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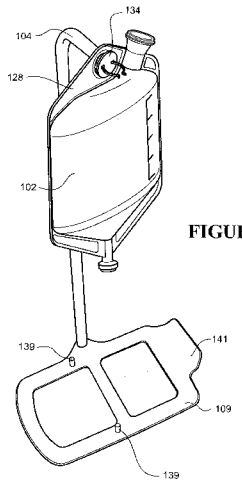

FIGURE 5

(57) Abstract: The invention relates to a bag for providing a source of fluid for use in a system for providing humidified gases to a user. The bag comprises a water tight package adapted for holding a volume of fluid, a fill port adapted to allow a user to fill or refill the water tight package with fluid by pouring water from a vessel into the bag, a drain point for draining fluid from the water tight package, and a hanging point for hanging the bag from a support stand. The hanging point is located substantially centrally with respect to a vertical axis of the bag, and the fill port is located to one side of the central vertical axis.

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A WATER BAG FOR PROVIDING A SUPPLY OF FLUID FOR TREATING A PATIENT

FIELD OF THE INVENTION

The present invention relates to a bag for providing a supply of fluid for treating a patient. More specifically, the present invention relates to a water bag for supplying fluid to the humidification unit of a system for providing humidified gases to a user.

BACKGROUND TO THE INVENTION

Collapsible flexible bags for providing fluid to a patient or to a system for treating a patient are known. Examples of such bags are disclosed in US 5,405,333, US 6,868,987, US 7,087,047 and WO 2004/052430.

Fluid bags for supplying fluid to a patient or to a system for treating a patient typically hang from a support stand. The support stand must have sufficient height to allow the fluid to drain via a drain point in a lower portion of the bag to the patient or system via a supply tube. Prior art systems typically include a stand that is positioned on the floor of a room and extends to a height above a patient or patient treatment apparatus. Such prior art stands have a height of 1 to 2 meters. Such systems have heavy bases to provide support to the system, and are not easily transportable.

Figure 1 shows a typical prior art water bag 2. Figure 2 shows the prior art water bag 2 being used as part of a humidification system 1 for providing heated humidified gases to a user. Such a system is generally used in a medical environment such as a hospital, but could be used in the home of a user. A support stand or pole 4 supports the water bag 2 and an integrated unit 3. The water bag typically hangs from an upper location on the stand 4. The integrated unit sits on a base 9. The base is clamped to the pole by a clamp (not shown). The pole is mounted to a set of legs running on coasters. The legs remain on the floor of the room in which the system is used. The stand 4 also includes a handle 16 for pushing or moving the stand around a room.

The pole has a sufficient height to support the water bag at a height above the integrated unit. The water bag 2 provides a supply of water to a humidifier 6 of the integrated unit via a water supply tube 7. The humidifier is adapted to heat the water to provide water vapour to a gases supply provided by a blower 8 to humidify the gases flow. The gases flow provided by the blower enters the humidifier 6 via an inlet 10 and passes through the humidifier and water vapour created by the humidifier, thereby being

humidified. The heated humidified gases pass out of the humidifier via an outlet 11, and transfer to a patient via conduit 5 in communication with the outlet 11. The heated humidified gases are provided to a patient or user via the conduit 5 and a patient interface such as a nasal or face mask (not shown).

To provide a supply of water to the integrated unit 3, the bag 2 is initially filled with water prior to attaching the bag to the stand 4. The bag includes a fill port 12 via which water is poured via a jug or other similar vessel into the bag. The bag fill port is typically adapted to receive a removable plug or cap 13. The plug 13 may be removed and fitted to the fill port many times to open the bag for filling with water and to seal the bag closed when in use as part of the humidification system.

The fill port is arranged centrally in a top portion of the bag. A hanging loop 14 for hanging the bag from the stand 4 is provided. The hanging loop is integrally formed with the port. The bag hangs from the centrally located hanging loop.

The bag includes a drain point 15 to which the water supply tube 7 is connected. The drain point is located centrally at the lower most position of the bag so that the bag can drain completely of fluid. The drain point is initially sealed closed. The supply tube may include a spike connection, which is pushed into the drain point to penetrate through the drain point and into the bag, to communicate the tube 7 with the interior of the water bag 2.

The water bag 2 is typically made from a suitable plastics sheet material. A back sheet and a front sheet of material are joined around an edge 20 of the bag to create a sealed envelope or water tight package. The front sheet and back sheet may be joined by seam welding, or other suitable jointing method. The back sheet may be opaque. The front sheet is transparent or partially transparent to allow the volume of water contained in the bag to be seen by the user or by a medical practitioner or other person. A volume gradient 21 may be marked on the transparent or partially transparent front sheet to provide an indication of the volume of fluid in the bag.

The drain point 15 typically includes a semi rigid plastic tube 22 filled or stopped with a blocking material through which a spike connection is forced to penetrate the drain point. The semi rigid tube may be made from a plastics material, or other suitable material.

The semi rigid tube is joined or bonded to the front and back sheets of the bag 2. The front and back sheets may be plastic welded to the semi rigid tube in the same sealing operation as the sealing operation of the bag edges 20. The semi rigid tube 22 includes at least one circumferential ridge 24 to assist with mechanical bonding of the tube 22 to the bag sheet material. Areas 25 of the front and back sheet material either side of the semi rigid tube 22 are bonded or welded together such that the drain point is located at the lowermost fluid position in the bag.

The fill port 12 includes a funnel portion 26 and a neck portion 27. The neck portion 27 is integrated into the bag 2 in much the same way as the drain point 15. The neck portion includes at least one circumferential ridge 24 to assist with mechanical bonding of the fill port to the bag sheet material. Areas either side of the front and back sheet material either side of the fill port are be bonded or welded together in a similar manner to areas 25 either side of the drain point. Areas 28 either side of the fill port are formed by bonding or welding the front and back sheet material together at a perimeter 29 of the internal volume of the bag and an outside perimeter 30 of areas 28.

