Sept. 18, 1962 G. F. ZUCKER 3,054,183

BARBERING MACHINE

Filed Aug. 17, 1959

Fig. 1.

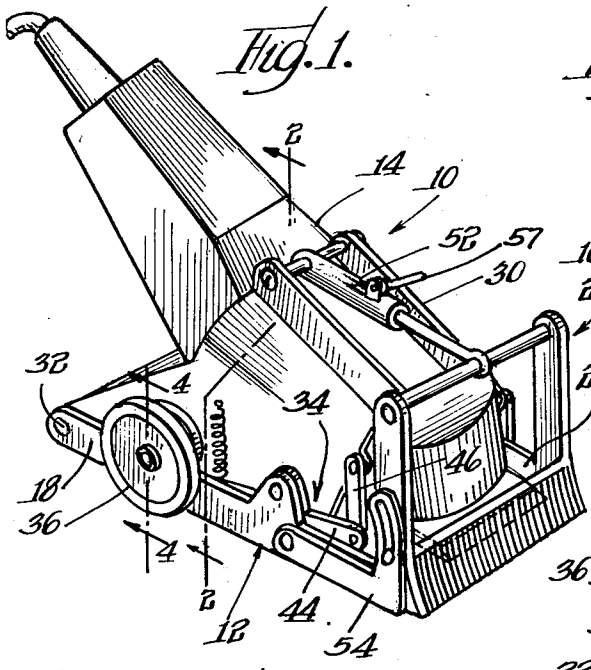


Fig. 2.

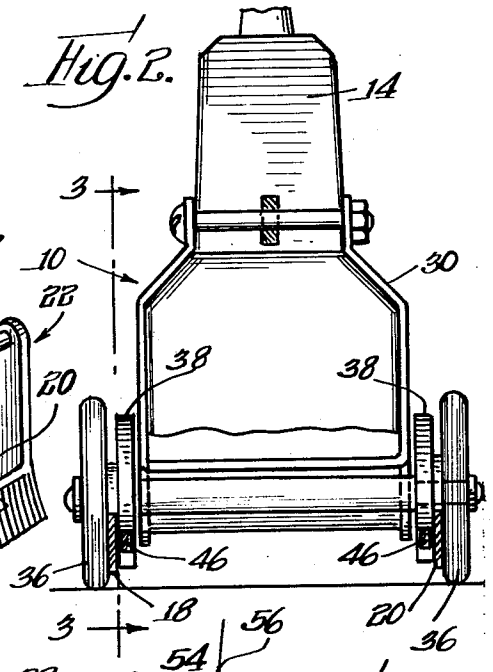


Fig. 3.

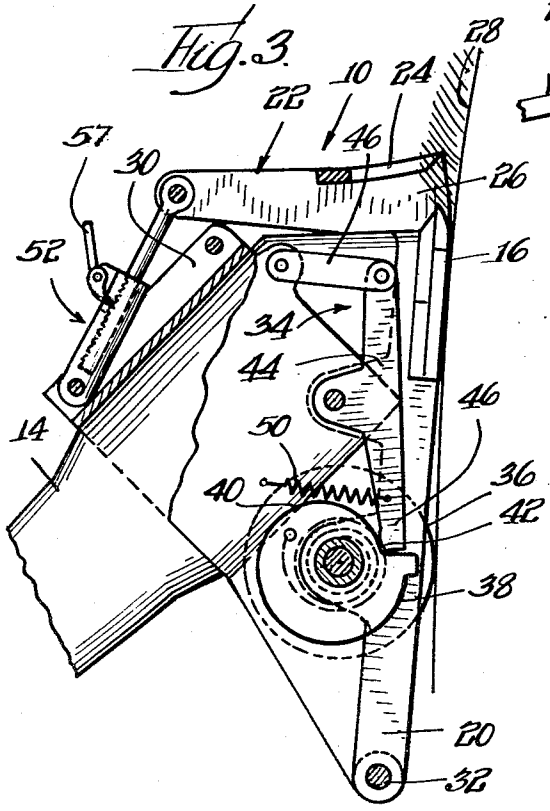


Fig. 5.

