A. G. L. NEIGHBOUR.

SHEEP SHEARING MACHINE.

APPLICATION FILED JAN. 17, 1912.

1,046,323. Patented Dec. 3, 1912.

Fig. 1.

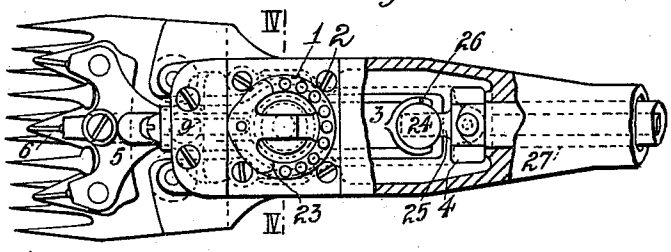

Fig. 2.

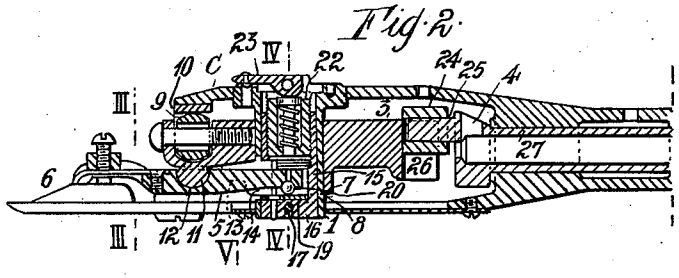

Fig. 3.

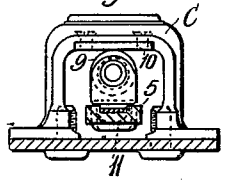

Fig. 4.

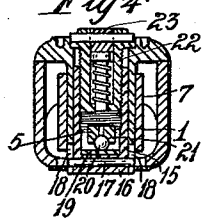

Fig. 5.

Fig. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

ARTHUR GEORGE LLOYD NEIGHBOUR, OF BEAUMARIS, VICTORIA, AUSTRALIA.

SHEEP-SHEARING MACHINE.

1,046,323. Specification of Letters Patent. **Patented Dec. 3, 1912.**

Application filed January 17, 1912. Serial No. 671,703.

To all whom it may concern:

Be it known that I, ARTHUR GEORGE LLOYD NEIGHBOUR, a subject of the King of Great Britain, residing at Cromer Road, Beaumaris, in the State of Victoria, Commonwealth of Australia, civil and mechanical engineer, have invented Improvements in Sheep-Shearing Machines, of which the following is a specification.

This invention relates to the hand piece of sheep shearing machines and its object is to provide a hand piece in which the fork is supported or fulcrumed close behind the cutter in order to prevent springing of the fork thus keeping the points of the cutter down upon the comb with a light tension which is necessary for good cutting.

Furthermore the arrangement of the mechanism allows of the hand piece being made compact and light, and provides ample wearing surface for the working parts.

The drawings illustrating the invention comprise:—Figure 1 a plan, partly in section, of the front end of the hand piece, and Fig. 2 a longitudinal section thereof. Figs. 3, 4, and 5 are transverse sections on the respective lines III—III, IV—IV, and V where shown, and Fig. 6 is a detail of a contact device hereinafter referred to.

According to this invention a hollow cylindrical pivot motion pillar 1 is fastened as by screws 2 to the top of the hand piece and extends down into it with its axle perpendicular to and intersecting the longitudinal axis of the machine. The said motion pillar forms the fulcrum of the motion-bar or lever 3, which transmits the motion of the driving crank 4 to the fork lever 5, and thus to the cutter 6. The boss 7 of the motion bar or lever 3 has a cylindrical hole 8 which fits around the outside of the aforesaid pillar. The forward or cutter end of the said motion-bar carries an antifriction roller 9, which bears against a hardened steel plate 10 secured to the top of the casing C of the machine. Directly under the said antifriction roller and rigidly attached to the motion-bar is a hemispherical boss 11, which fits into a hemispherical cup or seat 12 in the fork lever 5 which is in the form of a comparatively short lever. The said hemispherical boss and seat form a ball and socket joint and constitute the fulcrum which allows the fork to be tilted in order to apply the tension. Furthermore the said hemispherical boss along with two lugs 13, 13, (Figs. 2 and 5) which project downward from the motion-bar on each side of the rear end of the fork lever form the means by which the reciprocating motion of the motion-bar is transferred to the fork lever, and thus to the cutter.

