No. 873,021. PATENTED DEC. 10, 1907.

H. R. COOL.

ELECTROTHERAPEUTIC SYRINGE.

APPLICATION FILED AUG. 2, 1907.

Fig. 1.

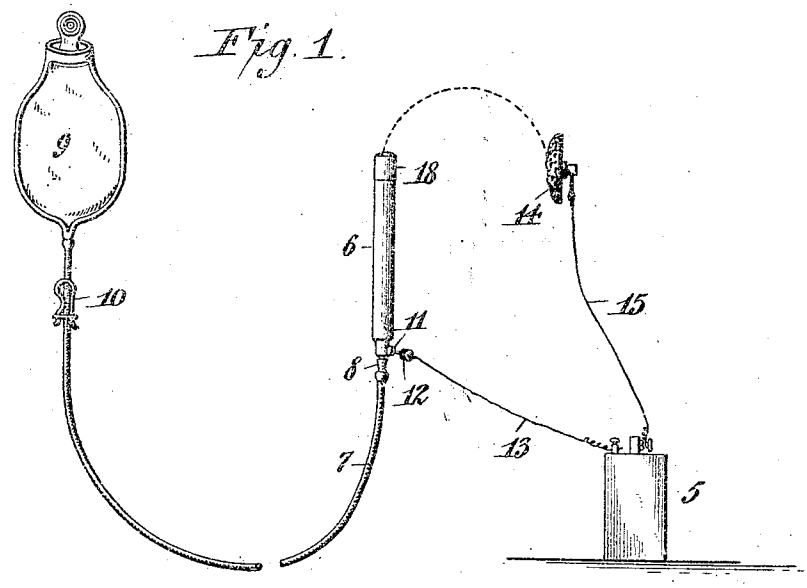


Fig. 2.

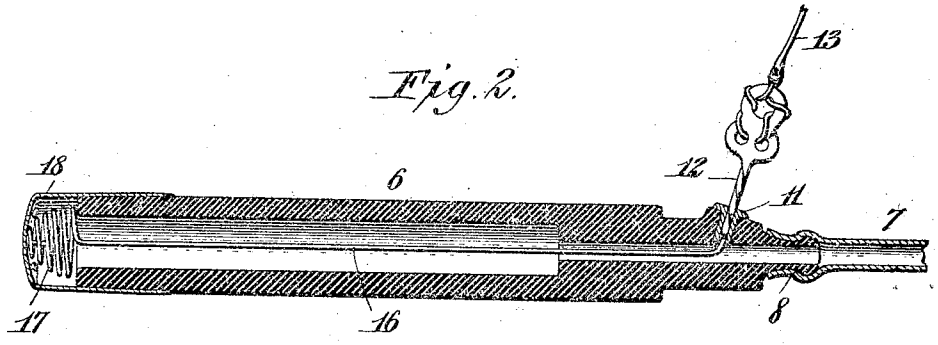


Fig. 3.

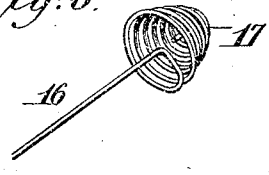
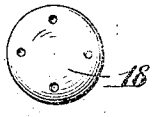


Fig. 4.



Witnesses:
Christ Feinle.
Harry D. Rapp

Harlow R. Cool, Inventor.
By Emil Neuhart
Attorney.

UNITED STATES PATENT OFFICE.

HARLOW R. COOL, OF BRADFORD, PENNSYLVANIA.

ELECTROTHERAPEUTIC SYRINGE.

No. 873,021. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed August 2, 1907. Serial No. 386,754.

To all whom it may concern:

Be it known that I, HARLOW R. COOL, a citizen of the United States, and a resident of Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Electro-therapeutic Syringes; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in syringes in which the therapeutic qualities of electricity are combined with the cleansing and curative effects of water or medicinal fluids in the treatment of various internal ailments of the body.

The objects of my invention are, the production of a syringe of the type described, which is simple in construction, positive and effective in action, and inexpensive to manufacture; and in the provision of means whereby an electrical current can be passed through any portion of the body and whereby said syringe may be used independent of the electrical appliance when desired.

