# United States Patent [19]

**Fiore**

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[45] **June 17, 1975**


[54] **SPECULUM INSTRUMENT AND ISOLATED LIGHT MEANS THEREFOR**


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[73] Assignee: **Bio-Analytical Labs, Inc.**, Troy, N.Y.



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[21] Appl. No.: **421,078**

**Related U.S. Application Data**

[62] Division of Ser. No. 249,110, May 1, 1972, abandoned, which is a division of Ser. No. 878,655, Nov. 21, 1969, Pat. No. 3,675,641.

[52] **U.S. Cl.** ..... **128/6;** 240/6.4 R

[51] **Int. Cl.** ..... **A61b 1/06**

[58] **Field of Search** ..... 128/6, 7, 8, 9, 10, 11; 240/2 E, 2 M, 2.18, 6.4 R, 6.46



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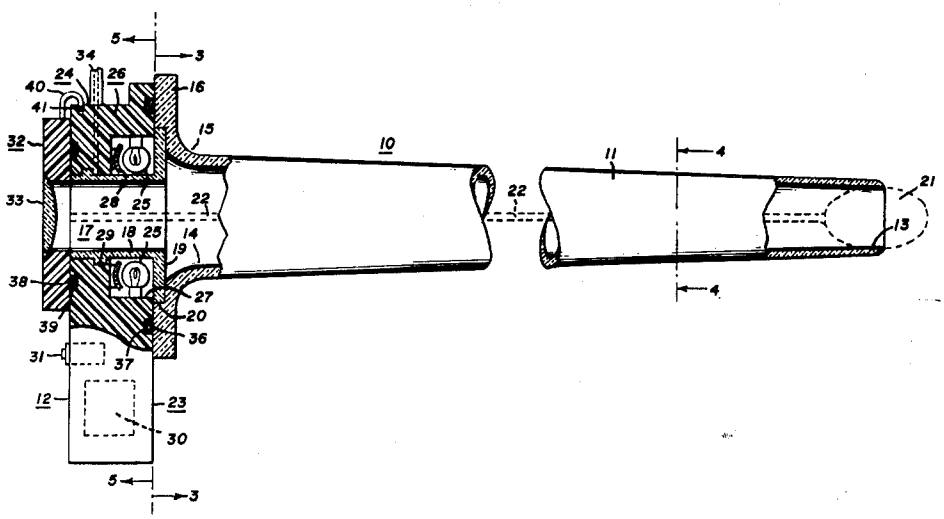
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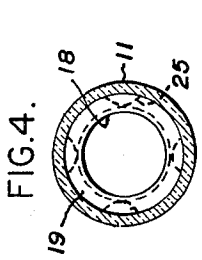