By the foregoing construction a comparatively short independent fork lever operated through the medium of the motion-bar is employed and which is supported or fulcrumed close behind the cutter so as to prevent springing of the fork.

The inner end of the fork lever projects through a rectangular opening 14 in the aforesaid motion pillar 1 into its interior and tension is applied to the cutter by mechanism which raises the inner end of the said fork lever. Accordingly inside the motion pillar is fitted an internally threaded hollow cylindrical piece termed the tension sleeve 15 which is closed at the bottom or lower end 16. The said tension sleeve is prevented from rotating inside the said pillar as for instance by means of a pin 17 projecting radially from its lower end into two diametrically opposite longitudinal slots 18, 18, in the motion pillar 1, thus the tension sleeve can only move in the direction of length of the said motion pillar. The sleeve carries inside at its lower end a hardened steel plate 19 upon which rests a contact device such as a hardened steel ball 20 fitted into a recess 21 in the inner end of the fork lever 5 or a rounded pin 20^a as in Fig. 6. Hence any movement of the said tension sleeve 15 will be communicated to the inner end of said fork. Into the interior of the said tension sleeve a hollow tension screw 22 is screwed from above and is fitted with a spring controlled winged key 23 which may be raised up to apply or release the tension.

Motion is imparted to the motion bar by a short cylinder 24 carried on a crank pin 25 and running in a circular slot 26, which cylinder is cheaper to produce and has better wearing properties than the ball, which is ordinarily used in conjunction with a circular slot. This construction is rendered possible owing to the fact that the fork is supported by the roller 9 directly over its fulcrum and thus does not produce any tilting of the motion bar 3 when tension is applied which would cause jamming of the cylinder 24 in the slot 26.

The crank shaft 27 is rotated either by a small motor in known manner, located at the end of the hand-piece or by means of overhead apparatus and flexible shafting and universal joints as in common use.

Having now particularly described and ascertained 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, a hand piece inclosing a motion pillar, a motion bar oscillating on said pillar, a fork lever connected to said bar for oscillation thereby, an adjustable tension sleeve fitted within the motion pillar for slidable adjustable movement, the motion pillar and the sleeve having openings at the lower end thereof and the inner end of the fork lever projecting through said openings, a contact device between the inner end of the fork lever and the bottom of the tensioning sleeve, the connection between the motion bar and the fork lever comprising a hemispherical boss on said bar, and a cup or seat on said lever to receive said boss, and a pair of projecting lugs on said motion bar to engage the sides of said fork lever.

2. In a sheep shearing machine, a casing, a motion bar oscillatory therein and provided with an anti-friction roller at its forward end, and which works against the under side of said casing, and a fork lever which is oscillated by said motion bar and is fulcrumed on the latter, directly under said anti-friction roller.

3. In a sheep shearing machine, a casing, a motion bar oscillatory therein and provided with an anti-friction roller at its forward end, and which works against the under side of said casing, a fork lever which is oscillated by said motion bar and is fulcrumed on the latter, directly under said anti-friction roller, an operating shaft having a horizontal crank pin, and a vertically disposed cylinder in which the crank pin is fitted for rotation and which is itself slidably and rotatably fitted in the inner end portion of the motion bar.

4. In a sheep shearing machine, a casing, a motion bar pivotally mounted therein for oscillatory movement and bearing at its forward end against the under side of the casing, a fork lever fulcrumed on the motion bar immediately under the point of bearing contact of the latter with the casing, and a vertically adjustable support for the inner end of the fork lever, coaxial with the pivot of the motion bar.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARTHUR GEORGE LLOYD NEIGHBOUR.

Witnesses:
EDWARD N. WATERS,
WILLIAM HERBERT WATERS.