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(72) Inventor: **Huang, Ying Chung**
Tongluo Township,
Miaoli County (TW)

(74) Representative: **Beck, Michael Rudolf et al**
Beck & Rössig
Cuvilliesstrasse 14
81679 München (DE)

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(71) Applicant: **Huang, Ying Chung**
Tongluo Township,
Miaoli County (TW)

(54) **Hair Dyeing and Treatment Tongs**

(57) Hair dyeing and treatment tongs that emit supersonic energy, which comprise: an upper shaft (10) and a lower shaft (20), wherein the supersonic circuit boards (16,25), transducer chips (14,24) and guiding boards (13,23) are all mounted in said upper (10) and lower (20) shafts. The supersonic circuit boards (16,25), the transducer chips (14,24) and the guiding boards (13,23) of the upper (10) and lower (20) shafts are con-

nected with power lines (30) via conducting wires (31), and one end of the upper shaft (10) and the lower shaft (20) are connected and pivot together. When the power is on, electricity is conducted to the transducer chip (14,24) by virtue of the supersonic circuit board (16,25) where it is converted to supersonic energy to be transferred to the guiding board (13,23) and finally conducted to the user's hair. Meanwhile, hair color and hair conditioner can be applied to the user's hair.

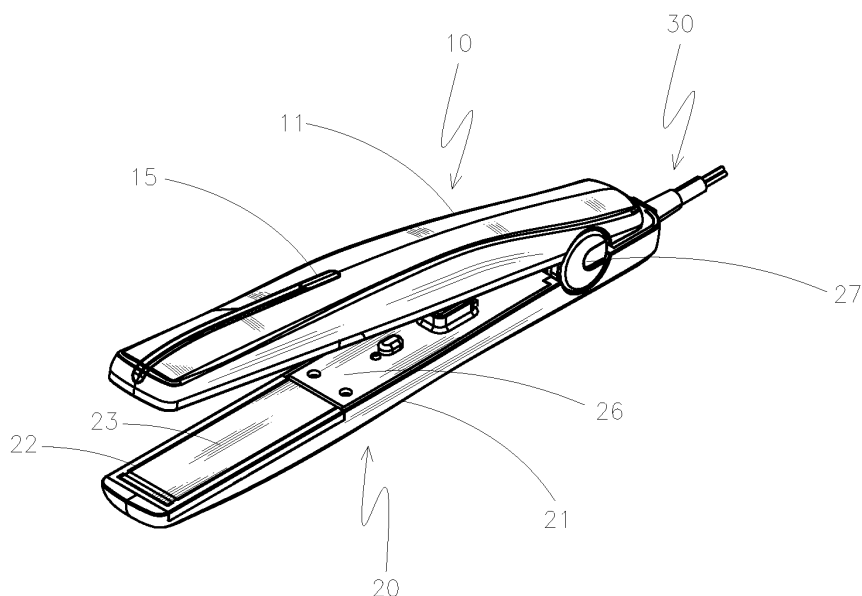


FIG. 1

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to hair tongs. More particularly, the present invention relates to a hair apparatus which is used for hair dyeing and treatment.

2. Description of Related Art

[0002] A conventional hair treatment apparatus, as shown in Fig. 8 and generally known to the applicant, comprises a base 50, a supporting stand 51, a helmet 52 and a reservoir 53, wherein the reservoir 53 is filled with hair treatment conditioner (not shown). The user places the helmet 52 on his or her head, and the hair treatment conditioner from the reservoir 53 is then spread on the user's hair by virtue of the steam generated from the base 50. The aforesaid hair apparatus has some improvable defects, such as:

1. Large spatial requirements: due to the large size of the apparatus, a large space is required for use.
2. Inconvenient use: to use the apparatus, the apparatus must first be properly positioned and the helmet 52 must be placed on the head of the user, after which the controls switch must be triggered. As such, operation is complicated and inconvenient.
3. Impossible self-operation: in order to use the apparatus, a user must wear the helmet 52 and control the power switch. However, it is difficult for a single person to simultaneously be the operator and user of the apparatus.

[0003] The present invention is intended to improve upon the above mentioned drawbacks, including the spatial requirements, inconvenient use and impossible self-operation.

SUMMARY OF THE INVENTION

[0004] The invention provides hair dyeing and treatment tongs according to claim 1.

[0005] In use hair is arranged between the guiding board of the upper shaft and the guiding board and/or luminescent body base of the lower shaft. Thus, hair can be treated with supersonic energy and/or light.

[0006] Advantageous embodiments of the invention are laid down in dependent claims.

[0007] The inventive hair dyeing and treatment tongs provide a supersonic function and comprise an upper shaft and a lower shaft with supersonic circuit boards, transducer chips, and guiding boards all installed on said upper and lower shafts. When the supersonic circuit boards conduct electricity and transfer electric energy to the transducer chips, the electric energy is converted to

supersonic energy that is conducted to the user's hair by the guiding boards. In addition, the supersonic circuit boards and the transducer chips of the upper and lower shafts are connected with power lines via conducting wires. Meanwhile the one end of the upper shaft and the lower shaft are connected and pivot together such that the supersonic energy can be conducted to the user's hair once the electric current is activated. At the same time, hair color and hair conditioner can be applied to the user's hair, which achieves the functions of convenient use and saving space.

[0008] Other objects, advantages and novel features of the invention will become more apparent in the following detailed description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

Fig. 1 is a perspective view schematically showing the hair dyeing and treatment apparatus of the present invention;

Fig. 2 is a segmented view of the hair dyeing and treatment apparatus of the present invention;

Fig. 3 is a cross-sectional view of the hair dyeing and treatment apparatus of the present invention;

Fig. 4 is a cross-sectional view schematically showing the practical use of the present invention;

Fig. 5 is a segmented view schematically showing another aspect of the hair dyeing and treatment apparatus;

Fig. 6 is a cross-sectional view schematically showing another aspect of the hair dyeing and treatment apparatus;

Fig. 7 is a cross-sectional view schematically showing another aspect of the practical use of the apparatus; and

Fig. 8 is a perspective view schematically showing a conventional hair treatment apparatus.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0010] While this invention is capable of embodiment in many different forms, shown in the drawings and herein described in detail is the preferred embodiment of the invention. The preferred embodiment is disclosed with the understanding that the present description is but one example of the principles of the invention and is not intended to limit the broad aspects of the invention to the single embodiment illustrated.

