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A NEW MEDICAL BATTERY.

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About two years ago I read a paper before the Toronto Medical Society on the construction of galvanic and faradic batteries, which paper was subsequently published in the *Canada Lancet*. Since then a new departure has been made in the construction of portable galvanic and portable faradic batteries, as well as in the instruments where the two are combined. But perfection has not yet been attained; the model battery has yet to be produced. Medical batteries, though highly finished—even ornamental—are still too complicated and too difficult to be kept in working order, and withal too expensive, to become popular with the profession. We are not all practical electricians, and we require a battery that is simple in its construction, almost automatic in its action, and easily kept in order. As a contribution to this end, I propose to describe a modification of the portable galvano-faradic battery which I have recently adopted with advantage, and to which I wish to call the attention of the profession.

These improvements are two-fold—

1st. In the method of securing the necessary pressure on the hydrostat plate or plates.

2nd. In the method of putting the battery into action and out of action.

This battery was made for me in Toronto, and is a modification of the battery invented by Dr. McIntosh, of Chicago. In the McIntosh battery the horizontal plate to which the elements are attached is padded on the under side to form a hydrostat plate, one-half of which is used to cover the acid-cells when the battery is not in action, while the elements, attached to the remaining half, are suspended in a drip-cup by the side of said acid-cells. The end of each hydrostat plate is pressed down upon the cells by means of spring bolts and clamping screws. This latter arrangement is quite effective but very inconvenient, as much time is spent in clamping and unclamping the plates—not merely when the battery is taken to the bedside of the patient, but also of necessity whenever the battery is used. In the new battery the pressure upon the hydrostat plates is made automatic by simply placing bearings upon the lid of the battery case. When the lid is closed the acid-cells are firmly covered, and when the lid is open the bearings are removed and the plates may be moved without loss of time. Again, in the McIntosh battery, when the apparatus is used each hydrostat plate (with the elements attached) is raised from the drip-cup, rotated upon its horizontal axis, and the elements immersed in the acid solution. When the *séance* is ended, each hydrostat plate is lifted from the fluid, and, before it can be replaced in the drip-cup, must again be rotated upon its horizontal axis. This manipulation is not specially inconvenient, but unfortunately the dripping of the acid solution from the zinc and carbon elements commences before the horizontal rotation is completed, and, unless very special care is taken, the metal parts on contiguous plates are liable to become spattered. This is obviated by the expedient illustrated in the accompanying figures.

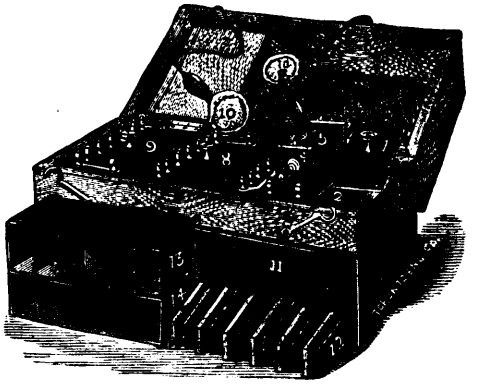

FIG. 1—The elements at rest. 7, 8, 9. The three hydrostat plates in position. 2. The extra space to the right for overlapping of the first hydrostat plate (containing the induction coil.)

Fig. 1 represents the position of the hydrostat plates of an eighteen-cell combined galvano-faradic battery when the elements are at rest. The elements from 1 to 18 are resting in the drip-cups, six