The invention consists in the construction, arrangement and combination of parts to be hereinafter described and particularly pointed out in the subjoined claims.

In the drawings,—Figure 1 is a view showing my invention applied to a fountain syringe. Fig. 2 is an enlarged longitudinal section through the nozzle of the syringe. Fig. 3 is a detached perspective view of the spring-contact arranged at one end of the internal conducting wire. Fig. 4 is an end view of the perforated metallic-cap of the nozzle.

In the drawings, like numerals of reference refer to like parts in the several figures.

The reference numeral 5 designates a battery, for which any other suitable source of electrical energy may be substituted if desired.

6 is the nozzle of the syringe, which is preferably made of hard-rubber or other suitable non-conducting material, and which is hollowed out for the passage of water or other liquid therethrough; said nozzle having a flexible hose 7 applied to one end thereof, as at 8, which leads to a reservoir 9 acting as a supply to the nozzle, such as are commonly used in fountain syringes. A clamp 10 is placed upon the flexible hose so that upon actuation thereof, the liquid supply may be shut-off. Entering the nozzle at one end is a metallic bushing 11 in which is inserted a removable plug 12 having electrical connection with one pole of the battery by means of a conducting wire 13.

14 designates a contact-plate which may be faced with a sponge or other suitable material, and which is in electrical connection with the other pole of the battery by means of a conducting wire 15.

Soldered to the bushing 11 is a wire 16 which passes lengthwise through the bore of the nozzle and is coiled at its outer end to form a substantially conical depressible contact 17; the enlarged inner end of said contact bearing against the end of the nozzle. Fitting over the outer end of the nozzle is a metallic-cap 18 having its convex end-wall perforated and bearing against said depressible contact; said cap being held on the nozzle by frictional contact therewith.

On inserting the nozzle into the body and applying the sponge-faced plate against the same, an electrical current will pass through the body, and when it is desired to use the liquid appliance in connection therewith, it is simply necessary to release the clamp around the hose 7 after the reservoir is filled with the liquid. By removing the plug 12 from the bushing 11 of the nozzle, the apparatus is in shape for use as a liquid syringe only.

I consider the depressible contact between the end wall of the cap and the end of the body of the nozzle a very essential feature of my invention, as it assures positive electrical connection at this point, which allows a free passage for the escape of water or other liquid through the perforations in said cap.

It is apparent that my invention can be embodied in a bulb or other form of syringe, and I therefore do not wish to be limited to the construction and arrangement of parts herein shown and described.

Having thus described my invention, what I claim, is,—

1. The combination with a syringe having a hollow nozzle and a metallic perforated cap applied to the outer end of said nozzle, of a contact-plate, a conducting-wire within said nozzle having yielding contact with said cap, a source of electrical energy, and electrical connections from the latter to said conducting-wire and to said contact-plate.

2. The combination with a syringe having

a hollow nozzle and a metallic perforated cap applied to the outer end of said nozzle, of a conducting-wire passing through said nozzle and having its outer end coiled and in contact with said metallic-cap, a contact-plate, a source of electrical energy, and electrical connections from the latter to said conducting wire and to said contact-plate.

3. The combination with the syringe having a hollow nozzle and a perforated metallic cap applied to one end of said nozzle, of a conducting wire extending lengthwise through the nozzle and having its outer end coiled to form a substantially conical depressible contact interposed between the end wall of said cap and the end of said nozzle, a contact-plate, a battery, and electrical connections from said battery to said conducting wire and to said contact-plate.

4. The combination with the syringe having a hollow nozzle and a metallic perforated cap applied by frictional contact to the outer end of said nozzle, of a metallic bushing in the wall of said nozzle at the inner end thereof, a conducting-wire connected to said bushing and extending lengthwise through the nozzle, said wire having its outer end coiled to form a depressible contact bearing against said perforated cap, a battery, a contact-plate, a conducting-wire between said battery and contact-plate, and a conducting-wire between said battery and the bushing in the nozzle and having a plug removable in said bushing.

In testimony whereof, I have affixed my signature in the presence of two subscribing witnesses.

HARLOW R. COOL.

Witnesses:
ELLA C. PLUECKHAHN,
EMIL NEUHART.