(Model.)

F. M. WASHBURN.

HAIR CLIPPER.

No. 356,434. Patented Jan. 18, 1887.

Fig: 1.

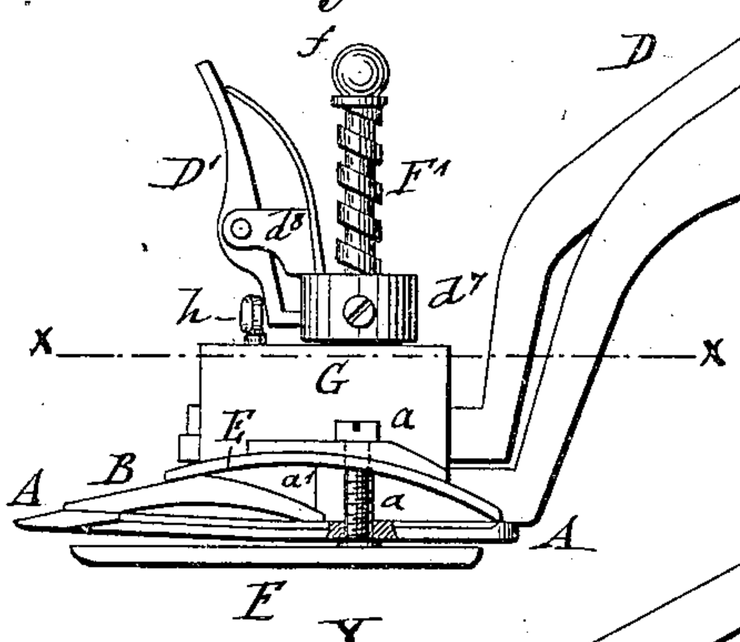


Fig: 2.

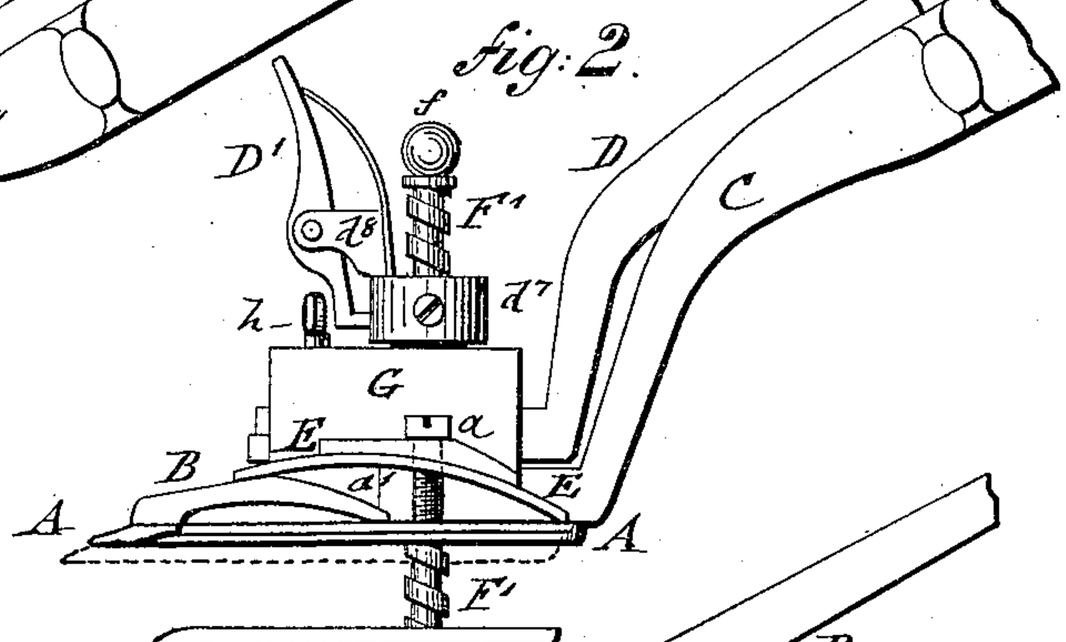


Fig: 3.

