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(71) Applicant: **Suzuki, Kisaburo**
No. 23-5, 4-chome Shibamata
Katsushika-ku Tokyo(JP)

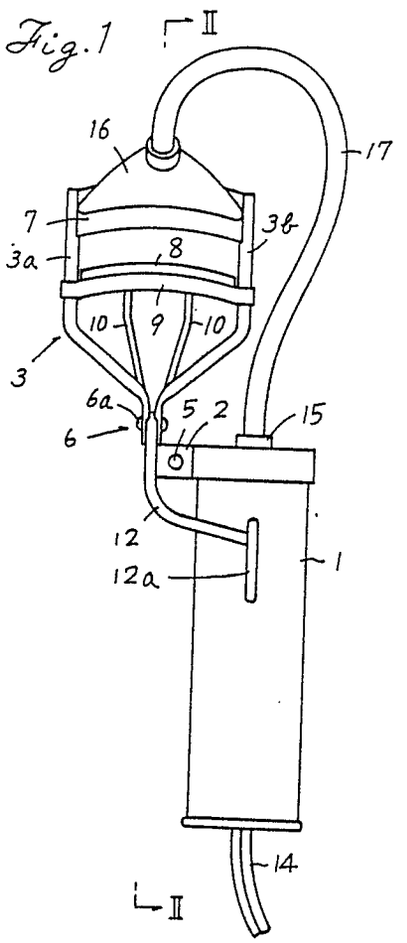
(72) Inventor: **Suzuki, Kisaburo**
No. 23-5, 4-chome Shibamata
Katsushika-ku Tokyo(JP)

(74) Representative: **Quest, Barry et al**
M'CAW & CO. 41-51 Royal Exchange Cross Street
Manchester M2 7BD(GB)

(54) Eyelash curler.

(57) An eyelash curler has upper and lower nipping jaws (7, 8). The lower jaw (8) is slidable up and down through a link mechanism (10, 11) connected to a manually operated handle (12) and a heater is provided for the upper nipping jaw (7). The heater and a blower device are contained in a gripping body (1) which is connected to power source. A flexible tube (17) extends from the blower and a nozzle (16) is connected to the flexible tube (17) and, in a preferred embodiment, has a downwardly flared configuration to allow hot air to be evenly distributed all over the outer surface of the upper nipping jaw (7).

Fig. 1



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EYELASH CURLER

BACKGROUND OF THE INVENTION

This invention relates to an eyelash curler for beauty treatment. Various eyelash curlers have been proposed, among which the applicant can mention the one disclosed as Japanese Utility Model Publication No. 57-60721 as the most pertinent prior art to the present invention. It is illustrated as Figs. 12, 13 in the accompanying drawings. It employs a known construction except that one or more dry cell is contained in the gripping body and is connected to the heater or heating wire D which is placed in the gap C between the upper nipping member A and the outer shield B, while, the reference symbol A' represents the inner shield.

However, with this construction, since the heater is naturally limited in length, and gradually becomes hot from one end thereof, it cannot promptly and uniformly produce such sufficient heat as enabling satisfactory mild curling of the eyelash. Thus, there have been involved such disadvantages that it takes much time, does not provide uniform curling at an early stage, and the eyelash once curled is apt to return to the original uncurled state.

Further, even after becoming uniformly hot, it cannot be sensed without touching and thus possible overheating thereof results in scorch of the eyelash in spite of the presence of the inner sheild. Moreove, since the heating by means of the heating wire does not produce any sound, it is quite likely that after use the switch is left turned on, which can cause a fire of the like accidents.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide an improved eyelash curler in which the above disadvantages are fully overcome.

In one aspect, the present invention is proposed to provide an eyelash curler including a gripping body; a bifurcate supporting member; an operation handle pivotally held at its intermediate portion between the tines of the bifurcate supporting member secured on the gripping body by means of a fitting member and having an outer end trigger-like hoop portion; a pair of follower rods each lower end of which is pivotally held on the inner end of the operation handle; a holder slidable up and down along the vertical parallel rod portions of the supporting member by means of the follower rods whose upper ends are secured thereto in spaced relation with each other; a lower nipping member mounted on the holder, and an upper nipping member both ends of which are secured to the upper portion of the supporting member; the holder, the lower nipping member and the upper nipping menber all being moderately curved outward substantially in conformity with the curvature of the eyelids so that the upper and lower nipping members may be mated with each other when the latter is pushed up by pulling down the trigger-like hoop portion, thereby allowing the eyelash to be curled; characterized in that the gripping body contains a high-low adjustable electric heater and blower device, at least one flexible tube is provided to supplying hot air from the blower device to at least one of the upper and lower nipping members and a distribution means is provided for uniformly distributing the hot air over the respective nipping member.

