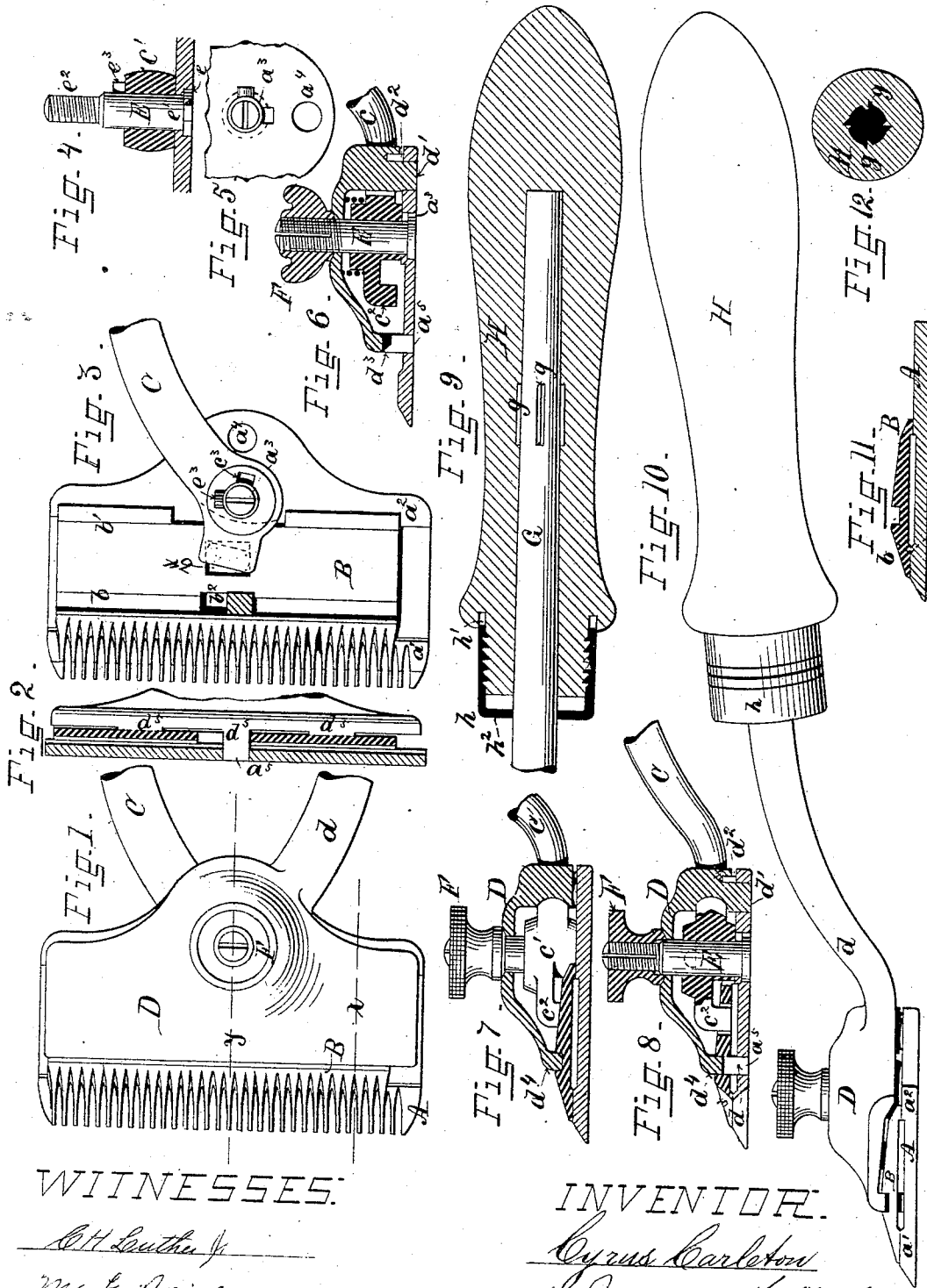


(Model.)

C. CARLETON.
HAIR CLIPPING MACHINE.

No. 321,685.

Patented July 7, 1885.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CYRUS CARLETON, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE
BROWN & SHARPE MANUFACTURING COMPANY, OF SAME PLACE.

HAIR-CLIPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 321,685, dated July 7, 1885.

Application filed September 26, 1882. (Model.)

To all whom it may concern:

Be it known that I, CYRUS CARLETON, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Hair-Clipping Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to that class of instruments known as "horse-clippers," "hair-clippers," "shearing-machines," &c., which are used for cutting the hair of horses and other animals, and also for barbers' use.

The invention consists in the various improvements, more fully set forth hereinafter, by which a more perfect machine is secured, the working parts of which are protected against the entrance of hair and dust, the cutting-plates of which can be readily ground, as they are free from projections and bolts.