[0011] Figs. 1 to 3 are perspective, segmented and cross-sectional views schematically showing a hair dyeing and treatment apparatus of the present invention.

[0012] The apparatus comprises:

an upper shaft 10 comprising a first shell 11 having

a first front space 110, a first rear space 111, a trough 112 and a first pivot part 113, wherein, the first front space 110 is used for fitting a first guiding board base 12, and the first guiding board base 12 provides a seat to which the first guiding board 13 is affixed. Additionally, a first transducer chip 14 is installed on the opposite side of the said base 12 and guiding board 13. A first supersonic circuit board 16 is mounted in the first rear space 111, and a first limit switch 160 is installed on said circuit board 16. The first circuit board 16 is covered by a first lid 17 and a first protruding aperture 170 as well as a first flange 171 are situated on the first lid 17. Wherein, the first protruding aperture 170 is provided to fit with the conductive end of the first limit switch 160. A luminescent body 15 is installed in the trough 112 and the first pivot part 113 of the first shell 11 is covered by a first rear lid 18. The first transducer chip 14, luminescent body 15 and the first supersonic circuit board 16 all conducted electricity through the power lines 30 by virtue of conducting wires 31;

a lower shaft 20 comprising a second shell 21 having a second front space 210, a second rear space 211 and a second pivot part 212, wherein, the second front space 210 is used for fitting a second guiding board base 22, and the second guiding board 22 provides a seat to which the second guiding board 23 it is affixed. Additionally, a second transducer chip 24 is installed on the opposite side of the said base 22 and guiding board 23. Further, a second supersonic circuit board 25 is mounted in the second rear space 211, and a second limit switch 250 is mounted on said circuit board 25. The second circuit board 25 is covered by a second lid 26 and a second protruding aperture 260 as well as a second flange 261 situated on the second lid 26. The second protruding aperture 260 is provided to fit with the conductive end of the second limit switch 250. The second flange 261 corresponds to the first protruding aperture 170 of the first lid 17, and the second protruding aperture 260 corresponds to the first flange 171 of the first lid 17. The second pivot part 212 is engaged with the first pivot part 113 of the upper shaft 10 and allows an outer lid 27 to pass through the engagement from one side of the second pivot part 212, further connecting to another outer lid 28 on the other side of the second pivot part 212. An elastic piece 270 is sheathed on the pivot axis of said outer lid 27 so that the upper shaft 10 and lower shaft 20 are assembled to form tongs that are able to clamp elastically. The second pivot part 212 of the second shell 21 is covered by a second outer lid 28. The second transducer chip 24 and the second supersonic circuit board 25 conduct electricity through the power lines 30 by virtue of conducting wires 31; and

a power line 30 connected to the first transducer chip 14, the luminescent body 15, the first supersonic circuit board 16 of the first shell 11, as well as the sec-

ond transducer chip 24 and second supersonic circuit board 25 of the second shell 21, via the conducting wires 31.

[0013] In light of the structures described above, the present invention achieves the functions of a hair dyeing and treatment tongs having a supersonic function.

[0014] Fig. 4 is a cross-sectional view schematically showing the practical use of the present invention. As stated above, the upper shaft 10 comprises a first transducer chip 14, a luminescent body 15 and a first supersonic circuit board 16, and the lower shaft 20 comprises a second transducer chip 24 and a second supersonic circuit board 25. The first transducer chip 14 and the second transducer chip 24 are attached with an adhesive to the first guiding board 13 and the second guiding board 23, respectively. When the combination of the upper shaft 10 and lower shaft 20 is clamped shut, the first protruding aperture 170 and first flange 171 of the upper shaft 10 engage with the second protruding aperture 260 and second flange 261 of the lower shaft 20. As such, once the first flange 171 of the first lid 15 touches the limit switch 250 of the second supersonic circuit board 25 installed on the lower shaft 20, electricity is conducted to the second supersonic circuit board 25 and further transferred to the second transducer chip 24 where the electric charge will be converted to supersonic energy and will be further conducted to the second guiding board 23. Meanwhile, the second flange 261 of the second lid 26 touches the first limit switch 160 of the first supersonic circuit board 16, which allows electricity to conduct to the first supersonic circuit board 16 and further transfer to the first transducer chip 14 where the electric energy will be converted to supersonic energy and further conduct to the first guiding board 13. Finally, supersonic energy will be conducted to the user's hair by virtue of said first and second guiding boards 13, 23, while at the same time hair color and hair conditioner can be applied to the user's hair, which achieves the functions of convenient use and saving space.

[0015] Figs. 5 and 6 represent another embodiment of the present invention.