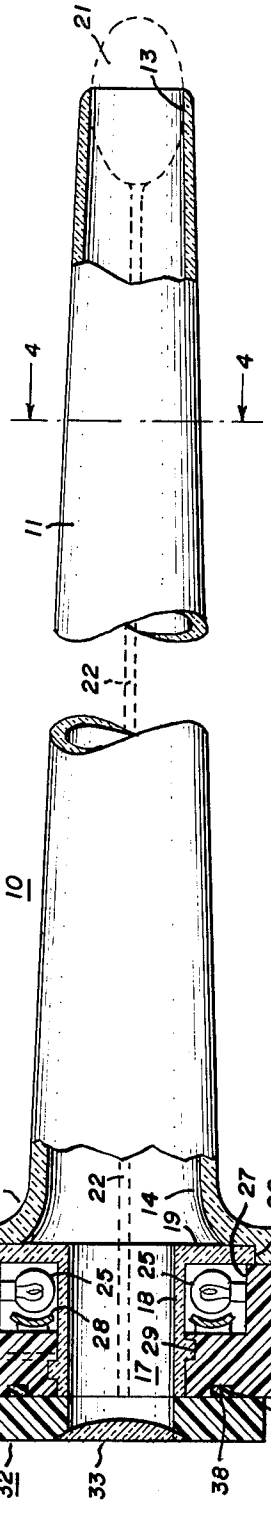
[57] **ABSTRACT**

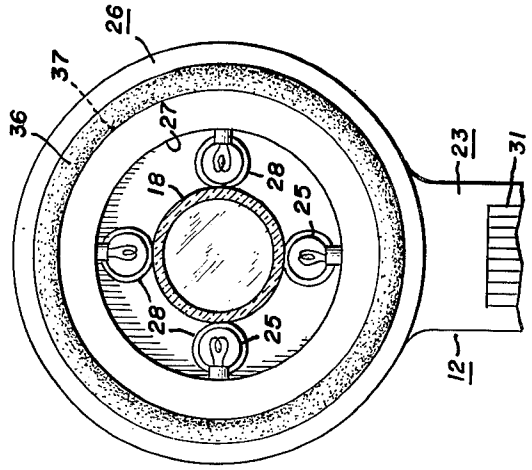
A speculum instrument with improved lighting means therefore is disclosed wherein the speculum barrel, which may be a single use disposable material, tapers to become increasingly larger at its proximal end. A smaller cylindrical sleeve member having a light transmitting flange or wall at one end, has the flange affixed into the larger proximal end of the barrel with the sleeve extending therefrom, to define an annular contamination isolated area with the flange directed towards the distal end of the barrel. A handle member containing a light source releasably engages the speculum barrel and provides lamp means in the isolated area to direct light through the barrel. An obturator in the barrel may be withdrawn through the sleeve.

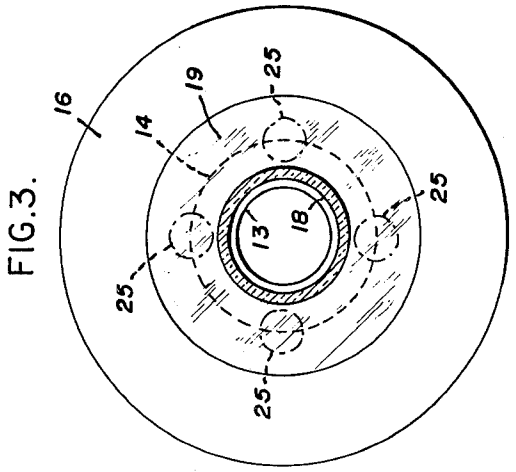

**6 Claims, 7 Drawing Figures**




FIG.4.
18
11
25
19


FIG.1.
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11
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FIG.5.
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FIG.3.
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25

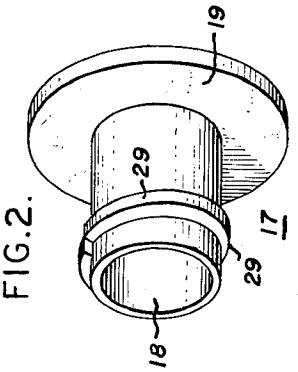

FIG.2.
19
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29
18

FIG. 7.

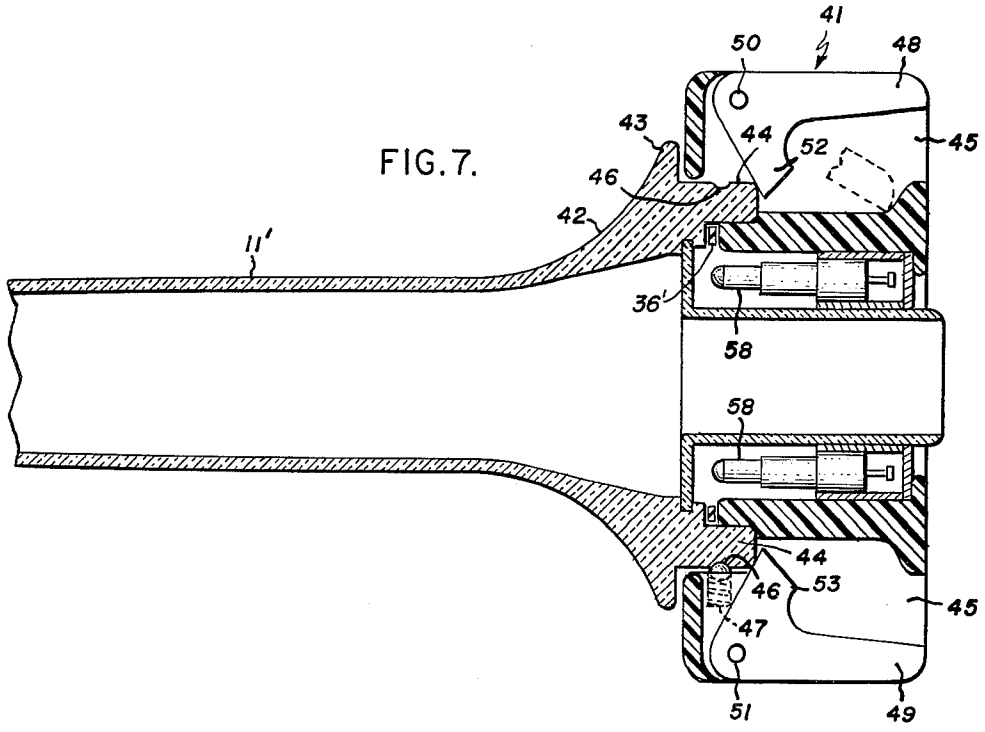
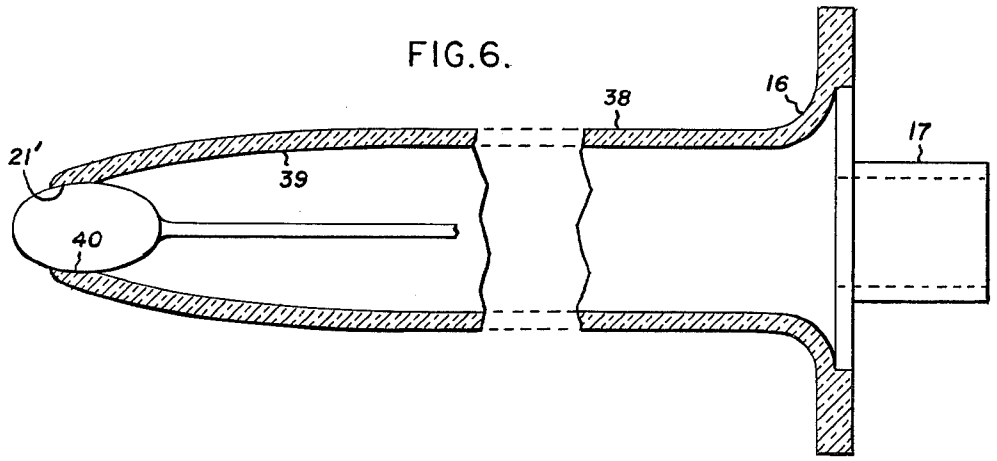