The object of this invention is to construct a hair cutting or clipping machine of the fewest possible parts, and so that the same may be readily taken apart, cleaned, ground, and put together again without the use of a wrench or screw-driver, and firmly secured by one thumb-screw, as will be more fully described hereinafter.

Figure 1 is a top view of my improved hair-clipper, the actuating-levers being broken off close to the clipper. Fig. 2 is a sectional view of the comb-plate, the cutter-plate, and the cover, showing the bearing-surfaces on the cover by which the cutter-plate is held against the comb-plate, and the stop by which the traverse of the cutter-plate is limited. Fig. 3 is a top view of the hair-clipper with the cover removed, so as to show the connection of the actuating-lever with the cutter-plate, as also the cutter-plate and comb-plate, more clearly. Fig. 4 is a view of the post on which the actuating-lever turns and its connection with the comb-plate, more clearly. Fig. 5 is a partial view of the comb-plate, showing the slot into which the projection on the post enters. Fig. 6 is a sectional view of the comb-plate, the cover, and the actuating-lever, showing the coiled spring inserted between the cover and the boss of the actuating-lever. Fig. 7 is a sectional view of the clipper on the line X,

shown in Fig. 1. Fig. 8 is a sectional view of the clipper on the line Y. Fig. 9 is a sectional view of the handle secured to the actuating-lever, showing the method of securing the handle and construction of the ferrule. Fig. 10 is a side view of the hair-cutting machine. Fig. 11 is a sectional view of the comb and cutter plates. Fig. 12 is a cross-section of the handle and lever, showing the method for securing the lever in the handle and preventing the latter from turning.

In the drawings, A is the comb-plate. B is the cutter-plate. C is the lever by which the cutter-plate is operated. D is the cover with the fixed handle. E is the post, and F is the thumb-nut. These six parts form the complete hair-cutting machine. They are all connected and adjusted by means of the post and thumb-nut.

The comb-plate A is cut down along the center of the plate, so as to form the raised bearing-surface a' at the comb end or front of the plate, and a'' at the rear of the plate. These surfaces are accurately ground to form the surfaces on which the cutter-plate B slides, and as there are no projections on this plate these raised surfaces can be readily ground when from use they have become worn. The comb-plate A is also provided with the circular hole a^3 , with a slotted extension, in which the post E is placed; a projection on the head of the post E fitting into the slotted extension, so as to prevent the post from turning in the hole a^3 . At the rear of the plate A the hole a^4 is formed to receive a stud projecting from the cover D, and a square hole, a^5 , is formed in the forward end of the plate A, into which another projection from the cover D enters.

The cutter-plate B is provided with the usual cutter-teeth, acting in connection with the teeth on the comb-plate, the lower surface of the cutter-plate being provided with raised bearing-surfaces corresponding with the raised bearing-surfaces on the comb-plate A. The upper surface is provided with the groove b , parallel with the cutting-edge of the plate, and with the beveled surface b' at the rear edge of the plate. The central portion of the beveled surface and the bearing-surface of the cutter-plate B is cut away at the center, so as to

form bearings on the two end portions of the plate only, and also to extend this bearing as far to the rear as possible.

The cutter-plate B is perforated with the square hole b^2 , made in the groove b , through which the projection of the cover, which enters the hole a^5 in the comb-plate, passes, and which projection forms a stop limiting the reciprocation of the cutter-plate, as is shown in Fig. 3. In the rear of the hole b^2 the hole b^1 is made in the plate B, to receive the stud on the short end of the actuating-lever C. Thus this cutter-plate B is also free from projections, and can be readily ground when worn.

The actuating-lever C consists of the curved lever proper, provided with the boss c' , through which the post E passes and on which it turns, and the short end of the lever is turned down at a right angle to form the stud c^2 , which enters the hole b^1 in the plate B, and by which the same is reciprocated. The central hole in the boss c' of the actuating-lever is provided with the groove or slot c^3 , through which the pin c^4 , placed in one construction on the upper end of the post E, can pass. When, however, as is shown in Fig. 6, the pin is dispensed with and a spring is used to retain the actuating-lever in place, the groove or slot c^3 is dispensed with.

The post E consists of the round central shank, forming the bearing for the actuating-lever C, having a round head entering a recess in the plate A, and provided with the projection e' , entering the slot in the hole a^3 , so that when inserted the post E will be firmly held against rotation. The upper end of the post E is provided with a screw-thread, and this portion is split lengthwise, by which means sufficient spring is secured to prevent the thumb-nut F from turning loose in the ordinary use of the clipper.

The cover D is of convex exterior form, raised in the center where the thumb-nut bears on the same. This cover D is provided on the rear and exactly on a line with the operating-lever C with the lever d , curved exactly like the lever C, so that in operating the hair-clipper all tendency to twist will be avoided and the machine can be worked more steadily. The two levers are placed one above the other. By this arrangement the great strain required to hold the hair-clipper by the fixed lever when in use is avoided, and the use of the machine is much less fatiguing.