For a further understanding of the present invention and for features and advantages thereof, reference may be made to the following description and the drawings which illustrate preferred embodiments of eyelash curlers in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front view of an embodiment of the eyelash curler according to the invention;

Fig. 2 is a side view partly in section taken along the line II - II of Fig. 1;

Fig. 3 is an illustrative perspective view showing the use of the eyelash curler of Fig. 1;

Fig. 4a, 4b and 4c are enlarged illustrative fragmentary views in section of an upper portion of the eyelash curler of Fig. 1, respectively showing steps of curling;

Fig. 5 is a similar view to Figs. 4a-4c, showing a second embodiment of the invention;

Fig. 6 is a perspective view of a third embodiment of this invention;

Fig. 7 is a vertical sectional view taken along the line VII-VII of Fig. 6;

Fig. 8 is a cross-sectional view taken along the line VIII - VIII of Fig. 6;

Fig. 9 is a perspective view showing various type of lower nipper members and nipper holders;

Fig. 10 is a perspectine view of a fourth embodiment of the invention;

Fig. 11 is a cross-sectional view taken along line XI-XI of Fig. 10;

Fig. 12 is a perspective view of an example of eyelash curlers of prior art; and

Fig. 13 is a vertical sectional view taken along the line XIII-XIII of Fig. 12.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, particularly to Figs. 1,2 which illustrate in detail an embodyment of the present invention, a cylindrical hollow gripping body 1 of an eyelash curler has a fitting member 2 wound around the top of the gripping body 1 and fastened at both ends extending sideward by a pin 5 together with the lower end 4 of a supporting member 3 placed therebetween. Further, the sliding holder 9 may be provided, as shown at the right bottom in Fig. 9, with a windscreen 9c which extends outward to constitute a substantially cross-sectional L-shape as a whole so that the hot air from the nozzle 16 may be prevented from striking against the nose and the like of the user. The fitting member 2 may be a bifurcate one fixed on any side of the top which is closed except for an outlet 15. The gripping body 1 contains a high-low adjustable electric heater and blower device (not shown), there being illustrated only a slide switch 13 and a power cable 14. The supporting member 3 comprises bifurcated rods which extend, past through-hole portions 6, first slopewise and then vertically upward to define vertical rod portions 3a, 3b in parallel in the same manner as in the prior art construction of Figs. 12, 13.

An upper nipping member 7 for eyelash curling purpose and made of heat conductive metallic strap with appropriate thickness is fixed on both top ends of the vertical rod portions 3a, 3b. On the inner face of the upper nipping member 7 is sticked a heat shielding tape 7a. The lower end of the upper nipping member 7 is preferably round shaped so that the eyelash may be softly nipped.

Spanning both vertical rod portions 3a, 3b and below the upper nipping member 7, a sliding holder 9 for holding a lower nipping member 8 is put on the rod portions 3a, 3b slidably therealong. For this purpose, the sliding holder 9 has both ends provided with collars 9a,9b as shown at two bottom ones, left and night, in Fig. 9 or other suitable means for slidalle receiving of the rod portions 3a, 3b. The lower nipping member 8 is made of an elastic rubber material which allows soft receiving of the eyelash. It is of cross-sectionally rectangular shape wider than the thickness of the upper nipping member 7 and is slightly shorter in length than the distance between the rod portions 3a, 3b. The above cross-sectionally rectangular shape may of course be altered to circular or other shapes as shown in Fig. 9.

The sliding holder 9 is connected at intermediate portion thereof to the upper ends of follower rods 10, 10 in spaced relation with each other. The lower ends of the follower rods 10, 10 are pivotaly connected through a pin 11 to the inner end of an operation handle 12 which has an outer end trigger-like hoop portion 12a. The operation handle 12 is pivottaly held at this intermediate portion by a pin 6a.

