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Oxygen dispensing laryngoscope

Abstract

Disclosed is a laryngoscope arrangement that channels gas, such as oxygen, through a passageway and out through an exhaust port near or at a blade distal end of a laryngoscope blade of the laryngoscope to infuse a patient with the gas during an intubation procedure. The laryngoscope arrangement can either be a gas channeling laryngoscope or gas channeling sleeve that fits over a significant portion of a standard, non-gas carrying laryngoscope. In either case, the passageway is formed along a manufacturing seam of either the gas channeling laryngoscope or gas channeling sleeve. The passageway is configured to be connected to a gas source, such as a tank or compressor.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS (1) This application claims priority to and the benefit of U.S. Provisional Patent Application No. 63/632,468 entitled: Oxygenated Laryngoscope, filed on Apr. 10, 2024.

FIELD OF THE INVENTION

(1) The present embodiments are directed to bougie suited oxygen dispensing laryngoscopes.

DESCRIPTION OF RELATED ART

(2) Whether for trauma, serious illness or surgery with a general anesthetic, endotracheal tubes are a common device for providing oxygen to people in distress. An endotracheal tube, or simply ET tube, is a flexible plastic tube that threads into a person's windpipe (trachea) to assist the person in breathing. Typically, an endotracheal tube is deployed via a laryngoscope and bougie combination. Laryngoscopes comprise a lever and guide that resemble a shoehorn used to open an airway and guide a bougie or ET tube. Once deployed in a person, ET tubes connect to a ventilator to deliver oxygen to their lungs.

(3) During an intubation procedure (where a patient is actively having an endotracheal inserted down their trachea), medical personnel sometimes have trouble positioning the end of the ET tube in the right position through a patient's vocal cords. Accordingly, excess time in deploying an ET

tube jeopardizes the safety of an already oxygen deprived (not breathing) patient. Nonetheless, once the patient is intubated (the activity of having an ET tube deployed), the ET tube is connected to a ventilator which feeds oxygen to the patient.

(4) FIG. **1** is a prior art line drawing of a commercially available laryngoscope **10**. As shown, the laryngoscope **10** generally comprises a handle **16** extending between a head **14** and a blade **20**. A light and possibly a camera **15** are disposed at a cutout in blade **20**. The light helps illuminate a patient's airway upon entry of the blade **20**. A power line (not shown) is introduced to the laryngoscope **10** via a connecting tube **12** extending from the head **14**. The power line is threaded through the laryngoscope body **24** to the light and/or camera **15** to provide power to the light and/or camera **15**. In practice, the caretaker will open the mouth of a person in breathing distress (patient) and insert the laryngoscope distal tip **18** through the mouth and into the upper airway to open the epiglottis so that an ET tube can be threaded into the trachea to feed the patient air.

(5) It is to innovations related to this subject matter that the embodiments invention is generally directed.

SUMMARY OF THE INVENTION

(6) The present embodiments are directed to oxygen dispensing laryngoscopes that are generally adapted for use with a bougie, that among other benefits improve deployment in a patient, improves oxygenation to the patient upon deployment and further improves long-term comfort.

(7) Certain embodiments of the present invention contemplate a method for oxygenating a patient during intubation, the method comprising providing a tubular laryngoscope comprising a semirigid laryngoscope tube defined between an inlet port and outlet port. A handle is connected to the laryngoscope tube at a proximal tube region of the laryngoscope tube, the proximal tube region includes the inlet port, wherein the inlet port is in communication with an outside environment. The method further envisions a step for directing oxygen rich gas from an oxygen source in a flow direction that is through the laryngoscope tube towards the outlet port. A first portion of the oxygen rich gas flows in the flow direction through the outlet port while the laryngoscope tube is in a patient airway, and a second portion of the oxygen rich gas flows counter to the flow direction through the inlet port and into the outside environment.

(8) Certain other embodiments of the present invention envision a laryngoscope embodiment generally comprising a laryngoscope that provides a pathway for gas, such as enriched oxygen, to be expelled from a laryngoscope blade to oxygenate a patient when being intubated. The laryngoscope embodiment can comprise a handle that extends between a head and a blade, wherein the laryngoscope has a seam where a laryngoscope left side is bonded to a laryngoscope right side. The laryngoscope further comprises a gas carrying passageway extending inside of the laryngoscope. A front seam comprises a casing that defines the gas carrying passageway, wherein prior to assembly of the laryngoscope, the laryngoscope left side comprises a first portion of the casing and the laryngoscope right side comprises a second portion of the casing, which when bonded forms the seam. The gas carrying passageway extends from an entry port located at the head to an exhaust port located at the blade.

(9) Another embodiment of the present invention envisions a gas dispensing laryngoscope comprising a handle extending between a head and a blade with a gas carrying passageway for dispensing oxygen (or some other gas) during an intubation procedure. The gas dispensing laryngoscope defines a left side and a right side that are bonded together at a seam. The gas dispensing laryngoscope defines a blade front facing portion of the blade and a handle front facing portion of the handle, wherein the blade front facing portion is in view of the handle front facing portion. The gas carrying passageway extends inside of the gas dispensing laryngoscope along the seam at the handle front facing portion and the blade front facing portion. The gas carrying passageway extends from an entry port located at the head to an exhaust port located at the blade.

(10) Still another embodiment of the present invention envisions a laryngoscope that channels gas during an intubation. The laryngoscope can comprise a handle extending between a head and a

blade, wherein the blade has a blade front facing portion and the handle has a handle front facing portion. The blade front facing portion is in view of the handle front facing portion. The laryngoscope defines a left side and a right side that at least in part meet along a centerline at the handle front facing portion and the blade front facing portion. The laryngoscope further comprises a gas carrying passageway that extends inside of the gas dispensing laryngoscope along the centerline at the handle front facing portion and the blade front facing portion. The gas carrying passageway extends from an entry port, that is located at the head, to an exhaust port, that is located at the blade.

(11) Another embodiment of the present invention contemplates a laryngoscope sleeve configured to cover a substantial portion of a laryngoscope, wherein the laryngoscope sleeve is configured to dispense gas, such as enriched oxygen, to a patient in need of air. The laryngoscope sleeve can comprise a sleeve handle that extends between a laryngoscope receiving aperture and a sleeve blade, wherein laryngoscope sleeve comprises a sleeve seam where a left side of the laryngoscope sleeve is bonded to a right side of the laryngoscope sleeve. A front seam is located along a blade front facing portion of the sleeve blade and a handle front facing portion of the sleeve handle, wherein the blade front facing portion is in view of the handle front facing portion. The front seam comprises a casing that defines a gas carrying passageway, wherein the left side comprises a first portion of the casing A and the right side comprises a second portion of the casing. The gas carrying passageway extends from an entry port located at the laryngoscope receiving aperture to an exhaust port located at the sleeve blade.

