Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

Vol. 4. New York, October 7, 1848. No. 3.

THE
SCIENTIFIC AMERICAN:
CIRCULATION 11,000.
PUBLISHED WEEKLY.
At 128 Fulton Street, New York (Sun Building,) and 13 Court Street, Boston, Mass.
By Munn & Company.
The Principal Office being at New York.

TERMS—$2 a year—$1 in advance, and the remainder in 6 months.

☞See advertisement on last page.

Poetry.

NEW ENGLAND.

The *Hills* of New England,
How proudly they rise,
In the wildness of grandeur,
To blend with the skies.
With their fair azure outline,
And tall ancient trees—
New England, my country,
I love thee for these.

The *Vales* of New England.
That cradle her streams,
That smile in her gladness,
Like land in our dreams.
All sunny with pleasure,
Embosomed in ease—
New England, my country,
I love thee for these.

The *Woods* of New England.
Still verdant and high,
Though rocked by the tempests
Of ages gone by;
Romance dims their arches
And speaks in the breeze—
New England, my country,
I love thee for these.

The *Streams* of New England—
That roar as they go,
Or seem in their stillness
But dreaming to flow,
O bright glides the sunbeam
They march to the seas—
New England, my country,
I love thee for these.

The *Home* of New England,
Free, Fortuned and Fair,
Full many heart's treasure—
A sister's love there,
E'en more than thy mountains
Or streamlets they please—
New England, my country,
I love thee for these.

God shield thee, New England.
Dear land of my birth,
And thy children that wander,
Afar o'er the earth,
My country thou art,
Where'er my lot's cast,
Take thou to thy bosom
My ashes at last.

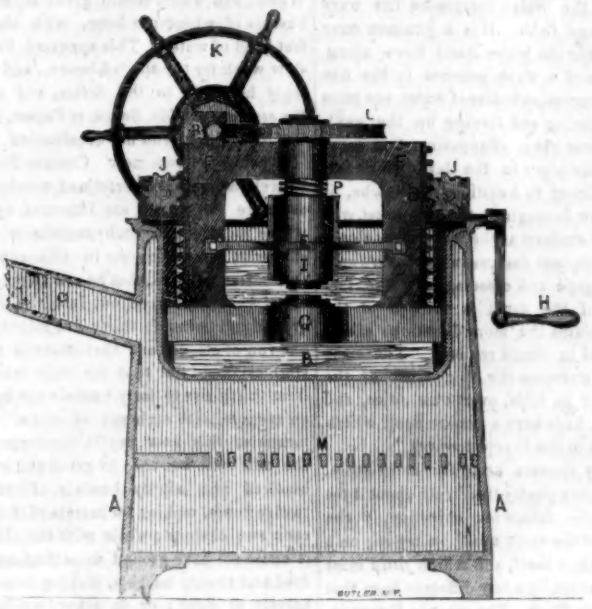
Sympathy.

There is a tear most sweet and soft
Than beauty's smiling lip of love,
By angel's eyes first wept, and oft
On earth like those above.
It flows for virtue in distress—
It sooths, like hope, our sufferings here;
'Twas given, and 'tis shed to bless—
'Tis sympathy's celestial tear.

Freak of Lightning.

A school house was struck by lightning a short time ago at Reading, Pa. A stove funnel was turned wrong side out by the fluid—just as one would turn a stocking. This is one of the most singular freaks of lightning that we ever remember to have heard of.

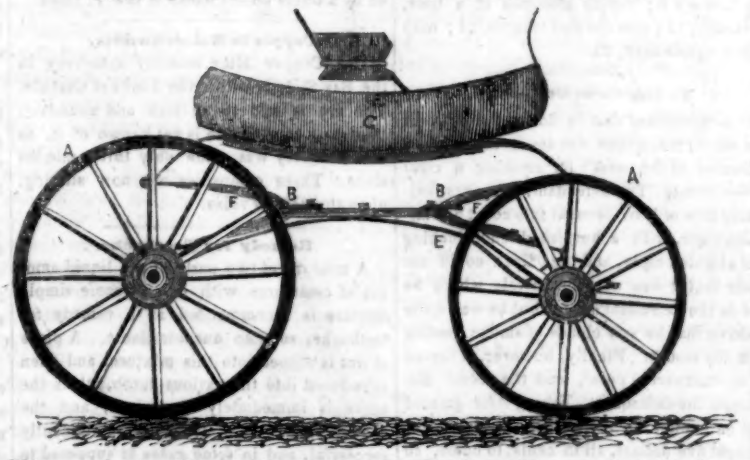
MACHINE FOR PRESSING HORN.



