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Torrey

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[45] **June 18, 1974**

[54] **GENITO-URINARY EXAMINATION DEVICE**

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[52] **U.S. Cl.** **269/328**
[51] **Int. Cl.** **A61g 13/00**
[58] **Field of Search** ..... 269/324, 325, 328; 5/77, 5/327 R

[56] **References Cited**

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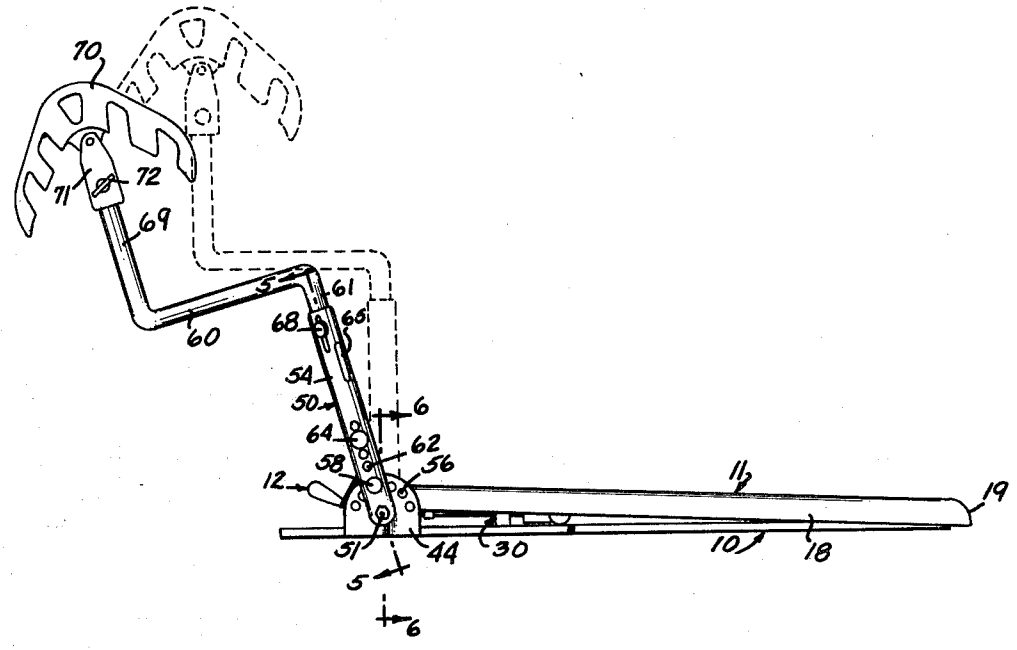
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Primary Examiner—Roy Lake
Assistant Examiner—Neil Abrams

[57] **ABSTRACT**

A portable genito-urinary examination device for use in conjunction with a bed or other support to orient the pelvic area of a patient including a support base which rests on the bed, a table pivoted to one end of the support base and overlying the base, an elevating mechanism for selectively raising the opposite end of the table with respect to the base, and a pair of leg supports carried by the base on opposite sides of that end of the table which can be raised. Adjustment means is provided for varying the lateral spacing between the leg supports, the pivotal position of the leg supports and the height of the leg supports.