41
50
48
43
44
52
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11'
36'
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47
51
49

FIG. 6.


38
16
17
21'
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40

# SPECULUM INSTRUMENT AND ISOLATED LIGHT MEANS THEREFOR

This is a division of application Ser. No. 249,110 - Fiore, filed May 1, 1972, now abandoned, which was a division of application Ser. No. 878,655 - Fiore, filed Nov. 21, 1969, and assigned to the same assignee as the present invention, and now U.S. Pat. No. 3,675,641.

## BACKGROUND OF INVENTION

1. Field of Invention

This invention relates to speculum instruments generally, and more particularly to proctoscopic speculums having enclosed, contamination isolated light directing means at the proximal end of the barrel through which an obturator may be withdrawn.

2. Description of Prior Art

Speculum instruments may be defined broadly as instruments adaptable for insertion into a body opening, human or animal, in order to medically observe or treat an inner portion. In particularly rectal speculums, defined generally as proctoscopic speculums, including anoscopes and sigmoidoscopes, have become increasingly important in routine and preventative medical examinations as well as for medical treatment. More specifically, there is increased use of sigmoidoscopes for examination and treatment of the upper reaches of the colon, and disposable sigmoidoscopes for this purpose are very desirable. However, a notable limitation of these proctoscopic devices such as sigmoidoscopes relates to the lack of optimum lighting means employed therewith.

In the use of medical speculum devices generally a light source is desirable to increase the accuracy of more precise types of diagnostic examinations, and also to facilitate various treatment processes carried on through the device. Ordinarily such a light source may be one which is generally external to the instrument, or one which is attached thereto at the proximal end, and arranged in either instance, to have light directed into or through the speculum. These and other similar arrangements suffice for short-length speculum devices where relatively low lighting power of the light source is sufficient. However, in the longer speculum instruments such as a sigmoidoscope, where the effective length may be on the order of 25 centimeters or more, and where the instrument is of necessity an enclosing cylinder, more lighting power is necessary because of distance involved and the nature of the parts to be examined. Because of this notable requirement, it is ususal design practice in sigmoidosopes to have the light source placed inside the instrument and adjacent the distal end thereof. In this position, however, the light source is subject to contamination from contact with the patient directly or indirectly so that without means for maintaining the light source in a sterile or sanitary condition, impending reuse for other patients without intervening cleansing is prohibited. Therefore, the highly desirable disposability concept of the sigmoidoscope is limited by its being combined and employed with a lighting means which is not disposable or immediately reusable.

