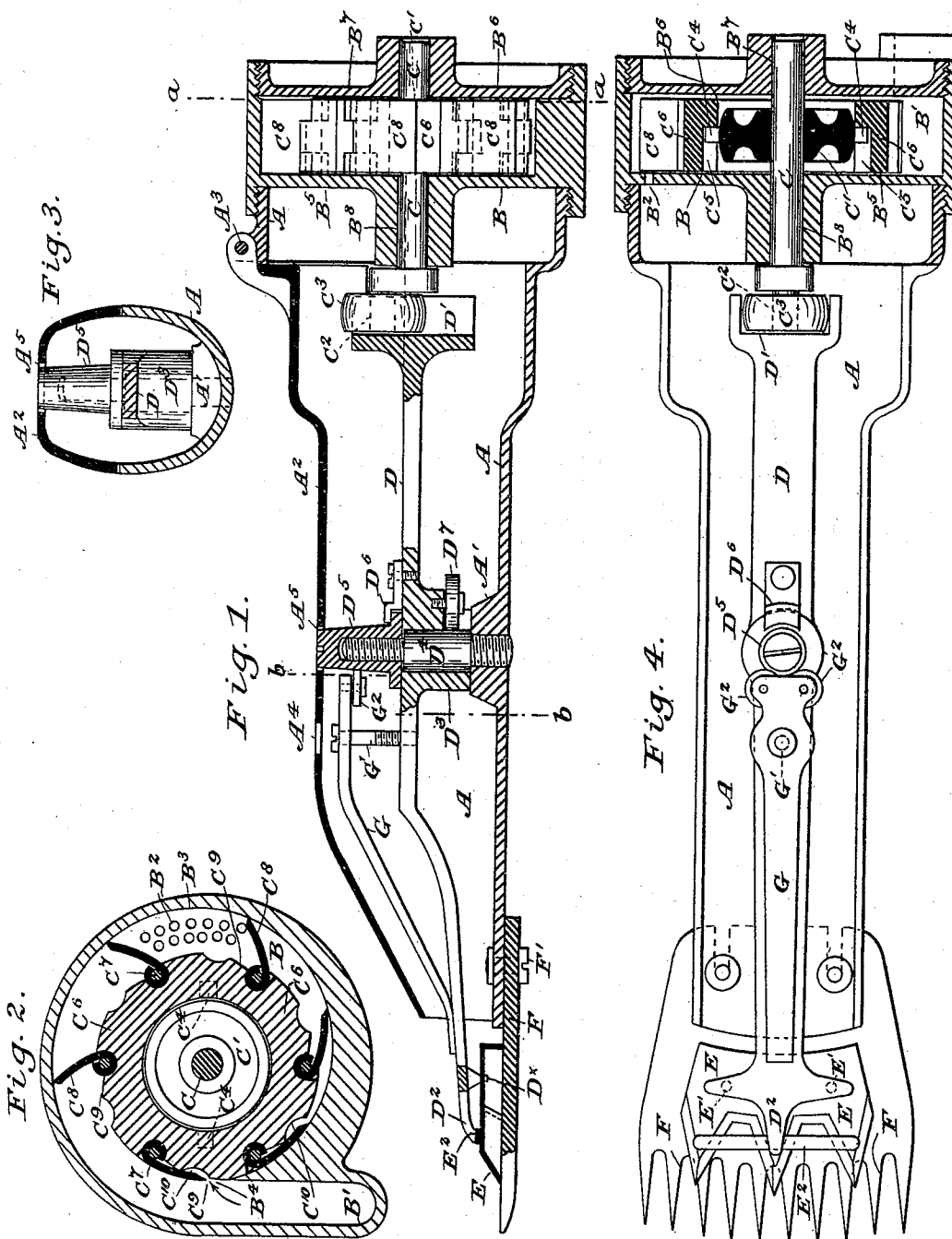


(No Model.)

A. MELCHIOR.
SHEEP SHEARING MACHINE.

No. 478,286.

Patented July 5, 1892.



WITNESSES

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ALFRED MELCHIOR, OF SYDNEY, NEW SOUTH WALES.

SHEEP-SHEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 478,286, dated July 5, 1892.

Application filed December 3, 1891. Serial No. 413,958. (No model.)

To all whom it may concern:

Be it known that I, ALFRED MELCHIOR, mechanical engineer, a subject of the Queen of Great Britain, residing at Sydney, in the British Colony of New South Wales, have invented new and useful Improvements in Sheep-Shearing Machines, of which the following is a specification.

This invention has for its object the construction of a cheap, handy, and convenient sheep-shearing machine to be actuated by compressed air or similar fluid-pressure, and these improvements refer principally to such machines in which a vibrating lever (of the first order or class) reciprocates a cutter above and in contact with a comb.

With these objects in view my invention consists in certain parts and combinations thereof hereinafter described and claimed.

In order that this invention may be clearly understood, reference will now be made to the drawings herewith, in which—

Figure 1 is a longitudinal sectional elevation of a sheep-shearing machine constructed according to this invention. Figs. 2 and 3 are cross-sections of same on lines *a a* and *b b*, respectively, in Fig. 1; and Fig. 4 is a plan of same with upper casing or cover removed.

