No. 662,716. Patented Nov. 27, 1900.

J. G. L. GAEDEKE.

INTRA UTERINE BATTERY.

(Application filed July 31, 1900.)

(No Model.)

Fig. 1.

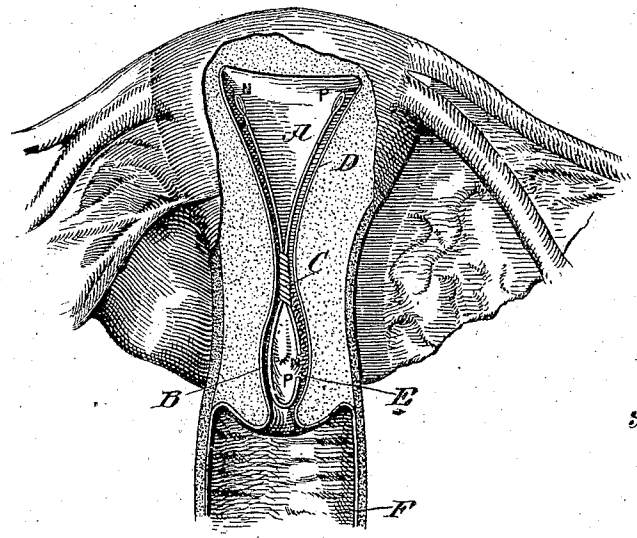


Fig. 8.

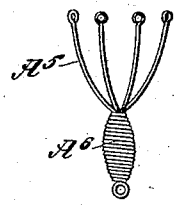


Fig. 9.



Fig. 2.

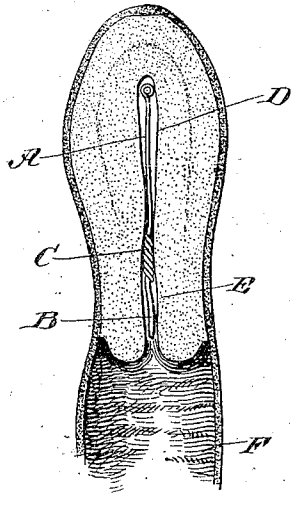


Fig. 4.

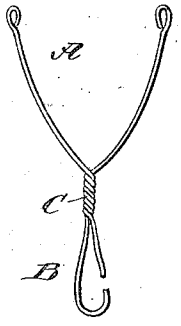


Fig. 3.

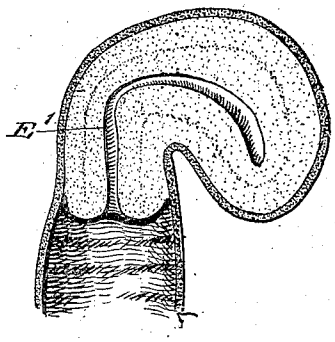


Fig. 5.

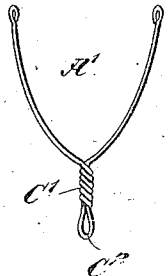


Fig. 7.

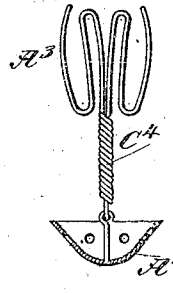
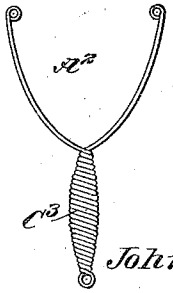


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN G. L. GAEDEKE, OF NEW YORK, N. Y.

INTRA-UTERINE BATTERY.

SPECIFICATION forming part of Letters Patent No. 662,716, dated November 27, 1900.

Application filed July 31, 1900. Serial No. 25,380. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. L. GAEDEKE, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Intra-Uterine Battery, of which the following is a full, clear, and exact description.

The invention relates to electrotherapeutics, and more especially to devices employed for treatment of the womb of the female of the human race, as well as the female of all species of quadrupeds and vertebrates.

