Specification of Morris Mattson : apparatus for administering injections.

A.D. 1872, 27th JULY. N° 2251.

SPECIFICATION

OF

MORRIS MATTSON.

APPARATUS FOR ADMINISTERING INJECTIONS.

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A.D. 1872, 27*th* JULY. N° 2251.

Apparatus for Administering Injections.

LETTERS PATENT to Morris Mattson, of the City and State of New York, United States of America, now of No. 8, Southampton Buildings, London, Doctor of Medicine, for the Invention of "AN IMPROVED APPARATUS FOR ADMINISTERING VAGINAL AND OTHER INJECTIONS, AND BOX FOR CONTAINING THE SAME."

Sealed the 3d December 1872, and dated the 27th July 1872.

PROVISIONAL SPECIFICATION left by the said Morris Mattson at the Office of the Commissioners of Patents, with his Petition, on the 27th July 1872.

I, MORRIS MATTSON, of the City and State of New York, United States of America, now of No. 8, Southampton Buildings, London, Doctor of Medicine, do hereby declare the nature of the said Invention for "AN IMPROVED APPARATUS FOR ADMINISTERING VAGINAL AND OTHER INJECTIONS, AND BOX FOR CONTAINING THE SAME," to be as follows:—

The injections which my apparatus is chiefly used for are,—

First. Vaginal injections. These may consist of water or other fluid, and are intended to cleanse the vagina.

Second. Nasal injections for cleansing the nasal cavities.

Third. Injections for the bowels. These are known as enemas, clysters, or lavements.

Fourth. Sprays for cleansing wounds and other injuries.

The injecting portion of the said apparatus consists of what may be termed an elastic bulb syringe. The bulb or bottle resembles an egg in shape, and is vulcanized without an aperture. After vulcanization an aperture is drilled at one end, and into this aperture a screw with a round head made of metal or hard rubber is inserted. To this screw is connected the inlet valve and inlet supply tube, both made of rigid materials. Just above the inlet valve is a coupler for the elastic outlet tube, at whose end is attached the outlet valve socket, to which is secured the vaginal irrigator, nasal irrigator, or either of the injecting tubes for administering the common enema or clyster, or a spray cap for the delivery of sprays.

The screw inserted into the bottle is designed to prevent leakage of the same. The rigid inlet tube may be readily detached after using the syringe without disturbing the valve, and the said syringe may be thereby packed in a much smaller and more portable box than would otherwise be practicable. The outlet valve being placed at the end of the outlet flexible tube instead of at the opposite extremity near the bulb or bottle, prevents the flowing back of the fecalized fluids of the rectum into the syringe during the process of injection, and thereby keeps the instrument from becoming offensive.

The vaginal irrigator is an open cage-like structure with longitudinal bars made preferably of hard rubber instead of metal. It is about two and a half inches long, and about five-eighths or three-quarters of an inch in diameter, and has an inlet stem or tube, through which the water or other fluid is injected. The inlet tube when in use is coupled with the terminal valve socket already described. The aforesaid irrigator is intended to distend the vagina, while at the same time the injected fluid is permitted to flow freely through the openwork structure to the interior of the vaginal canal. The fluid injected into the vagina is permitted to flow out into a separate vessel, and is not used a second time.

The nasal irrigator consists of a hollow conical plug made of metal or hard india-rubber; it has a stem or neck to connect it with the terminal valve socket, as already described. By inserting it in either nostril, which it closes tightly, and pumping fluid through it with the syringe the fluid will be caused to flow out through the opposite nostril, and produce a thorough cleansing of the nasal cavities. Its dimensions are

such as to plug any nostril tightly, so that I may use one nozzle for any number of cases instead of using a number of nozzles of various sizes, as heretofore.

The injecting tubes for administering enemas or clysters are similar to those in common use; they may be made of metal, hard india-rubber, ivory, or other suitable material.

The spray cap for the delivery of sprays may also be made of metal, hard rubber, or ivory.

