

(No Model.)

C. & H. BURGON.
ANIMAL SHEARS.

No. 481,844.

Patented Aug. 30, 1892.

FIG. 1.

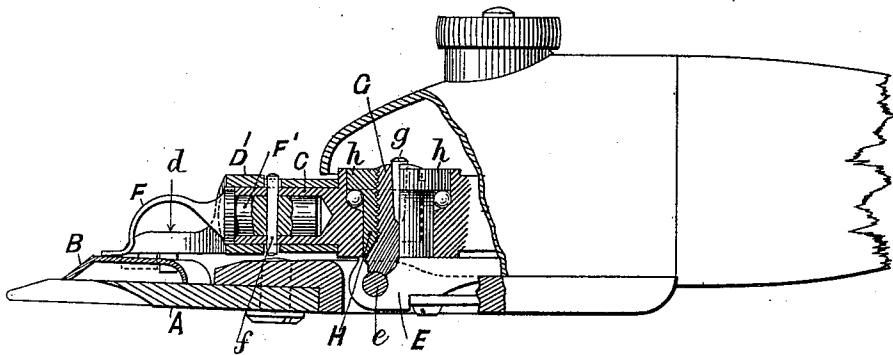
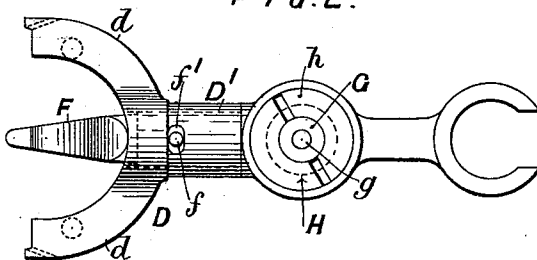


FIG. 2.



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UNITED STATES PATENT OFFICE.

CHARLES BURGON AND HARRY BURGON, OF MALIN BRIDGE, ENGLAND.

ANIMAL-SHEARS.

SPECIFICATION forming part of Letters Patent No. 481,844, dated August 30, 1892.

Application filed May 5, 1892. Serial No. 431,934. (No model.)

To all whom it may concern:

Be it known that we, CHARLES BURGON and HARRY BURGON, sheep-shear manufacturers, of Malin Bridge, near Sheffield, in the county of York, England, do hereby declare the nature of our invention for Improvements in Apparatus for Shearing or Clipping Sheep or other Animals and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement.

This invention relates to instruments for shearing or clipping sheep and other animals, such as are described in the specification of a previous application for Letters Patent dated the 5th day of March, 1892, Serial No. 423,941; and the improvements consists, first, in an improved mode of mounting the forked cross-head upon the vibrating or oscillating lever, by which the top cutters are driven, and of applying a spring to press the said cutters on the comb-plate with the necessary pressure, and, secondly, in an improved construction of the pivotal axis upon which said vibrating lever oscillates, whereby the working loose of said axis, as heretofore made, is obviated. According to the first improvement the forked cross-head is provided with two prongs only—one near each end. It is carried by a socket pivoting freely upon the oscillating or vibrating lever, so that the pressure of the cross-head will be divided equally between the two prongs or limbs, which must necessarily press upon the two ends of the top cutter-plate with equal pressure, whereby an equal distribution of the pressure on the top cutter-plate is insured. In combination with such loosely-pivoted forked cross-head a spring occupying the position of the center prong of the fork is mounted in the end of the vibrating lever, said spring being adapted to bear upon the top cutter-plate before the forked cross-head bears upon it, so that the pressure is applied to the top cutters first through the medium of the spring and then through the limbs of the forked cross-head, which may be made to bear upon the cutters with a dead unyielding pressure. The spring is carried by a shank fitting in a socket in the end of the vibrating lever-arm and secured by a cross-pin passed through both, the

pin projecting through a slot in the socket of the forked cross-head. The end prongs of the cross-head engage with the top cutter-plate in the usual way for the purpose of driving it.

