

Description

Title of Invention: SYSTEM FOR EYELASH EXTENSION

Technical Field

[0001] The present invention relates to a system for eyelash extension and more specifically to a system that uses a photocurable glue and includes tweezers having a light irradiation function for eyelash extension.

Background Art

[0002] In recent years, eyelash extension of adding artificial hairs to each of eyelashes has been popular as a beauty treatment for women. The eyelash extension is a beauty treatment of causing one (or more) artificial hair to adhere to one natural eyelash with a dedicated glue (adhesive) such that the eyelashes look long and eyes look distinctly.

[0003] An outline of a conventional method of performing eyelash extension will be described by using Figure 7. Although a person to be treated is typically treated in a state where the person lies on the back or recline, and protection tape, a mask, or the like are applied around the eye, these are omitted in Figure 7 for simple explanation. As illustrated in Figure 7(a), one artificial hair 15 is picked up from a bundle of artificial hairs (not illustrated) with tweezers held by

a dominant hand (right hand in this example), and the root thereof is brought into light contact with a glue (not illustrated) prepared in advance to cause the glue to adhere to the root. Next, the artificial hair 15 and an eyelash 20 are bonded so as to overlap each other by some length as illustrated in Figure 7(b) under a circumstance where excepting the eyelash 20 to which the artificial hair 15 is to be attached, eyelashes are move aside outward to left and right to prevent unnecessary contact therewith with another tweezer held by a hand (left hand in this example) opposite to the dominant hand. Conventionally, cyanoacrylate-based instant adhesives that cause a curing reaction with moisture are used as glues for eyelash extension. The treatment may be performed by removing the tweezers after holding the state illustrated in Figure 7(b) for about 10 to 30 seconds and moving on to the treatment on the next eyelash or by alternately performing the treatment to each eye in order to further leave the glues for curing. Therefore, it takes several tens of minutes to one hour or more to attach several tens to not less than one hundred of artificial hairs in one treatment.

[0004] In order to shorten the treatment time and to reduce stimulation to persons to be treated, using a photocurable glue for eyelash extension has been proposed (Patent Literatures 1 to 4, for example). According to these literatures, an artificial hair is attached to a

natural eyelash by using a photocurable glue, and the glue is then cured by irradiating it with ultraviolet rays or visible light beams. In this manner, a higher curing speed than that in the conventional treatment using an instant adhesive is achieved, and as a result, it is possible to shorten a treatment time.

Citation List

Patent Literature

[0005]

Patent Literature 1: Japanese Patent Laid-Open No. 2011-87658

Patent Literature 2: Japanese Patent Laid-Open No. 2017-119935

Patent Literature 3: Japanese Patent Laid-Open No. 2019-56095

Patent Literature 4: Japanese Patent Laid-Open No. 2020-7663

Summary of Invention

Technical Problem

[0006] However, although all the conventional systems using a photocurable glue irradiate eyelashes of a person to be treated with ultraviolet rays or visible light beams, the systems do not have a configuration in which a light source or a light emitting port can be located very close to the bonded parts of the eyelashes due to their

structures. Therefore it is necessary to use a strong light source in order to obtain a necessary polymerization reaction. This may lead to not only a difficulty in size reduction and high costs but also harm to a person to provide the treatment and a person to be treated. If it is attempted to locate the light source or the light irradiation port near the eyelashes of the person to be treated, a work region of the person to provide the treatment may be interrupted. Consequently it may be necessary for the person to provide the treatment to often switch the holding of the tweezers and an LED irradiation tool, and work efficiency may be degraded. Also, all the conventional systems are adapted to irradiate the eyelashes or eyelids of the person to be treated from above, so the light is directed in the direction toward the eyes of the person to be treated.

[0007] In view of the problems as described above, an object of the present invention is to provide a system for eyelash extension capable of dramatically shortening a treatment time for eyelash extension, being configured at low costs, and further protecting eyes of a person to provide the treatment and a person to be treated.