(12) Still another embodiment of the present invention envisions a gas dispensing laryngoscope sleeve, comprising a sleeve handle extending between a laryngoscope receiving aperture and a sleeve blade that facilitates dispensing gas, such oxygen, to a patient in breathing distress. The gas dispensing laryngoscope sleeve defines a left side and a right side bonded together at seam. The gas dispensing laryngoscope sleeve further defines a blade front facing portion of the sleeve blade and a handle front facing portion of the sleeve handle, wherein the blade front facing portion is in view of the handle front facing portion. A gas carrying passageway extends outside of the gas dispensing laryngoscope sleeve along the seam at the handle front facing portion and the blade front facing portion from an entry port to an exhaust port located at the blade. The entry port is located at the end of a gas connecting tube approximately at the laryngoscope receiving aperture.

(13) Another embodiment of a laryngoscope sleeve that channels gas, such as enriched oxygen, to a patient in need of air, envisions a sleeve handle extending between a laryngoscope receiving aperture and a sleeve blade with a gas emitting port. The laryngoscope sleeve defines a blade front facing portion of the sleeve blade and a handle front facing portion of the sleeve handle, wherein the blade front facing portion is in view of the handle front facing portion. The laryngoscope sleeve defines a left side and a right side that at least in part meet along a centerline at the handle front facing portion and the blade front facing portion. A gas carrying passageway extends along the centerline at the handle front facing portion and the blade front facing portion from an entry port, located at a distal end of a gas connecting tube, to an exhaust port located at the sleeve blade.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

(1) FIG. **1** is a prior art line drawing of a commercially available laryngoscope;

(2) FIGS. **2**A and **2**B are line drawings that illustratively depict various views of a tubular laryngoscope embodiment consistent with embodiments of the present invention;

(3) FIG. **2**C is a line drawing depicting the laryngoscope embodiment with an oxygen source inlet tube extending through the handle sideways;

(4) FIG. **2**D is a side view line drawing of a laryngoscope embodiment consistent with

embodiments of the present invention;
(5) FIG. **2**E is a front view line drawing of the distal tip of the laryngoscope tube with a cross-section cutline A-A bisecting the laryngoscope tube along the tube leading edge and tube trailing edge;
(6) FIG. **3**A is an embodiment of a laryngoscope tube shown along cutline A-A consistent with embodiments of the present invention;
(7) FIG. **3**B is a line drawing depicting the ramped exit port of FIG. **3**A;
(8) FIG. **4** is another embodiment of a laryngoscope tube shown along cross-section cutline A-A consistent with embodiments of the present invention;
(9) FIG. **5**A is yet another embodiment of a laryngoscope tube shown along cross-section cutline A-A consistent with embodiments of the present invention;
(10) FIG. **5**B is a front view line drawing of the distal tip of the laryngoscope tube;
(11) FIG. **5**C is a front view line drawing of the distal tip of yet another embodiment of the laryngoscope tube consistent with embodiments of the present invention;
(12) FIG. **5**D is a front view line drawing of the distal tip of yet another embodiment of the laryngoscope tube consistent with embodiments of the present invention;
(13) FIG. **5**E illustratively depicts an optional embedded oxygen laryngoscope blade embodiment that is not tubular but rather a semicircle blade as shown by the view of the distal tip;
(14) FIG. **6** illustratively depicts a patient having their airway opened with a laryngoscope embodiment, that in the present embodiment has a slightly curved laryngoscope tube;
(15) FIGS. **7**A-**7**F are line drawings of various views of another oxygen dispensing laryngoscope embodiment consistent with embodiments of the present invention;
(16) FIG. **8** is a line drawing of an angled view of an optional oxygen dispensing laryngoscope with an exhaust port at the distal end of a laryngoscope blade consistent with embodiments of the present invention; and
(17) FIGS. **9**A-**9**D are line drawings of an oxygen dispensing laryngoscope sleeve used with a laryngoscope consistent with embodiments of the present invention.

DETAILED DESCRIPTION

(18) Initially, this disclosure is by way of example only, not by limitation. Thus, although the instrumentalities described herein are for the convenience of explanation, shown and described with respect to exemplary embodiments, it will be appreciated that the principles herein may be applied equally in other similar configurations involving the subject matter directed to the field of the invention. The phrases “in one embodiment”, “according to one embodiment”, and the like, generally mean the particular feature, structure, or characteristic following the phrase, is included in at least one embodiment of the present invention and may be included in more than one embodiment of the present invention. Importantly, such phrases do not necessarily refer to the same embodiment. If the specification states a component or feature “may”, “can”, “could”, or “might” be included or have a characteristic, that particular component or feature is not required to be included or have the characteristic. As used herein, the terms “having”, “have”, “including” and “include” are considered open language and are synonymous with the term “comprising”. Furthermore, as used herein, the term “essentially” is meant to stress that a characteristic of something is to be interpreted within acceptable tolerance margins known to those skilled in the art in keeping with typical normal world tolerance, which is analogous with “more or less.” For example, essentially flat, essentially straight, essentially on time, etc. all indicate that these characteristics are not capable of being perfect within the sense of their limits. Accordingly, if there is no specific +/− value assigned to “essentially”, then assume essentially means to be within +/−2.5% of exact. The term “connected to” as used herein is to be interpreted as a first element physically linked or attached to a second element and not as a “means for attaching” as in a “means plus function”. In fact, unless a term expressly uses “means for” followed by the gerund form of a verb, that term shall not be interpreted under 35 U.S.C. § 112(f). In what follows, similar or

