

(No Model.)

J. K. PRIEST.
ANIMAL SHEARS.

No. 571,241.

Patented Nov. 10, 1896.

Fig. 1.

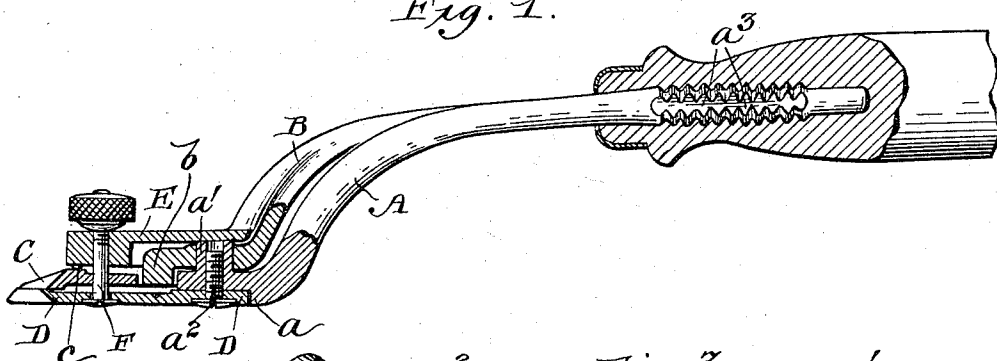


Fig. 2.

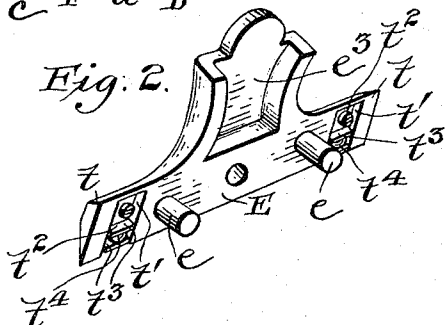


Fig. 3.

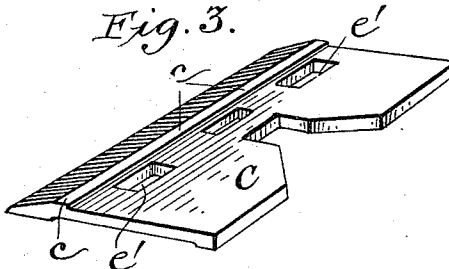


Fig. 4.

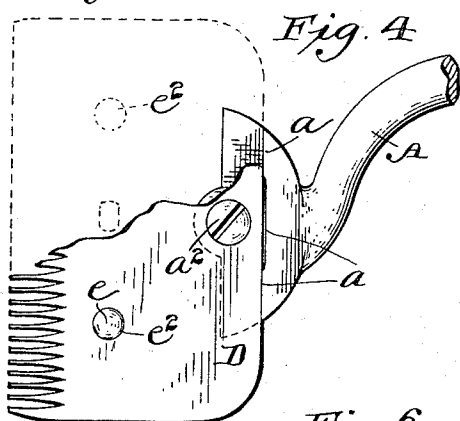


Fig. 5.

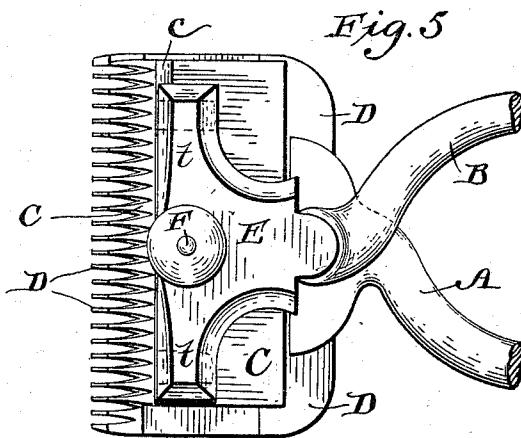


Fig. 6.

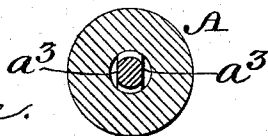
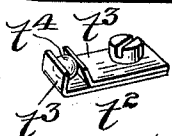


Fig. 7.



