

# Scientific American.

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

Vol. 4.

New York, July 21, 1849.

No. 44.

THE  
Scientific American.

THE  
BEST MECHANICAL PAPER IN THE WORLD.  
CIRCULATION 19,000.

PUBLISHED WEEKLY.

At 126 Fulton Street, New York (Sun Building,) and  
13 Court Street, Boston, Mass.

By Munn & Company.

The Principal Office being at New York  
Barlow & Payne, Agents, 89 Chancery Lane, London

TERMS—\$3 a year—\$1 in advance, and  
the remainder in 6 months.

## Poetry.

### THOUGHT AND EXPRESSION.

BY THE LATE MRS. GRAY.

They flit, they come, they go,  
The visions of the day;  
They change, they fade, they glow,  
They rise, they die away.  
And all within the scope  
Of one poor human breast,  
Where joy and fear and hope,  
Like clouds on heaven's blue cope,  
Can never be at rest.

They press, they throng, they fill  
The heart where they have birth.  
Oh pour them forth to thrill  
The brethren of the earth!  
In circles still they swim,  
But outward will not go;  
The lute strings cage the hymn,  
The cup is full, full to the brim,  
Yet will not overflow.

When will the lute be stricken,  
So that its song shall sound?  
When shall the spring so quicken  
That its streams shall pour around?  
Wo for the struggling soul  
That utterance cannot find,  
Yet longs without control  
Through all free space to roll  
Like thunders on the wind!

The Painter's pencil came  
The struggling soul to aid,  
His visions to proclaim  
In colored light and shade;  
But though so fair to me  
His handiwork may seem,  
His soul desponds to see  
How pale its colors be  
Before his cherished dream.

So from the sculptor's hand  
To life the marble wrought;  
But he can understand  
How lovelier far his thought.  
The minstrel's power ye own,  
His lyre with bays ye bind;  
But he can feel alone  
How feeble is its tone  
To the music of his mind.

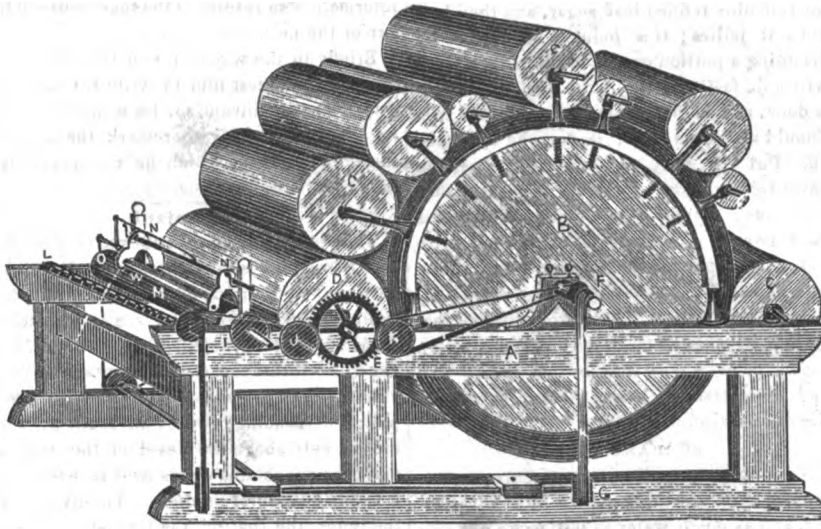
So strife on earth must be  
Between man's power and will:  
For the soul unchecked and free  
We want a symbol still.  
Joy when the fleshy veil  
From the spirit shall be cast;  
Then an ungarbled tale  
That cannot stop or fail  
Shall genius tell at last!

A butterfly basked on a baby's grave,  
Where a lily had chanced to grow;  
Why art thou here with a gaudy eye  
Whilst she of the bright and sparkling eye  
Must sleep in the churchyard low?

Then it lightly soar'd through the sunny air,  
And spoke from its airy track;  
I was a worm till I won my wings  
And she whom thou mournest like a seraph  
sings,  
Wouldst thou call the blest one back?

