J. O. MORRISON.

MEDICINE APPLICATOR AND MOISTENER.

APPLICATION FILED NOV. 13, 1915.

1,194,215. Patented Aug. 8, 1916.

Fig. 1.

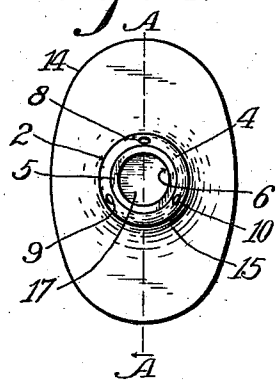


Fig. 2.

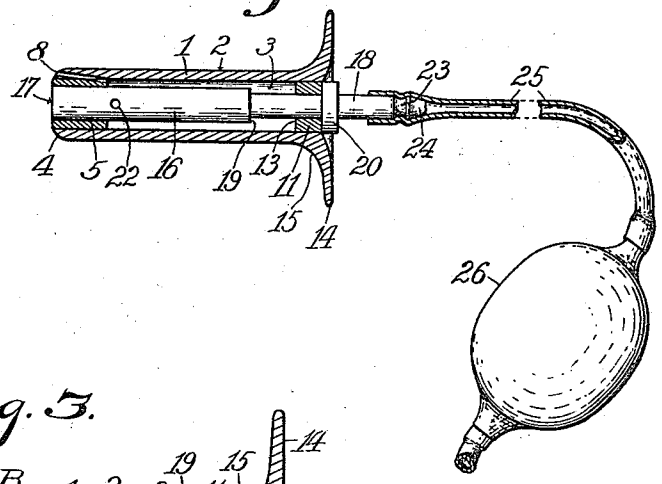


Fig. 3.

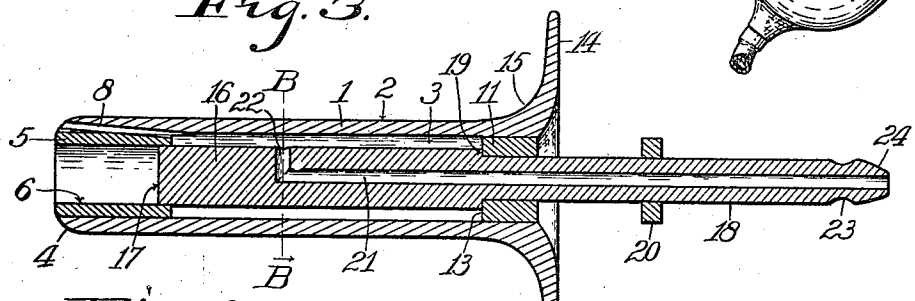


Fig. 4.

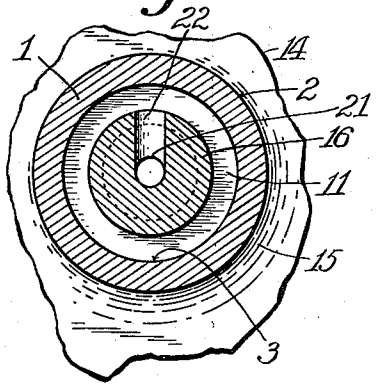


Fig. 5.

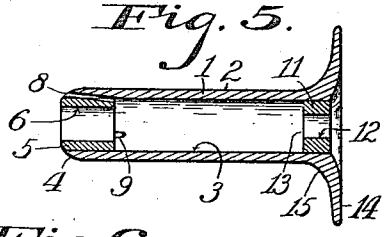
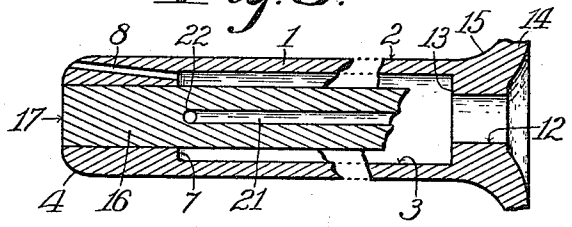


Fig. 6.



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MEDICINE APPLICATOR AND MOISTENER.