Horn, tortoise shell and many other animal substances and no doubt the leather manufaced by the process patented last year, are capable of being softened by heat and moulded by pressure into any shape and with any design in the sharpest and most delicate relief. A screw press has usually been employed for this purpose, but the one represented by this cut which is a section through its centre, is far superior.

A A, is a box of cast iron. B, is a copper to contain the hot water, and M, is a grate for the fire to heat the same. C, is the smoke pipe. F F G, is the press made of strong cast iron, and capable of being drawn up and let down in the water at pleasure by means of racks D D, at each side, actuated by pinions J J. The axle of these pinions cross the machine and have each a wheel at the end, moved by two arms, or screws cut upon the axis and turned by the handle H. The press is guided in the ascent or descent by grooves in the side of the boiler. When raised up out of the water, the moulds, with the horn or tortoise-shell between them, are put beneath the presser, and a severe pressure is produced by turning the wheel K. This wheel has an endless screw R upon its axis, which works the teeth of a large wheel L, fixed on the top of the screw P. The screw is received into an interior screw formed within the box or presser I, which is guided and prevented turning round by the cross bar E, through which the presser is fitted; by this means, when the screw P is turned round by the wheel L and endless screw, the horn or tortoise shell is pressed between the moulds; the Press is then lowered again into the water of the boiler, in order to be still further softened by the boiling; but when the Press is down in the boiler, the screw can be screwed tighter by turning the wheel K until the desired impression is obtained. By turning the handle H, the Press is then raised up out of the boiler, and by turning back the wheel K the pressure is released and the moulds can be removed.

SPROUT'S IMPROVED CARRIAGE SPRING.



This engraving is a side elevation of a new and useful improvement in Carriage Springs, invented by Erastus T. Sprout of Springville, in the county of Susquehanna, Pa., and secured to him by letters patent on the 18th of last July.

A A, are the wheels. C, is the body of the carriage, but placed rather too high in this drawing. B B, are loops which connect the springs F F, to diagonal bars which cross each other below the body of the carriage and are attached together by a bolt passing through the said bars and the elastic steel spring perch E. The diagonal bars are attached by hinges to the fore and hind axles in form of an X. This will convey the idea, as they cannot be seen in this view. The springs F F, are made of rolled steel in the usual way, and are composed of several leaves bent in the form of parabolic curves and are diagonally connected by hinges to the axle behind and the bolster before, then united by the loops B B, at their vertex to the diagonal bars (reaches) already mentioned. These springs F F, have their interior leaves made shortest and gradually increasing in length to the outermost, for the purpose of giving them the required degree of flexibility. These springs are connected by joints to other serpentine springs which are secured to the underside of the carriage in any suitable manner. It will be observed that these springs are arranged different from those in common use, and are so combined with the perch and diagonal bars, that they possess far greater strength and elasticity (indeed it is said confidently that they possess just double) in a given quantity of steel, than those arranged in the usual way, while at the same time they possess more flexibility, and prevent those uncomfortable shocks produced in carriages driving over uneven ground—the seat of the carriage having rather a gentle undulating motion, so agreeable and desirable in a pleasure carriage, and they will no doubt meet with universal application.

RAIL ROAD NEWS.

Interesting to Railroad Companies.

On Monday week on a case of appeal by the Baltimore and Ohio Railroad Company, from a decision of a magistrate, who had awarded damages for a cow killed upon the road, to the Howard District Court, Md., the question was brought up of the constitutionalty of a late law passed by the State of Maryland, making the agent or employee of a railroad company incapable of giving testimony in a case to which the Company is an interested party. After a full discussion of this subject, Judge Dorsey gave his opinion that the law was alike unconstitutional and opposed to the principles of justice and equity.

Hudson River Railroad.

The work on the section of the Hudson River Railroad running through Poughkeepsie has been suspended for the present, the contractors on that section having found themselves unable to complete the work for the price they took it at. The Directors are preparing to re-let the work. An attempt to obtain an injunction against the Road to prevent it passing in front of the land of Isaac Reynolds, at Peekskill, has failed.

A New Line to Philadelphia.

The travel between New York and Philadelphia has become so great that though there are now four lines running each way every day, yet the Camden and Amboy Railroad Company have felt the necessity of placing, in connection with the new Jersey Railroad Company, a new line upon the route from Jersey City. It will leave the foot of Cortland street New York, every morning at six o'clock, and pass through Newark, Elizabethtown, New Brunswick, Trenton and Bristol, to Tacony, where the Company's steamer will be in readiness to proceed to Philadelphia. The hour of leaving both cities is the same.

