

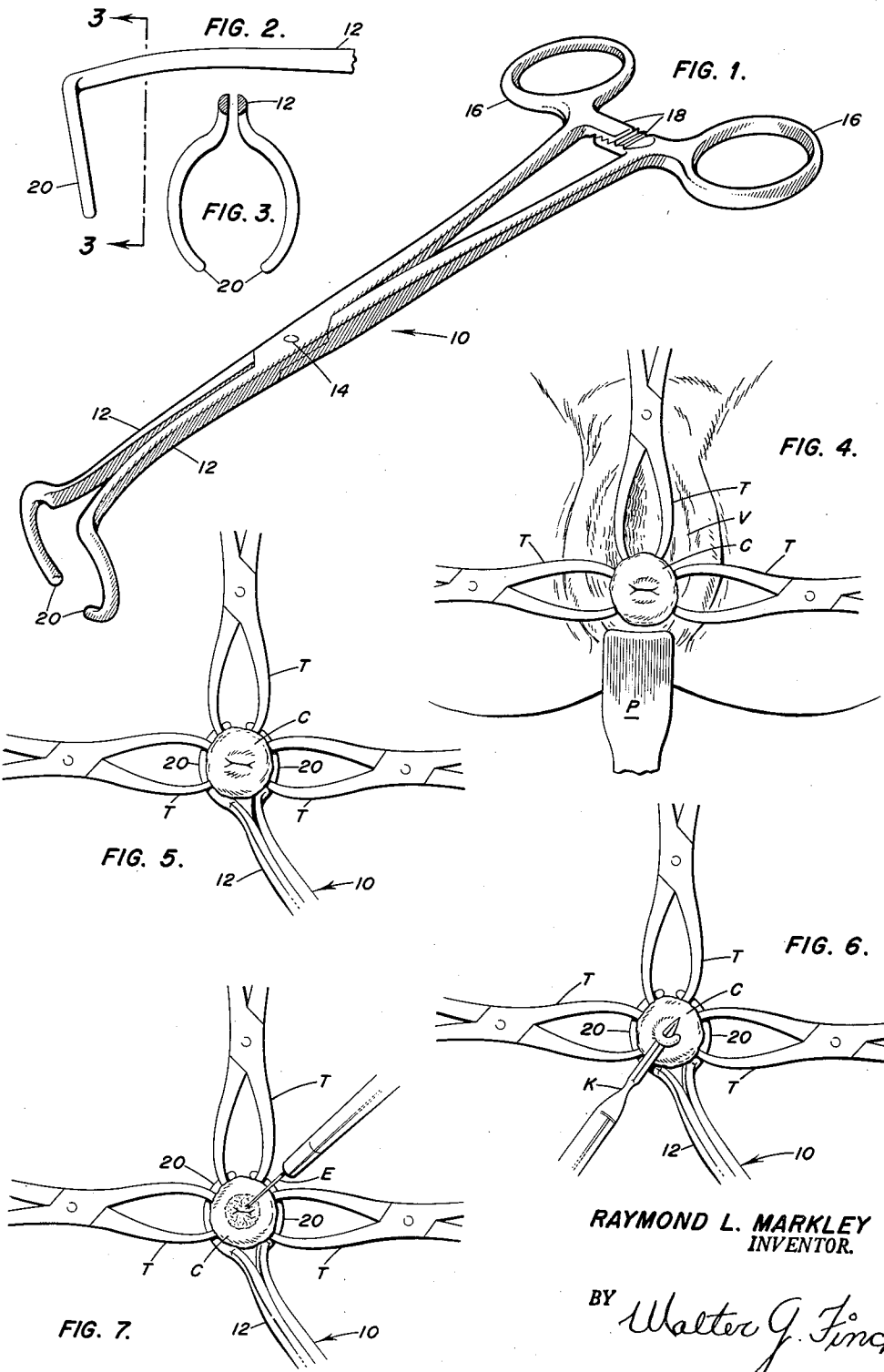
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CERVICAL TOURNIQUET INSTRUMENT

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CERVICAL TOURNIQUET INSTRUMENT

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2 Claims. (Cl. 128—325)

This invention relates generally to surgery equipment, and, more particularly, it pertains to a cervical tourniquet instrument.