Hanging loop 14 is integrally formed with the funnel portion of the fill port 12. The hanging loop is a loop of material formed in a plane parallel to the plane of opening or mouth 33 of the fill port. In use, the hanging loop is twisted upwards so that the loop 14 may be hooked over a hanging point on the stand 4. The hanging loop extends from either side the funnel portion, each side of the hanging loop being diametrically opposite each other across a diameter of the opening 33. As the hanging loop is positioned diametrically across the fill port 12, the bag hangs vertically from the hanging loop 14 on approximately the central axis of the bag, positioning the central drain point at the lower most position. The bag is symmetrical about a vertical axis, with the drain point at the lowermost fluid position and the fill port at the upper most fluid position.

A hole 31 may be formed in one or both areas 28. The front and back sheet material is bonded or welded together around an edge portion 32 of the hole 31. The hole or holes may be used to hang the bag from the stand 4. In this case the hanging loop 14 is not used. However, to hang the bag vertically, the bag must have two holes 31, one in each area 28, and the bag must be hung from both holes 31.

To fill the water bag 2, the water bag is removed from the stand 4, hanging loop 14 is flexed away from the opening or mouth 33, and cap 13 is removed from opening 33 of the fill port 12. A user or other person fills the water bag by pouring water from a vessel via the fill port into the bag. The bag holds approximately 1 litre of fluid. Once the desired volume of fluid has been added to the bag, the cap is replaced into the opening 33 of the fill port. The bag is then hung from the stand, ready to supply water to the humidifier unit. If the supply tube 7 is not already installed at the drain point 15, the tube 7 spike connection is pressed into the drain point to communicate with the interior of the water bag, fluidly connecting the bag to the humidifier.

The humidifier 6 includes a humidification chamber. The bag provides a supply of water to the humidification chamber. A typical humidification chamber holds up to approximately 500mL. A bag volume of 1000mL therefore provides an additional two chamber volumes of water, reducing the need to refill the chamber during a normal period of use.

In order to hold approximately 1 Litre of water, the bag has an overall height of approximately 350mm. The assembled prior art system 1 has an overall height of approximately 1.5m to 2m. Due to the overall size of system 1, system 1 is not practically transportable.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an improved water bag or to at least provide the industry or public with a useful choice.

In one aspect, the present invention broadly consists in a bag for providing a source of fluid for use in a system for providing humidified gases to a user comprising:

a pliable water tight package adapted for holding a volume of fluid,

a fill port adapted to allow a user to fill or refill the water tight package with fluid, the fill port adapted to receive a removable cap for closing the fill port,

a drain point for draining fluid from the water tight package, and

a hanging point for hanging the bag from a support stand,

wherein the hanging point is located substantially centrally with respect to a vertical axis of the bag, and the fill port is located to one side of the central vertical axis.

Preferably the fill port has a mouth, in use at least a portion of the mouth being at a height above the hanging point.

Preferably the hanging point is an aperture comprising a rigid perimeter portion.

Preferably the bag has an overall height from the hanging point to the bottom of the water tight package of less than 300mm.

Preferably the bag has a capacity to hold at least 800ml.

Preferably the bag has a capacity to hold at least 1000ml.

Preferably the fill port is substantially parallel to the vertical axis of the bag.

Preferably the fill port is at an angle to the vertical central axis.

Preferably the fill port is at an angle of 10 degrees to 40 degrees from the vertical axis of the bag.

Preferably the fill port is located at an angle of 30 degrees from the vertical axis.

In another aspect, the present invention broadly consists in a portable system for providing heated humidified gases at a positive pressure to a user comprising:

an integrated unit comprising a blower and a humidifier, the humidifier adapted to receive a water chamber for holding a volume of fluid,

a stand comprising a base for supporting the integrated unit and a post extending from the base to a height above the humidifier, the post having a hanging portion, and

a bag as described above, in use the bag hanging from the hanging portion so that the drain point is at a height above the water chamber.

Preferably the post can be disassembled from and reassembled to the base.

Preferably the post is pivotally attached to the base.

Preferably the post comprises at least two parts, the at least two parts being able to be disassembled and reassembled.

Preferably the post is collapsible to a collapsed condition or extendable to an erected condition, and when in the collapsed condition the post fits within a perimeter of the base.

Preferably the hanging portion is a substantially horizontal portion of the post extending from a portion of the post extending from the base.

Preferably the hanging portion includes a hanger comprising two spaced apart flanges located at or near an end of the horizontal portion distal from the portion of the post extending from the base, in use the bag hanging from between the two spaced apart flanges.

Preferably the rigid perimeter of the hole has a thickness that closely fits between said spaced apart flanges.

Preferably the hanger includes a clip for holding the conduit.

Preferably the horizontal portion extends a distance to allow a user's hand to fit between the portion of the post extending from the base and a distal end of the horizontal portion, the horizontal portion providing a handle for lifting the system from a supporting surface.

Preferably the system is configurable to a transportable configuration and an in-use configuration.

Preferably when in the in-use configuration, the system has an overall height of less than 620mm.

Preferably when in the transportable configuration the system is sized to fit in a container or carry bag having a volume less than 20 litres.

Preferably the system has an empty weight of less than 3.3kg.

In another aspect, the present invention broadly consists in a stand for a portable system for providing heated humidified gases at a positive pressure to a user comprising:

a base for supporting an integrated unit,

a post extending from the base to a height above the integrated unit, the post having a horizontal portion extending from a portion of the post extending from the base, the horizontal portion adapted to hang a water bag and be a handle for lifting and carrying the portable system.

The term "comprising" as used in this specification means "consisting at least in part of". When interpreting each statement in this specification that includes the term "comprising", features other than that or those prefaced by the term may also be present. Related terms such as "comprise" and "comprises" are to be interpreted in the same manner.

To those skilled in the art to which the invention relates, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the scope of the invention as defined in the appended claims. The disclosures and the descriptions herein are purely illustrative and are not intended to be in any sense limiting.

