C. CARLETON.
Hair-Clipper.

No. 216,998. Patented July 1, 1879.

Fig. 1.

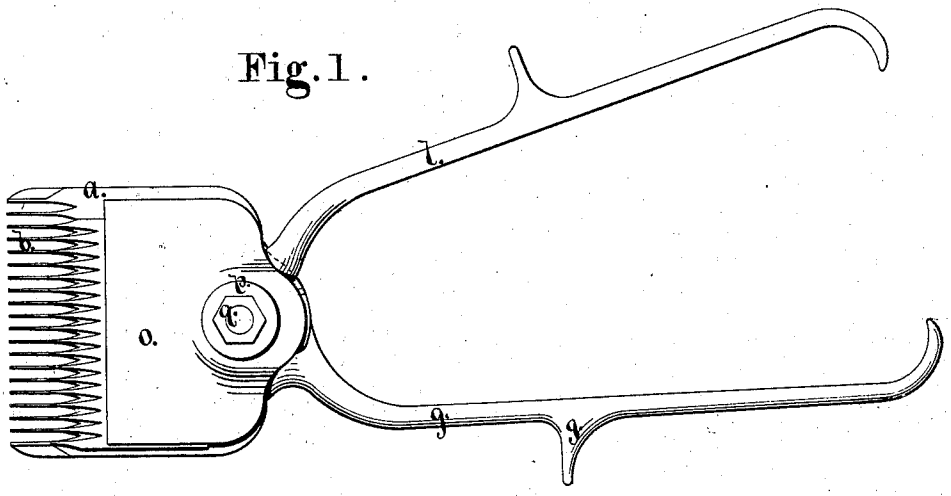


Fig. 2.

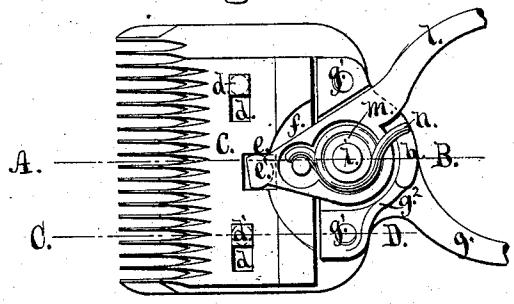


Fig. 3.

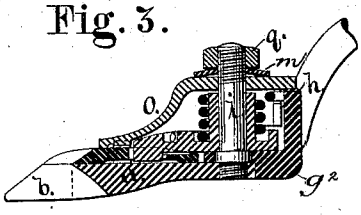


Fig. 4.

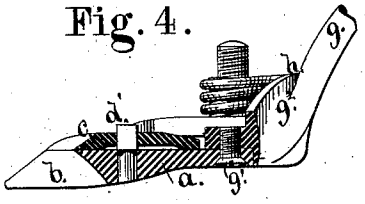
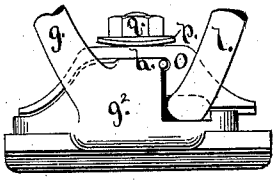


Fig. 5.



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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN HAIR-CLIPPERS.

Specification forming part of Letters Patent No. **216,998**, dated July 1, 1879; application filed March 8, 1879.

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 certain new and useful Improvements in Hair-Clippers; 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 improvements in hair-clippers generally, and is peculiarly adapted for clipping the hair of small animals or parts of animals difficult to clip with the old construction of clippers, such as portions of the head, parts of the legs difficult to get at, among which are the fetlocks, and is also particularly designed for barbers' use.

The invention consists in the peculiar arrangement, combination, and construction of the various parts, by which a new and superior machine is produced, and which will be more fully described hereinafter, and pointed out in the claims.

Figure 1 is a top view of my improved clipper, adapted to be operated by one hand, the handles being provided with finger and thumb rests, so that the clipper can be firmly held and operated. Fig. 2 is a top view of the comb-plate and the cutter-plate, showing the lever operating the cutter-plate, the fulcrum of the lever, the spiral spring operating the lever by reaction, and the position of the two hand-levers, the cap covering these parts in Fig. 1 being removed. Fig. 3 is a sectional view of Fig. 1 through the line A B, indicated on Fig. 2. Fig. 4 is a sectional view of Fig. 2 through the line C D. Fig. 5 is a rear-end view of the clipper, the hand-levers being shown broken off.

In the drawings, *a* represents the comb-plate, provided with the comb-teeth *b*. These teeth are made of considerable depth, much greater than comb-plate teeth as heretofore made. The under surface from the front end of the teeth to the rear end is slightly curved, and the plate in the rear of the teeth diminishes rapidly in thickness, so much so that the teeth can pass into curved surfaces and cut the hair of uniform length in all parts. The teeth in the comb-plate are also much longer and more slender than such teeth as heretofore made, and will therefore guide the hair better in passing through the same, and hold the hair more firmly while the same are cut by the reciprocating cutter-plate.

As the long and slender comb-teeth would be liable to break off at a slight touch, the temper of the forward portion is drawn to a spring temper, while the rear cutting portion is left sufficiently hard to present a good cutting-edge.

The comb-plate forms the base of the clipper, and all the parts are directly or indirectly secured to the same.

Figs. 1 and 2 show the outline of the comb-plate, and Figs. 3 and 4 the varying thickness of the plate in section.