The object of the invention is to provide a new and improved intra-uterine battery designed for the cure of sterility in the female by electrically influencing directly the whole structure of the womb and its cavities and their openings, and thereby indirectly, by reflex excitation, the whole genito-urinary system of the female pelvis, and to correct the flexions and versions of the uterus and to correct excessive and acid secretions of the inner or mucous surface of the womb and neck, without, however, interfering with the free flow of the menstrual discharges, as well as the normal mucous discharges from the interior of the cavity of the neck and body of the womb.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the improvement as applied and with the womb and vagina shown in section and adjacent parts of the womb shown in elevation. Fig. 2 is a side view of the same as applied and with the womb and vagina shown in transverse section. Fig. 3 is a transverse section of a womb with a flexed neck. Fig. 4 is a front elevation of the improvement. Figs. 5 and 6 are front elevations of modified forms of the improvement. Fig. 7 is a front elevation of another modified form of the improvement, with part shown in section; and Figs. 8 and 9 are front elevations of further modified forms of the improvement.

The improved device illustrated in Figs. 1, 2, and 4 consists, essentially, of two sets of elements A and B, preferably formed of wires of positive and negative metals, the wires being twisted one on the other, as at C, to separate the sets of elements. The device when applied to the womb extends, with the set of elements A, into the interior of the body D of the womb, while the other set of elements B extends with the twist C into the neck E of the womb, without, however, projecting into the vagina F. When the device is inserted in the womb, as shown and described, then the body D and neck E form battery cells or jars for the sets of elements A and B, respectively, and the warm mucous secretions of the womb form the exciting fluid for the double-cell battery, so that a galvanic action sets in at the womb shortly after insertion of the device. This galvanic action of the device, as well as the resiliency of the wires, corrects the flexions of the uterus and also causes correction of the excessive and acid secretions of the inner or mucous surface of the womb and neck and enlarges the natural passages to the interior of the womb, technically termed "stenosis" of inner or outer os or mouth of the womb, or both, and for the cure of chronic nectritis, the defects mentioned being the five principal sources of sterility in the vertebrate female.

The instrument when applied virtually converts the vertebrate uterus into an electric or galvanic cell and, if desired, by using also the cavity of the neck, an electrogalvanic battery, giving tone to the structure and correcting acid and excessive secretions, making the secretions still more or excessively acid by virtue of the galvano-electric current, thereby adding tonicity to the muscular fiber and the inner mucous surface of the uterus and cervix, causing correction of the flexions and versions and excessive flow and also of acidity of the fluids, and upon withdrawal of the instrument after wearing same for a period of time (determined by the severity of the case) a normal alkaline secretion ensues or follows, making conception possible or probable—in fact, quite certain—on exposure to the same.

The use of the device causes flexions of the neck and versions of the body of the womb

to disappear by virtue of the tonicity imparted to the parts by the action of the constant electric current produced in utero, by virtue of the different electrical elements attached to the support thus formed for the neck of the womb, and thereby causing hardened and cicatricial tissues to soften and disappear under its influence and causing straightening and enlarging of the cervical canal and the external and internal mouth of the womb and leaving the parts in an open and healthy condition upon the removal of the instrument after having been left inserted a reasonable time, according to the necessity of the case.

By the use of the device the mucous and glandular discharges are left slightly alkaline for the reception, transmission, and nourishment of the spermatozoa of the male, thus making conception a certainty if exposed to the same after withdrawal of the instrument.

This invention not only dilates and straightens to the physiological or normal proportions the uterine cervix and its canal, including the inner and outer mouth of the same, mechanically, but, inasmuch as it has the constant galvanic current passing through these parts most directly and efficiently by virtue of the womb itself having been converted into a veritable galvanic battery supporting the mechanical action of the merely mechanical dilator or tampon, also gives tonicity, increased blood-supply, and nutrition to the top of the uterus, its neck and mucous linings, including the glandular and nervous activity of the parts, increasing nutrition and tissue metamorphosis by enhancing the blood-supply directed to the pelvic organs, directly and indirectly giving tone to all the pelvic organs and ligaments, thereby relieving congestions, causing functions to become normal by removing excessive abnormal cervical and uterine discharges called "leucorrhea," and thereby restoring to good health what were formerly irritable and hysterical subjects and transforming chronic invalids into cheerful healthy females.