The invention consists in the foregoing and also envisages constructions of which the following gives examples only.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention will be described by way of example only and with reference to the drawings, in which:

Figure 1 is side view of a prior art water bag.

Figure 2 is a perspective view of a prior art system for providing heated humidified gases at a positive pressure to a user.

Figure 3 is side view of a preferred embodiment of the water bag according to one aspect of the present invention.

Figure 4 is a perspective view of a system for providing heated humidified gases at a positive pressure to a user according to another aspect of the present invention.

Figure 5 is a stand for the system of Figure 4.

Figure 6 is a perspective view of a hanger of the stand of Figure 5.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The description 'integrated unit' used in this specification and provisional claims refers to an integrated blower and humidification unit for providing heated humidified gases at a positive pressure to a user.

The present invention relates to a water bag for use in providing a supply of fluid to a patient or patient treatment apparatus. In particular, the present invention relates to a water bag for providing a supply of water or suitable fluid to an integrated blower and humidification unit. The present invention also relates to a system for providing heated humidified gases at a positive pressure to a user which includes a water bag.

A preferred embodiment of the water bag 102 according to one aspect of the present invention is shown in Figure 3. A system 101 for providing heated humidified gases at a positive pressure to a user according to another aspect of the present invention is shown in Figure 4.

The water bag of the present invention comprises a pliable water tight package as known in the prior art typically made from two pliable sheets joined about a perimeter of the bag. The bag collapses as the contents of the bag drains via drain point 115. When empty, the bag is substantially flat except for the drain point and fill port. When empty, the bag may be folded or rolled into a compact state. The water bag of the

present invention has a hanging point 114 for handing the bag from a stand or support post 104 as shown in Figure 3. Preferably the hanging point is a hole 114 through a flange area 128 of the bag 102. The hole 114 is located substantially centrally with respect to a vertical axis 100 of the bag. The support post 104 includes hanging portion 104. Hanging portion is a horizontal portion. In use, the bag 102 hangs from the support post 104 by passing the horizontal portion of the support post through the hanging point 114.

The post 104 may include a hanger 134 from which the bag hangs. As best shown in Figure 6, hanger 134 includes two flanges 135 and 136 spaced apart by a central portion 137. The spaced apart flanges may be oriented substantially parallel. At least the outer flange 136 has an outer perimeter slightly smaller than the diameter of the hole 114 to allow the hanging point to pass over the outer flange 136. The substantially planar portion 128 of the bag 102 resides in between the two flanges 135, 136, the flanges preventing movement of the bag longitudinally along the horizontal portion of the pole 104. The hanger therefore retains the bag securely on the horizontal portion of the pole 104 near an end of the horizontal portion of the pole 104. The hanger may be integrally formed with the horizontal portion of the post. Alternatively the hanger may be attached to the horizontal portion.

Preferably the hole 114 has a rigid perimeter 116. The rigid perimeter is preferably formed by bonding or fixing a rigid ring 116 about the perimeter of the hole 114. The rigid ring provides support to the bag to prevent the bag from stretching or creasing when hanging from the hole 114. In prior art bags that are designed for single use, stretching or creasing of the bag is not a concern. However, the bag of the present invention is intended to be reused by the user many times, the user refilling the bag for reuse. Stretching or creasing can cause the bag to appear unfit for purpose to a user. The rigid ring overcomes this disadvantage. Furthermore, the rigid ring preferably has a thickness selected to closely fit between flanges 135 and 136 of hanger 134 to ensure the bag is held securely. Preferably the rigid ring is made from a suitable plastic material. The bag is preferably made from PVC sheet material. Preferably the rigid ring is bonded to the PVC material or moulded into the PVC material.

The bag hangs from the horizontal portion of the stand 104, or from the hanger 134 on the horizontal portion of the stand, with the axis of the horizontal portion of the

stand passing through the hanging point 114 of the bag. Hanging the bag directly from the horizontal portion or upper most portion of the stand through a hanging point 114 in a top portion of the bag results in a reduced overall height for the system compared to prior art systems. Prior art systems hang prior art bags by a bag hanging loop 14 that extends above the top of the bag from the fill port. The hanging loop results in additional stand height required for a given bag drain point 15 height. Also, the hanging loop14 typically hangs from a hook below an upper portion of the stand 4. A hanging hook employed in prior art stands results in additional stand height required for a given bag drain point height compared to the system of the present invention.

The hanger may also include a clip portion 138. The conduit 105 may be clipped into clip 138 to hold the conduit in a position comfortable for a particular user, or to hold the conduit conveniently when not in use, as shown in Figure 4. The clip comprises two arms with an opening in between, the opening allowing the conduit to pass into the clip. Each arm has a leading edge portion folded back. The leaded edge portions provide a converging opening so that the conduit may be easily received within the clip. To fit the conduit into the clip, a user or other person forces the conduit against the folded back leading edge portions, to spread the arms of the clip open the width of the conduit. Once the conduit is located within the clip, the arms return to an un-deflected position to hold the conduit securely. The arms are preferably formed on a diameter similar in size to the diameter of the conduit. Most preferably the arms are formed on a diameter slightly smaller than the diameter of the conduit.

Preferably the clip 138 is arranged at an angle to allow the conduit to face towards the rear of the system when being held by the clip. The clip arms are formed on a plane, the plane being approximately perpendicular to the axis of a portion of the conduit being retained by the clip arms. Preferably the clip is arranged with the plane of the clip arms at an angle of 45 degrees to the vertical portion of the stand 104.

The clip holds the conduit in a convenient position when the system is not being used, or when the system is in a drying mode. When in the drying mode, a conduit heater is turned on to a high temperature, and a low flowrate flow of gases are provided through the conduit. The drying mode runs for a predetermined length of time and is designed to prevent bacteria developing in the conduit.