C represents the cutter-plate. The central portion of this plate is cut out sufficiently, so as to give a narrow bearing on the front and rear edges of the plate, both bearings extending the whole length of the plate. *d d* are two slots in the plate, and the pins *d' d'*, secured in the comb-plate, as shown in Fig. 2, pass through the slots *d d* in the cutter-plate, forming guides for the plate and stops to limit the reciprocation of the cutter-plate. The hole *e''*, in which the cam on the lever, by means of which the cutter-plate is reciprocated, oscillates, is cut through the cutter-plate; but the segmental cut *f* removes only a portion of the upper part of the cutter-plate without disturbing the rear bearing of the plate, as has been the case with cutter-plates as heretofore constructed. This break in the bearing of the cutter-plate, within which the short arm of the lever heretofore moved, allowed hair and dirt to accumulate between the lever and the plate, and caused much wear and friction, all of which is avoided in my improved clipper.

The fixed lever *g* is secured to the comb-plate by means of two screws, as shown in Figs. 2 and 4, firmly holding the plate g^1, forming part of the fixed lever to the comb-plate; and to more rigidly hold the fixed lever to the comb-plate, a portion of the plate *g'* extends down even with the comb-plate, and fits closely to the edge of the same, as is shown in Figs. 3, 4, and 5.

The plate g^1 is milled out to receive the op-

erating-lever, and is partially surrounded with a raised rim, g^2, from which the fixed lever projects.

By this construction the upward curved portion of the fixed and operating levers can be placed on the same height, be curved both in the same manner, exert the force on the same plan, and present a more elegant and finished appearance than when they are made to pass one over or in front of the other.

i is the axial fulcrum on which the operating-lever *l* is hinged. It is a stout pin, screwed into the comb-plate, and resting on the same by a projecting shoulder. The operating-lever *l* is provided with the sleeve *m*, which secures to it a long bearing on the pin *i*, and adds much to the accuracy of the working. Surrounding the sleeve *m* is the coiled spring *n*, one end of which is in contact with a pin on the short end of the lever *l*, and the other end rests against the end *h* of the rim g^2. The whole is protected by the cover O, resting at *h* on the curved rim g^2, and bearing on the cutter-plate C along the cutters, as is shown in Figs. 1 and 3. The pin *i* projects through the cover O, and is provided with a screw-thread. A washer, *p*, is placed on the plate, made of spring-steel, and curved so that when the nut *q* is tightened the cover O, resting firmly at *h*, will exert a yielding pressure along the line of the cutters, and thus keep the same in contact with the comb-plate, not fixed and rigidly, but yielding to the spring of the washer *p*.

All the parts are protected by means of the cover O, and hair or other impurities are not liable to interfere with the free working of the clipper. The pressure on the cutter-plate can be easily regulated by the nut *q* acting on the spring-washer, and when regulated is not liable to be disturbed. All the operating parts work on long bearings, so that the cutter-plate works smoothly, and the operating-lever is also hinged on a long bearing and bears on the lower part of the pin, so that it is not liable to bind. The whole works accurately with the least possible friction, and the general appearance is elegant.

The hand-levers *g* and *l* are rounded on the outside, the ends curved inward, and thumb and finger rests are provided, to facilitate the handling of the clipper without fatigue—an important point when intended for barbers' use.

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

1. In a hair-clipping machine, the combination, with the cutter-plate C, of a comb-plate the forward portion of which is of greater thickness than the rear portion, and in which the lower surface of the forward portion is curved, and diminishes rapidly from the end of the teeth rearward, so that the teeth can enter irregularities in the surface and the hair can be cut uniform in length, as described.

2. The combination, with the comb-plate of a hair-clipper, of a lever provided with a curved rim or flange, which is arranged and adapted to inclose a portion of the clipper, and to form a bearing for the rear portion of the cover, substantially as set forth.

3. The combination, with the comb-plate and lever provided with a curved rim, which is arranged and adapted to support the rear end of the cover, of a fulcrum-pin secured at its lower end to the comb-plate, and its upper end connected with the cover, substantially as set forth.

4. The combination, with the comb-plate, cutter-plate, and lever provided with a curved rim which incloses a portion of the clipper, of an independent cover, the forward end of which rests upon the cutter-plate and its rear end upon the raised curved rim of said lever, and an operating-lever provided with an elongated sleeve-bearing, which surrounds the fulcrum-pin of the clipper, and provided with a cam for operating the cutter-plate, substantially as set forth.

5. The combination, with the comb-plate, cutter-plate, and lever provided with a curved rim, which incloses a portion of the clipper, of an independent cover supported at opposite ends upon the cutter-plate and curved rim of the lever, an operating-lever provided with an elongated sleeve-bearing, which surrounds the fulcrum-pin, and a spiral spring surrounding the elongated sleeve, and adapted to move the operating-lever in one direction, when the same has been moved in the opposite direction by hand-power, substantially as set forth.

6. The combination, with the comb-plate and lever provided with a raised curved rim, which incloses a portion of the clipper, and an independent cover, which is supported at opposite ends by the cutter-plate and raised curved rim, of a fulcrum-pin provided with a nut and spring-washer, substantially as set forth.

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