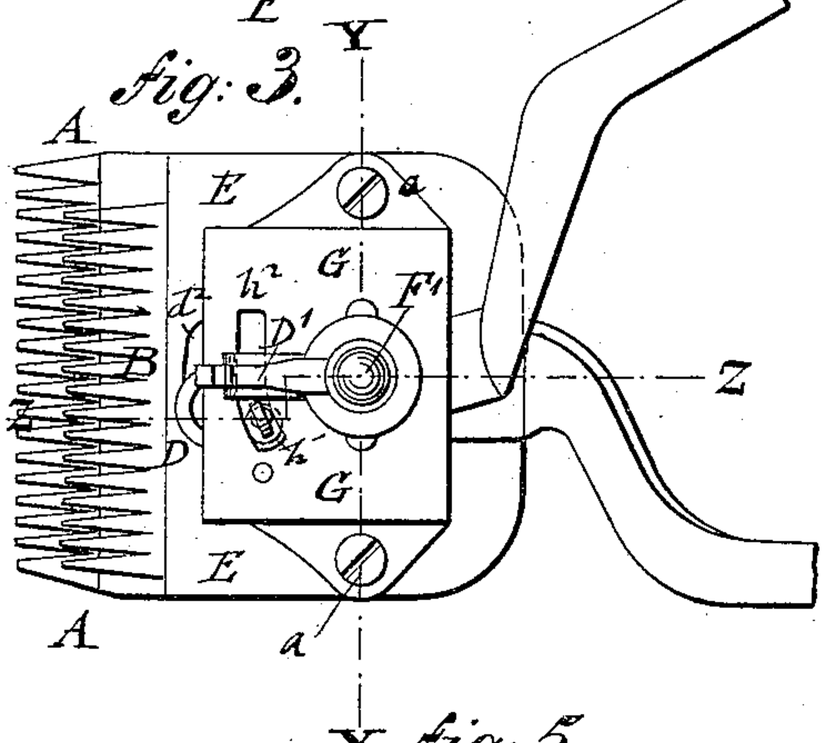


Fig: 4.

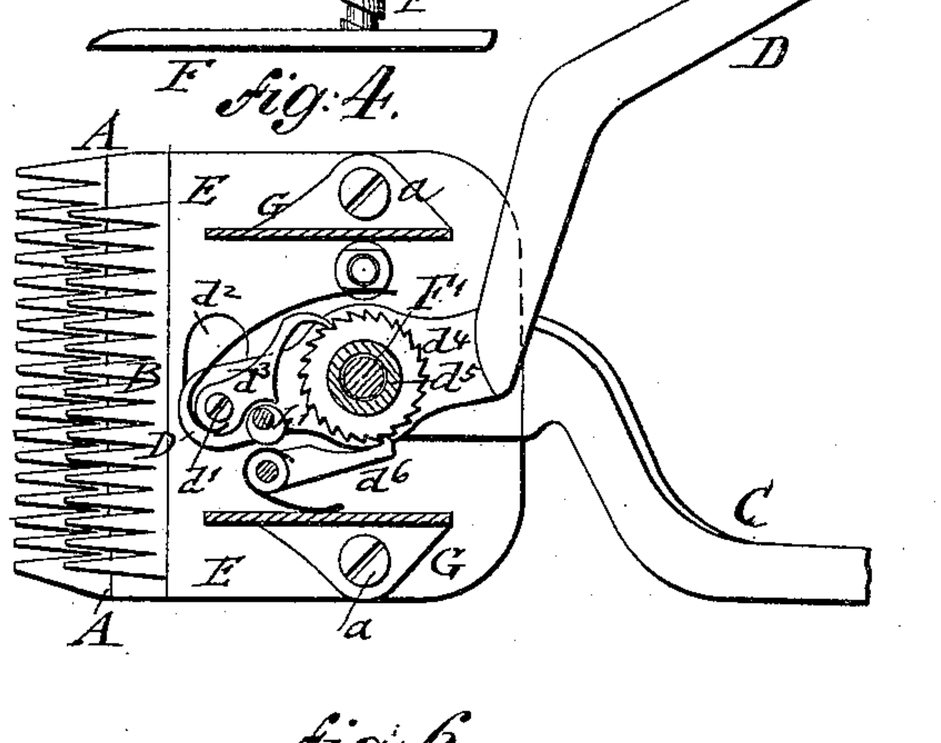


Fig: 5.