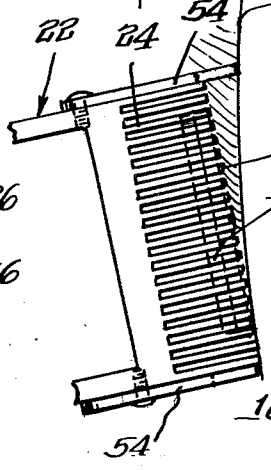
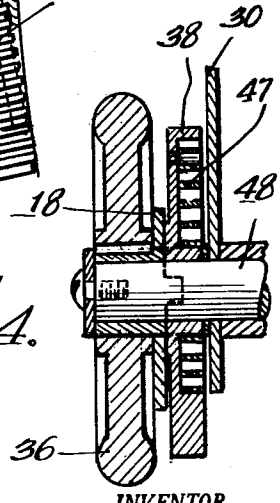


Fig. 4.



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BARBERING MACHINE

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The present invention relates to the barbering of human beings to produce masculine style haircuts.

The barbering of an individual to produce a masculine style haircut has been a tedious, time-consuming task which for the most part has required the services of a skilled and highly trained barber. The problem of achieving a well styled masculine haircut is complicated by many inherent factors, including the characteristic styling of such haircuts to produce a feather edge along the lower extremity of the natural hair line.

One of the most challenging problems in achieving a well styled masculine haircut is that of properly shaping and balancing of the lower peripheral portion of the hair style. A masculine style haircut requires that the hair be cut in such fashion that the hairs on the generally vertical portion of the individual's head be cut to lengths such that the length of the trimmed hairs progressively increases upwardly from a substantially zero length along the lower extremity of the natural hair line. Thus, the fact that the length of the individual hairs in critical areas of a masculine hair style is a function of the spacing of the hairs above a feathered lower edge of the hair style has made barbering of the masculine style haircut a task that has not been easy to perform. As a practical matter it has been impractical and generally impossible for individuals to cut their own hair and achieve an artistic, masculine hair style. Amateurs undertaking the barbering of masculine style haircuts have usually experienced difficulty with the inherent problems involved, which are in fact a challenge to the skilled barber.

One object of the invention is to provide a new and improved barbering machine which can be used without special training or skill to produce with great speed and efficiency extremely well executed masculine style haircuts.

A further object is to provide an improved barbering machine of the above character which is well adapted to be advantageously used not only by the amateur or professional barber, but which is suitable to be used by an individual to cut his own hair to produce a finished masculine hair style having the appearance of a professionally performed haircut.

Another object is to provide an improved barbering machine as recited which can be readily adapted to produce masculine style haircuts of different design to conform to the tastes of different individuals.

A further object is to provide a barbering machine as set forth above which is equipped for efficiently and properly cutting and styling the hair around and above the ears of the individual.

Another object is to provide a barbering machine as set forth in the above objects which is inherently dependable and reliable in its operation.

Other objects and advantages will be evident from the following description of the exemplary embodiment of the invention illustrated in the drawings, in which:

FIGURE 1 is a perspective view of a barbering machine embodying the invention;

FIG. 2 is a transverse vertical sectional veiw of the machine, taken along the line 2—2 of FIG. 1;

FIG. 3 is a vertical side view of the machine, taken along the line 3—3 of FIG. 2;

FIG. 4 is a fragmentary vertical sectional view on an enlarged scale, taken along the line 4—4 of FIG. 1; and

FIG. 5 is a fragmentary front view of the machine,

showing the machine adjusted for trimming above the ears of an individual.

Referring to the drawings in greater detail, the barbering machine 10 forming the exemplary embodiment of the invention illustrated comprises a chassis 12, adapted to be moved along and in contact with the neck and head surfaces of the individual to be barbered. Electrically powered clippers 14 are supported on the chassis 12 for vertical movement upwardly in relation to the chassis from a normal position, illustrated in FIGS. 1 to 3, in which the clipper blades 16 are disposed in a skin contacting position immediately adjacent the lower extremity of the chassis. See FIG. 3. Thus, as shown, the clipper blades 16 are disposed between two longitudinal skin engaging runners 18, 20 on opposite sides of the frame 22 of the chassis 12 and occupy a vertical movable position immediately behind a transverse comb 24 carried by the lower, forward end of the chassis frame.

In use, the barbering machine 10 is translated upwardly along the head and neck surfaces of an individual in successive strokes, each of which is started with the clipper blades 16 in alinement with the lower edge of the natural hair line. Thus, at the beginning of each stroke, the clippers 14 are located in their lowermost skin engaging position, FIG. 3, in which the clipper blades 16 are effective to clip off the adjacent hair even with the skin surface 28 against which the machine is placed.

