

Nov. 18, 1969

O. GREENE
ELECTRIC SCISSORS

3,478,426

Filed June 22, 1967

2 Sheets-Sheet 1

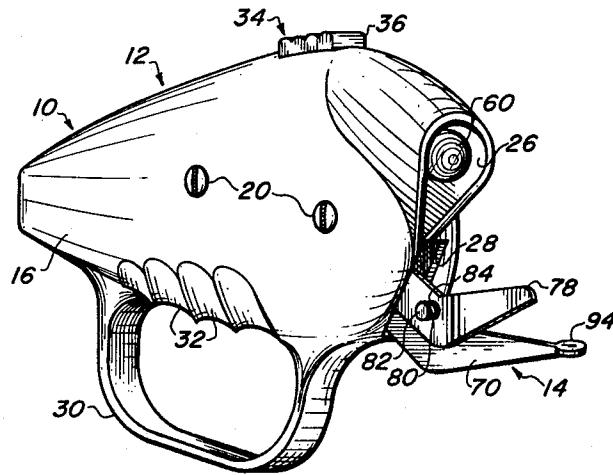


FIG. 1

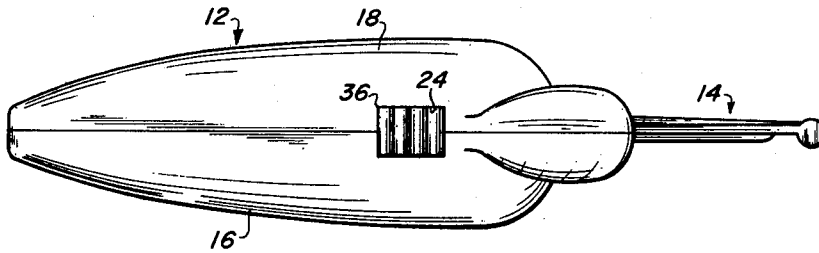


FIG. 2

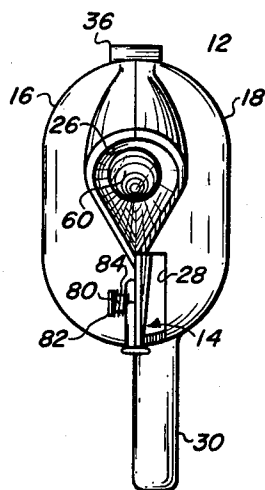


FIG. 3

INVENTOR.
OSCAR GREENE

BY

Edward F. Levy
ATTORNEY

Nov. 18, 1969

O. GREENE

3,478,426

ELECTRIC SCISSORS

Filed June 22, 1967

2 Sheets-Sheet 2

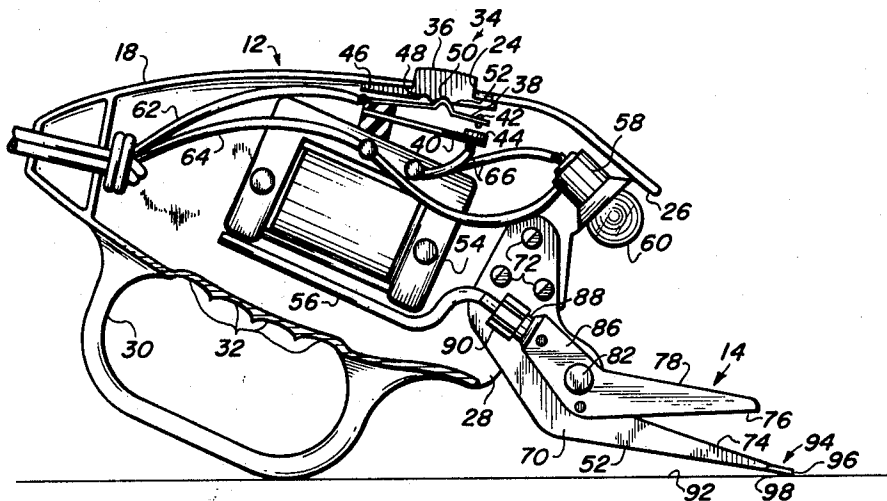


FIG. 4

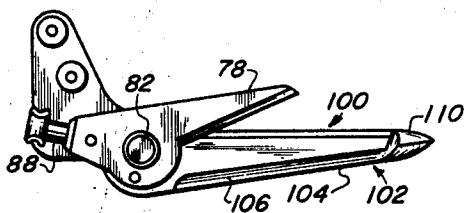


FIG. 5

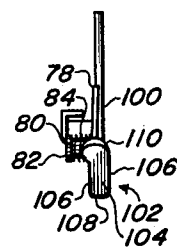


FIG. 6

INVENTOR.

OSCAR GREENE

BY

Edward F. Long
ATTORNEY

1

3,478,426

ELECTRIC SCISSORS

Oscar Greene, New York, N.Y., assignor to Name-Maker Corporation, New York, N.Y., a corporation of New York

Filed June 22, 1967, Ser. No. 648,108

Int. Cl. B26b 15/00

U.S. Cl. 30-228

7 Claims

ABSTRACT OF THE DISCLOSURE

An electric scissors having a casing including a light source for illuminating a blade assembly projecting from the casing, and a depending hand guard portion arranged to cooperate with the blade assembly for guiding the scissors along a surface. The blade assembly includes a motor-driven oscillating blade and a stationary blade made appreciably longer than the oscillating blade for retaining thereon material to be cut. The stationary blade terminates in a flat blunt portion adapted to slide along the material to be cut without snagging or piercing the same.

Electric scissors are presently finding increasing use, particularly in the home, for the cutting or shearing of materials such as fabrics in an accurate and rapid manner. Such devices conventionally include a motor-driven blade which oscillates rapidly in conjunction with a fixed, stationary blade to provide the shearing action. In cutting soft materials, such as fabrics, the material is supported by the lower stationary blade, while the upper oscillating blade cuts the same, and the scissors is slid rapidly along the material.

In scissors of this type, both the stationary blade and oscillating blade are made of much shorter lengths than the blades in ordinary scissors, due to the fact that the stroke of the oscillating blade provided by the electric motor is necessarily short. Consequently, difficulties are presented when soft or sheer fabrics are to be cut. The stationary blade is too short to properly support the material thereon, and the material consequently slips from between the blades and must be reinserted. In addition, the pointed end of the stationary blade tends to catch the material draped thereover, resulting in snagging or tearing of the material.

