



NEW YORK, JANUARY 1, 1848

A Happy New Year.

It has now become customary for almost every newspaper and periodical in our land to assume the garb of a minstrel on the first day of January and wish their patrons and subscribers *A Happy New Year*. But as we are wretchedly clumsy at stringing up all kinds of rhyme, but roast and toast, and now and then a turkey hen, or such good cheer as every year falls to our lot, as hat, or coat, or boots or shoes—ah, too good news. Then pray excuse our new year rhyme for this one time, and accept in plain phrase our sincere wishes for your welfare and *a happy New Year*, and may all be as fortunate at the end of 1848, as a jolly tar, who told a friend of ours when crossing the Brooklyn Ferry a short time ago, that he was “just returning from a twelve-months’ cruise with an arm-full of good things to comfort the heart of his old woman, and a pocket-full of rocks beside.”

What to do with part of the Smithsonian Bequest.

By accounts from Washington we learn that the Smithsonian Institute is in the course of erection, and that it is to be a large and elegant Gothic structure. We hope that the edifice will be an honor to America and a noble monument to the generous donor, who with prophetic eye looked down the stream of time and beheld Columbia as the centre of the civilized world, the *fixed star* of our terrestrial system, from whence should issue beams of intelligence to illuminate the nations of the world. Such a vision undoubtedly, was presented to the mind of Smithson when he bequeathed his fortune to establish an Institute in the United States, for the purpose of propagating useful knowledge and the advancement of true science. We trust that in future not one dime of this bequest will be diverted from this sacred purpose, and we would give much were we able to say such had been the case during the past.

As part of the funds of this Institute are to be devoted to the publication of works for the advancement of science, we have seen, and have published an account of the first work that will, it is said, issue from the Smithsonian Press. The work is to be on American Archaeology, and to contain splendid engravings of Indian antiquities—the discoveries made in the ancient mounds which are scattered over our land. We hope that such a work may do some good, but so far as true science, and the majority of our people or the people of any other nation will be benefitted by it, we are more than doubtful. We believe that although thousands upon the top of thousands of dollars may be expended upon it to make it the poppingjay of curious cabinets, or proud libraries, yet after all, sensible men will point expressively to the work and say, “such are the inconclusive results of antiquarian zeal and research.”

We have a far better work to propose for publication by the Smithsonian Institute, viz. a history and full description of all inventions patented in the United States. Said work should embrace minutely every specification and all the drawings of the inventions, and have an introduction that would be an elaborate history of physical science up to the present day. There is no work so much needed at the present moment as a work of this nature, and such a work would be an honor to our country and a benefit not only to ourselves as a people, but a benefit to the people of every other nation—a benefit not only to the present generation but to generations yet unborn. Such a work would be a laboratory of, and a monument to inventive genius. It would be the best standard work, with the exception of the sacred writings, ever published in this, or any other country, without a single exception. Let the managers of the Smithsonian Institute commence the publication of

this national work, and they have the material for it at their very door, without travelling through Phœnician, Egyptian and Assyrian history, in analogical research to prove the absurdity of the lost *ten tribes* of Israel having been dwellers either in Chilicothe or Canajoharie. Let the managers of that Institute we say, publish such a work as we have suggested and we venture to predict that it will “more than arms admiring nations to Columbia gain.” It would open up to the world a vast laboratory of American science, and it would confer a greater boon upon our people and a greater impetus would be given to progressive science by it than by any other work ever published. Copies of it should be sent to every nation, and a splendid copy should also be presented to the College where Smithson lectured and where Smithson learned.—Copies of it should be sent to every public library in the United States, and were it possible, and we think it is, it should be sold at such a price that the majority of our mechanics and artisans might be able to purchase it. Such a work would be a real treasury of knowledge, and at the present moment there is a vast amount of just such knowledge as our people want, buried up in the Patent Office, where but few can have access to it. It would save thousands every year to our country, both in time and money, as many expend much of both in re-inventing something already discovered, but of which they are not aware. It would also lessen the labors of the Patent Office, and above all, it would be the opening of that stream of American knowledge, which from Columbia shall glide onward to other days, swelling into a majestic river that shall bear from thence to every distant shore the *messages* of true science from a pure and transparent fountain.

Effects of not Advertising.

The Pittsburgh Day Book, tells us of a firm in that city, who, after settling up their accounts for the past year, found that their loss amounted to over ten thousand dollars, and they were forced to close. Their business was conducted on the strictest principles of economy, but the secret of their ruin is soon told—they never *advertised* in the newspapers.

One inventor in this city lost six hundred dollars in six months, just by saving ten dollars for an advertisement in the *Scientific American*. Advertising is the only way to let the public know where to find the article they want to buy. Those who have machines and machinery for sale should know where to advertise.

An Important Enterprise.

The people of Canada and Northern New York are earnestly discussing the project of connecting the waters of the St. Lawrence and Lake Champlain by a canal, to start from a point near Montreal, and enter the river Richlieu, which empties into the Lake. The canal can be built in one year, at an expense not exceeding five hundred thousand dollars, only two locks of eight feet each being required to overcome the descent. This would open a complete water communication from the Upper Lakes to Burlington, and thence a communication by railroad to the Atlantic coast, would open to Boston the riches of the Western world. The Commissioners of Public works in Canada have been instructed by the Governor General to procure a full and complete survey of the country, lying between the St. Lawrence and Lake Champlain, with a view to determine the best line for such a canal. The whole matter is one of deep interest to our citizens, and should be faithfully canvassed by them.

Foreign Telegraph.

By our foreign exchanges we learn that on the 15th Oct. last, an electric telegraph was opened on the Baden Railway, Germany. It is called Haighton's Patent Gold leaf telegraph. It reports 30 letters in a minute and uses only one wire, and the apparatus is said not to be as expensive by seven-eighths the price of any other. Thirty letters is nearer the mark than those that have boasted of hundreds.