[0016] The embodiment comprises:

an upper shaft 10 comprising a first shell 11 having a first front space 110, a first rear space 111, a trough 112 and a first pivot part 113, wherein the first front space 110 is used for fitting a first guiding board base 12, and the first guiding board base 12 provides a seat to which the first guiding board 13 it is affixed. Additionally, a first transducer chip 14 is installed on the opposite side of the said base 12 and guiding board 13. Further, a first supersonic circuit board 16 is mounted in the first rear space 111, and a limit switch 160 is mounted on said circuit board 16. The first supersonic circuit board 16 is covered by a first lid 17, and a protruding aperture 170 is situated on the first lid 17, wherein the protruding aperture 170

is provided to fit with the conductive end of the limit switch 160 of the first supersonic circuit board 16. A luminescent body 15 is installed in the trough 112 and the first pivot part 113 of the first shell 11 is covered by a first rear lid 18. The transducer chip 14, luminescent body 15 and the supersonic circuit board 16 all conduct electricity with the power lines 30 via conducting wires 31;

a lower shaft 20 comprising a second shell 21 having a second front space 210, a second rear space 211 and a second pivot part 212, wherein the second front space 210 is used for fitting a luminescent body circuit board 42, and the top of the second front space 210 is covered by a luminescent body base 43. The luminescent body base 43 is hollow and a transparent board 430 is installed inside of it. A second rear space 211 is used for fitting a luminescent body controlling board 40, and the luminescent body controlling board 40 has a switch 400. The top of the second rear space 211 is covered by a second lid 41, and a flange 410 is installed on said second lid 41 that corresponds to the protruding aperture 170 of the first lid 17. The second pivot part 212 is engaged with the first pivot part 113 of the upper shaft 10 and allows an outer lid 26 to pass through the engagement from one side of the second pivot part 212, further connecting to another outer lid 27 on the other side of the second pivot part 212. An elastic piece 260 is sheathed on the pivot axis of said outer lid 26 so that the upper shaft 10 and lower shaft 20 are assembled to form tongs that are able to clamp elastically. The second pivot part 212 of the second shell 21 is covered by a second outer lid 28, and the luminescent body controlling board 24 and the luminescent body circuit board 42 conduct electricity with the power lines 30 by virtue of conducting wires 31; and a power line 30 connected to the transducer chip 14, the luminescent body 15, the supersonic circuit board 16 of the first shell 11, as well as the luminescent body controlling board 40 and luminescent body circuit board 42 of the second shell 21, by virtue of the conducting wires 31.

[0017] Fig. 7 is a cross-sectional view schematically showing the practical use of the embodiment. As given above, the upper shaft 10 comprises a transducer chip 14, a luminescent body 15 and a supersonic circuit board 16, and the lower shaft 20 comprises a luminescent body circuit board 42 and a luminescent body controlling board 40, wherein the luminescent body circuit board 42 is lit (not shown) by triggering the switch 400 of the luminescent body controlling board 40. When the combination of the upper shaft 10 and lower shaft 20 are clamped shut, the flange 410 of the second lid 41 of the lower shaft 20 engages with the protruding aperture 170 of the first lid 17 of the upper shaft 10. As the flange 410 of the second lid 41 touches the limit switch 160 of the supersonic circuit board 16 installed in the protruding aperture

170, electricity is conducted to the supersonic circuit board 16 and is further transferred to the transducer chip 14, where the electric energy will be converted to supersonic energy and further conducted to the guiding board 13. Finally, the converted supersonic energy will be conducted to the user's hair. At the same time, hair color and hair conditioner can be applied to the user's hair, achieving the functions of convenient use and saving space.

[0018] The advantages of the present invention include:

1. Space saving: due to the small structure of the present invention, spatial requirements for use or store are significantly lower than conventional hair treatment apparatus.
2. Convenient Use: when in used, the user need only clamp the hair tongs and turn on the power to conduct supersonic energy to their hair; as such hair dyeing and hair treatment functions are provided through simple operation.
3. Self-operation: a user can perform hair dyeing and hair treatment procedures with the present invention on him or herself and by him or herself without the assistance of others.

[0019] Although numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, this disclosure is one example only, and changes may be made with regard to specific details, particularly in matters of shape, size, and arrangement of parts within the invention to the full extent indicated by the general meaning of the terms in which the appended claims are expressed.

Claims

1. Hair dyeing and treatment tongs, comprising:

an upper shaft (10) having a guiding board (13) and means for converting electric energy to supersonic energy that is conducted to a user's hair by the guiding board (13),
a lower shaft (20) having a second guiding board (23) and/or a luminescent body base (43) for interaction with a user's hair, said lower shaft (20) being pivotally connected with the upper shaft (10) so that the upper shaft (10) and lower shaft (20) form tongs that are able to clamp elastically.

2. Hair dyeing and treatment tongs according to claim 1, comprising:

said upper shaft 10 comprising a first shell (11) having a first front space (110), a first rear space (111), a trough (112) and a first pivot part (113),

wherein the first front space (110) is used for fitting a first guiding board base (12), and the first guiding board base (12) provides a seat to which the first guiding board (13) is affixed; additionally, a first transducer chip (14) is installed on the opposite side of the said base (12) and guiding board (13); further, a first supersonic circuit board (16) is mounted in the first rear space (111), and a first limit switch (160) is installed on said circuit board (16); the first circuit board (16) is covered by a first lid (17) and a first protruding aperture (170) as well as a first flange (171) situated on the first lid (17); wherein, the first protruding aperture (170) is provided to fit with the conductive end of the first limit switch (160); a luminescent body (15) is installed in the trough (112) and the first pivot part (113) of the first shell (11) is covered by a first rear lid (18); the first transducer chip (14), luminescent body (15) and the first supersonic circuit board (16) all conduct electricity with the power lines (30) by virtue of conducting wires (31);

said lower shaft (20) comprising a second shell (21) having a second front space (210), a second rear space (211) and a second pivot part (212); wherein, the second front space (210) is used for fitting a second guiding board base (22), and the second guiding board (22) provides a seat to which the second guiding board (23) it is affixed, meanwhile, a second transducer chip (24) is installed on the opposite side of the said base (22) and guiding board (23); further, a second supersonic circuit board (25) is mounted in the second rear space (211), and a second limit switch (250) is mounted on said circuit board (25); the second circuit board (25) is covered by a second lid (26) and a second protruding aperture (260) as well as a second flange (261) situated on the second lid (26); wherein, the second protruding aperture (260) is provided to fit with the conductive end of the second limit switch (250); the second flange (261) corresponds to the first protruding aperture (170) of the first lid (17), and the second protruding aperture (260) corresponds to the first flange (171) of the first lid (17); the second pivot part (212) is engaged with the first pivot part (113) of the upper shaft (10), and allows an outer lid (27) to pass through the engagement from one side of the second pivot part (212), further connecting to another outer lid (28) on the other side of the second pivot part (212); an elastic piece (270) is sheathed on the pivot axis of said outer lid (27) so that the upper shaft (10) and lower shaft (20) are assembled to form tongs that are able to clamp elastically; the second pivot part (212) of the second shell (21) is covered by a second outer lid (28); the second transducer chip (24)

and the second supersonic circuit board (25) conduct electricity to the power lines (30) by virtue of conducting wires (31); and a power line (30) connected to the first transducer chip (14), the luminescent body (15), the first supersonic circuit board (16) of the first shell (11), as well as the second transducer chip (24) and second supersonic circuit board (25) of the second shell (21), by virtue of the conducting wires (31).