As already described, the gripping body 1 contains the high-low adjustable electric heater and blower device, and the device is so designed to produce hot air of high and low level, say about 40 and 60 degrees C, by operating the slide switch 13 accordingly. From the outlet 15 on the top of the gripping body 1, a flexible tube 17 for hot air supplying purpose extends to a nozzle member 16 for the upper nipping member 7. The nozzle member 16 is secured on top of the upper nipping member 7 and is formed in such downward flared configuration that allows hot air to be evenly distributed to the outer surface of the upper nipping member 7. In other words, the lower ends of the nozzle member 16 is downward flared out and the outer edge thereof is curved substantially in conformity with the curvature of the upper nipping member 7, so that the hot air from the flexible tube 17 can be evenly distributed all over the outer surface of the upper nipping member 7.

By the way, it is a matter of course that the upper and lower nipping member 7, 8 and the sliding holder 9 are all moderately curved outward substantially in conformity with the average curvature of eyelids.

Turning to Fig. 5 which illustrates a second embodiment of the present invention, the upper nipping member 7 is bent up outward preferably in round shape at the lower end thereof to provide a bent edge 7b so that there may be defined a hot air accumulation area 7c for accelrating the heat conduction by the lower end portion and the bent edge 7b.

Further referring to Figs. 6-8, there is illustrated in detail a third embodiment of the present invention.

A glance at Fig. 7 shows that there is formed another output 15a on the top of the gripping body 1 and another flexible tube 17a also extends from the blower to a diferrent type of lower nipping member 8 which is illustrated in detail in Figs. 7, 8. This nipping member 8 comprises a both end closed hollow tube 8b made of a heat conductive metallic material in place of the elastic rubber material hereinbefore described and a heat shielding member 18 fixed on inner side thereof. As shown in Fig. 7, the hollow tube 8b has a roundly recessed upper face 8a being a configuration substantially in conformity with the roundness of the

lower end of the upper nipping member 7 so that the roundly recessed upper face 8a may fit with the latter; it should be noted that there is employed the upper nipping member 7 of the type shown in Fig. 5 which has the heat accumulation area 7c. The hollow tube 8b has on outer side an inlet 8c near one end and an outlet 19 near the other end as clearly seen in Fig. 8. The second flexible tube 17a is of course connected to the above inlet 8c. With this embodiment, hot air generated by the electric heater and blower device in the gripping body 1 is supplyed through the flexible tubes 17, 17a to the upper and lower nipping members 7, 8 which in turn are evenly heated all around due to their heat conductivity.

Further turning to Figs. 10 and 11 which illustrate in detail a fourth empodiment of the invention, the upper nipping member 7 is modified with respect to that of the first embodiment of Figs. 1 and 2. It rather resembles the lower nipping member 8 illustrated in Figs. 6, 7 and 8, except that it has, in contrast with the former, a vertically oval cross-section with a hollow chamber 20 and an outlet 21, and a flexible tube 17b corresponding to tube 17 in Figs. 1, 2 is directly connected to the hollow chamber 20.

In use, when a woman who desires for her eyelash E to be curled upward for beauty treatment, as shown in Fig. 3, a fore finger for example is put into the trigger-like hoop 12a of the operation handle 12 while holding the gripping body 1 and putting the lower end of the upper nipping member 7 on the upper face the eyelash E as shown in Fig. 4a, and then the hoop 12a is pulled inward to move up the sliding holder 9 and the lower nipping member 8. After nipping the eyelash E between the upper and lower nipping members 7, 8 as shown in Fig. 4b, the slide switch 13 is operated to drive the heater and blower device which supplies hot air of either high or low level to the upper nipping member 7 through the flexible tube in the cases of the first and second embodiments. And, in case of the third embodiment, hot air is also supplied to the lower nipping member 8 through the flexible tube 17a. The eyelash E is thus curled upward by and between the upper and lower nipping members 7, 8 in such manner as described below.

In case of the first and second embodiment, the lower end of the upper nipping member 7 intrudes on the lower nipping member 8 which is per se elastic and there can be formed a roundly recessed fit between both nipping members 7, 8, while, in case of the third embodiment, the shapes of the lower end of the upper nipping member 7 and the upper face of the lower nipping member 8 are originally designed to give the above desired roundly recessed fit, and thus in either case, the eyelash E can be heat curled upward in accordance with the round recessed configuration.

After completion of the curling, hoop 12a of the operation handle 12 is pushed outward to move down the sliding holder 9 together with the lower nipping member 8 and the slide switch 13 is also returned to OFF.

