United States Patent [19]

Richmond

[11] **3,709,215**

[45] **Jan. 9, 1973**

[54] ANTERIOR VAGINAL RETRACTOR FOR VAGINAL SURGERY

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[22] Filed: **Dec. 28, 1970**

[21] Appl. No.: **101,911**

[52] **U.S. Cl.** **128/20,** 128/341, 128/346

[51] **Int. Cl.** **A61b 17/02,** A61m 29/00

[58] **Field of Search**....128/3, 20, 242, 243, 244, 345, 128/346, 341

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[57] **ABSTRACT**

A triangular base member fits between the flexed thighs and bears downward against the suprapubic area of the lowest part of the abdomen. An adjustable angular extension on the base member has a downturned end portion adjustably connected with an upturned end portion of an L-shaped retractor blade. The blade has a horizontal insertable portion which presses upwardly against the vaginal wall giving the surgeon exposure and operating space and at the same time protecting the urethra and urinary bladder. The inserted portion of the blade underlies the base member and operates in the manner of a clamp wherein the downward pressure exerted exteriorly against the abdomen by the base member applies an upward pressure to the retractor blade. The anterior retractor is used in conjunction with a conventional weighted lower or posterior retractor.

2 Claims, 6 Drawing Figures

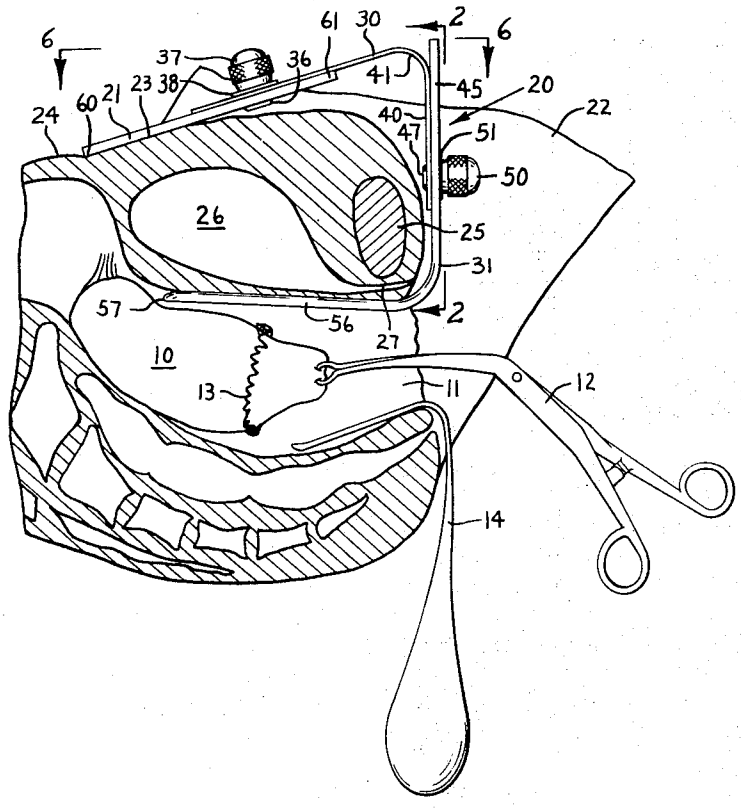


Fig 1

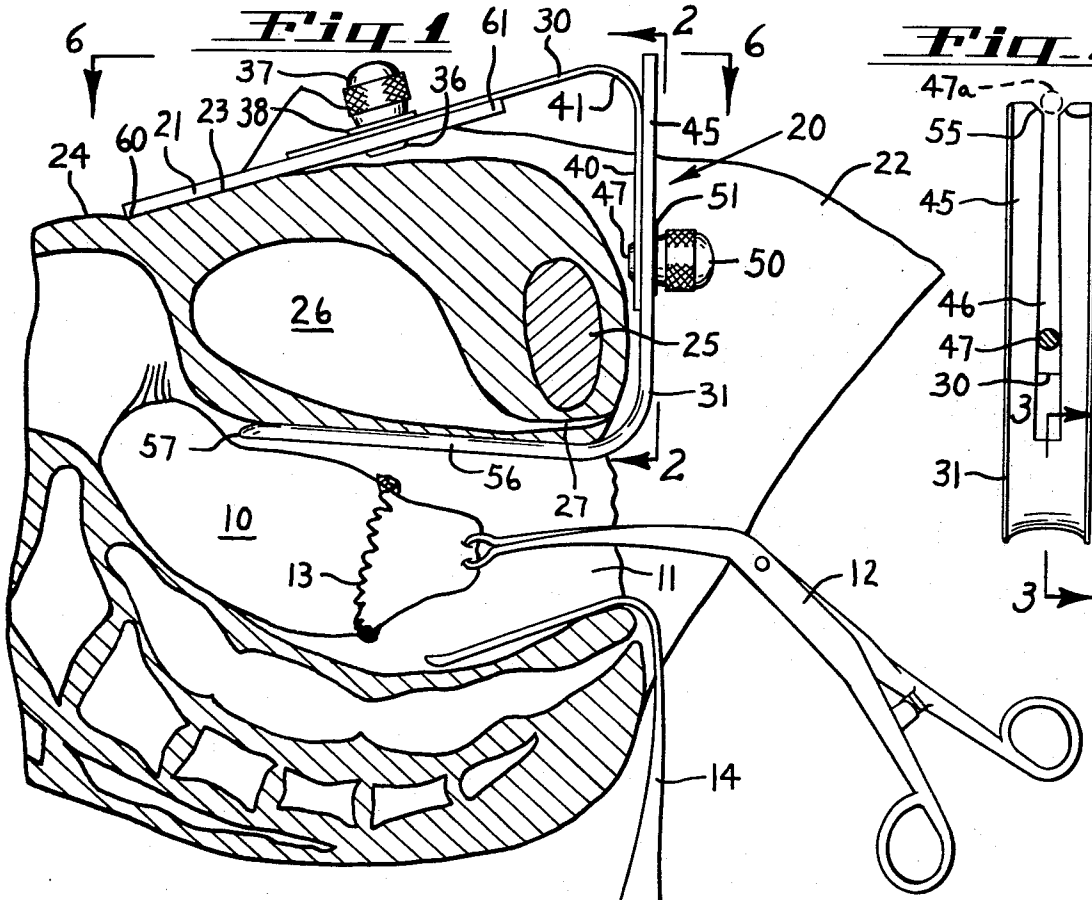
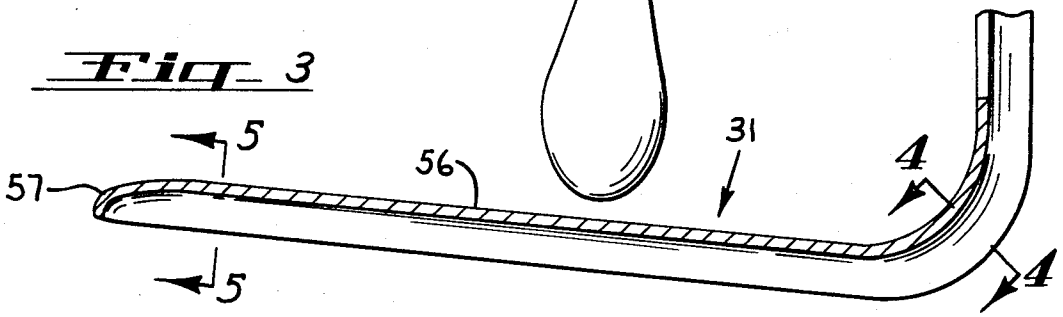


Fig 2

Fig 3



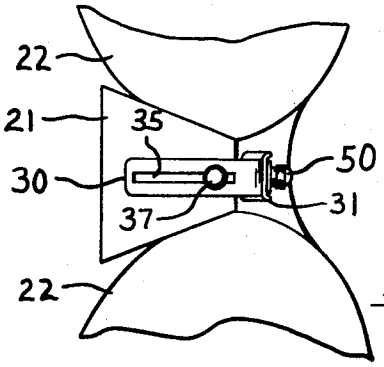


Fig 6

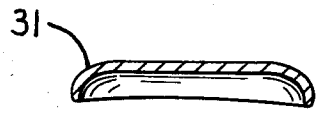


Fig 5



Fig 4

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ANTERIOR VAGINAL RETRACTOR FOR VAGINAL SURGERY

BACKGROUND OF THE INVENTION

This invention relates to an improved anterior retractor for vaginal surgery and is of particular advantage in vaginal hysterectomies.