Throwing Stones at Cars.

The Springfield, Mass., Republican says that three Irishmen were arrested at Ireland Depot, on Saturday afternoon last, for throwing stones at the afternoon train of cars as they were in motion. They were put out of the cars—one for refusing to pay his fare except with a counterfeit bill, and the others for endeavoring to prevent the third from being ejected from the cars; they afterwards commenced throwing stones. One was fined $10 and costs, the two others $5 and costs. All three were committed.

Good Speed.

The cars between Albany and Schenectady made the trip between the two places last week at the rate of 42½ miles per hour. Our railroads must average 40 miles per hour yet or they should be sued for sleeping on the track.

The Fair of the American Institute.

This Great Fair opened last Tuesday in this city, at Castle Garden, and truly the display has never been surpassed. People from all quarters of our great country, have filled our city this week—and hundreds from distant places brought their articles for exhibition. This is right—New York is the place to bring new inventions and manufactures into public notice—it is the great heart—that throws out into a thousand channels the life sustaining fluid of our commerce. Saying this much for the exhibition and the wisdom of people coming to New York to exhibit their articles, we wish we could say as much for the Institute that conducts the Fair. We have never lauded nor declaimed against the American Institute, but we certainly have strong doubts regarding the way in which it has been managed—not for the benefit of those who have paid into its treasury. The Dispatch says: "that by a knavish and impudent system of puffing, large sums of money have been abstracted from the pockets of innocent people—money which has not been, and probably cannot be accounted for, and persons connected with the Institute, one of whom is an old bankrupt, have no ostensible means of a livelihood, other than means derived from the Institute; and that those persons live in an expensive manner, paying five, six and seven hundred dollars a year, each for house rent alone."

We have thus expressed ourselves respecting the Institute lest we might be considered inimical to all its actions, when noticing, (as we shall do next week) many of the articles exhibited at the Fair. We have found the Clerk always to be very civil and gentlemanly, but the Institution needs to be thoroughly reformed.

The Double-headed and Pointed Finishing Brad.

MR. EDITOR.—In a notice of this Brad in your last number, it was stated that the machine for making it had been invented a number of years ago, but had only "recently been put in operation." There is a slight error in this statement which I wish to correct. In 1842 the machine was in successful operation at No. 60 Gold street, where the Brads were put up in a merchantable form and introduced into the market, bringing the highest prices. Machines have also been exhibited in full operation. It is true that the invention passed from the hands of the inventor, Mr. Walter Hunt, of this city, and that he never realized any compensation for the labor and ingenuity bestowed upon it; but he is likely to reap some benefit from his invaluable invaluable invention through a renewal of his patent, for which he has peculiar claims, and for obtaining which measures are now being taken. M.

New York, Oct. 2, 1848.

Those Knox Hats.

It gives us pleasure at all times to recommend American productions and give the credit to those who merit it. In the article of Hats we know of no manufacturer on the continent that sells a better material, a more unique style or at a cheaper price than neighbor Knox, of 128 Fulton st. We recommend our friends who attend the Fair this week to give him a call. See advertisement in another column.

Substitute for Stays.

A patent was taken out a short time ago in England, for an *apparatus* named a Ceinture which is designed to supersede tight lacing, that ugly and dangerous folly, whereby beauty and the female form are destroyed.

To Cure the Hiccup.

Hold up, high above your head, two fingers of your hand; lean back in your seat, opening your mouth and throat, so as to give a free passage to your lungs; breathe very long and softly, and look very steadily at your finger."

Earthquakes.

It is supposed by some, and those very eminent men too, that the centre of the earth is a liquid mass, completely filling the globe, whose crust varies in thickness at the Poles and at the equator, being much thinner at the latter. "It is obvious," they say "that any exciting cause, the sudden manufacture of an immense quantity of gas, the fall of unmelted masses into the fiery liquid or similar circumstances, may rise a wave in this internal lava-ocean, or possibly two or three waves, which proceed as waves in our upper seas. A wave *moves*, but the water composing the wave only *rises and falls*. It is a common error to suppose that the water itself flows along The progress of a wave consists in the rise and fall of successive bodies of water, one mass falling, displacing and forcing up the next, and soon across a sea. Supposing this same process to take place in the lava which already fills, almost to bursting, the globe, it can readily be immagined that the crust will be lifted and strained as the wave pases along. Hence the frequent fissures in the earth's surface, which gape and close again. The fact that a crust of the earth is thinner at the Equator, explains the more disastrous effects of such waves in torrid regions. The same which there stretches the thin crust of the earth, lifts it in hills, overturns cities, and empties seas, finds here a granite shell which hardly yields to the heaviest waves."

