

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Intra-uterine Contraceptive Device

I, BASIL PAUL APPLEBY, a British subject, of 136 Harley Street, London, W.1, do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to an intra-uterine contraceptive device.

According to the invention, such a device comprises a radially flattened helical coil made of resiliently flexible material and having substantially closed oblong loops at each end.

Contraceptives in the form of spirals lying in only one plane are known but the contraceptive according to the invention is more effective in that it can cover more of the lining of the uterus, especially because of the two oblong loops at each end, and it is less likely to become displaced in the uterus or even expelled therefrom. Whilst it is also known to construct intra-uterine contraceptives in pear-shaped form so as to simulate the shape of the uterus, the advantage of the present invention in this respect resides primarily in the fact that, because of its advantageous shape, it is less likely to cause bleeding and pain. Further, it can be made without sharp edges or projections which might tend to injure the lining of the uterus and it is of simple shape and therefore cheaper to make.

The coil may have about two turns extending between the loops. Although the number of turns is not critical, at least one turn is preferred. It is of advantage to make the coil of tapered configuration.

Examples of the invention are illustrated in the drawings accompanying the Provisional specification and in the accompanying drawings, wherein:—

Fig. 1 is a perspective view of an intra-uterine contraceptive device;
Fig. 2 is a side elevation thereof;

[Price 4s. 6d.]

Figs. 3 and 4 are views from each end;
Fig. 5 is a plan view thereof;
Fig. 6 is an enlarged end view illustrating a modified shape for the loops, and
Fig. 7 is an enlarged section through an introducer tube showing a different contraceptive therein.

The illustrated contraceptive device comprises a radially flattened helical coil of soft and resiliently flexible plastics wire having substantially closed co-axial oblong loops 1 and 2 at each end and one and a half turns extending therebetween. Polyethylene or polypropylene is a suitable material, if desired incorporating barium or a barium compound to show up in X-rays. The coil may be formed from a single length of plastics wire (Figs. 1 to 5) or moulded so that the loops are completely closed (Figs. 6 and 7) to avoid joints which might cause irritation. In the illustrated embodiments, the major diameter of the loop 2 is longer than that of the loop 1 so that the coil is of tapered configuration. The ends of the loops are well rounded. The minor diameters of the loops are shown substantially equal and would be about 8 mm at the most. To avoid any possibility of even the rounded ends of the loops constituting potentially harmful projections, one or both ends of each loop may be bulbous or bead-like as shown at 3 in Fig. 6.

The device of Figs. 1 to 5 is inserted into the uterus preferably with only the turns in an uncoiled state, and with the material forming the larger loop 2 foremost, preferably by means of an introducer in the form of a hollow tube and plunger, both of which can also be of plastics material. The device of Fig. 6 or 7 is also introduced with the loop 2 foremost and Fig. 7 shows how the loops are compressed as they pass through the tube 4 of the introducer. Fig. 7 also shows that the coil may be moulded with the wire of the

loops about half the diameter of the turns extending therebetween, the latter being a maximum of about 4 mm.

- 5 A speculum can be used to facilitate insertion of the device through the cervix of the uterus. In the uterus, the uncoiled turns of wire will resume their initial shape. A separate tail in the form of one or more strands 6 of, say, nylon, cotton, or silk or an integrally moulded tail of the same material as the 10 plastics wire may be suspended from the smaller loop 1 as shown in Fig. 7 to project from the cervix and facilitate removal of the device from the uterus. The tail can be knotted 15 to the loop 1 if it is separate, and a special hole 7 may be provided for this purpose.

- The invention also extends to a sterilised pack containing the contraceptive device and preferably also containing a pair of gloves, 20 the introducer and a speculum. The gloves, introducer and speculum may be disposable.

WHAT I CLAIM IS:—

- 25 1. An intra-uterine contraceptive device comprising a radially flattened helical coil made of resiliently flexible material and having substantially closed oblong loops at each end.

- 30 2. A device according to claim 1 wherein the coil comprises at least one turn of the material extending between the loops.

3. A device according to either preceding claim wherein the coil is formed from a single length of plastics wire.

- 35 4. A device according to claim 1 or claim 2 wherein the coil is moulded with completely closed loops.

5. A device according to any preceding claim wherein the material of the coil is polyethylene or polypropylene.

- 40 6. A device according to any preceding claim wherein the material of the coil includes barium or a barium compound.

7. A device according to any preceding claim wherein the major diameter of one loop is larger than that of the other loop. 45

8. A device according to any preceding claim wherein the minor diameters of the loops are substantially equal.

9. A device according to any preceding claim wherein the minor diameters of the loops are a maximum of 8 mm. 50

10. A device according to any one of claims 4 to 9 wherein one or both ends of each loop are bulbous.

11. A device according to any one of claims 4 to 9 or 10 when appended to claim 2, wherein the diameter of the material of the loops is substantially one half the diameter of the material of the turn or turns. 55

12. A device according to any one of claims 2 to 11 wherein the diameter of the material of the turn or turns is a maximum of about 4 mm. 60

13. A device according to any preceding claim including a tail of one or more strands suspended from one of the loops. 65

14. An intra-uterine contraceptive device substantially as described herein with reference to the drawings accompanying the Provisional specification or the accompanying drawings. 70

15. A sterilised pack containing the contraceptive device according to any preceding claim.

16. A sterilised pack according to claim 15 including a pair of gloves, a speculum and an introducer comprising a hollow tube and plunger. 75

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