6 Claims, 7 Drawing Figures



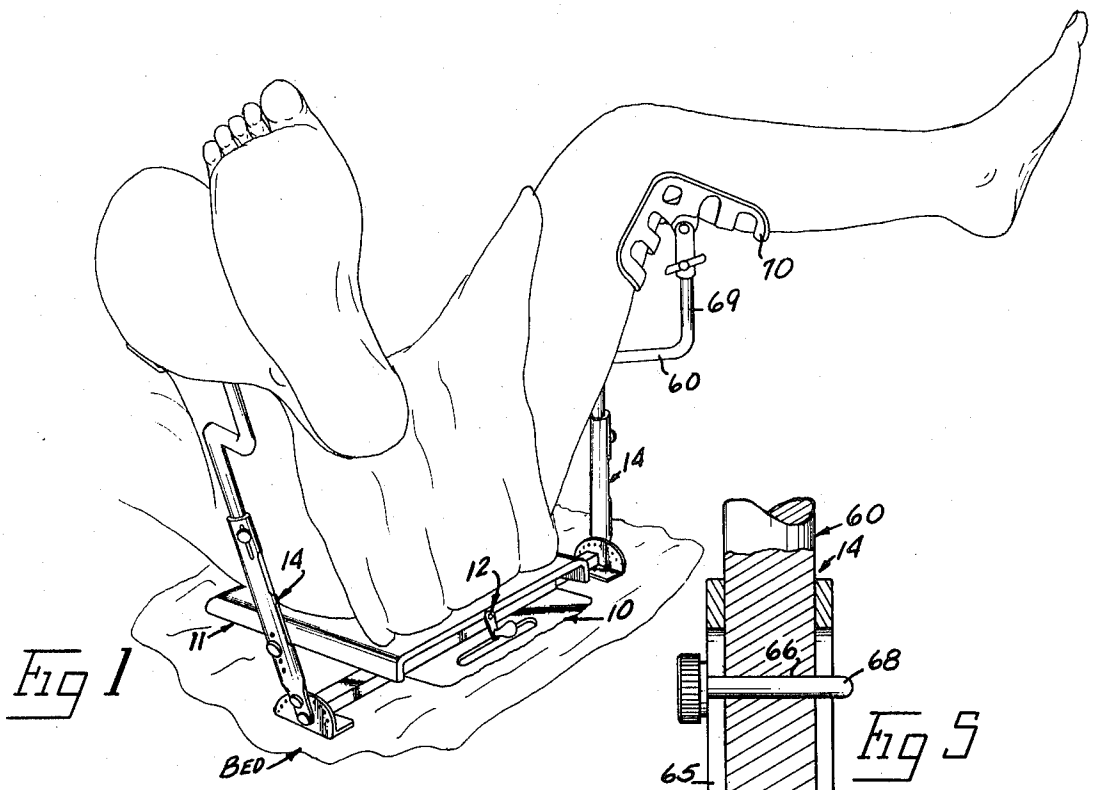


Fig 1

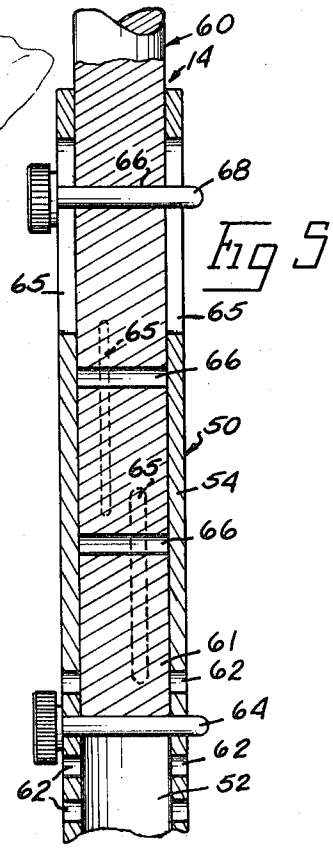


Fig 5

Fig 3

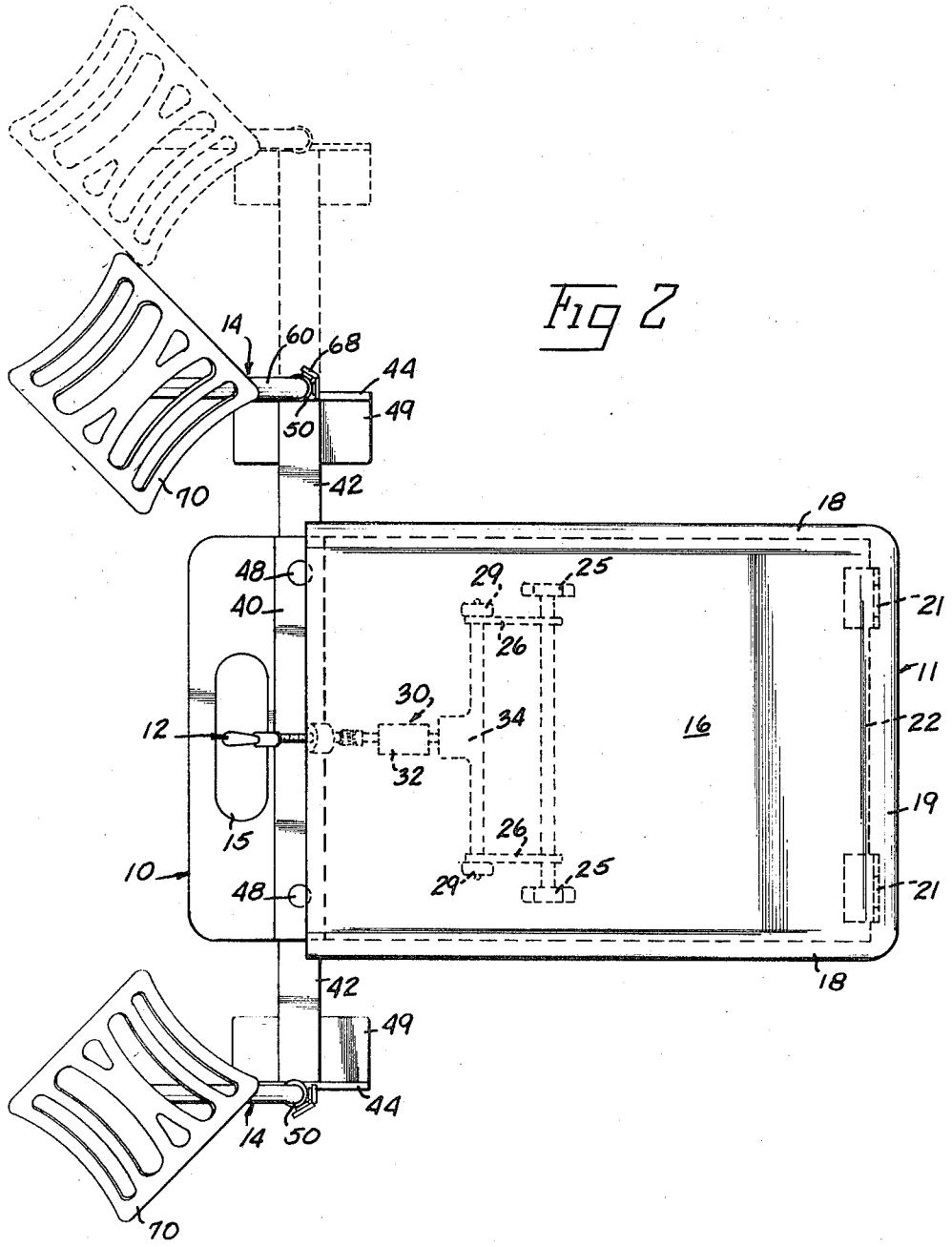

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Fig 2

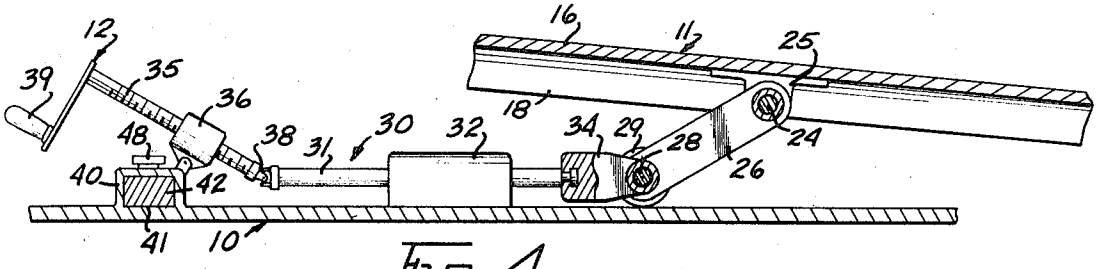

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Fig 4

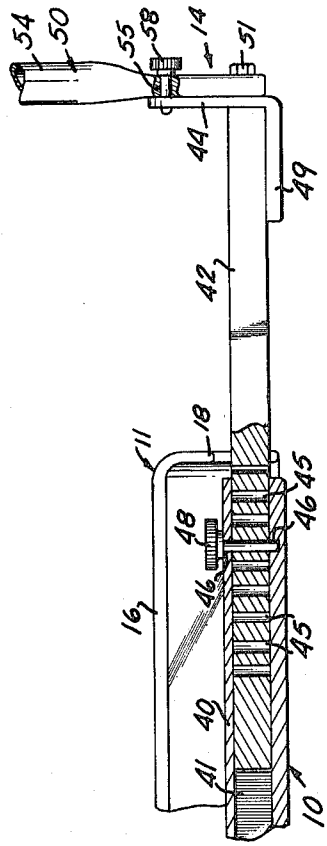

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Fig 6

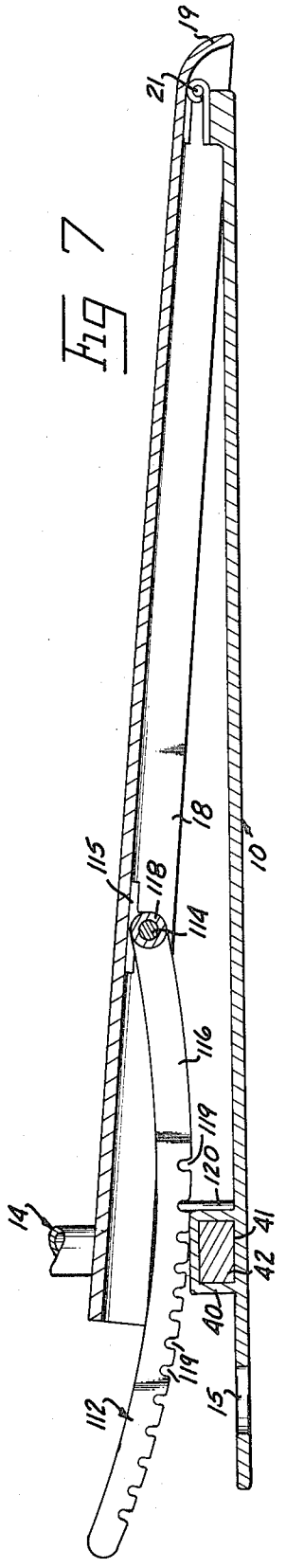

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Fig 7

GENITO-URINARY EXAMINATION DEVICE

BACKGROUND OF THE INVENTION

Many times in medical practice, it becomes necessary to examine the pelvic or rectal area of a patient or to perform various procedures in this area. Because the necessary visualization and exposure of the pelvic area are not generally possible on a bed or other similar support on which the patient is normally located, it has heretofore been necessary to move the patient to a remotely located special examination table to perform the examination or procedure. Since such special examination table is expensive to obtain and since it must be permanently located, such tables are generally only available in hospitals in a specially constructed location. This has not only required excess time for the physician and hospital personnel but also has resulted in delayed evaluation of the medical problem. Moreover, the moving of non-ambulatory and obese patients has required additional hospital personnel or special equipment to lift and place the patient on the examination table and transport vehicle.

