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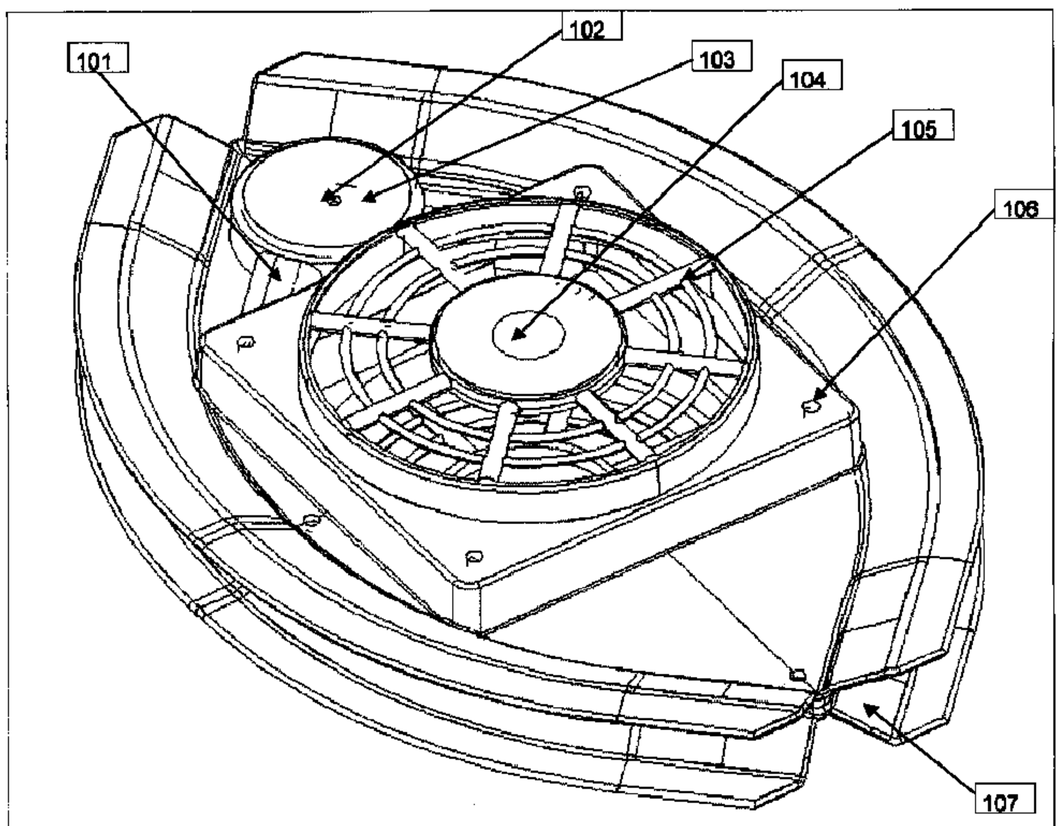
(54) Title: THE VENTILATOR



101. Wire channel– an internal wire channel that attaches the fan cavity to the electrical box.
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103. Electrical box– a round cavity to facilitate wiring and possible on/off switch.
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106. Hole in part– hole lines up with internal fan, provides attachment point for some attachments.
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202. Sports bag handle– used to transport the equipment bag.
203. Shows the air direction– air may be forced into the bag or out of the bag. (in or out)
204. Shows what the invention looks like installed in typ. Sports bag.
205. Shows the closed part of a straight zipper. Other zippers may be shaped like a "C" or other.
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207. End of the sports bag– shows the end of the bag
208. Side of eh sports bag– shows the side of a typical sports bag of no particular size.
209. locking mechanism of the exhaust port– possible shape of exhaust port where there is an inside piece and any outside piece that lock together and provide an attachment feature for the carbon filter.

(57) Abrégé/Abstract:
A device that fits in the zipper of sports bags and any environment made of durable malleable material that has a zipper or buttons to provide ventilation and filtered outlets to allow items on the inside of zipper to dry quickly thus avoiding bacteria buildup, mold, odor, and other health related issues.

Tuesday, May 19, 2009

Patent Application Document

The Ventilator

Sports gear Refresher

ABSTRACT

A device that fits in the zipper of sports bags and any environment made of durable malleable material that has a zipper or buttons to provide ventilation and filtered outlets to allow items on the inside of zipper to dry quickly thus avoiding bacteria buildup, mold, odor, and other health related issues.

The Ventilator

CROSS REFERENCE TO RELATED APPLICATIONS

[0001]

Several applications have been put forth to add air to a locker, suitcase, sports bag etc. but the all require special bags or special attachments. This application will fit into any soft sided sports bag with a zipper, because it mounts directly into the zipper. The zipper hugs or surrounds the invention and provides a seal.

FIELD OF THE INVENTION

[0002]

The invention is designed to mount into a sports bag zipper. (or any zipper the terminates either with a zipper ending or another zipper head) E.g. Hockey equipment bag, roller hockey equipment bag, Lacrosse equipment bag as well as some smaller sports bags. It will basically fit anywhere you have a zipper opening large enough to fit the invention. The size of invention will range in relationship to the size of the fan or fans it houses. It could also be used for circulation in a tent, sleeping bag or other.

BACKGROUND OF THE INVENTION

[0003]
After a vigorous sports activity, sports equipment E.g. Hockey or Lacrosse safety gear, will be damp (from perspiration, hydration and rink or field conditions) and prone to bacteria build up when ventilation is not provided to speed the drying process. To avoid bacteria build up the traditional method is to empty the contents of the sports bag, and either hang or layout said equipment. This procedure must be preformed after every use, as soon as possible.

[0004]
When my son turned six years old I started noticing that his hockey helmet was developing an odour. I discovered that once this odour started to appear, it was hard to get rid of. I looked for a remedy from sports shops and the internet, but found nothing that solved the problem. I tried freezing the helmet,
spraying Lysol, and other bacteria removal methods, but the problem persisted. At this time I settled for mounting his helmet on a fan. Using the fan to dry and ventilate his helmet, so it could dry and be refreshed.

[0005]
Using a fan to quickly dry and ventilate the helmet proved to be the best solution. At the time, I had an idea to mount a fan onto a sports rack. Although it was effective, it was too much trouble because it only worked if you emptied the bag out after every game and practice and hung it all up every time. The first time you forgot, everything went south. The challenge was to keep the solution as simple, effortless and as practical as possible. At this time I thought of permanently mounting a fan to a wheeled hockey bag, this was effective however it was difficult to produce and made the hockey bag to heavy and bulky. It also only worked with a hard bottomed wheel bag and could not easily be mounted into carry bags, or special team bags that many teams require you use.

[0006]
This proved to be the best solution. At the time, I had an idea to mount a fan onto a sports rack. Although it was effective, it was too much trouble because it only worked if you emptied the bag out after every game and practice and hung it all up every time. The first time you forgot, everything went south. The challenge was to keep the solution as simple, effortless and as practical as possible. At this time I thought of permanently mounting a fan to a wheeled hockey bag, this was effective however it was difficult to produce and made the hockey bag to heavy and bulky.

SUMMARY OF THE INVENTION

[0007]
The invention is intended to simplify the process of drying the sports equipment. By simply mounting the invention into the zipper of the offending bag and plugging it into a power source, your sports gear will have fresh air circulating through the bag; effectively you are able to dry the contents of the sports bag without the need to remove anything from the bag. A power source is needed, which can include 110 AC standard plug, 12-volt DC plug, a car lighter plug or battery either regular or rechargeable.

[0008]
The bacteria that left unchecked can become harmful, and dangerous to your health. Staff infections, mold, and bacteria are just a few of the problems that can result. Cardiovascular complications can result from breathing contaminated equipment. Having an open cut can exonerate the issues.

[0009]
Many times when sports equipment is removed from its sports bag for drying, for one reason or another it fails to get put back into the bag. Often the result is needless trips back home to retrieve said equipment, thus wasting time, and transpiration related costs.

[0010]
It is a goal of the invention to provide a unique and easy method to ventilate and quickly dry sports equipment, without removing the equipment from its storage bag.

[0011]
Further features and advantages of the present invention will be set forth in, or apparent from, the detailed description of preferred embodiments thereof which follows

Problems this invention overcomes:

[0012]
After a vigorous sports activity, sports equipment E.g. Hockey or Lacrosse safety gear, will be damp (from perspiration, hydration and rink or field conditions) and prone to bacteria build up when ventilation is not provided to speed the drying process. To avoid bacteria build up the traditional method is to empty the contents of the sports bag, and either hang or layout said equipment. This procedure must be preformed after every use, as soon as possible. The invention is intended to simplify this activity. By simply mounting the invention into the zipper of the offending bag and plugging it in you effectively are able to dry the contents of the sports bag without the need to remove anything from the bag. A power source is needed, which can include 110 AC standard plug, 12-volt DC plug, a car lighter plug or battery either regular or rechargeable.

[0013]

The bacteria that left unchecked, can become harmful, and dangerous to your health. Staff infections, mold, and bacteria are just a few of the problems that can result. Having an open cut can exonerate the issues.

[0014]

Many times when sports equipment form its sports bag for drying, for one reason or another it fails to get put back into the bag. Often the result is needless trips back home to retrieve said equipment, thus wasting time, and transpiration related costs.

Limitations of this invention could include:

[0015]

1) It may not operate in sub zero climates.
2) Needs a power source of some kind.
3) Someone still has to plug it in.

Description of invention:

[0016]

The invention is designed to mount into a sports bag zipper. E.g. Hockey equipment bag, roller hockey equipment bag, Lacrosse equipment bag as well as some smaller sports bags. It will basically fit anywhere you have a zipper opening large enough to fit the invention, it could also be used for circulation in a tent, sleeping bag or other.

[0017]

The structure of the invention is such that air will be drawn fresh air into the sports bag through the area normally occupied by the closed zipper. The operation of the invention is to dry sports equipment while it is still in the bag. It incorporates a fan, and a fan housing specially designed to temporally mount into any sports bag that has a zipper. It is designed to handle attachments that will allow it to:

[0018]

Circulate fresh air into the sports bag thus mimicking removing all the equipment from the bag and hanging it up on a rack or clothesline to dry. (draw air into bag)

[0019]

Draw air out of a zippered bag, or opening.

[0020]

Dry some equipment out of the bag with special attachments (mainly gloves and helmets)

[0021]

Provide exhaust ports in strategic positions to force air out to the extremities of the bag to force air through the contents of the bag. (Grommets put in the corners 4)

[0022]

Refresh the equipment in the spots bag by airing it quickly with the air manifold system.

[0023]

Filter the stale air through a carbon filter or such, so the air coming from the bag is basically odor free. (said filters will attach to the grommets this forcing air through carbon filter before it exits the bag.)

