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3,353,533

INTRA-UTERINE CONTRACEPTIVE APPLIANCE

Filed July 12, 1965

FIG. 1

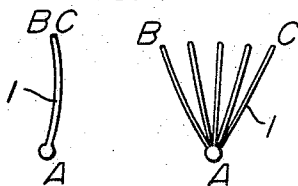


FIG. 2

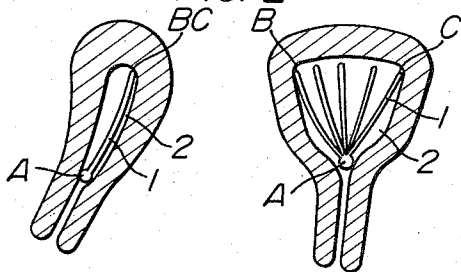
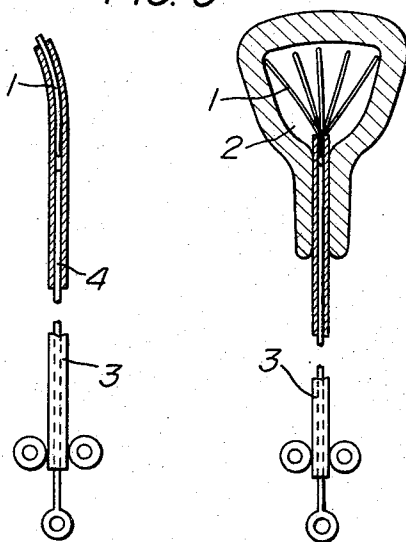


FIG. 3



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INTRA-UTERINE CONTRACEPTIVE APPLIANCE
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1 Claim. (Cl. 128—130)

ABSTRACT OF THE DISCLOSURE

An intra-uterine contraceptive appliance made of materials immune to chemical and physical changes in the human body and consisting of a plurality of elongated members arranged so as to open in the shape of a sector with ends joined together on one side.

The present invention relates to an intra-uterine contraceptive appliance.

Today, there are two types of intra-uterine contraceptive appliances available, namely, the type of appliance which requires dilation of cervix to insert the appliance into the uterine cavity and the type of appliance which does not require such dilatation procedure.

Those of the latter type have an advantage that the appliances can be inserted into cervix without any difficulty since they do not require dilatation of cervix, but this latter type of devices have a greater tendency to spontaneously come off the cervix than those which require dilatation of cervix.

This disadvantage that the appliances are liable to be spontaneously expelled from cervix after being placed therein may be noted also of the coil type device (known as Margulies coils), the loop type device (known as Lippes loops) and the ring type device (known as Ota rings) all of which are now widely used throughout the world.

In addition, the said coil type device and loop type device have beads and nylon threads attached at their ends respectively. These beads and threads are projected into vagina through the cervical canal when such appliance is inserted. Such projection stimulates the cervical canal, and results in increased secretion from the cervix, and besides, there is a great danger that the organ contracts infection.

The present invention contemplates elimination of these disadvantages. The foregoing as well as other objects and advantages of this invention may be more clearly understood by reference to the following detailed description when considered with the drawings in which:

FIG. 1 shows front and side views of the appliance of the present invention.

FIG. 2 shows front and side elevational views of the appliance of the present invention in use.

FIG. 3 shows front and side elevational views of the appliance being inserted into the uterine cavity by means of an inserter.

As shown in FIG. 1, the appliance of the present invention includes a plurality of elongated members 1 which are adapted to open in the shape of a sector defined by AB and AC with A forming a joined point. The number, the length, the thickness, etc. of the elongated members 1 may be freely changed depending upon the size and the shape of the uterus into which the appliance is inserted.

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Also, these elongated members are arranged so as to open in the shape of a sector with ends joining together on one side thereof when they are placed in uterus.

As observed in FIG. 2, the elongated members of the present appliance outstretch to cover the entire space of the uterine cavity 2 and thus prevent the fertilized ovum from being deposited onto the bed of the uterus. Conventional ring-type appliances often fail to accomplish the purpose of contraception when the ring is positioned at a lower portion of the uterine cavity in which the ring is placed. The device of the present invention completely eliminates this hazard.

A specially designed inserter 3 such as shown in FIG. 3 is used for the insertion of the appliance of the present invention into uterus. In actual operation, the said elongated members 1 are closed together and then inserted first into said inserter 3. The inserter 3 carrying said elongated members 1 therein is then introduced into the cavity 2 of uterus. Immediately after the inserter has passed the internal os of the uterus, the plunger 4 of the inserter is gently pressed with a finger. In this way, the appliance is placed right in the cavity. Then, the elongated members 1 open spontaneously within the cavity by the elastic force of their own.

The said appliance is supported by the uterine walls because of the elastic property of the elongated members AB and AC, and, as is clearly understood from the shapes of both the cavity and the stretched-out elongated members, the appliance can be supported in the uterus. Thus no spontaneous expulsion of the appliance of the present invention occurs in actual use. Moreover, the appliance of the present invention, to its advantage, can be easily inserted into the inserter 3 unlike the loop type device which requires a skilled technique in the insertion thereof.

It is important that the appliance of the present invention be made of such material which can be easily sterilized without developing a change in its quality and which is harmless and non-reactive to living body. For this purpose, such materials as synthetic resin, stainless steel and Teflon coated with silicone are most desirable.

It is apparent that various modifications may be made without departing from the substantial properties of the present invention. The above described example is intended merely to illustrate some of the important phases in certain selected embodiment of the present invention, and it is to be understood that the scope of the present invention is not restricted to the said example.

What is claimed is:

An intra-uterine contraceptive comprising a series of non-absorbent, elongated, elastic members having one end of each of said members integrated in a common joint, and other ends being free and extending away from said common point, said members being arranged to define a sector and two of said members being adapted to engage the walls of the uterine cavity thereby supporting said contraceptive.

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