This theory appears beautiful and simple, but there is more poetry than truth about it for it involves the following objection, "the heavy crust of the earth must be resting on a mass lighter than itself, and which *fluid* mass must be governed by a law different from that which governs fluids. The igneous theory is, that the centre of the earth is a sea of fire. The old scriptural theory is, that, the foundations of the earth rest upon the waters; and Kepler's notion was perhaps as correct as others viz., that, "the earth was a huge animal." The theory which attributes the commotions in the bowels of the earth to the agency of galvanism is the most plausible. Those who would desire to know its propositions and conditions will find them fully set forth in No. 32–33 vol. 3 Scientific American.

The Senate and the Heads of the Senate.

The editor of the Cincinnati Commercial on a visit to the U. S. Senate Chamber at the late session made the following notes:

Number of Senators gray headed, 12; with bald heads, 15; reading newspapers, (at a time,) 17; who spoke on the bill, in all, 20; who scratched their heads when they rose to speak, 10; who wore gold spectacles, 17; who wore silver spectacles, 3; who had on black coats, 39; who wore light vests, 6; who wore light neckerchiefs, 12; with curly hair, 8; of light complexion, 20; are corpulent, (including Lewis,) 6; paying attention at a time, generally, 12; who chewed tobacco, 20; with hair roughed back, 23.

An Ingenious Defendant.

It is mentioned that in Boston Police Court last week, much time was spent in trying a "member of the press" for smoking a cigar in the street. The defendant, who was evidently 'one of 'em,' brought into court an imitation cigar, with a burnished end, looking like a lighted cigar, and the officer could not swear that it was not the article which he saw in the defendant's face: but he was quite positive that he saw clouds of smoke issuing from his mouth. Finally, however, it turned on an unexpected point, and the court discharged the defendant. Taking it for granted that he would be convicted, the defendant brought five dollars, all in cents, to court, to pay the fine and costs with, but had to carry that *heavy* joke home again.

Degrees of Books.

The sizes of books are expressed by terms that indicate the number of pages printed on one side of a sheet of paper. When two pages are printed on one side, the book is termed a folio; four pages, a quarto; eight pages, an octavo; twelve pages, a duodecimo; eighteen pages, an octadecimo. These terms, except the first, are abridged by prefixing a figure or figures to the last syllable, thus: 4 for quarto, 8 vo. for octavo, 12 mo. for duodecimo, &c.

Yankee Improvements in the British Colonies.

The Belleville (N. B.) Intelligencer, says: "We have been informed that a great improvement has been made in the Water Wheel of a Flouring Mill. The experiment has been tried in Rawdon, in this District, in a mill belonging to Edward Fidlar, Esq., and at present leased by Mr. W. Baker, through whose enterprise this new wheel was introduced into the District. The mill has been built about two years, during which time it has been running with what is called Smith's Wheel, and which would grind at most ten bushels of wheat per hour, with about ten feet head of water. This appeared to be too slow work for the sprited lessee, and accordingly he went to the States, and engaged the services of a Mr. Boyce, of Fulton, Oswego Co. New York, who has constructed and put in operation two new Centre Discharge Wheels which have performed wonders such as were never, we are informed by those whose judgment in such matters is worthy of credit, before known in this country.—Our informant says, that he saw twenty bushels of wheat weighed out into the hopper, ground and bolted in thirty-five minutes with one run of stones, and that there is not the slightest doubt but that the mill will grind from thirty-five to forty bushels per hour, on an average, with each run of stone. By the means of this new centre discharge wheel the mill will be able to grind and bolt four hundred and eighty bushels of wheat in twelve hours, making 96 barrels of flour with each run of stone; while with the old wheel it could not have ground more than one hundred and twenty bushels, making twenty four barrels of flour; or in other words doing with the new wheel, in one day, that which it would require four to do with the old one. If this is correct, and we have it from unimpeachable authority, Rawdon can now boast of possessing the fastest mill in the province."

Natural Musical Telegraph.