[0024]

Focus UV light on to the desired equipment to eliminate current bacteria conditions. (see attachment fig. *** showing UV light and manifold)

Options or future add-ons to this invention could include

[0025]
Internal channels could be added within the bag to force moving air into less obvious areas of the bag. E.g. separate pocket in the bag that could hold hockey skates, sports tape, or tools.

[0026]
Additional exhaust ports could be added to these extra pockets as well as the bag in general.

[0027]
Said exhaust ports also act as an air distribution method because the air under pressure will find the exhaust ports, thus acting like a flow channel.

[0028]
The possibility of adding a UV light and air manifold system.

[0029]
The possibility of using rechargeable batteries.

[0030]
The possibility of a timer to control the fan motor.

[0031]
The possibility of using some kind of moisture gauge to act as a shut off mechanism.

[0032]
The possibility of adding some kind of fogging of anti-bacterial spray or simple freshener. This fogging action could be incorporated into a timer or manual push button.

[0033]
The possibility of adding some equipment handling accessories such as a glove or helmet rack

BRIEF DESCRIPTION OF THE DRAWINGS

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figure 1 illustrates the preferred design of the invention. Shows clearly how the flange is the critical instrument in mounting the invention into a spots bag.

Figure 2 illustrates what the invention looks like while mounted into a sports bag. It shows air direction as going both ways, this is done by simply flipping the device over. It also shows exhaust ports on the end of the bag, this is an attachment that allows the damp air to exit the sports bag.

Figure 2B shows a blowup drawing of a typical exhaust port. The carbon filter would be attached to the exhaust ports.

Figure 3 illustrates a closer view of what the invention looks like while mounted into the sports bag.

Figure 3B illustrates how the zipper is split along both sides of the invention. The open part of the zipper hugs the invention on all sides, thus creating a seal that resist air blow back.

Figure 4 illustrates the opposite end of the invention and another view of how the zipper hugs the invention.

Figure 5 illustrates what a multi fan configuration would look like. Settings could be set to blow both fans the same direction or opposite directions. Attachments could be mounted to either fan area or both fan areas. In the case of opposite settings, a divider may enhance the movement of air across the equipment contained in the sports bag. Also illustrated is an example of how the air could be exhausted through another exit port within the invention its self.

Figure 6 illustrates an inverted view showing what an U.V. dome attachment would look like. The dome acts as a manifold as well as providing a U.V. Oblique possibly a clear violet color. The material for this attachment would be a clear acrylic and could have some prism type prescriptions for light distribution and enhancement.

Figure 7 illustrates the short section of the device showing how the U.V. dome typically could mount to the main housing. The flanges are clearly shown but could be of a different shape in the production model.

Figure 8 illustrates what the glove attachment will look like. The chimney like protrusions will act as a rack for specialty type equipment like hockey gloves. The mounting style and mounting holes are also illustrated.

Figure 9 illustrates a very close look at how the zipper surrounds the invention when installed. Note that only the zipper and zipper web are shown for clarity. (The actual bag is hidden)

Figure 10 illustrates only the zipper in the position it would be in with the invention installed. When the zipper handles are pulled together a seal is produced. This seal will allow air to be blown into or out of the sports bag with minimal leakage.

Figure 11 illustrates the construction of the invention and how two similar or identical parts sandwich a purchased fan.

Figure 12 illustrates the short section showing the fan, the grill, hub, sections of the zipper and zipper web and how they fit into the sports bag two headed zipper.

Figure 12B illustrates a blowup section view of the zipper, zipper web, and sports bag.

Figure 13 illustrates the long section, showing the zipper heads, the zipper handles, the electrical box, the fan, and approximately how the zipper heads approach the end of the invention and the end cut of the flange.

Figure 13B illustrates a blowup section of how the zipper head is pulled up to the invention using its unique shape to house and hug the invention.

[0034]

The invention has been described in connection with numerous embodiments, it is to be understood that the specific mechanisms and techniques that have been described are merely illustrative of the principles of the invention, and numerous modifications may be made to the methods and apparatus described without departing from the spirit and scope of the invention.

Tuesday, May 19, 2009

Patent Application Document

The Ventilator

Sports gear Refresher

Claims

This device is a mobile unit that fits in the zipper of sports bags (or other zippers) to provide ventilation for items to dry or ventilate. This subsequently dries items quickly thus avoiding bacteria buildup, mold, odor, and other health related issues. The device will also keep items ventilated thus further discouraging bacteria buildup, mold, odor, and other health related issues. Any environment that is made of durable malleable material containing a zipper can house this unit. This unit draws air from one side of the zipper, circulates it and effectively dispenses stale air as to the opposite side. Disclosed is the description of how the device mounts to the bag, the effects of the device, as well as attachments that will add to the effectiveness, appearance, byproducts, and function of the invention. For this application, the unit may also be referred to as “The Ventilator”, “The device”, “the unit" or “the Invention”.