identical structures may be identified using identical callouts.
(19) With respect to the drawings, it is noted that the figures are not necessarily drawn to scale and are diagrammatic in nature to illustrate features of interest. Descriptive terminology such as, for example, upper/lower, top/bottom, horizontal/vertical, left/right and the like, may be adopted with respect to the various views or conventions provided in the figures as generally understood by an onlooker for purposes of enhancing the reader's understanding and is in no way intended to be limiting. All embodiments described herein are submitted to be operational irrespective of any overall physical orientation unless specifically described otherwise, such as elements that rely on gravity to operate, for example.
(20) Disclosed is a laryngoscope arrangement that channels gas, such as oxygen, through a passageway and out through an exhaust port near or at a blade distal end of a laryngoscope blade of the laryngoscope to infuse a patient with the gas during an intubation procedure. The laryngoscope arrangement can either be a gas channeling laryngoscope or gas channeling sleeve that fits over a significant portion of a standard, non-gas carrying laryngoscope. In either case, the passageway is formed along a manufacturing seam of either the gas channeling laryngoscope or gas channeling sleeve. The passageway is configured to be connected to a gas source, such as a tank or compressor.
(21) FIGS. **2**A and **2**B are line drawings that illustratively depict various views of a tubular laryngoscope embodiment consistent with embodiments of the present invention. As shown in the present laryngoscope embodiment **100**, a rigid laryngoscope tube **150** extends from a handle-scope end **105** of a laryngoscope handle **102** at a laryngoscope-tube-to-handle-interface **158** and terminates to a distal tip **156**. The laryngoscope handle **102** is configured and arranged to be held or otherwise gripped by a human hand (not shown) that wraps around a handle back side **108** and a handle grip side **106**. The laryngoscope handle **102** and the laryngoscope tube **150** form a rigid structure adapted to manhandle opening a patient's airway **282**, as shown in FIG. **6**. An uninterrupted pathway **175** extends at least partially through the laryngoscope tube **150** from an inlet port **154** to an outlet port **152**. An oxygen source **122** provides a constant flow of oxygen **120**, or in some embodiments an oxygen mixture of up to 100% oxygen, that flows through the uninterrupted pathway **175** and out from the outlet port **152** in the distal tip **156**. Oxygen **120** is made to flow in the direction of the oxygen arrows **120** from the laryngoscope-tube-to-handle-interface **158** to the distal tip **156**. The laryngoscope tube **150** is defined by a tube outer surface **160**, a tube inner surface **162**, a tube leading edge **164** and a tube trailing edge **166**. Certain embodiments envision the leading edge **164** of the laryngoscope blade **150** being semi-rigid (i.e., being able to deflect a little to avoid harming the patient **280** during use of the laryngoscope **100**) while the trailing edge **166** is rigid to maneuver the laryngoscope down the patient's airway **282**.
(22) FIG. **2**B is a line drawing that depicts the back of the laryngoscope embodiment **100** showing the inlet port **154** that penetrates the handle back side **108**. Certain embodiments envision the inlet port **154** not actually penetrating the handle back side **108**, but either being the proximal end of the laryngoscope tube **150** of a portion of another element that connects to the handle **102**. In this embodiment, the oxygen source **122** dispenses oxygen **120** in laryngoscope tube **150** via the inlet port **154**, however, a different oxygen port leading into the laryngoscope tube **150** may be a better option because the inlet port **154** is also arranged and configured to accommodate threading a bougie guide through the pathway **175**. In the present embodiment, the angle α defined between the handle **102** and the laryngoscope tube **150** is 90 degrees but other embodiments envision the angle α being between 60 degrees and 120 degrees.
(23) FIG. **2**C is a line drawing depicting the laryngoscope embodiment **100** with an oxygen source inlet tube **146** extending through the handle **102** sideways. As shown, the oxygen source **122** is attached or otherwise hooked up to the oxygen source inlet tube **146** via an oxygen source tube (not shown) wherein oxygen **120** is provided to the laryngoscope tube **150** via an oxygen source inlet tube **148** at the free end of an oxygen source inlet tube **146**. As with the other embodiments,

oxygen **120** flows through the laryngoscope tube **150** and out the outlet port **152** at the distal tip **152**. This embodiment facilitates obstructed access to the inlet port **154** to thread a bougie guide (not shown) through the inlet port **154** and out the outlet port **154**. A bougie guide is a line that an operator uses to guide an ET tube (not shown) through when intubating a patient **280** of FIG. **6**

(24) FIG. **2**D is a side view line drawing of a laryngoscope embodiment **100**B consistent with embodiments of the present invention. As shown by the hidden lines, the tube proximal end **155** of the laryngoscope tube **150** resides only partially in the handle **102**, however the pathway **175** extends from the handle back side **108** to the distal tip **156**. The inlet port **154** is in communication with the outlet port **152** via the uninterrupted pathway **175**, which in this embodiment is a uniform, constant width along the tube inner surface **162**. A break-line **125** bisects the laryngoscope tube **150** to show shorted portions of the laryngoscope tube **150**.

(25) FIG. **2**E is a front view line drawing of the distal tip **156** of the laryngoscope tube **150** with a cross-section cutline A-A bisecting the laryngoscope tube **150** along the tube leading edge **164** and tube trailing edge **166**. In the present embodiment the laryngoscope tube **150** is circular with the tube inner surface **162** and tube outer surface **160** being circular, however, certain embodiments envision that the tube inner surface **162** and/or the tube outer surface **160** are not circular but some other shape, such as elliptical, box-shaped, oblong (as in a rectangle with rounded ends, such as a running track), or some other non-symmetric shape.

(26) FIG. **3**A is an embodiment of a laryngoscope tube **150**B shown along cross-section cutline A-A of FIG. **2**E consistent with embodiments of the present invention. The laryngoscope tube **150**B is shortened along break-line **125** to better show certain elements of interest. As shown here, the laryngoscope tube **150**B has an oxygen plenum **212** that extends within the laryngoscope tube sidewall **161** between the tube outer surface **160** and the tube inner surface **162**. The oxygen plenum **212** can be tubular pathway that is circular, oblong, elliptical, etc., that extends from an oxygen input, such as the oxygen source inlet tube of FIG. **1**C. The oxygen plenum **212** opens up, or otherwise exits into the pathway **175** via a ramped exit port **210** inside of the laryngoscope tube **150**B. In this embodiment, the flow of oxygen **120** is directed towards the distal tip **156** via the exit ramp **214** and is biased to flow out from the outlet port **152**, however some of the oxygen **120** will flow out from the inlet port **154**. In this way, excessive pressure from the oxygen **120** will not build up in a patent's lungs.

(27) FIG. **3**B is a line drawing depicting the ramped exit port **212** of FIG. **3**A. As shown, the ramped exit port **212** is viewed from inside of the pathway **175** looking down on the ramped exit port **212** (relative to FIG. **3**A). The oxygen plenum **212** is shown via hidden lines because it is inside of the laryngoscope side wall.

(28) FIG. **4** is another embodiment of a laryngoscope tube **150**C shown along cross-section cutline A-A consistent with embodiments of the present invention. As with FIG. **3**A, the laryngoscope tube **150**C is shortened along break-line **125** to better show certain elements of interest. As shown here, the laryngoscope tube **150**C has an internal oxygen tube **222** that runs along the tube inner surface **162** of at least part of the laryngoscope tube **150**C. Oxygen **120** exits the internal oxygen tube **222**, which terminates short of the distal tip **156**, via the internal oxygen tube exit port **224**. As illustratively depicted, oxygen **120** is directed from the internal oxygen tube exit port **224** towards the outlet port **152**, however some of the oxygen **120** escapes out of the inlet port **154**. Certain embodiments of the present invention contemplate the internal oxygen tube **222** extending all the way to the distal tip **156**, and potentially past the distal tip **156**, with internal oxygen tube exit port **224** directing oxygen **120** at or past the outlet port **152**. This embodiment envisions sufficient space between the internal oxygen tube **222** and the opposing tube inner surface **162** to provide an unobstructed conduit for a bougie to be inserted through the inlet port **154** and out the outlet port **152**.