Surgical conization of the cervix is now recognized as a valuable diagnostic and therapeutic procedure. The various names that have been applied to the technique, that is, sharp conization, cold-knife conization, ring biopsy, circular biopsy, all refer to the single purpose of removing the entire squamocolumnar junction of the cervix for pathologic examination with as little trauma as possible and no distortion of the tissues by heat.

Surgical conization is widely used in cases in which a biopsy specimen has shown carcinoma in situ, in order to rule out invasive carcinoma in another area of the cervix. The main difficulty in accurately carrying out surgical conization is obliteration of the field by bleeding. Post-operative bleed is also troublesome.

Although numerous techniques and instruments which permit sampling of variable amounts of tissue from the portio, the squamocolumnar junction, and the endocervical canal have been devised, cold-knife conization of the cervix has been increasingly described as the surest means of providing a tissue specimen suitable for thorough histologic evaluation.

From the viewpoint of the pathologist, an adequate tissue specimen, with a wide margin of portio, the entire squamocolumnar junction, and the greater part of the endocervical canal, all in continuity and with sufficient underlying stroma is essential. In addition, the specimen must be untraumatized, with intact, unabraded mucosa, no fragmentation or crushing and no thermal injury artefact.

From the viewpoint of the surgeon, the method of obtaining the specimen must be universally applicable. Operative and postoperative hemostasis permitting anatomic dissection rather than guesswork, and preventing early or delayed postoperative hemorrhage should be assured rather than merely hoped for.

Electroconization causes distortion of tissue and frequently stenosis of the cervix and the use of extensive cautery even if preceded by sharp conization, will occasionally result in the latter complication.

The present invention facilitates the operation by allowing a dry field unobstructed by extemporized, difficult-to-apply rubber tubing tourniquets or sutures and aids in postoperative healing by indicating bleed points and eliminating the necessity for extensive electrocauterization.

It is an object of this invention, therefore, to provide a clamp type of surgical instrument which is easily and quickly adaptable to the cervix of the uterus to position it for operative procedure.

Another object of this invention is to provide a cervical tourniquet instrument which is easily applied and clamped and effectively controls hemorrhage without obstructing the operative field in conization of the uterus.

And yet another object of this invention is to provide an encircling hemostat which is adaptable according to the size of a cervix and which can be readily loosened to a greater or lesser degree to observe whether postoperative bleeding will result.

These and other objects and attendant advantages of this invention will become more readily apparent and

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understood from the accompanying specification and single sheet of drawings in which:

FIG. 1 is a perspective view of a cervical tourniquet clamp instrument incorporating features of this invention;

FIG. 2 is a side elevation of one of the clamping members of the novel clamp instrument of FIG. 1;

FIG. 3 is a view taken in the direction of the arrows 3—3 of FIG. 2 showing both clamping members of the clamp instrument;

FIG. 4 illustrates the preparation of the operative field to expose the cervix within the vagina prior to the application of the cervical tourniquet clamp instrument;

FIG. 5 is a view of the cervix showing the application of the cervical tourniquet clamp instrument;

FIG. 6 depicts the operation of surgical cold-knife conization showing the unobtrusiveness of the cervical tourniquet clamp instrument and the dry field afforded thereby; and

FIG. 7 is an illustration showing the gradual release of the cervical tourniquet clamp instrument at the completion of conization and the limited electrocauterization required at observed bleeding points.

Referring now to the details of the drawings and particularly to FIG. 1 where there is shown by reference numeral 10 the cervical tourniquet clamp instrument incorporating features of this invention. The cervical tourniquet clamp instrument 10 resembles an arterial hemostat of a surgeon, and it is provided with finger grips 16 on the ends of a pair of crossed and scissors-pivoted blades 12. Toothed latching tabs 18 are provided between the finger grips 16 and arranged to interlock in a releasable and adjustable degree of closure by the spring qualities of the blades 12.