The aforesaid box is provided with a tray designed to keep the injecting tubes in place, and prevent their shaking and rattling in the box. This tray may be made of wood or by moulding any suitable material by hydraulic pressure. It is placed in the top of the box resting upon wooden supports, and has a central opening through which the bulb or bottle of the syringe projects when properly adjusted or packed within the box. The injecting tubes and other parts are placed in grooves or receptacles upon the top of the tray, and are safely secured when the lid of the box is closed.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Morris Mattson in the Great Seal Patent Office on the 23rd January 1873.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, MORRIS MATTSON, of the City and State of New York, United States of America, now of No. 8, Southampton Buildings, London, Doctor of Medicine, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-seventh day of July, in the year of our Lord One thousand eight hundred and seventy-two, in the thirty-sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Morris Mattson, Her special licence that I the said Morris Mattson, my executors, administrators, and assigns, or such others as I, the said Morris Mattson, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend within the United Kingdom of Great Britain and Ireland, the

Channel Islands, and Isle of Man, an Invention for "AN IMPROVED APPARATUS FOR ADMINISTERING VAGINAL AND OTHER INJECTIONS, AND BOX FOR CONTAINING THE SAME," upon the condition (amongst others) that I, the said Morris Mattson, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Morris Mattson, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying Drawing forming a part of this Specification:—

The injections which my improved apparatus is chiefly used for are,—

First. Vaginal injections. These may consist of water or other fluid, and are intended to cleanse the vagina.

Second. Nasal injections for cleansing the nasal cavities.

Third. Injections for the bowels. These are known as enemas, clysters, or lavements.

Fourth. Sprays for cleansing wounds and other injuries.

My improved apparatus comprises the usual features of a common enema syringe in combination with the following appliances:—First, an elastic bulb or bottle vulcanized, without a neck, and so arranged as to prevent leakage; second, a sectional inlet tube made of rigid material, which may be readily detached without disturbing the valve, so that the instruments may be packed in a small portable box; third, an adjustable outlet valve at the end of the flexible outlet tube, which prevents the fecalized fluid of the bowels from flowing back into the syringe; fourth, a vaginal irrigator to be used in place of the ordinary vaginal tubes, and which consists of an open or cage-like structure formed to distend the vagina, and allow the injected fluid to have ready access to the interior of the vaginal canal; fifth, a nasal irrigator plug or nozzle of such shape and dimensions as to close any sized nostril tightly, thereby obviating the necessity for a number of plugs or nozzles, from which to select

according to the size of the nostril; sixth, a naso-pharyngical tube used in connection with an elastic bulb syringe for directing a stream of water through both nostrils at the same instant; seventh, a box with a peculiarly constructed tray, in which the apparatus is kept compactly in place without shaking or rattling.

Description of the Drawing.

Figure 1 shows the aforesaid bulb and flexible tube; Figure 2 shows one of the rigid inlet or supply tubes; Figure 3 shows my improved vaginal irrigator; Figure 4 shows my improved nasal irrigator or plug; Figures 5 and 6 are two views of the aforesaid naso-pharyngical irrigator; Figure 7 is a perspective view of the box in which my apparatus is packed. Like letters indicate the same parts throughout the Drawing.

The bulb or bottle *a* is egg shaped, as shown, and is vulcanized without an aperture, and consequently without a neck. A small aperture is drilled at either end, and into this aperture a screw coupling *b* with a round head, and made of metal or other suitable hard material, is inserted. To this screw coupling is connected the upper section *c* of the inlet or supply tube. Syringe bottles vulcanized with necks, however they may be fastened, are liable sooner or later to leak, but no leakage will occur with the device herein described.

The ordinary rigid inlet tubes of syringes are not constructed in sections, so as to be shortened at will for the purpose of being packed in a smaller box than would be otherwise possible. But my inlet tube consists of three sections. The upper section *c* is connected with the bulb, as above described, and has a branch coupling *f* for the elastic outlet or discharge tube *g*. The next section *d* of the said inlet tube contains the inlet valve. The third or lower section *e* is of sufficient length to draw water from any ordinary household vessel. The said sections are formed with screws at their ends for connecting them. But in the lower section *e* a slip joint is sometimes used instead of a screw. This section is intended to be detached for the purpose of economical packing, as already described, and its separation is effected without disturbing the aforesaid valve. The sections *c*, *d*, *e*, may be constructed so that the two lower ones with the valve in place may be removed from the syringe for packing, or all three of the sections, if desirable, may be detached from the bottle for the same purpose.