Figure 1

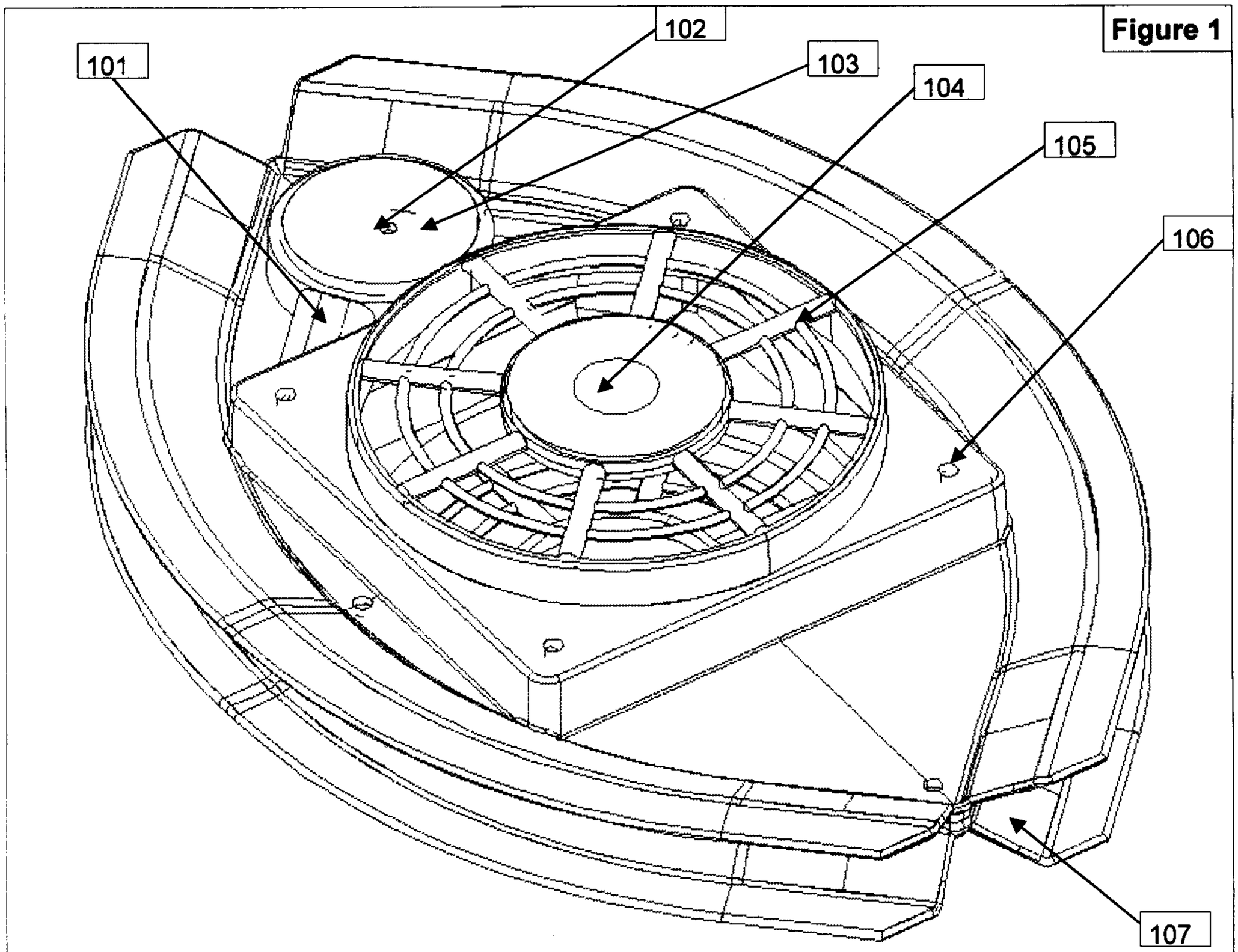

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Figure 2

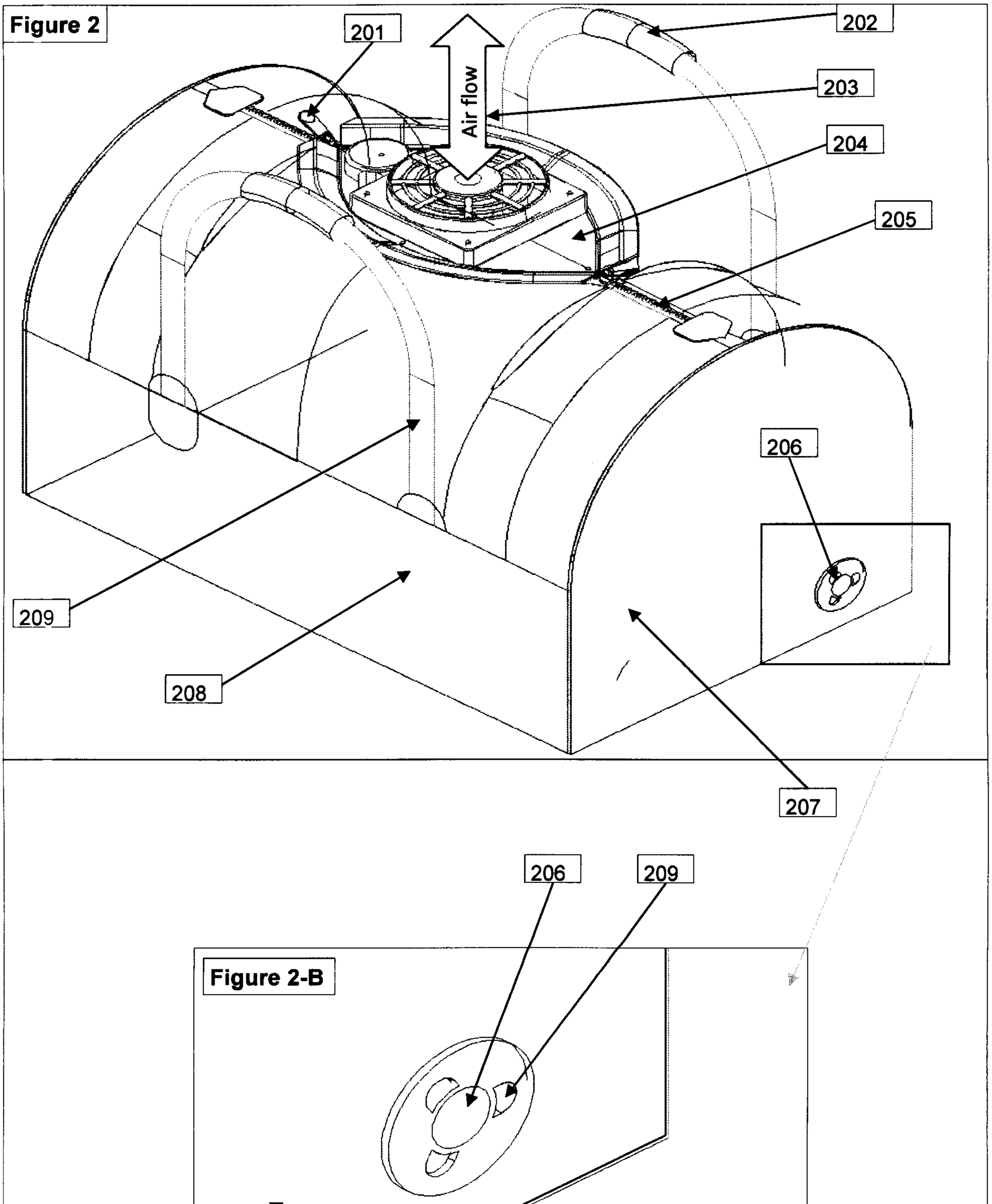
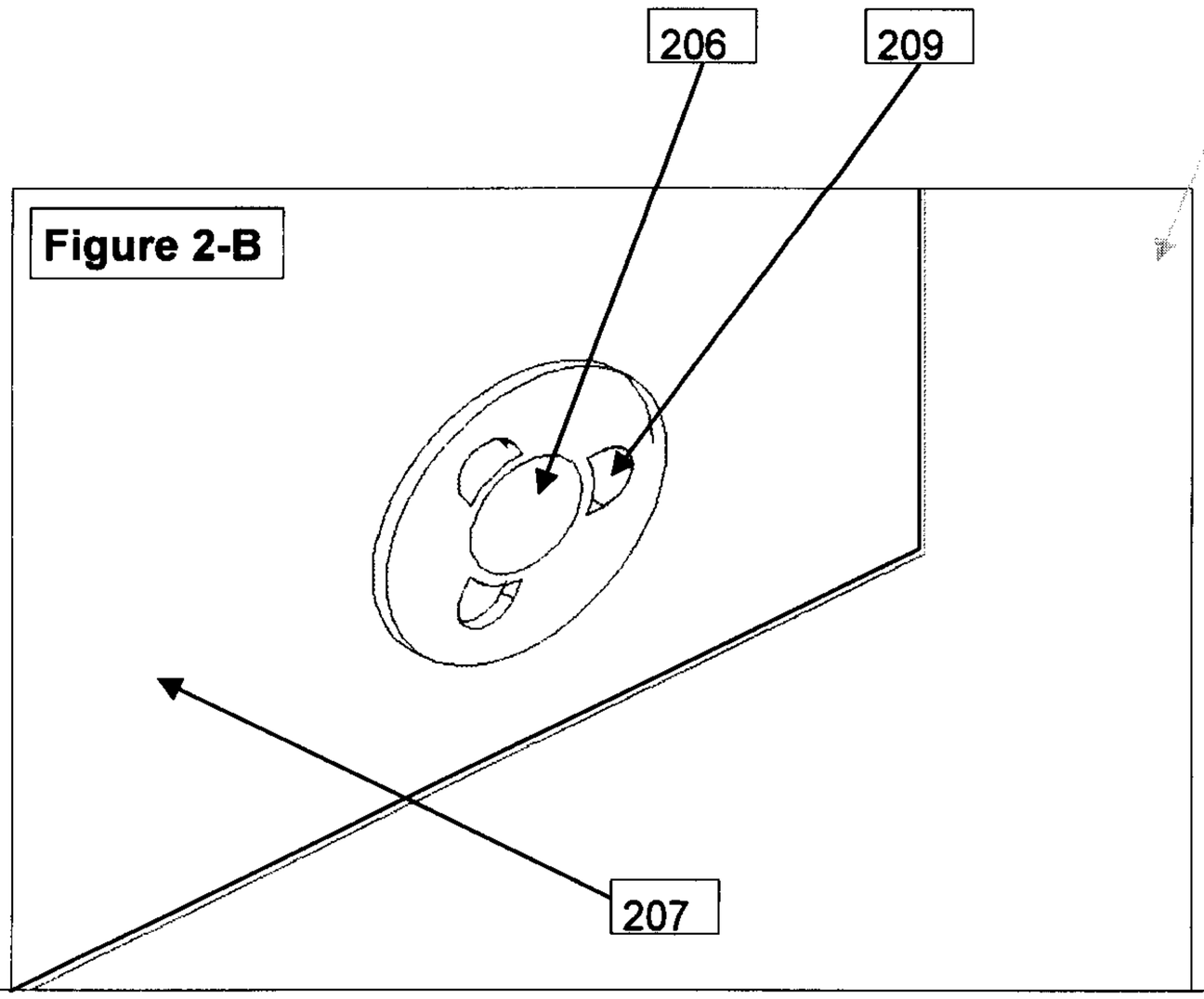


Figure 2-B



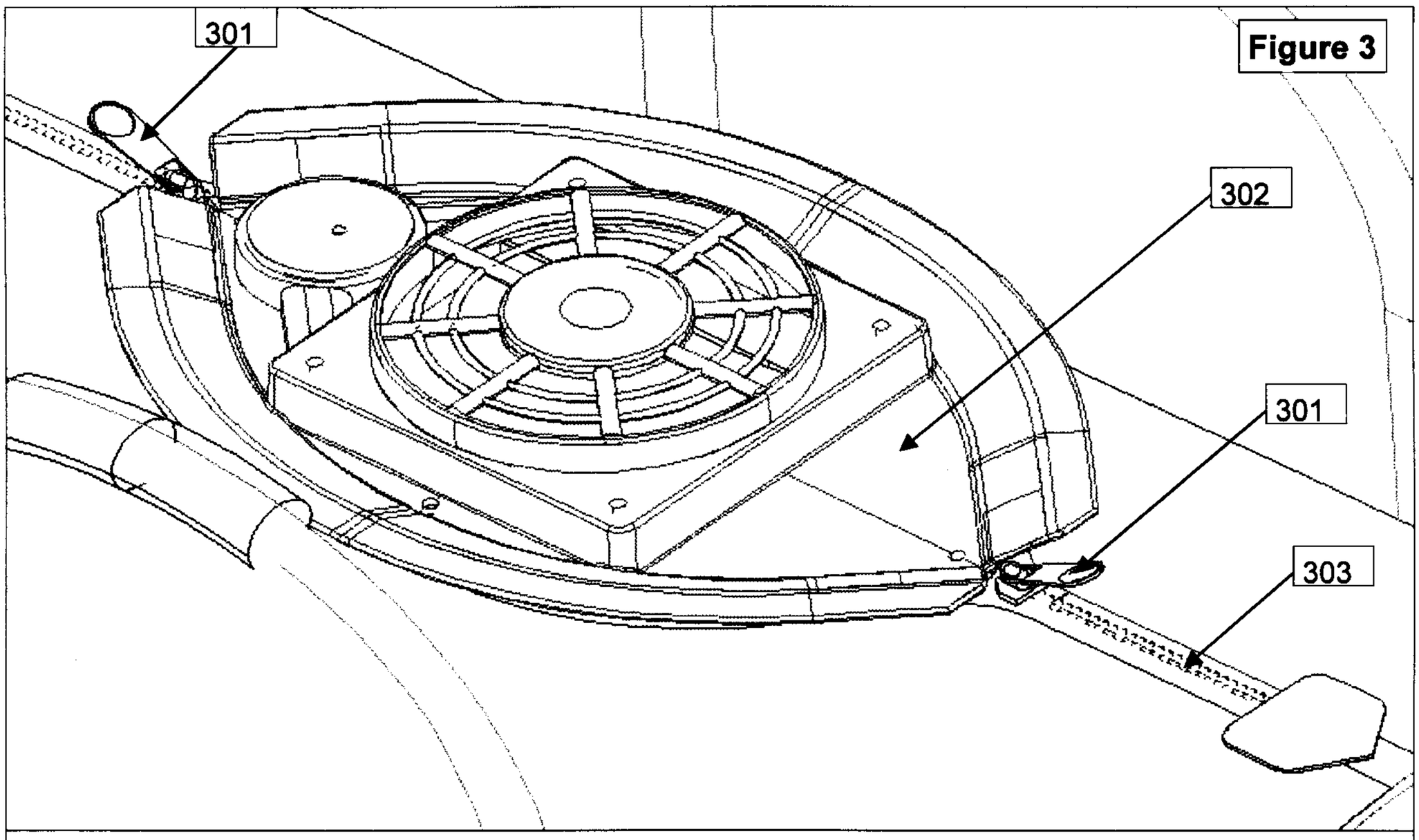


Figure 3

301. Zipper handle– used to open and close the zipper
302. Invention– shows closer view of an installed "Ventilator"
303. Zipper– shown in closed position
304. Flange– Illustrates the top side of the flange (flange shape or flange ending is not fixed.
305. Zipper mechanism- part of the zipper that facilitates opening and closing the zipper
306. Zipper split area– shows where the zipper opens and initially hugs the invention.