3. Hair dyeing and treatment tongs as claimed in claim 2, wherein the first transducer chip (14) and the second transducer chip (24) are attached with an adhesive to the first guiding board (13) and the second guiding board (23), respectively.
4. Hair dyeing and treatment tongs according to claim 1, comprising:

said upper shaft (10) comprising a first shell (11) having a first front space (110), a first rear space (111), a trough (112) and a first pivot part (113); wherein, the first front space (110) is used for fitting a first guiding board base (12), and the first guiding board base (12) provides a seat to which the first guiding board (13) it is affixed; additionally, a first transducer chip (14) is installed on the opposite side of the said base (12) and guiding board (13); further, a first supersonic circuit board (16) is mounted in the first rear space (111), and a limit switch (160) is mounted on said circuit board (16); the first supersonic circuit board (16) is covered by a first lid (17), and a protruding aperture (170) is situated on the first lid (17); wherein, the protruding aperture (170) is provided to fit with the conductive end of the limit switch (160) of the first supersonic circuit board (16); a luminescent body (15) is installed in the trough (112) and the first pivot part (113) of the first shell (11) is covered by a first rear lid (18); the transducer chip (14), luminescent body (15) and the supersonic circuit board (16) all conduct electricity to the power lines (30) via conducting wires (31);

said lower shaft (20) comprising a second shell (21) having a second front space (210), a second rear space (211) and a second pivot part (212); wherein, the second front space (210) is used for fitting a luminescent body circuit board (42), and the top of the second front space (210) is covered by a luminescent body base (43); the luminescent body base (43) is hollow and a transparent board (430) is installed inside of it; a second rear space (211) is used for fitting a luminescent body controlling board (40), and the luminescent body controlling board (40) has a switch (400); the top of the second rear space

(211) is covered by a second lid (41), a flange (410) is installed on said second lid (41) and corresponds to the protruding aperture (170) of the first lid (17); the second pivot part (212) is engaged with the first pivot part (113) of the upper shaft (10) and allows an outer lid (26) to pass through the engagement from one side of the second pivot part (212), further connecting to another outer lid (27) on the other side of the second pivot part (212); an elastic piece (260) is sheathed on the pivot axis of said outer lid (26) so that the upper shaft (10) and lower shaft (20) are assembled to form tongs that are able to clamp elastically; the second pivot part (212) of the second shell (21) is covered by a second outer lid (28), and the luminescent body controlling board (24) and the luminescent body circuit board (42) conduct electricity with the power lines (30) by virtue of conducting wires (31); and a power line (30) connected to the transducer chip (14), the luminescent body (15), the supersonic circuit board (16) of the first shell (11), as well as the luminescent body controlling board (40) and luminescent body circuit board (42) of the second shell (21), by virtue of the conducting wires (31).

5. Hair dyeing and treatment tongs as claimed in claim 4, wherein a transducer chip (14) is attached to the guiding board (13) with an adhesive.