Mattson's Improved Apparatus for Administering Injections.

If the outlet valve is placed near the bulb or bottle, as is usually the case, the fecalized fluid of the bowels is liable to be forced back into the elastic discharge tube, and the syringe is thereby rendered highly offensive. This difficulty is overcome in my apparatus by placing the outlet valve at the end of the discharge tube *g* in the metal socket *h*. When thus arranged the said valve completely prevents the downward flow of the fecalized fluids.

The vaginal irrigator, Figure 3, is an important part of my apparatus, for nothing in connection with syringes has been more desirable than an improved method of cleansing the vagina. This object is of paramount importance in all cases of leucorrhoea, whether in reference merely to cleanliness or to permanent curative results. The ordinary slender vaginal tube, four or six inches in length with perforations at the end, does not answer the purpose satisfactorily, because the loose folds of the vaginal membrane close about it, and interfere with the detergent or cleansing effects of the injected fluid. Vaginal tubes have been made an inch or more in diameter with round perforated ends, and sometimes perforations are made along the sides. But though the vagina is distended by this contrivance the lining membrane of the same closes tightly around the tube, and prevents the flowing of the injected fluid freely between the tube and the membrane, thereby interfering materially with the cleansing operations. The same objections apply to the use of the slender tube with a large perforated ball at the terminal extremity, which has also been used. There are also large vaginal tubes with shields at the base designed to close the external orifice of the vagina, and prevent the escape of the injected fluid. Such tubes are of necessity shorter than the vagina, and therefore the space between the end of the tube and the top of the vagina cannot be efficiently cleansed, because the vaginal membrane falls into loose folds in the centre of the vaginal canal. Moreover such a tube cannot be moved up and down within the vagina during the process of injection.

The above objections are all obviated by my improved irrigator herein described.

The said vaginal irrigator is an open cylindrical cage-like structure *i* with longitudinal bars *j*; it is preferably made of hard india-rubber instead of metal. It is about two and a half inches long, and about five-eighths or three-quarters of an inch in diameter, and has an inlet stem or tube *k*, through which the water or other fluid passes into the

part *i*. This inlet tube *k* when the irrigator is used is coupled with the terminal valve socket *h*. The aforesaid irrigator is intended to distend the vagina, while at the same time the injected fluid is permitted to flow freely through the openwork structure *i* to the interior of the vaginal canal. The fluid injected into the vagina is permitted to flow out into a separate vessel, and is not used a second time. The said irrigator distends the vagina, and allows the injected fluid to pass freely between the large openings in the part *i*, and comes in contact with the interior of the vaginal canal. The said irrigator also having no shield may be moved up and down within the vagina while the injection is proceeding, and in this way the entire surface of the vagina is exposed to the cleansing effect of the fluid. Moreover the irrigator may be rotated during the process of injection, and its rotation will serve to detach the solid secretions from the vaginal membrane, an effect which could not be produced if the irrigator had a shield at its base. If it is desirable to retain the fluid temporarily within the vagina this can be accomplished conveniently by pressing the external soft parts around the stem or inlet tube of the irrigator.

Nasal irrigators originated with E. H. Weber, of Leipzig, Germany, who discovered that a stream of water may be made to pass into one nostril, and out of the other. Professor Thudichum, of London, availed himself of this discovery in connection with hydrostatic pressure to irrigate or wash the nasal cavities, thus introducing a new and desirable method of treating diseases of the nose. A "nozzle" was employed in connection with the hydrostatic apparatus to convey fluid into the nasal cavities. Great care being necessary to secure the accurate fitting of the nozzle in the nostrils it was necessary to furnish several sizes of nozzles, so that a nozzle could be selected from the number that would accurately close the nostril requiring to be injected. My improvements in relation to this part of my apparatus are, first, instead of nozzles of various sizes I use a single nozzle or plug, having the peculiar formation and dimensions shewn in Figure 4. This plug will effectually close any nostril, large or small. Secondly, I connect the nozzle or plug with the tube *g* of the apparatus, shewn in Figure 1, instead of using the hydraulic apparatus previously employed. By these improvements I obtain obvious advantages, among which are the following, viz., much or little fluid can be injected at will, and the force of the stream can be accurately regulated by the pressure of the hand upon the elastic bulb *a*.