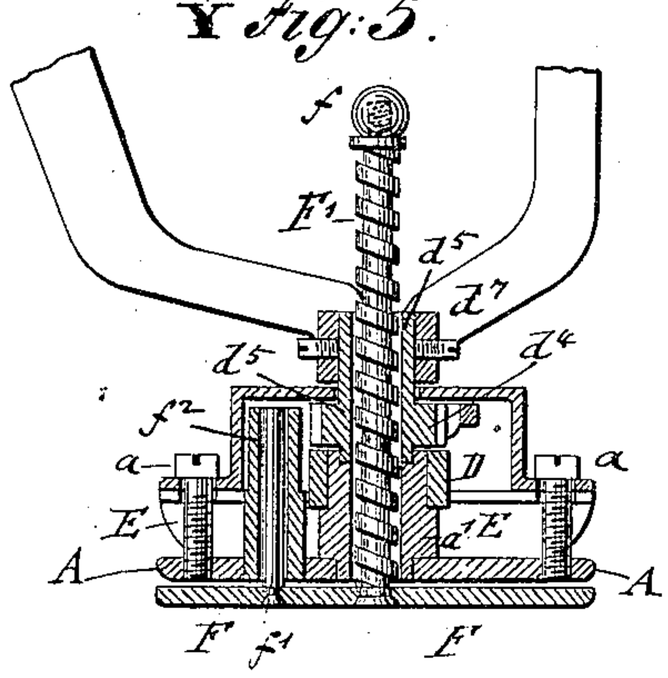


Fig: 6.

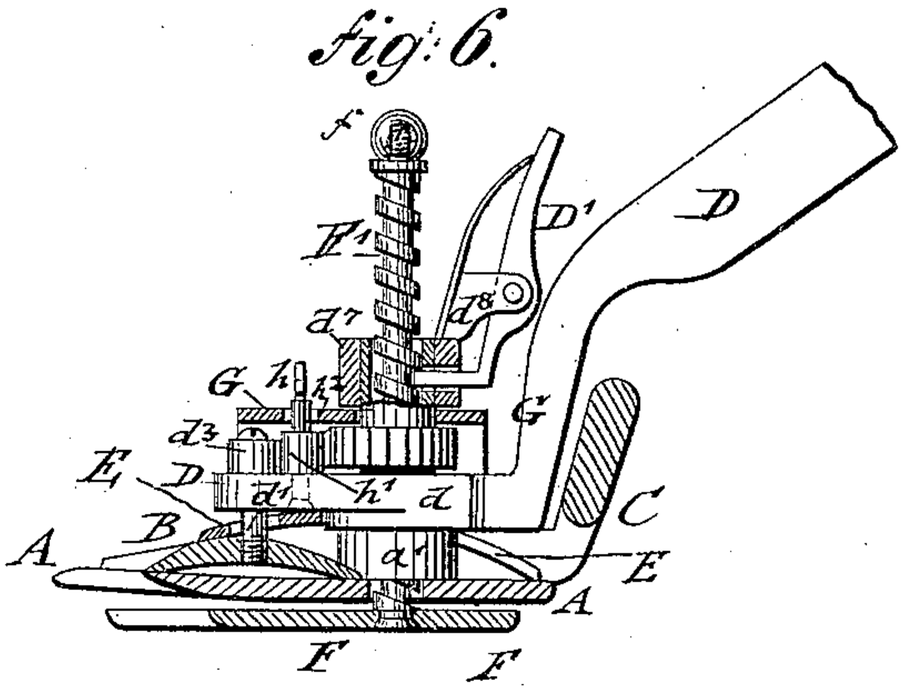
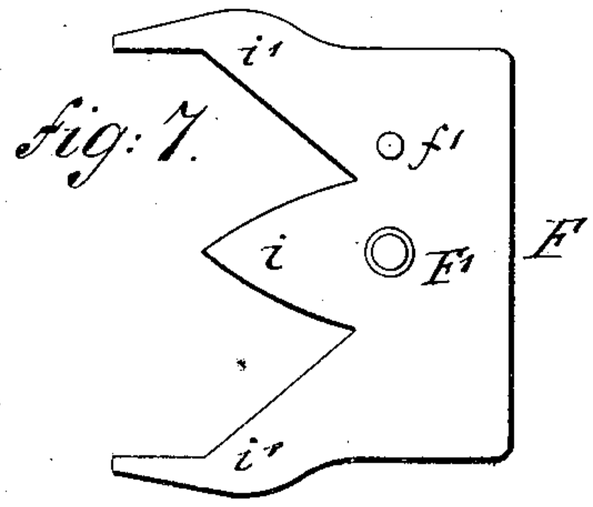