A fill port 112 is located to one side of the central vertical axis 100 of the bag 102, adjacent to the hanging point 114. The fill port is adapted to allow a user to fill or refill the water tight package with water by pouring water from a vessel such as a jug into the bag via the fill port. The fill port is adapted to receive a removable cap 113. The offset fill port 112 is not obscured by the hanging point 114 or the support pole 104. The cap may be removed easily without interference from the hanging point or support pole. With the fill port 112 offset to a side of the central hanging point, and with the removable cap removed from the fill port, the bag of the present invention may be easily filled with fluid, without a requirement to remove the bag from the support pole 104, as the fill port is not obscured by either the hanging point 114 or the support pole 104. The bag may be refilled for reuse many times.

In contrast, the prior art bag, with a central hanging loop 14 and a central fill port 12, cannot be easily filled without removing the bag from a support stand, as the hanging loop, or the support stand, or both, tend to obscure the fill port.

The fill port 112 is located so that the mouth 133 of the fill port is at the upper most point in the water tight bag 102. At least a portion of the mouth 133 of the fill port is above the height of the hanging point so that the mouth 133 is easily accessible for filling.

In the preferred embodiment of the bag of the present invention, the fill port 112 is arranged at an angle to the central vertical axis. Alternatively, the fill port 112 may be substantially parallel to the central vertical axis 100. Preferably the fill port is at an angle of 10 degrees to 40 degrees from the vertical axis of the bag. Most preferably the fill port is located at an angle of 30 degrees from the vertical axis. At an angle of around 30 degrees, the mouth 133 of the fill port 112 is angled away from the support post 104 for ease of filling, while at this angle the mouth is substantially upright to allow complete filling of the bag without overflow from the fill port.

The system 101 for providing heated humidified gases at a positive pressure to a user includes the support pole 4 and base 109 as shown in Figures 4 and 5. Pole 104 extends upwardly from a side of the base 109. The base is intended to sit or rest on a table top 140 or similar surface, for example on a bedside table next to a user, as indicated in Figure 4. The base may include number of feet or pads on a bottom surface of the base on which the base sits.

The integrated unit 103 sits on the base 109. The base may include pegs 139 which correspond with holes (not shown) in the base of the integrated unit. Pegs 139 and corresponding holes in the integrated unit locate the integrated unit correctly on the base 109. The base 141 may include a guard portion 141 which extends upwardly from the base to cover and protect any sensitive areas or equipment associated with the integrated unit 103.

The system 101 of the present invention has a reduced overall height to allow the unit to be used along side a user's bed in a home environment. For example the system may be located beside a user's bed, with the system located on a table top. To achieve a reduced overall height, the preferred embodiment of the bag 102 of the present invention has a reduced length compared to prior art water bags. The preferred embodiment of the bag of the present invention has an overall length, from the top of the bag including the hanging point 114 and flange material 128, to the bottom of the bag into which the drain point 115 is fitted, of less than 300mm.

To be useful a bag for use in a humidification system including a humidification chamber should hold at least the approximate volume of the humidification chamber. For example, for a bag that holds the same volume as the humidification chamber, the period over which the system may be used without refilling with water is doubled compared to if a bag was not used to supply the humidification chamber. The bag of the present invention holds at least 800mL. Preferably the bag holds at least 1000mL.

To achieve a useful volume with a reduced overall height, the bag of the present invention is wider than prior art water bags. When in the empty state, with the bag in a flat packed condition, the bag has a width dimension of approximately 200mm when in a flat packed or empty condition.

By having a bag with a large volume such as 800mL, it is possible to have a humidifier with a reduced volume chamber. The chamber does not need to hold a large volume of water if the chamber is provided with a reliable supply of water. A reduced volume chamber allows an integrated unit design having a small compact size and a faster heat-up time.

For use in the home environment, it is desirable for the humidification system to be portable. The support post 104 of the present invention may be collapsed so that the support post and base can be packaged together in a compact volume. For example, the

support post may be disassembled from the base and arranged in plane with the base to take up less space. Alternatively, the support post may be coupled to the base in a hinged or pivoting arrangement, to allow the support post to hinge or pivot to lie flat with the base. Additionally, the support post of the present invention is in at least two parts so that the support post may be separated into shorter parts or collapsed to a shorter overall length such that the disassembled parts or collapsed post fit within the perimeter of the base 109. For example, the post of the present invention may comprise two half length poles. A first pole having a first diameter may be removably attached or pivotally attached to the base. A second pole having a second diameter smaller than the first diameter may fit within the first pole such that the two poles may telescope outwards to an erected position. To collapse the poles the second pole may slide into the first pole to achieve a collapsed shorter overall length.

The system 101 of the present invention, comprising a collapsible support pole 104 that can be dismantled from or pivoted with respect to the base 109, an integrated unit 103, and a reduced length water bag, achieves a compacted or transportable configuration that may be packaged into a convenient container such as a carry bag for ease of transportation. The system of the present invention may be compacted to a transportable configuration with a volume of less than 20 litres. Preferably the system of the present invention including the integrated unit 103, water chamber, heated breathing conduit 105, stand 104, water bag 102 and supply conduit 107 may be compacted to a transportable configuration with a volume of approximately 17 litres. The system of the present invention has an empty weight of approximately 3.3 kilograms. The stand 104 including base 109 and other associated parts weighs approximately 1.1 kg. The integrated unit including humidification chamber without water and the water bag without water weighs approximately 2.2 kg. The weight and compacted size of the system of the present invention provides the user with a system that is easily transportable.

In the extended, or in-use configuration, the reduced height bag allows a system with an overall system height above the support surface on which the system sits of approximately 620 mm. A reduced height bag reduces the centre of gravity of the system and results in a system that is stable and not easily knocked over.

The horizontal portion of the support pole 104 extends horizontally by a distance to allow a user or other person to use the horizontal portion as a handle. The system may be set-up in a first position by a user or other person. Once in the set-up position ready for use, the system may be easily moved from the first position to a second position in which a user intends to use the system, by carrying the erected or set-up system by the horizontal portion of the support pole. In the preferred embodiment of the present invention, the horizontal portion of the support pole 104 extends horizontally by a distance to allow a user's hand or other person's hand to fit between the upright portion of the support pole and the second flange 135 of the hanging point 134. The horizontal portion of the pole 104 extends by a length of at least 80 mm. The upright portion of the support pole and the second flange 135 provide end stops to prevent a person's hand from moving longitudinally along the horizontal portion of the support pole 104.