(29) FIG. **5**A is yet another embodiment of a laryngoscope tube **150**D shown along cross-section cutline A-A consistent with embodiments of the present invention. As with FIG. **3**A, the

laryngoscope tube **150**D is shortened along break-line **125** to better show certain elements of interest. As shown here, the laryngoscope tube **150**D comprises a plurality of oxygen pathways **232** inside of the laryngoscope side wall **261**. The oxygen pathways **232** can be tubes or plenums that extend to (through) the distal tip **156**. Oxygen **120** from the oxygen source **122** is introduced to the oxygen pathways **232**, such as by way of an oxygen inlet tube **146**. Oxygen **120** exits the oxygen pathways **232** out from the distal tip **156** via oxygen pathway exit ports **234**. In this way, the pathway **175** in the laryngoscope tube **150**D is unobstructed for inserting a bougie.

(30) FIG. **5**B is a front view line drawing of the distal tip **156** of the laryngoscope tube **150**D. In the present embodiment the laryngoscope tube **150** is circular with the tube inner surface **162** and tube outer surface **160** being circular, however, certain embodiments envision that the tube inner surface **162** and/or the tube outer surface **160** not being circular but rather some other shape, such as elliptical, box-shaped, oblong (as in a rectangle with rounded ends, such as a running track), or some other non-symmetric shape, as discussed earlier. There is a plurality of oxygen pathway exit ports **234** distributed along the distal tip **156** in the laryngoscope side wall **261** between the tube outer surface **160** and the tube inner surface **162**. Certain embodiments contemplate a single oxygen pathway **232** and corresponding oxygen pathway exit port **234**.

(31) FIG. **5**C is a front view line drawing of the distal tip **156** of yet another embodiment of the laryngoscope tube **150**E consistent with embodiments of the present invention. There is a plurality of oxygen channels **242** that carry oxygen **210** from the oxygen source **122** to channel exit ports **244** that open at a portion of the distal tip **156**. The channels **242** are defined between the tube inner surface **162** and the tube outer surface **160** and are separated by channel separators **246**, which provide spacers that separate the tube inner surface **162** from the tube outer surface **160**. FIG. **5**C can be the distal tip **156** view of the embodiment shown in FIG. **5**A. Certain embodiments contemplate a single oxygen channel **242** and corresponding channel exit port **244**.

(32) FIG. **5**D is a front view line drawing of the distal tip **156** of yet another embodiment of the laryngoscope tube **150**E consistent with embodiments of the present invention. There is one inner oxygen channel **252** that extends from where the oxygen source **222** is introduced to the laryngoscope **100** to the corresponding exit port **254**. The inner oxygen channel **252** can be wider because the laryngoscope side wall **161** is thicker along the channel side **256**. The channel side **256** and channel **252** can be along the leading edge **164**, the trailing edge **164** or optionally 90 degrees from the leading edge **164** and trailing edge **166**, assuming the elliptical shape has its longest axis sideways instead of up and down.

(33) Certain embodiments envision channels or passageways in the laryngoscope side wall **161** being manufactured via extrusion techniques and the laryngoscope tube being a rigid clear or opaque polymer such as PVC or other suitable material known to those skilled in the art.

(34) FIG. **5**E illustratively depicts an optional embedded oxygen laryngoscope blade embodiment that is not tubular but rather a semicircle blade as shown by the view of the distal tip **265**. This is more of a shoehorn laryngoscope blade **260** instead of a tube **150**, wherein there is an open center channel **268** to guide an ET tube or to guide a bougie. There is at least one oxygen pathway **262** that runs along the upper blade lip **264** of the laryngoscope blade **260**. The oxygen source **122** can be hooked up to an inlet port (not shown) that is in communication with an exit port **266**. Like the other embodiments of the present invention, the laryngoscope blade **260** can be a rigid polymer or metal, for example and can be attached to the handle **102** in a manner like the laryngoscope tube **150**. Other embodiments contemplate a blade that comprises a flat bottom or is semi rectangular or other shapes that are found in conventional laryngoscope blades but with inventive aspects of an integrated oxygen channel.

(35) FIG. **6** illustratively depicts a patient **280** having their airway **282** opened with a laryngoscope embodiment **100**, that in the present embodiment has a slightly curved laryngoscope tube **150**F. The medical care provider deploys the laryngoscope embodiment **100** down the distressed patient's airway **282** while oxygen **120** from the oxygen source **122** flows to the patient's lungs. The medical

care provider then either feeds an ET tube or a bougie (not shown) through the laryngoscope tube **150**F. If a bougie is used, once deployed the laryngoscope **100** is withdrawn from the patient **280** and an ET tube is threaded over the bougie. Once the ET tube is in the patient, the bougie is removed and the ET tube is hooked up to a respirator (not shown).

(36) FIGS. **7**A-**7**F are line drawings of various views of another oxygen dispensing laryngoscope embodiment consistent with embodiments of the present invention. FIG. **7**A is an angled view of an oxygen dispensing laryngoscope **300** generally comprising a handle **316** that extends between a head **314** and a blade **320**. In this embodiment, the blade **320** is arced in a concave shape with the blade front facing portion **326**B facing the handle front facing portion **326**A. The handle **316** is meant to be grasped by a human hand, wherein the head **314** is sized and shaped for a user's thumb and forefinger to lock against the laryngoscope **300**. As shown here, the laryngoscope **300** comprises a seam **315** formed by a manufacturing process (a manufacturing seam which is a residual artifact of a molding manufacturing process) where a left side **324**A of the laryngoscope **300** is bonded to a right side **324**B of the laryngoscope **300**, as shown in FIGS. **7**E and **7**F. In this embodiment, a light and/or camera supporting access tube **312** extends away from the back side **311** of the head **314**, as shown. The camera/light connecting tube **312** is an access tube for a fiber optic, a camera, or optionally an electrical line that supplies power and communication to a light and/or camera **15**, which in this embodiment is disposed at a termination location **22** in a recess in the bottom **321** of the blade **320**. The fiber optic, camera, or electrical line can be threaded through the head **314**, handle **316** to the camera/light termination location **22**. The light illuminates the patient's trachea upon deployment of the laryngoscope **300** and a camera provides a view on a monitor of the patient's trachea upon deployment of the laryngoscope **300**. A gas carrying passageway **305** extends inside of the laryngoscope **300** is in fluid communication with a gas entry port **302** in a gas connecting tube **310** extends from the head **314** in the same direction as the light/camera connecting tube **312**. It should be appreciated that the gas connecting tube **310** can be located or otherwise extend elsewhere from the laryngoscope **300** without departing from the scope and spirit of the present invention. The gas carrying passageway **305** extends from the entry port **302** to an exhaust port **308** located at the blade **320**. In this embodiment, the exhaust port **308** extends through an exhaust port hood **306** located between the blade distal tip/end **318** and where the blade **320** meets the handle **316**.

