United States Patent [19]

Shute

[11] **3,809,091**

[45] **May 7, 1974**

[54] **SURGICAL INSTRUMENT**

[76] Inventor: **Wallace B. Shute,** 300 Island Park Dr., Ottawa, Ontario, Canada

[22] Filed: **July 31, 1972**

[21] Appl. No.: **276,313**

[30] **Foreign Application Priority Data**

Aug. 25, 1971 Canada 121340

[52] **U.S. Cl.** **128/303,** 128/361

[51] **Int. Cl.** **A61b 17/42**

[58] **Field of Search** ..... 128/303 R, 361, 20, 2 R

[56] **References Cited**

UNITED STATES PATENTS

1,144,220	6/1915	Maguire	128/2 R X
1,708,578	4/1929	Hyde	128/20
2,296,793	9/1942	Kirschbaum	128/20

Primary Examiner—Lucie H. Laudenslager

Attorney, Agent, or Firm—Cushman, Darby & Cushman

[57] **ABSTRACT**

The invention relates to a surgical instrument primarily for use during the sterilization of females. The instrument has a handle, a shank and a curved or hook-shaped primary portion. The primary portion is capable of insertion into the uterus where it engages the inner surface of the posterior uterine wall so that, when the instrument is rotated through an angle of approximately 180° the fundus of the uterus is pressed downward in acute retroversion into the cul-de-sac of the peritoneal cavity.

5 Claims, 6 Drawing Figures

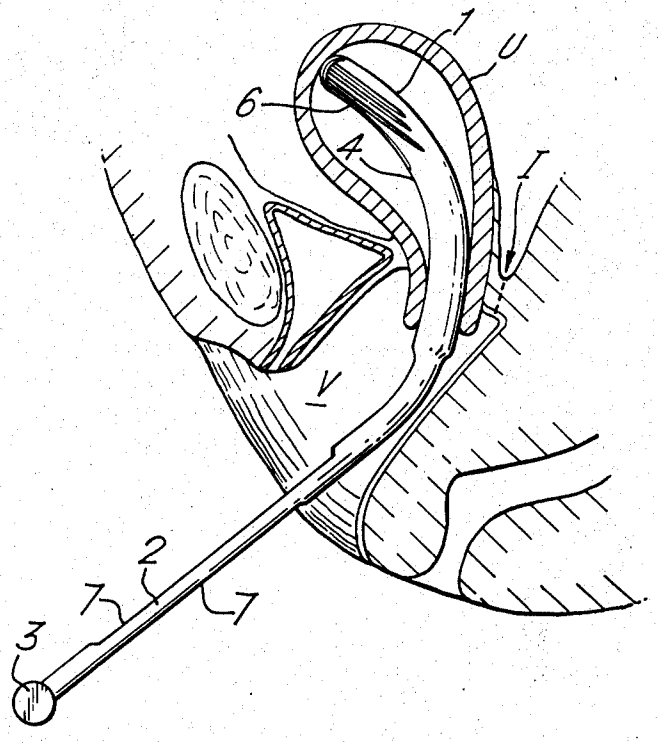


Fig. 1.

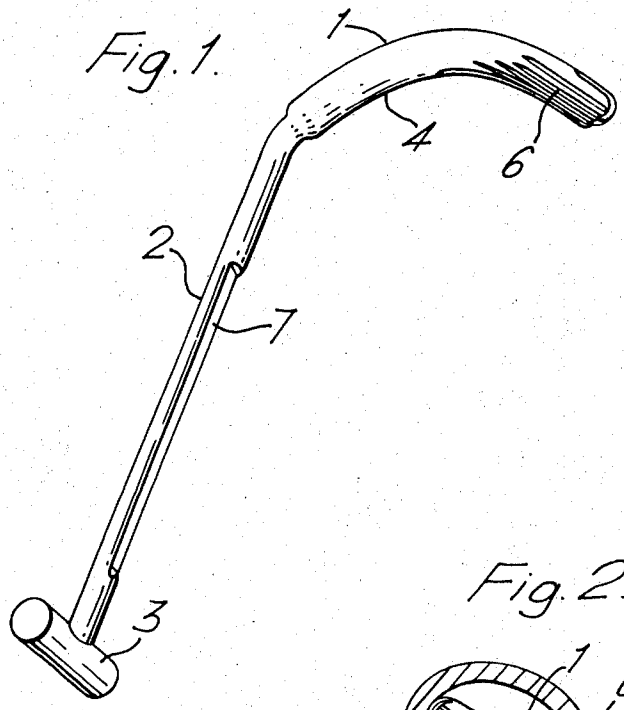


Fig. 2.

