NEW YORK, JUNE 30, 1849.

**To our Contemporaries and Subscribers.**

No paper ever published in our country, has been so deeply indebted to contemporary journals, as the Scientific American. It has always been respectfully and favorably noticed, and without a single exception recommended to the favor of the public. Occupying a field perfectly distinct from the generality of our newspapers, it never can interest the majority, although it is useful to all and would be of great benefit to every family. For the present extended circulation of the Scientific American, the greatest of any other paper of the same nature in the world, we are much indebted to our brethren of the press, for their frequent favorable notices of us. This has been the means of calling the attention of hundreds who desired such a paper as ours, but who knew not where it was published, or whether such a paper had an existence or not. Our circulation does not interfere with that of any other paper, as our subscribers must of necessity be selected from those who have a taste for useful reading, unconnected with the passing news of the day, and presenting no light passion stirring literary articles which are readable to almost every person for the moments' gratification; our circulation therefore is singular. It is spread like a thin sheet over a great expanse, like a cloud resting on the bosom of the Pacific. In the remotest corners of our land—in places almost unknown to have an existence, we have subscribers. In Mexico, Brazils, Bermuda, the West Indies, Oregon, California, the East Indies and the far off Isles of the sea, the Scientific American is known. Our circulation is daily increasing,—as we have spared no pains to arrive at that point so essential to successful newspaper enterprise, viz. the first journal in its line—the first to present the latest news of inventions, improvements in science and art, and matter relating to patents. As it requires as unremitting attention to retain, as to gain popularity, we have adopted "diligence" as our motto, and as we have now dispensed with the services of every travelling agent, (some of them excellent men) for the causes mentioned in our last week's number, we will now be more indebted than ever to our contemporaries for whatever favorable notice they may take of us.

To our present subscribers, we would upon the terms of friendship, solicit your influence in the cause of science likewise. To you we are indebted for support, and by your encouragement, our country has a weekly paper devoted to science and the practical arts, which periodicals of other nations have said "does honor to the Republic." The expenses of such a paper are great, and as our present volume shows that we are still improving, we feel grateful for every helping hand. While we say this much, we also have the republican independence to state that every subscriber added to our list by a friend, will get full value for his money, he will receive the full benefits of his investment. We should like a circulation four times as large, as what we have at present. Our country has a population capable of giving us this. We would like, as a matter of national pride, to place the Scientific American far, far above any journal of the same kind in the world. This can be done in the most easy manner, without any grants or favors, but the good will of the people exhibited by twenty thousand new subscribers, folding up their subscriptions in letters and sending them to us through the Post Office.

**A Presbyterian Church in Italy.**

On the 1st of May, a Free Presbyterian Church was opened for public worship at Leghorn, in Italy. About 150 persons were present at the opening, all, with two or three exceptions, British. Rev. R. W. Stewart of the Free Church of Scotland, officiated.

**History of the Rotary Engine.**

We have concluded our history of the Rotary engine, and a new series of articles commenced this week, on the "glass manufacture." Our history of the rotary engine is the most complete in the world; since the commencement of this volume, we have published 67 engravings of rotaries and many of these derived from sources not accessible, we believe, to any other periodical. We could present a number more, but our history will be none the worse for their absence, although some of them are but recently patented We have received information by letter of a very excellent rotary invented by a Mr. Palmer in Greenbush, opposite Albany, N. Y. We intended to have given two cuts of it, but the requisite drawings did not arrive in due season.

In conclusion, the question might arise in the minds of many of our readers "what does the Editor of the Scientific American think of rotary engines himself." A fair question indeed, and we will answer it fairly, by stating, that we have never seen a rotary that pleased us so well as a reciprocating engine, and we believe never will. The leakage of all rotaries, their complexity &c., render them in our eyes very inferior engines. How easy a circular piston is packed, how beautifully adapted it is to slide in its concave jacket without a leak, and with but little friction, if all the parts are truly fitted, there is no loss by the crank as some erroneously suppose. A vibrating engine, is one of the most simple affairs in the world, and no person after seeing one of them in operation, would ever waste time inventing on rotaries. Our object in publishing the history of the rotary engine was to throw light upon the subject, in order to stop many men of real original mechanical genius from wasting their time. If we have succeeded—our object is accomplished.