## IMPROVEMENTS IN WOOL CARDING.

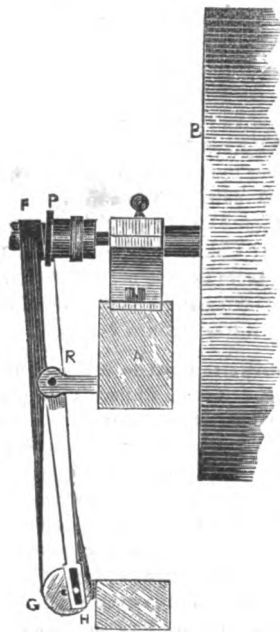
Figure 1.



This is a Condensing Carding Machine, on which valuable improvements have been made both for mixing and carding the wool in the sheet and drawing the roving at one operation, to fit it for the spinning frame.

Figure 1, is a perspective view, and figures 2 and 3, transverse sections. The same letters refer to like parts on all the figures. A, is a frame for the machinery B, is a condensing card cylinder. C, at the right hand is the Lickerin, and the larger cylinders C, and the smaller ones fixed to roll on the periphery of the large cylinder B, are the workers and clearers. All these are covered with cards and the one takes the sheet of wool from the other carrying it and carding it from one to the other until it is received on the doffer D. The doffer has a series of rings of cards around it, which form the sheet of wool into slivers, and from thence it is carried between rubbing rolls W, formed into roving and then through a countertwist band, and afterwards drawn between drawing rolls and finished for

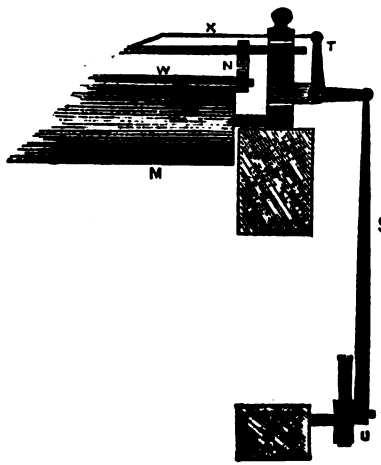
FIG. 2.



spinning at one continuous operation on the carding frame. The peculiarity of this machine is, that the condensing cylinder has two motions—a rotary and a side to side motion. This mixes the wool in the most complete manner, keeps the card teeth better pointed and the finishing qualities of the cloths are improved thereby more than 30 per cent, as has been fully tested by the inventors, Messrs. Charles Jackson and James Moir, of Cazenovia, Madison Co. N. Y. who have taken measures to secure a patent. The section fig. 3

shows the way a side to side motion is given to the condensing cylinder while it is revolving. F, is the shaft of the cylinder B. It extends outside of the frame, and there is room between to let the cylinder slide to and fro. From the shaft F, passes a band over a pulley G, which revolves the low shaft seen fig. 1. R, is a reciprocating rod connected by a pivot joint to the frame. This rod is attached to the pulley G, by an eccentric pin passing through the slot H. This reciprocating rod meshes, by a notch on its top, with the ring P, fixed on the shaft F. When the condensing cylinder is revolved, the band that revolves the pulley G, will give a vibrating motion to the rod R, and thus give the condensing cylinder a reciprocating motion, to produce the

FIG. 3.



results we have already mentioned. The rub rolls too, have both a rotary and reciprocating motion. Fig. 3 shows this arrangement. It is produced nearly like that in fig. 2, only the reciprocating rod S, vibrates an angular arm T, which by the rod X, moves the arm N, and the rub rolls W, from side to side. U, V, in fig. 3, is a pulley and eccentric. M, is a cylinder which revolves by means of the gearing K E J I, fig. 1, and carries the roving forward from the doffer D, and revolves the rub rolls, which roll in bearings in the arms G. L, at the side fig. 1, is a countertwist band through which the rovings pass and they are then drawn out in the drawing rolls in front of the machine, and the roving is left free from twist when drawn. This compound motion is as applicable to the Breaker, as the condenser. The improvements embraced in this machine are very important to the woolen manufacture.