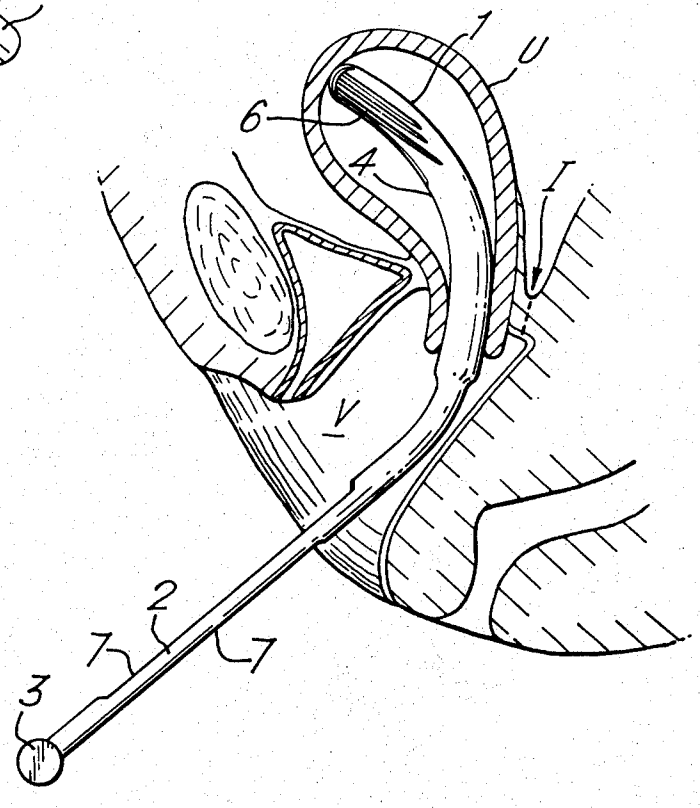


Fig. 3.

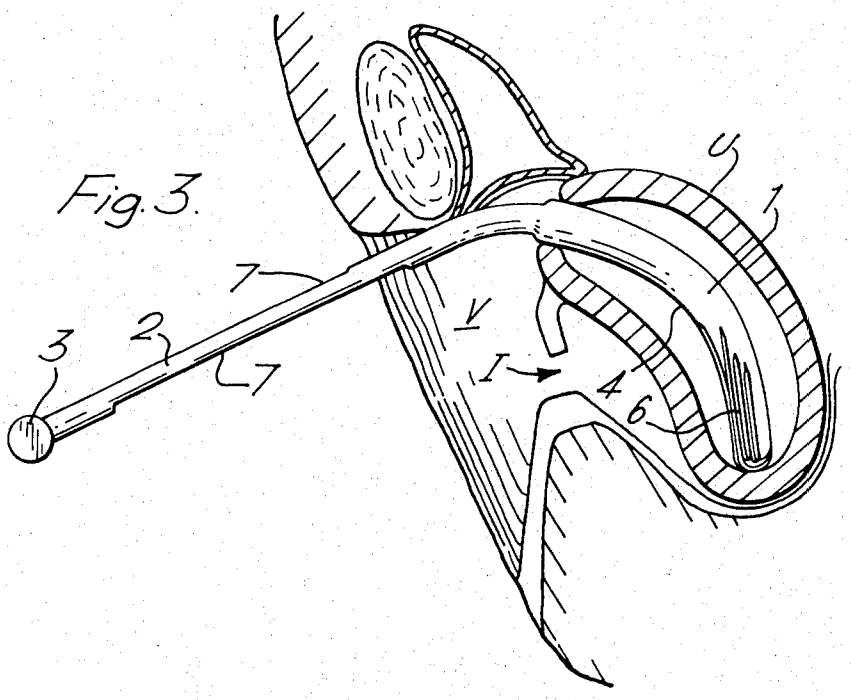


Fig. 4.

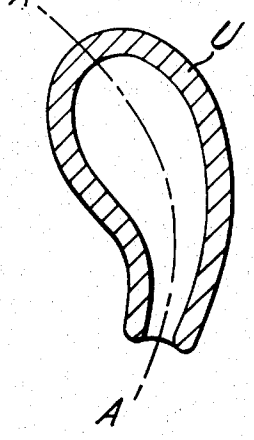


Fig. 5.

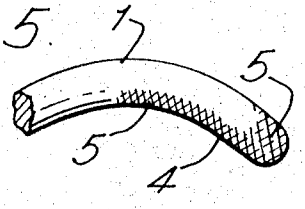
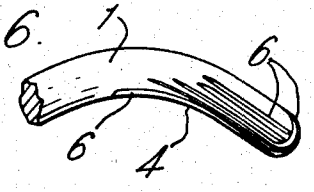


Fig. 6.