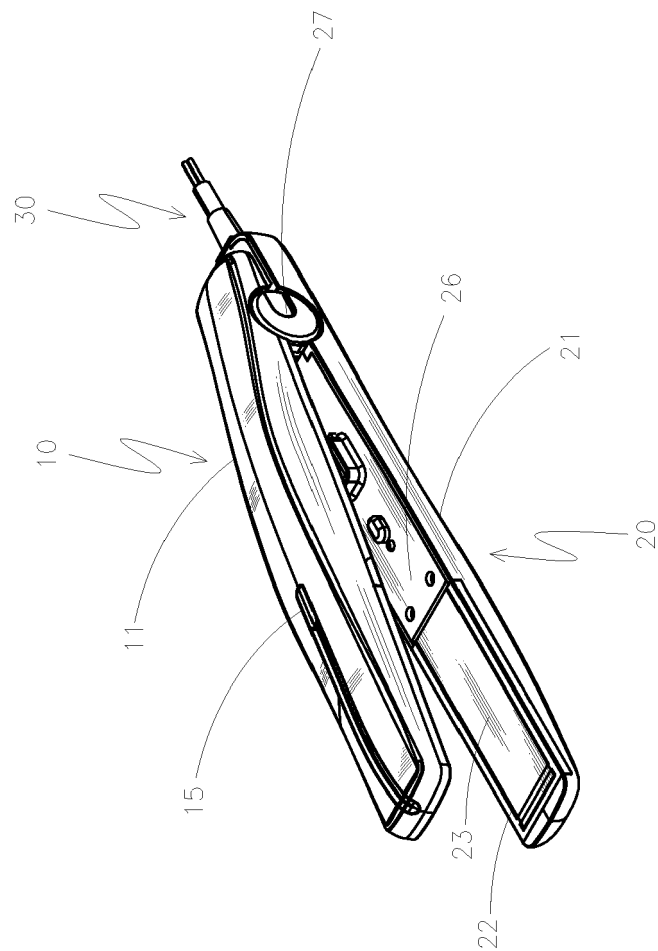


FIG. 1

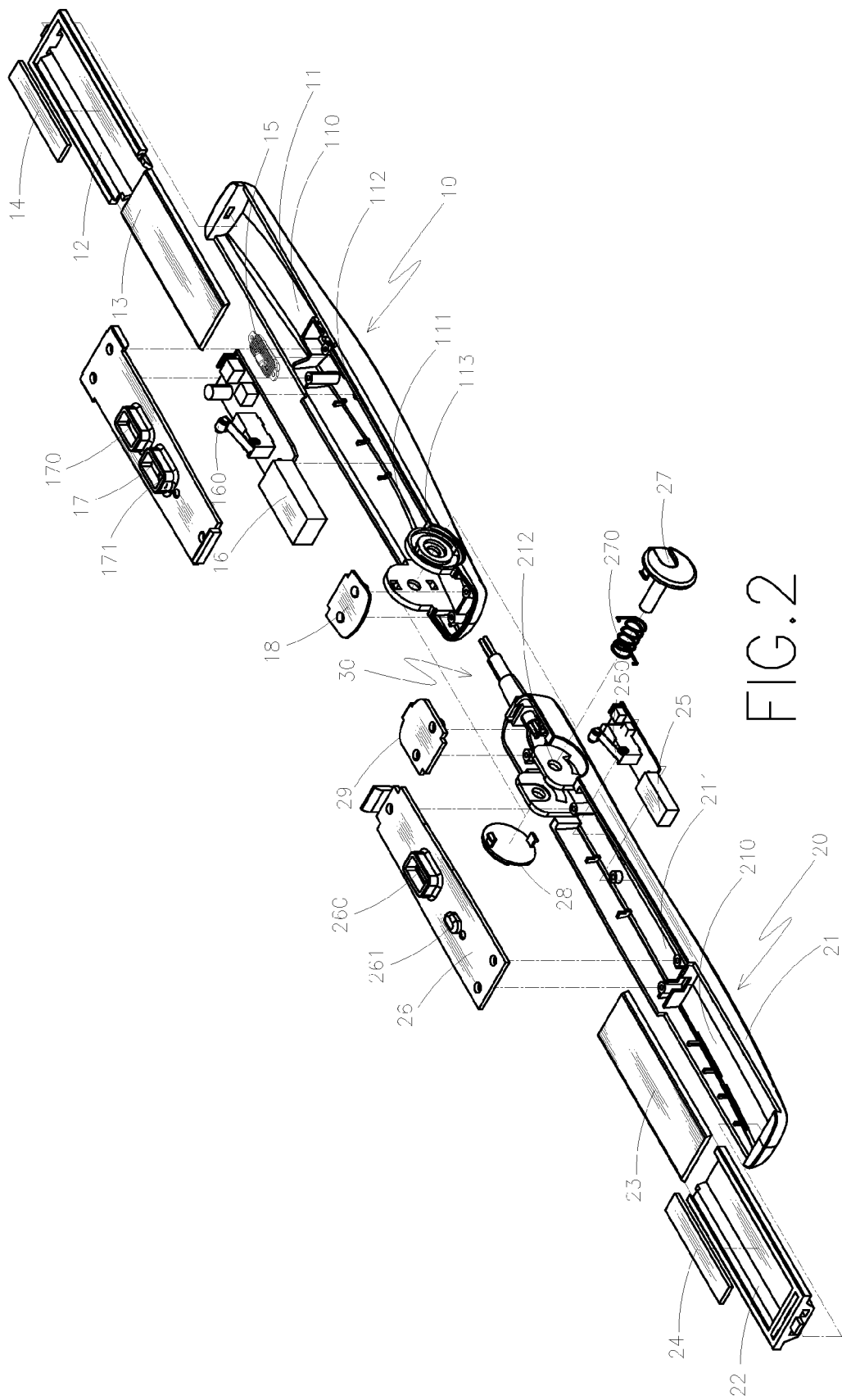