SUMMARY OF THE INVENTION

These and other problems associated with the prior art are overcome by the invention disclosed herein by providing a portable genito-urinary examination table which can be used in conjunction with the bed or other support on which the patient is normally located so that the patient does not have to be moved to be examined or to perform the various procedures. The invention allows fast evaluation of the medical problem with a minimum of personnel and time. Because the invention is lightweight, it can be easily transported to the patient whether in the hospital, physician's office or the patient's home. Moreover, because the construction of the invention is simple and inexpensive, the physican can have the use of several such tables without undue expense. Because the invention has multi-adjustable capability, the proper orientation and exposure of the patient can be readily obtained for any pelvic or rectal examination and procedure.

The following are a few of the many uses of the invention:

1. Pelvic examination
2. Rectal examination
3. Minor surgical procedures such as rectal biopsy, incision and drainage of rectal abcesses, cauterization of cervix, meatotomies, cystoscopic exams and urethral dilations
4. The insertion of contraceptive devices
5. Pap smears
6. Vaginal cultures
7. Catheterizations including sterile techniques for clean catch specimens of urine for culture and sensitivity and sterile catheter insertion
8. Baby delivery expecially in emergency situations

The apparatus of the invention includes a support base pivotally mounting a support table at one end thereof and overlying the support base. An elevating mechanism is provided for pivoting the table with respect to the base. A pair of leg supports are carried by the support base on opposite sides of the table at that end of the base opposite the one to which the table is pivotally mounted for supporting the legs of the patient in a spread apart position while the patient's buttocks are carried by the support table. The spacing between the leg supports may be adjustably varied as well as the height of the supports and the rotational position thereof.

These and other features and advantages of the invention will become more apparent upon consideration of the following detailed description and accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views and in which:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of one embodiment of the invention in use;

FIG. 2 is a top plan view of the invention of FIG. 1;

FIG. 3 is a side elevational view of the invention of FIG. 1;

FIG. 4 is an enlarged cross-sectional view taken along line 4—4 in FIG. 2;

FIG. 5 is an enlarged cross-sectional view taken along line 5—5 in FIG. 3;

FIG. 6 is an enlarged cross-sectional view taken along line 6—6 in FIG. 3; and,

FIG. 7 is an enlarged cross-sectional view similar to FIG. 4 showing a second embodiment of the elevating mechanism.

These figures and the following detailed description disclose specific embodiments of the invention, however, it is to be understood that the inventive concept is not limited thereto since it may be embodied in other forms.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

Referring to the figures, the invention includes generally a support base **10**, a support table **11** pivotally mounted on one end of the base **10** and overlying same, an elevating mechanism **12** for selectively pivoting the table **11** with respect to the base **10** and a pair of leg supports **14** on opposite sides of that end of table **11** opposite its pivotal connection with base **10**. The table **11** is placed under the patient's buttocks as seen in FIG. **1** so that base **10** rests on the bed or other supporting carrying the patient and the elevating mechanism **12** manipulated to raise the buttocks for proper exposure. The patient's legs are then placed on the leg supports **14** and they are also adjusted for proper exposure. The patient is now ready for examination of medical procedures as illustrated in FIG. **1**.

As best seen in FIGS. **1–3**, the support base **10** is a generally rectangular plate which is relatively thin, the bottom surface of which rests on the bed or other support on which the patient is lying. An appropriate hand hole **15** is provided at one end of base **10** for use in carrying the device.

The support table **11** is also generally rectangular in shape but slightly shorter than base **10** so as to expose the hand hole **15** when the table **11** overlies base **10**. Table **11** includes a generally rectangular central web **16** having downwardly turned flanges **18** along opposite sides thereof integral therewith. A downwardly turned end flange **19** is provided along one end of web **16** and is integral therewith and with the adjacent ends of flanges **18**. The flanges **18** and **19** provide smoothly rounded edges around three sides of web **16** whose upper surface **20** supports the buttocks and lower back of the patient lying on the bed or support.

The underside of web **16** is pivotally connected through hinges **21** to the end **22** of base **10** opposite the hand hole **15** at that end adjacent the end flange **19** so that the web **16** and side flanges **18** overlie the base **10.** This allows table **11** to be pivoted about the axis of hinges **21** to selectively elevate the buttocks and lower trunk of the patient while presenting a smooth surface to the patient to prevent injury.