Another problem associated with the above described and other lighting means incorporated with the speculum, relates to the requirement of ease of assembly and detachability of the lighting means to the speculum so that the speculum may be of a single use disposable type and the lighting means readily and easily



detached therefrom without requisite skill. A further problem with proctoscopic devices employing an obturator relates to some provision for removing the obturator while the lighting means is in position, without changing the circumferential configuration of the sigmoidoscope or obturator, to minimize assembly steps prior to use. Reference is made to U.S. Pat. No. 3,373,736 - Fiore et al and British Pat. Nos. 1,034,222; 1,047,140; 1,048,600 and 1,081,849 for further description of a disposable sigmoidoscope and lighting means therefore.

## OBJECTS OF THE INVENTION

Accordingly, it is an object of this invention to provide an improved speculum instrument and lighting means therefore.

It is another object of this invention to provide an improved single use disposable proctoscopic instrument with separate isolated lighting means therefore.

It is a further object of this invention to provide an improved single use disposable proctoscopic instrument with separate isolated lighting means incorporated at the proximal end thereof.

It is a still further object of this invention to provide an improved single use disposable sigmoidoscope having a separable lighting means incorporated in the proximal end thereof in enclosed, protected, and comtamination isolation relationship thereto.

It is yet another object of this invention to provide an improved single use disposable sigmoidoscopic instrument with separate protective lighting means in the proximal end thereof through which an obturator may be withdrawn.

It is another object of this invention to provide a single use disposable sigmoidoscope where the barrel tapers from proximal to distal end to provide a walled area behind which lighting means are isolated, and through which the obturator may be withdrawn.

It is another object of this invention to provide an improved single use disposable sigmoidoscopic barrel which tapers to provide a larger proximal end in which a separate annular walled insert defines a protected lighting means area directly viewable from the distal end, and through which an obturator may be withdrawn.

## BRIEF DESCRIPTION

This invention in one of its preferred forms includes a single use disposable sigmoidoscopic barrel having a tapered, bore to provide an enlarged proximal end. A smaller sleeve member having a clear plastic flange is concentrically attached to the enlarged end of the barrel with the flange providing an annular window radially within the enlarged end of the barrel and the sleeve projecting axially therefrom. A handle lighting unit is fitted coaxially over the sleeve so that light from a lamp therein is directed through the annular window and down the barrel. The sleeve aperture is slightly larger than the opening of the distal end of the barrel so that an obturator may be withdrawn through the sleeve, and the sleeve protects the lighting means from contamination.

## BRIEF DESCRIPTION OF THE DRAWINGS

This invention will be better understood when taken in connection with the following description and drawings in which

FIG. 1 is a side elevational view of one preferred embodiment of this invention.

FIG. 2 is an illustration of a separate sleeve means for this invention.

FIG. 3 is a cross-section and axial view from the proximal end of the embodiment of FIG. 1 along line 3—3.

FIG. 4 is a cross-section and axial view from the distal end of the embodiment of FIG. 1 aling line 4—4.

FIG. 5 is an illustration of a detachable handle and light assembly for FIG. 1 along line 5—5.

FIG. 6 is a side elevational view of a modified barrel member of FIG. 1.

FIG. 7 is a side elevational view of a modified proximal end arrangement of the FIG. 1 embodiment.

## DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to FIG. 1 the speculum instrument **10** is preferably a proctoscopic instrument, which in an exemplary embodiment, is a sigmoidoscope. Instrument **10** is best described as incorporating two separable structures, e.g. a barrel member **11** which is preferably a single use disposable item, and a handle lighting unit **12** which is usually of a permanent or semi-permanent nature.

Barrel member **11** may be expeditiously manufactured from a material which is readily and economically single use disposable. The material must be one which is ordinarily sterilizable and which retains sufficient rigidity without brittleness. In one preferred form of this invention the material for barrel **11** may be a moldable and extrudable synthetic resin such as linear polyethylene and polypropylene as noted in the aforementioned U.S. Pat. and the applications referred to therein.