Beyond the pivot 14 for the blades 12, the blades curve slightly in the pivotal axis direction and diverge one from the other as shown best in FIG. 2. Further along, the blades 12 are abruptly formed into opposing half ring shaped arcuate clamping members 20, with the ring axis lengthwise as referred to the clamp 10.

In use, the patient is prepared and a posterior retractor P is placed to expose the cervix C. The vaginal mucosa lateral to the cervix C is grasped at the twelve, three, and nine o'clock positions, as shown in FIG. 4, using either single toothed tenacula or, if preferred, towel clips T.

The blades 12 of the cervical tourniquet clamp instrument 10 are now opened and the clamping members 20 are inserted behind the clips T and encircled and clamped around the cervix C. The grip end of the clamp instrument 10 is then allowed to hang downward out of the vagina V, thus clearing the field of view as well as to draw the clamped cervix C forward into the introitus.

As shown in FIG. 6, the surgical conization is then carried out with the knife K and/or scissors up to the desired level in the endocervical canal. Bleeding from the raw cervical surface may increase after removal of the specimen since the reduction in bulk of the cervix C may loosen the grip of the clamping members 20 of the clamp instrument 10. This may readily be compensated for by further squeezing the finger grips 16, and then the necessary repair sutures are placed.

Before removing the cervical tourniquet clamp instrument 10, small areas which appear as though they might bleed are touched lightly with a cautery tip E and then the clamp instrument 10 is loosened briefly to disclose further bleeding points to cauterize before its complete removal from the cervix C.

It is to be noted that through the use of the cervical tourniquet clamp instrument 10 in the foregoing manner, extensive cauterization is not necessary and, in addition, the biopsy specimen has not been damaged in any way.

A clear dry field has been provided to make surgical conization a simple and uncomplicated procedure.

Obviously many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A cervical tourniquet clamp device for hemostatis by clamping the cervical branches of the uterine arteries on both sides of the cervix, comprising, a pivot, a pair of crossed blades pivotally connected together at said pivot and having finger grips at one corresponding end of said blades, a pair of releasable and adjustable latching tabs secured to said finger grips for interlocking said blades in a closed position, said crossed blades from said pivot to said finger grips, said finger grips, and said latching tabs all lying within substantially the same plane, each said crossed blade at the opposite end thereof being concaved outwardly from the longitudinal direction of the respective blade and spaced from the other crossed blade to eliminate pinching contact between the blades in a closed position, each said crossed blade at its opposite end terminating in a ring shaped arcuate clamping element, the ring shaped arcuate clamping elements for said crossed blades being located opposite each other and positioned in a plane located substantially transversely to the longitudinal direction of said crossed blades.

2. A cervical tourniquet clamp device for hemostatis by clamping the cervical branches of the uterine arteries on both sides of the cervix, comprising, a pivot, a pair of crossed blades pivotally connected together at said pivot and having finger grips at one corresponding end thereof, a pair of releasable and adjustable latching tabs secured to

said finger grips for interlocking said blades in a closed position, said crossed blades from said pivot to said finger grips, said finger grips, and said latching tabs all lying within substantially the same plane, each said crossed blade on the opposite end thereof being concaved outwardly from said plane and outwardly from the longitudinal direction of the respective blade and spaced from the other crossed blade in the closed position, the opposite end of each crossed blade terminating in a ring shaped arcuate clamping element, the ring shaped arcuate clamping elements for said crossed blades being located opposite each other, the ends of said ring shaped arcuate clamping elements being spaced from each other in the closed position, said ring shaped arcuate clamping elements being positioned in a plane located substantially transversely to the longitudinal direction of said crossed blades and with the axis of said ring shaped arcuate clamping elements being positioned substantially parallel to the longitudinal direction of said device, whereby said concaved crossed blades and arcuate clamping elements eliminate pinching or binding of the flesh of the cervix.

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