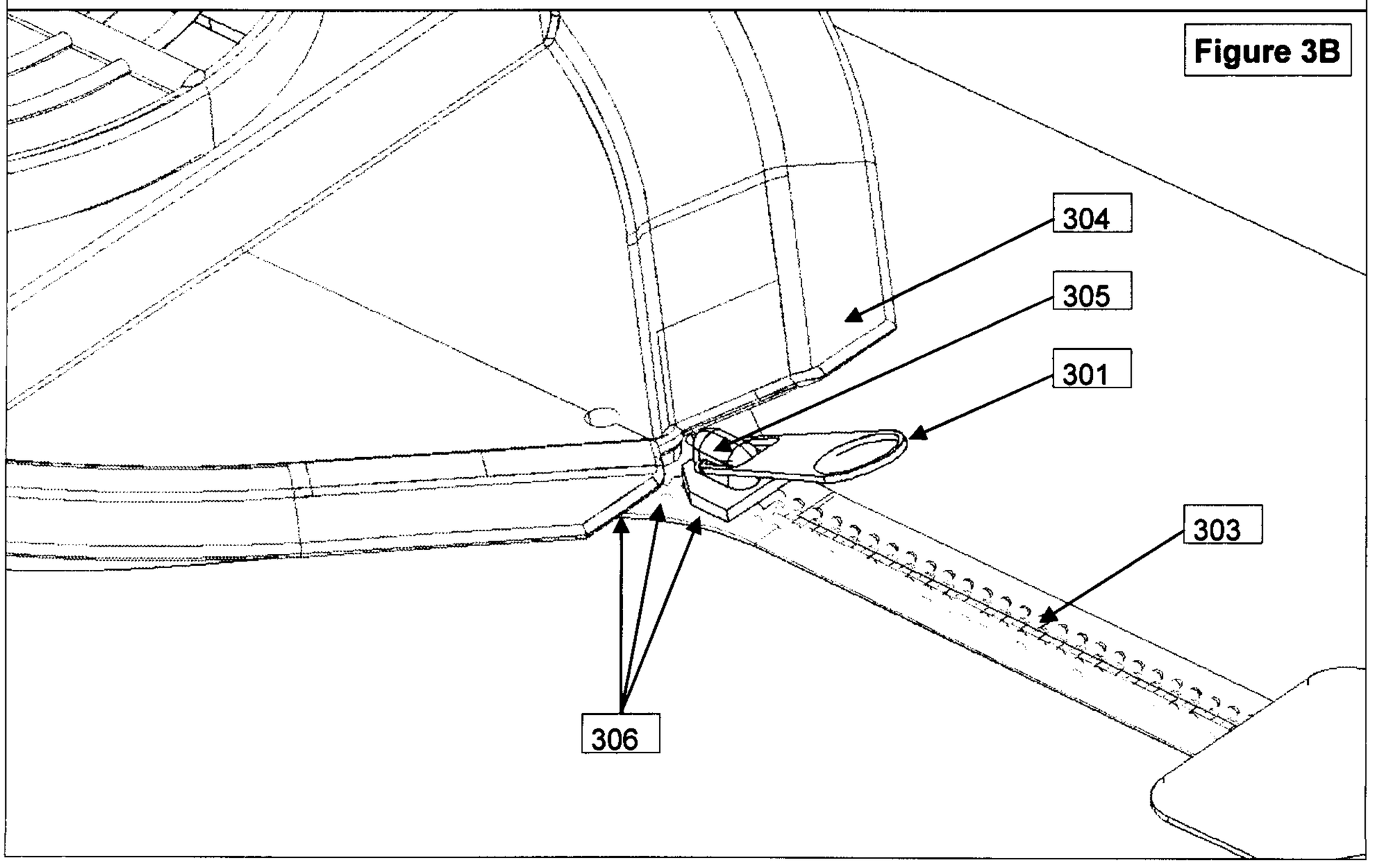


Figure 3B

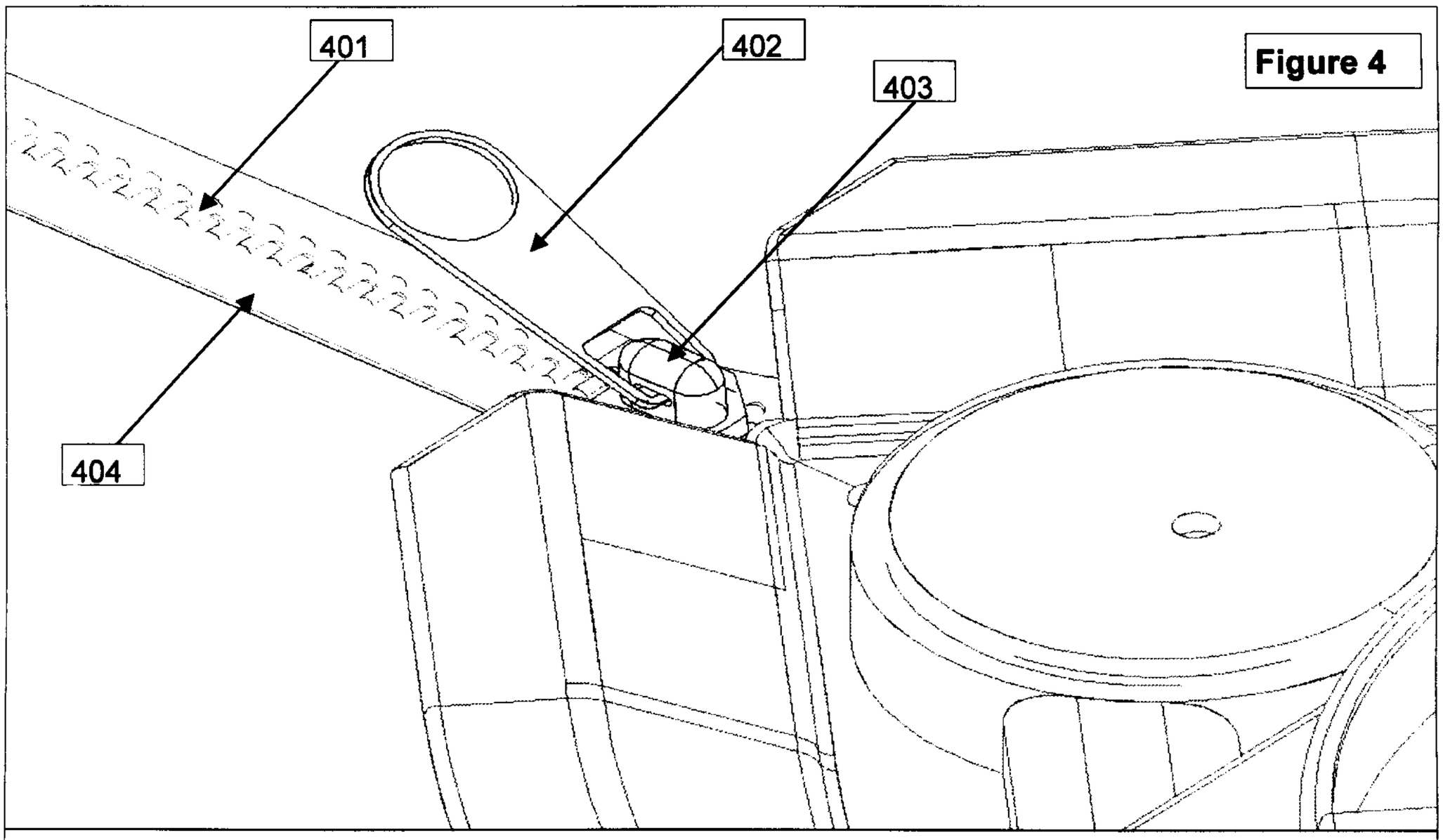


Figure 4

401. Zipper– shown closed
402. Zipper handle
403. Zipper mechanism
404. Zipper web– attached the zipper to the sports bag

