



NEW YORK, JULY 7, 1849.

Declaration of Independence.

Wednesday was the seventy third anniversary of that *Day* when the patriot fathers of the revolution proclaimed the original thirteen colonies "Free and Independent." In the whole history of the world, no event has ever occurred like unto that. Other nations hold anniversaries of famous battles, which settled their destinies or crowned them with worldly glory. We too have our battle anniversaries but the glory of America lies in her Declaration of Independence. That instrument was a declaration of principles, individual and collective rights, to carry out which, every *signer* pledged his life, honor and fortune. Well may America love the memory of those men who gave immortality to that instrument, an instrument which more than any thing beside, since then, has turned the world upside down. At that period there was only one constitutional government (England,) in the whole world, now we have three or four Republics on our own Continent, and all the colonies are but a few paces from the same state. In Europe, where in 1776 England alone had any thing like a constitution, now what do we behold? No less than eight or nine constitutional governments and a number of republics. But from the contour of passing events there, we fear that despotism will yet for awhile press with her iron heel upon the bosom of freedom. The days of her iron cruel glory however, are numbered, she must yet fall and give place to the might of right. We have but little faith in the prophecy of Napoleon, that "in half a century Europe would either be Republican or Cossack." Cossack, she never can be—the Cossack will yet be himself a freeman. Many years may elapse before this takes place. The strength of a despotic government lies in the ability of the despot. Let a fool be placed on the throne of Russia and what would she be? A chaos resembling a den of different wild beasts.

The principles of the American Declaration of Independence, must triumph over crowns and sceptres, and triumph in the hearts of men. The principles contained in it can never die. They find a response in every truly human heart, and these principles will rust the chains of despotism until they become weak as the *withes* that bound Samson. Some despots chains may be thicker than others, and some may be made of less corrosive materials, but if they are not all made of the moral principle, that "governors derive their just powers from the consent of the governed," they will assuredly be severed some day hence.

We seldom say any thing upon national questions, but this one is a favorite text of ours, and from it we would like to preach a weekly sermon. Not being favored with a pulpit for this purpose, except once every year, we close by the usual way of an application, exhorting our hearers to give not only their sympathies, but the voice of encouragement and assistance to the brave men in Europe who are now struggling against blood-thirsty tyrants, to establish governments based upon the moral principle of elective representation.

Decision in the Telegraph Case.

S. F. B. Morse et al. versus O'Reilly et al. —In Chancery.—Petition to Discharge Order.—The Court, the Hon. T. B. Monroe sitting alone (the Hon. John McKinley being absent) held in substance :—

1. That the electric telegraph of Bain may be used on the line of telegraph in Kentucky, constructed by the defendant O'Reilly, without infringing the injunction heretofore allowed in this cause.

2. That the defendant O'Reilly having answered to the charge of contempt committed by him in violating the injunction, the order directing the marshal to take possession of the

line of wires of the defendant, for the purpose of preventing further violations, may be discharged and the possession restored, on the defendant's executing a bond in the penal sum of \$5,000, with two sufficient sureties, that he will not infringe the Morse patent, and, in case of such future infringement pay and satisfy any decree, that may be hereafter ordered against him in this cause.

3 That the question of the exclusive right of Morse to the alphabet of dots and lines, described in the schedules annexed to this patent, not having been fully argued, and the court not being satisfied that his exclusive right to said alphabet extends beyond the art of imprinting the characters of which it is composed by the telegraphic apparatus by him invented, no opinion is expressed on this matter, but it is reserved for future consideration, if it shall become material.

Lightning Conductors.

MR. EDITOR.—An article appeared in the last number of the "Scientific American," claiming to give the true principles of the construction of lightning conductors; and emanating from such a source, will, no doubt, be extensively copied and put in practice.—The directions given in that article, are, I believe, in many respects incorrect, and if carried out in practice will involve an expense without an adequate protection; for both democrats and whigs are in favor of "Home Protection."

There has been much discussion about the utility of conductors, and the best mode of constructing them. Orators have said: "The lightnings of Heaven yielded to our philosophy;" and Poets have sung of Franklin, "who wrested from his grasp the bolts of Jove;" and "In whose glad name the distant worlds rejoice,

Far as the lightnings shine, or thunders raise their voice."