It is a salient and foremost feature of this invention that barrel **11** includes a tapering or gradual enlargement preferably from the distal end **13** to the proximal end **14** thereof. A tapered barrel is one that is generally frusto conical or flared over its effective length, i.e., the length of barrel **11** which is inserted in a body opening. This tapering or flaring provides an opening or diameter of the enlarged proximal end **14** which is significantly larger than the distal end **13** opening. It is preferred that the taper retain the circular cross-section of barrel **11,** and that the taper commence at or very close to the distal end **13** of barrel **11.** The defined taper may be linear, as frusto conical, or it may be curvilinear, such as being flared or bell mouthed, i.e. inwardly bowing, or slightly convex or domed, i.e. outwardly bowing. Under some conditions the tapering may commence at a point between the proximal and distal ends of barrel **11.** The proximal end of barrel **11** may include a more abruptly flaring or radial part **15,** which may also extend sharply radially to define an end shield or hand guard **16.**

In order to define an isolated and protected light position or chamber, an end sleeve member **17** is positioned adjacent flare part **16** of barrel **11** and suitably attached thereto. Ordinarily, sleeve member **17** is considered a part of barrel member **11.** As illustrated in FIG. **2,** the sleeve member **17,** in one preferred embodiment includes a generally cylindrical section **18** and a flange or wall section **19.** In one form of this invention, flange section **19** is press fitted into a locking shoulder **20** on flaring part **16** of barrel **11.** A number of other suitable joining means may be gainfully employed to secure flange **19** to flare part **16.** For example, direct locking means may take the form of mating screw threads on each part, a snap fit, or a suitable interlock. Indirect means may take the form of cementing of the parts or a press fit of the parts. Alternatively sleeve **17** may be molded as an integral part of barrel **11,** or may in fact be a separate device attached to handle unit **12.**

Because of the defined taper of barrel **11,** the flange or wall **19** defines an inwardly projecting annular window wall, which in combination with cylindrical section **18** defines an area remote from or isolated from the main channel through barrel **11.** Flange wall **19** projecting inwardly, as it does, has an unobstructed view of the distal end opening **13** of barrel **11,** and for this reason flange **19** is made of a transparent material such as a clear synthetic resin, or has suitable clear sections or lenses therein. Therefore, a lighting means in handle lighting unit **12,** and behind wall **19,** will transmit light down barrel **11** to the distal end. Cylindrical section **18,** however, is of limited transparency and preferably nontransparent, either because of the material from which it is produced, or by reason of suitable coloring or coatings.

An obturator assembly (shown in dashed line outline) inludes a smooth ovate tip portion **21** whose maximum diameter closely approximates the internal diameter of the smooth rounded distal end opening **13** of barrel **11.** A stem means **22** extends from the tip portion **21** through barrel **11** to project from the proximal end thereof. An obturator is employed primarily to facilitate insertion of a speculum **10** or barrel **11** into a body orifice such as the rectum, and this use is an accepted and established practice. After insertion of the barrel a short distance into the rectum, just beyond the sphincter muscle, the obturator is withdrawn. Thereafter, in accordance with present well known sigmoidoscopes, a lighting means would be inserted into barrel **11,** such as for example the light means of U.S. Pat. Nos. 3,373,736 or 3,032,031.

In the noted present practice the lighting means in the barrel is exposed to contamination by being near the open distal end and because withdrawl of the obturator ordinarily contaminates the inside of the barrel. Additionally when certain instruments are passed into the barrel, or where swabbing practices take place, the inside of the barrel as well as the lighting means therein are further contaminated. Accordingly, the lighting means must be of a stringent design so as to be of a readily sterilizable or sanitizable nature, or suitably protected. There are a number of problems associated with each facet noted. Sterilization of the lighting means or the barrel is an undesirable and uneconomical process which is subject to error. The protective sleeve and other protective arrangements are usually cumbersome and lacking in handling as well as lighting efficiency.

It has been discovered that the noted problems are significantly overcome by the use of tapered barrel **11,** as illustrated in FIG. **1,** which, in combination with a sleeve means **17** provides for obturator removal with lighting means remaining in position and not being contaminated. For example, in the illustrated arrangement of FIG. **1,** sleeve **17** has an internal bore diameter larger than the maximum diameter of distal end opening **13** so that an obturator tip may easily pass therethrough. Suitable guiding ramps may be provided as extensions on sleeve **17** into barrel **11** or as raised sur-

faces on the inner surface of barrel **11** to facilitate withdrawl of the obturator. Contact of sleeve **17** with obturator tip **21** is not a problem since sleeve **17** is disposed of with barrel **11.**

The handle lighting unit **12** comprises generally, a handle part **23** and a lighting head **24** which connects to barrel **11** and contains the lamps **25.** The lighting head **24** comprises an annular part **26** having a distal end facing recess **27** therein. Recess **27** which may be annular or suitably compartmentalized is next adjacent annular flange **19,** and closed off by cylinder **18** so as to be an isolated chamber containing therein a plurality of usually equally circumferentially spaced lamp means **25.** As illustrated in FIG. **1** four such lamp means are utilized, and while a single lamp may provide some degree of lighting, two or more are preferred. A single ring or pair of half ring lamps may also be used to good advantage. The important concept, however, is to have the lamp means not only isolated and remote from the main channel of barrel **10** but yet to remain in exposed or viewing relationship to the distal end of barrel **11.** By this means the main channel of barrel **11** remains open for the unobstructed passage of various instruments, swabs, and the obturator without danger of contamination of the lighting means.