Solution to Problem

[0008] The present invention is a system for eyelash extension using a photocurable glue including: a tweezers main body in which two elongated members that are reduced

in width/thickness at distal ends are joined at a base end portion; a light source for curing the photocurable glue; a power source unit that drives the light source; and an optical path for emitting light of the light source from a distal end part of at least one of the elongated members.

[0009] In the system for eyelash extension according to the present invention, the optical path is preferably configured to emit the light of the light source in a direction that is substantially perpendicular to a long axis of the elongated members and is an inward direction of the tweezers main body.

[0010] Also, the power source unit preferably includes a control unit that causes the light source to blink at a predetermined cycle. Additionally, the distal end parts of the elongated members in the tweezers main body are preferably replaceable.

[0011] In addition, a light emitting port at a terminal end of the optical path is preferably provided with a transparent cover that prevents the glue from entering the optical path.

[0012] Also, the light source is preferably able to switch irradiation intensities in at least two levels or includes two or more light sources with different irradiation intensities. Moreover, the power source unit and the tweezers main body may be separately configured and may be connected with a wiring.

[0013] Furthermore, the system preferably includes a light shield that is attachable to and detachable from the tweezers main body in order to protect eyes of a person to provide a treatment during utilization. Moreover, the system preferably includes a flexible arm for holding a tray with artificial hairs and the photocurable glue placed thereon near eyelashes of a person to be treated during a treatment.

Advantageous Effects of Invention

[0014] The system for eyelash extension according to the present invention is configured to emit light from the distal end parts of the tweezers to cure the glue, and it is thus possible to perform light irradiation at a super close distance (1 to 3 mm) from the glue under the circumstance where adjacent eyelashes are moved aside by using the tweezers. Therefore, it is possible to irradiate only the bonded parts of the eyelashes with light while keeping a strong intensity. Thus, a process of switching holding of the irradiation tool configured separately with the tweezers and placing the irradiation tool near the patient's face is not needed. As a result, it is possible to dramatically shorten the treatment time for eyelash extension.

[0015] Since the system according to the present invention is configured to emit light in the direction that is substantially perpendicular to the long axis of

the elongated members and is the inward direction of the tweezers main body, it is possible to cure the glue without directly irradiating the person to be treated who lies on his/her back with light and to protect the skin and the eyes of the person to be treated, unlike the case where the face and the eyes of the person to be treated are irradiated with light from above.

[0016] Also, since the light source is configured to automatically blink at the predetermined cycle, the glue irradiated with the blinking light is cured in a stepwise manner, layers of cured glue are formed, and bonding strength can be improved. Moreover, if setting is made such that the light source is automatically turned off during a cyclic period in which a person to provide the treatment newly picks up an artificial hair, attach the glue thereto, and apply it evenly to the natural eyelash, there is no need for the person to provide the treatment to operate ON/OFF of the light. Therefore, a burden on the person to provide the treatment is reduced, floating of the body due to the switching operation is eliminated, and it is thus possible to accurately and reliably perform the treatment.

[0017] Also, since the glue may be attached to and cured at the distal ends of the tweezers at the time of the treatment, it is possible to extend lifetime of the tool by configuring the tips of the tweezers as being replaceable or by providing a transparent cover at the

light emitting port to prevent the optical path from being blocked.

[0018] In addition, it is possible performing irradiation with weak light first, gradually achieving curing while finely adjusting the direction and the length of the artificial hairs, and finally performing irradiation with strong light to thereby achieve complete curing by the light irradiation intensities being able to be switched in at least two levels. Also, the weight is reduced as compared with that when a power source is incorporated in the tool to be held by a hand for a treatment, and operability is improved, by the tweezers and the power sources being separately configured and connected with a wiring.