A is the frame or casing, to the back end of which the cylinder B is secured. This cylinder has a rotary piston or spindle C, having a crank-pin C², with a roller C³ thereon, which roller takes within jaw D' of vibrating lever D, the other end or nose D² of said lever pressing upon cutter E in contact with comb F and pressed thereon by a "tension-spring" G. The cylinder B has a supply-port B' and exit or discharge orifices B² and between these on its inside peripheral face it has a gradual encroachment upon its cylindrical form, hereinafter called the "closer," reaching in a curve from point B³ near the discharge-orifices to point B⁴ at the supply-port. Upon the spindle C a holder C' is fixed, such holder being a hollow frustum of a sphere, with extending pins or pintles C⁴, taking into grooves C⁵ in inner periphery of annulus or ring C⁶. Hinged to ring C⁶ by means of pins C⁷ are wings or leaves C⁸, adapted to fold into spaces C⁹ in said ring and to spread and form a tight joint at their hinge and at the periphery of cylinder B. The ring C⁶ forms a tight joint sidewise

between the face B⁵ of the cylinder B and the screwed-down cover B⁶, and it has play to adjust itself to these surfaces by reason of its free riding upon frusto-spherical holder C' while revolving it by pins C⁴ in its grooves C⁵. The spindle C has outer bearing B⁷ in cover B⁶ and an inner bearing B⁸ on cylinder B and it extends outwardly and finishes with a screw-driver nick C¹¹, by which trials of movement may be made. The lever D is fulcrumed through boss D³ upon pin or stud D⁴, let into boss A' of framing or casing A, and it is kept in position by a cap D⁵, which may be just a shade conical or frusto-conoidal lengthwise, and is screwed onto extension of said pin, and a bracket or catch D⁶ takes over the flange of said cap D⁵ to fasten said cap to the lever D, so that an unscrewing of said cap D⁵ will lift the lever as a whole from the lower frame or casing A. To the boss D³ under the rear extension of the lever an anti-friction loose roller D⁷ is fixed to bear against the back of the pin or stud D⁴. The comb F is fixed to framing or case A by screws F', as well understood, and the cutter E, being placed thereon, pintle F on the widened part of the nose or end of the lever D takes into holes or orifices E' in said cutter. Under the actual nose D², which rests upon the center blade of the cutter, is placed a spring E², reaching transversely to the outer blades and distributing the pressure of the nose D² over the whole of said cutter. The tension-spring G is fastened to the lever D by a screw G', and it carries at its rear two rollers G², taking against the frusto-conoidal cap D⁵. The upper casing or cover A² of the machine is hinged at A³, and is fastened when closed by a spring or clip, as well understood. In the upper surface is orifice or slot A⁴ (through which screw G' may be regulated without removing the cover) and orifice or hole A⁵, through which a driver or wrench may be passed to screw and unscrew the cap D⁵, the end of which cap has an elastic holder—say a spring having a V-tooth—taking into corresponding grooves.

In operation compressed air or other fluid-pressure being conveyed by flexible piping from an accumulator or source of power to port B' it passes into cylinder B, and obtaining ingress to the unfilled part C¹⁰ of the

spaces C⁹, it spreads the wings or leaves C⁸ to form a tight joint against the inside periphery of cylinder B, as shown in Fig. 2, and these take the pressure of the compressed air behind them and thus revolve the ring C⁶. The air then escapes through discharge-holes and each wing or leaf is gradually closed by working on the encroachment B³ B⁴ until it again passes into the entrance-port, when it again spreads and takes its quota of pressure. This ring C⁶ in turn revolves holder C' and the spindle C. The crank-pin C² having rotary motion and the roller C³ having free vertical movement in jaw D', the lever D is vibrated or reciprocated and gives the necessary motion to the cutter E above the comb F. The tension is regulated by means of a screw-driver on screw G', which tightens the end of lever G, carrying the rollers G² on the surface or cone surface of cap D⁵ and causes the end of said spring to press more heavily upon the nose D² of lever D.

To remove the cutter for sharpening, &c., the screw-driver is inserted into the head of cap D⁵ and turns such cap upon the screw of stud D⁴, causing the cap to travel up said screw and by reason of connection D⁶ to lift the lever D and pintles D^x clear of the cutter, which will then slide out, and after being sharpened, &c., may be replaced and cap screwed down again, the whole operation taking place without interfering with the regulation of the tension.

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

1. In a sheep-shearing machine, the combination, with the shaft C, of the lever D and cutters E, cylinder B, having inlet and outlet ports, said cylinder having a frusto-spherical

inner periphery, and the annulus C⁶ in said cylinder and having wings C⁸ pivoted thereon, the holes or basins C¹⁰ in said annulus adapted to be engaged by and partly covered by wings C⁸, substantially as set forth.

2. In a sheep-shearing machine, the combination, with the boss D³ on lever D, of the pin D⁴, engaging boss A' and passing through said boss D³, and screw-threaded flanged cap D⁵, engaging said pin D⁴ and engaged by arm D⁶ on lever D, substantially as set forth.

3. In a sheep-shearing machine, the combination, with the boss D³ on lever D, of the anti-friction roller D⁷ on said boss and bearing on pin D⁴, said pin passing through boss D³, the partly cone-shaped interiorly-screw-threaded cap D⁵, adapted to engage the upper screw-threaded end of pin D⁴, the pin G', engaging lever D and having thereon spring G, and rollers G² on the inner end of said spring, said rollers bearing on said cap D⁵, substantially as set forth.

4. In sheep-shearing machines of the class set forth, the combination and arrangement, with a vibrating lever D, of a pivotal stud or pin D⁴, a cap D⁵, catch or connection D⁶, and orifices A⁴ and A⁵, substantially as herein described and explained, and as illustrated in the drawings.

5. In sheep-shearing machines of the class set forth, the combination and arrangement, with a lever D, having pivotal screw or stud D⁴, of a cap D⁵ and a tension-spring G, having end rollers G² and regulating-screw G', substantially as herein described and explained, and as illustrated in the drawings.

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Witnesses:

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