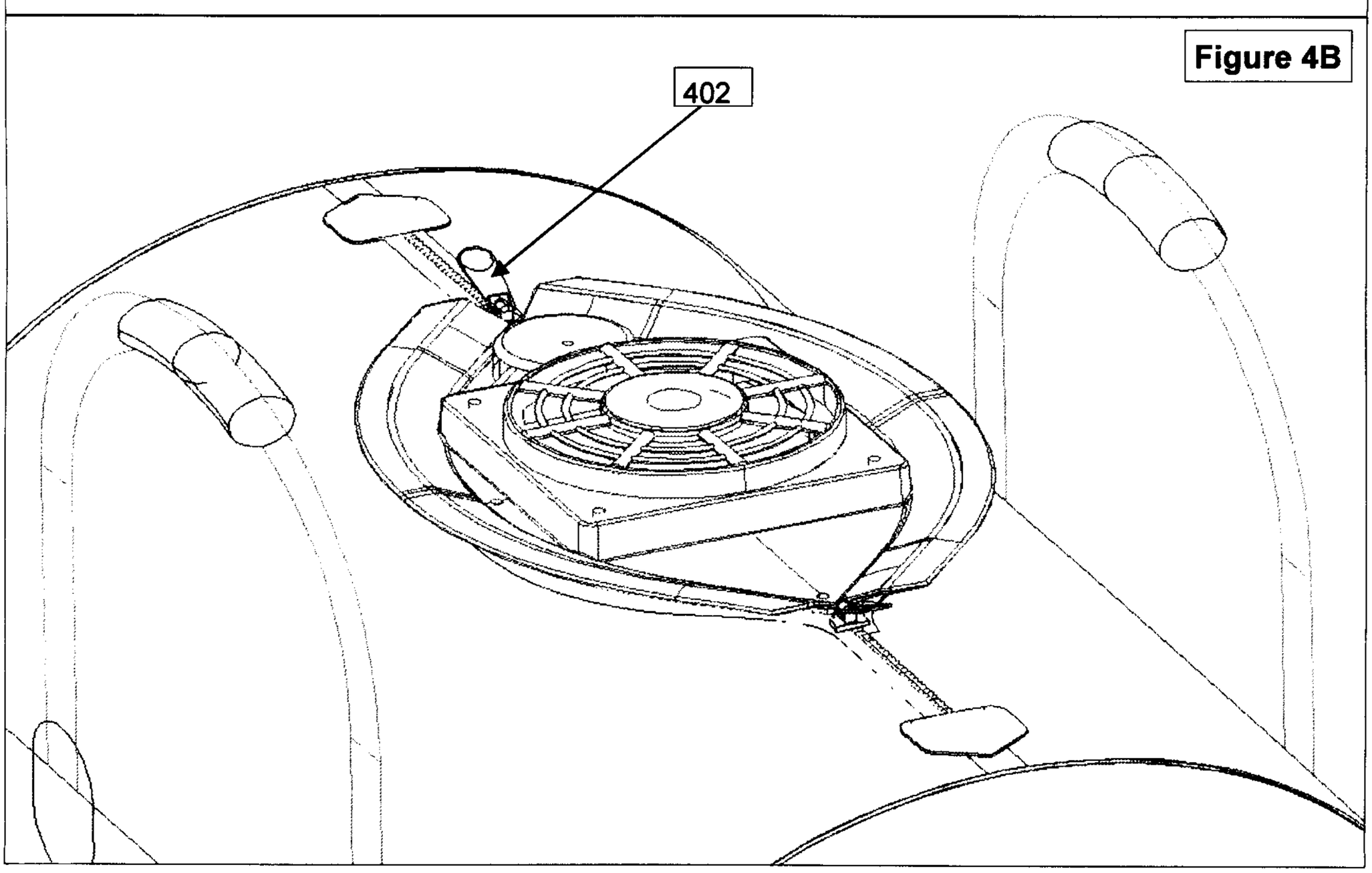
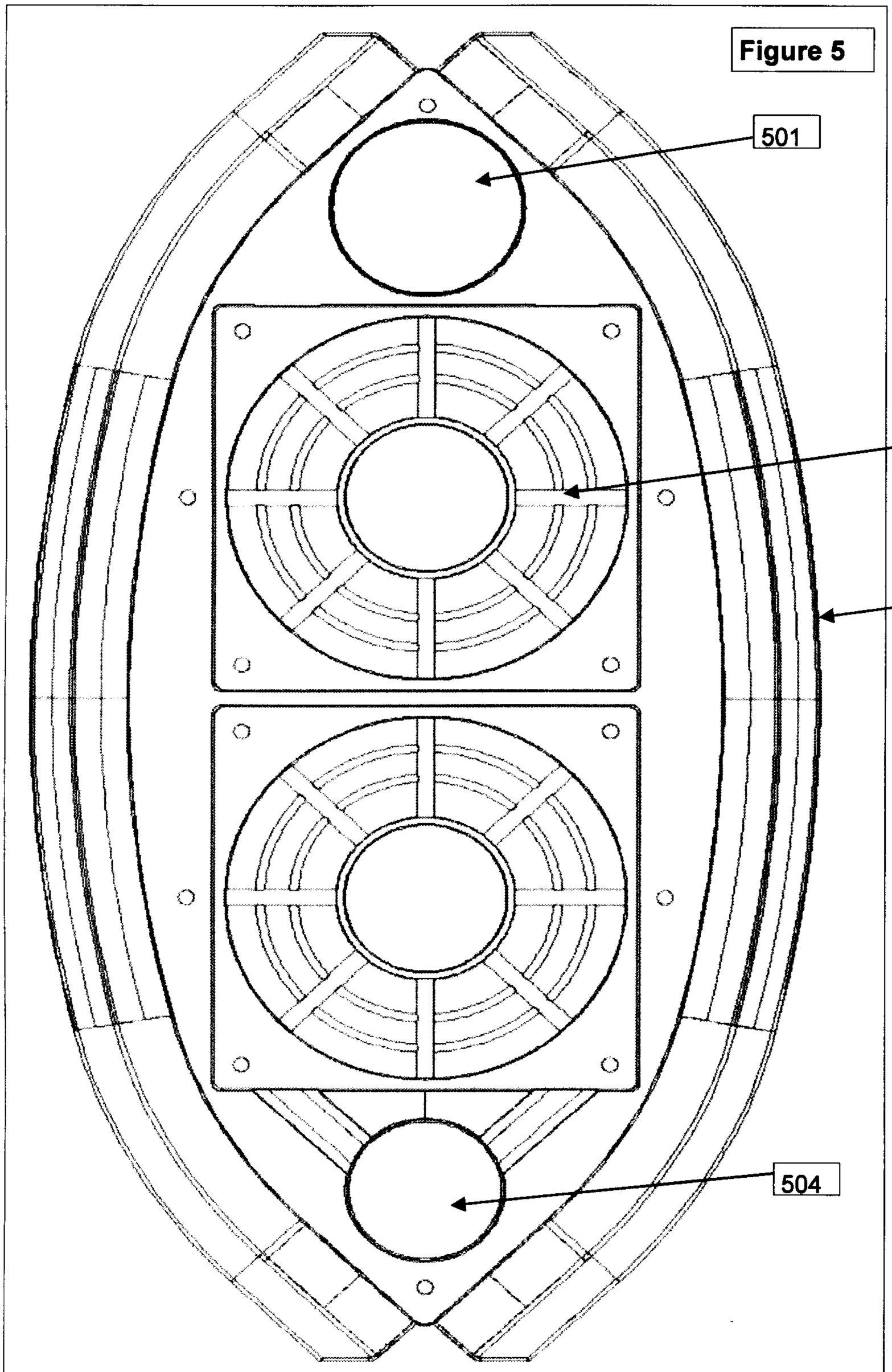
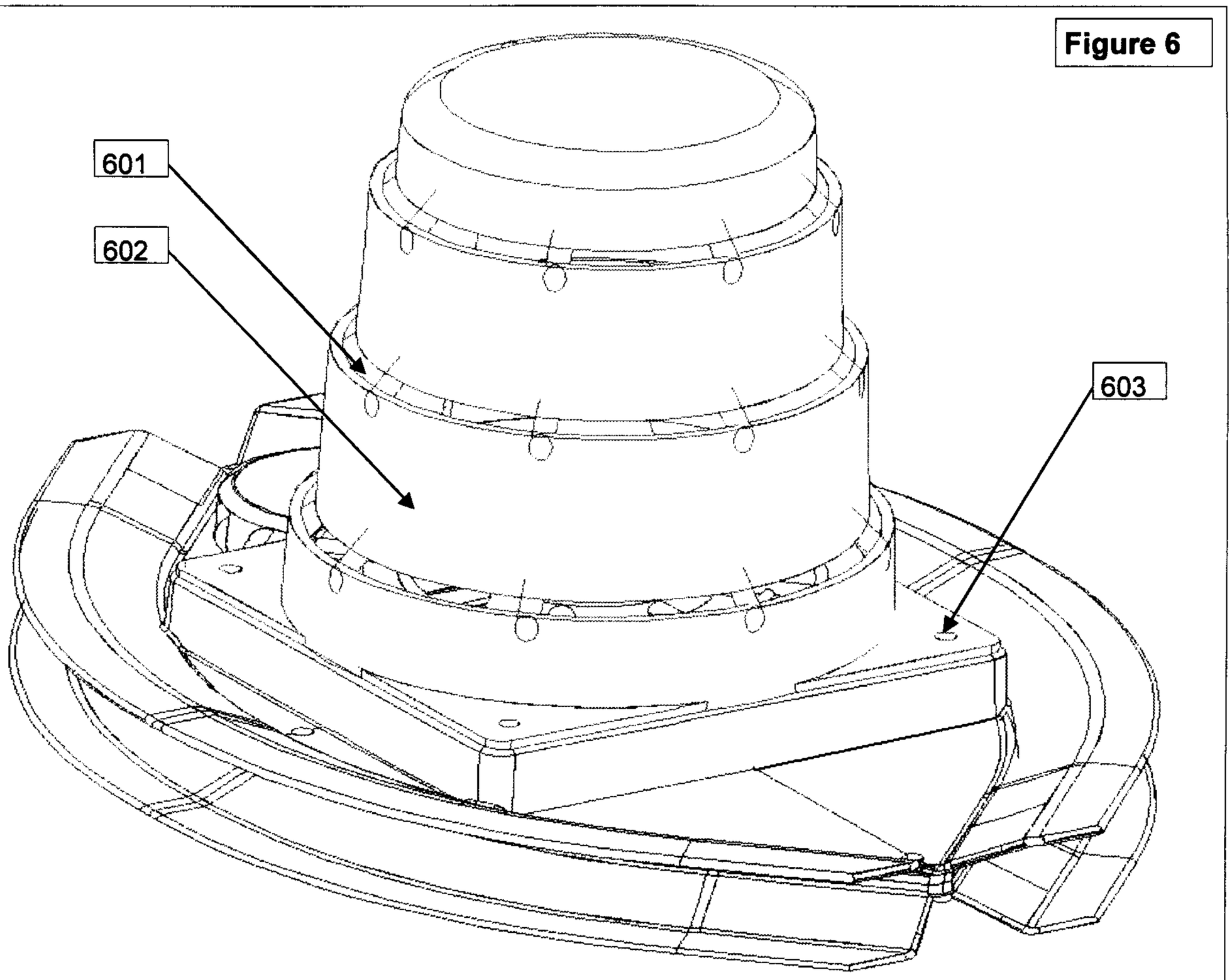


Figure 4B



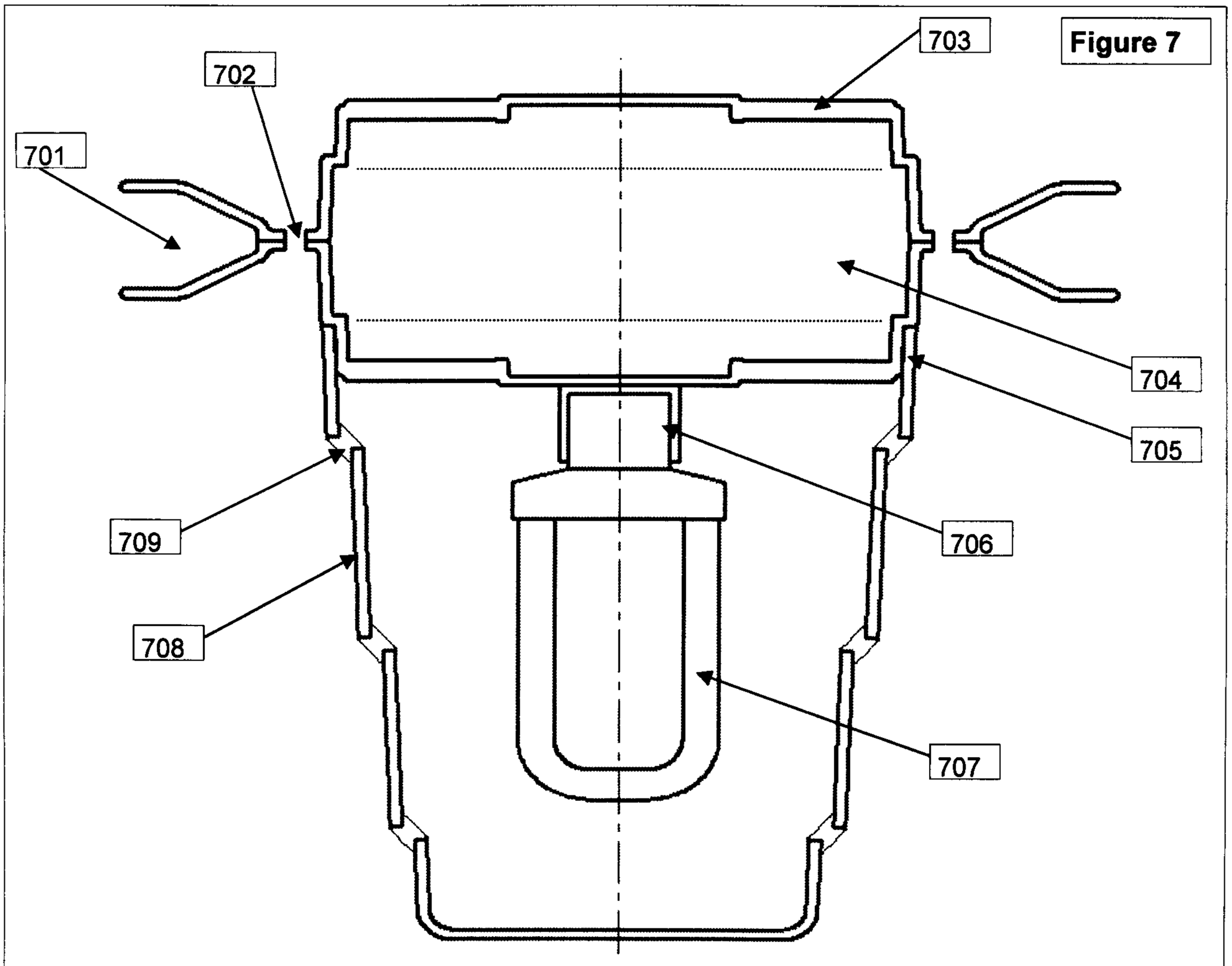
501. Possible exhaust port using a carbon filter and extension pipe to teach the bottom of the bag.
502. Grill– shows grill or fan area of the double fan long product.
503. Minimum Radius– Minimum radius maintained to enhance hug type fit.
504. Electrical box– housed the wires and wire connectors or switches.