Fig: 7.



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UNITED STATES PATENT OFFICE.

FRANCIS M. WASHBURN, OF LAFAYETTE, INDIANA, ASSIGNOR TO LOUIS KLEIN, OF SAME PLACE, AND ISIDOR STERN, OF NEW YORK, N. Y.

HAIR-CLIPPER.

SPECIFICATION forming part of Letters Patent No. 356,434, dated January 18, 1887.

Application filed June 17, 1886. Serial No. 205,392. (Model.)

To all whom it may concern:

Be it known that I, FRANCIS M. WASHBURN, of Lafayette, in the county of Tippecanoe and State of Indiana, have invented certain new and useful Improvements in Hair-Clippers, of which the following is a specification.

This invention relates to improvements in hair-clippers of that class which are used by barbers for clipping the hair close to the scalp or skin, the clippers having the special advantage that the hair can be cut in variable length, short at the neck and lower part of the head, and of gradually-increasing length at the top and front of the head, the increase in length being obtained by the automatical adjustment of an auxiliary comb-plate; and the invention consists of the combination, with a stationary comb-plate and a reciprocating cutter-plate, of an auxiliary comb-plate, which is automatically adjusted at a gradually-increasing distance from the stationary comb-plate by the action of the oscillating handle and a suitable pawl-and-ratchet mechanism operated by the same. When it is desired to clip the hair at a uniform distance from the scalp or skin, the auxiliary comb-plate is either entirely removed or secured at the proper distance from the stationary comb-plate by throwing the actuating mechanism out of gear with the oscillating handle; and the invention consists, further, of certain details of construction and combination of parts, which will be more fully described hereinafter, and finally be pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 represent side elevations of my improved hair-clipper for barbers' use, showing the auxiliary comb-plate arranged, respectively, close to the stationary comb-plate and at some distance from the same. Fig. 3 is a plan; Fig. 4, a plan, partly in horizontal section, on line *x x*, Fig. 1. Figs. 5 and 6 are respectively a vertical transverse section on line *y y* and a vertical transverse section on line *z z*, Fig. 3; and Fig. 7 is a detail top view of the auxiliary comb-plate.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the stationary comb-plate, B the reciprocating cutter-plate, C the stationary handle, D the oscillating handle, E the cap-plate, and F the auxiliary comb-plate, of my improved hair-clipper.

The cutter-plate B, like the stationary comb-plate A, is provided with a series of teeth, as customary in hair-clippers of this class.

The cap-plate E is made of spring-steel, and pressed by fastening-screws *a a* on the cutter-plate B.

The stationary handle C is rigidly applied to the comb-plate A, and provided with an eye or socket, *a'*, having a shoulder, to which the eye *d* of the oscillating handle D is pivoted.