Light transmission may be further increased by the use of pre-focused lamps, lamps with an integral mirror surface, or by the use of focussing reflectors **28** in recess **27** of lighting head **24.** The combination of an annular transparent flange wall **19,** lamps **25,** and reflectors **28** may be suitably integrated in function and effect to focus and direct a substantial amount of light at the center line of the distal end of barrel **11.** This invention may also provide for a high intensity light source in handle light unit **12** which is merely reflected by a suitable mirror or other light directing and amplifying means in the space or recess **27** presently occupied by lamps **25.**

Light transmission down barrel **11** and its quantity and direction is important to the practice of sigmoidoscopic examinations. The lighting means as described is advantageous because it permits the use of plural lamps, or a single lamp in ring form, with greatly increased wattage and more distal end light, as compared to a single lamp in barrel **11** and in spite of the more rearward location of lamps **25.**

The effectiveness of the lighting means is increased by avoiding glare in barrel **11** and, for this reason the inner surface of barrel **11** may be treated, colored, or formed so that glare is reduced, and effective light transmission increased.

The annular flange **19** has an effective light transmitting height, measured generally from the upper surface of cylindrical sectin **18** to the inner surface of the end of the taper of barrel **11,** which is dependent on the amount of taper in barrel **11.** While the taper may vary to considerable degree, an effective light transmitting height need be no more than from about 1/16 to about 1/8 inch. It is most desirable to concentrate the lamp means **25** as near to the center line of barrel **11** as expedient in order to provide as much uninterrupted light transmitting down barrel **11,** and for this reason excessive taper of barrel **11** is not necessary for lighting purposes.

The lighting head **24** is provided with means to releaseably secure it to barrel **11.** Releaseable securing is intended to mean those attaching or affixing devices not ordinarily intended to be of a permanent nature, and are intended to be a part of or utilized in the operation of the device. Quick disconnects, latches and the like which play a significant role in one cycle use are further examples of releaseable securing devices. One example of a convenient releaseable securing means is illustrated in FIG. **1** by the mating screw thread or camming means **29** on annular part **26** as well as on cylindrical extension **18,** but also in lieu thereof, between or together with annular part **26** and radical part **16** of barrel **11.**

In some instances it may be desirable to include a biasing or spring acting interlock between lighting head **24** and barrel **11.** Such spring loading releases may forcibly eject the barrel **11** from lighting unit **12** by operation of a release mechanism by the medical practitioner. The forcible ejection as a practical matter need only move the barrel assembly a fraction of an inch to be effective. One such eject mechanism is disclosed and claimed in combination with a vaginal speculum in copending application Ser. No. 529,444 - Fiore, now U.S. Pat. No. 3,532,088.

The lighting head **24** includes a handle unit extension **23** which may be separably attached or, ordinarily an integral part thereof. Handle part **23** may be of various configurations and primarily is of a generally cylindrical shape for ease in handling as well as to serve as a conveniently shaped housing for a power unit such as a battery **30** (shown in dotted lines in FIG. **1**) preferably of the rechargeable type as described in the above noted U.S. Pat. No. 3,373,736. The battery or batteries **30** in handle part **23** may be suitably connected to a combined on-off-rheostat element **31** and then to lamps **25** so that the medical practitioner may exercise light control when needed or desirable. Battery **30** may be suitable recharged by inserting the handle part **23** in a recharger for recharging as known in the art. Alternatively, battery **30** may be removed from handle part **23** by removing an end cover and placing the battery **30** itself in a recharger as well known in the art. Provision may also be made to provide an electric extension lead connected to lamps **25,** or to a transformer and then to lamps **25,** to obtain electrical power from a domestic or commercial power source or outlet.