In a vaginal hysterectomy, separate upper and lower retractors are employed. The lower retractor is a weighted vaginal speculum which maintains its stretching action through gravity. The upper retractor protects and supports the urethra and urinary bladder and also gives the surgeon more exposure and operating space.

Heretofore, the upper retractor has usually been an L-shaped right angle instrument with a long upwardly extending handle which is held in place manually, although its position is virtually static and requires a constant force of only a pound or two in an upward direction. The task of holding the upper retractor is very difficult and tiring because it must be held in place from 30 minutes to over an hour in some cases and when the patient is positioned for vaginal hysterectomy, her thighs and legs are in the way of an assistant standing to either side of the operating table. On the other hand, if the assistant holding the upper retractor sits beside the operating surgeon it is still difficult because of the crowded conditions resulting from two men sitting and working between the patient's legs. When the assistant must at intervals use both his hands in aiding the surgeon, the task of holding a retractor then temporarily occupies one of the instrument nurse's busy hands.

Other types of retractors having both upper and lower blades in a single instrument cannot be used for a hysterectomy because the mechanism obstructs the surgeon's operating space.

Objects of the invention are, therefore, to provide an improved vaginal retractor which does not obstruct the surgeon's operating space, to provide an upper retractor for the purpose described which will maintain itself in position without being manually held and to provide an upper vaginal retractor which is adjustable to fit the anatomy of the patient.

SUMMARY OF THE INVENTION

The present retractor comprises three parts which are adjustable in relation to each other to fit the anatomy of the patient. A triangular base member fits between the thighs when they are flexed on the abdomen in the lithotomy position for the performance of vaginal surgery. This base member bears downward against the superapubic area of the lowest part of the abdomen. An adjustable extension on the base member is of L-shape with a downturned end portion, the extension being made of a malleable material so that its angle may be adjusted when the retractor is applied to a particular patient.

The retractor blade is also of L-shape with an upturned exterior portion adjustably connected to the downturned end portion of the extension member. The device operates in the manner of a C clamp wherein the downward pressure of the base member against the exterior surface of the abdomen applies an upward pressure to the retractor blade. This clamping action holds the retractor securely in place, leaving the assistant and

nurse available at all times for their primary duties of aiding and serving the surgeon.

The invention will be better understood and additional objects and advantages will become apparent from the following description of the preferred embodiment illustrated on the accompanying drawing. Various changes may be made in the details of construction and arrangement of parts and certain features may be used without others. All such modifications within the scope of the appended claims are included in the invention.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a fragmentary sectional view of a patient with the thighs flexed on the abdomen in the lithotomy position, showing the application of the present retractor in the performance of a vaginal hysterectomy;

FIG. 2 is a view on the line 2—2 in FIG. 1;

FIG. 3 is a view on the line 3—3 in FIG. 2;

FIG. 4 is a view on the line 4—4 in FIG. 3;

FIG. 5 is a view on the line 5—5 in FIG. 3; and

FIG. 6 is a view on the line 6—6 in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 shows a step in the performance of a vaginal hysterectomy as the uterus **10** is being pulled out through the vagina **11** by tenaculum forceps **12**. A circular incision at **13** has severed the connection between the uterus and the vaginal wall. A conventional weighted speculum **14** is used as a lower retractor to pull the lower vaginal wall downward. The upper vaginal wall is pressed upward by an upper retractor **20** which embodies the invention.

A flat, generally triangular base member **21** fits between the thighs **22** as shown in FIG. **6** and bears against the suprapubic area **23** of the lowest part of the abdomen **24**. The pubic bone is indicated at **25**, the urinary bladder at **26** and the urethra at **27**. In addition to base member **21**, the upper retractor **20** further comprises an extension member **30** and a blade member **31**.