The Americans believe in lightning rods; but the English, even now, hesitate to acknowledge their utility, (vide Brande's Encyclopedia.) Franklin said they should be *pointed* at the top; but John Bull said they should have a *knob* on the top; so no wonder they found them *worse* than useless. At length the Royal Society made a report in favor of Franklin's theory, whereupon they were requested to revise their report, and when the President, Sir John Pringle, replied, in the simplicity of scientific integrity, that he "could not change the laws of nature," he was, for such singular want of "capacity," &c., requested to resign; and he did resign, disgusted with the mean prejudices of those self-styled patrons of science.

But to the practical part: The "American" says they (the conductors) should be of a round form; should be painted black; and that one conductor is sufficient for almost any sized building, provided it extends sufficiently high.

Now, the conductor should not be round; it should not be painted; it should not extend to a great height above the building;—but it should be square, or what is better, a square bar twisted; and it should have *points* two or three inches long, projecting out at frequent intervals, in its entire course from the earth to the top of the building, thence along the eaves, and over the roof, quite round to the rod again. A branch should also extend along the ridge, with points, projecting perhaps three feet above each chimney. It may also, with advantage, extend down the corner of the building. The lower end should be pointed, and penetrate the earth at least six feet.

Why? Because the lightning does not always come from the clouds above to the earth to be pierced by the tall spear erected for that purpose; but it often goes from the earth to the clouds, also laterally from one object to another. But the principal object is to *prevent* large accumulations of either positive or negative electricity, thereby preventing any sudden or violent explosion. The French by similar means, (the *paratonnerre*) prevent the frequent occurrence of hail storms in certain parts of the country.

By means of the points and angular edges of the square or twisted rod, extending quite around the building, an equilibrium between the different electrical states of the earth, at-

mosphere and surrounding objects is maintained. A Leyden jar cannot remain charged if the top terminates in a point; hence the points and angles both receive and give off electricity with facility. All these points should be tinned or gilded, to prevent oxidation.

The rod should not be painted at all, not even black; for although charcoal is a good conductor, the indurated oil of the paint is not a conductor; hence the advantage of a square rod, points, &c. is lost.

It should not extend to a great height; for the object is not to challenge and invite an enemy, but to prevent him from establishing *depots* of ammunition near our borders.

The authorities of Boston, strongly in favor of "protection," have erected conductors, substantially the same as described above, on all their public buildings, from the city court to the public school house.

In this way alone can a house be completely protected from lightning.

Respectfully yours, N. B. WEBSTER.

[The above is taken from the Portsmouth, Va. Daily Transcript. The article to which Mr. Webster refers was not penned by us, nor was it the one of Mr. Rich, neither did it express our views on the subject. Our columns are always open to calm, brief and clear articles on useful subjects, and the article of Mr. Webster would have been acceptable to the Scientific American, wherein it should have justly appeared first.

We have only a few words to say respecting it. They are as follows:—

We think it just about as useful to paint an iron lightning rod as to have an old rusty one—they are six of the one and half a dozen of the other. We have no objections to urge against the twisted bar and the way it is employed in Boston—it is a good plan, but the principle of utility in all lightning rods, is the amount of good conducting surface condensed into the smallest possible space. We do not approve of iron rods for conductors.—By the experiments of Dr. Priestley, it has been fully proven that copper is five times a better conductor of electricity than iron. Gold, silver and platinum are far better than copper, but we would choose copper for economy. A copper conductor when worked under the hammer to a fine point, is apt to moulder away in the course of a year or two, therefore to remedy this evil, the copper points should be tipped with platinum. This can now be done very easily by the electrotype. It is needless to go into a discussion of the principles of thunder storms. It is well known that the greatest amount of electricity, which we must guard against, is in the clouds; the discharges from the earth are comparatively few. There is therefore a possibility of philosophers overshooting the mark in the construction of lightning rods, upon the principle of an equilibrium in the discharges between the atmosphere and the earth. The object of all lightning rods, is to invite the electricity and conduct it into some moist part of the earth. If such is not the object of lightning conductors, we want some further explanation of their use—the above article of Mr. Webster is not quite satisfactory on this point.