More information about this machine, selling rights, &c. may be obtained by letters not paid, to the inventors.

## RAILROAD NEWS.

### Mad River and Erie Railroad.

The annual report of the Mad River and Lake Erie Railroad, Ohio, contains a statement of the income and expenditures of the road for a period of eleven months, ending June—during the last nine months of which the road had been opened for its whole length 135 miles, from Sandusky to Springfield, where it unites with the Little Miami railroad, forming a continued line from Lake Erie to Cincinnati. The income of the road during this period was \$147,162 from passengers, and \$151,003 from freight, making \$298,165; the expenses including \$18,710 for interest on loan, amounted to \$137,246, making a net income of \$160,919. The cost of the road to the present date amounts to \$1,754,262, of which \$1,400,000 has been paid for in stock paid in. The number of through passengers transported was 27,371, way passengers 49,832, and tons of freight about 35,000.

### Attica and Buffalo Railroad.

The Buffalo papers announce that William Wallace, Esq. who has held the office of Superintendent upon the Attica and Buffalo Railroad since its opening, has resigned, preparatory to entering on his duties as chief engineer of the Buffalo and State Line Railroad. He is succeeded by Mr. Martin, the President of the Company. Mr. Wallace has discharged his duties to very general acceptance of the public and the stockholders.

### Providence Railroad.

The Report of the Providence, R. I., Railroad, for the year ending July 1st inst., shows the expenses to be the same as last year. The Providence travel with the year has increased 7 per cent, way travel 45 per cent, New York do 29, New York freight 10, and local freight 20 per cent. On the 1st of July, 1849, the corporation was estimated to owe about \$110,000 only, and in this estimate was included the probable cost of the West Roxbury branch and of land and buildings in Dedham and land in Boston—a total outlay of \$160,000. The West Roxbury branch has just gone into operation. The cars, engines, bridges and depots are represented as in excellent order. The capital stock of the road has now reached its highest limit, \$3,160,000.

The Niagara Falls Suspension Bridge has been again thrown open to the public, having been impassable for some time in consequence of improvements intended to increase its capacity. Several new cables have been added a new floor has been laid, and the structure is now a thoroughfare, perfectly safe for all business purposes, and is capable of sustaining two hundred and fifty tons. A coach and four which with its passengers, weighed over five tons—passed over it a few days since.

### African Gold.

The Editor of the Baltimore Sun has been shown some specimens of gold, received in that city by the last Liberia packet. "It was gathered by the natives of that country from washings at the base of the mountains, and is the richest specimens we have seen. It is said to be more abundant there than in California, and obtained with very little labor.—When the new colony, now being rapidly settled by the colored emigrants, becomes fully developed, no doubt it will be discovered to possess immense wealth in the way of minerals, as well as in other resources, which will be productive of a large trade between that and our own country."

The Elk Lick Sulphur Springs, in Ralls county, Missouri, are becoming celebrated for their medicinal virtues, which in the estimation of medical men acquainted with the subject, are not excelled by the celebrated Blue Lick waters of Kentucky, or the White Sulphur Springs in Virginia.



**Cholera.**

Wednesday, July 11	— 85 new cases, 30 deaths.
Thursday	“ 12—116 “ 38 “
Friday	“ 13— 80 “ 39 “
Saturday	“ 14—123 “ 51 “
Sunday	“ 15— 76 “ 37 “
Monday	“ 16—155 “ 55 “
Tuesday	“ 17—103 “ 51 “

**Advice to Inventors.**

Those persons who have made recent inventions and improvements in machinery and desire to secure their rights by letters patent, are informed that this is the most favorable time for them to make application. Business is very quiet in all departments of trade at this season of the year and most Patent Agents can give their personal attention to drawing specifications and superintending applications entrusted to their care, while at other seasons many are obliged to confer their business upon others who are less familiar with the modus operandi of the Patent Office. We would advise those who have important inventions on hand which they design to secure by letters patent, to improve the present time and place their business in the hands of some experienced agent without delay. The acknowledged "best patent agency" in the United States is at the Scientific American Office, 128 Fulton street, where more of such business is transacted than at any other agency in the country, and nearly as much as at all the other establishments combined. During the last six months ending with June, over 100 applications, for letters patent and caveats have been filed in the Patent Office, by Munn & Co., and notwithstanding this vast number of applications but very few have been rejected or returned for amendment of claims. Advice upon Patent Office business cheerfully given and models of new inventions examined, without charge. Address

MUNN & CO.