The cover D is also provided with the projection d' , which enters the hole a^4 in the comb-plate A and secures the rear part of the cover; and to allow the cover D to adjust itself on the cutter-plate and bear evenly on the same, the small pin d^2 , or any other projection which, while bearing on the comb-plate, will serve as a pivot on which the rear edge of the cover may rock or sway slightly, is placed just back of the projection d' , and bears upon the margin of the plate, so as to support the rear edge of the cover out of contact with said plate. The projection d^3 on the front part of

the cover extends through the elongated hole b^2 in the cutter-plate B, and enters the hole a^5 in the comb-plate. It forms a stop to limit the reciprocation of the cutter-plate.

The forward edge of the cover D is turned down at right angles and enters the groove b of the cutter-plate B. It forms the way or guide d' , along which the cutter-plate moves as it is reciprocated by the actuating-lever. As the cutter-plate must move in close contact with the comb-plate, the cover is made to bear on the cutter-plate, and the pressure with which it bears is regulated by the thumb-nut F; but to prevent excessive friction and allow of ready lubrication of this sliding surface, the bearing of the cover on the cutter-plate is confined to the two bearing-surfaces d^5 d^6 , and as the cover can freely adjust itself to these bearings, all binding is prevented, and the cutter-plate moves smoothly and evenly as it is reciprocated by the actuating-lever, making a clean and sharp cut.

G is the shank of the levers secured in the handle H, as is clearly shown in Fig. 9. This shank is made slightly tapering, and the hole in the wooden handle H is reamed to correspond with the taper of the shank. To prevent the turning of the handle H on the shank G, one, two, or more fins, g , are raised from the shank by forcing a chisel into the metal of the shank, and raising a portion of the metal above the surface to form the fins g . When the shank is driven into the handle, these fins enter the wood, as is shown in Fig. 9, and firmly hold the shank and handle.

When wooden handles are secured to the shanks of the levers in hair-clipping machines, or to the shanks of any other tool or device, such handles are liable to the usual shrinkage of the wood, and the ferrules that have heretofore been used are always liable to get loose, and the wood also shrinks away from the shank. In a hair-clipping machine this shrinkage of the wood opens joints and forms interstices in which the small particles of clipped hair accumulate and foul the apparatus. To prevent this and allow for the adjustment of the ferrule, I turn the end on which the ferrule is placed slightly tapering, and provide the interior of the ferrule with a saw-tooth section screw-thread, so that when the wood has shrunk the ferrule can be turned and screwed onto the handle until it fits perfectly tight; and to avoid the unsightly appearance of a ferrule not fitting closely against the shoulder of the handle, I cut the annular groove h' into the handle, so that on screwing up the ferrule the end of the same may enter said groove. A neat finish is always produced by this arrangement. The outer end of the ferrule has an inwardly-projecting flange, h^2 , which snugly surrounds the shank G, forming a close joint, into which the fine particles of hair cannot penetrate.

This improved hair-clipping machine can be readily taken apart by unscrewing the thumb-nut; the cover and its handle can now

be removed. If the pin e^3 on the post E is used instead of the spiral spring, the actuating-handle is turned, so that the pin e^3 can pass through the slot c^3 , and the handle is withdrawn. The post E is now removed, and the plates A and B can be cleaned or ground, when the whole can be placed together as quickly and readily as it is taken apart.

I am aware of the construction shown and described in the patent to Thomas L. Phipps, No. 166,631, granted August 10, 1875; but my improved construction differs from that shown in the said patent, in that the comb and cutter plates are free from projections, so that they may be readily ground when worn, and also in that the projections d' and d^3 , respectively, secure the rear part of the cover and form a stop to limit the reciprocation of the cutter-plate, while the pin d^2 , while bearing on the cutter-plate, allows the cover to adjust itself.

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

1. The combination, with the comb and

cutter plates having the depressions and raised bearings, as described, of the cover having the front projection, d^3 , the bearing d^4 , the rear projection, d' , and the pin d^2 , as and for the purposes described.

2. In a hair-clipper, the combination of the comb-plate A, having the raised bearing-surfaces a' a^2 and holes a^3 a^4 a^5 , the cutter-plate B, having the grooves on its upper side, the raised bearings on its under side, and the holes b^2 b^4 , the cover D, having the fixed lever d , the guide d' , working in groove b , the bearings d^5 , and projections d' d^3 , the lever C, having the boss c' , with its stud c^2 , the split post E, and thumb-screw F, as and for the purpose described.

In witness whereof I have hereunto set my hand.

CYRUS CARLETON.

Witnesses:

M. F. BLIGH,

J. A. MILLER, Jr.