[0019] Furthermore, since the light shield (for example, a UV-cut transparent acrylic plate) for protecting the eyes of the person to provide the treatment is removably provided at the tweezers, it is possible to protect the eyes of the person to provide the treatment while securing visibility. Furthermore, it is possible to hold the tray with the artificial hairs and the photocurable glue placed thereon immediately near the eyelashes, to minimize a range in which the hand of the person to provide the treatment is moved, and to improve efficiency, by including the moving arm for holding the tray.

Brief Description of Drawings

[0020]

[Figure 1] Figure 1 is a perspective view illustrating a configuration of tweezers 30 according to an embodiment of a system for eyelash extension of the present invention.

[Figure 2] Figure 2 is a schematic view for explaining a method of using the eyelash extension system according to the present invention.

[Figure 3] Figure 3 is a perspective view illustrating an example of the system for eyelash extension using replaceable quartz prisms at distal end parts of the tweezers.

[Figure 4] Figure 4 is a perspective view illustrating an example of the system for eyelash extension equipped with a light shield for a person to provide a treatment.

[Figure 5] Figure 5 is a schematic view illustrating an entire system according to a further embodiment of the system for eyelash extension of the present invention.

[Figure 6] Figure 6 is a perspective view illustrating components of a yet another embodiment of the system for eyelash extension of the present invention.

[Figure 7] Figure 7 is a schematic view illustrating a conventional method of performing eyelash extension.

Description of Embodiments

[0021] Embodiments of the present invention will be described below in detail with reference to the accompanying drawings. Figure 1 is a diagram illustrating a configuration of tweezers 30 according to an embodiment of a system for eyelash extension of the present invention. As illustrated in the drawing, the tweezers 30 of the present invention is obtained by coupling two elongated members 31a and 31b on a root side. The distal ends of the tweezers 30 are separated in a state where no force is applied, and it is possible to cause the distal ends to approach each other or to close them by applying a force. An LED light source is incorporated in each of the elongated members 31a and 31b on the root side (not illustrated). Light emitting ports 32a and 32b are provided at distal ends of the elongated members 31, more specifically at inner facing parts of the tweezers 30 on a side closer than the distal tips by several millimeters. Irradiation of lights is achieved from the LED light source in directions D1 and D2 that substantially face each other from the light emitting ports 32a and 32b.

[0022] Although it is possible to select appropriate LED sources to be used for the system for eyelash extension of the present invention in accordance with a photocurable glue to be used, it is desirable that the LED light sources less affect human bodies. For example, it is possible to use LED source that emit ultraviolet

rays or visible light beams with a peak wavelength of any from 365 to 410 nm, preferably of 400 nm. The photocurable glue is a photocurable resin that is cured by an action of optical energy unlike a thermosetting or room-temperature-curing resin, and is constituted by a monomer, an oligomer, a photopolymerization initiator and other thickener, a stabilizer, a pigment, and the like. It is possible to efficiently cure the photocurable resin by causing the peak wavelength of the LED light sources to coincide with the wavelength at which the polymerization initiator of the photocurable resin is activated. Since the photocurable resin and the light sources used together are known, and details are also described in the related art documents described above, further detailed description herein will be omitted.

[0023] The light from the LED light sources is emitted in the direction that is perpendicular to the long axis of the elongated members 31a and 31b and is an inward direction (the direction of D1 and D2) of the tweezers 30 as illustrated in Figure 1 in the configuration.

Although optical paths from the LED light sources inside the elongated members 31 to the light emitting ports 32 may be hollow, the optical paths that use internal reflection by applying inner mirror coating (mirror spray) to the elongated members 31 by using a transparent acrylic material may be used, or light may be emitted with directionality as described above from the light

emitting ports 32 from the LED light sources via optical fibers. It is possible to appropriately determine the positions of the LED light sources in the elongated members 31 in consideration of design matters such as a weight balance, and it is possible to appropriately dispose a mirror, a prism, a light collecting lens, or the like to cause the light to have directionality in the case where the optical paths are hollow. Furthermore, a configuration in which LED light sources with directionality (in other words, not an omnidirectional type) are attached directly to the distal end portion inner surfaces of the conventional tweezers such that light irradiation is performed in a desired direction from the LED light sources may be employed in some examples. Also, in a case where optical fibers are used, it is possible to dispose LED light sources on a side of a power source unit that is a separate element from the tweezers 30 and to extend the optical fibers to the tweezers 30 therefrom. In yet another embodiment, the power source unit may include a rechargeable battery incorporated in the tweezers 30, and the tweezers 30 may be of a standalone type and rechargeable.