Figure 6



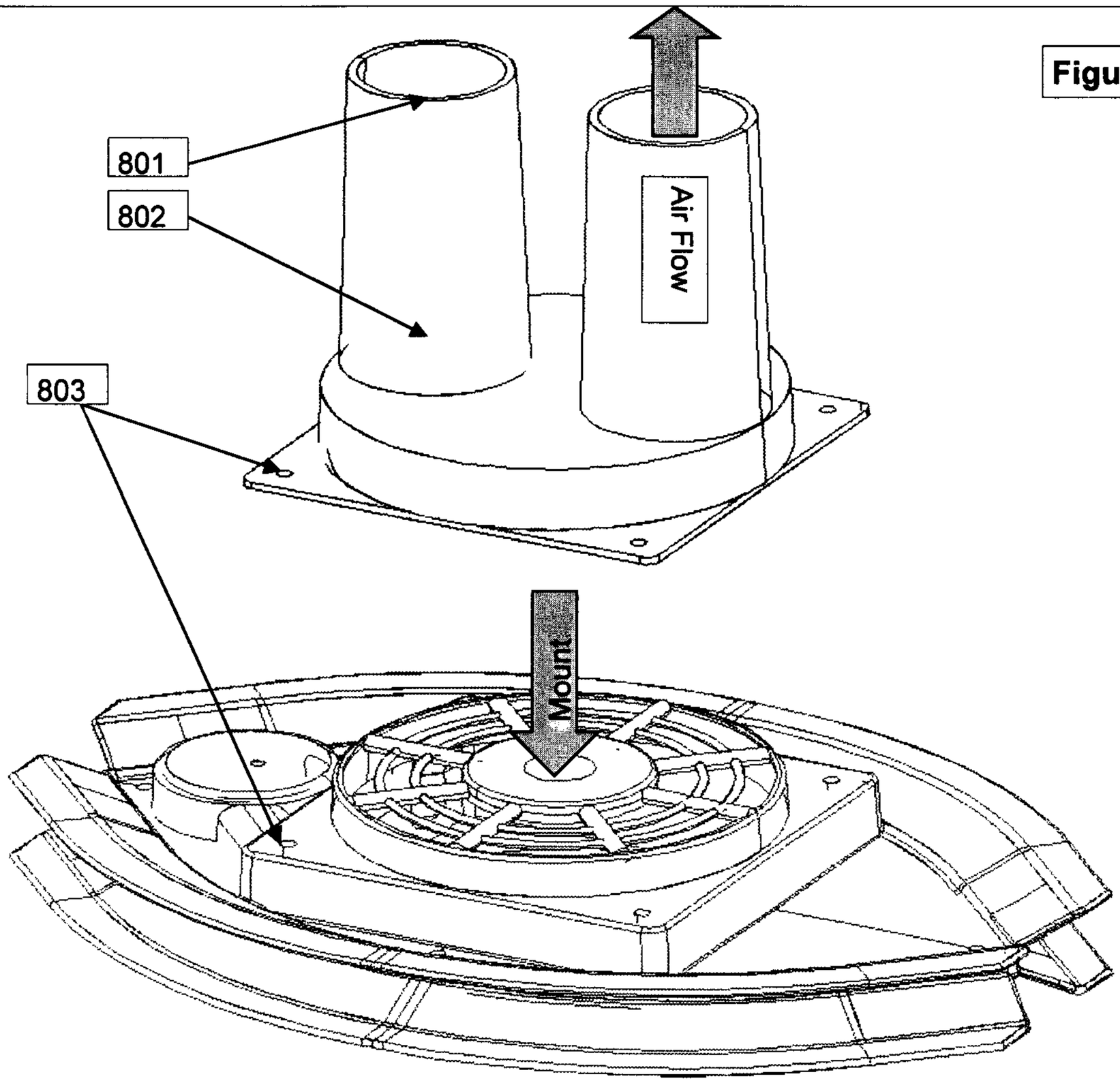
601. Air channel– design of this attachment is such that it will not only act as a UV magnifier but also an air manifold.
602. Helmet and UV attachment– shown in inverted position ready for helmet sanitation. It can also be used in the regular position thus protruding into the sports bag, evenly distributing sanitized air, and UV bacteria killing light.
603. attachment holding holes– used to mount attachments using screws, snaps, rivets etc.

Figure 7



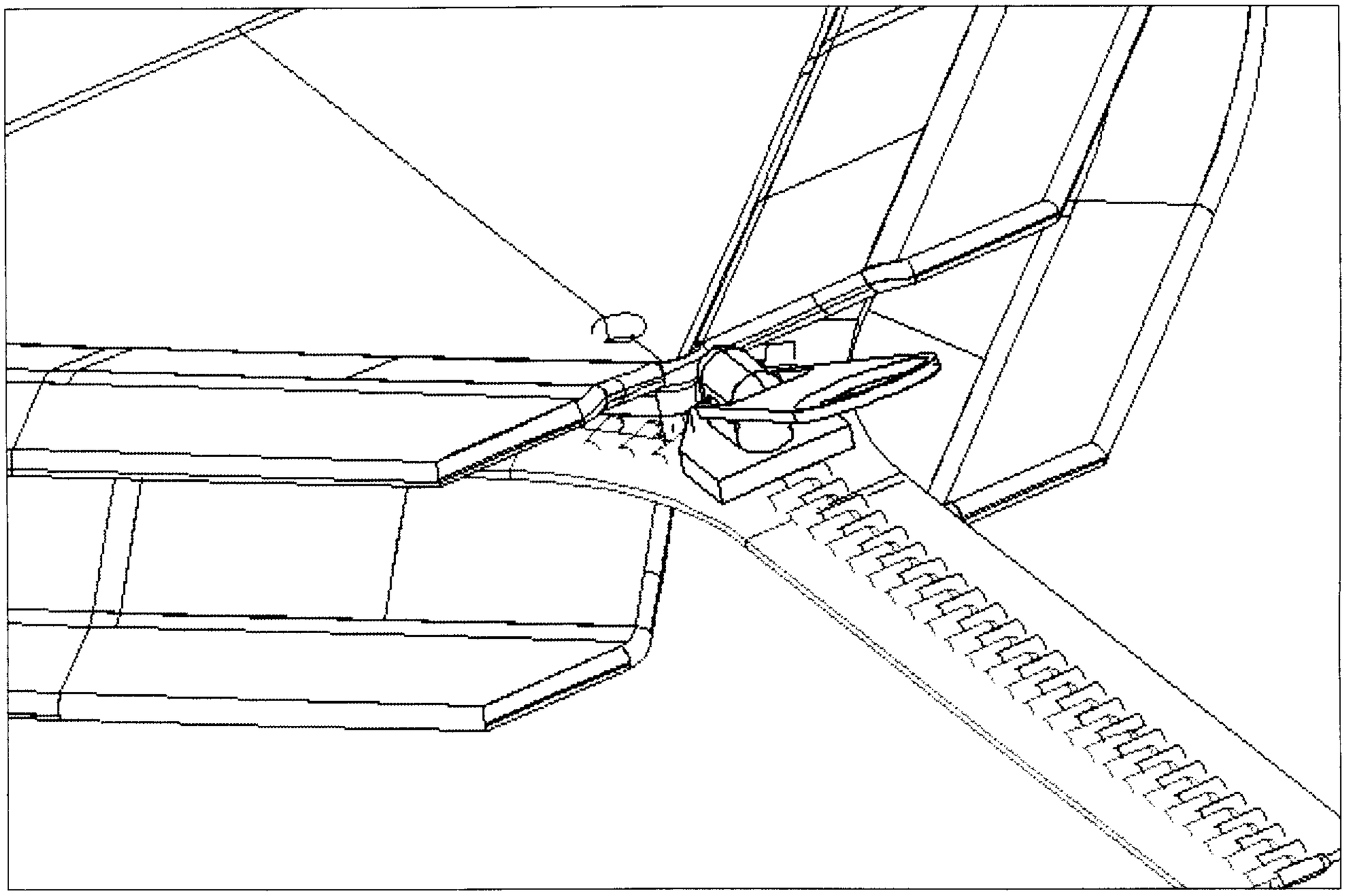
701. Section of flange showing one possible shape for the zipper to hug around
702. Section of screw hole for construction of invention, can also be assembled using rivets, self tapping screws, etc.
703. Invention grill (fan guard)
704. Fan insulation area– this is where the fan (purchased) is encapsulated.
705. Possible attachment (round) area– some attachments can mount on tapered surface.
706. UV light socket
707. U.V. Light bulb or source of U.V. light source (bacteria killing) also provides heat.
708. Section of U.V. attachment-
709. Section showing web to hold the rings in place on U.V. attachment.

Figure 8



801. Upper lip of glove attachment– Illustrates where the gloves will mount for specialized drying.
802. Glove attachment– glove attachment showing glove cones for mounting gloves or specialty gear.
803. Attachment mounting holes.