The elevating mechanism **12** as best seen in FIGS. **2** and **4** includes a pivot shaft **24** carried by spaced mounting brackets **25** attached to the underside of web **16.** A pair of drive links **26** are rotatably mounted on pivot shaft **24** at one of their ends in a spaced apart relationship. The other ends of drive links **26** carry a drive shaft **28** on the opposite ends of which a pair of positioning wheels **29** are rotatably mounted. Wheels **29** roll along the upper surface of base **10** so that as the drive shaft **28** is moved toward the hinges **21,** the table **11** will be pivoted about the common axis of the hinges **21** to elevate same and vice versa.

A drive mechanism **30** is provided for selectively moving the drive shaft **28.** The mechanism **30** includes a drive member **31** rotatably and slidably mounted in bearing block **32** on base **10** and rotatably mounted in a transfer connector **34** so that as member **31** is moved toward and away from hinges **21,** the drive shaft **28** will be likewise moved to pivot the support table **11.** A threaded drive rod **35** is mounted in a threaded passage of a positioning collar **36** pivotally mounted on base **10** and connected to the extending end of the drive member **31** through a universal connector **38.** Thus, it will be seen that the threaded drive rod **35** selectively positions the drive member **31** as it is rotated by handle **39** on the end of rod **35** to locate the table **11** in its various pivotal positions.

The leg supports **14** are carried by a transversely extending housing **40** on base **10** and defining a transversely extending passage **41** with a rectangular cross-section therethrough. Since the leg supports **14** are mirror images of each other, only one will be described in detail with like reference numbers being applied to the other.

As best seen in FIGS. **2, 3, 5** and **6,** the support **14** includes generally a carriage beam **42** having a generally rectangular cross-section slidably receivable in passage **41** of housing **40.** An upstanding pivot plate **44** is affixed to the extending end of beam **42** and that portion of beam **42** received in housing **40** is provided with a plurality of spaced locating holes **45,** each selectively alignable with a pair of holes **46** in housing **40.** A pin **48** is slidably receivable in holes **45** and **46** to selectively fix the extension of beam **42** from housing **40.**

A support pad **49** is mounted on the underside of the extending end of beam **42** to support same on the bed or other support carrying the patient. A support tube **50** is pivotally attached to the pivot plate **44** by a fastener **51** and defines a central passage **52** within its tubular side wall **54.** The tube **50** is flattened at its end and connected to pivot plate **44** with a locating passage **55** therethrough spaced from the fastener **51** to selectively overlie any one of the plurality of holes **56** defined in plate **44** along an arcuate path. A locating pin **58** is provided for locating the angular position of the tube **50** with respect to plate **44.**

The support tube **50** slidably receives the depending leg **61** of an offset connector member **60** in the upper end of passage **52.** The tube **50** defines a plurality of longitudinally spaced pairs of diametrically aligned holes **62** through side wall **54** adjacent the lower flattened end of tube **50** through which a height selection pin **64** is received and on which the bottom of leg **61** rests to control the height to which the member **60** projects from tube **50.** A plurality of angularly and longitudinally spaced pairs of diametrically aligned elongate slots **65** are provided through side wall **54** above the holes **62** which are selectively alignable with one of a plurality of diametrically extending holes **66** through leg **61.** A locating pin **68** is selectively received through one pair of slots **65** and hole **66** to locate the angular position of the offset connector member **60.**

A knee stirrup **70** of known construction is pivotally mounted on a rotary joint connector **71** carried by the upper end of the upstanding leg **69** of member **60.** A locking screw **72** is provided in connector **71** to selectively locate the stirrup **70** in a selected rotational position with respect to the leg **69.**

Thus, it will be seen that the height of stirrup **70,** the rotational position of offset connector member **60** and the rotational position of stirrup **70** may be selectively adjusted to give the proper exposure of the patient. Also, the spacing between the supports **14** may be varied.