(37) FIG. **7**B is essentially a side view of the laryngoscope **300** with a slight bias towards the back side **311** of the laryngoscope **300** to present the blade front facing portion **326**B. As shown, air **120** (such as oxygenated rich gas) is made to flow from the entry port **302** in the gas connecting tube **310**, through the gas carrying passageway **305** and out from the exhaust port **308** at the exhaust port hood **306**. The airflow **120** is expelled from the exhaust port **308** in the exhaust port hood **306** is directed over the blade distal end **318** down a patient's airway **282**.

(38) FIG. **7**C is a front view of the laryngoscope **300** looking down on the blade **320**. The light/camera connecting tube **312** and gas connecting tube **310** are shown extending from the head **314**. The gas carrying passageway **305**, depicted by dashed lines, extends from the entry port **302** to the exhaust port **308** in the exhaust port hood **306** between the distal end **318** and where the blade **320** connects to the handle **316**. The front seam **315**A is shown running along the head **314**, the handle front facing portion **326**A and the blade front facing portion **326**B. There is a cross-section cutline D-D slicing through the blade **320** proximally from the exhaust port **308**. There are also two cross-section cutlines B-B and C-C slicing through the handle **316**.

(39) FIG. **7**D illustratively depicts a front view of the laryngoscope **300** showing the cross-section D-D of the gas carrying passageway **305** in the blade **320**. The cutline D-D is right in front of the light and/or camera **15** showing the recess of the camera/light termination location **22** at the bottom left-hand side of the blade **321**. The front seam **315**A is depicted extending along the head **514**, along the handle **316** and blade front facing portion **326**B. The front seam **315**A is also along the centerline **317** of the laryngoscope **300**. The dashed lines represent the gas carrying passageway

305 extending through the laryngoscope **300** from the gas connecting tube **310** (just in front of the light/camera connecting tube **312**) to the cross-section D-D.

(40) FIGS. **7**E and **7**F illustratively depict a hollow handle embodiment between the cross-section cutlines B-B and C-C consistent with embodiments of the present invention. Another embodiment of the laryngoscope contemplates the handle **316**, head **314** and blade **320** being solid. As shown in FIG. **7**E, one manufacturing method contemplates a first mold (typically a polymer, such as a rigid PCV, for example) of the laryngoscope left side **324**A positioned to be connected to a laryngoscope right side **324**B, as shown by the arrows. In this embodiment, the gas carrying passageway **305** is formed by a first casing portion **330**A to the left and a second casing portion **330**B to the right. FIG. **7**F illustratively depicts the cross-section of the handle **316** between the cross-section cutlines B-B and C-C. As shown, the laryngoscope left side **324**A is connected to a laryngoscope right side **324**B with the casing **330** defining the gas carrying passageway **305**. The casing **330** essentially places the gas carrying passageway **305** along the handle inner surface **322**B along the handle front facing portion **326**A. The laryngoscope left side **324**A can be connected to the laryngoscope right side **324**B via methods known to those skilled in the art, such as a sonic weld process, heat staking process, glue, bolt, just to name several examples. Other embodiments envision the casing **330** residing along the handle outer surface **322**A or somewhere between the handle inner surface **322**B and the handle outer surface **322**A. The seam **315** where the laryngoscope left side **324**A and the laryngoscope right side **324**B connect is prominently shown by the line.

(41) FIG. **8** is a line drawing of an angled view of an optional oxygen dispensing laryngoscope consistent with embodiments of the present invention. The optional oxygen dispensing laryngoscope **350** generally comprises a handle **316** that extends between a head **314** and a blade **320** like that of FIG. **7**A except that the exhaust port **308** is at the blade distal end **318**. Specifically, the gas carrying passageway (**305**, which is not shown in this figure) extends from the entry port (**302**) in the gas connecting tube **310**, through the head **314** and handle **316** all the way to the distal end **318** of the blade **320**. For reference the light/camera connecting tube **312** by the head **314** and the light and/or camera **15** is shown in the blade **320**. Like the laryngoscope **300**, the gas carrying passageway (**305**) can be molded into or at the seam **315**.

(42) FIGS. **9**A-**9**D are line drawings of an oxygen dispensing laryngoscope sleeve used with a laryngoscope consistent with embodiments of the present invention. The present laryngoscope sleeve **400** is envisioned to be a disposable covering that protects a laryngoscope (such as the prior art laryngoscope **10** of FIG. **1**) from damage or contamination. The laryngoscope **10** is shaded to provide reference relative to the laryngoscope sleeve **400**. As such, certain embodiments contemplate the laryngoscope sleeve **400** being flexible or otherwise having a lower durometer than that of the laryngoscope **10**. The laryngoscope sleeve **400** can be made of flexible PVC, silicone, rubber, etc.

(43) FIG. **9**A is a side view of a laryngoscope sleeve **400**, which in this depiction is a clear laryngoscope sleeve **400** to provide a better visual of the transparent laryngoscope sleeve **400** conforming to the laryngoscope **10**. The laryngoscope sleeve **400** snuggly conforms to the laryngoscope handle **16** and blade **20**, as depicted by the clearance gap **404** between the laryngoscope outer surface **32** and the sleeve inner surface **401**. The laryngoscope **10** slides into the laryngoscope sleeve **400** via a laryngoscope receiving aperture **414**, which is sized and configured to receive the laryngoscope handle **16** and blade **20**. In this embodiment, a gas carrying passageway **405** traverses a portion of the laryngoscope receiving aperture **414** just under the head **14** and extends along the sleeve handle **416** to the sleeve blade **420** between the sleeve distal end **418** and the sleeve handle **416**. The gas carrying passageway **405** is configured to receive gas **120** in an entry port **402** in a gas connecting tube **410**, traverse along a sleeve handle front facing portion **426**A of the sleeve handle **416** to an exhaust port **408** in a blade front facing portion **426**B. The gas **120** is dispensed from the exhaust port **408** where it is directed over the sleeve distal end **418** to the airway **282** of a patient **280**. The gas connecting tube **410** extends from at or approximately at the

laryngoscope receiving aperture **414**. Some embodiments envision the gas connecting tube **410** extending from the laryngoscope sleeve **400** within a half of an inch from the laryngoscope receiving aperture **414** while other embodiments allow for the gas connecting tube **410** to extend from the laryngoscope sleeve **400** in a location other than near or at the laryngoscope receiving aperture **414**. The laryngoscope sleeve **400** is arced in a concave shape like the laryngoscope **10** with a blade front facing portion **426**B being in view of a handle front facing portion **426**A. The laryngoscope sleeve **400** is sectioned by cross-section cutlines D-D, E-E and F-F.

(44) FIG. **9**B illustratively depicts a front view of the laryngoscope sleeve **400** covering laryngoscope **20** showing the cross-section F-F of the blade **20** and the sleeve blade **420**. The gas carrying passageway **405** traverses a portion of the aperture lip **412** of the laryngoscope receiving aperture **414** to the left side of the centerline **417**. The centerline **417** coincides with the seam **415** and the front seam **415**A. The cutline F-F is right in front of both the exhaust port **408** and the light and/or camera **15** showing the recess of the camera/light termination location **22**. The front seam **415**A is depicted extending along the aperture lip **412**, the sleeve handle **316** and part of the blade sleeve front facing portion **426**B.