The stand 104 provides a support for the integrated unit 103 and a handle portion to allow convenient transportation of the system about a room or between rooms when in the set-up configuration. The stand 104 and clip 138 provide a convenient place to store the conduit in between periods of use and during transportation of the system when in the set-up configuration. For convenience, a user may use the system 101 with the stand 104, even if a bag 102 is not required to supply water to the humidifier 106.

The bag of the present invention as described above is easily fillable without a requirement to remove the bag from a support stand. The fill port of the bag allows a user to refill the bag many times by pouring water from a jug or other similar vessel into the bag. The bag of the present invention as described above provides has a reduced height to allow a compact humidification system while providing sufficient water volume to the humidification system. The integrated humidification system of the present invention as described above has a reduced in-use height, is compactable to a transportable configuration that is easily transportable, and can be easily moved from one position to another when in a set-up or in-use configuration.

CLAIMS

1. A bag for providing a source of fluid for use in a system for providing humidified gases to a user comprising:

a pliable water tight package for holding a volume of fluid,

a fill port adapted to allow a user to fill or refill the water tight package with fluid, the fill port adapted to receive a removable cap for closing the fill port,

a drain point for draining fluid from the water tight package, and

a hanging point for hanging the bag from a support stand,

wherein the hanging point is located substantially centrally with respect to a vertical axis of the bag, and the fill port is located to one side of the central vertical axis.

2. A bag as claimed in claim 1 wherein the fill port has a mouth, in use at least a portion of the mouth being at a height above the hanging point.

3. A bag as claimed in claim 1 wherein the hanging point is an aperture comprising a rigid perimeter portion.

4. A bag as claimed in claim 1 wherein the bag has an overall height from the hanging point to the bottom of the water tight package of less than 300mm.

5. A bag as claimed in claim 4 wherein the bag has a capacity to hold at least 800ml.

6. A bag as claimed in any one of claims 1 to 5 wherein the fill port is substantially parallel to the vertical axis of the bag.

7. A bag as claimed in any one of claims 1 to 5 wherein the fill port is at an angle to the vertical central axis.

8. A portable system for providing heated humidified gases at a positive pressure to a user comprising:

an integrated unit comprising a blower and a humidifier, the humidifier adapted to receive a water chamber for holding a volume of fluid,

a stand comprising a base for supporting the integrated unit and a post extending from the base to a height above the humidifier, the post having a hanging portion, and

a bag as claimed in any one of claims 1 to 7, in use the bag hanging from the hanging portion so that the drain point is at a height above the water chamber.

9. A portable system as claimed in claim 8 wherein the post is collapsible to a collapsed condition or extendable to an erected condition, and when in the collapsed condition the post fits within a perimeter of the base.

10. A portable system as claimed in claim 9 wherein the post can be disassembled from and reassembled to the base.

11. A portable system as claimed in claim 9 wherein the post is pivotally attached to the base.

12. A portable system as claimed in any one of claims 9 to 11 wherein the hanging portion is a substantially horizontal portion of the post extending from a portion of the post extending from the base.

13. A portable system as claimed in claim 12 wherein the hanging portion includes a hanger comprising two spaced apart flanges located at or near an end of the horizontal portion distal from the portion of the post extending from the base, in use the bag hanging from between the two spaced apart flanges.

14. A portable system as claimed in claim 13 wherein the rigid perimeter of the hole has a thickness that closely fits between said spaced apart flanges.

15. A portable system as claimed in claim 13 wherein the hanger includes a clip for holding the conduit.

16. A portable system as claimed in claim 12 wherein the horizontal portion extends a distance to allow a user's hand to fit between the portion of the post extending from the base and a distal end of the horizontal portion, the horizontal portion providing a handle for lifting the system from a supporting surface.

17. A portable system as claimed in any one of claims 9 to 16 wherein the system is configurable to a transportable configuration and an in-use configuration.

18. A portable system as claimed in claim 17 wherein when in the in-use configuration, the system has an overall height of less than 620mm.

19. A stand for a portable system for providing heated humidified gases at a positive pressure to a user comprising:

a base for supporting an integrated unit,

a post extending from the base to a height above the integrated unit, the post having a horizontal portion extending from a portion of the post extending from the base, the horizontal portion adapted to hang a water bag and be a handle for lifting and carrying the portable system.

20. A water bag for providing a source of fluid for use in a system for providing humidified gases to a user substantially as herein described with reference to and as illustrated by Figures 3 to 5.

21. A portable system for providing heated humidified gases at a positive pressure to a user substantially as herein described with reference to and as illustrated by Figures 4 to 6.

22. A stand for a portable system for providing heated humidified gases at a positive pressure to a user substantially as herein described with reference to and as illustrated by Figures 4 to 6.