WITNESSES

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JOSEPH K. PRIEST, OF NASHUA, NEW HAMPSHIRE.

ANIMAL-SHEARS.

SPECIFICATION forming part of Letters Patent No. 571,241, dated November 10, 1896.

Application filed August 22, 1896. Serial No. 603,602. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH K. PRIEST, a citizen of the United States, residing at Nashua, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Animal-Shears; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in hair-clippers; and it consists in certain novel constructions, arrangements, and combinations of parts in an animal-shears, all as hereinafter more fully described and claimed, whereby such shears are greatly improved in their operation and the cost of manufacture is lessened.

In the accompanying drawings, Figure 1 represents a central vertical cross-section of my improved clippers. Fig. 2 represents a detail perspective view from beneath of the pressure-plate. Fig. 3 represents a detail perspective view of the cutter-plate. Fig. 4 represents a bottom plan view of the comb-plate and stationary handle, part of the comb-plate being broken away to better show the seat for said plate. Fig. 5 is a top plan view of the clipper with all its parts assembled. Fig. 6 represents a cross-section of one of the handles, showing its mutilated screw portion; and Fig. 7 represents a detail perspective view of the detachable ball-retaining device.

A in the drawings represents a stationary handle, and B a movable handle.

C represents a cutter-plate, D a comb-plate, and E a pressure-plate.

In this invention the stationary handle is adapted to be secured rigidly to the comb-plate, and for this purpose the attaching end of said handle A is broadened and provided with a depending shoulder portion *a*, preferably cast integrally with the metallic portion of said handle. This shoulder, together with the under face of the attaching end of the handle, forms a seat for the rear edge of the comb-plate D. A boss or stud *a'* is also cast upon the upper surface of the handle A, forming the pivotal bearing for the movable handle B. The comb-plate is held in place in the seat of the handle by a screw *a²*, passing

through the comb-plate D and extending up into the boss or stud *a'*, engaging internally-arranged threads therein. The comb-plate D, fitting snugly in the seat formed by the shoulder *a*, can be held firmly in place by the use of only one screw, and is rigidly braced by the said shoulder against all strain. The movable handle B is provided with a forwardly-extending projection *b*, adapted to operatively engage the cutter-plate in the manner usual in similar clippers. The cutter-plate is movably held in place by the pressure-plate E and is provided upon its upper surface with a longitudinal raised portion or rib *c*, preferably just to the rear of the cutting-teeth. The pressure-plate only engages the cutter-plate along the upper surface of the rib *c*. It will be thus seen that by constructing the cutter-plate in this way it is not necessary to grind or finish the whole top surface of the cutter-plate to a smooth and even surface, but only the face of the narrow rib *c*.

The pressure-plate E is provided with depending guide-pins *ee*, which extend through the guide-slots *e' e'* in the cutter-plate C and into suitable apertures *e² e²* in the comb-plate. The pressure-plate is held in place by a central bolt F, extending through the comb, cutter, and pressure plates, which bolt is provided with a tension-spring and adjustable nut upon its upper end. The plate E is preferably constructed, as shown, of an approximately T shape, the two opposite arms *ff* thereof adapted to bear upon the cutter-plate and the rearwardly-exerting part adapted to bear upon the top of the stud *a'*. The under side of this rear extension is provided with a recess, as at *e³*, to accommodate the operative projections *b* of the movable handle B. The arms *tt* of the pressure-plate E are preferably provided upon their under surfaces with transverse recesses *t' t'*, adapted to receive detachable ball-retaining devices *t² t²*. These ball-retaining devices preferably comprise two flanged plates *t³ t³*, secured by screws in said recesses *t' t'*, the flanges being so bent as to retain balls *t⁴* placed between them. These balls are adapted to bear upon the rib *c* of the cutter-plate. The flanges of the ball-retaining devices are arranged so as to form runs for the balls parallel with the line of

movement of the cutter-plate, in which direction the balls are free to move when the clipper is in use. The ball-bearings may be dispensed with, in which case the under surface of the pressure-plate can be provided with narrow bearing-surfaces to engage the surface of the rib *c* on the cutter-plate *C*, but it is more desirable to use the ball-bearings.