Publishers of the Scientific American, post paid.

**Woodbury's Horse Power and Separator.**

These excellent machines are very highly esteemed wherever they are introduced. In the Boston Cultivator of last week, Messrs. T. and C. H. May of Woodstock, Ct., published a letter stating that this horse power in their opinion, is one of the best in use, that it is capable of doing more work with less power, than any other with which they are acquainted; requiring the power of only three horses to saw from 20 to 30 cords of hard wood, twice in two in one day, and with ease.

The letter states it to be their opinion that "Woodbury's Horse Power and Separator, for threshing and cleaning grain, cannot fail to give satisfaction to those possessing the power of three horses only, to thresh and clean from fifty to an hundred bushels of oats per hour." This is high testimony indeed. Our readers will remember that both of these machines have been illustrated and described in the Scientific American. They are now manufactured at Rochester, N. Y.

**London Dress Makers.**

There are about 15,000 milliners and dress makers in London. They commence work usually at from 14 to 16—that is to say, at an age when their future health and constitution are determined by the care they then receive. A very large portion of these girls are boarded and lodged by their employers, and they often come from the country healthy and strong. During the busy season—i. e. from April to August, and from October to Christmas—the regular hours of work "at all the principal houses" are, on the average, eighteen hours daily.

A great number of these girls become abandoned, being driven to prostitute virtue to be relieved from drudgery. How much guilt belong to the rich votaries of fashion, the judgment day will reveal in terrible distinctness.

**Currants and their Products.**

No small fruit is more sure of a market than currants, as the manufacturers of currant jelly will insure a continuance of demand. Currant jelly, well made, will always find a ready market in New York, and the other large cities, at from fifty cents to one dollar per quart, while currant wine, of good quality, sells readily at one dollar per gallon.

**CURRANT JELLY.**

Place the currants in a stone or glass jar, and suspend the jar in a vessel of boiling water until the currants are in a condition to yield their juice readily: then place them while hot, in a bag, and press out the juice; add pure, double refined loaf sugar, and then boil until it jellies; this point is ascertained by dropping a portion on a cold plate, and if it will hold fast with the plate upside down, it is done, and should be removed from the fire. Should any scum arise, it may be skimmed off. Put the jelly, while hot, into jars, and cover tightly. Our experiment resulted last year thus: Twenty seven quarts of currants gave twenty nine pints of juice, and with twenty nine pounds of double refined sugar, gave eighteen and a half quarts of very superior currant jelly. Those who suppose that currant jelly can be made with common brown sugar, or even with inferior loaf sugar, will find themselves without a market, as an inferior article cannot be sold.

**CURRANT WINE.**

To each quart of the juice of currants, expressed cold, add three pounds of fine loaf sugar, and as much water as will make one gallon; fill the cask with this mixture, and permit it to work; rack it, &c. in the same manner as cider; the addition of brandy or extra alcohol, in any form, alters and injures the flavor; and if the sugar used be thoroughly refined, the natural alcohol formed during its fermentation, will be found to be fully sufficient for its preservation.

The white Dutch currant makes of course a paler wine than the red, and of very superior flavor. The black currant requires one third less water, and produces a wine slightly resembling port. It also makes a syrup excellent for sore throat.

[The above is from our excellent exchange the New England Farmer. We believe that the products of the currant are not sufficiently prized by our people. In making red currant jelly, the flavor is greatly improved by employing one quart of red raspberries to every twelve quarts of currants. Black currant jelly is excellent for sore throats, and black currant wine is one of the best medicines for fevers and inflammations that ever was invented.