It is desirable, in the practice of sigmoidoscope examinations, to have a suitable closure member and lens assembly at the proximal end of a sigmoidoscope as well as at the same end of a host of other speculum instruments. Accordingly, in the present invention a suitable end cap unit **32** is affixed to the lighting head **24** and may be hinged as a rotary slide opening or a gate hinge type opening, as is known in the art. Alternatively the end cap unit may be a separate eyepiece which is suitably attached as desired. End cap unit **32** is usually provided with an optical lens **33** to facilitate examination. As such, the lens **33** may be a magnifying lens, or lens assembly including if desirable suitable optical adjusting means for focussing, for example.

In some instance either a positive air pressure or a negative air pressure (from room conditions) is desirable in connection with sigmoidoscopy. For example, a negative pressure is generated by gentle suction to remove gases, smoke from cauterization and the like. A positive pressure may be employed to slightly distend certain areas of the colon to facilitate examination. Both suction and pressure is applied through a nipple or conduit **34** which projects from lighting head **21** and

communicates to the interior of barrel **11** through an appropriate opening or slot **35** (not shown) in cylindrical section **18.**

Sealing means are employed to retain pressure or suction at the proximal end of the instrument **10.** For example, a seal is provided between radial part **16** of barrel **11** and one of the faces, i.e., the adjacent face of annular lighting head **24.** Such a seal is preferably in the form of a ring type gasket **36** retained in a seal cavity **37** in the face of lighting head **24.** Ring gasket **36** may be of a number of configurations and materials including relatively soft **0** rings of medically serviceable materials. In one embodiment of this invention ring seal **36** is of a neoprene material and U shaped to be expanded, by air pressure, into contact with opposed walls. A further ring seal such as a relatively soft **0** ring **38** is employed on the opposite face of said annular lighting head part between end cap unit **26** and lighting head **24.** Ring seal **38** may also be disposed in a suitable recess **39** in lighting head **24.** Seal **36** is compressed by engagement of lighting head **24** to the radial flange **16** in combination with screw threads **29.** Seal **38** may be compressed by means of a suitable cam clip **40** engaging cam groove **41** in lighting head **24.** Seals **36** and **38** effectively close off the proximal end of the speculum instrument so that gentle pressure is exerted through the distal end of barrel **11.** During examination certain gaseous results of treatment are also removed by gentle suction.

The radial flange part **16** of barrel **11** may serve as a hand guard unit as employed with sigmoidoscopes generally and may be further radially extended, and also curve towards the proximal end, for this purpose. Alternately, a separate hand guard may be attached to the barrel **11** or molded integrally therewith.

The speculum instrument **10** of this invention is readily adaptable for use as other speculum type instruments particularly proctoscopes and anoscopes generally. In this connection barrel **11** may be made shorter to serve as an anoscope, for example, or of smaller diameter for smaller body openings. The handle unit **12** is further adaptable to a wide variety of uses in medical practice where a good source of light is needed. As such, it may be gainfully employed with other medical instruments, disposable or otherwise, which may be adaptable thereto including, for example, opthalmoscopes and otoscopes.

FIG. **3** illustrates a view of the speculum **10** from the proximal end thereof along line **3—3.** In FIG. **3** the lamps are shown in phantom to illustrate their position adjacent window member **19.** The diameter difference between member **19** and barrel **11** is correlated to the difference in diameters of opening **13** and barrel **11.** This difference which represents the taper of barrel **11** provides the direct exposure of a portion of lamp **25** to distal end opening **13.** While four lamps **25** are shown, the number may be suitably varied for example by the use of two or three lamps. In some instances varying degrees of lighting might require a maximum of four lamps, and other instances a less number of lamps. The on-off switch **31** may be suitably provided with a step switching means to control the number of lamps energized.

FIG. **4** illustrates a view somewhat opposite to that of FIG. **3.** The FIG. **4** view is from the distal end opening **13** along the line **4—4** of FIG. **1** and assumes an angle view from the center line of FIG. **1.** Accordingly that portion of flange window unit **19** which is directly exposed to distal end opening **13** is clearly shown.

FIG. **5** illustrates the handle unit **12** of this invention separate from barrel **11** and readily adaptable for insertion into a battery charging unit or other storage device. FIG. **5** also illustrates the adaptability of handle unit **12** as a general light source alone or with other instruments.

