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## **The young man's book of amusement**

**Halifax, 1848**

Galvanic Battery

[urn:nbn:de:bsz:31-100120](https://nbn-resolving.org/urn:nbn:de:bsz:31-100120)

out of a pewter vessel, has a taste different from that drunk out of glass or earthenware.

### *Galvanic Battery.*

(Refer to Frontispiece, Fig. 14.)

The zinc plates are made by casting that metal in an iron or brass mould; they may be about an eighth of an inch thick. The copper need not exceed twelve or fourteen ounces to the square foot, and may be soldered to the zinc at one edge only, the other three being secured by cement in the trough. The trough must have as many grooves in its sides as the number of plates it is intended to contain, which should be fewer in proportion to their size, otherwise the apparatus will be inconvenient from its weight. When the plates are not more than three inches square, their number in one trough may be fifty, and the distance of the grooves from three-eighths to half an inch. The trough must be made of very dry wood, and put together with white lead. The plates being placed at the fire, the trough is to be well warmed, and placed horizontally on a level table, with its bottom downwards; very hot cement is then to be poured into it, until the bottom is covered to the depth of a quarter of an inch. During this process the plates will have become warm, and they are then to be quickly slid into the grooves and pushed firmly to the bottom, so as to bed themselves securely in the ce-

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ment. In this way the plates are very perfectly cemented at the bottom, and when this cement is sufficiently cool, a slip of thin deal is to be slightly nailed on the top edge of one of the sides of the trough, so as to overhang the inner surface about a quarter of an inch. The trough being about three quarters of an inch deeper than the diameter of the plates, there will be an interval between their top edges and the deal slip; and when the side of the trough to which the slip is attached is laid flat on the table, this interval forms a channel into which very hot cement is to be poured, and it will flow between each pair of plates, so as to cement one side of all the cells perfectly. As soon as the channel is quite full of fluid cement, the strip of deal is to be torn off, and the trough inclined so as to admit of the superfluous cement to run out. When this is effected, and the cement cool, a slip of deal is to be nailed on the opposite side, and the same process pursued with that. The instrument will then be cemented in the most perfect manner, and it may be cleaned off and varnished.\*

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#### *Voltaic Pile.*

The Voltaic Pile was invented towards the close of

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\* The zinc end of a battery is considered to be plus or positive: the silver end, (or copper end, when copper is used with the zinc,) is considered to be minus or negative.

The effect of the galvanic battery is considered much greater in oxygen than in atmospheric air, and it ceases entirely in azote or hydrogen.