FIG. 2

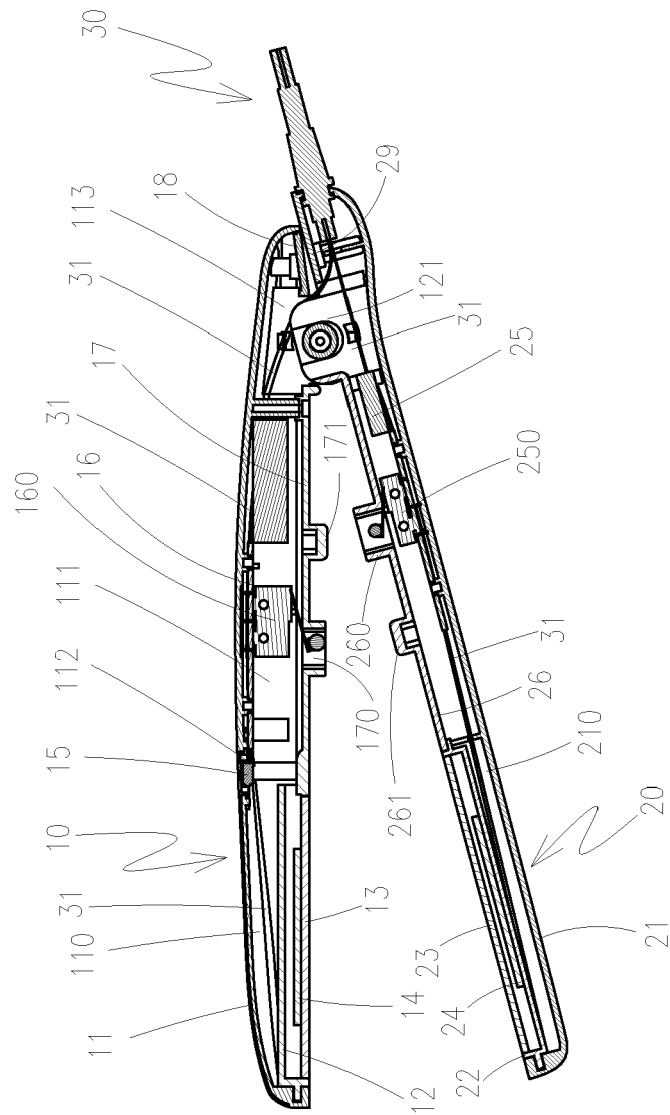
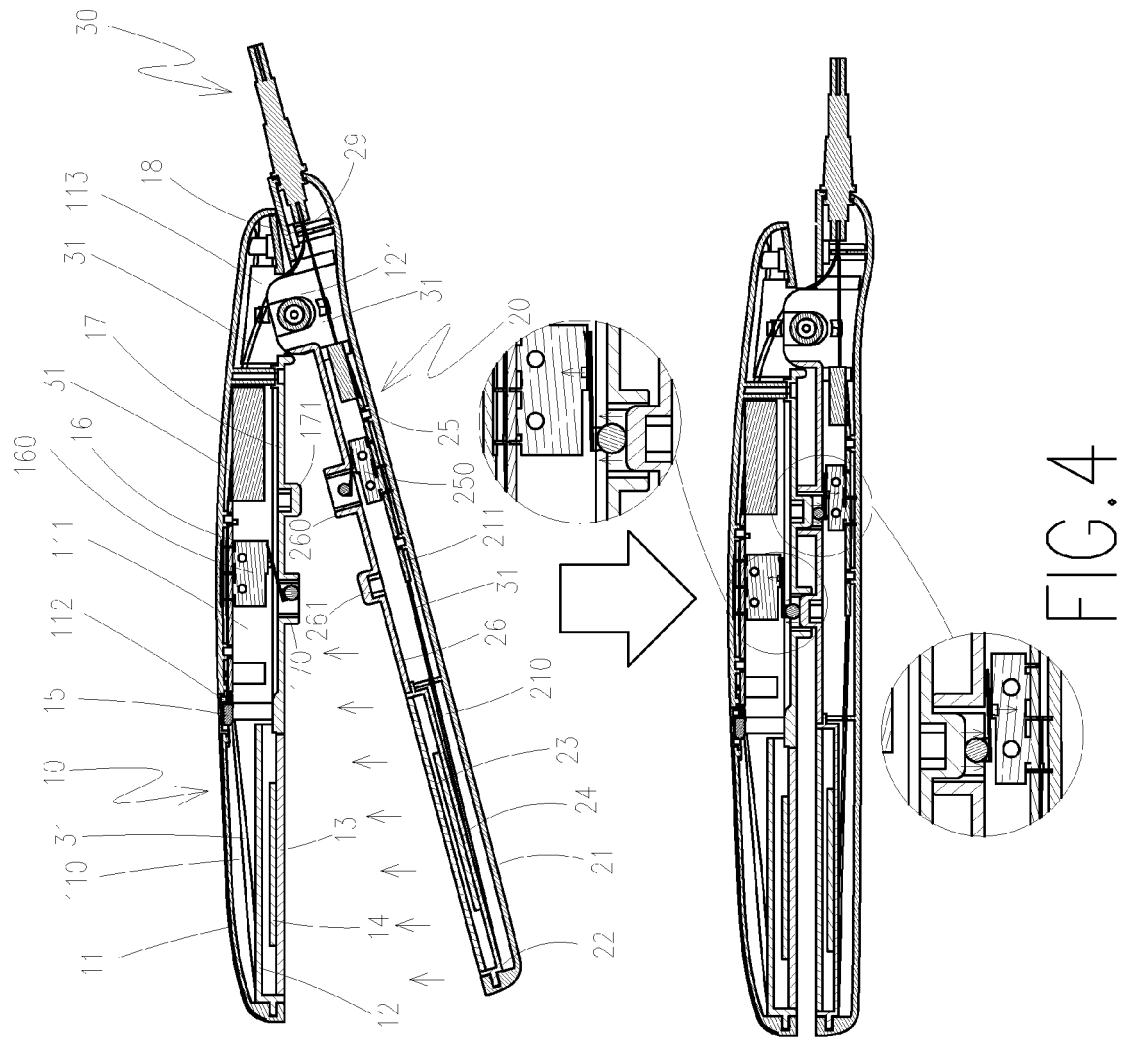