Referring now to FIG. **7,** an alternate embodiment of the elevating mechanism is illustrated and designated **112** with the common components of the rest of the examination table having the same reference numerals as the first embodiment. The mechanism **112** includes a pivot shaft **114** carried by spaced mounting brackets **115** attached to the underside of web **16.** A curved positioning arm **116** is pivotally connected to shaft **114** by a collar **118.** The arm **116** defines a plurality of spaced notches **119** along the lower edge thereof that selectively engage an abutment **120** located on base **10** adjacent housing **40** to selectively elevate the support table **11.**

The operation of this embodiment is similar to that of the first embodiment except that arm **116** is moved until the proper notch **119** engages abutment **120** to locate table **11.**

While specific embodiments of the invention have been disclosed herein, it is to be understood that full use may be made of modifications, substitutions and equivalents without departing from the scope of the inventive concept.

I claim:

1. A portable pelvic examination device for use in conjunction with a support unit carrying a patient in a reclining position to position the patient for examination of the pelvic area including:

a support base adapted to lie on the support unit and sized to fit under the buttocks of the patient;

a support table sized to fit under the buttocks of the patient and overlying said support base;

hinge means pivotally connecting one end of said base to one end of said table

elevating means for effecting pivotal movement between said base and said table about said hinge means between said table and base to rotate the buttocks of the patient upwardly to expose the pelvic area;

a support housing mounted on said base at that end opposite said hinge means and extending across said base generally transversely of the central axis of said table;

a pair of support beams slidably received in opposite ends of said housing;

a pair of tubular members, one being adjustably pivoted on the projecting end of each of said support beams;

a pair of rod members, one being slidably and rotatably mounted in the upper end of each of said tubular members, each of said rod members including a depending leg slidably and rotatably received in the upper end of said tubular member, an offset section integral with the upper end of said depending leg and extending laterally thereof, and an upstanding leg integral with the extending end of said offset section and extending upwardly therefrom generally parallel to and laterally spaced from said depending leg; and,

stirrup means carried by the upper end of each of said upstanding legs of said rod members to support the legs of the patient.

2. The portable pelvic examination device as set forth in claim **1** wherein said elevating means includes a pair of links pivotally mounted on the underside of said support table at one of their ends, a pair of wheels rotatably mounted at the opposite ends of said links and adapted to roll along the upper surface of said support base and to cause said links to raise said support table as said wheels move toward said hinge means between said table and said base, and drive means for selectively moving said wheels toward and away from said hinge means.

3. The portable pelvic examination device of claim **1** wherein said elevating means includes a positioning arm pivotally mounted on the underside of said support table and abutment means carried by said support base for selectively engaging said positioning arm to locate said table in selected pivotal positions with respect to said support base.

4. The device of claim **1** further including adjustment means for selectively adjusting the extension of each of said depending legs from said tubular members and for selectively adjusting the rotational position of each of said depending legs with respect to said tubular members.

5. The device of claim **4** wherein said extension adjustment is independent of said rotational adjustment.

6. The portable pelvic examination device of claim **5** wherein said adjustment means includes a plurality of longitudinally spaced pairs of diametrically aligned apertures defined through said tubular member adjacent the lower end thereof, a height adjusting pin slidably received through any selected of said pairs of apertures on which the lower end of said rod member within said tubular member rests to selectively control the extension of said rod member from said tubular member, a plurality of circumferentially and longitudinally spaced pairs of diametrically aligned elongate slots defined through said tubular member adjacent the upper end thereof, a plurality of diametrically extending holes defined through said rod member and selectively alignable with each of said pairs of slots when said rod member is carried on said height adjusting pin, and a locating pin slidably received through a selected pair of said slots and one of said holes to selectively fix the rotational position of said rod member with respect to said tubular member.

* * * * *