1,194,215. Specification of Letters Patent. Patented Aug. 8, 1916.

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To all whom it may concern:

Be it known that I, JOSEPH O. MORRISON, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented a new and useful Medicine Applicator and Moistener, of which the following is a specification, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

This invention relates to a combination instrument for applying medicine in the form of tablets, solid or powdered form, or in capsules, in either natural channels or passages or in cavities formed by disease or surgeons in performing operations, in either the human or animal forms, and holding the medicine where placed, and also for moistening the medicine when required or desired after having been placed in proper position to be effective, the invention having reference more particularly to an implement of the above-mentioned character which may be used either as a medicine applicator or independently for applying liquid medicine, medicated liquid, or as a syringe for irrigation purposes.

An object of the invention is to provide an instrument that is capable of applying both solid and liquid medication at practically one and the same time, and also capable of being used for separately applying either solid or liquid medication, as above-mentioned, of simple and inexpensive construction, and which shall be capable of retaining the medication where placed so as to be more effective, especially when applied to internal ulcerations or to tumors.

Another object is to provide an instrument of the above-mentioned character that shall be of simple construction and easily handled and operated, and therefore be suitable for use by the patient or such as may be in need of the medication under the direction of the medical practitioner; which instrument shall be of such construction as to permit of being easily kept in a clean and sanitary condition and ready for use.

With the above-mentioned and other objects in view, the invention consists in a combination instrument provided with a carrying chamber having a movable bottom, the chamber being adapted to receive solid or dry medicine and carry it to the affected part, the bottom being arranged to be advanced for ejecting the medicine from the chamber at the proper time, the bottom member having an operating-stem in which is a duct for conducting liquid into the interior of the instrument to be forced out of a jet nozzle or ducts formed in the front end of the main part of the instrument, the operating-stem being adapted to have a force pump connected therewith; and the invention consists also further in the novel parts, and combinations and arrangements of parts, as hereinafter particularly described and further defined in the accompanying claims.

Referring to the drawings,—Figure 1 is a front view of the combination instrument; Fig. 2 is a longitudinal sectional elevation on the line A A on Fig. 1, a pumping-device of well-known construction being illustrated in connection with the operating-stem of the relatively movable part of the instrument, the movable part for injecting the medicine being shown in advanced position; Fig. 3 is a central section also on the line A A; Fig. 4 is a transverse section on the plane of the line B B on Fig. 3; Fig. 5 is a longitudinal section of the main part of the instrument as preferably constructed, as on the line A A; and, Fig. 6 is a fragmentary section showing the main part of the instrument slightly modified and partially broken away.

Similar reference characters on the different figures of the drawing indicate corresponding elements or features of construction herein referred to.

As preferably constructed the instrument comprises a main part that is hollow and composed of a wall 1 which may suitably be made of hard rubber and having a cylindrical exterior 2 and a preferably cylindrical interior 3. The normal front end of the wall has a rounded edge portion 4 and internally the wall is suitably thickened to form a head, in some cases this being accomplished by means of a bushing 5 inserted and suitably secured in the front end portion of the main part, the bushing having a cylindrical guide bore 6 which forms a chamber of uniform diameter therein. In some cases a head 7 is formed integrally instead of separately on the interior of the wall, as illustrated in Fig. 6, so that the main part has a chamber portion back of the head from which extends a suitable number of ducts 8,

9, 10 extending outward through the wall to the front extremity thereof, the orifices of the ducts preferably being in the rounded edge portion 4. The normal rear end portion of the wall is thickened internally preferably by means of a bushing 11 inserted in the interior of the part and having a guideway 12 therein that is less in diameter than the bore 6, so that the bushings constitute heads between which to form a chamber portion in the main part which may be of only the necessary length, but is illustrated as being longer than necessary in order to avoid adding unnecessary weight on the interior of the wall forward of the rear head, the rear head being adapted to constitute a stop 13. The main part is smooth externally so as to be readily inserted into an opening for the insertion of the medicine, and its rear end has a flange 14 thereon which has a fillet 15 on its forward portion adjacent to the exterior 2 of the main part, for serving as a closure of the orifice of the opening to prevent outflow of liquid.