Constructed as above, with one embodiment, the heat shield tape 7a sticked on the inner side of the upper nipping member 7 and the heat shielding member 18 fixed on the inner side of the lower nipping member 8 not only securely prevent heat supplied to the nipping members 7, 8 from irritating or burning user's face but also convey moderate warmth thereto. The adjustable heater and blower device contained in the gripping body can supply such controllable hot air that can be sensed by sound and with the skin as being optimum temperature of high and low levels according to user's choice. This enables both hard and soft eyelashes to be satisfactorily curled without danger of returning to original uncurled state. It is to be noted that the electric heater in the prior art becomes gradually hot from one end, while, according to the present invention the hot air is promptly and uniformly distributed all over the length of the nipping member(s) and that users can easily sense the state of operation of the eyelash curler at the sound of the blower so that there can be avoided such accidents as eventual burning themselves of catching fire and the like due to failure of switching off.

Last but not least, it is to be noted that all the portions but for both the upper and lower nipping members may naturally be made of such had plastic mateial that can substituted for metallic mateial.

Claims

1. An eyelash curler including a gripping body; a bifurcate supporting member secured on the gripping body by means of a fitting member; an operation handle pivotally held at its intermediate portion between the tines of the bifurcate supporting member and having an outer and trigger-like hoop portion; a pair of follower rods each lower end of which is pivotally held on the inner end of the operation handle; a holder slidable up and down along the vertical parallel rod portions of the supporting member by means of the follower rods whose upper ends are secured thereto in spaced relation with each other; a lower nipping member mounted on the holder, and an upper nipping member both ends of which are secured to the upper portion of the supporting member; the holder, the lower nipping member and the upper nip-

ping member all being moderately curved outward substantially in conformity with the curvature of the eyelids so that the upper and lower nipping members may be mated with each other when the latter is pushed up by pulling down the trigger-like hoop portion, thereby allowing the eyelash to be curled; characterized in that the gripping body contains a high-low adjustable electric heater and blower device, at least one flexible tube is provided for supplying hot air from the blower device to at least one of the upper and lower nipping members and distribution means is provided for uniformly distributing the hot air over the respective nipping member.

2. An eyelash curler in accordance with claim 1 wherein said upper nipping member is a strap made of heat conductive metallic material to which the hot air is applied.

3. An eyelash curler in accordance with claim 1 wherein said upper nipping member is provided on the outer side with lower extention bent upward so that a hot air accumulation area may be defined by the lower end and the bent edge.

4. An eyelash curler in accordance with claims 1, wherein the distribution means comprises a nozzle member of downward flared configuration and suitable for receiving the upper end of one of the flexible tube and fixed over the length of the upper nipping member so that hot air may be evenly distributed to an outer surface of the upper nipping member.

5. An eyelash curler in accordance with claim 4, wherein a windscreen is provided laterally extending outward on the sliding holder so that hot air from the nozzle member may be prevented from striking against the noze, the cheek, and the like of users.

6. An eyelash curler in accordance with claim 1, wherein said upper nipping member has a heat shielding tape sticked on all over the inner surface thereof.

7. An eyelash curler in accordance with claim 1 wherein said lower nipping member is formed of elastic rubber of a cross-sectionally rectangular shape wider than the thickness of the upper nipping member.

8. An eyelash curler in accordance with claim 1 wherein said lower nipping member is formed of elastic rubber of cross-sectionally circular shape wider than the thickness of the upper nipping member.

9. An eyelash curler in accordance with claim 4 wherein said distribution means is provided on the lower nipping member, on one side, such that the latter comprises a heat conductive metallic hollow tubular body whose upper face is such recessed over the length that provides suitable mating with the lower end of the upper nipping member, said tubular body being closed at both ends and provied with an inlet near to one end and an outlet near to the other end respectively for receiving and exhausting the hot air, and said gripping body being provided with another flexible rubber ube through which the hot air is supplied also to the inlet of the tubular body, while, on the other side, said means is also provided on the upper nipping member in the form of a nozzle member of downward flared configuration suitable for receiving the upper end of the flexible tube and for fixing all over the length of the upper nipping mamber that allows the hot air to be evenly distributed to the outer surface of the upper nipping member.

10. An eyelash curler in accordance with claim 1 wherein said lower nipping member is provided on inner side thereof with a heat shielding member.

11. An eyelash curler in accordance with claim 1 wherein said means for allowing the hot air to be uniformly distributed is the upper nipping member itself in the form of a vertically oval hollow tube having an inlet to which the flexible tube is directly connected and an outlet from which the hot air is exhausted.