It is often desirable in cutting to slide the scissors over a table surface or over a pile of material, the top layer or layers of which are to be cut. Conventional electric scissors make no provision for guiding the scissors in accurate cutting position over a surface. Furthermore, the short, pointed stationary blade often mars the table surface if this is attempted, or rumples and tears the underlying layers of the pile of material upon which it is slid. Accordingly, it is an object of the present invention to provide an electric scissors of the type described which will eliminate the catching of the lower blade in the surface underlying the fabric being cut.

Another object of the present invention is to provide electric scissors of the type described which will easily and rapidly engage the under surface of the fabric being cut.

Still another object of the present invention is to provide an electric scissors as described which will eliminate crumpling of the fabric being cut on the blade.

A further object of the present invention is to provide a device of the character described which will provide proper support for the material being cut, thereby reducing the tendency of the fabric to slide from between the blades.

A further object of the present invention is to provide an electric scissors which will lift the fabric to be cut sufficiently high to provide improved working conditions.

2

A further object of the present invention is to provide an electric scissors construction which will be simple to manufacture, inexpensive to maintain, and yet be durable to a high degree in use.

In accordance with the invention, there is provided an electric scissors having a body portion enclosing a vibrator electric motor, a lower stationary blade affixed to said body portion and projecting therefrom, and a movable blade pivoted to said stationary blade and coupled to said motor for oscillating shearing movement when the motor is energized. The stationary blade is made considerably longer than the movable blade for supporting material thereon, and terminates in a flat blunted projection located forwardly of the movable blade, said projection being sufficiently thin to slide beneath the material to be cut, and having a rounded front edge capable of sliding along the material to be cut without snagging or piercing the same. The projection may be formed integrally with the stationary blade, or may be made as part of a separate plastic shoe inserted upon and affixed to the blade.