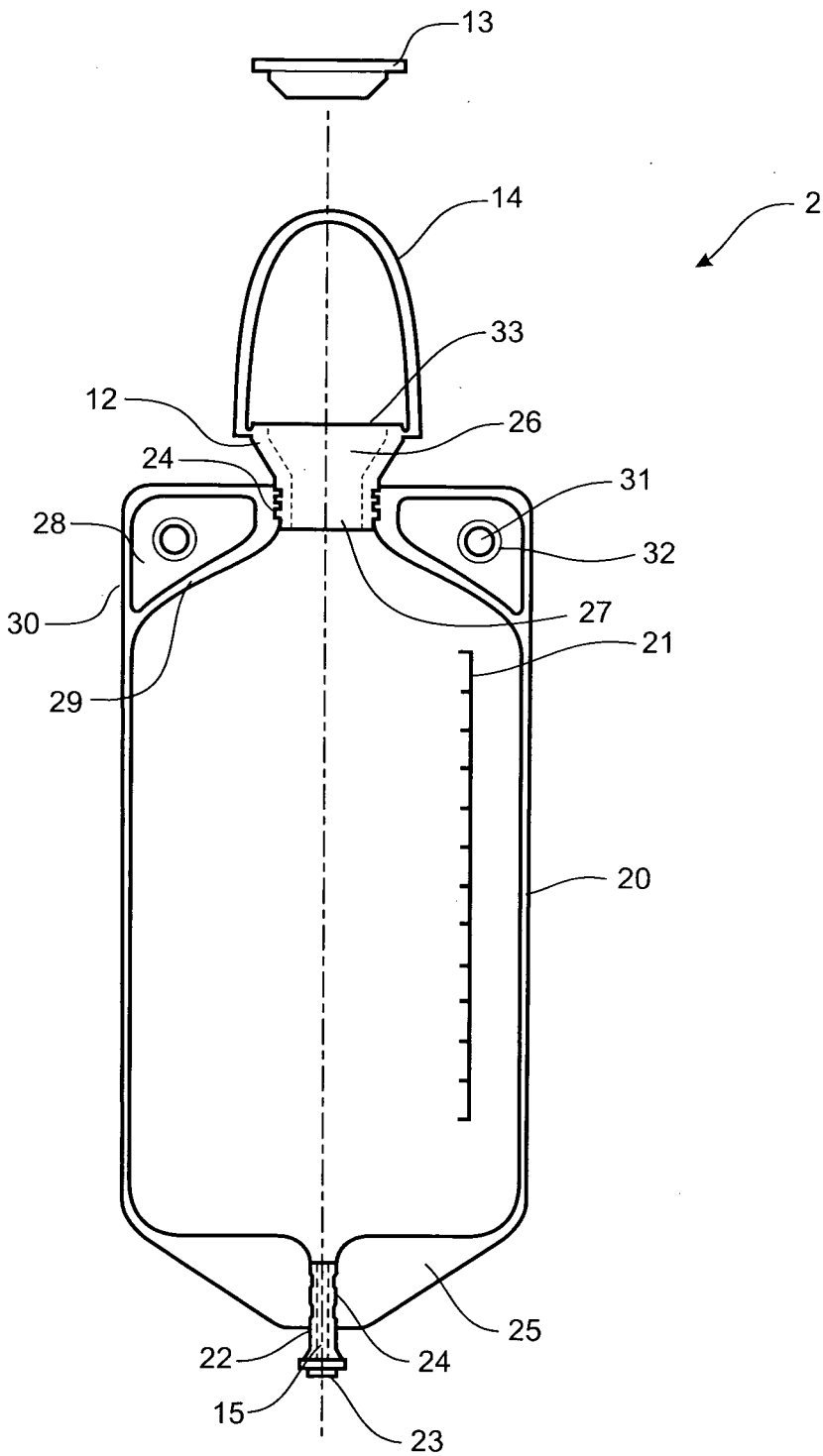

FIGURE 1
(prior art)

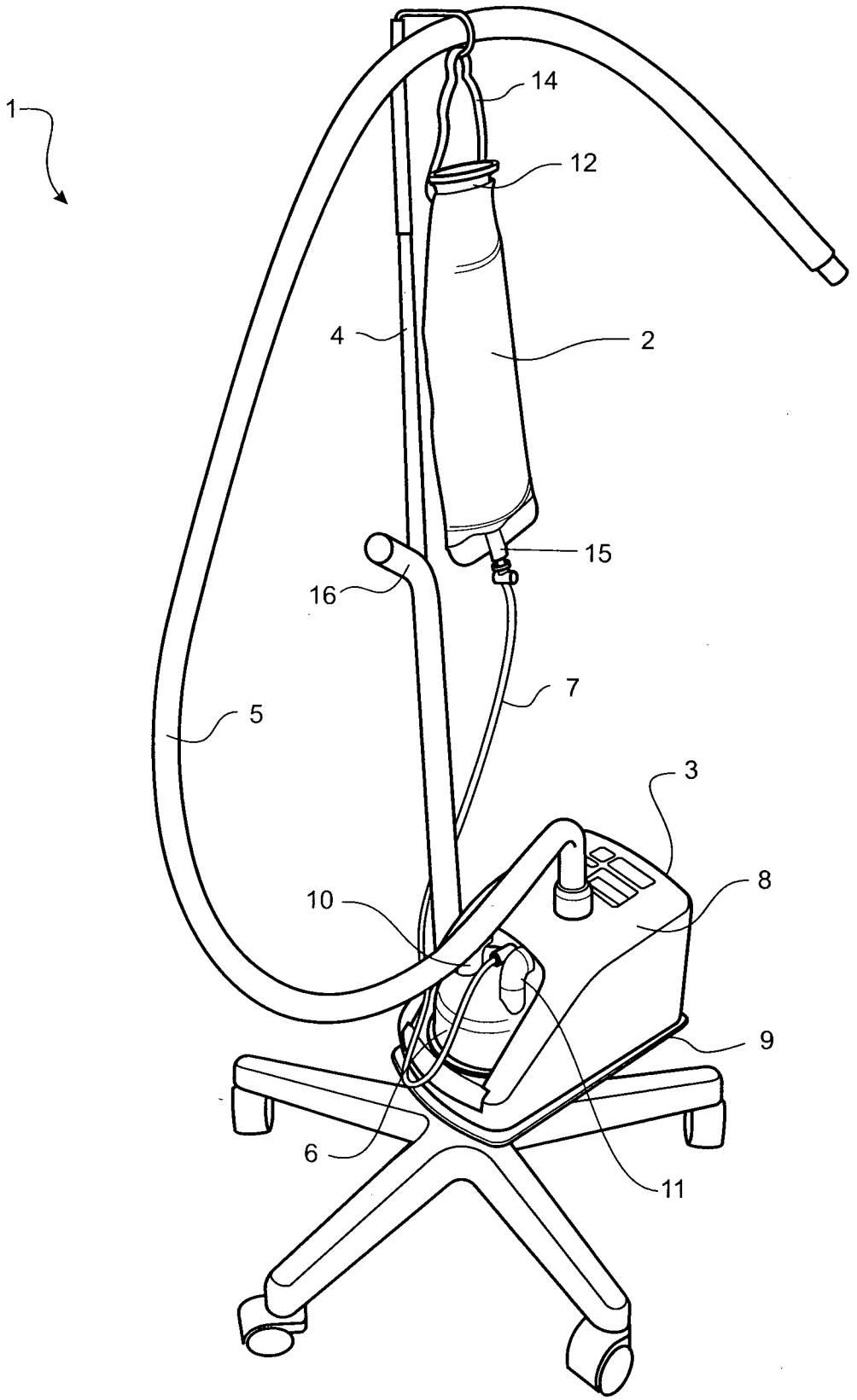

FIGURE 2
(prior art)