Use of the machine is an extremely simple matter, as will presently appear, requiring no special skill on the part of the user. Each stroke of the machine is started by placing the machine on the body surface 28, FIG. 3, of an individual in the manner described and is carried through to completion by a simple upward, generally translatory movement of the machine.

An automatic masculine styling of the hair as an incident to simple vertical movement of the machine is accomplished by clipper control means on the chassis 12 which operates in synchronized, timed relation to forward translation of the machine to produce a progressive elevation of the clippers in relation to the chassis. Moreover, the rate of instantaneous vertical movement of the clippers 14 in relation to the chassis 12 relative to the instantaneous rate of translation of the chassis is continuously coordinated with the degree of movement of the machine 10 along a body surface from its starting position to produce the desired degree and character of "taper" in the hair style being barbered.

With reference to the construction of the illustrated machine 10, the clippers 14 are mounted in the forward end of a support 30 swingably supported for vertical movement about a transverse pivot 32 on the rear end of the chassis frame 22. Progressive elevation of the clippers 14 from the normal skin engaging position described is effected by a pair of control linkages 34 duplicated on opposite sides of the machine and operated by body engaging traction means 36 mounted on the chassis 12 and extending below the chassis frame 22 to engage the underlying body surface of the individual being barbered.

Preferably, the traction means 36, which supplies power for elevating the clippers 14 in timed relation to forward translation of the machine, is formed by a pair of wheels (also denoted by the numeral 36) journaled on opposite sides of the rear portion of the frame 22 as shown.

The two wheels 36 are connected to drive respectively two clipper elevating cams 38 supported for rotation about the axis of the wheels.

Each cam 38 defines a circumferential cam surface 40 having a radial rise extending circumferentially from the starting or inner end 42 of the cam surface, FIG. 3, which is designed to effect the desired coordination be-

tween the degree to which the clippers are raised from the normal position in relation to the extent of forward movement of the machine from its starting position to produce the desired degree of "taper" in the hair style produced.

The cams **38** operate two longitudinal clippers control levers **44** medially pivoted on the respective chassis frame runners **18**, **20**, as shown, and having cam following ends **46** engaging the respective cam surface **40**. The opposite or forward ends of the respective levers **44** are connected with the clippers support **30** by means of links **46**, which together with the levers **44** constitute components of the previously mentioned clippers control linkages **34**.

The cams **38** and traction wheels **36** are biased counterclockwise, with reference to FIG. 3, to starting positions by spiral springs **47** housed within the cams as shown in FIG. 4 and anchored to the support axle **48** for the wheels and cams. Tension springs **50** connected between the cam following ends **46** of the respective levers **44** and the clippers support **30** continuously urge the clippers toward the normal skin engaging position of the clippers shown in FIG. 3.

Starting with the clippers **14** and the cams **38** in their normal positions at the beginning of a stroke of the machine **10**, the machine is translated upwardly with the traction wheels **36** engaging the underlying body surface **28** of the individual being barbered. Rotation of the traction wheels **36** as an incident to forward movement of the machine causes the cams **38** to operate the linkages **34** to provide the desired automatic elevation of the clippers as the operating stroke of the machine progresses.

Since the degree of "taper" in the hair style produced by the machine is controlled by the shaping of the cam surfaces **40**, the machine is readily adapted to produce hair styles of different degrees of "taper" by the simple expedient of providing a selection of pairs of cams **38** for use in the machine, each pair of cams being designed to provide a specific degree of "taper" in the hair style produced by the machine. The cams **38** can be readily removed and replaced as necessary by other cams providing the desired "taper."

As previously intimated, the clippers **14** are displaced upwardly relative to the chassis **12** from their normal skin engaging position at the completion of each stroke of the machine. Quick, uncontrolled movement of the clippers back to their normal position in relation to the chassis **12** when the traction wheels **36** are lifted clear of the body surface is prevented by one-way motion precluding means **52** connected between the clippers support **30** and the chassis.

As shown, the one-way motion precluding means **52** is formed by a freely extendable telescoping link (also denoted by the numeral **52**) connected between the top of the clippers support **30** and the forward, upper end of the chassis frame **22** as shown. Contraction of the link **52** is normally prevented by a detent **57**, which is manually released by the user to effect a controlled lowering of the clippers to their normal position.

