

Scientific American.

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

Vol. 3.

New York, February 12, 1848.

No. 21.

THE SCIENTIFIC AMERICAN :

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.

TO THE GOLDEN EAGLE.

King of the air thy pinions sweep,
Like tempest clouds the azure deep
Of the untraversed sky ;
Thou hast no partner in thy state,
No envious rival that can mate
Thy majesty on high !

To the earth's sublimest peak,
Where nought but muttering thunders speak,
Is but a resting stone—
When thou hast taken thy viewless flight
Through climes magnificently bright,
Traversed by light alone !

Ambition is the mark of mind—
The type of genius unconfined—
And thine is proud and high ;
For thou wouldst reach the star of day,
To bathe in his eternal ray,
Amid the golden sky !

How swells thy soul when thou art borne
Up to the vermeil skies of morn,
On heavenly wing to rove,
As if 'twere true that thou didst stand
Upon the golden-sceptered hand
Of old Olympian Jove !

UNION.

BY C. D. STUART.

Why link we not our trembling hands
And all our joys and sorrows blend,
Since crossing o'er the desert sands
We have a common aim and end.

The rich, the poor, the bond, the free,
This lesson surely ought to learn,
That gliding down life's stormy sea,
Their barques to one broad haven turn.

The same rough tide impels beneath ;
The same fixed light shines out above ;
Our common fate is pain and death,
Our hopes the same—why not our love ?

Ah ! let us break the chain that binds
Each single shallop in the foam,
And bravely trust the common winds
To fill our sails and waft us home !

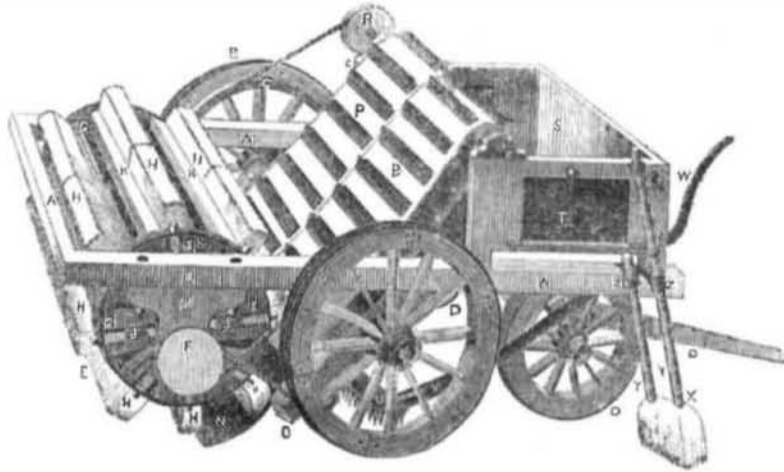
MEMORY OF THE PAST.

When backward through departed years,
On memory's wing we stray,
How oft we find a source of tears,
Along that wasted way !
The heart will vainly seek the light
That rested there before,
And sadly turn to mourn the blight
Of all it loved of yore.

We watch for footsteps that once came
To breathe the twilight vow—
We listen for the silvery tone
Of voices silent now—
We gaze on old, familiar things,
And marvel that they bear
No gladness to our spirit's wings
Like that which once was there.

"Drink water," says the Pharmaceutical Times, "to be really wholesome, must contain, besides atmospheric air, a certain proportion of carbonic acid gas. Distilled water, rain water and melted snow, are, therefore, properly speaking, unfit for drink."

BISHOP'S STREET CLEANING MACHINE.



This is an invention of Mr. C. H. Bishop of Easton, Pennsylvania, which has operated extremely satisfactory in a number of trials made by it. The utility of such a machine as this needs no second thought especially for such streets as those of our own city. For all the abundance of water supply in this city, and the great expense yearly incurred for street cleaning, it is a lamentable evil that our most business streets and thoroughfares are scarcely passable for foot passengers in wet weather. The above machine is intended to remedy this evil. The inventor has applied for a patent.

EXPLANATION.—A A A A, frame of machine; B B, Driving wheels; C C, belt pulleys; D D D front wheels and pole; E, brush wheel; F, pulley of the brush wheel; G G, heads of brush wheel; H H, brushes; I I, Screws regulating brushes; J J, ends of Brush clamps; K K Bars steadying brushes; M, blocking and bolts to Brush wheels; N, sweeping or dirt planes; O, cross bar carrying do; P P, elevators; Q Q, Sloping pieces carrying lower elevator roller; R, elevator pulley; S, body or dirt chamber; T, doors or shuts; U, Drag rake; V, one of the arms of do; W, lever working do; X, Gutter cleaner; Y Y, staves of do; Z Z, sockets and key; b b, hook and loop for fastening up when not in use; c c, journal boxes.

The frame as will be perceived, rides upon four ordinary wheels; the front ones being smaller and running under to facilitate turning. On the inner side of the hind wheels (within the fellos) are placed a series of segments forming pulleys for belts. At the hinder end of the machine is a cylindrical wheel in which are placed eight broad brushes, (made of the common birch twig,) and so secured that they can be regulated to the convexity of every surface of the street, and can also be lengthened as they wear off, with little or no trouble. The cylinder is driven by a belt from one of the hind wheels, over a 20 inch pulley. Immediately in front of the brush wheel is an inclined plane, slightly concave, about 22 inches long and as wide as the brushes.—

This plane is jointed and so hung that it regulates itself to the surface. Just in front of this plane and ascending to the top of the body is an elevator the width of the brushes, driven by a belt or cogs and pinion from the other driving wheel.