Mattson's Improved Apparatus for Administering Injections.

The naso-phargngical irrigator, Figures 5 and 6, is a hollow tube, six inches long, made of metal or hard rubber. The terminal extremity, shewn at *l*, is turned up, as shewn in Figure 5, about $^3/_8$ths of an inch; *m* is a screw coupling. The orifice *n*, through which the fluid escapes, is at a right angle to the tube; it is a fine slit about $^3/_8$ths of an inch in length. This tube, connected with the apparatus, Figure 1, or any suitable syringe, when introduced carefully behind the uvula and soft palate, is very useful. In some cases it may be used for projecting a stream of fluid simultaneously through the nostrils.

The improved box, Figure 7, is provided with a tray *o*, and, as above specified, is designed to keep the injecting tubes and other parts in place, and prevent their shaking and rattling in the box. This tray may be made of wood or other suitable material. It is placed in the top of the box, resting upon wooden supports; it has a central opening *p*, through which the bulb or bottle *a* projects when properly adjusted or packed within the box. The injecting tubes, and other parts, are placed in grooves or receptacles upon the top of the tray *o*, and are safely secured when the lid of the box is closed.

In witness whereof, I, the said Morris Mattson, have hereunto set my hand and seal, this Third day of January, in the year of our Lord One thousand eight hundred and seventy-three.

MORRIS MATTSON. (L.S.)

Witness,

GEORGE HASELTINE,
Civil Engineer,
8, Southampton Buildings,
London.

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Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1873.

A.D. 1872. JULY 27. N° 2251.
MATSON'S SPECIFICATION.

(1 SHEET)

FIG. 1.

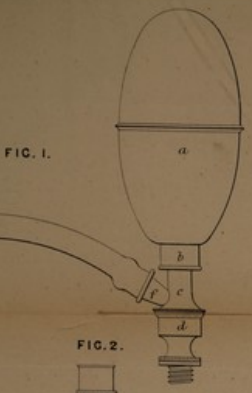


FIG. 2.

FIG. 4.

FIG. 7.

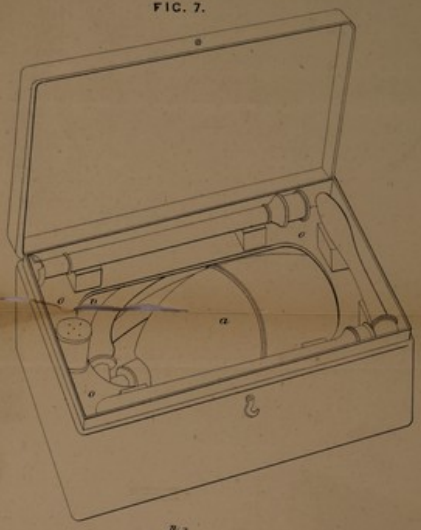


FIG. 5.

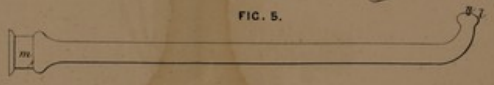


FIG. 6.

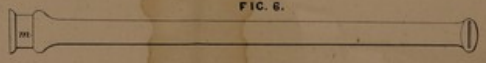
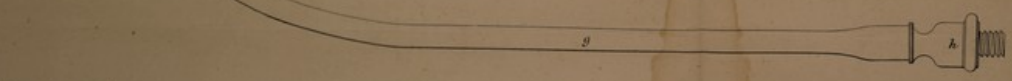


FIG. 3.



The filed drawing is not colored.

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Printers to the Queen's most Excellent Majesty. 1873.