(45) FIGS. **9**C and **9**D illustratively depict the laryngoscope sleeve **400** at the sleeve handle **416** between the cross-section cutlines D-D and E-E consistent with embodiments of the present invention. As shown in FIG. **9**C, one manufacturing method contemplates a first mold (typically a transparent or opaque flexible polymer, such as PCV, for example) of the laryngoscope sleeve left side **424**A positioned to be connected to a laryngoscope sleeve right side **424**B, as shown by the arrows. In this embodiment, the gas carrying passageway **405** is formed by a first casing portion **430**A on the right side and a second casing portion **430**B on the left side. FIG. **9**D illustratively depicts the cross-section of the handle **16** between the cross-section cutlines D-D and E-E. As shown, the laryngoscope sleeve left side **424**A is connected to a laryngoscope sleeve right side **424**B with the casing **430** defining the gas carrying passageway **405**. The laryngoscope sleeve left side **424**A can be connected to a laryngoscope sleeve right side **424**B via methods known to those skilled in the art, such as a sonic weld process, heat staking process, glue, bolt, for example. The casing **430** essentially places the gas carrying passageway **405** extending outwardly **434** along the sleeve handle outer surface **432** and the sleeve handle front facing portion **426**A. Other embodiments envision the casing **430** residing along the sleeve handle inner surface **401** or somewhere between the handle inner surface **401** and the sleeve handle outer surface **432**. The seam **415** is where the laryngoscope sleeve left side **424**A and the laryngoscope sleeve right side **424**B connect, which is prominently shown by the centerline.

(46) With the present description in mind, below are some examples of certain embodiments illustratively complementing some of the methods and apparatus embodiments discussed above and presented in the figures to aid the reader. The elements called out below are provided by example to assist in the understanding of the present invention and should not be considered limiting. The reader will appreciate that the below elements and configurations can be interchangeable within the scope and spirit of the present invention.

(47) In that light, one inventive aspect of the present invention contemplates a method for oxygenating a patient during intubation, see FIGS. **2**A-**6**. The method comprising providing a tubular laryngoscope comprising a semirigid laryngoscope tube **154** defined between an inlet port **154** and outlet port **152**. A handle **102** is connected to the laryngoscope tube **150** at a proximal tube region **158** of the laryngoscope tube **150**, the proximal tube region **158** includes the inlet port **155**, wherein the inlet port **155** is in communication with an outside environment **140**. The method further envisions a step for directing oxygen rich gas **120** from an oxygen source **122** in a flow direction that is through the laryngoscope tube **150** towards the outlet port **152**. A first portion of the oxygen rich gas **132** flows in the flow direction through the outlet port **152** while the laryngoscope tube **150** is in a patient airway **282**, and a second portion of the oxygen rich gas **120** flows counter to the flow direction through the inlet port **154** and into the outside environment **140**.

(48) Another embodiment of the present invention envisions a laryngoscope embodiment **300** comprising a laryngoscope that provides a pathway for gas, such as enriched oxygen **120**, to be expelled from a laryngoscope blade **320** to oxygenate a patient **280** when being intubated. The laryngoscope embodiment **300**, as shown in FIGS. **7**A-**7**F, can comprise a handle **316** that extends between a head **314** and a blade **320**, wherein the laryngoscope **300** has a seam **315** where a laryngoscope left side **324**A is bonded to a laryngoscope right side **324**B. The laryngoscope **300** further comprises a gas carrying passageway **305** extending inside of the laryngoscope **300**. A front seam **315**A of the seam **315** comprises a casing **330** that defines the gas carrying passageway **305**, wherein prior to assembly of the laryngoscope **300**, the laryngoscope left side **324**A comprises a first portion **330**A of the casing **330** and the laryngoscope right side **324**B comprises a second portion **330**B of the casing **330**, which when bonded forms the seam **315**. The gas carrying passageway **305** extends from an entry port **302** located at the head **314** to an exhaust port **308** located at the blade **320**.
(49) The laryngoscope embodiment **300** further envisions the gas carrying passageway **305** being within ¼ inch from an outer surface **332** of the handle **316**.
(50) The laryngoscope embodiment **300** further contemplates the laryngoscope left side **324**A being bonded to the laryngoscope right side **324**B via either a sonic weld or heat stake process.
(51) The laryngoscope embodiment **300** further imagines the handle **316** is solid.
(52) The laryngoscope embodiment **300** further considers the exhaust port **308** located on a distal end **318** of the blade **320**.
(53) The laryngoscope embodiment **300** further envisions the exhaust port **308** being located on a blade front facing portion **326**B of the blade **320** between a blade distal end **318** and the handle **316**, wherein the blade front facing portion **326**B is in view of a handle front facing portion **326**A of the handle **316**.
(54) The laryngoscope embodiment **300** further imagines comprising an exhaust port hood **306** that partially covers the exhaust port **308**. This embodiment further considers the blade front facing portion **326**B to be at least partially concave. This embodiment optionally considers the handle **316** to be hollow and wherein the gas carrying passageway **305** being located along the seam **315** at the handle front facing portion **326**A.
(55) The laryngoscope embodiment **300** further envisions the entry port **302** being at a free end of a connecting tube **310** extending from the head **314**.
(56) Another embodiment of the present invention envisions a gas dispensing laryngoscope **300** comprising a handle **316** extending between a head **314** and a blade **320** with a gas carrying passageway **305** for dispensing oxygen (or some other gas) during an intubation procedure, as shown in FIGS. **7**A-**7**F. The gas dispensing laryngoscope **300** defines a left side **324**A and a right side **324**B that are bonded together at a seam **315**. The gas dispensing laryngoscope **300** defines a blade front facing portion **326**B of the blade **320** and a handle front facing portion **326**A of the handle **316**, wherein the blade front facing portion **326**B is in view of the handle front facing portion **326**A. The gas carrying passageway **305** extends inside of the gas dispensing laryngoscope **300** along the seam **315** at the handle front facing portion **326**A and the blade front facing portion **326**B. The gas carrying passageway **305** extends from an entry port **302** located at the head **314** to an exhaust port **308** located at the blade **320**.
(57) The gas dispensing laryngoscope **300** further envisions the handle **316** being solid.
(58) The gas dispensing laryngoscope **300** further imagines the left side **324**A of the laryngoscope **300** being bonded to a right side**324**B of the laryngoscope **300** via either a sonic weld or heat stake process.
(59) The gas dispensing laryngoscope **300** further contemplates the exhaust port **308** being located on the blade front facing portion **326**B between a blade distal end **318** and the handle **316**. The gas dispensing laryngoscope **300** could further comprise an exhaust port hood **306** that partially covers the exhaust port **308**.