**The Telegraph Patent Decision.**

"The Western correspondents who send despatches through the telegraph in relation to the recent decision of the Circuit Court, Kentucky, in respect to the case of Morse vs. O'Rielly misrepresent the matter. The decision does not touch the question of Morse's rights as an inventor. It merely goes to declare that an injunction obtained for one specific thing does not cover any other thing not named in it; that an injunction obtained by Mr. Morse against Zook & Barnes' instruments is not good against Bain's instrument. Similar proceedings must be instituted against each respectively. This, so far from allowing Mr. O'Rielly to use Bain's instrument in infringement of Morse's just rights, as the correspondents assert, only changes the mode of procedure on the part of Mr. Morse, who will apply for a special injunction against Mr. Bain as soon as he attempts to invade the former's rights. It is surprising that so many of the press of this country will be found upholding the attempts to deprive one of our own ingenious countrymen of his rights, because they allege his patent is a monopoly.—All patents, in one sense, are monopolies. They are exclusively enjoyed for a term of years by the inventor; but in this respect they are no more monopolies, in the odious sense of the word, than is the exclusive use of any other kind of property that a man's industry has created. They are monopolies for the public good, and the inventor only derives his profit from the public using his invention. The policy of the law is to encourage just such monopolies."

The above is from the Philadelphia Ledger, and it states the case truly in relation to Prof. Morse's patent. No person or persons should be led astray by the decision rendered, to suppose that the *electro magnetic* telegraph can be used without the consent of the Professor. Mr. Bain's invention however, does not depend on electro magnetism—no magnet is used. Those who complain about patent monopolies, should always place themselves in the same position in which they were before the monopoly complained of was invented.—Our country, yea the world is deeply indebted to the ingenious Morse for his invention, and should not find fault with the just rights which are only shielded, and that not very effectually, by the patent Laws. What would the world be without patent laws! Why every man would keep his invention secret and few would enjoy its benefits and perhaps the secret would die with the discoverer, without the world enjoying the least benefit from it. The public should be content to let the inventor enjoy his patent rights in peace, as at the end of 14 years it becomes public property, and here we would give that gentleman, the public, a few words of advice viz. *not* to infringe a patent during its term of *existence*, because every single case of infringement renders the chances ten to one that the patent will be extended beyond the first term. This is right; people should be taught to respect the rights of others

**Water Engine and Air Tubes.**

Papin, the celebrated French engineer, once tried the plan of pumping water from mines by the power of a distant waterfall applied to a wheel to work a series of force pumps, by which air was to be condensed into a reservoir. From this reservoir a close tube some miles in length was to be carried over hill and valley from the water wheel. He supposed that the condensed air would travel along this tube, and could be applied at the mine to work the pumps there and raise the water.—This invention was tried on a large scale in Westphalia, and such an engine was at one time erected at one of the mines in Wales, England, but neither of these two machines could be made to work at the useful end. The condensers at the wheel worked powerfully, but the blast at the distant extremity of the long pipe would scarcely blow out a candle, and although it had been calculated that the condensation would be transmitted along the tube in less than a minute, yet by actual experience—the testing of it, the slight impulses took three hours to travel along its tubular way. Another attempt was made by reversing the pumps and the effect of exhausting the tube ws tried, but this proved as fallacious as the other, so the whole project was abandoned.

Those inventors of exhaust mail tubes may gain some good hints from past experience. Every vain theorizer on this subject has supposed that since air rushes into a vacuum at the rate of 15 miles a minute, that such must be the velocity of a piston in the inside of an exhausted tube. But this is not so for the velocity of impulse decreases as the column of air lengthens, and consequently the longer the tube the slower is the motion of the column of air. No air tube to convey packages any great distance could operate successfully.