FIG. 3



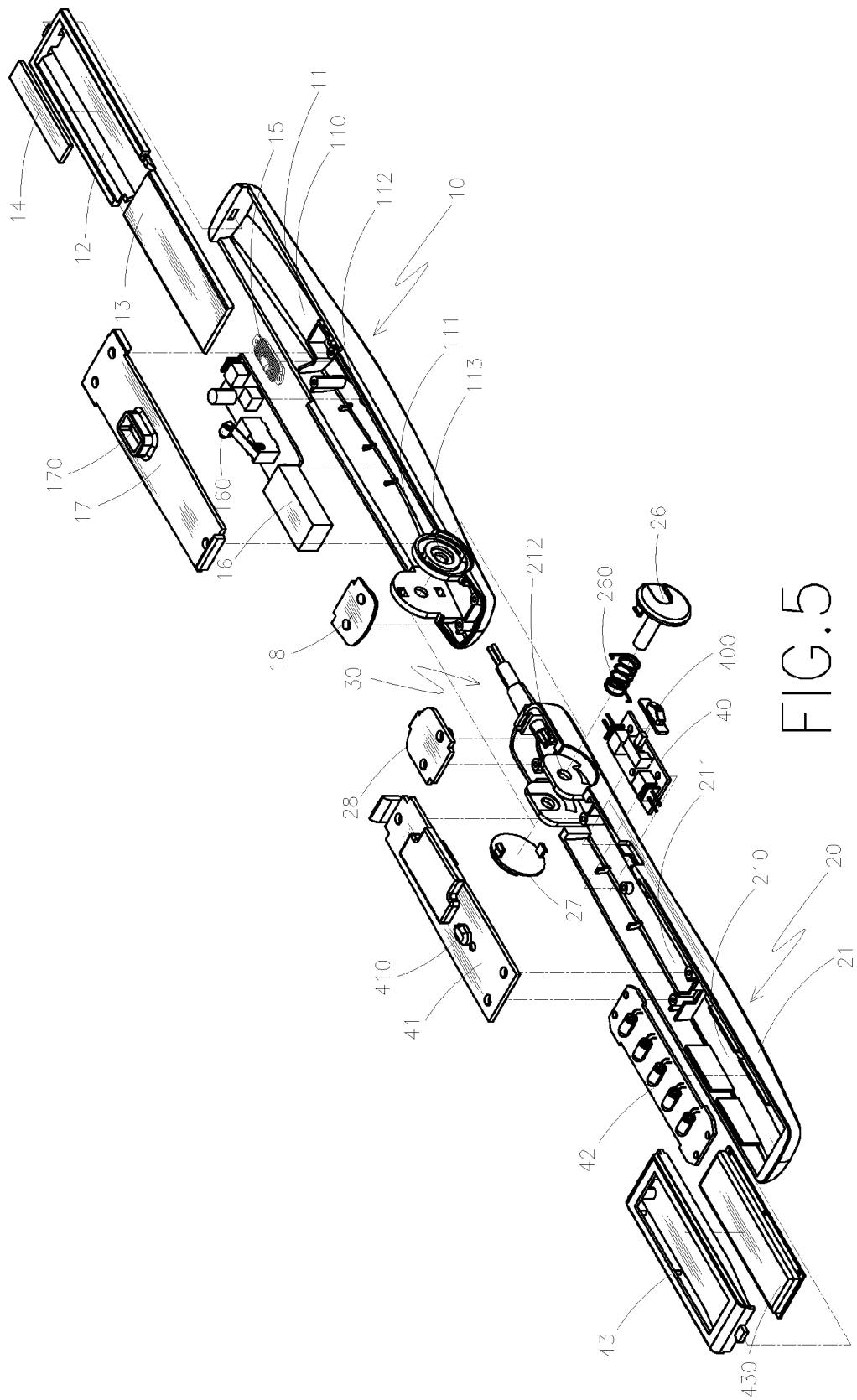
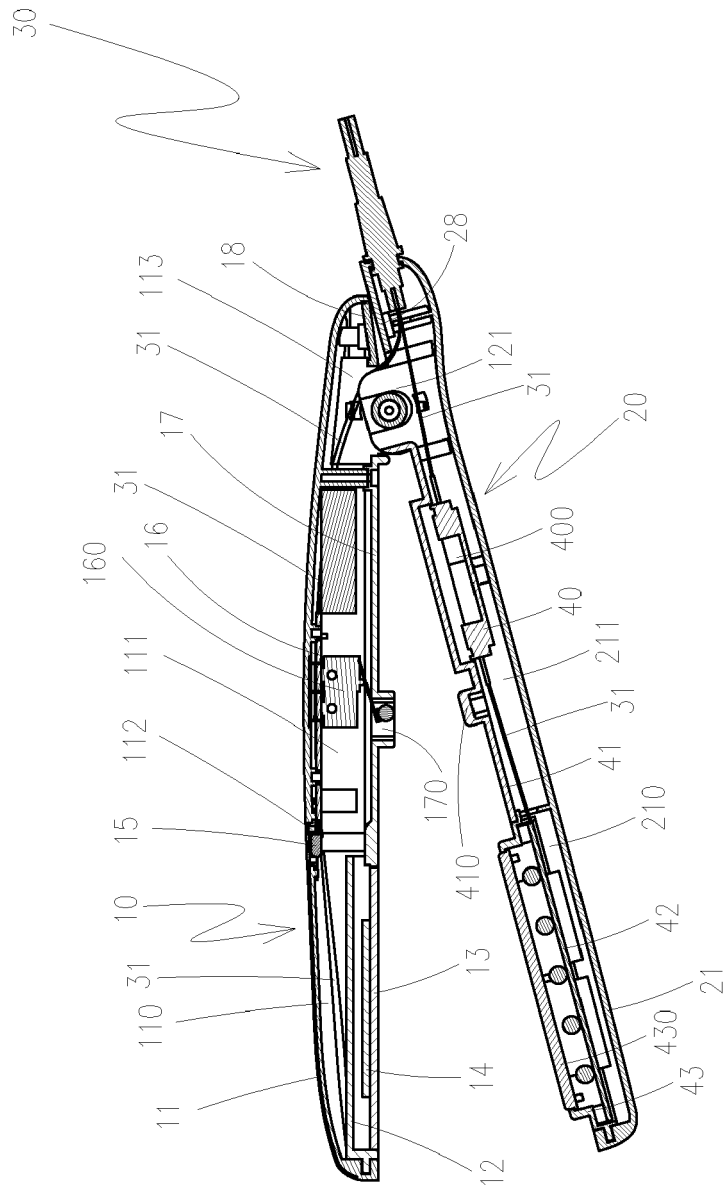