Fig.1

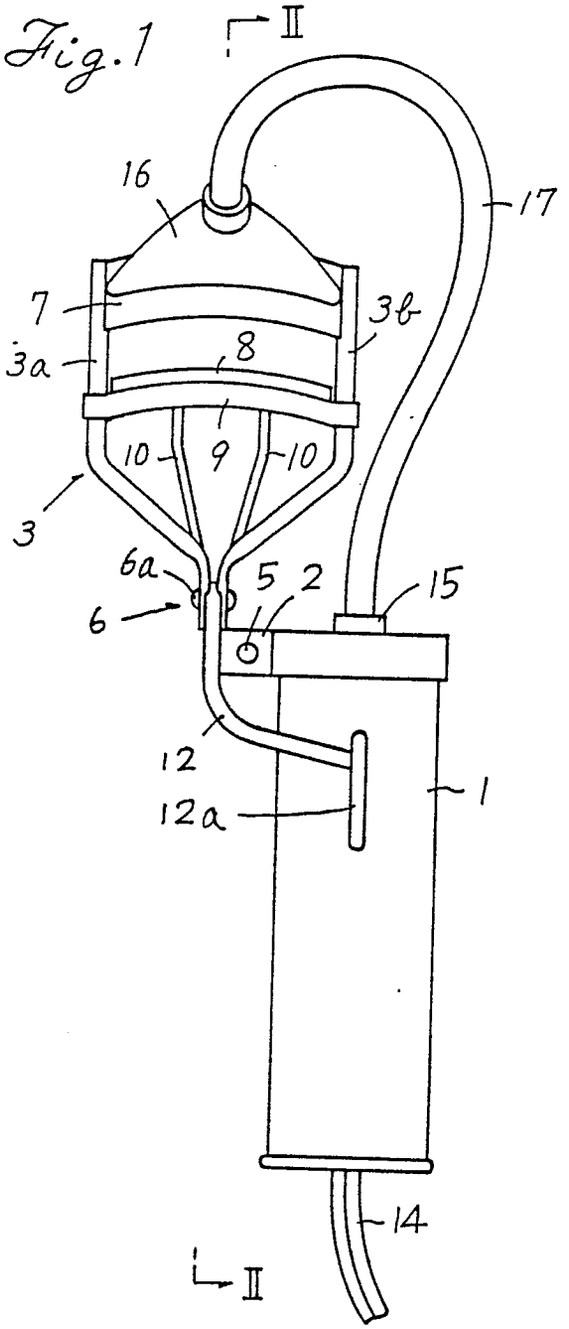


Fig.2

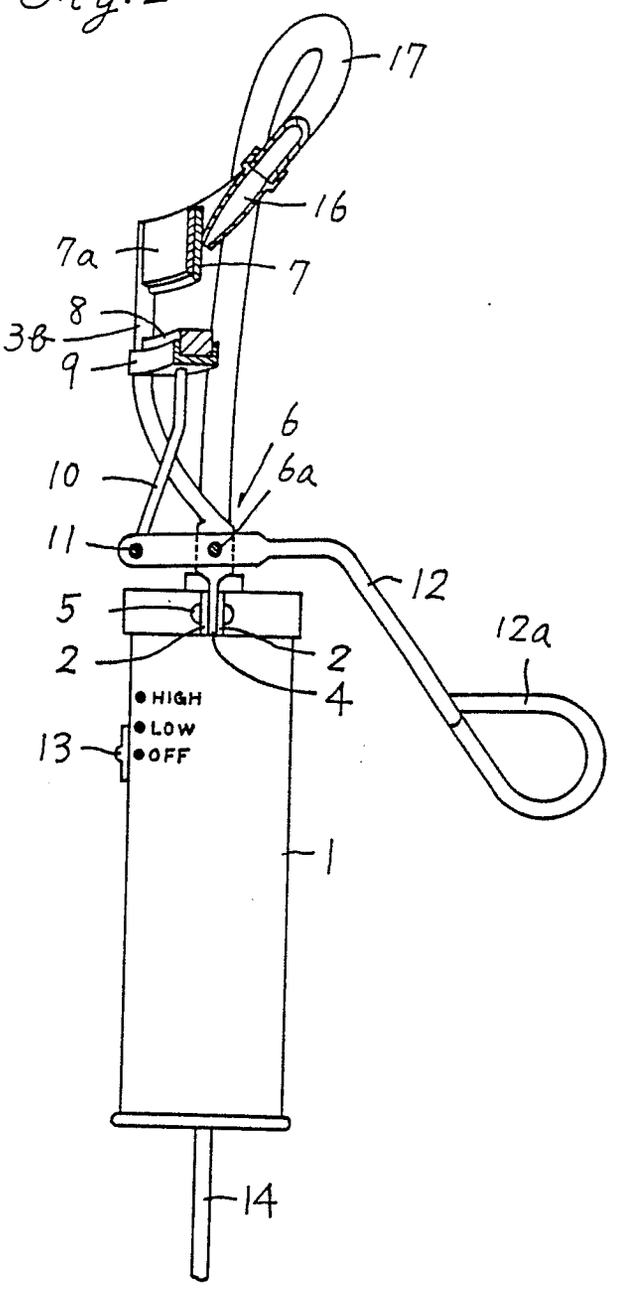


Fig.4a

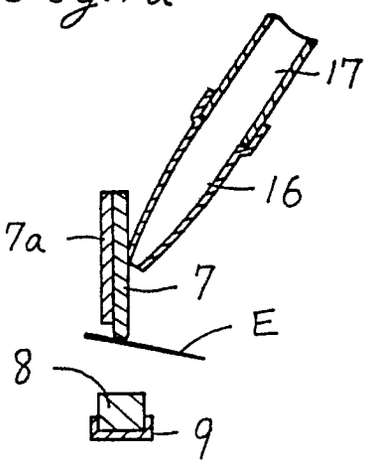


Fig.4b

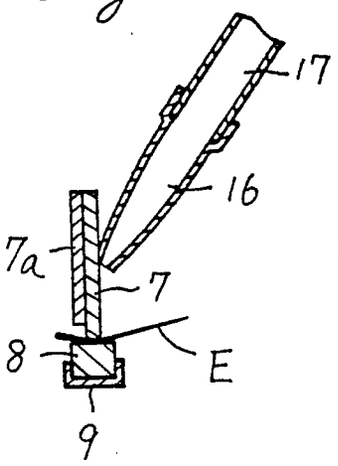