[0024] In the example illustrated in Figure 1, a wiring 16 of the LED light sources is configured to be connected inside the tweezers 30 and extends outward from the elongated member 31a on one side. The tweezers 30 are adapted such that the distal end parts are narrowed or

loosened by holding the tweezers 30 with a hand and applying a force thereto, while ON/OFF of the LED light sources is configured to be operated by a foot switch (a foot switch 58 in Figures 5 and 6). In this case, a configuration in which the LED light sources are turned on when a force is applied from a foot to press the switch down and are turned off when the foot is released may be employed, or the LED light sources may be turned ON for a predetermined period of time (for five seconds, for example) once the foot switch is stepped on. As will be further described later, the LED light sources may repeat blinking for a predetermined period of time once the foot switch is stepped on.

[0025] The tweezers 30 configured in this manner can be used substantially similarly to conventional tweezers for a left hand. In other words, the tweezers 5 are held by a dominant hand (right hand in this example) while the tweezers 30 according to the present invention are held by the opposite hand (left hand) as illustrated in Figure 2. One (or more) artificial hair 15 is picked up with the tweezers 5, a glue is caused to adhere to the root, left and right eyelashes of a target eyelash 20 are moved aside on both sides with the distal tips of the tweezers 30 to secure a work space, and the artificial hair 15 is bonded to the eyelash 20. At this time, if the eyelash 20 is squeezed several times at the root of the artificial hair 15 such that the glue is applied to the

entire periphery of the eyelash 20, it is possible to enhance the entire strength after curing. If the LED light sources is turned on while the state as illustrated in Figure 7(b), that is, the state where the artificial hair 15 is bonded to the eyelash 20 is maintained, light irradiation is performed in the direction from the light emitting ports 32a and 32b toward the eyelash 20, the polymerization initiator is activated, and the photocurable glue is then cured in several seconds. It is possible to completely cure the photocurable glue only in several seconds (two to five seconds, for example) without moving the hands during the treatment or switching the holding of the tool, by selecting appropriate light sources and a corresponding glue. Therefore, the treatment is performed more quickly as compared with the conventional case where a cyanoacrylate-based adhesive is used, and there is also no need to alternately perform the treatment for each eye to secure the curing time. In this example, the treatment proceeds to a work of applying a new artificial hair to a next eyelash after the artificial hair 15 is applied to the one natural eyelash 20.

[0026] As illustrated in Figures 1 and 2, the light for curing the photocurable glue is emitted in the inward direction of the tweezers 30 at a distance corresponding to several eyelashes from a target site and is oriented not to be directed to the eyes of the person to be

treated. It is thus possible to avoid adverse influences due to irradiation of the eyes or the skin of the person to be treated with strong ultraviolet rays. The light emitting ports 32 of the tweezers 30 may include brim-shaped projecting portions that physically block light directed downward as needed. Alternatively or additionally, the light emitting ports 32 may be provided with light collecting lenses that further limit light in a desired direction.

[0027] Although ON and OFF of the light sources are switched by the foot-stepping foot switch (the foot switch 58 in Figures 5 and 6, for example) in this example, the tweezers 30 themselves may be provided with a switch (on a side surface of the elongated member 31, for example) in another example. Also, a configuration in which ON and OFF are switched every time the switch is pressed may be employed instead of the configuration in which the LED light sources are turned on when the switch is pressed while the LED light sources are turned off when the switch is released.

