁹, pins.

D' are teeth; D², fastening-screws.

E' are teeth; E², pin-holes.

In operation the spindle B is revolved by flexible shafting or other suitable means, and as the femestar B' at the end of said spindle turns a sidewise reciprocating motion is given

to the diametang C', causing the lever C to reciprocate on fulcrum A⁴ and to give motion to the lever C⁴, which fits between the jaws C³ of lever C and moves on the same fulcrum A⁴. This lever C⁴ reciprocates the cutter E, in which the pin C⁹ on toes C⁸ engage, over the comb D, so that all the hair or wool between the teeth D' of said comb is sheared or cut by the teeth E' of said cutter. The necessary tension to keep the cutter E against the face of the comb is given to the lever C⁴ by the tension-plate A', which is pressed down by the head of nut A⁶, pressing upon stud A⁷ and pressing the tension-plate upon friction-pieces C⁷, the screw being held in place by spring-pawl A⁸.

In the modification shown in Figs. 4, 5, and 6 the lever C is reciprocated in precisely the same manner; but lever C⁴ turns upon a second fulcrum C^x, while the end c' fits between the jaws C³, so that the lever C acts as an intermediate reciprocating lever between femestar B' and lever C⁴. In this case the tension is given directly by the nut A⁶, having a spring-stop c², which forces junk-ring c³ on flexible packing c⁴, and so presses lever C⁴ downward onto the cutter with flexibility, so that it may adjust itself to the cutter and comb.

Fig. 7 shows a preferred construction of the comb and cutter, a being the straight face of the comb and a' the inside or concavity of same, while b' is the convex face of the cutter. The concave face a' and the convex b' are ground and sharpened upon a grinder or stone having suitable faces, so that such convexity and concavity are obtained.

Having now particularly described and explained the nature of our said invention and the manner in which the same is to be performed, we declare that what we claim is—

1. In a sheep-shearing machine, the combination and arrangement, with a comb and a reciprocating cutter having a main lever, such as C, of the tension devices comprising a lever A', friction-pieces C⁷, a stud A⁷, a threaded pin A⁴, a nut A⁶, and a spring-pawl A⁸, substantially as herein described and explained, and as illustrated in the drawings.

2. In a sheep-shearing machine, the combination and arrangement, with mechanism for imparting motion to a reciprocating cutter, of a comb having a concave inside or working
5 face and a movable cutter having a convex face setting in the concavity of the comb, substantially as herein described and explained, and as illustrated in the drawings.

In witness whereof we have hereunto set

our hands in presence of two subscribing witnesses.

PATRICK BLACKIE.
JOHN NISBET.

Witnesses:

FRED. WALSH,

F. M. Inst. P. A., Sydney.

THOMAS JAMES WARD.