Fig.4c

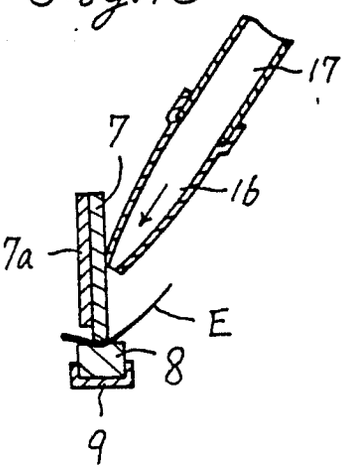


Fig.3

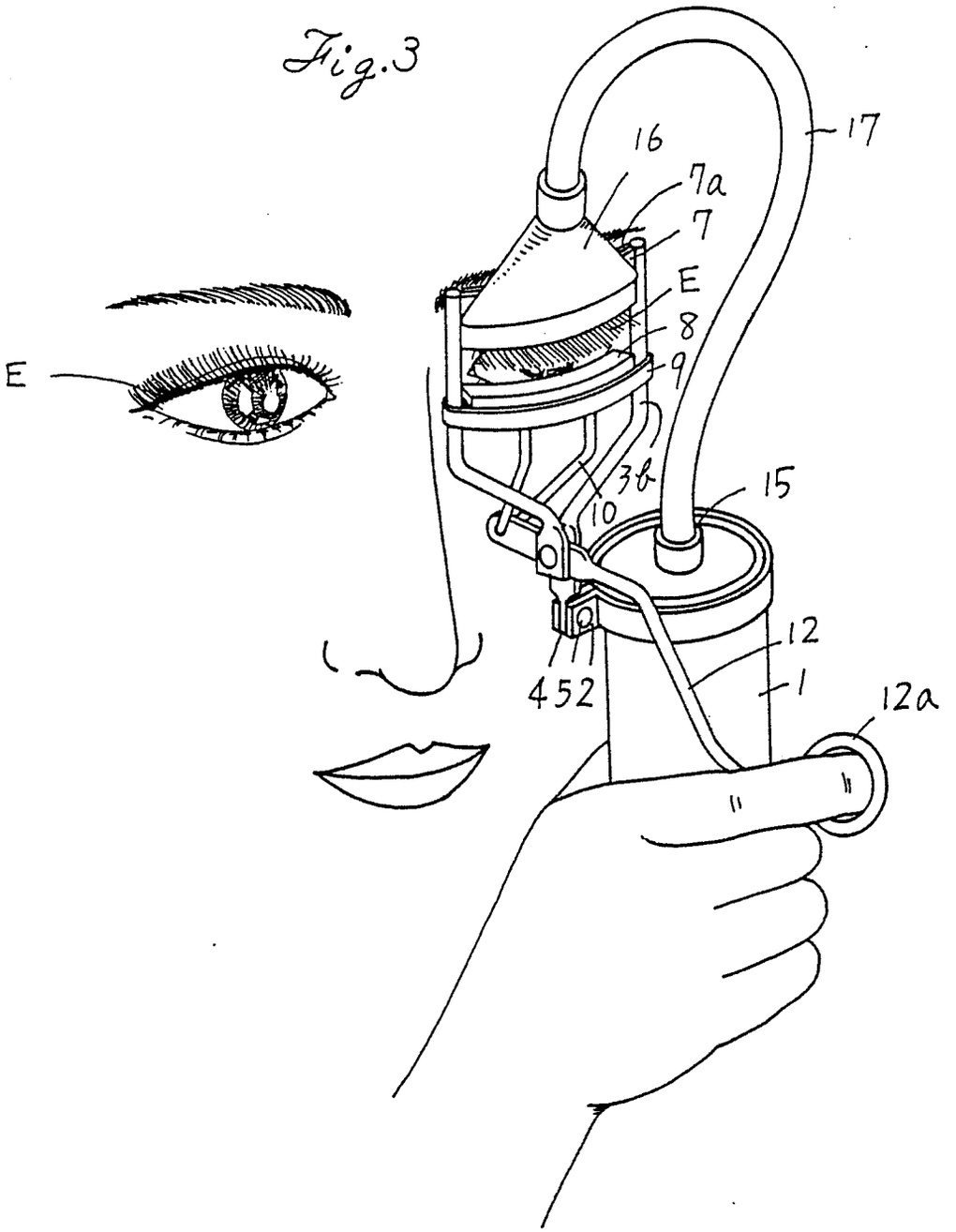


Fig.5

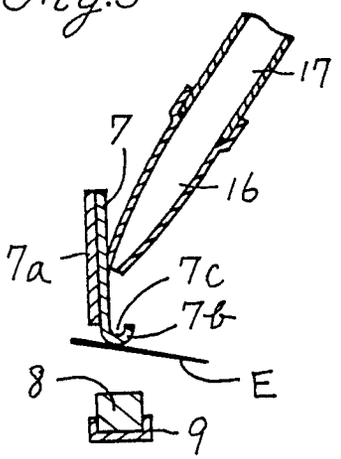


Fig. 7