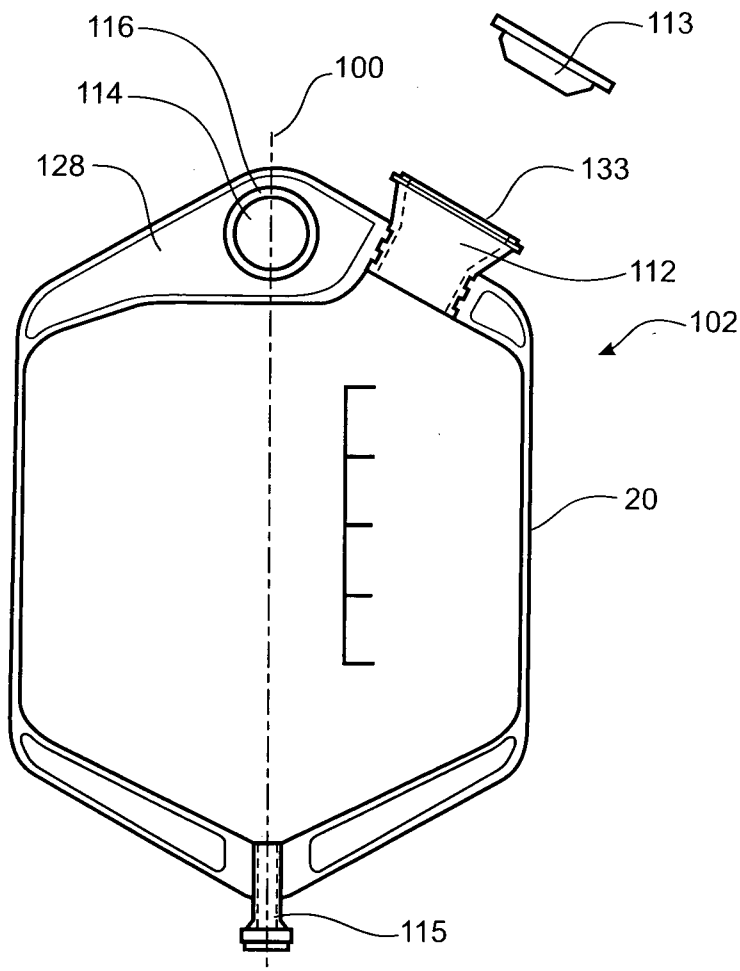

FIGURE 3

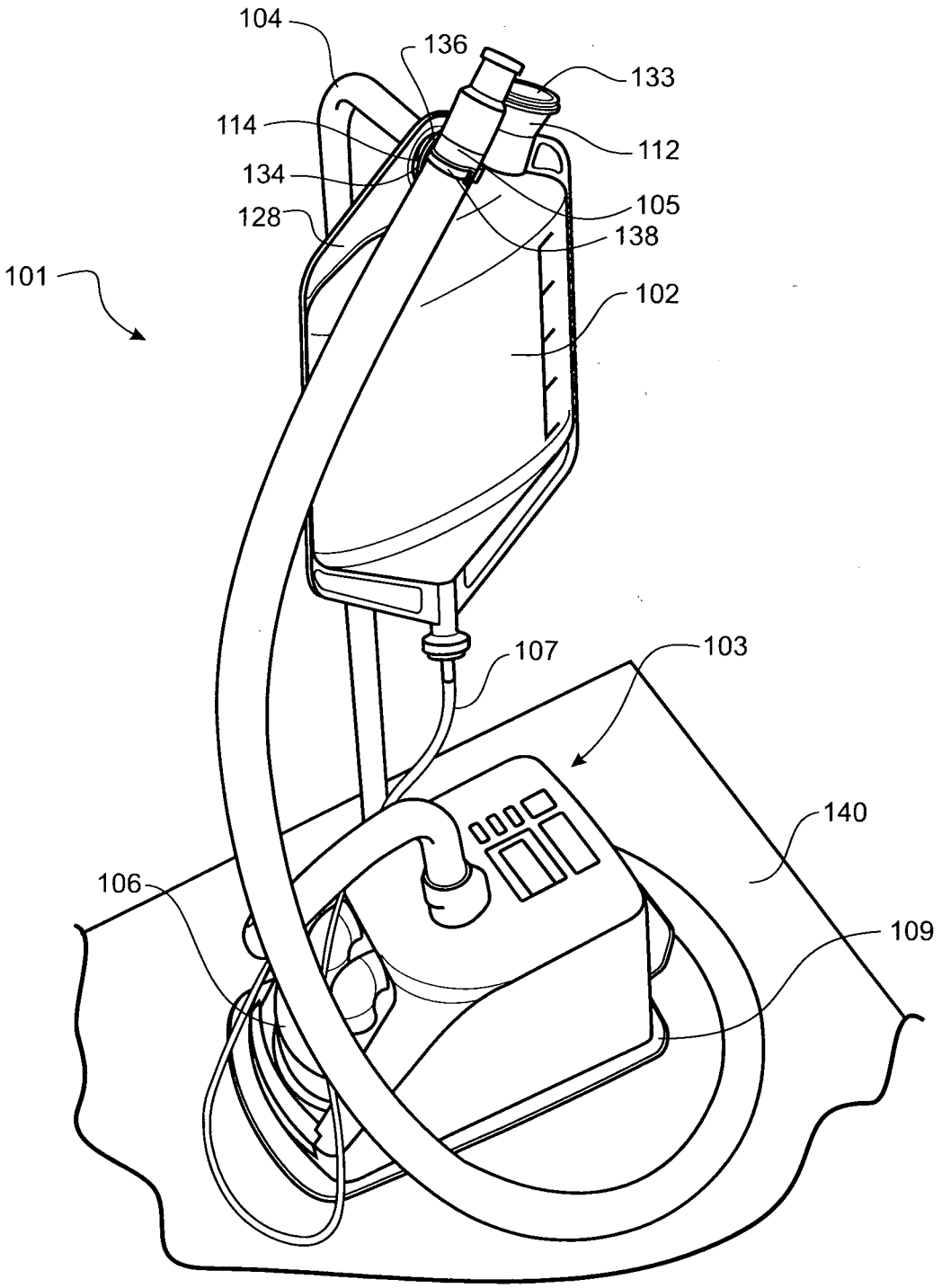

FIGURE 4