The oscillating handle D is extended beyond its eye *d*, over the cap-plate E, and pivoted to a fixed pin, *d'*, of the cutter-plate B, said pin passing through a slot, d^2, of the cap-plate, so as to have sufficient play to follow the motion of the oscillating handle D in reciprocating the cutter-plate B. To the pivot-pin *d'* is applied a spring-actuated pawl, d^3, that engages a ratchet-wheel, d^4, of a sleeve, d^5, which turns by a circular shoulder in a guide-groove of the eye *a'* of the fixed handle C and axially in line with the same. A spring-actuated check-pawl, d^6, engages the ratchet-wheel d^4 and prevents it from changing its position, except when operated by the pawl d^3. To the upper end of the sleeve d^5 is attached, by screws, a collar, d^7, that is provided with a lug, d^8, to which is fulcrumed a spring-actuated lever, D'.

The upper end of the lever D' serves as a handle, while the lower end passes through a hole of the collar d^7 and sleeve d^5, to the inside of the latter, so as to engage the spirally-threaded shank F' of the auxiliary comb-plate F, as shown in Fig. 6.

The pawl-and-ratchet mechanism is covered by an inclosing plate or casing, G, which is attached to the comb-plate A by the same screws, *a a*, which retain the cap-plate E in position, as shown in Fig. 5. The covering-plate G serves to hold the sleeve d^5 and ratchet-wheel d^4, also the oscillating handle D, cap-plate E, and cutter-plate B, in position on the comb-plate, and also to protect the pawl-and-ratchet mechanism against getting out of order. The collar

d^7 and lever D′ are mounted above said covering-plate G, while the screw-threaded shank F′ extends through the sleeve d^5 to some distance above the same. The screw-shank F′ is provided with a ball-shaped head, *f*, which is screwed on the upper end of the shank, so as to be readily detached therefrom when it is desired to detach the auxiliary comb-plate F and use the clipper without the same.

The auxiliary comb-plate F is guided by a fixed pin, *f′*, sidewise of the screw-shank F′ in a guide-sleeve, f^2, of the comb-plate A, so as to prevent it from turning axially while being adjusted at varying distance from the comb-plate. A pin, *h*, is pivoted to the end of the oscillating handle D, sidewise of the pawl d^3, and provided with an eccentric, *h′*. The pin is extended through an opening, h^2, of the covering-plate G, and provided with a handle, h^3, at its upper end, so that the eccentric *h′* may be turned, and thereby the spring-pawl d^3 moved in or out of engagement with the ratchet-wheel d^4.

When the pawl d^3 is thrown out of engagement with the ratchet-wheel by the eccentric *h′*, and the upper end of the lever D′ pressed inwardly toward the screw-shank F′, the lower end of the lever D′ is withdrawn from the spiral screw-thread of the shank F′ and the latter permitted to be moved up or down in the sleeve d^5 and the eye *a* of the stationary handle C, or to be entirely removed. When, however, the eccentric *h′* is turned so as to release the pawl *d*, the latter engages the ratchet-wheel d^4, while the oscillating motion of the handle D will produce, by the action of the pawl d^3 and ratchet-wheel d^4, the turning of the sleeve d^5, and by the engagement of the lower end of the lever D′ with the screw-shank F′ the forward feeding of the auxiliary comb-plate F to a corresponding degree. Each oscillation of the handle D produces thus a slight forward feed of the screw-shank F′, and consequently the forward motion of the auxiliary comb-plate F, away from the comb-plate A, so that the distance of the auxiliary comb-plate from the stationary comb-plate is gradually increased until the maximum distance is reached.

The automatic forward motion or feed of the auxiliary comb-plate F by the oscillatings of the handle D permits the clipping of the hair in such a manner that it is cut close to the skin at the neck or lower part of the head and at a gradually-increasing length at the top and front of the head, the barber beginning at the lower hind part of the head and running the clipper along the back and top toward the front of the same. In this manner a greater length of hair is obtained at the crown of the head and a close clipping of the same at the lower part near the neck, which is more desirable than the uniform length produced by the present clippers all over the head.

