as great as was indicated by the electrometer since the battery was placed on a stool with glass legs.[3]

1 Repeated the above exp with small charge current *adverse*
2 Again needle direct charge *same*
3 Again charge 10°—*adverse*
4 Again charge 10°—*adverse*

Strength of magnetism depends apparently on the kind of needles used

5 Again charge about 8° direct

[3] The source of static charge was a Leyden jar battery supplied by an electrical machine. Henry found that the battery was not properly grounded, perhaps invalidating the afternoon's results.

TO THE EDITOR OF THE NEWARK DAILY ADVERTISER

Draft, Henry Papers, Smithsonian Archives

[August 1, 1838][1]

Mr Editor[2]

You published a few days since a certificate signed by a number of highly respectable gentlemen in favour of an improved modification of the lightning rod,[3] invented by Dr King[4] of Boston. The certificate states, that the

[1] This letter, in slightly emended form, appeared in the August 1, 1838, issue of the *Newark Daily Advertiser* under the heading "Lightning Rods." Henry must have actually written it sometime during the previous week as it is in response to an item in the issue of July 24.

[2] William Burnet Kinney (1799–1880), born in Speedwell, New Jersey, entered journalism after a brief career at West Point and instruction in law from his brother. In 1830, after ten years as a literary advisor to Harper and Brothers, Kinney became editor of the *Newark Daily Advertiser*. Having received an honorary degree from Princeton in 1836, Kinney was a Trustee from 1840 until 1850. Appointed by President Taylor to represent the United States at the Court of Sardinia in 1850, Kinney served until 1853, after which he resided in Florence. He returned to Newark in 1865 but did not reenter journalism. *DAB*; *Princeton Catalogue*, p. 21.

[3] The certificate to which Henry refers appeared in the Tuesday, July 24, edition and was signed by Josiah Quincy, President of Harvard; John Snelling Popkin, Professor of Greek at Harvard; Charles Wells, former Mayor of Boston; Elisha Bartlett, Mayor of Lowell, Massachusetts; Samuel A. Eliot, Mayor of Boston; John Pierpont, Pastor of Hollis Street Unitarian Church; Levi Lincoln, former Governor of Massachusetts; and John Downes, Captain Commandant, Navy Yard, Boston. According to the certificate, which was reprinted from the Dedham, Massachusetts, *Advertiser*, Benjamin Silliman, Sr. also endorsed the article.

[4] William King (d. 1839?), self-styled "Medical Electrician and Lecturer on Electricity and Galvanism," first appears in 1810 as an itinerant lecturer in North Carolina. Billing his lectures on electricity as "Rational Amusements," King made extensive use of the properties of what he termed "Electrical Fluid," illuminating portraits of Washington, shocking animals, lighting candles, and ringing bells. An additional benefit of this fluid was, according to King, medical. Among the ailments

principal feature in the new rod consists in its presenting points to the atmosphere, in all directions &c.

We have no personal knowledge of Dr King and would be sorry unjustly to disparage his invention yet a sense of duty to the Public compells us to state, that the new modification of the rod, appears to us not founded on sound philosophical principles.

In the first place, it is a well established fact, that, a single point becomes much more highly electrified and consequently acts at a much greater distance than a ball under the same circumstances; or than a point in the vicinity and under the influence, of other points. These considerations appear to have induced the French Philosophers to reccommend but one point at the upper end of the rod.[5]

Again, a number of points, along the course of the rod, would as it appears to us tend to give off the electricity; and thus produce dangerous consequences from the lateral action of the discharge.

With these views, until some new principle be discovered in Electricity, we shall adhere to the well known form of the conductor reccommended in a report to the French Academy of Sciences in 1824 by Poisson, Fresnel, Gay Lussac and others.

One word in reference to the highly respectable names attached to the certificate. We would say that in all ordinary matters we would pay them sincerely due defference but in the present instance, endorsing an improvement in science, they loose with us a little of their wonted influence.[6]

F.[7]

King treated by administering electricity were bruises, burns, hysterics, madness, and headaches.

King's 1825 publication, *A Manual of Electricity*, indicates that he possessed a good knowledge of electrical theory and was aware of recent developments in the field. A considerable portion of the book concerns lightning and the means to avoid it; also included is an extensive discussion of the medical uses of electricity.

From 1831 until 1838, King appears in Boston City Directories. A notice in the Boston *Atlas* of April 16, 1839, advertises King's estate sale. Two electromagnets, two electromagnetic machines, illuminations (fireworks), and chemical apparatus are included in the estate of the "distinguished electrician." William King, *A Manual of Electricity* (Newbern, North Carolina, 1825); King, *Rational Amusements* (broadside, n.p., ca. 1800).

[5] In a report, "Instruction sur les Paratonnerres," presented to the Académie des sciences of Paris on April 23, 1823, a commission composed of Poisson, Lefèvre-Gineau, Girard, Dulong, Fresnel, and Gay-Lussac concluded that "the most advantageous form that can be given to a lightning-rod appears evidently to be that of a very sharp cone." John Farrar, *Elements of Electricity, Magnetism and Electro-Magnetism* (Cambridge, Massachusetts, 1826), pp. 367–372.

The full report originally appeared in *Annales de chimie et de physique*, 1824, 2d ser. *26*:258–298.

[6] Henry's reworded version of the final paragraph, see below, appeared in the newspaper. This rather pointed comment is another example of Henry's impatience with non-scientists who ventured into scientific waters.

[7] Because of the subject of the letter, it is probable that Henry was using the pseudonym "F" to suggest Franklin.

In an effort to lend authority to Henry's letter, the editor followed it with the following note: "When we say this communication

(Private note)

I have long intended to commence furnishing you from time to time with some small contributions in the way of science.[8] I have however constantly thought myself too much engaged in other matters. If you can decipher the scrawl please give the article on the other leaf a place in your paper. It is intended as much for the gentlemen who have signed the certificate as for Dr King.[9]

With Respect & Esteem
In haste yours
J.H.

One word in reference to the <*highly respectable*> opinions of the highly respectable Gentlemen who have signed the certificate. These in all ordinary matters would be received by us with due respect and attention but in the present instance endorsing a scientific invention we do think they lose a little of their wonted influence.

comes from one whose opinions are received in the world of science, if not as demonstration, at least as true *prima facie*, we secure for its suggestions the attention of our readers. ED."

[8] We are uncertain whether Henry ever provided any more scientific contributions. In 1843, however, he wrote Kinney once to ask that he not reprint a certain article and once to request that the announcement of Bache's appointment as Superintendent of the Coast Survey be in the proper style.

[9] Henry's dispute with King over the correct configuration of lightning rods did not end with this letter. In the August 18, 1839, *Newark Daily Advertiser*, King replied, asking for evidence in support of Henry's statements and suggesting an experiment which would prove his point. A further rejoinder signed "F." appeared on August 24. Although an original has not been found, we presume Henry is the author of this letter. He restated his case, citing the work of Franz Achard, and claimed that King's modifications did not represent improvements. The letter ends with a proposal to submit King's apparatus for inspection by an impartial scientific society, such as the Franklin Institute.

FROM JOHN TORREY

Historic Letter File, Gray Herbarium Library, Harvard University

New York. Aug^{t} 2nd. 1838.

My dear friend.

It is a long time since I have heard from you. The accompanying printed notice[1] will show that I have not been idle. Please tear off that part of the sheet & give it to Jaeger, & tell him that if he will send to Chilton's he will find a parcel for him, containing botanical specimens.

[1] Although the notice is no longer with the letter, we suspect Torrey is referring to an advertisement for the *Flora of North America*; see below, footnote 12.