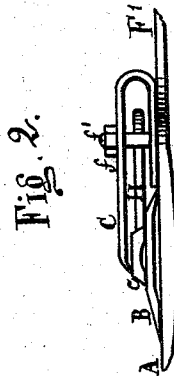
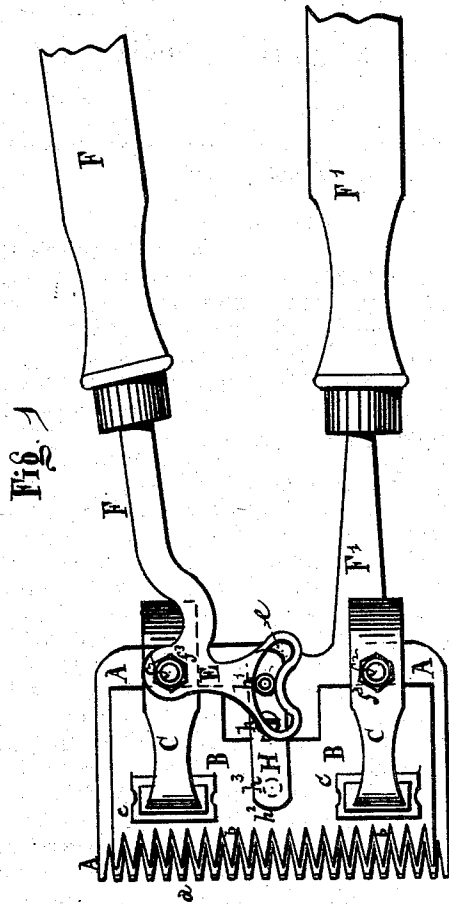


W. CLARK.
Horse Clipping-Machines.

No. 156,409.

Patented Nov. 3, 1874.



Witnesses
W. A. Dangerfield
Jos. Hallister Jr.

Inventor.
Wm Clark
Curry Orth
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM CLARK, OF LONDON, GREAT BRITAIN.

IMPROVEMENT IN HORSE-CLIPPING MACHINES.

Specification forming part of Letters Patent No. **156,409**, dated November 3, 1874; application filed January 9, 1874.

To all whom it may concern :

Be it known that I, WILLIAM CLARK, of 232 Oxford Street, London, have invented certain new and useful Improvements in an Apparatus for Clipping the Hair or Wool from off the Skin of Animals, of which the following is a specification:

The difficulties experienced heretofore in all classes of shearing apparatus has been in the maintenance of a regular and permanent pressure of the cutting-plate upon the under comb or plate, which, according to their present construction, require constant supervision and adjustment, in order to keep their teeth on the cut while in action—that is, the cutting pressure between the movable plate and lower fixed plate or comb has to be maintained by an occasional adjustment of the friction through the medium of set-screws, studs, nuts, washers and other equivalents. The evils arising from such means are that, unless constant attention is given to the apparatus by the operator, the plates, through their action, necessarily wear and get off the cut, causing a gradual deterioration of their cutting efficiency. Further, when setting up or adjusting their cut the operator is unable to determine with great nicety the exact amount of pressure required, the tendency being to set up a pressure rather in excess of that demanded by the nature of the work to be performed, as such a set up, although injurious to the instrument, will for the time being effect a more lengthened efficiency for the operation then in hand.

In order to obviate the difficulties above recited, my invention consists in the construction of an apparatus whereby the frictional contact or bearing of the teeth of the cutter-plate upon the teeth of the under comb may be readily determined, and, when once determined, such frictional contact is maintained at a pressure sufficient to cut the wool or hair cleanly and evenly from the skin of the animal it is made to operate upon. By this arrangement the cutting instrument is made to maintain, without constant supervision on the part of the operator, an adjustment and nicety of pressure between the cutting-surface of the plates sufficient for the purpose of shearing or clipping.

The invention relates further to a novel construction and arrangement of levers or handles, by means of which an easy reciprocating and accelerated movement is imparted to the cutter-plate through the medium of the right-hand working-handle.

In order that my invention may be fully understood, I will proceed to describe the same in detail by aid of the accompanying drawings.

Figure 1 is a plan, and Fig. 2 is a side elevation of an apparatus embodying my invention.

A is the lower stationary plate or comb, provided with a series of cutting-teeth, *a*; and B is the sliding or cutter plate, also provided with a series of teeth, *b*. In order to determine the frictional contact between the lower plate or comb A and the cutter-plate B, I use pressure-fingers C. Such pressure-fingers C are affixed to the under comb or plate A immediately in rear of the cutter-plate, and are caused to project some distance beyond the under comb or plate A, and are bent round and project forward, their forward ends having chisel-edges bearing upon washers *c* immediately in rear or at the root of the cutting-teeth *b*. The pressure-fingers C are regulated by means of nuts *f*¹ and studs *f*, such studs *f* being affixed to the under comb or plate A in rear of the cutter-plate B, and are caused to traverse the bent portion of the pressure-fingers C, as plainly shown in the drawings. The regulating-nuts *f*¹ may also be dispensed with by making the pressure-fingers somewhat shorter, and by causing them to bear upon the washers *c* with a given pressure, such washers *c* transmitting such pressure to the cutter-plate B and under comb A. F' is a stationary handle affixed to the lower plate A. F is the working-handle, provided with a projecting bell-crank lever, E. The working-handle F is also affixed to the bottom plate A by means of a stud or pin, *f*², and a nut and washer, *f*³, this stud or pin *f*² forming the fulcrum from which the bell-crank lever E projects. The bell-crank lever E, forming part of the working handle F, has formed in its extremity a segmental slot, *e*, in which works the crank-pin *h*¹. The crank-pin *h*¹, which is affixed to one end of a lever, H, projects upward through the segmental slot *e*. The lever

H is affixed to the center of the lower plate A by means of a pin, h , and this pin h forms the fulcrum of such lever H. The opposite end h^2 of the lever H carries another stud or pin, h^3 , which projects downward and fits into a recess formed in the cutter-plate B, and, by means of this pin h^3 such cutter-plate B is actuated. The handle F, when moved in any one direction, causes the segmental slot e in the bell-crank lever E, as it traverses its full length on the crank-pin h^1 , to transmit to such crank-pin h^1 , and consequently to the lever H and pin h^3 , to the cutter-plate B, two complete vibrations with each single movement of the working-handle F, thus imparting to the cutter-plate B an accelerated or double motion for each movement of the working-handle.

If desired, the ordinary handles common to all shearing or clipping instruments may also be used in combination with my improved apparatus. These handles are affixed, in the ordinary manner, to the center of the apparatus by means of a pin or stud, and nut and washer, or in any other convenient manner, such pin

or stud forming the fulcrum of the right-hand handle, which is provided with a prolongation, which is affixed to the cutter-plate B.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the pressure-fingers C, washers c , studs f , and regulating-nuts f^1 , with the cutter-plate B, and under comb or plate A, when arranged, constructed, and operating substantially as shown and described.

2. The construction of a shearing apparatus, or similar cutting instrument, in which the cutter-plate B has transmitted to it an accelerated or double motion by means of a working-handle, F, bell-crank lever E, provided with a segmental slot, e , lever H, crank-pin h^1 , and pin h^3 , in the manner hereinbefore substantially described and shown.

WILLIAM CLARK.

Witnesses:

W. I. FULLER,

F. J. GRIFFITHS.