[0028] In yet another example, the LED light sources of the tweezers 30 may automatically blink at a predetermined cycle when the foot switch 58 or a separately provided switch is turned on in the present system. In this case, the blinking may be completed and the LED light sources may be completely turned off when the switch is turned off, or the blinking may be repeated

for a predetermined period of time when the switch is turned on then the LED light sources may then be completely turned off. As for the blinking cycle, it is possible to employ a blinking cycle of repeating turning on for 0.5 seconds and turning off for 0.5 seconds, repeating turning on for 3 seconds and turning off for 2 seconds, or turning on for 0.4 seconds, 0.6 seconds, and 0.8 seconds and turning off for 0.5 seconds between these turning-on periods. The blinking cycle may be fixedly set in advance at the time of shipment from a plant, or the turning-on and turning-off times may be able to be arbitrarily set through an operation panel (not illustrated) provided on the system. If a regular turning-off time is provided in the glue curing cycle, it is possible to fix the glue slowly while applying it evenly, layers are formed in the cured glue to thereby enhance the strength, and it is possible to prevent the glue from becoming lumpy. Also, in the example in which the turning on for 3 seconds and turning-off for 2 seconds are repeated, it is possible to perform the treatment in a cycle of preparing a new artificial eyelash and placing it on an original eyelash during the turning-off period and let the glue curing during the turning-on period. With such a configuration, there is no need for the person to provide the treatment to operate ON and OFF of the light for each eyelash, a burden on the person to provide the treatment is reduced,

no body shaking occurs with the switch operation, and the hands become more stable.

[0029] The tweezers according to the present embodiment can implement various modifications as described below.

(1) Example in which light irradiation is performed only from one of the tweezers

Although light is emitted from both distal end parts of the tweezers to each other in the example in Figures 1 and 2, only one of the elongated members 31 may be provided with an LED light source and an optical path, and these functions may be omitted from the other elongated member. It is still possible to cure the glue by light irradiation at a close distance while moving eyelashes on both sides of a target eyelash and securing a space. Note that, in this example, the system can employ a reflection structure (a mirror or a reflection coating) provided at a location on the elongated member irradiated with the light on the opposite light emission side such that the entire peripheries of the eyelashes are irradiated by using the reflection.

[0030] (2) Example in which irradiation intensity of LED light source is able to be switched

It is possible to provide two switch for high and low intensities in the foot switch for operating the LED light sources, for example, and to perform an operation of gradually performing curing in a state where the orientation and the length of the artificial hair can be

finely adjusted during irradiation with weak light at first and finally achieving complete curing by irradiation with strong light. Alternatively, a configuration in which an electronic control circuit is incorporated (not illustrated) on the power source unit with one foot switch, irradiation with weak light is performed for first predetermined several seconds when the foot switch is pressed, and irradiation with strong light is then performed for predetermined several seconds may be employed. The configuration may be made such that the irradiation is immediately stopped when the foot is released from the foot switch in this case as well. In a further alternative, a configuration in which one of the two elongated members 31 and 31b constituting the tweezers 30 may emit strong light, the other emit weak light may be employed, and irradiation can be performed while switching both of them. In this case, it is possible to perform switching in four levels, namely a level in which both of them are turned off, a level in which one of them is turned on, a level in which only the other is turned on, and a level in which both of them are turned on as operations.

[0031] (3) Example in which wavelengths of left and right LED light sources are caused to be different

It is possible to perform the treatment while sterilizing the artificial hairs, the glue, and further the treated site by using an LED light source that emits

ultraviolet rays with a wavelength (200 to 300 nm, preferably about 222 nm) having a sterilization effect for the elongated member 31b, while using an LED light source with a peak wavelength with which the photocurable glue is cured for the other elongated member 31a.