The foregoing describes one complete embodiment of this invention. Other embodiments and modifications may also be provided, the important feature being the taper of the barrel to provide an isolated or protected lighting area without any significant change in the operation, effectiveness and use of the instrument. However, barrel **11** may be tapered externally and/or internally to provide this feature. In FIG. **1** the barrel may be described as having an external taper to provide the enlarged proximal end. Internal tapering may also provide an enlarged proximal end, as illustrated in FIG. **6.**

In FIG. **6** barrel **38'** is similar to barrel **11** of FIG. **1** and includes the same general dimension of the proximal end as barrel **11.** Barrel **38** includes an internal taper which is provided by a wall thickness **39** which increases towards the distal end. This thick wall section at the distal end serves as a support **40** for the obturator **21'.** To accommodate the internal taper the obturator **21'** may be slightly smaller than obturator **21** of FIG. **1** and/or the proximal end dimensions may be somewhat larger. The internal taper may not be required over the effective length of the barrel but only need be utilized close to the distal end with the remaining wall lengths being of relatively constant thickness.

The combination of tapers, both internally and externally, may be an advantageous compromise because a slight taper is usually employed to facilitate removal of a barrel from an injection mold process, when such a process is employed. This pre-taper may be incorporated in this invention.

A further modification of this invention is illustrated in FIG. **7.** FIG. **7** comprises a sectional and top view of a modified lighting head **41** similar to lighting head **24** of FIG. **1,** and flare part **42** of barrel **11',** similar to flared part **15** of FIG. **1.** In FIG. **7,** flared part **42** includes a flange portion **43,** and a projecting portion **44** which projects into and engages lighting head **41.** Lighting head **41** includes a recess **45** into which projecting portion **44** is positioned and retained. The retaining means includes the combination of a circumferential groove **46** in projecting portion **44** and a plurality of circumferentially spaced spring biased balls commonly known as ball detent devices, one of which is shown schematically at **47.** A seal **36'** provides a seal similar to that of **36** in FIG. **1.**

Lighting head **41** also includes a pair of oppositely disposed bell crank or angle members **48** and **49** which are pivoted at **50** and **51** so that the arms **52** and **53** engage the free end of projecting portion **44.**

As illustrated the application of a depressing force on the exposed arms **54** and **55** of angle members **48** and **49** will cause a pivoting action so that arms **52** and **53** bear against projection **44** and move the barrel assmbly axially outwardly from lighting head **41.** When the free edge of projecting portion **44** passes by the spring biased balls of detent devices **47,** a camming action occurs to positively release and eject the barrel from the lighting head. Various other positive ejection, electrical

or mechanical means may be employed to cause removal of the barrel assembly from the lighting head without the necessity of the practitioner touching a potentially contaminated barrel assembly. This releasing mechanism accomplishes a positive release and automatic ejecting mechanism which greatly expedites the use of this invention.

The flare part **42** of barrel **11** also provides direct lighting through the distal end of the barrel in that the circular row of lamps **58** are at least partly exposed to the distal end, as illustrated in FIG. **3**, for example. Ordinarily a straight line may be drawn from a lamp through the distal end of the barrel without crossing and barrel structure which would obstruct light passage.

While other modifications of this invention and variations of apparatus may be employed within the scope of this invention and have not been described or illustrated, the invention is intended to include all such modifications as may ordinarily be embraced within the following claims.

What I claim as new is:

**1.** In a speculum instrument including a speculum barrel and obturator assembly wherein said barrel includes a smaller diameter flanged sleeve means with the flange engaging said barrel and said sleeve projecting from the proximal end of said barrel and through which said obturator may be withdrawn the improvement of a handle lighting unit adapted to receive said sleeve therein comprising in combination

a. a handle part,

b. an annular lighting head part on said handle part and adapted to fit over said sleeve,

c. a concentric ring of lamps positioned in said annular lighting head and closely surrounding said sleeve to pass light directly through said flange and into the bore of said barrel,

d. releaseably securing means in said annular lighting head to releaseably secure said barrel to said annular lighting head

e. and means to sealingly engage said annular lighting head part to said barrel around said lamp ring.

**2.** The invention as recited in claim **1** wherein an electrical power source is contained in said handle part and electrically connected to said lamp ring.

**3.** The invention as recited in claim **1** wherein said lamp means comprises a separate annular walled insert having a ring of lights therein and positioned in said annular lighting head and around said sleeve.

**4.** The invention as recited in claim **1** wherein said releaseably securing means is positioned in said annular lighting head part to latch said annular lighting head part to said sleeve.

**5.** The invention as recited in claim **1** wherein said releaseably securing means is positioned in said annular lighting head part to latch said annular lighting head part to an axially projecting portion on said speculum barrel which projects into said lighting head part.

**6.** The invention as recited in claim **5** wherein a member is positioned in said handle part and engages said latching means to operate said releaseably securing means to release and positively eject said barrel from said handle part.

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