In attaching the hand-holds of the handles to the shanks I contemplate providing the said shanks with mutilated screw-threads. As shown in the drawings, the threads are cast for a part of the surface of said shank and are interrupted, as at $a^3 a^3$, by smooth surfaces. By this construction I am enabled to have perfect screw-threads cast upon said handles, and the hand-holds will also conform to the shape of the metal to some extent, engaging shoulders on the threads formed by said interrupted portions and making the hand-holds less liable to turn on said shanks. By casting the shoulder *a* upon the handle *A* to form the seat for the comb-plate I secure a very superior manner of attaching the comb-plate to said handle, for not only is the comb-plate thoroughly braced by said seat, but a much more secure and rigid joint is effected than is accomplished by simply using screws. By this construction one screw is sufficient to hold the parts firmly together. The cutter-plate is also of superior construction in being provided with the bearing-rib, for there is a large reduction in the amount of friction in addition to the fact that it is only necessary to grind or finish smoothly a very small surface for a bearing.

In this application I have shown in Figs. 2 and 6 ball-bearings comprising two separable removable guide-plates, the same as shown and claimed in my application filed March 17, 1896, Serial No. 583,609, and therefore my present claims do not have reference specifically to such specific construction of ball-bearings or ball-retaining devices, but generically to the invention of detachable bearings or ball-retaining devices set in grooves running at right angles to the front edge of the plate, while said bearings or retaining devices form ball-runs parallel with the front edge of the plate.

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

1. Animal-shears, comprising in combination, a lower handle constructed with a broadened, shouldered forward portion, an integral hollow stud extending up from top of said broadened portion, a lower comb-plate beneath said broadened portion and abutting against the integral depending shoulder thereof, an upper handle loosely pivoted to said integral hollow stud, and provided with a forwardly-extending projection, an upper

notched and slotted cutter provided with guide-pins, and engaging with the projection of the upper handle, so as to be reciprocated by said handle; said upper cutter resting upon ribs of the comb-plate, a pressure-plate constructed to overhang the top surface of the pivot end of the upper handle and rest upon the hollow integral stud without frictionally bearing upon the cutter-plate in rear of its bearing-rib, nor upon the upper handle, a screw for connecting the handle and lower comb-plate, and a screw for connecting the pressure-plate, upper cutter-plate and lower comb-plate, so that the upper cutter-plate is free to reciprocate, substantially as described.

2. In a hair-clipper, the combination with a comb-plate, stationary handle and movable handle, of a cutter-plate provided upon its upper surface with a narrow raised portion or rib *c*, forming a bearing-surface for balls applied between the upper cutter-plate and the pressure-plate, and a pressure-plate adapted to engage said bearing-surface, substantially as described.

3. In a hair-clipper, the combination with the comb and cutter plates and suitable handles, of a pressure-plate, provided with grooves at right angles to its front edge, detachable ball-retaining devices, adapted to fit in said grooves, which provide ball-runs parallel with the movement of the cutter-plate, and balls in said runs, substantially as described.

4. In a hair-clipper, the combination with a cutter-plate, pressure-plate, and comb-plate, of a stationary handle, having a depending shoulder forming a seat to receive the rear edge of the comb-plate, a stud integral with said stationary handle upon its upper side, forming the bearing for a movable handle and a movable handle pivotally mounted upon said stud for operating the cutter-plate, substantially as described.

5. In a hair-clipper, the combination with a cutter-plate, pressure-plate, and comb-plate, of a stationary handle, having a depending shoulder forming a seat for the edge of the cutter-plate, a stud integral with said stationary handle, upon its upper side, forming the bearing for a movable handle, a movable handle pivotally mounted upon said stud, and adapted to operate the cutter-plate, and a pressure-plate, adapted to press upon the cutter-plate at its forward edge only and to bear at the rear upon the stud, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOSEPH K. PRIEST.

Witnesses:

W. J. LEMOINE,
J. J. DOYLE.