Projection of Heated Air.

By L. D. S.

At a meeting of the Odontological Society, of New York, 20th February, 1883, Dr. E. A. Bogue referred to an apparatus he was working upon a few years previously, intended to deliver hot air into the cavity of a tooth while it was being excavated. He showed what he had done to Dr. Brasseur, of Paris, about a year before, and upon returning there in 1883, the latter presented Dr. Bogue with a complete instrument of his own invention. The instrument was operated by means of two rubber bulbs acting on a double bellows. The pipe leading from it was connected with a tube in the handle of the the thermo-injector, which tube passing through the handle becomes spiral at a division in front. In the middle of this spiral was a minute jet of gas which entered the back of the handle, and was supplied from the gas bracket on the wall by rubber tubing. The gas heated the spiral tube, which was of platinum, and the air, being driven through it by the bellows, was heated sufficiently to retain its heat until discharged at the nozzle, four or five inches away from the flame. A shield protected the face and lips of the patient. The injector was useful, not only in obtaining unusual dryness, obliterating sensibility, but for throwing remedies, in the form of vapor, into abscesses. Dr. Bogue also referred to an electric cautery invented by M. Trouvé, who had given much attention to electricity.

In connection with the above and with recent devices in dental electricity, it is curious to refer to an article in the *American Journal of Dental Science*, 1851, by George Waite, M.R.C.S., London, England, from which I make the following extracts. The article is headed: "An Instrument for Applying Electric Heat in Dental Operations"

"A conversation with the late Mr. Murphy, of King's College, Cambridge, he suggested to me the use of electricity in dental surgery; his words, as near as I can remember, were as follows: 'The day will come when electric heat will be used in surgery, and also for many purposes in domestic arrangements.'

"The idea remained a secret with me until last year, when I communicated it to Mr. Redwood," etc. . . . "For the purpose I use a Grove's battery, with eight cells. When using it, I have in my hand a holder with two copper wires passing through it; one positive, from the battery, and the other terminating in a groove in the holder, and fastened to a spring, by which I make or break contact at will with the negative wire. To the further end of the two wires a thin platinum wire is connected, and on the battery being charged and contact made, this takes suddenly the electric heat."

"The efficacy and simplicity of the process being so decided, I am enabled to use it for many purposes, viz., to evaporate quicksilver from cement; also where too great sensitiveness exists, and which prevents the operator from