[0032] (4) Example in which replaceable quartz prisms are used at distal end parts of tweezers

Figure 3 is a perspective view illustrating an example in which replaceable quartz prisms are used at the distal end parts of the tweezers. As illustrated in Figure 3(a), tweezers 35 in this example includes flexible elongated members 36a and 36b and quartz prisms 37a and 37b inserted in an axial direction into the distal ends of the elongated members 36. The distal ends of the quartz prisms 37a and 37b are obliquely cut, and it is possible to reflect incident light from base ends by 90° and emit the light in the tweezers' inward direction. Optical fibers 38a and 38b are introduced to base end portions of the elongated members 36a and 36b, respectively and allow the light to be incident on the base end portions of the quartz prisms 37a and 37b through substantially the entire length of the elongated members 36. The optical fibers 38 are connected to the light source provided inside a main body unit 57 illustrated in Figure 5, for example. It is possible to apply appropriate coating or painting to the oblique surfaces or roof surfaces of the quartz prisms 37. With

such a configuration, it is possible to direct the incident light from the optical fibers 38 in a desired target direction and to replace only the quartz prisms 37 at the distal end parts in a case where the glue fixedly adheres during long-term utilization.

[0033] Furthermore, it is possible to divide the pair of elongated members 36a and 36b and use them alone or separately as illustrated in Figure 3(b) according to the tweezers 35 in this example. As illustrated in Figure 3(b), an inner base end portion of the elongated member 36a is provided with two engagement recessed portions 39, and it is possible to cause the engagement recessed portions 39 to be engaged with corresponding engagement projecting portions (not illustrated) provided at the base end portion of the elongated member 36b, thereby attachably/detachably coupling both the elongated members 36. With such a configuration, it is possible to divide the elongated members 36 and to use only one of them or to use the elongated members by one person holding one of the elongated members 36a and 36b with both hands in a case where the treatment is performed by two or more persons, for example. Note that the LED light sources may be incorporated in the elongated members without using the optical fibers as described above in this example as well.

[0034] (5) Example in which light shield for person to provide treatment is included

Figure 4 is a diagram illustrating an example of a system for eyelash extension including a light shield for a person to provide a treatment. As illustrated in Figure 4(a), the system includes tweezers 40 and an attachable/detachable light shield 45. The tweezers 40 are achieved by improving conventional tweezers made of metal, holes 41 are opened at distal ends of both elongated members 40a and 40b, and optical fibers 42 are fixed thereto with the optical fibers 42 directed inward (the side facing each other). The optical fibers 42 are fixed along sideways parts or inner sides of the elongated members 40a and 40b to the proximal end portion of the tweezers 40 such that the optical fibers 42 do not interrupt operations and extends from the proximal end portion of the tweezers 40 to a power unit (the main body unit 57 illustrated in Figures 5 and 6) including LED light sources. The optical fibers 42 are soft and do not interrupt fine motions of the tweezers 40. A foot switch extends from the power source unit (for example, the foot switch 58 in Figures 5 and 6), such that the person who provides a treatment can control ON and OFF of the LED light sources with his/her foot.

[0035] The light shield 45 includes a detachment portion 47 that is made of an elastic resin for removable attachment to the tweezers 40 and a UV cut plate 48 made of transparent acrylic, and the UV cut plate 48 is configured to absorb light with a wavelength of the LED

light sources used in the present system. This is attached to an appropriate location on the tweezers 40 as illustrated in Figure 4(b) to prevent light of the optical fibers 42 from directly reaching the eyes of the person to provide the treatment during utilization. The shapes of the detachment portion 47 and the UV cut plate 48 may be appropriately changed in accordance with the shape and the like of the tweezers to be applied.

[0036] Figure 5 is a schematic diagram illustrating an entire system according to a further embodiment of the system for eyelash extension of the present invention. A system for eyelash extension 50 illustrated in the drawing includes tweezers 55, a movable tray 56, a main body unit 57, and a foot switch 58. The main body unit 57 incorporates a power source unit and an LED light source unit (not illustrated) and has a weight that is sufficient to stably support a pillar 57a extending upward. One end of a flexible arm 59 that can freely change the position of the movable tray 56 is fixed to the pillar 57a. The flexible arm 59 is configured to be able to displace the movable tray 56 when a force is applied while the tray 56 stays at its position when a hand is released therefrom. Since the structure itself is known, detailed description will be omitted herein. An artificial hair bundle before attachment and a photocurable glue are placed on the movable tray 56.