The scissors also includes a hand guard formed as part of the body portion and depending from the same, which cooperates with the projection on the stationary blade to guide the scissors along a surface. The body portion also includes an electric lamp arranged to illuminate the blade assembly during the cutting operation.

Additional objects and advantages of the present invention will become apparent from a consideration of the following detailed description when taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a front perspective view of a preferred embodiment of an electric scissors embodying the present invention;

FIG. 2 is a top plan view thereof;

FIG. 3 is a front elevational view thereof;

FIG. 4 is a side elevational view thereof with half of the casing removed to reveal the internal components therein;

FIG. 5 is a side elevational view of a modified form of blade assembly made in accordance with the invention herein, which may be used in the scissors of FIGS. 1-4; and

FIG. 6 is a front elevational view of the modified blade assembly shown in FIG. 5.

Referring in detail to the drawings and more particularly to FIGS. 1 and 3, there is shown an electric scissors 10 which generally comprises a body portion 12 and a blade assembly 14 projecting therefrom.

More particularly, the body portion 12 includes a hollow casing preferably made of plastic or like material and formed of a pair of half sections 16 and 18, secured together by connecting screws 20. The half sections 16 and 18 are formed to provide a rectangular slot 24 (FIG. 4) at the top of the assembled casing, as well as an upper front opening 26 for the illuminating means, and a lower front opening 28 for the blade assembly 14.

The scissor body portion 12 is sized to be held in the hand of the user, and its central periphery is sufficiently small so as to permit the user's hand to encircle the same. The body portion 12 is formed with an integral guard 30 which is integral with the casing and depends from the bottom surface thereof. The guard 30 is centrally located on the body portion 12 and is made large enough to permit passage of the user's fingers therethrough when the body portion is grasped in the manner described above. A plurality of grooves 32 may be molded into the lower surface of the casing above guard 30, the grooves 32 being located to receive the user's fingers and to serve as finger grips.

FIG. 4 shows the internal components of the electric scissors mounted within the casing. At the top of the cas-

ing is mounted an on-off switch 34 of the slide type, including an operating button 36 made of insulating material, a movable switch arm 38, and a stationary contact arm 40. The movable switch arm 38 is a spring strip secured at one end to the stationary arm 40 and normally urged upwardly away from the stationary arm so that the movable contact 42 carried thereby is spaced from the stationary contact 44 mounted on the arm 40. The operating button 36 projects slidably through the slot 24 at the top of the casing and has an integral bottom extension plate 46 which is longer and wider than the slot 24 and which underlies the top wall of the casing to prevent the operating button 36 from passing upwardly through slot 24. A pair of grooves 48 and 50 are formed in the bottom surface of extension plate 46, these grooves being sized to receive a bent projection 52 in the movable switch arm 38.

FIG. 4 shows the switch 34 in its open position, with the operating button 36 located at the rear of slot 24 and the projection 52 located within the groove 50. When the operating button 36 is slid to the forward end of slot 24, the projection 52 snaps out of the groove 50, the under surface of extension plate 46 cams the movable switch arm to a closed position with the contact 42 in engagement with contact 44, and the projection 52 enters groove 48 and is held thereby to maintain the switch in closed position.

An electric motor 54 is mounted centrally within the body portion 12. The motor 54 is of the standard vibrator type, the construction of which is conventional and well-known, so that it is not described in detail herein. The motor 54 includes an armature 56 which vibrates when the motor is energized, the armature being coupled to the blade assembly 14 in a manner to be presently described.