Instead of a double-cell battery a single cell may be produced by using but a single set of elements A', as shown in Fig. 5, the wires forming the elements, however, being twisted together, as at C', and terminating in a loop C^2, which, with the twist C', is inserted in the neck of the womb and forms a firm support for the elements, the wires of which extend into the cavity of the body of the womb, and the loops of every instrument serve to withdraw the instruments when the same have served their purpose.

In the modified form shown in Fig. 6 the wires of the single set of elements A^2 terminate in a heavy coil C^3, which forms an exceedingly strong yet flexible support for the elements, it being understood that in each case the support formed by the twist, as well as the elements, also serves to mechanically dilate and straighten to the physiological or normal proportions the uterine cervix and its canal, including the inner and outer mouth of the same. For instance, if the neck E' of the womb is flexed, as shown in Fig. 3, the insertion of the device mechanically and electrically causes a correction of the womb to the normal position.

In the modified form shown in Fig. 7 the positive element A^3 consists of a plurality of wires twisted together to form the support C^4 and having a hinged connection with the negative element A^4 in the form of a cup with a perforated wall. This cup fits against the mouth of the womb, and the perforations allow free passage for the discharges, &c.

The modified form shown in Fig. 8 shows positive element and electrode A^5 likewise composed of a plurality of wires, the negative element A^6 and electrode being wound spirally around a core composed of a miniature dry battery, all aiding and intensifying the galvanic activity of the positive and negative elements. The modified forms shown in Figs. 7 and 8 are more especially designed for use in aggravated cases requiring the generation and use of a large quantity of electricity to effect the desired cure.

In Fig. 9 is illustrated a tampon battery consisting of the wire elements A^7 A^8, running into the upper and lower coils A^9 A^{10}, respectively, of the same electromotive quality for more aggravated cases or flexion or stenosis.

It is understood that the elementary metals which produce a galvanic action have a spring action, and it is intended to bring the points together and keep them temporarily together (after they are made aseptic) by the use of asepticized gelatin to allow of convenient introduction into the womb or uterus. Now after such device is inserted the action of the fluid in the womb and the body warmth soon causes the gelatin to become soft, so that the inherent resiliency of the points or arms causes the latter to open and separate or spread apart to retain the device in place and to prevent it from accidentally slipping out of the womb.

Thus from the foregoing it is evident that by the use of the device the nerves, muscular tissue, glands, and mucous surface and their secretions are restored to normal conditions and functions without interfering in any way with the otherwise normal functions of these parts—such as secretions, menstruation, &c.—and causing the patient absolutely no pain on introduction, and owing to its lightness of weight and as it only fills out the normal spaces causes no perceptible sensation except one of slight warmth and well-being, and owing to its careful and aseptic manufacture and packing cannot be productive of infection or inflammation or other mischief, if only ordinary surgical care is practiced during and in its insertion.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. An intra-uterine battery consisting of connected sets of elements, one for engaging in the neck of the womb and the other the body thereof, as set forth.

2. An intra-uterine galvanic cell having a set of elements and a connecting support for the same, the support engaging the neck of the womb and the elements the body thereof, as set forth.

3. An intra-uterine battery having a set of elements formed of positive and negative wires twisted together at one end to form a support engaging the neck of the womb, the other element engaging the body of the womb, as set forth.

4. An intra-uterine battery having sets of elements formed of positive and negative wires having portions twisted together, to separate the sets of elements, as set forth.

5. An intra-uterine battery having elements flexibly connected with each other, one of the elements being cup-shaped and perforated, as set forth.

6. An intra-uterine battery having connected elements with the terminals normally spread apart, and means for temporarily holding the terminals closed for convenient insertion of the device in the womb, as set forth.

7. An intra-uterine battery having connected elements with the terminals normally spread apart, and means for temporarily holding the terminals closed for convenient insertion of the device in the womb, the said means consisting of gelatin, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. L. GAEDEKE.

Witnesses:

THEO. G. HOSTER,

EVERARD BOLTON MARSHALL.