Rival companies of Telegraphers have already planted their posts at Erie, Penn.

Electro-Gilding.

PART IV.

DEPOSITION OF OXIDES ON METALS.

This is a species of deposition called *metal-to chromes*. A saturated solution of acetate of lead is prepared and poured into a shallow vessel in which has been placed a highly polished steel plate. A wire from the positive end of a series of four of the single cell batteries, engravings of which have been already given, is made to touch the plate. Then if a wire from the negative series is held in the solution over the plate, a small tinted circle makes its appearance on the polished surface beneath the wire, and rings of color of the most brilliant hues rise from the centre and expand to the circumference. The colors commence with silver blond and progress onward to fawn color, and thence through the various shades of violet to blue, then through pale blue to yellow and orange, thence through blueish green and green, thence to reddish yellow, and then to rose color or red, the highest color in the chromatic scale. Colored figures of varied character are obtained by modifying the shape of the electrode connected with the negative end of the battery, using instead of a point, other patterns, such a disc or cross. By the employment of a large disc and small steel plates and by a great deal of care, a uniform tint may be given to each plate and the scale of forty four different shades. All the plates must be of the same thickness so that when properly adjusted they will remain at the same distance from the disc. Spoiled plates are cleaned with emery paper. The best patterns are obtained by cutting a card and placing it on the plate beneath a convex disc. These colors arise from very thin films of oxide of lead deposited on the steel plates, and are something like the analysis of light by soap bubbles and of no practical use, being only beautiful experiments.

MISCELLANEOUS ELECTROTYPING.

A patent has been taken out in England to produce pipes and boilers of copper through the agency of Voltaic Electricity, by the deposition of copper on moulds of clay or wax, or plaster or lead or other substances fusible at a lower temperature than copper. Almost any thing that can be coated with plumbago will serve for a mould. Busts and statues of plaster that have to be exposed to the weather may be coated with copper and varnished for preservation. Busts or small figures of wax may thus be preserved and with great advantage, and busts and statues may be made by the electrotype in solid metal, by first coating a bust with thin copper and embedding the whole in plaster of Paris, and then using the plaster as mould by destroying the original bust and using the plaster mould as a decomposition cell.

Engraved copper plates may be readily multiplied by electrotype. The plate must be used in place of a mould and before it is used for deposit it should be heated and rubbed over with beeswax, and by continuing the heat the plate must be rubbed clear of the wax by a piece of soft cotton, or blacklead may be used in place of the wax. The deposit on the plate is to be used as a mould by coating it as we have described heretofore, and many copies may be taken from this mould in all points equal to the original.

Metallic cloth can be made by the electrotype by laying stout linen or cotton cloth very evenly on plates of copper and placing them in a copper solution (sulphate of copper) and connect all with the negative pole of the battery, and by placing a sheet of copper opposite connected with the positive pole, decomposition takes place and the metal in seeking to reach the plate insinuates itself into the interstices of the cloth and thus forms a metallic sheet.

Every day is bringing forward something new in this department of science, and every new discovery teaches us that that we know really little about it yet. This science presents before us a boundless ocean on which we may float our barks in extensive voyages, or gather up the pebbles or shells that are strewn along the golden sands. Although it has been impossible to be minute and elaborate, yet we presume that we have thrown out in these articles much information that was new to many and given some useful hints to whet the minds

of others, so that personal and extensive experiment may be instituted and the result, we have no doubt, will be many tributes to electric science.

Western Tool Business.

Some of the Western cities are beginning to rival the Eastern in the quality and price of making tools. Cincinnati boasts of being able to make many tools both cheaper and better than those made in England. They say that they can make planes and edge tools 10 per cent cheaper than we can do here. The amount of tools manufactured in that city during the past year, however, is but of small amount being only \$170,000 worth, and employing but 150 hands. A single establishment in New York manufactures nearly as much.—It is calculated that there will be \$260,000 worth manufactured in Cincinnati this year yet this is but a very small amount for such large city. The following are the Cincinnati wholesale prices of the principal articles in the Edge Tool and Plane business:

Coopers and carpenters draw knives, different shapes, \$3 per dozen; do long head knives, \$12; do short do and champer do \$8.50; do broad axes and adzes, \$16; do truss hoops, from \$1.12 to \$3.40 per set; do stock howells, all sizes, \$10.20 per dozen; do patent lance crozes, \$9; do levelling planes, \$8.40; carpenters broad axes, \$26 to \$28; do adzes, \$16 to \$18; do hatchets, \$4.50 to \$6; do hand axes, \$11 to \$22.

The Shoe Trade.

The Newburyport Herald says, a letter from Dyersburg, Tennessee, says, unless your shoe manufacturers turn out better shoes they will lose their market here. Not more than one half the shoes are sold here now as there were three years ago, in consequence of the poor articles sent here. The West India market, once a very large one, has been lost to our manufacturers in consequence of the inferior article shipped there, and is now supplied exclusively by the French and Germans. Let the manufacturers look to it that our southern and western markets are not lost in the same manner.

Covering for Roofs.

The Albany Evening Journal says what an immense quantity of straw pasteboard is manufactured in this country, and sent to England to be used, after preparation, as a substitute for tiles and shingles. It is laid on the roof then saturated with tar, and sand. This forms a perfect roofing and more stable and enduring than any other article used. The above cannot be true.

The Report of the Committee of the Franklin Institute, which was published some time since in our columns, relative to the character of Reaction Water Wheels, was sent to us in manuscript from Philadelphia. We are indebted for much valuable information to corresponding members of scientific associations in different parts of our country, who generally are brief and to the point.

Scientific American—Bound Volumes.

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