The natives on some parts of the African Coast hold dialogues at great distances by means of little reed flutes. They are said to be able to communicate to the distance of several miles where the locality is favorable to the resonance of sound. The Ashantees and the Cameroons convey intelligence to a great distance by beating certain understood taps upon the drum. The war drum is used in all the villages to give warning of danger to distant places. The savage ear is more instinctive to sound than that of the civilized European, yet civilized in this respect far outshines barbaric instinct, for while certain understood sounds may be communicated to a great distance on the Banks of the Niger—the whole movements of an army may be regulated by a bugle on the banks of the Thames.

Copper in Massachusetts.

The Copper Mine recently discovery in the Bay State is within the limits of Carlisle. The ore is said to be rich and abundant, though of course little is yet known of it, as the discovery was made only three months since. Three companies are now sinking, upon the vein or veins.

Remedy for Toothache.

A mixture of two parts of the liquid amonia of commerce with one of some simple tincture is recommended as a remedy for toothache, so often uncontrollable. A piece of lint is dipped into this mixture, and then introduced into the carious tooth, when the nerve is immediately cauterized, and the pain stopped. It is stated to be eminently successful, and in some cases is supposed to act by neutralizing an acid product in the decayed tooth.

Action.

I have often had occasion to observe that a warm blundering man does more for the world than a frigid wise man. A man who gets into the habit of inquiring about expediencies and occasions, spends his life without doing anything to the purpose. The state of the world is such, and so much depends on action, that everything seems to say loudly to every man, "Do something"—"Do it"—"Do it."—*Cecil.*

A Geologist Robbed.

Dr. Randall, who was detached last June from Dr. Owen's Geological corps for the purpose of exploring the Des Moines river to its source, was lately robbed by the Sioux Indians of his purse, blankets, provisions, clothes, &c., and he had to travel a hundred miles or more on foot, from the source of the Des Moines to Prairie du Chien, in a very wretched condition. Dr. R. was also robbed of valuable geological specimens. He says of the country bordering upon the Des Moines: "Its agricultural beauty and capacity are unsurpassed, after leaving the settlements, and its geological resources are unequalled in the power to support a dense population."

An Iron Mountain.

The Pilot Knob, an iron mountain near St. Louis, is about to be brought into profitable use. A company has erected iron works at the base of the Knob, and on the 2d instant they commenced the smelting of the ore.—The knob itself is one of the greatest of known wonders, and contains iron ore yielding from 60 to 70 per cent., sufficient to supply the world.

Silliman's Journal says the Royal Geographical Society of London, has awarded the gold medal to Capt. Charles Wilkes, U. S. N., Commander of the late Exploring Expedition. The President of the Society in putting the medal in charge for our Minister, Mr. Bancroft, for Mr. W., took occasion to make an address, highly complimentary to the latter gentleman.

Deaf mutes are now taught in France not only to speak correctly, but understand the words of others by watching the motions of the lips. We believe that this plan has been adopted in some instances in this country, and that it has met with good success.

Sulphuretted hydrogen is extensively generated in the drains and ditches about Chicago, according to the Journal of that city. It can be procured in any quantity without any expense of manufacture, save the trifling one of health and life.

Plank Roads, by a late decision of the Supreme Court, are considered in law the same as turnpike roads, and private individuals cannot recover damages for injury done property by the proper and reasonable repairs of such highways.

A spirit lamp, in which alcohol was burned, exploded and caused the destruction by fire of nearly eight thousand dollars worth of medicines, in the store of Appleton & Co. Philadelphia. Laws have been enacted in Montreal against the use of such lamps.

The diamond may very easily be recognised by putting it in water, where it retains all its brilliancy, having the appearance of a bubble of air, while all other precious stones loose this singular appearance. This will answer for diamonds of the first water only.

The Moniteur of Paris publishes a decree, by the chief of the executive government, regulating the height of all new houses in the streets, and the forms of the roofs, in order to preserve an entire uniformity.

Professor Bond, of Cambridge, Mass., has discovered a new moon of Saturn. Its orbit is exterior to that of Titan. It is less bright than either of the two inner Satellites discovered by Sir William Herschel.

To protect bees place the hives eight or ten inches apart, and fill the spaces between and about them with straw, leaving the mouths of the hives unobstructed. Leave the straw about the hives late in the spring, till the old bees and the young brood will be secure from injury from late frosts.

The officers of the American Scientific association are W. G. Redfield N. Y. President; Prof. W. R. Johnson of Washington Secretary, and Prof. Silliman Treasurer.

A new flour mill is about to be commenced at Niagara Falls to run two run of stones.

Sweet potatoes are grown out South West as white as pink eyes—very different from the yellow kind known here.