Extension member **30** and blade member **31** are each of L-shape. The upper part of extension member **30** overlies base member **21** and contains a longitudinal slot **35** which receives a bolt **36** extending through a hole in base member **21**. A nut **37** and washer **38** secure the members **21** and **30** together in adjustable relation. Extension member **30** has a downturned end portion **40** extending from a curved angle portion **41**. Extension member **30** is preferably made of stainless steel of suitable thickness to provide sufficient malleability in the curved portion **41** so that the surgeon can adjust the angle at **41** to fit the patient.

Blade member **31** is also preferably made of stainless steel but it may also be made of a plastic material if desired. Blade member **31** has an upturned exterior end portion **45** having a tapered slot **46** receiving a bolt **47** in a hole in the downturned end portion **40** of extension member **30**. A nut **50** and washer **51** secure the parts **40** and **45** together in adjustable relation. The lower end of slot **46** has a width approximately equal to the diameter of bolt **47** while the upper end of the slot is somewhat narrower, as shown in FIG. **2**, in order to retain the parts in assembled relation when the nut is loosened.

End portion **45** is sufficiently resilient to permit bolt **47** to be forced out of the upper end of slot **46** so that members **30** and **31** may be readily separated from each other when desired without removing nut **50**. The upper ends of slot **46** are beveled at **55** so that when the bolt is placed in the position indicated at **47***a* in FIG. **2**, it may be forced back into the end of the slot **46**.

The separability of members **30** and **31** allows the horizontal portion **56** of blade member **31** to be inserted by itself. Then base member **21** and extension member **30** may be assembled on and removed from the blade member **31** repeatedly, if necessary, while adjusting the malleable bend at **41** by trial and error to fit the patient. While this is being done, base member **21** and bolt **36** are adjusted along slot **35** and this connection is secured by tightening nut **37**. Finally, nut **50** is tightened at a point in slot **46** that will produce the desired upward pressure on the inserted portion **56** of the blade member **31**.

The inserted portion **56** of the blade member **31** is directly under the upper arm of extension member **30** and base member **21** to form a C clamp when the parts are properly adjusted. The curved channel-shape of blade member **31** is shown in FIGS. **4** and **5**. This provides a concave under surface on the inserted portion **56** to provide as much operating space as possible and at the same time, the inserted portion **56** underlies and protects the urethra **27** and bladder **26** during the operating. The angle between the exterior and inserted portions **45** and **56** of the blade is preferably somewhat less than 90° to aid in keeping the blade inside the patient and under the public bone **25** when upper traction is applied. The end **57** of the retractor blade is bluntly pointed for ease of insertion into the first small opening made in the peritoneum.

Also to aid in keeping the blade inside the patient, the angle at **41** is adjusted to cause the toe end **60** of base member **21** to bear most firmly against the abdomen with heel end **61** slightly elevated as shown in FIG. **1**. This places base member **21** and blade portion **56** in near parallelism and slightly convergent at their ends **60** and **57**. The base member is prevented from sliding to the right by the patient's thighs as shown in FIG. **6**.

Having now described my invention and in what manner the same may be used, what I claim as new and desire to protect by Letters Patent is:

1. An anterior vaginal retractor comprising a generally triangular base member adapted to fit between the thighs of a patient, when the thighs are flexed forward toward the patient's head, and bear against the superapubic area of the lowest part of the abdomen, a malleable and resilient L-shaped extension arm adapted for positioning between the patient's thighs, an adjustable length connection between one end of said arm and the apex of said triangular base member, an L-shaped blade member having one end adapted to be inserted into the vagina of said patient and an exterior end adapted for positioning between the patient's thighs and overlapping the other end of said extension arm, and an adjustable length connection between the overlapping parts of said extension arm and blade member.

2. A retractor as defined in claim **1**, said retractor being adjustable by said adjustable connections and by the malleability and resilience of said extension arm to cause said base member to bear against the abdomen primarily at the broad end of said base member which is remote from said apex.

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