Use of the machine **10** to barber the hair growing areas above the ears of the person being barbered is facilitated by vertically settable chassis tipping elements **54** mounted on opposite sides of the forward end of the chassis frame **22** as shown. To condition the machine for cutting hair above the ears of an individual, one of the tipping elements **54** is displaced downwardly below the adjacent sides of the chassis **12** and temporarily fixed in the downwardly displaced position to effect a lateral tipping of the machine when it is placed against the body surface **56** of an individual, as shown in FIG. 5. Thus adjusted, the machine is moved in a generally horizontal direction along the hair growing surface **56** while being supported in a fashion such that the traction wheels **36** are raised clear of the underlying body surface.

The machine thus provided can be used without any particular skill or hair cutting experience by the user to quickly and efficiently barber individuals to produce masculine hair styles of well executed, pleasing appearance.

It will be appreciated that the invention is not necessarily limited to the specific construction of the exemplary embodiment illustrated, but includes structural variants and alternatives within the scope of the invention as defined by the claims.

The invention is claimed as follows:

1. For use in cutting hair, the combination of a translatable chassis, a comb mounted on a forward portion of said chassis, downwardly exposed movable traction means on said chassis adapted for engagement with an underlying body surface and for movement by the body surface relative to the chassis as an incident to translation of the chassis along the body surface, a replaceable cam element connected with said traction means for movement thereby as an incident to advancement of said chassis, a clippers support, means mounting said clippers support on said chassis for movement between a normal position and elevated position, said chassis being shaped to define at the rear of said comb a clippers receiving space which is open in a downward direction to provide for direct engagement with an underlying body surface of clippers positioned within said space by said clippers support, a cam follower engaging said cam, and means connecting said cam follower to said clippers support to effect progressive vertical displacement of the latter upon movement of the cam effected by forward translation of the chassis.

2. A barbering machine comprising, in combination, a translatable chassis, a comb mounted on a forward portion of said chassis and having generally vertical teeth of substantial length extending downwardly to the lower extremity of the adjacent portion of the chassis, downwardly exposed movable traction means on said chassis adapted for engagement with an underlying body surface, a replaceable cam element connected with said traction means for rotation thereby as an incident to advancement of said chassis, a hair clippers unit having cutting blades forming the lowermost extremity of the unit, said clippers unit being located immediately behind said comb, said chassis being shaped and formed to define a space behind said comb dimensioned to receive said clippers and opening downwardly to fully expose the underside of the lower one of said cutting blades and provide clearance for movement of the clippers between a raised position and a normal skin engaging position in which the cutting blades are located directly behind the generally vertical teeth of said comb and fully exposed at the underside thereof by said chassis for close engagement with an underlying body surface, a cam follower engaging said cam element, and linkage means connecting said cam follower to said clippers unit to effect progressive vertical displacement of the latter relative to the chassis and said comb upon rotation of the cam.

3. A barbering machine comprising, in combination, a translatable chassis, a comb mounted on the forward portion of said chassis, traction means mounted on said frame for engagement with an underlying body surface, a replaceable rotary cam mounted for rotation by said traction means, a clipper support swingably mounted on the rear of said frame and extending forwardly, a control lever releasably pivoted on said frame and having a cam follower end engaging said cam, a link connecting the other end of said control lever to said clipper support to effect vertical displacement of the latter upon rotation of said wheels accompanying advancement of said frame, and one-way motion precluding means coacting with said clipper support normally to preclude downward movement thereof, and means for releasing said motion precluding means to effect downward movement of said clipper support.

4. A barbering machine comprising, in combination, a

translatable support frame including a pair of body opposing runners on the forward portion thereof, a comb mounted on the forward portion of said frame, two wheels mounted on said frame and extending therebelow for engagement with an underlying body surface, a replaceable rotary cam mounted for rotation by one of said wheels, a clippers support swingably mounted on the rear of said frame and extending forwardly, a control lever medially pivoted on said frame and having a cam follower end engaging said cam, a link connecting the other end of said control lever to said clippers support to effect vertical displacement of the latter upon rotation of said wheels accompanying advancement of said frame, one-way motion precluding means coacting with said clippers support normally to preclude downward movement thereof, and means for releasing said motion precluding means to effect downward movement of said clippers support.