[0037] The system 50 may further include an electric reclining seat 60 that is generally used for hairdressing or dentistry purposes as illustrated in Figure 6. The person to be treated may be allowed to have a seat on the reclining seat 60 and recline to an angle at which the person to provide the treatment can easily perform the treatment. The tray 56 can be disposed at an easily accessible position immediately near the eyelashes for the treatment. At the time of the treatment, irradiation with LED light is performed from light emitting ports (not illustrated) at distal ends of the tweezers 55 if the foot switch 58 is pressed with a foot. The tweezers 55 may have the same configuration as that of tweezers in any of the examples described in the specification or may have a combination of the plurality of configurations.

[0038] An artificial hair is picked up with the tweezers (conventional type; not illustrated) in the dominant hand and a glue is attached thereto in a state wherein the tray 56 with the artificial hair and the photocurable glue placed thereon is disposed at a desired position near the eyelashes, eyelashes on both sides of a target eyelash are moved aside and a space is secured with the tweezers 55 held on the other hand, and the artificial hair is bonded to the eyelash. At this moment, the bonded site of the target eyelash and the artificial hair is still located inside the distal ends of the tweezers 55 (between both the elongated members), and if the

person to provide the treatment presses the foot switch 58 with his/her foot, the bonded site is irradiated with light at a close distance of 1 to 3 mm, and the glue is cured in several seconds. It is possible to much quickly perform the eyelash extension than before by repeating this.

[0039] Although the plurality of embodiments of the system for eyelash extension of the present invention and the plurality of examples thereof have been described in detail, the present invention is not limited to the aforementioned embodiments illustrated and described and can be implemented as various modifications.

Industrial Applicability

[0040] The present invention can be used in the beauty field, particularly in the industry of eyelash extension.

Reference Signs List

[0041]

30, 35, 40, 55 Tweezers

31, 36, 40a, 40b Elongated member

32 Light emitting port

15 Artificial hair

16 Wiring

20 Eyelash

38 Optical fiber

45 Light shield

56 Movable tray

57 Main body unit

58 Foot switch

Claims

[Claim 1]

A system for eyelash extension using a photocurable glue comprising:

a tweezers main body in which two elongated members that are reduced in width/thickness at distal ends are merged on a base end side;

a light source for curing the photocurable glue;

a power source unit that drives the light source;

and

an optical path for emitting light of the light source from a distal end part of at least one of the elongated members.

[Claim 2]

A system for eyelash extension according to claim 1, wherein the optical path is configured to emit the light of the light source in a direction that is substantially perpendicular to a long axis of the elongated members and is an inward direction of the tweezers main body.

[Claim 3]

The system for eyelash extension according to claim 1 or 2, further comprising wherein the power source unit includes a control unit that causes the light source to blink at a predetermined cycle.

[Claim 4]

The system for eyelash extension according to claim 1 or 2, wherein the distal end parts of the elongated members in the tweezers main body are replaceable.

[Claim 5]

The system for eyelash extension according to claim 1 or 2, wherein the light source is able to switch irradiation intensities in at least two levels or includes two or more light sources with different irradiation intensities.

[Claim 6]

The system for eyelash extension according to claim 1 or 2, wherein the power source unit and the tweezers main body are separately configured and are connected with a wiring.

[Claim 7]

The system for eyelash extension according to claim 1 or 2, further comprising:

a light shield that is attachable to and detachable from the tweezers main body for protecting eyes of a person to provide a treatment during utilization.

[Claim 8]

The system for eyelash extension according to claim 1 or 2, further comprising:

a flexible arm for holding a tray with artificial hairs and the photocurable glue placed thereon near eyelashes of a person to be treated during a treatment.