(60) The gas dispensing laryngoscope **300** further envisions the exhaust port **308** being located on a distal end **318** of the blade **320**.
(61) The gas dispensing laryngoscope **300** is further contemplated to have the gas carrying passageway **305** being located along the seam **315** where the seam **315** extends along the blade front facing portion **326**B and the handle front facing portion **326**A.
(62) Still another embodiment of the present invention envisions a laryngoscope **300** that channels gas during an intubation, which provides an example shown in FIGS. **7**A-**7**F. The laryngoscope **300** can comprise a handle **316** extending between a head **314** and a blade **320**, wherein the blade **320** has a blade front facing portion **326**B and the handle **316** has a handle front facing portion **326**A. The blade front facing portion **326**B is in view of the handle front facing portion **326**A. The laryngoscope **300** defines a left side **324**A and a right side **324**B that at least in part meet along a centerline **317** at the handle front facing portion **326**A and the blade front facing portion **326**B. The laryngoscope **300** further comprises a gas carrying passageway **305** that extends inside of the gas dispensing laryngoscope **300** along the centerline **317** at the handle front facing portion **326**A and the blade front facing portion **326**B. The gas carrying passageway **305** extends from an entry port **302**, that is located at the head **314**, to an exhaust port **308**, that is located at the blade **320**.
(63) An embodiment of the laryngoscope **300** further envisions the centerline **317** being a molded seam **315** established by either a sonic weld process or heat stake process.
(64) This laryngoscope embodiment **300** further imagines that the handle **316** is hollow and the gas carrying passageway **305** is located at the seam **315** that extends along the handle front facing portion **326**A.
(65) Another embodiment of the present invention contemplates a laryngoscope sleeve **400** configured to cover a substantial portion of a laryngoscope **10**, wherein the laryngoscope sleeve **400** is configured to dispense gas **120**, such as enriched oxygen, to a patient **280** in need of air as exemplified in FIGS. **9**A-**9**D. The laryngoscope sleeve **400** can comprise a sleeve handle **416** that extends between a laryngoscope receiving aperture **414** and a sleeve blade **420**, wherein laryngoscope sleeve **400** comprises a sleeve seam **415** where a left side **424**A of the laryngoscope sleeve **400** is bonded to a right side **424**B of the laryngoscope sleeve **400**. A front seam **415**A is located along a blade front facing portion **426**B of the sleeve blade **420** and a handle front facing portion **426**A of the sleeve handle **416**, wherein the blade front facing portion **426**B is in view of the handle front facing portion **426**A. The front seam **415**A comprises a casing **430** that defines a gas carrying passageway **405**, wherein the left side **424**A comprises a first passageway portion **405**A of the left casing portion **430**A and the right side **424**B comprises a second passageway portion **405**B of the right casing portion **430**B. The gas carrying passageway **405** extends from an entry port **402** located at the laryngoscope receiving aperture **414** to an exhaust port **408** located at the sleeve blade **420**.
(66) An embodiment of the laryngoscope sleeve **400** further envisions the left side **424**A of the laryngoscope sleeve **400** being bonded to a right side **424**B of the laryngoscope sleeve **400**.
(67) The laryngoscope sleeve embodiment **400** further imagines the left side **424**A of the laryngoscope sleeve **400** being bonded to a right side **424**B of the laryngoscope sleeve **400** via either a sonic weld or heat stake process.
(68) An embodiment of the laryngoscope sleeve **400** further envisions the laryngoscope sleeve **400** substantially conforming to the shape of a laryngoscope **10** with a clearance gap **404** between a laryngoscope outer surface **32** of the laryngoscope **10** and the inner surface **401** of the laryngoscope sleeve **400**.
(69) The laryngoscope sleeve embodiment **400** further contemplates the exhaust port **408** being located on a distal end **418** of the sleeve blade **420**.
(70) An embodiment of the laryngoscope sleeve **400** further imagines the exhaust port **408** being located on a blade front facing portion **426**B of the sleeve blade **420** between a blade distal end **418** and the sleeve handle **416**, wherein the blade front facing portion **426**B is in view of a handle front

facing portion **426**A of the sleeve handle **416**.
(71) The laryngoscope sleeve embodiment **400** further considers the casing **430** extending outwardly **434** from a primary sleeve handle shape **428** of the sleeve handle **416**.
(72) An embodiment of the laryngoscope sleeve **400** further envisions the laryngoscope receiving aperture **414** being adapted to receive a laryngoscope **10**.
(73) The laryngoscope sleeve embodiment **400** further imagines comprising a gas connecting tube **410** that extends from the laryngoscope sleeve **400**, wherein the sleeve connecting tube **410** comprises the entry port **402** at a free end of the sleeve connecting tube **410**, which is in communication with the gas carrying passageway **405**. Additionally, the gas connecting tube **410** can be located essentially at the laryngoscope receiving aperture **414**.
(74) Still another embodiment of the present invention envisions a gas dispensing laryngoscope sleeve **400**, as exemplified in FIGS. **9**A-**9**D, comprising a sleeve handle **416** extending between a laryngoscope receiving aperture **414** and a sleeve blade **420** that facilitates dispensing gas **120**, such an oxygen, to a patient **280** in breathing distress. The gas dispensing laryngoscope sleeve **400** defines a left side **424**A and a right side **424**B bonded together at seam **415**. The gas dispensing laryngoscope sleeve **400** further defines a blade front facing portion **426**B of the sleeve blade **420** and a handle front facing portion **426**A of the sleeve handle **416**, wherein the blade front facing portion **426**B is in view of the handle front facing portion **426**A. A gas carrying passageway **405** extends outside of the gas dispensing laryngoscope sleeve **400** along the seam **415** at the handle front facing portion **426**A and the blade front facing portion **426**B from an entry port **402** to an exhaust port **408** located at the sleeve blade **420**. The entry port **402** is located at a free end of a gas connecting tube **410** approximately at the laryngoscope receiving aperture **414**.
(75) An embodiment of the gas dispensing laryngoscope sleeve **400** further envisions the gas carrying passageway **405** being defined within a casing **430** that extends along a front seam **415**A of the seam **415**, wherein the left side **424**A comprises a first passageway portion **405**A of the left casing portion **430**A and the right side **424**B comprises a second passageway portion **405**B of the right casing portion **430**B. Furthermore, the left side **424**A of the laryngoscope sleeve **400** could be bonded to a right side **424**B of the laryngoscope sleeve **400** via either a sonic weld or heat stake process. In an optional embodiment, the casing **430** can extend outwardly **434** from a primary sleeve handle shape **428** of the sleeve handle **416**.
(76) Another embodiment of the gas dispensing laryngoscope sleeve **400** further imagines the exhaust port **408** being located on the blade front facing portion **426**B between a sleeve blade distal end **418** of the sleeve blade **420** and the sleeve handle **416**.
(77) The gas dispensing laryngoscope sleeve embodiment **400** further contemplates the laryngoscope receiving aperture **414** being adapted to receive a laryngoscope **10**.
(78) Another embodiment of a laryngoscope sleeve **400** that channels gas **120**, such as enriched oxygen, to a patient **280** in need of air as exemplified in FIGS. **9**A-**9**D, envisions a sleeve handle **416** extending between a laryngoscope receiving aperture **414** and a sleeve blade **420** with a gas emitting port **308**. The laryngoscope sleeve **400** defines a blade front facing portion **426**B of the sleeve blade **420** and a handle front facing portion **426**A of the sleeve handle **416**, wherein the blade front facing portion **426**B is in view of the handle front facing portion **426**A. The laryngoscope sleeve **400** defines a left side **424**A and a right side **424**B that at least in part meet along a centerline **417** at the handle front facing portion **426**A and the blade front facing portion **426**B. A gas carrying passageway **405** extends along the centerline **417** at the handle front facing portion **426**A and the blade front facing portion **426**B from an entry port **402**, located at a distal end of a gas connecting tube **410**, to an exhaust port **408** located at the sleeve blade **420**.
(79) The laryngoscope sleeve **400** further imagines the centerline **417** being a molded seam **415** established or otherwise formed by either a sonic weld process or heat stake process.
(80) The laryngoscope sleeve **400** further contemplates the gas carrying passageway **405** being defined within a casing **430** that extends along a front seam **415**A of the seam **415**, wherein the left