The opinion of the Royal Society in London, is no more to be taken as the opinion of John Bull on the utility of lightning conductors, than would that of the American Institute in this city be taken for the opinion of Brother Jonathan.

The lightning conductors that are now most in favor in England, and which have been most extensively employed, is what is called the Patent Copper Wire Rope. It can be made of any length, and is adapted to all the angles of buildings, and especially has it superseded all other kinds for the Navy. Sir William Symond has stated in evidence that it was the best, in every sense of the word, for vessels.

European philosophers candidly acknowledge that to "Benjamin Franklin they are indebted for their knowledge respecting lightning conductors."

The poor in Germany use the blossoms of the linden tree instead of tea. It is just as good as tea for them, and far better than the doses of tobacco they partake of in the shape of smoke.

Another Aerial Ship.

Solomon Andrews, President of the Inventors' Institute, advertised to the public that he would exhibit a new aerial ship on the 4th. Here is part of the advertisement, it hoes out the "resurrection pills" all hollow:—

"The public are informed that the Inventors' Institute at Perth Amboy, N. J., will exhibit on the 4th of July next, and during that day only, the Aerial Ship now building, and which is to be completed the present Summer. It is now in such a forward state as to show the full size, form and structure, the frame work being complete, and the envelope already procured (wonderful) only to be on, to be ready for its first trial.

It was intended to have given no publicity to this experiment until it made its first trip through the air to New York, but it is now determined to make this one exhibition for several reasons, among which the following is not the least important, viz:—

The recent notices and exhibitions by Messrs. Porter & Robjohn, of New York, of a model, without a large machine to match, so totally different from this Aerial Ship in every respect, make this public exhibition necessary to forestall any doubtful claim which in a successful issue might arise, as in the case of Fitch and Fulton in steam navigation. This machine is so novel we do not believe that any one, who has not been directly or indirectly informed by the inventor, can tell, after he has seen it, what is its motive power, and the *modus operandi* of its locomotion. Whoever shall discover it, and make it known to the undersigned, shall be entitled to, and receive, a share of stock in the invention, (great stock, remarkable generosity.)

We do not propose to exhibit a complicated apparatus, though of considerable magnitude, but what we believe to be a practical and useful as well as novel invention. It is calculated to carry about 1,000 pounds.

The plan of the invention was laid 23 years ago, and a rude model made a flight, 18 years ago, in the open air, to the distance of 200 yards, against a strong wind.

Seats will be provided, and addresses made to the audience during the day. Tickets for admission will be sold for 50 cents each, to admit a gentleman and lady; every additional lady 25 cents. The tickets may be had at the office of the Inventors' Institute in Perth Amboy."

[Wonders will never cease. Solomon hath said "there is nothing new under the sun." He probably never heard of the Inventors' Institute at Perth Amboy, N. J. This Institute has an extraordinary existence, which many consider to be the very opposite of a "fixed fact," and the flight of this aerial ship may well come under the same category.

Cholera Mixture.

Chalk mixture,	:	:	6½ oz.
Tincture of Rhubarb,	:	:	½ oz.
" Ginger,	:	:	2 oz.
" Opium,	:	:	2½ oz.
Aromatic spt's of Ammonia	:	:	½ oz.

of the above make a mixture. A tablespoonful to be taken every hour when required.

The above receipt was the most successful in the treatment of Cholera in the City of Glasgow during its severe visit to that city last year, of this, we have been assured by respectable authority. It is simple and easily prepared, and it accords in a great measure, with the experience of Mr. Stickney, in his article on "motion" in the Scientific American of last week.

American Navigation of the Orinoco.

The steamer Venezuela, which was built at Pittsburgh to run on the Orinoco river, under a grant to an American company from the Venezuelan Republic, has arrived out, and made her first trip. The "natives were astonished" of course, to see a steamer ploughing the hitherto undisturbed waters of their noble river. The Venezuela has given much satisfaction; she ran from Bolivia to Port of Spain, a distance of 500 miles. A letter from Puerto Espano to the Pittsburgh Gazette, states that Dr. Louis Passano, a French physician, had discovered valuable gold mines between Caroni and Orinoco rivers, a day's journey from Bolivar.