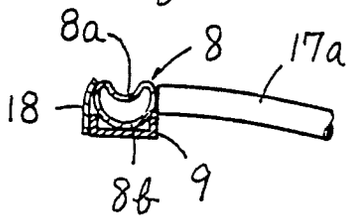


Fig. 8

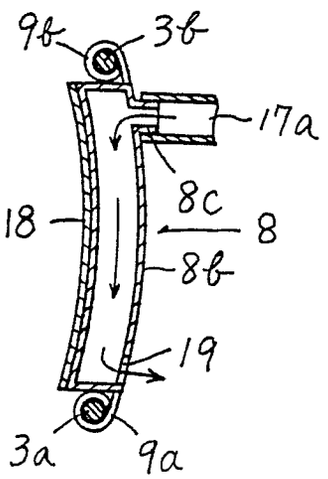


Fig. 6

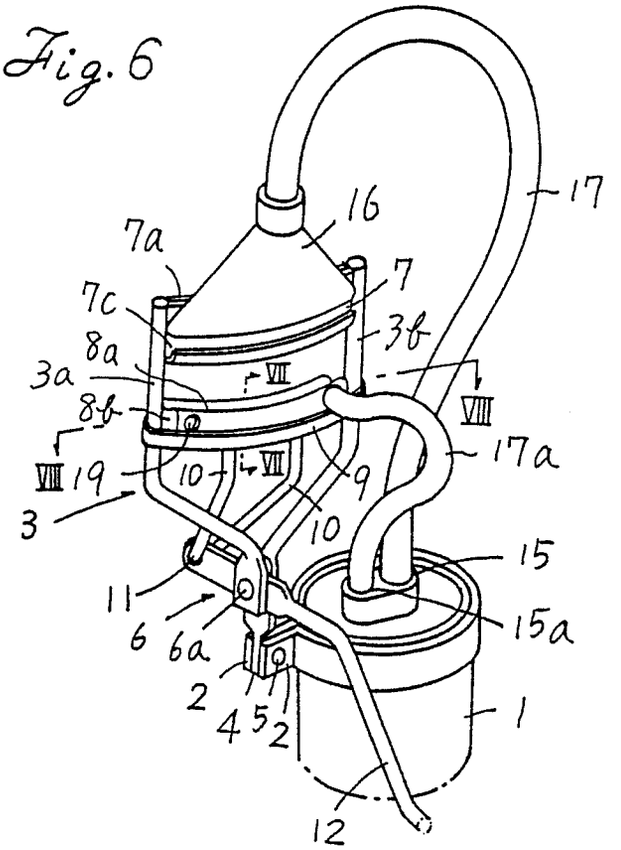


Fig. 9

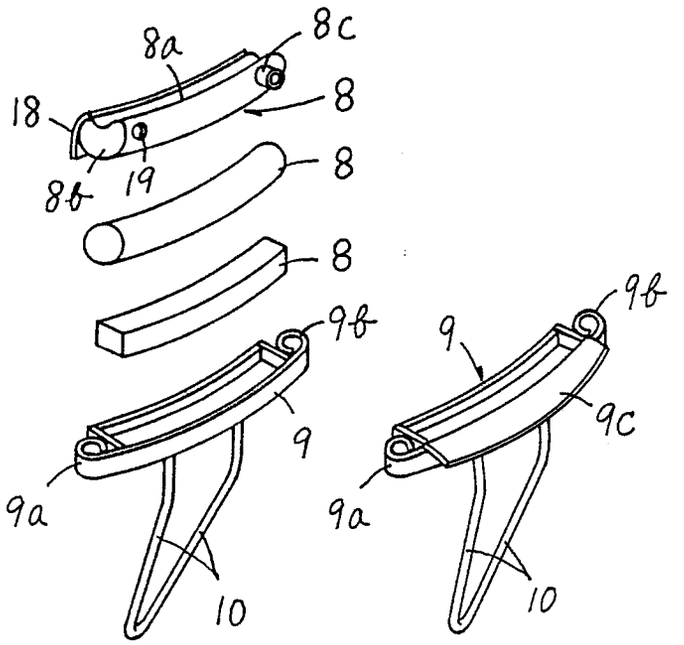