The instrument comprises also a rod that is movable in the main part and comprises a head 16 that is closely fitted in the bore 6 of the forward head and has a flat front face 17, so that when the head portion 16 of the rod is retracted in the bore a chamber is formed to receive and carry suitably prepared medicine into the passage or opening where required, the head forming a movable bottom for the chamber adapted to eject the medicine from the chamber. The rod comprises an operating-stem portion 18 that is of less diameter than the head and extends from the rear end of the latter through the guideway 12, so that a stop shoulder 19 is formed that is seated on the annular stop 13 or rear head when the rod is retracted. The outer portion of the stem is provided with a suitable stop, preferably a collar 20 secured thereon that is brought into contact with the rear head when the rod is moved forward so that the face 17 shall be flush with the front end of the main part. The rod has a duct therein comprising a longitudinal portion 21 that extends from the end of the stem portion 18 into the head 16, and a lateral portion 22 extending thence to the exterior of the head to form communication with the chambered interior of the main part, the lateral portion being adjacent to the back of the front head of the main part when the rod is moved forward. The exterior of the stem has a groove 23 therein and a tapering external end portion 24 to which a flexible tube 25 may be readily connected, the tube being connected with a suitable pump bulb 26 constructed for forcing liquid through the tube.

In practical use the medicine is placed in the chamber upon the head 16 of the rod and suitable provision is made for supplying the desired liquid to the bulb 26, after which the instrument is inserted in the channel or opening into which the medicine is to be applied, in some cases the flange 14 being brought up to the orifice if desired when liquid is to be used, to prevent return of the liquid. Having properly inserted the medicine the ejecting-rod is moved forward until stopped, which action causes the medicine to be ejected from the carrying-chamber or bore 6, after which the medicine may be held in place the required length of time, to permit it to become dissolved if required. If liquid is desired to aid in dissolving the medicine the bulb 26 is worked in the usual manner so as to cause the liquid to be forced through the duct portion 21 and out the lateral portion 22 into the chamber of the main part from which the liquid is forced through the nozzle ducts, the passage through the instrument being continuous whether the ejecting-rod is advanced or retracted. In case it is not desired to apply solid or dry medicine, it will be understood that liquid medicine or medicated liquid may be applied to the affected parts through the instrument, and obviously the instrument may be used for irrigation with water if desired.

Having thus described the invention, what is claimed as new is—

1. A medicine applicator including a hollow main part having a cylindrical exterior, the front end portion of the part having a cylindrical guide bore of less diameter than the rearward adjacent interior of the part, the end portions of the wall of the part being relatively thicker internally than the remaining portion to constitute heads for the part and a chambered interior between the heads, the wall of the front end portion having ducts therein extending from the chambered interior and about the guide bore to the extremity of the wall, the extremity of the wall having a rounded edge, the head in the opposite or rearward end portion of the part constituting a stop and having a guideway therein, the exterior of the rearward end portion having a closure flange thereon that has a fillet adjacent to the exterior of the main part; and a rod movable in the main part and comprising a head closely fitted in the guide bore and a stem extending from the head through the guideway, the head being stopped by the head that has the guideway, the rod having a duct therein that extends from the outer end of the stem into the head portion and out of the side of the head portion thereof to the chambered portion of the main part, the outer portion of the stem having a stop collar thereon to engage the rear head of the main part.

2. A medicine applicator and moistener comprising a main part having a chamber in its front portion to receive and carry the medicine, the chamber having a movable bot-

tom to be advanced to eject the medicine, the front portion of the main part having also a chambered interior and ducts extending therefrom to conduct liquid to the ejected medicine, and a stem connected to the movable bottom and extending out of the rear portion of the main part for controlling the bottom, the stem having a duct therein extending to the chambered interior of the main part.

In testimony whereof, I affix my signature in presence of two witnesses.

JOSEPH O. MORRISON.

Witnesses:

E. E. GARDNER,

G. G. GOSS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."