FIG. 5



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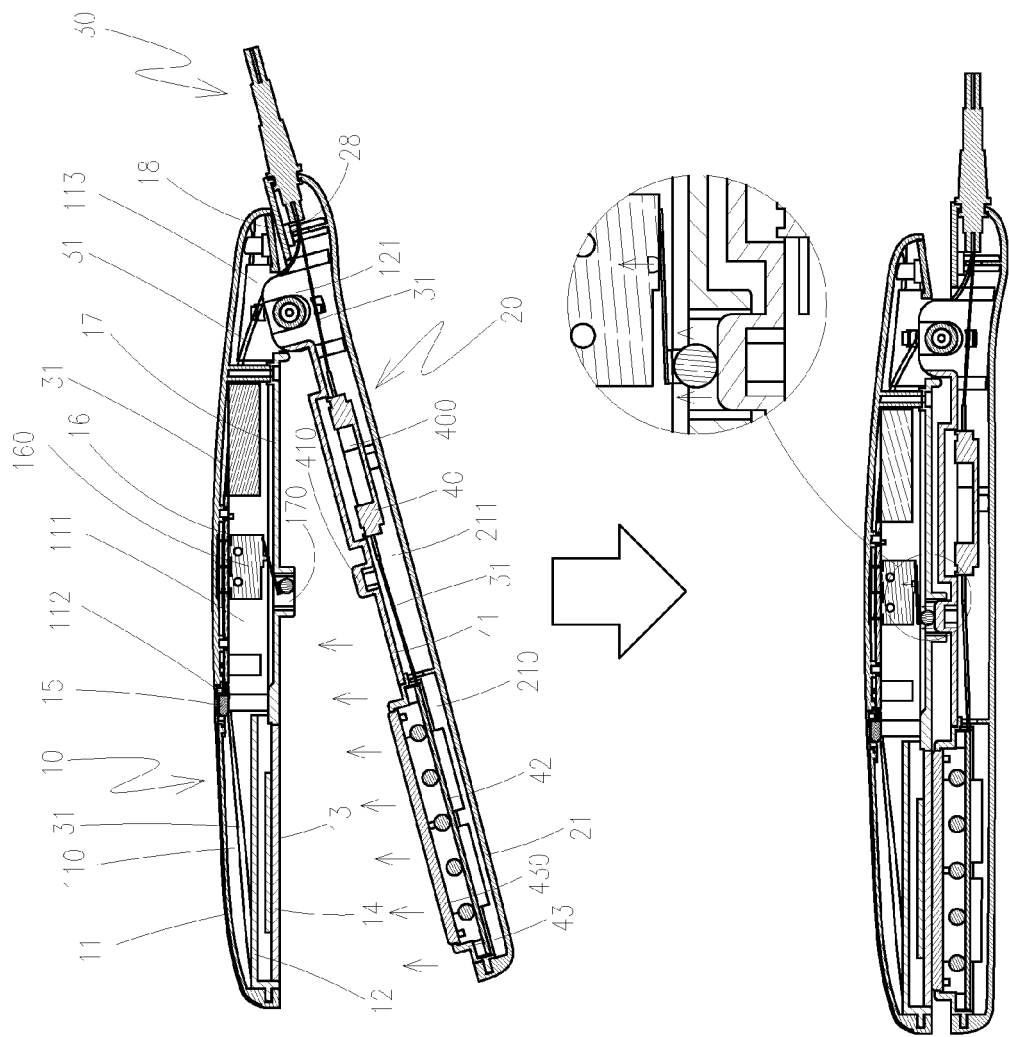
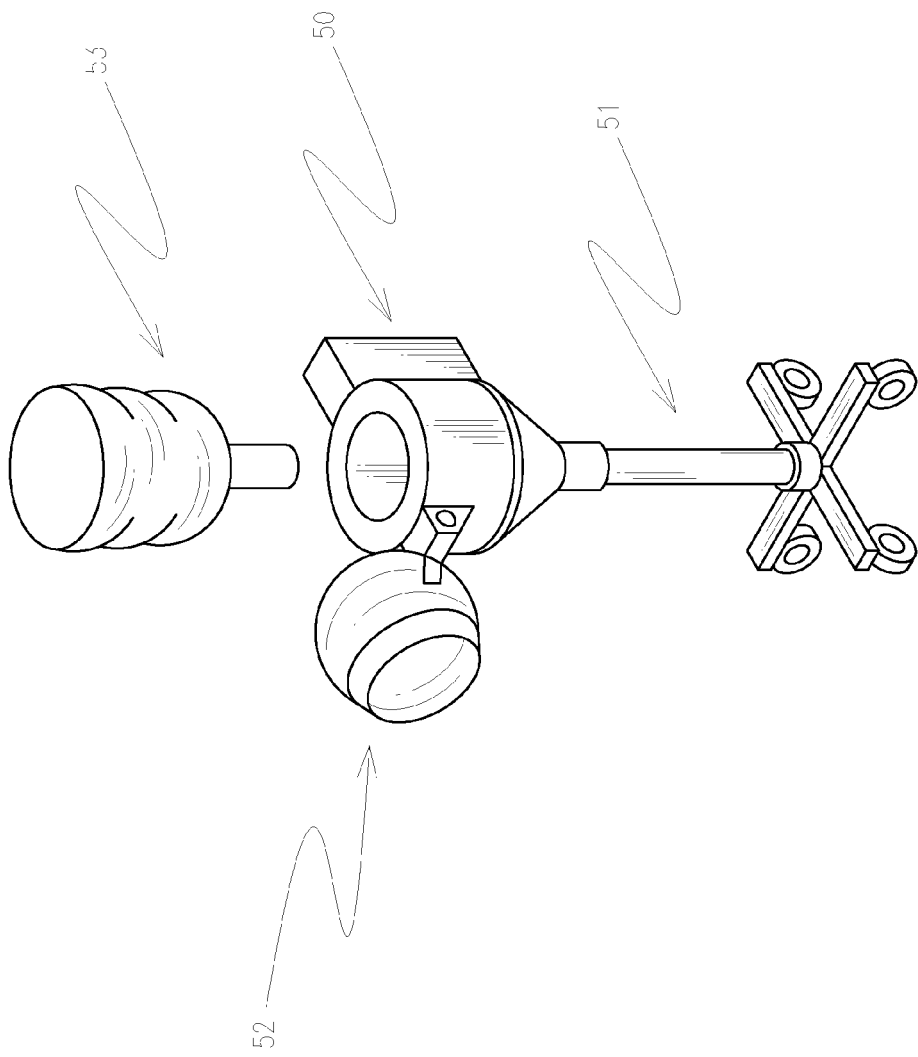


FIG. 7



PRIOR ART
FIG.8