Fig. 10

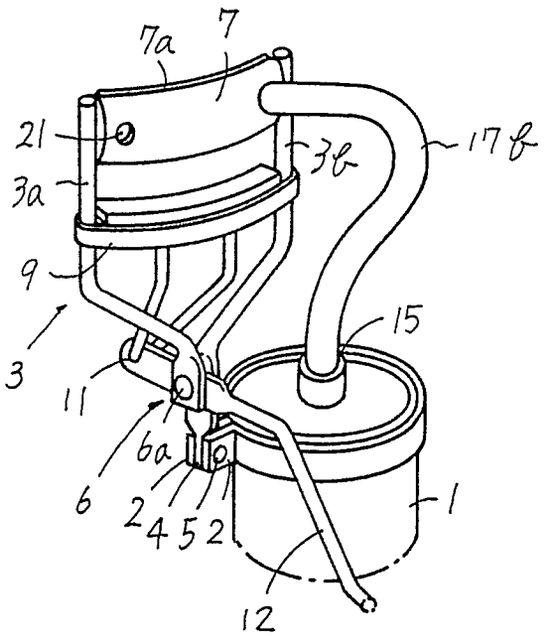
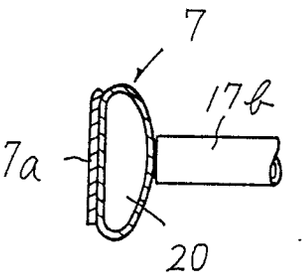


Fig. 11



(Prior Art)

Fig. 12

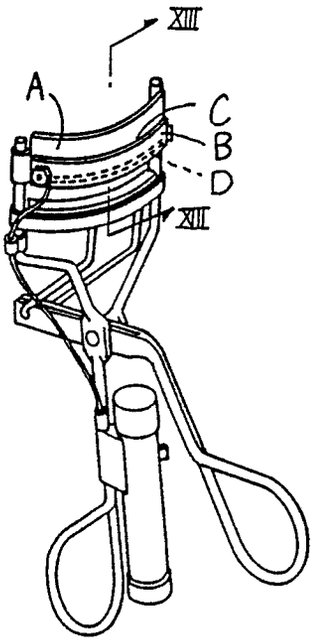


Fig. 13