5. A barbering machine comprising, in combination, a translatable chassis having downwardly exposed body surface contacting means on the forward portion thereof and including downwardly exposed traction means adapted to engage an underlying body surface for movement by the surface upon translation of the chassis along the surface, hair cutting clippers including clipper blades, means mounting said clippers on said chassis for elevation relative thereto from a normal position of the clippers in which the clipper blades are disposed at the forward end of the chassis in flush alinement with the lower edge thereof, said chassis being shaped to expose the underside of said clipper blades for direct engagement with an underlying body surface when said clippers are in the normal position thereof relative to said chassis, a cam connected with said traction means for movement away from a normal position of the cam by the traction means as an incident to translation of the chassis, spring means connected with said cam to yieldably urge the latter toward said normal position thereof, clippers elevating means coacting with said cam and connected with said clippers mounting means to progressively elevate said clippers from the normal position thereof upon movement of said cam away from its normal position by said traction means, and releasable restraining means interconnected with said clippers mounting means to releasably preclude return movement of said clippers from an elevated position thereof to said normal position thereof by said spring means.

6. A barbering machine comprising, in combination, a translatable chassis having downwardly exposed body surface contacting means on the forward portion thereof and including downwardly exposed traction means adapted to engage an underlying body surface for movement by the surface upon translation of the chassis along the surface, hair cutting clippers including clipper blades, means mounting said clippers on said chassis for movement relative thereto upwardly from a normal position of the clippers in which the clipper blades extend down to the lower extremity of the adjacent portion of the chassis, said chassis being shaped to expose the underside of said clipper blades for direct engagement with an underlying body surface when said clippers are in the normal position thereof relative to said chassis, clippers elevating means operated by said traction means and connected with said clippers mounting means to progressively elevate said clippers from the normal position thereof upon movement of said traction means effected by translation of said chassis, spring means connected to urge said clippers downwardly toward said normal position thereof, and releasable restraining means interconnected with said clippers mounting means to releasably preclude return movement of said clippers from an elevated position thereof to said normal position thereof by said spring means.

7. A barbering machine comprising, in combination, a translatable chassis including downwardly facing body contacting means on the forward portion of the chassis, a comb mounted on the forward end of said chassis and having comb teeth cantilevering downwardly substantially into flush relation to the lower extremity of said body contacting means on the chassis, said chassis including movable traction means extending downwardly for engagement with an underlying body surface for movement by the surface in relation to other components of the chassis upon translation of the chassis along the surface, hair cutting clippers including clipper blades located on the underside of the clippers, said chassis defining a clippers receiving space located on the rearward side of said comb in immediately adjacent relation to said comb and being open in a downward direction to expose said space from the underside of said chassis, said clippers being disposed within said space with said blades proximate to the rear of said comb for movement between a raised position and a lower body surface engaging position in which the lower one of said blades extends downwardly into flush relation to the lower extremity of said chassis for direct engagement with an underlying body surface, and clipper elevating means on said chassis connected with said clippers and coacting with said traction means for operation by the latter to displace said clippers progressively upward from the lower body surface engaging position thereof as an incident to translation of said chassis along a body surface.

8. For use in cutting hair, the combination of a translatable chassis, a comb mounted on a forward portion of said chassis and including downwardly cantilevering comb teeth, downwardly exposed movable traction means on said chassis adapted for engagement with an underlying body surface for movement by the body surface relative to the chassis as an incident to translation of the chassis along the body surface, a clippers support, means mounting said clippers support on said chassis for movement between an elevated position and a lowered normal position, said chassis being shaped to define at the immediate rear of said comb a clippers receiving space dimensioned and adapted to receive clippers mounted on said clippers support, said clippers receiving space being defined by said chassis to open in a downward direction to provide for unobstructed direct engagement with an underlying body surface of clippers positioned within said space by said clippers support, and clipper elevating means on said chassis connected with said clippers support and coacting with said traction means for operation by the latter to effect progressive upward displacement of said clippers support as an incident to translation of the chassis along a body surface.

References Cited in the file of this patent

UNITED STATES PATENTS

592,770	Faracchio	Nov. 2, 1897
1,489,198	De Vincenti	Apr. 1, 1924
1,504,155	Smith	Aug. 5, 1924
2,725,627	Rekettyre	Dec. 6, 1955
2,911,715	Seifert	Nov. 10, 1959