side **424**A comprises a first portion **405**A of the left casing portion **430**A, which could be a first half of the laryngoscope sleeve **400** and the right side **424**B comprises a second portion **405**B of the right casing portion **430**B.
(81) The laryngoscope sleeve **400** further considers the laryngoscope receiving aperture **414** being adapted to receive a laryngoscope **10**.
(82) It is to be understood that even though numerous characteristics and advantages of various embodiments of the present invention have been set forth in the foregoing description, together with the details of the structure and function of various embodiments of the invention, this disclosure is illustrative only, and changes may be made in detail, especially in matters of structure and arrangement of parts within the principles of the present invention to the full extent indicated by the broad general meaning of the terms used herein. For example, though embodiments of the present invention describe a laryngoscope tube **150** and a laryngoscope blade **260** other similar devices can be used with oxygen sources to provide a flow of oxygen into a patient's lungs while being or during the process of being intubated. It should also be appreciated that the appropriate components not discussed in detail in the present disclosure must be implemented in accordance known to those skilled in the art. The specification and drawings are to be regarded as illustrative and exemplary rather than restrictive. For example, the word “preferably,” and the phrase “preferably but not necessarily,” are used synonymously herein to consistently include the meaning of “not necessarily” or optionally. “Comprising,” “including,” and “having,” are intended to be open-ended terms.
(83) It will be clear that the claimed invention is well adapted to attain the ends and advantages mentioned as well as those inherent therein. While presently preferred embodiments have been described for purposes of this disclosure, numerous changes may be made which readily suggest themselves to those skilled in the art and which are encompassed in the spirit of the claimed invention disclosed. Accordingly, it is to be understood that even though numerous characteristics and advantages of various aspects have been set forth in the foregoing description, together with details of the structure and function, this disclosure is illustrative only, and changes may be made in detail, especially in matters of structure and arrangement to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

Claims

1. A laryngoscope comprising: a handle that extends between a head and a blade, wherein the laryngoscope comprises a seam where a left side of the laryngoscope is bonded to a right side of the laryngoscope; a gas carrying passageway extending inside of the laryngoscope, a front seam of the seam comprising a casing that defines the gas carrying passageway, wherein the left side comprises a first portion of the casing and the right side comprises a second portion of the casing; and the gas carrying passageway extending from an entry port located at the head to an exhaust port located at the blade.
2. The laryngoscope of claim 1, wherein the gas carrying passageway is within ¼ inch from an outer surface of the handle.
3. The laryngoscope of claim 1, wherein the left side is bonded to the right side via either a sonic weld or heat stake process.
4. The laryngoscope of claim 1, wherein the handle is solid.
5. The laryngoscope of claim 1, wherein the exhaust port is located on a distal end of the blade.
6. The laryngoscope of claim 1, wherein the exhaust port is located on a blade front facing portion of the blade between a blade distal end and the handle, the blade front facing portion is in view of a handle front facing portion of the handle.
7. The laryngoscope of claim 6, wherein the blade front facing portion is at least partially concave.
8. The laryngoscope of claim 6, wherein the handle is hollow and wherein the gas carrying

passageway is located along the seam at the handle front facing portion.
9. The laryngoscope of claim 1 further comprising an exhaust port hood that partially covers the exhaust port.
10. The laryngoscope of claim 1, wherein the entry port is at a free end of a connecting tube extending from the head.
11. A gas dispensing laryngoscope comprising: a handle extending between a head and a blade, the gas dispensing laryngoscope defining a left side and a right side bonded together at a seam; the gas dispensing laryngoscope defining a blade front facing portion of the blade and a handle front facing portion of the handle, wherein the blade front facing portion is in view of the handle front facing portion; a gas carrying passageway extending inside of the gas dispensing laryngoscope along the seam at the handle front facing portion and the blade front facing portion; and the gas carrying passageway extending from an entry port located at the head to an exhaust port located at the blade, wherein the exhaust port is located on the blade front facing portion between a blade distal end and the handle.
12. The gas dispensing laryngoscope of claim 11, wherein the handle is solid.
13. The gas dispensing laryngoscope of claim 11, wherein the left side of the laryngoscope is bonded to the right side of the laryngoscope via either a sonic weld or heat stake process.
14. The gas dispensing laryngoscope of claim 11 further comprising an exhaust port hood that partially covers the exhaust port.
15. The gas dispensing laryngoscope of claim 11, wherein the exhaust port is located on a distal end of the blade.
16. The gas dispensing laryngoscope of claim 11, wherein the handle is hollow.
17. A laryngoscope that channels gas, the laryngoscope comprising: a handle extending between a head and a blade, the laryngoscope defining a blade front facing portion of the blade and a handle front facing portion of the handle, wherein the blade front facing portion is in view of the handle front facing portion; the laryngoscope defining a left side and a right side that at least in part meet along a rear seam that is obverse to a front seam defined at the handle front facing portion and the blade front facing portion; a gas carrying passageway extending inside of the gas channeling laryngoscope along the front seam but not in contact with the rear seam of the handle; and the gas carrying passageway extending from an entry port located at the head to an exhaust port located at the blade.
18. The laryngoscope of claim 17, wherein the rear seam and the front seam are mold seams established by either a sonic weld process or heat stake process.
19. The laryngoscope of claim 18, wherein the handle is hollow.