

# Scientific American.

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

Vol. 3.

New York, July 22, 1848.

No. 44.

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.

For the Scientific American.  
**A WISH.**

Give me a little vine-clad cot,  
Upon some shady lawn,  
Where the birds may sweetly carol forth,  
Their songs at early dawn,  
I'd have the trees all clustered round  
Just like a fairy grove,  
With little shadowy walks in which  
To rest when I might rove.

The sun should peep down through the leaves  
And shine upon bright flowers,  
And Fays and Wood-nymphs for their dance,  
Should have such rosy bowers,  
And through the grove a rill should run,  
With banks of mossy green,  
Where the moonbeam's silvery light, should  
play  
On the waters dancing sheen.

I'd have a modest faithful wife,  
These joyous things to share,  
And by our fond and mutual love,  
We'd drive away dull care,  
Together we would ramble forth,  
And her sweet bird-like voice,  
Should wake soft echoes through the glade,  
And make the woods rejoice.

And there sweet love, our home should be,  
And 'neath the arching vine,  
I'd hear thee say those sweetest words,  
That thou art ever mine.  
Love should be borne on every breeze,  
On every streamlet's hum,  
And like a dream, thy life should seem,  
Say dearest will you come.

ALFRED WHEELER.

## LABOR.

What a hushed and solemn stillness  
Did the pulse of nature keep,  
As in the early morning  
I lay awake from sleep,  
And longed for something that would break  
The silence long and deep.

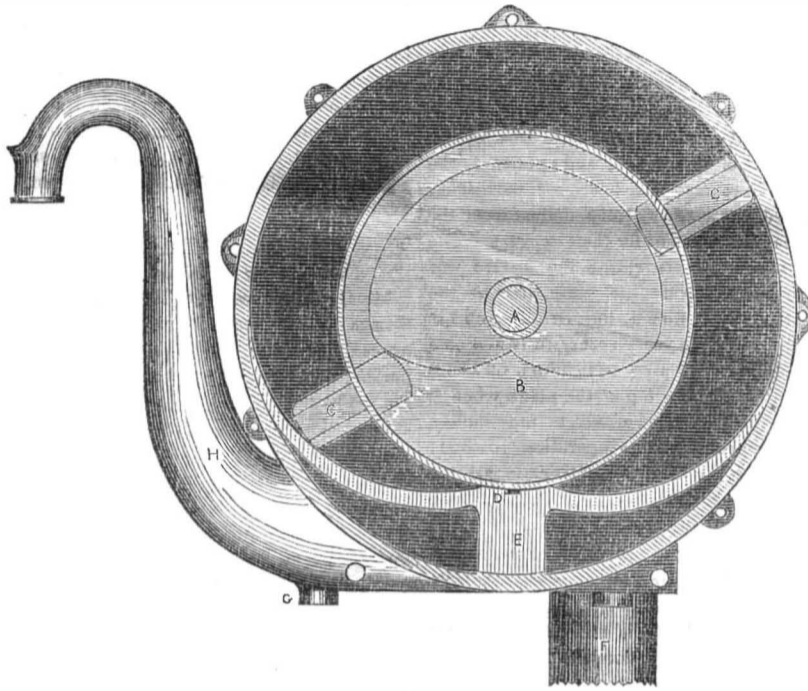
Till I heard the first faint footfall  
Echo in the street below,  
And then I heard the restless hum  
Louder and nearer grow,  
Till it seemed as if a multitude  
Were hurrying to and fro.

But now the dawn has broken,  
And Labor calls her train,  
Up from the slumbers of the night,  
In the town, and on the plain,  
And life has put in motion  
Her thousand wheels again.

And I bless thee, O my father,  
That I refresh'd can start  
From my bed of pleasant slumber,  
With willing hand and heart,  
Still in the busy scenes of life  
To act my humble part.

Yes, thank God for human labor,  
That man can plough the soil,  
And in the mighty fields of thought  
Search for the hidden spoil,  
O! I'd rather never know repose  
Then never think and toil.

## IMPROVED STEAM AND WATER ROTARY ENGINE.



This invention relates to improvements in a Rotary Engine to be propelled by steam, or for pumping and forcing water. The above cut represents the engine as a rotary pump, and is a semi-sectional view of the interior arrangement. The inventor is Mr. Albigeance W. Cary, of Brockport, Monroe county, N. Y., and he has removed one great objection to rotary pumps and engines, viz. a difficulty in keeping them steam and water tight. The improvements made relate to the packing of the pistons, so as to prevent friction and keep the chambers of the cylinder tight, also in providing a perforated crescent shaped partition which divides the chamber of the cylinder from the exhaust and supply tubes to answer as a strainer when used for pumping water. It can be used either in a horizontal or vertical position as required. The chamber and heart cam is cast in one piece, so that there is only one plate to be bolted and packed to keep the whole chamber tight. The machine is simple, easily constructed, easily repaired and not expensive. As a force pump no farmer should be without one, even if it was for nothing more than to mount a small one on a wheel-barrow to sprinkle the trees of his orchard with suds or salt and water, &c. to destroy caterpillars, while for a force pump in cases of fire, it is a most convenient and effective hydraulic machine.