SURGICAL INSTRUMENT

This invention relates to surgical instruments and more particularly to an instrument used during sterilization of females.

As is well known, sterilization of females is best effected by removing a section of each Fallopian tube. In order to obtain access to these tubes, a posterior colpotomy incision is made in the vaginal vault immediately behind the uterus, opening into the cul-de-sac of the peritoneal cavity to expose the tubes. Before the tubes can be reached however, the usually anteverted uterus must be acutely retroverted to bring its fundus and tubes within direct range of the operator working through that colpotomy incision. It is the object of this invention to provide a simple and relatively inexpensive instrument for so retroverting the uterus, in a quick and simple manner without damage to the soft uterine tissue, thus exposing the Fallopian tubes without recourse to abdominal incision.

The invention is illustrated, by way of example, in the accompanying drawings in which:

FIG. 1 is a perspective view of the surgical instrument;

FIG. 2 is a diagrammatic view of the instrument in situ within the vagina and uterus, when the latter is in its normal position;

FIG. 3 is a view similar to FIG. 2 but showing the instrument in situ after retro-displacement of the uterus;

FIG. 4 is a diagrammatic section taken through the uterus; and

FIGS. 5 and 6 are in detail views of the distal end of the primary portion of the instrument, on an enlarged scale showing alternative embodiments of surface finish.

Referring to the drawings, and in particular to FIG. 1, it will be seen that the surgical instrument, includes a curved primary portion 1, which is capable of insertion into the uterus, a shank 2 secured to the proximal end of the primary portion, and a handle 3 secured substantially at right angles to the terminal end of the shank remote from the portion 1. The distal end of the primary portion 1 is rounded and, in cross-section, said portion and the shank 2 are each substantially circular.

In use, and reference should now be made to FIG. 2, the instrument is inserted into the vagina, indicated generally at V, so that the primary portion 1 is located in the uterus U. It will be seen from FIGS. 2 and 4, that the curve of the primary portion 1 approximates to the curve of the central vertical axis A—A of the uterus. Prior to the insertion of the instrument, a posterior colpotomy incision I is made in the vaginal vault immediately behind the uterus.

When the instrument is in situ, the surgeon grasps the handle 3 and turns the instrument through an angle of approximately 180°. During such rotation, the primary portion 1 of the instrument engages the inner surface of the posterior wall of the uterus and the fundus of the

latter is thereby pushed down in acute retroversion into the cul-de-sac as is shown in FIG. 3. The uterus is then deflected on its axis to one side and held in this position by a surgical assistant, to expose the contralateral ovary (not shown).

At this point, with ring forceps, the surgeon grasps and draws the exposed ovary downward thus exposing its attached Fallopian tube (also not shown). He removes a section of the tube, then returns said ovary and its tube through the incision. The uterus is then deflected in the opposite direction and the second ovary and tube is similarly located and treated. The said instrument in the uterine cavity is then rotated through an angle of approximately 180° to restore the uterus to its normal position and the posterior colpotomy incision I closed by suture.

If desired, the distal end of the primary portion 1 of the instrument and the surface 4 formed by the smaller radius may be knurled as at 5 in FIG. 5 or provided with grooves as is indicated at 6 in FIGS. 1–3 and 6. By providing such an irregular surface at these locations constant pressure between the instrument and the inner surface of the wall of the uterus is maintained thus avoiding all slippage.

In addition, it will be noted from FIGS. 1–3 that the shaft is preferably provided with a pair of opposed flat surfaces 7 which enable the surgeon to obtain better purchase.

I claim:

1. A surgical instrument capable of mechanically retroverting the uterus and holding it in that desired position for operative intervention including sterilization; said instrument including

a a primary portion curved to approximate to the curve of the central vertical axis of the uterus and having a predetermined irregular surface area for engaging the inner surface of the posterior uterine wall, the cross-section of said portion being substantially circular with a substantially constant diameter throughout its length and having a rounded end capable of automatically pressing the fundus of the uterus downward in acute retroversion into the cul-de-sac of the peritoneal cavity;

b a shank, substantially circular in cross-section, secured to the proximal end of said portion; and

c a handle, secured substantially at right angles to the terminal end of said shank remote from said portion, for rotating the instrument through an angle of substantially 180° after insertion of the instrument into the uterus.

2. An instrument according to claim 1 wherein said irregular surface area is formed by knurling.

3. An instrument according to claim 1 wherein said irregular surface area is formed by grooving.

4. An instrument according to claim 2 including a pair of opposed flattened surfaces on said shank.

5. An instrument according to claim 3 including a pair of opposed flattened surfaces on said shank.

* * * * *