The operation of the machine is as follows: As it is drawn forward, the brushes strike the ground as they revolve, throw the dirt upon the inclined plane, up which they carry it by the same stroke, until it falls into the elevator and is by it thrown into the body. In loading out, a cart drives up beside it, the driver of the machine twitches a fastening, the door of the body forming a shut falls and the load slides out into the cart, requiring from 1½ to 2 minutes to transfer a cart load. The body will contain about three cart loads.

A drag rake with a double set of teeth, is arranged under the machine for scattering heaps of rubbish that might obstruct the operation of the brushes, and for cutting up stiff mud and hard crust, so that the brushes can take them up; this is raised or lowered by a lever in a manner similar to the brake of a wagon. A gutter cleaner, which is nothing more than a very stiff broad broom running along diagonally, works the dirt out of the gutter so that the machine can take it up, is placed on the right side near the front end and is only used as occasion requires.

There are a number of little matters of convenience about this machine too minute to describe, and among the rest a little arrangement by which the brushes, &c. can be instantly raised off the ground when not in use. To give some idea of the power of the brushes, moderate sized paving stones and halves of bricks, &c. were found among the dirt taken up by them on a recent trial. There is nothing about the machine that is liable to get out of order any more than about a common wagon. It is tended by one man, and although worked with ease by one horse, yet from the weight of dirt it will carry, two will be required, and it is calculated to clean from four to five miles of street in a day, depending of course on the width.

The Electric Telegraph in Holland.

A recent ordinance of the King of Holland, says the Liverpool Albion, enacts that no line of electric telegraph shall be established without the consent of the Government: that the tariff for the transmission of intelligence shall be submitted to the Ministers of the Interior and Finance; that intelligence from or to the Government shall be transmitted in preference to private individuals; that in time of war, the telegraphs shall be placed under the control of the navy and war de-

partments; that, when peculiar circumstances shall require it, the service of telegraphs shall be entirely or provisionally suspended: that all the news received or sent by telegraphs shall be inscribed on registers, and that, if eventually, the use of electric telegraphs shall be found to lessen the revenues of the Post-office, that the proprietors of the telegraphs shall be obliged to pay an indemnity.

Some fine flax producing 500 lbs to the acre has been grown in Van Diemen's Land.

RAIL ROAD NEWS.

The Philadelphia and Trenton Railroad Company has declared a dividend of four per cent for the last six months.

The Alabama Legislature has chartered a company to construct a Railroad from Tuscaloosa to Montgomery. When completed this will place Charleston in railroad communication with Tuscaloosa.

A committee in the Rhode Island Legislature have reported in favor of a petition in relation to that part of the air-line railroad to be situated in Rhode Island.

New Haven Canal Railroad.

This road, extending northerly from New Haven to Plainfield—28 miles—by the recently published report of the company is stated to have cost thus far, the sum of \$60 per share on 12,000 shares, or \$720,000, and that it has been leased to the New York and Boston Air Line for twenty-one years, at 45,000 dollars per annum. The road is to be extended to some point in Massachusetts—either to Springfield, Westfield, or South Hadley Falls.

South Western Railroad.

A correspondent of the Journal of Commerce says that when the proposed South Western Railroad (from Macon, Georgia, to Pensacola, Florida,) is completed, the journey from New York to New Orleans, can be made within one hundred hours.

Chicago and Galena Railroad.

Contracts for the first twenty-five miles of this road have been entered into. The whole distance is about 160 miles. It will be a very important link in the means of travel and transportation at the West, and makes a good beginning for the great proposed Oregon and California Rail Road.

Rail Roads of the United States.

We shall soon have two tier of great railroad stretching from this City through the state, viz, the New York and Erie, and the New York and Hudson line branching to the west at Albany, and meeting, as it yet will, the Great Railroad from Canada at Rochester.

In seventeen years nearly 6000 miles of railroad have been constructed in the United States at a cost of over one hundred and twenty-two millions of dollars. This is unprecedented in the history of our civil constructions. It demonstrates beyond any other fact the gigantic growth, the unceasing industry, and cumulative power of capital in this youthful and vigorous nation.

Telegraphic Extension.

In consequence of the importance of the line from St. Louis to Chicago, arising from the completion, at no distant date of the Michigan and Illinois canal, it is determined to extend the telegraph immediately to Chicago from St. Louis. A small part of the route from St. Louis to Alton is already finished and in active operation.

There are on an average three hundred messages every day between Pittsburgh and Cincinnati.

George Combe at Glasgow Athenaeum Solree.

"We have made more progress, morally, economically, and intellectually in ten years, than our forefathers in a century. It has been my fortune since I first appeared in Glasgow, to have visited many nations of the earth, and become intimately acquainted with some of the best spirits and leading men; and I am happy to say that the conviction that this world is founded, on the whole, on moral principles, and that Man has a moral destiny before him, is gaining ground wherever I have been; and that the desire of knowledge is the aim of all the countries of Europe, and also of the United States of America."