The improvement in the pivotal axis of the oscillating or vibrating lever consists in forging a central stud solid with the rocking base-plate, screw-threading it, then after placing the vibrating or oscillating lever in position screwing upon it a sleeve, fitting in the boss of the vibrating lever and forming the bearing-surface for the lever to vibrate upon, said sleeve having a flange or head adapted to inclose the bearing-balls in their chamber and retain the lever securely in position. After so mounting the parts they are secured against any possibility of working loose by driving a pin in a longitudinal hole bored in the end of the center stud, whereby the latter is expanded so as to cause it to bind tightly in the sleeve without injuring the screw-thread. The parts can only be dismounted by drilling out or otherwise removing the drift-pin; or, if desired, the hole may be expanded by a conical drift or punch without being permanently plugged by a pin.

Reference is to be had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a part longitudinal sectional elevation of so much of the machine as is necessary to illustrate the improvements, and Fig. 2 is a plan of the same.

The same letters of reference denote like parts in both figures.

A is the lower cutter or comb plate; B, the top cutter-plate; C, the vibrating or oscillating lever; D, its forked cross-head, and E the rocking base-plate carrying the pivotal axis of said lever. The cross-head D has two prongs *d*, which bear on and embrace the ends of the top cutter-plate B and engage by studs in holes therein, as before. This cross-head has a central socket *D'*, fitting loose on the cylindrical end of the lever C and secured thereon by a cross-pin *f*, whose ends are received in circumferential slots *f'* in the socket *D'*, so as to permit the free oscillation of the latter on the arm of lever C.

F is a spring pressing centrally on the top

cutter-plate B, said spring being formed on a shank F', received in a socket in the end of lever C, in which it is secured by being traversed by the cross-pin *f*, before mentioned.

5 The form of this spring and the level of its extremity with regard to the prongs *d* of the fork is such that the major part of the pressure of the lever C on the top cutter-plate B is applied through this spring. The spring being

10 permanently fixed to the lever C and prevented from turning its position with regard to the top cutter-plate B is invariable, while the fork D, pivoting freely on the lever C, is at liberty to adjust itself, so that the pressure

15 of its two prongs *d* upon the top cutter-plate shall be equal under all circumstances and in all positions of the lever C. This freedom of self-adjustment is the more necessary, inasmuch as in order to insure as efficient

20 cutting action toward the extremities of their stroke as at the middle it is found in practice desirable to grind the upper surface of the comb-plate A with a very slight concave curvature in the transverse direction. The rocking

25 base-plate E is pivoted on a cross-pin *e* in the main frame, as before, and has forged in one with it a stud G, which is screw-threaded, as shown, and upon it is screwed the sleeve H, after the same has been fitted in the boss

30 of lever C. The sleeve is of hardened steel. It has the head *h* to inclose the ball-bearings and hold the lever down. A central hole is bored in the end of stud G, which is expanded (after the sleeve is screwed hard down on the

35 base-plate E) by a taper drift-pin *g*, permanently or temporarily driven in.

In other respects the machine is similar in construction and operation to that described in the specification of the previous patent

40 hereinbefore referred to.

Having now particularly described and ascertained the nature of our said invention and

in what manner the same is to be performed, we declare that what we claim is—

1. In the herein-described shearing or clipping machine, the combination, with the vibrating lever, of a central spring bearing on the top cutter-plate and carried by a shank rigidly fixed on the end of the said lever, and a forked cross-head having two prongs adapted to bear on and engage with the ends of the top cutter-plate, and a central socket pivoting freely on the end of the vibrating lever, as described.

2. The combination, with the vibrating lever spring-shank fitted therein, and a forked cross-head and socket pivoting thereon, of a cross-pin traversing the spring-shank and vibrating lever and received in circumferential slots in the cross-head socket so as to maintain the connection of both the spring and cross-head with the lever while permitting the pivotal motion of the cross-head, as described.

3. In the herein-described shearing or clipping machine, the combination, with the rocking base-plate, of a stud forged integrally therewith and of a sleeve screwed thereon and adapted to fit in the boss of, and to form the upward bearing-surface for, the vibrating lever, as specified.

4. The combination, with the screw-stud forged integrally with the rocking base-plate and with the sleeve screwing thereon, of a drift-pin forced into a hole in the end of the stud so as to expand the same, as specified.

Dated this 21st day of April, 1892.

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