**Death of Littlejohn.**

The *Western Olive Branch*, published at Indianapolis, Indiana, states that Augustus Littlejohn, the celebrated Revivalist recently died in the Ohio Penitentiary, whither he had been sent under the assumed name of Hamilton, but just previous to his death acknowledged that he was none other than Littlejohn, the Revivalist.

This was a man whose end fulfills the scripture in that forcible sentence "the way of the transgressor is hard." Littlejohn was a native of this state, and has some very respectable relations now living in it. He was highly distinguished, for revival qualifications—during a period of animal excitement conversations, so hurtful to some churches. He married a fine lady in Chenango County, N. Y., but she left him—being of too pure a nature to live with such a sinner, minister though he was. He had a great deal of brass in his face, and he served the devil well in the livery of Heaven. He was a Presbyterian Clergyman, but of no education, beyond the limits of his mother tongue, and with good English authors he was totally unacquainted. First he was a canaller, then a preacher, then a convict—we should like to know how he died.—We have said this much about a man, who because he figured conspicuously at one period in the middle districts of this state, and many of our readers must have heard about him.—His life is one to point a moral, more than to adorn a tale. From it, oh fellow man do not forget the contrast, exhibited by the life of the just, whose path "is like the sun when shining more and more unto the perfect day."

**Notice to Inventors.**

Inventors can facilitate the preparation of their applications to the Patent Office, by accompanying the models, which they send to us, with a description of the merits and novelties they consider peculiar to their inventions. Let it be plainly written and as familiarly expressed as if the inventor were in conversation with the agent who prepares the drawings and documents.

A little consideration must convince the applicant that an agent cannot be too fully informed of the parts, contrivances, combinations and results which may appertain to an invention, and that no one can afford this information so readily as the ingenious contriver of the machine.

Briefly in the way of instructions to an Inventor, we request him to write his own description of the invention, its mode of operating, and especially to remark the parts or the action of them which he claims as original.

**The Punjab.**

The territory recently annexed to the British dominions is very extensive. It extends between the 28th and 36th parallels of north latitude, and between the 71st and 77th meridians of east longitude. With mountain ranges on northeast portion which reach an elevation of two or three miles, and with broad plains, descending towards the south till they are scarcely above the level of the sea, all varieties are obtainable, as well as every description of natural produce. The five rivers, the Indus, the Jhelum, the Chenab, the Rance and the Sutlej, afford navigation of not less than 1960 miles. Iron, copper, lead, salt, coal, nitre, plumbago and even gold mines, abound. The territory includes Cashmere, with its harvest of saffron and its important manufacture of shawls. The population is computed at three millions and a half.

**Shoe Business in Lynn.**

The shoe business is the life of Lynn. Only women's, misses' and children's shoes are made here. Engaged in this business there are of manufacturers, or men who 'carry on' the business, 78; of cutters or men who 'cut out' the shoes, 175; of men and boys so employed in making shoes 2,458; of men and boys so employed but living out of town, 900; of women and girls employed in binding shoes, 4,925; of the same so employed and living out of town, 1,600; making of employees an aggregate of 10,058. The number of men and boys employed in making shoes is more than seventy per cent. larger now than it was in 1842. The increase of the number of women and girls employed in binding shoes has, we presume, been correspondingly great. But it should be stated that the shoe business in 1842 was unusually depressed; that much less of it was done during the last than will probably be done during the present year. The number of pairs of shoes made during the last year was 3,190,000; the number purchased from other towns was 350,000; making in all 3,540,000 pairs. The cost of the material of these was \$1,435,545; that of making them \$957,030; making the cost of the 3,540,000 pairs of shoes to have been \$2,392,575. The cost of making shoes now is about one-sixth less than it was a dozen years ago.