The illuminating means comprises a conductive socket 58 mounted within the casing and sized to receive an electric light bulb 60 with the head of the bulb projecting through the upper front opening 26 of the casing. The socket 58 is of conventional construction and is adapted to illuminate the inserted bulb 60. The socket 58 and the opening 26 are downwardly directed, as shown in FIG. 4, in such a manner that the bulb will illuminate the blade assembly 14 and the material being cut thereby.

A pair of lead wires 62, 64 extend through the rear end of the casing and are provided with the usual plug (not shown) for connection to a line current source for energization of the motor 54 and light bulb 60. The lead 62 is connected to the movable switch arm 38, and a lead 66 connects the stationary switch arm 40 to one terminal of the motor 54 and one terminal of socket 58. The lead 64 is connected to the other terminal of motor 54 and the other terminal of socket 58. Thus, when the leads 62, 64 are connected to the current source, and the switch 34 is closed, both motor 54 and bulb 60 are energized.

One of the main features of the invention resides in the blade assembly 14, particularly in the construction of the stationary blade 70 which forms a part thereof.

As shown in FIG. 4, the stationary blade 70 has an enlarged mounting portion secured by screws 72 to the casing half section 18. The stationary blade 70 has a straight cutting edge 74 which is operatively associated with the cutting edge 76 of a movable blade 78. The blades 70 and 78 are pivotally connected to the rear of their cutting edges by a rivet or post 80 affixed to the stationary blade 70 and extending turnably through an aperture in movable blade 78. The free end of the rivet 80 projects laterally from the surface of movable blade 70 and is provided with a head 82 for the mounting of a compression spring 84 which encircles the shank of rivet 80 and seats against the head 82 and the facing outer surface of movable blade 78. The spring 84 normally urges the blades 70 and 78 into firm operative abutment, but allows a degree of separation of the blades in the event that an obstruction is engaged during the cutting operation.

The movable blade 78 has an extension section 86 inclined upwardly and rearwardly from the pivot 80, the section 86 terminating in a post 88 connected by coupling sleeve 90 to the end of the motor armature 56. The coupling enclosed by sleeve 90 is preferably a ball joint of the well-known type, which permits the vibrating of the armature to result in oscillating motion of the movable blade 78 about pivot 80.

The electric scissors 10 is particularly adapted for the cutting of fabric material either in single sheets or in multiple layers. In cutting, the body portion 12 is used as a handle, the operator's hand grasping the center, and the fingers extending through the guard 30. The operator's thumb is used to press the switch button 36 forwardly, thereby closing switch 34 and energizing the motor 54 and the light bulb 60. The movable blade 78 is then oscillated rapidly relative to the stationary blade 70, producing the usual shearing action. In cutting material on a table or other flat surface, the scissors is held in the position shown in FIG. 4, with the guard 30 resting upon the surface and the tip of stationary blade 70 also resting upon the surface. In this position, material on the table surface may be inserted between the blades 70 and 72, and the scissors slid along the surface along the material, while the motor is energized to cut the material.

The scissors 10 may also be held entirely by hand, that is unsupported by a surface, and used to cut a layer of fabric or other material held loosely in the other hand. In conventional electric scissors structures, such a manner of cutting provides a problem, since both the movable blade and stationary blade are made short and of substantially the same length and the material thus tends to slide off the short blades during the cutting operation. In accordance with the present invention, the stationary blade 70 is made considerably longer than the movable blade 78, so that it supports loosely hanging material thereon and prevents the material from sliding away from between the blades.

In the embodiment shown in FIGS. 1-4, the tip of stationary blade 70, instead of being pointed in the usual manner, is formed with a wide, flat, blunt projection 94. In this embodiment, the projection 94 is formed integrally with the blade 70, and because the blade 70 is appreciably longer than the movable blade 78, the projection 94 is located well forwardly of the tip of movable blade 78. Thus, when the movable blade 78 oscillates during the cutting operation, it cooperates with the cutting edge 74 of the stationary blade 70 but is remote from the projection 94.