Figure 9



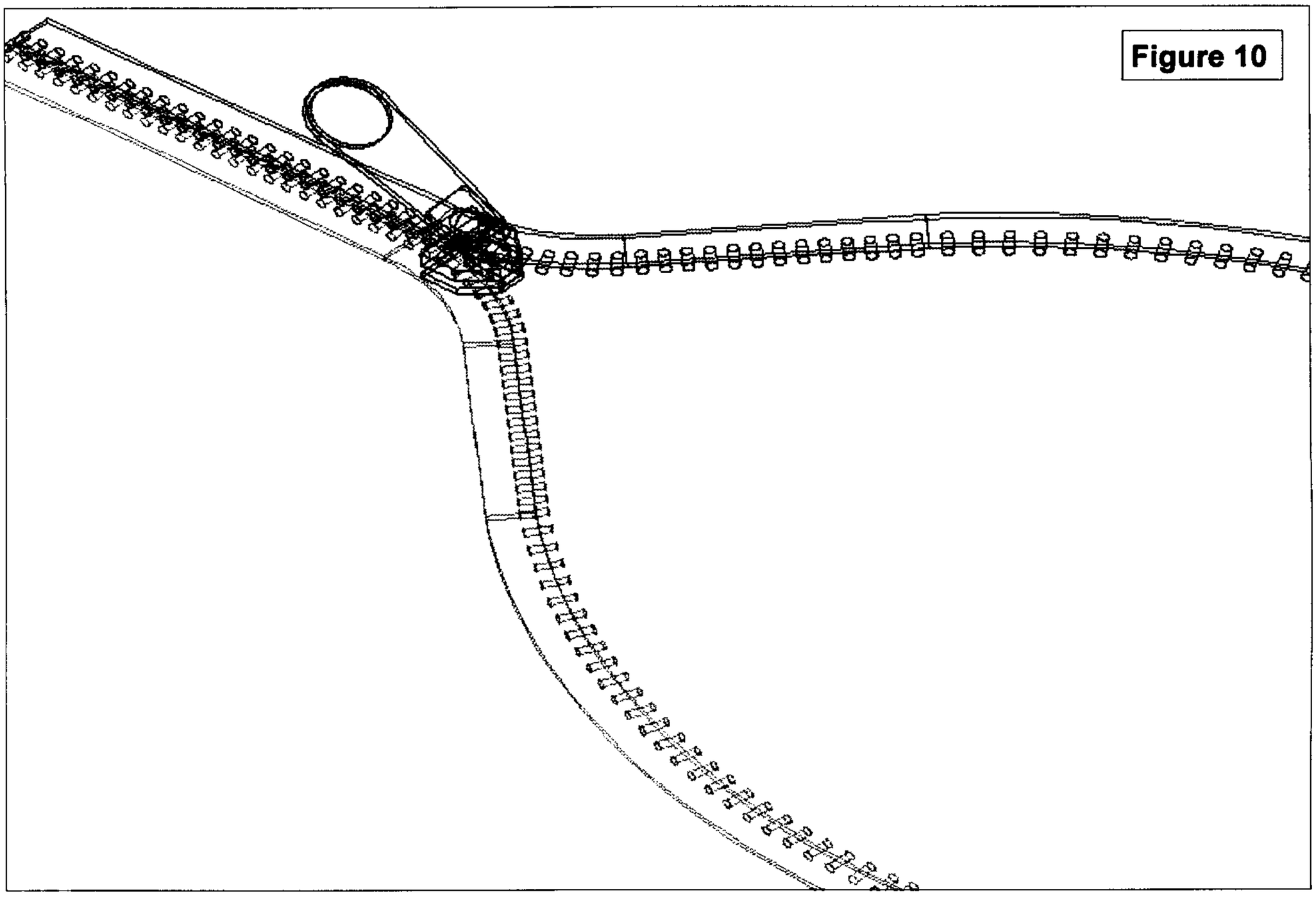


Figure 10

Figure 11

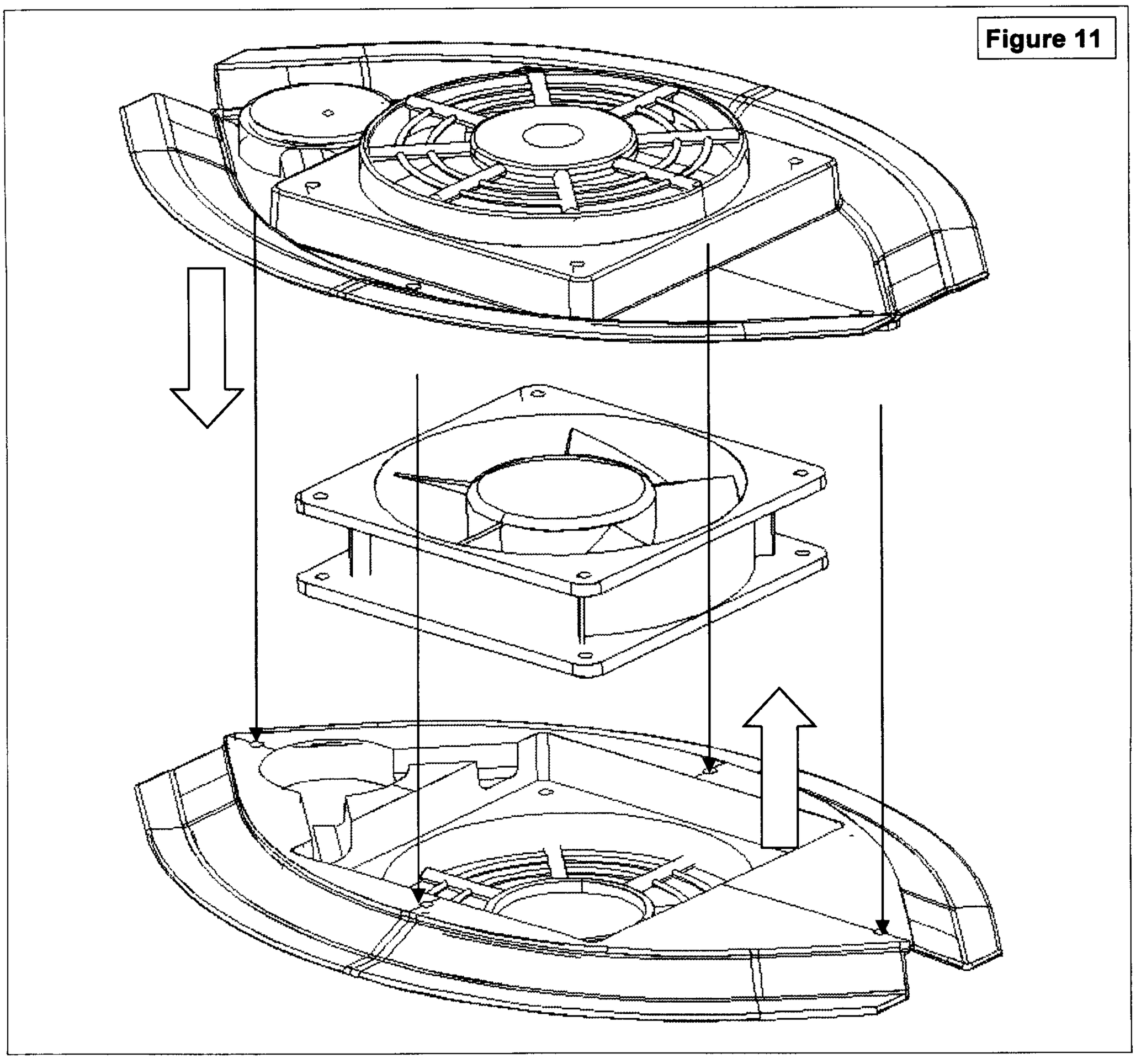


Figure 12

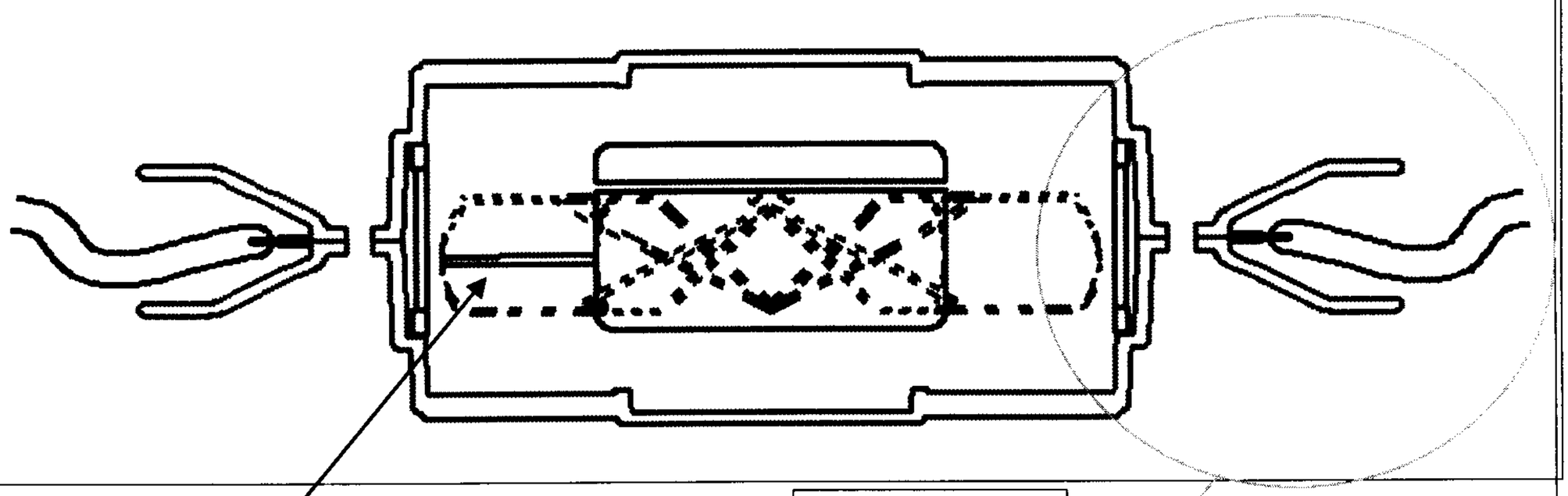


Figure 12B

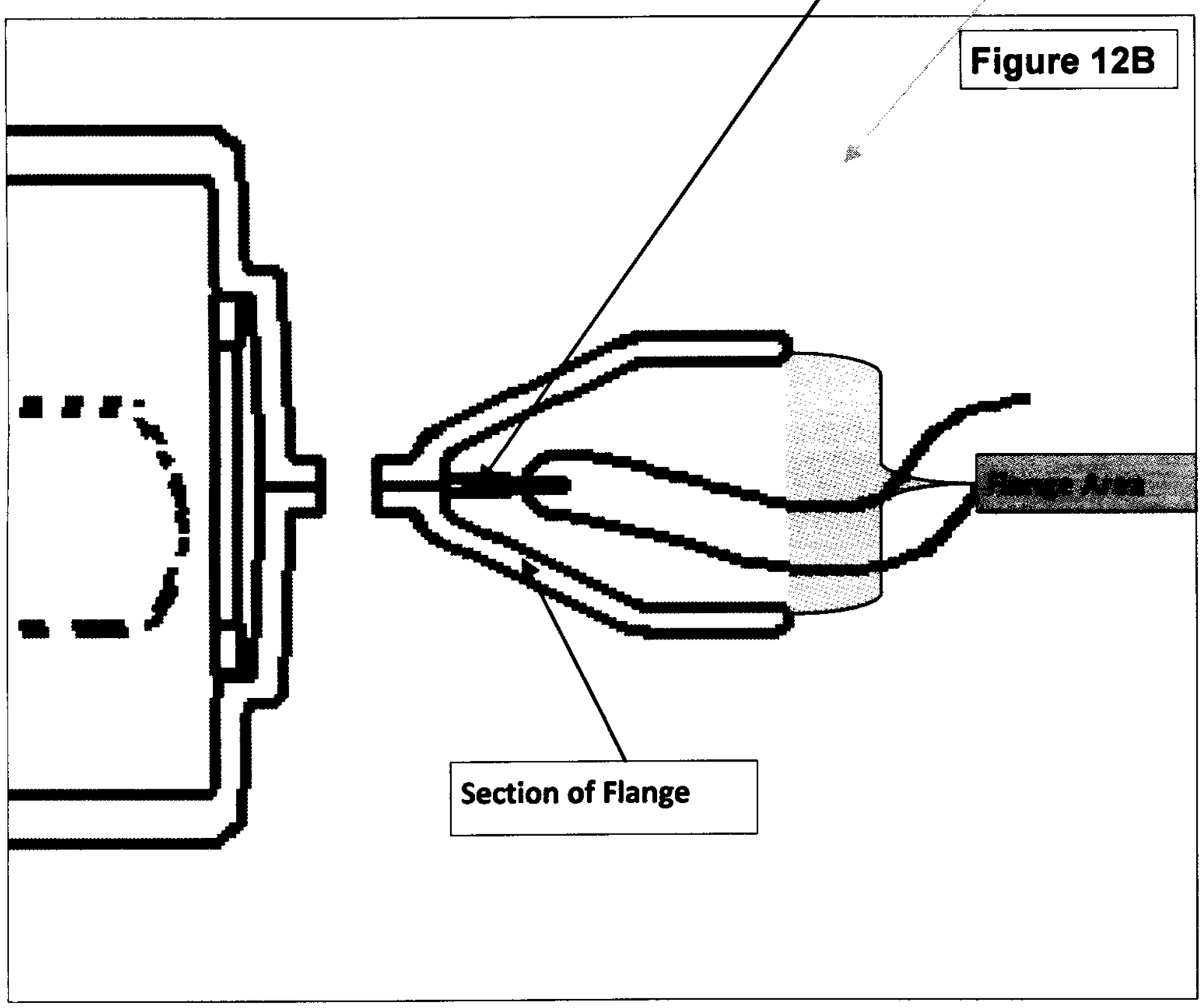
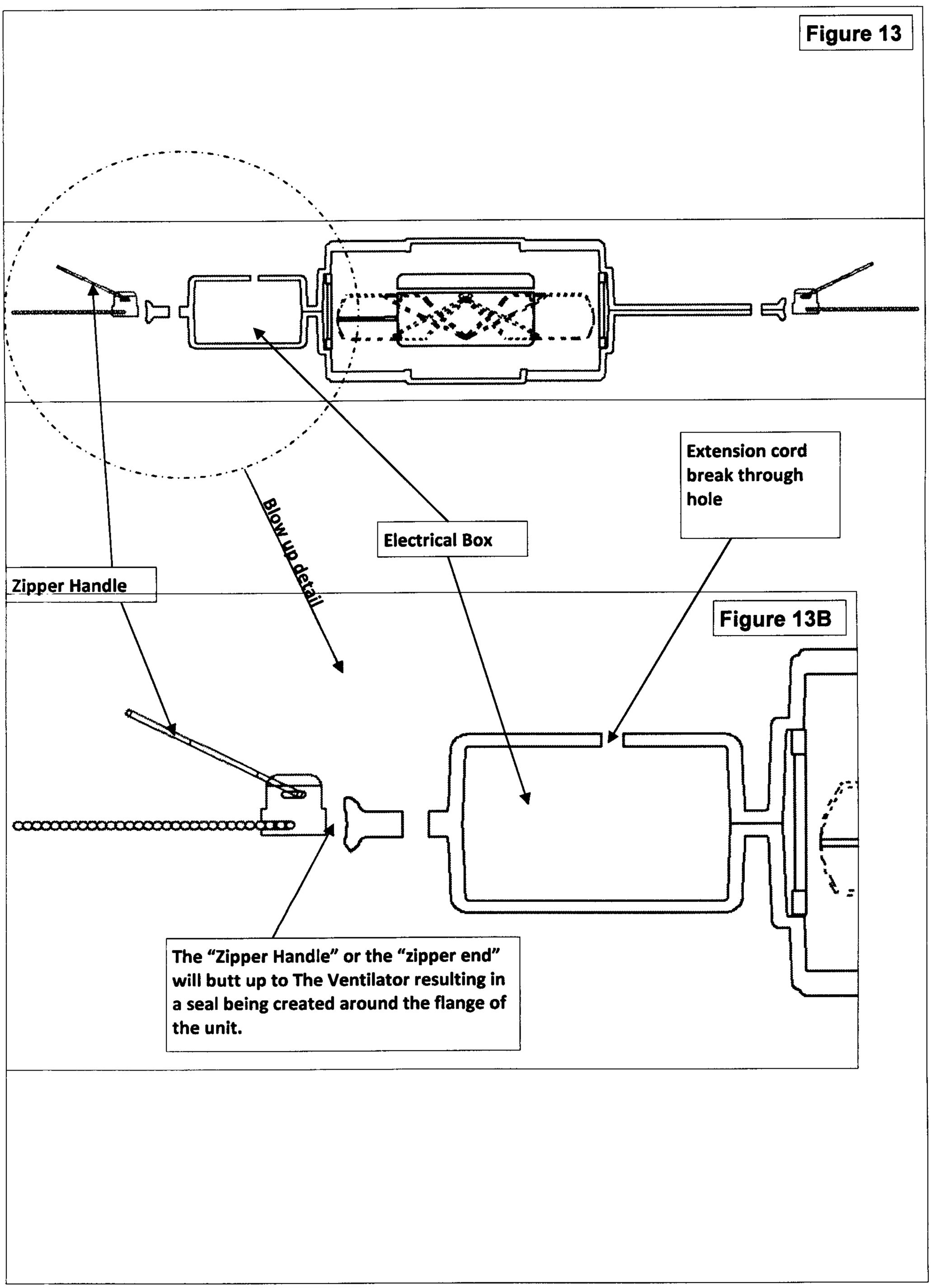
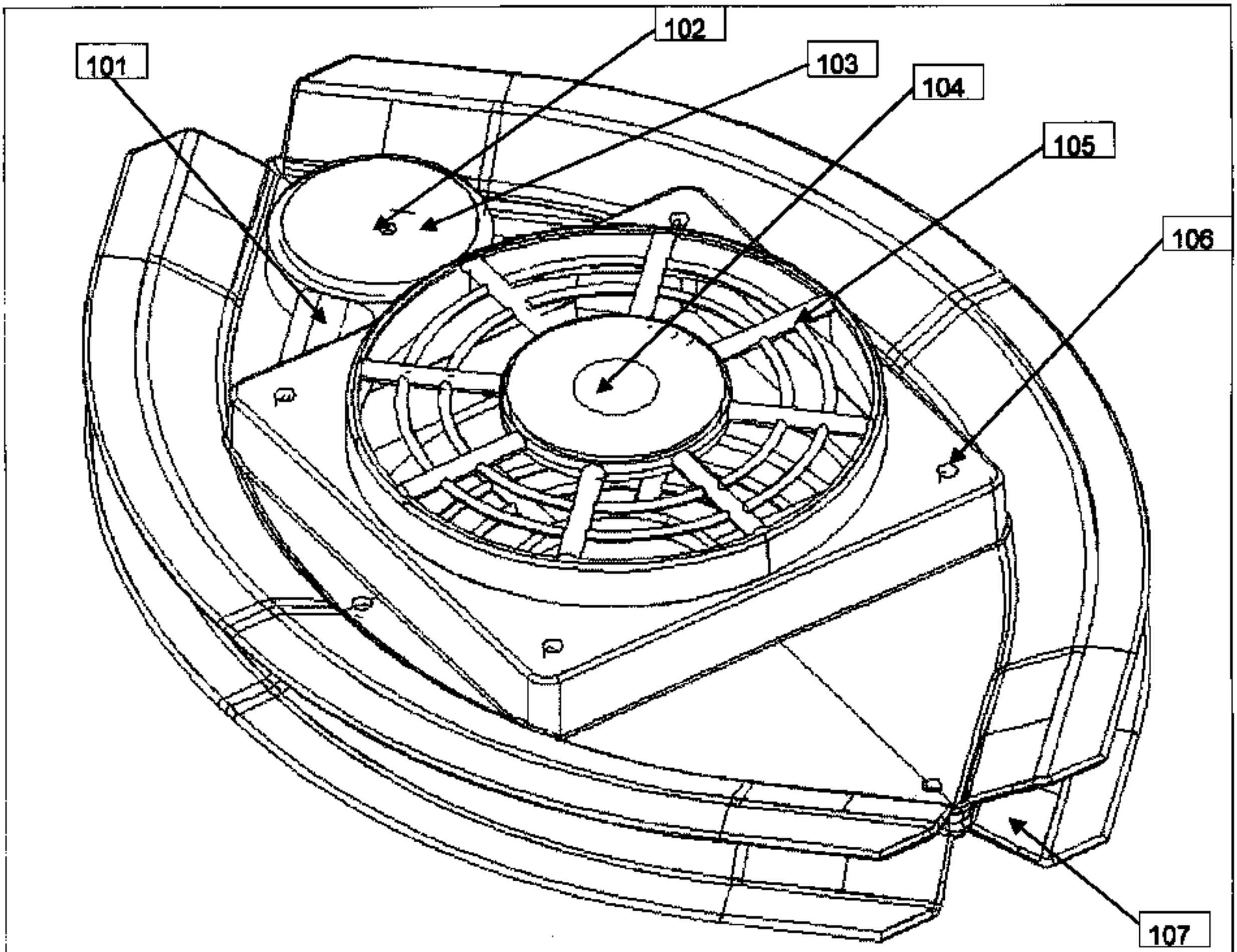


Figure 13


Zipper Handle
Blow up detail
Electrical Box
Extension cord break through hole
Figure 13B
The "Zipper Handle" or the "zipper end" will butt up to The Ventilator resulting in a seal being created around the flange of the unit.



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