**Arthralgic Coal in Massachusetts.**

Prof. Ridgway of Philadelphia, the gentleman to whom was committed the survey of the coal district of Marshfield Mass., has reported to the Company. He estimates the amount of coal, on about 1500 acres of their lands at 4,000,000 tons. It exists in five beds. One vein is eight feet in thickness. It estimates the difference of cost between the Marshfield and Pennsylvania coal at Boston, to be \$2.20 per ton. Its composition shows 94 per cent, of carbon, and Prof. Ridgway states that it burns with more flame, and ignites more rapidly, than any red ash coal he has ever seen. If his statements are correct the discovery will be most valuable to the State.

A French traveller thus contrasts London and Paris: In the former life is within doors, in the latter, life is in the street. London is monstrously immense, with prodigious establishments of shopkeepers and is excessively luxurious in its aspects, and very much inclined to gipseying.

**Kossuth.**

When Hungary was invaded by Jellachich in September last, and 50,000 armed men were collected in a fortnight, in the neighborhood Stuhlweissenburgh to repel the aggression, Kossuth issued a proclamation, from which we extract the following sentences:

"It is an eternal law of God that whosoever abandoneth himself, will be forsaken by the Lord." "It is an eternal law that whosoever assisteth himself, him will the Lord assist."—"It is a divine law that false swearing by its results chastiseth itself." "It is a law of our Lord's that whosoever availeth himself of perjury and injustice, prepareth himself the triumph of justice." "Standing firm on these eternal laws of the Universe, I swear that my prophecy will be fulfilled—that the freedom of Hungary will be effected by this invasion of Hungary by Jellachich."

This proclamation, which electrified the chivalrous people to whom it was addressed, concludes in a style not unworthy an Eastern prophet, not unsuited to the genius and origin of his race, by these words: "Between Vespriam and Weissenburg the women shall dig a deep grave in which we will bury the name, the honor, the nation of Hungary, or our enemies. And on this grave shall stand a monument inscribed with a record of our shame, 'So God punishes cowardice: or we will plant on it the trees of freedom entirely green, from out of whose foliage shall be heard the voice of God speaking, as from the fiery bush to Moses, 'The spot on which thou standest is holy ground: thus do I reward the brave. To the Maygars freedom, renown, well-being and happiness."

**Guard against Premature Burial.**

A learned Belgian, M. Mainple, has recently discovered a very simple means of distinguishing between real and apparent death.—It consists in creating a small burn; if there is life a blister is always formed, even in the absence of apparent sensibility. If death has already intervened, nothing of the kind occurs.

**Size of an Angel.**

Bishop Purcell of Cincinnati, ordered two statues representing kneeling Angels, "of the natural size," of Mr. Powers, which were to be accompaniments of the Altar of the Cathedral recently erected in that city. Powers wrote back to the Bishop that he had never seen an angel, and did not know what the natural size was. Upon this the Bishop referred him to Rev. XXI. 17th, for his measurements. One of the figures has arrived, and is 6 feet on its knees.

**Accuracy on a Railroad.**

The accuracy with which time is kept on the Boston and Albany railroad is wonderful. It states that the books at Springfield station show that, for six months, ending the first of May last, the Albany train never varied more than a half minute in the time of its daily arrival at Springfield.

**The Oldest Inhabitant Dead.**

A writer in the *Savannah Republican* mentions the death on the 29th of March of Mrs. Lourania Throver at her residence on the Ogechee, who was at least one hundred and thirty three years of age. At a census taken in 1825, her age was put down at 110 and some accounts made her 137 at the time of her death. She had seven children before the revolution; her youngest living child is between 70 and 80; she has great-grand-children 30 years old, and a number of great-great-grand-children living in Florida. Her sight failed her for a while, but returned 20 years ago, so that she could thread a fine needle, or read the finest print. Her faculties remained almost unimpaired till her death.—She had been a member of the Baptist Church for more than a hundred years.

A German paper says that suspension of life caused by prussic acid, is only apparent; life is immediately restored by pouring acetate of potash and common salt dissolved in water on the head and spine. In that country rabbits have been at once recovered from the effects of prussic acid by this means.

The poet Rogers said that Mr. Croker, the author of the article in the *Quarterly Review* on Macaulay's History, intended murder, but had committed suicide.