As shown in FIGS. 2 and 4, the projection 94 has a rounded front edge 96 and a smooth, flat bottom surface 98. In cutting materials on a surface, the flat bottom surface 98 slides smoothly over the surface without marring or scratching the same. The rounded front edge 96 permits lightweight or sheer material to be cut without crumpling, snagging or piercing the material, as is often the case where the stationary blade is pointed.

FIGS. 5 and 6 show a modified embodiment of the present invention in which the projection is not formed integrally with the stationary blade, but rather a stationary blade 100 is provided with a plastic shoe 102. The shoe includes a channel-shaped elongated rear portion 104 defined by side walls 106 and bottom wall 108, and a blunted front tip portion 110. The shoe 102 is mounted upon and affixed to the stationary blade 100 in the manner shown, with the rear portion 104 extending along the bottom surface of the blade and the portion 104 covering the tip of the blade. The blunted front tip portion 110 serves the same purpose as the integral projection 94 previously described. In addition, since the shoe 102 is made of plastic, and the guard 30 is also made of plastic, the scissors may be guided along a wooden table surface without danger of marring or scratching the surface.

5

While preferred embodiments of the invention have been shown and described herein, it will be obvious that numerous omissions, changes and additions may be made in such embodiments without departing from the spirit and scope of the present invention.

What I claim is:

1. An electric scissors comprising a hollow casing, an electric motor enclosed in said casing, a lower stationary blade secured to said casing and including a portion having a cutting edge projecting forwardly therefrom, an upper movable blade pivotally connected to said stationary blade and having a cutting edge positioned to cooperate with the cutting edge of said stationary blade in a shearing action, means operatively coupling said movable blade to said electric motor for oscillation of said movable blade when said motor is electrically energized, and means for electrically energizing said motor, said stationary blade being of substantially greater length than said movable blade and having a front end portion projecting forwardly of the end of said movable blade by an appreciable distance sufficient to support soft fabric material thereon, said front end portion of the stationary blade terminating in an enlarged blunted projection constituting the tip thereof, said projection being flat and having a planar bottom surface substantially parallel to the cutting edge of said stationary blade and aligned with the bottom surface of said stationary blade to serve as a forward extension thereof.

2. An electric scissors according to claim 1 in which the cutting edge of said movable blade extends to the forward end thereof and the cutting edge of the stationary blade extends to said projection, said projection being spaced a substantial distance forwardly of the front end of said movable blade cutting edge.

3. An electric scissors according to claim 1 in which said projection is formed integrally with said stationary blade.

4. An electric scissors according to claim 1 in which said projection is formed as part of a plastic shoe comprising an elongated channel-shaped portion embracing the bottom longitudinal edge portion of said stationary

6

blade and affixed thereto, said projection being integral with the front end of said channel-shaped portion and being positioned to cover over the tip of said stationary blade.

5. An electric scissors according to claim 1 in which the central portion of said casing is sized to be grasped in the hand of the user and also includes a guard member depending centrally from the bottom surface thereof and positioned to receive the fingers of said hand when the casing is grasped.

6. An electric scissors according to claim 5 in which said guard member has a smooth bottom surface arranged to cooperate with said projection in guiding said scissors along a support surface with both said guard members and said projection engaging said surface and said scissors disposed in operative cutting position with relation to said surface.

7. An electric scissors according to claim 1 in which said casing also contains means for mounting an electric bulb in a position projecting from the upper front portion thereof and at such an angle as to illuminate said stationary and movable blades, said mounting means being electrically connected to said energizing means for illuminating said bulb.

References Cited

UNITED STATES PATENTS

840,767	1/1907	Gury	30—273
1,600,225	9/1926	Halpern	30—233 X
2,273,536	2/1942	Pollak	30—228
2,377,906	6/1945	Schaaff	30—349
2,562,773	7/1951	Clark	30—228
2,610,399	9/1952	Adams	30—343 X
2,751,682	6/1956	Stout	30—233
3,178,816	4/1965	Schmid	30—228

ROBERT C. RIORDON, Primary Examiner

J. C. PETERS, Assistant Examiner

U.S. Cl. X.R.

30—231, 233