**DESCRIPTION.**—A, is an axle cast or fitted into the moveable or revolving drum B. The drum B, revolves in the interior of the chamber its rim sliding in grooves cast in the circular side plates, so as to move perfectly tight. In width, it is in proportion to its diameter as 1 to 3. C C, are pistons, or they may be called sliding valves. They move round with

## Public Speakers.

It is stated that Daniel Webster speaks at the rate of from eighty to one hundred and ten words per minute; Gerrit Smith, from seventy to ninety; Dr. Tyng, from one hundred and twenty to one hundred and forty; Mr. Botts, from one hundred to one hundred and twenty; Mr. Clay from one hundred and thirty to one hundred and sixty; Mr. Choate and Mr. Calhoun, from one hundred and sixty to two hundred.

## A Turtle's Age.

The editor of the New Haven Journal has been shown a land turtle, by Mr. Elias Bassett, of Hampden, which he first found upon his farm more than forty years ago, and mark-

the drum B, and slide therein in grooves alternately out and in guided in their motion by the shape of the heart cam against the periphery of which they press, each slide being driven full into the groove when it comes to E, a dividing butt of the exhaust and supply ways. This butt is a piece of metal packed on the end D, against which the drum and slides move steam tight. G, is a broad flange for the spout to rest upon any standard made for that purpose, as it is very portable and intended to be moved about with great ease. F, is the supply pipe, and H, is the spout or discharge pipe. When used for pumping, the drum is turned by a crank on the axle. The water enters through F, and is forced out of H, with a force that is astonishing and regular.—The pistons are packed in a very peculiar manner. They have interior orifices communicating with the steam or water under the packing, so that the steam or water gently expands the packing when the engine is in operation, and keeps the chambers perfectly tight. The pistons are packed on their ends, and also their upper and lower surfaces in a kind of dovetailed manner, so simple that any person can repack them when required. The manner in which the pistons are packed, and also the crescent strainer, is something new and useful indeed to rotary pumps and engines. The crescent wing and also the cam, have been known before, yet not combined in the same way, nor so well. It will answer as well for a rotary steam engine as for a rotary force pump, and we have seen it operate with a very imperfect model in a manner that surprised all who saw it.

Measures have been taken to secure a patent for the improvements made.

## RAIL ROAD NEWS.

### Auburn and Rochester Railroad.

The work of relaying the Auburn and Rochester Railroad, with the heavy T. Rail is progressing rapidly. Thirty miles of the track is already down, a part of the iron weighing 60 pounds to the yard, and the remainder 70 pounds. By the month of September, probably, the entire line of railway, from Rochester to the Hudson River, will be relaid with the T rail.

### Atlantic and St. Lawrence Railroad.

Eleven miles of this road were lately opened. It now extends from Portland, to North Yarmouth.

The work is of a most firm, solid and substantial character. The broad guage adds to this appearance of solidity.

The train of cars leaving Albany on Saturday evening for Buffalo, will hereafter remain over at Auburn until Sunday evening.

The Attica and Buffalo Railroad Company will hereafter run one train only on Sunday, leaving Buffalo at 7 o'clock P. M.

### Girard and the U. S. Banks, and the Vicksburg Railroad.

The agreement made by Col. McCahen, in Mississippi, for the repossession of the Vicksburg Rail Road and other property belonging to that institution, has been fully carried out, the Court of Common Pleas having authorized the advance of \$75,000 by the trustee of the United States Bank, \$75,000 having previously been paid by certain stockholders and the Girard Bank.

The result of this agreement, together with the fulfilment of the compromise between the stockholders and the creditors, will make the property of great value to the stockholders. The Girard bank will be benefited by an increased value of their claim and interest, equal, it is believed, to at least \$300,000. The United States Bank secures the whole amount of their special debt, \$280,000 and an interest worth in all about \$800,000.

### Railway Travelling in England.

A late report of the Commissioners of Railways in the United Kingdom shows an increase in the number of passengers on all the railways open of 120 per cent, and in the total income of nearly one hundred per cent, as follows:—

The number of miles open in the beginning of 1847, was 3,053. The number of passengers in 1847 of the first class was 6,572,714 2nd class, 18,699,288; 3d. class, 15,165,318; Parliamentary, or cheap class, 6,985,494; mixed, 3,229,357. All railways to which the act requiring cheap trains apply, are required to run one train daily, including sundays, if they run any Sunday trains; carrying passengers at a fare not exceeding a penny a mile, at an average rate of speed not less than 12 miles an hour including stoppages. The carriages are required to be provided with seats, and protected from the weather.

The whole amount of money which had been received for the construction of Railways in the United Kingdom to the end of the year 1847, was £167,321,856. The total extent of railways authorized to the year 1847 was 11,673 miles, with a capital of £336,580,210.

On the 3,305 miles of railway which were open for use on the 1st, of May, 1847, there were employed as servants of the several companies, 47,218 persons. There were at the same date employed in the construction of railways, 256,509 persons; making the number of persons employed in the construction and working of railways 303,717.

A line of House's Telegraph between this city and Boston is about to be erected, in opposition to the present line.