**Arabian Cattle.**

Lieut. Lynch brought with him from Syria, a male and female of the beautiful Khaisi breed of cattle, which he presented to the State of Virginia. The Legislature of that Commonwealth, in turn, presented them to the Governor, to dispose of at his discretion, to that farmer within the State, whom he should judge as most likely to secure the propagation of the breed. Governor Floyd, accordingly gave them to Col. James Castleman, of Clarke county. The cattle were lately exhibited at Washington, D. C., and a spectator thus describes them in the N. Y. Herald:—

"The khaists are, respectively, eighteen and sixteen months old, and weigh, the bull 950 pounds, and the heifer 650. The bull is 4 feet 10 inches high, and 10 feet 4 inches in length, from the nose to the end of the tail—the heifer of a proportionate size. They are the most beautiful animals of the cattle kind we have ever seen. Their limbs are as delicate as those of a gazelle, yet strong and well set as those of a race horse. Their heads have something of the elegance of outline of a deer; their nostrils are as thin and flexible: their feet are broad and flat, yet delicate, their tails, thick and flat at the insertion, taper down to the thinness almost of a whip lash, ending in a long tuft of silky hair. They are of a deep shining bay color, and their horns, which are just sprouting, are black as those of a buffalo. When full grown, they are said to stand seven feet high, and the cows are said to yield three half bushels of milk a day."

The stock of the valley of Virginia, it is believed, will be much improved by the introduction of this new breed. Col. Castleman values the pair at $10,000.

**Lightning Rods.**

It appears strange to me that so few people use lightning rods. Now that the laws which govern electricity are so well known. No one can doubt their efficiency in protecting life and property, and removing all apprehensions of danger during thunder storms.

I have specially noted the amount of cases of damage caused by lightning for over thirty years, and have not heard of one case of injury to any person by lightning while in a building or vessel protected by any kind of lightning rod. Mr. E. Merriam, of Brooklyn, N. Y. has republished the Report of the British Admiralty, for a period of over 25 years, showing that in 90 cases of the striking of naval vessels by lightning, no injury was sustained by any person or persons on board when the conductors were up. The same statement has been given to Mr. Merriam by the Secretary of our Navy. Mr. Merriam also published an account of 59 persons killed by lightning between Jan. 1st and July 30th, 1843, all taken from the columns of one newspaper. He also registered an account of 50 deaths from the same cause in 1845.

The wires used in the British and American Navies for lightning rods are about 5-16 or 1-4 inch in diameter. The electric telegraph wires that conduct electricity hundreds of miles, are less than 1-8 of an inch. Hence the evidence that a small rod, costing but a trifle (say $1,50) is of sufficient size for ordinary buildings.—It often happens that more than one rod is required to fully protect a building; as it is calculated that a rod attracts only twice the distance every way round, of its height above the object to be protected. There is no particular nicety required in preparing the rods, or putting them up. Any iron or copper rod, rusty, tinned or painted, pointed at the top, continuous and extending into the ground to moisture, and fastened with wood or any bad conducting substance next the rod, and rods enough to protect the distance required, is a good general rule. According to my observations there is about 1000 dollars worth of property destroyed, to the death of every person killed by lightning.

*Shoreham, Vt.* C. Rich.

**Missouri Hemp Crop.**

The growing hemp of Missouri is said to look well, and a larger area has been sowed in this article, in the present season, than was put in last. One of the chief hemp counties is Platte, and a correspondent of the St. Louis Union, who is collecting facts as to this year's and last year's crops, for the purpose of comparisons, reports as seeded in that county, in 1849, 2512 acres—in 1848, 1623, showing an increase, this year, of 889 acres. This looks well, but the army worm had commenced its ravages in Platte county.

**A Theory Spoiled.**

The beautiful plan proposed by some of the Western men, and on which the Western editors have been speculating, of making the Ohio river navigable at all seasons by turning into it the waters of Lake Erie, has been permaturely spoiled by a philosopher in the Cleveland Plaindealer, who says that "the Ohio river is about 265 feet above the level of Lake Erie," and proves it by calculations.

**Culture of Grapes in Ohio.**

It is stated in the Report of the Agricultural Society for the county of Hamilton, O., that not less than five hundred bushels of Catawba and Isabella grapes were sold in Cincinnati, during last season, for "table use"—the price $3 to $4 per bushel. But the quantity sold for the table is said to have been inconsiderable, compared with the quantity used in the manufacture of wine. The grape culture is profitably carried on in the vicinity of Cincinnati, on the roughest hill sides, which are of but little value for the ordinary purposes of agriculture.

Five persons have lately died at Blairsville Pa., by drinking root beer, made by mistake from wild parsnip instead of roots of sweet myrrh and sarsaparilla, and some 16 or 18 persons are still suffering from its effects. A Mr. Genter, the maker, was a victim, and Sam'l. Horsac and Mr. Dougherty—also victims.