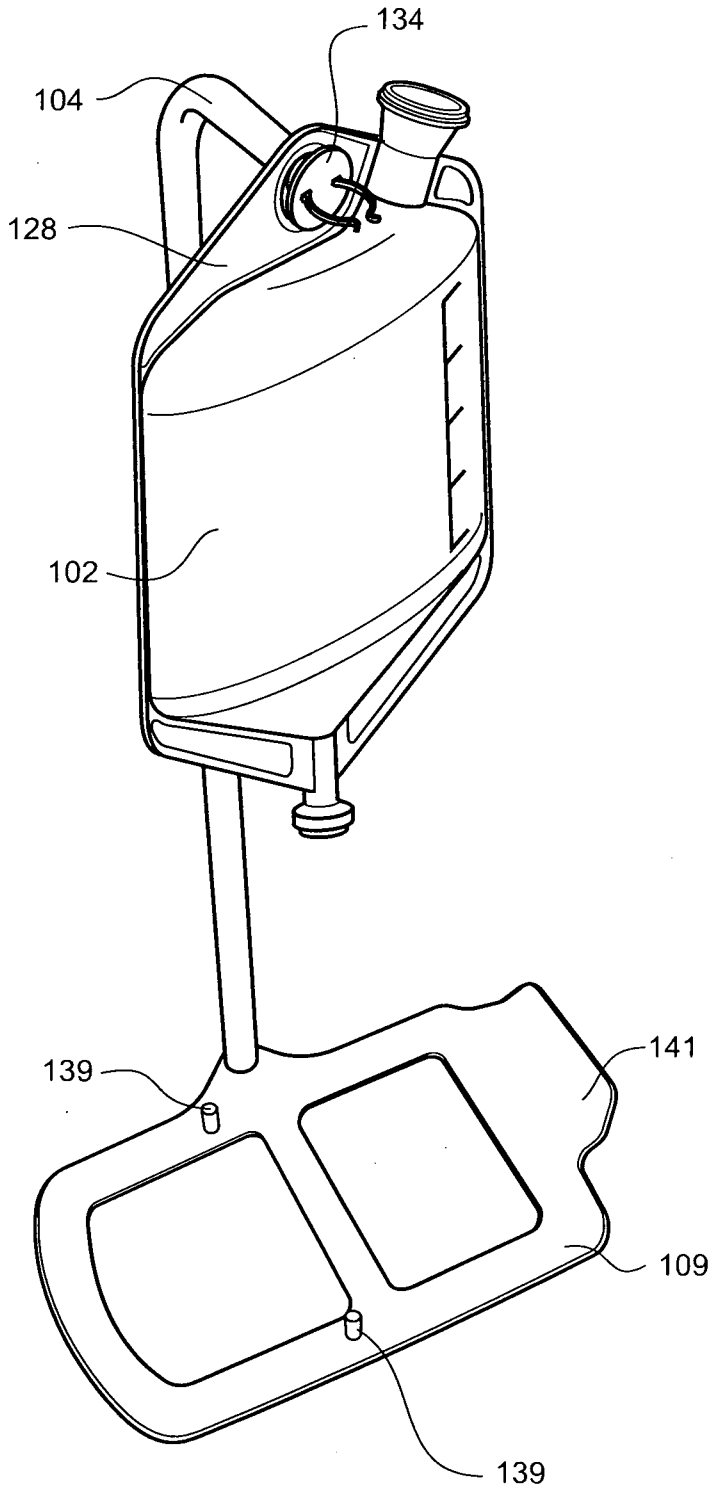

FIGURE 5

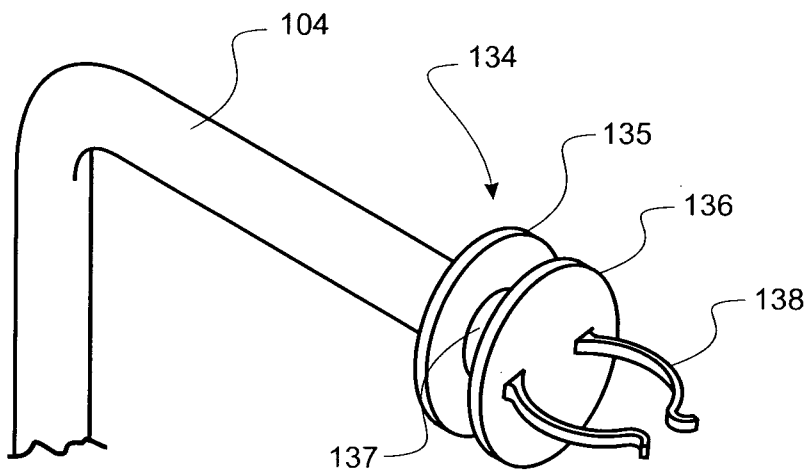

FIGURE 6