The automatic adjustment of the auxiliary comb-plate forms the essential improvement of my hair-clipper, especially as the clipper can be used as an ordinary clipper, either by removing the auxiliary comb-plate entirely or setting the same into the recessed under side of the stationary comb-plate, or close to the same, as shown in Figs. 1 and 6. This is accomplished by pressing on the upper end of the spring-lever D′, so as to withdraw the lower end of the same from the screw-shank F′, upon which the auxiliary comb-plate F can be readily pushed up to the stationary comb-plate A. The auxiliary comb-plate F can also be adjusted to different distances from the stationary comb-plate A, and retained in this position by the stop-lever D′, so that the hair can be clipped close to the skin or at any desired length. In this case the pawl d^3 has to be withdrawn from engagement with the ratchet-wheel d^4, so as to prevent the forward feed of the screw-shank F′ and auxiliary comb-plate F.

The auxiliary comb-plate F is provided with a pointed middle portion or plow, *i*, and longer forward-extending fingers *i′*, which are beveled at the edges and serve to guide the clipper through the hair, so as to present it properly to the action of the cutter-teeth of the stationary comb-plate and reciprocating cutter-plate.

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

1. The combination of a stationary comb-plate, a reciprocating cutter-plate, a stationary handle attached to the comb-plate, an oscillating handle pivoted to the eye or socket of the stationary handle, an auxiliary comb-plate below the stationary comb-plate, and an intermediate pawl-and-ratchet and screw mechanism connected to the oscillating handle, and auxiliary comb-plate connecting the oscillating handle and auxiliary comb-plate, whereby the auxiliary comb-plate is automatically adjusted by the motion of the oscillating handle to a gradually-increasing distance from the comb-plate, substantially as set forth.

2. The combination of a stationary comb-plate, a reciprocating cutter-plate, a stationary handle attached to the comb-plate, an oscillating handle pivoted to the eye or socket of the stationary handle, an auxiliary comb-plate having a screw-shank, a pawl-and-ratchet mechanism operated by the oscillating handle, and a spring-actuated lever fulcrumed to a sleeve of the ratchet-wheel and engaging the spiral thread of the shank, whereby the gradual forward feed of the auxiliary comb-plate is produced, substantially as set forth.

3. The combination of a stationary comb-plate, a reciprocating cutter-plate, a stationary handle attached to the stationary comb-plate, an oscillating handle pivoted to the eye or socket of the stationary handle and connected to the cutter-plate, an auxiliary comb-plate having a screw-shank passing through eyes of the handles, and a fulcrumed and spring-actuated stop-lever engaging the spiral thread of the shank, substantially as set forth.

4. The combination of a stationary comb-plate, a reciprocating cutter-plate, a station-

ary handle connected to the comb-plate, an oscillating handle pivoted to the stationary handle and connected to the cutter-plate, a cap-plate pressing on the cutter-plate, an auxiliary comb-plate having a screw-threaded shank, a pawl-and-ratchet mechanism operated by the oscillating handle for automatically adjusting the auxiliary comb-plate, a covering-plate or casing extending over said mechanism, and a fulcrumed and spring-actuated lever supported on a sleeve of the ratchet-wheel and engaging the thread of the shank, substantially as set forth.

5. The combination of a stationary comb-plate, a reciprocating cutter-plate, a stationary handle attached to the comb-plate, an oscillating handle pivoted to the stationary handle connected to the cutter-plate, an auxiliary comb-plate having a screw-shank, a pawl-and-ratchet mechanism operated by the oscillating handle, a spring-actuated lever fulcrumed to a sleeve of the ratchet-wheel and adapted to engage the thread of the screw-shank, and a device for throwing the pawl in or out of engagement with the ratchet-wheel, so as to establish either the automatic forward feeding of the auxiliary comb-plate or the adjustment of the same at a fixed distance from the comb-plate, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANCIS M. WASHBURN.

Witnesses:

GEORGE W. BALL,

LOUIS KLEIN.