J. W. ELLIOT.

APPARATUS FOR APPLYING CROTON OIL.

No. 172,871. Patented Feb. 1, 1876.

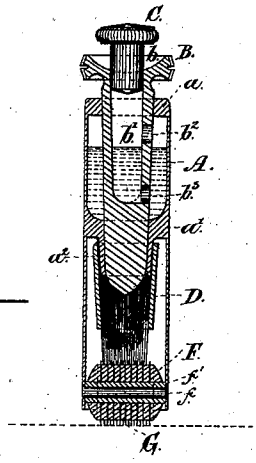

Fig. 1.

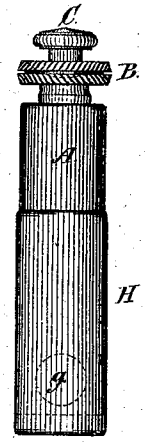

Fig. 2.

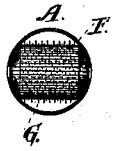

Fig. 3.

Witnesses;

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UNITED STATES PATENT OFFICE.

JOHN W. ELLIOT, OF TORONTO, CANADA.

IMPROVEMENT IN APPARATUS FOR APPLYING CROTON-OIL.

Specification forming part of Letters Patent No. **172,871**, dated February 1, 1876; application filed August 17, 1875.

To all whom it may concern:

Be it known that I, JOHN WHEELER ELLIOT, of the city of Toronto, Province of Ontario, Canada, surgeon-dentist, have invented a certain new and useful Machine for the external application of Croton-Oil, &c., as a counter-irritant, of which the following is a specification:

My invention has relation to that class of instruments which in the science of medicine are used for the external application of croton-oil, and other substances possessing similar qualities, as a counter-irritant to subdue or destroy internal or deeply-seated inflammatory diseases, and to induce or substitute therefor a superficial inflammation; and it consists of a case or tube containing at one end (which we will call the top) a reservoir for the reception of the croton-oil or other irritant. At the bottom of the case a roller is pivoted, the whole periphery of which is studded with needle-points, projecting a short distance from the surface of the roller. The position of the roller is such within the case that a portion only of its diameter projects beyond the lower open end of the inclosing-case. The irritant is conveyed to the roller by means of a peculiarly-constructed tapering stopper, the lower portion of which is contained within a circular brush, whose feather end rubs against the needle-points on the revolving roller.

The object of my invention is twofold: First, to avoid unnecessary suffering to patients in the application of counter-irritants on locations which are exceedingly painful; and, second, to insure a proper and positive deposition of the irritant as the instrument is passed over the surface.

In the annexed drawings, A is the case or tube, divided into two divisions by a diaphragm, a^1, perforated in the center with a slightly-tapering hole, to receive the lower portion of the compound tapering stopper B, which passes down the center of the upper division, and bears against another diaphragm, *a*, closing the upper end of the tube or case, and perforated with a hole, tapering to correspond with the stopper. The chamber formed by the two diaphragms *a* and a^1 and the tapering stopper forms the cell or reservoir in which the counter-irritant, (which, for the purpose of this description, we will consider to be croton-oil,) is contained. In order to fill or replenish the reservoir the stopper B is made hollow, the chambers b^1 within it communicating with the oil-reservoir by means of two holes, b^2 and b^3, the lower one of which admits the oil into the reservoir, the upper one allowing the air to escape as the chamber fills. The portion of the stopper projecting above the case is flanged out and milled, a cup, *b*, being formed on the top, leading into the chamber b^1, which is closed by the sub-stopper *c*. On the under face of the diaphragm a^1 a downwardly-projecting collar, a^2, is attached, tapering on its outer surface, to receive the thimble. E is the circular conducting-brush, held between the thimble D and the collar a^2, and enveloping the end of the stopper B forms a continuation of the tapering hole in a^2, the lower or feather end brushing lightly upon the needle-points G, studding the face of the roller F. This roller is mounted on a pivot, *f*, and is placed in such a position that but a small portion of its diameter extends below the open end of the case A. A hole, *g*, is cut in the case in front of the roller for inspection. H is a cover slipped on the outside of the case to guard the roller F, and to keep dust from clogging the brush and roller.

The operation of the instrument is as follows: The croton-oil is conveyed to the roller by slightly loosening the tapering stopper in its seat, an operation which is greatly facilitated by the milling on its flanged head. The oil runs down the brush, and is evenly spread on the needle-points as they pass through the brush, each point being entirely and freshly coated with oil at every revolution of the wheel. Thus, as the roller is passed up and down on the surface on which the counter-irritant is to be applied, no needle-point enters the skin without leaving a deposit; and a peculiar advantage that this mode of applying the oil has over the ordinary method is, that the needle-points enter and leave the skin at different angles, thus enlarging the hole at the bottom of the puncture, and causing all the oil to be rubbed off the needle-points. Another great advantage is that on tender or particularly painful spots the roller can be applied with the utmost delicacy of touch, in striking con-

trast to the application of the pounding instrument now in use, the pressure of the application being increased as the patient becomes accustomed to it.

I claim as my invention—

In an instrument for the application of croton-oil or other similar counter-irritant, the combination of the case A, with perforated diaphragms *a* and a^1, of the compound tapering stopper B, collar a^2, thimble D, circular brush E, and pivoted roller F studded with needle-points G, all arranged and operating substantially as described, and for the purpose specified.

J. W. ELLIOT.

Witnesses:
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