Scientific American.

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

Vol. 3.

New York, April 8, 1848.

No. 29.

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.

THE MIDNIGHT WIND.

BY WM. MOTHERWELL.

Mournfully! O, mournfully
The midnight wind doth sigh,
Like some sweet plaintive melody
Of ages long gone by :
It speaks a tale of other years—
Of hopes that bloomed to die—
Of sunny smiles that set in tears
And loves that mouldering lie !

Mournfully! O, mournfully
This midnight wind doth moan ;
It stirs some chord of memory
In each dull heavy tone ;
The voices of the much loved dead
Seem floating thereupon—
All, all my fond heart cherished
Ere death hath made it lone.

Mournfully! O, mournfully
This midnight wind doth swell,
With its quaint pensive minstrelsy,
Hope's passionate farewell
To the dreamy joys of early years,
Ere yet grief's canker fell
On the heart's bloom—ay! well may tears
Start at the parting knell !

THE STAR OF LOVE.

Now darkness veils the gilded skies,
And shrouds a slumbering world;
And night looks down with thousand eyes,
Her banner wide unfurl'd.

Still as the silent halls of death,
Tired nature takes her rest,
Hush'd is each lingering zephyr's breath
That fann'd her peaceful breast.

Amid the radiant orbs that deck
And concave as they roll,
Not one has light enough to break
The gloom that haunts my soul.

Shine on my soul thou star of love,
While that revolves round thee,
And wheresoever thou dost move—
Thou shalt its orbit be.

Though darkness veil the gilded skies,
Yet still there's light from thee ;
Night darkens not thy beaming eyes—
Thy smile is day to me.

The Paths of Life.

Two paths hath life, and well the theme
May mournful thoughts inspire,
For ah, the past is but a dream—
The future a desire.

True Politeness.

Never ridicule, or point the finger of scorn
at a person because he is less wealthy than
yourself. Many a great man and brilliant ge-
nius have been the victims of poverty, while
accident has raised simpletons and even idi-
ots to stations of affluence and power. The
true principle is to treat every person with
proper respect, no matter whether he be rich
or poor.

The Flemington, N. J. Copper Company
have, it is said, recently struck a rich vein of
ore, yielding 58 per cent of pure copper.

ELECTRIC IMPROVEMENTS.

Figure 1.

Figure 3.

Figure 2.

FIGURE 4.

This is an invention of Mr. C. Hill, of Lon-
don, for improvements in the Electric Tele-
graph apparatus, and relates to enclosing the
conducting wires in tubes of lead and drawing
the tubes with the wires in them to an extreme
fineness. The wires are dipped in rosin be-
fore they are enclosed in the tube. The tube
is then filled with hot rosin, pitch and tar, and
while these materials are hot the leaden tube
is passed through a series of rollers, repre-
sented by Fig. 1. The pipe is run through a
chamber, A, full of hot water to keep the
non-conducting materials hot. The tube O,
passes through the centre and then enters be-
tween rollers c, an end view of which is seen
Fig. 4. f, is the frame, and g, the handle.
These rollers have semi-circular grooves in
their peripheries which by their junction
form a circle about one-eighth of an inch less
than that of the external diameter of the tube.
These tubes, or tube, being made to pass be-
tween the rollers by their being driven by hand
or otherwise, the lead pipe is reduced in di-
ameter, but increased in length, and then goes
through another set of rollers d, to reduce
the tube still more until it is drawn closely
round the wires, when it is received on e, a
drum. (The tubes might be drawn through
draw plates and would answer the same pur-
pose as between the rollers.) The whole is
then covered with coarse yarn. Fig. 2, repre-
sents the wire at different parts during the
different stages. The tube b, is exhibited as
being wrapped round with the cord c, after
which it is plunged in a bath of hot pitch and
while the pitch is hot it is rolled in sand and
rubbed with the hand, filling up all the in-
terstices between the strands of the rope as
seen at d, and the whole is then further pro-
tected by laying it in a cast iron pipe e, so
that it can carry wires across rivers, lakes or
seas. Fig. 3, represents an improvement in
steadying the needles used in telegraphs and
the means of bringing them to a state of rest,
after having been moved to the right or the
left. a b, are the needles supported on a bent

axle c, and kept in a vertical position by the
lower end being heavier than the upper. The
axle is supported by two pins or points d e,
one of which rests in a conical hole formed in
a piece of agate e, or other hard substance in-
serted in the brass frame work f, the other
point resting in a groove cut in the other
piece of agate k, in the direction of the length
of the axle. The needles vibrating freely
from the points d e, are prevented from be-
ing jerked out of their position from any sud-
den impulse of the electric fluid by forked
arms—g, represents a correct view of these
arms. These arms g, receive the crank axle,
the same being in a line with the centre of
motion. The foregoing is a plan for suspend-
ing the needles which are brought to a state
of rest by a small cup of oil placed in a po-
sition so that when the needle is perfectly
vertical, the point of it just dips in the oil,
the friction of the point passing through the
oil when it vibrates and its vibration thus ar-
rested. This object, however, may be effect-
ed by filling the cup with filings, the point of
the needle coming in contact with them, or a
small block of iron will answer just as well
as the cup of oil.

As the science of Electro Telegraphing is
but young and now engages much attention,
there is something in every new patent to in-
terest electro scientific men. Mr. Hill con-
structs his magnets by winding his wire round
a thin cylinder reel, then he introduces his
soft bar of iron into the reel and applies his
electrical current in such a manner as will
tend to draw the soft bar through the centre of
the reel. The usual way to make these mag-
nets, is to wrap a coil of covered wire round
a core of soft iron, which is magnetised by
transmitting a current of electricity through
it, the perfect filling of which depends upon
the purity of the core. It will be understood
that the magnet must be somewhat less in di-
ameter than the cylinder or reel, in which it is
to be enclosed.

An Antique.

A plain gold ring was found by workmen
who were digging a culvert on Ferry wharf,
Boston, a short time since, which had on it
the following inscription : " J. Fitch, ob't.
Oct. 26, 1739, A.D. 27."

Opposition to the Telegraph.

The news of the Revolution in France was
carried by an express locomotive from Lon-
don to Glasgow, 472 miles in 10 hours. The
average running time being fifty-two miles an
hour.

RAIL ROAD NEWS.

The legislature of this State has passed a
general Railroad law, under which capitalists
may associate to construct railroads, without
the right of eminent domain, however.

The Northern Railroad Company have late-
ly applied to the Legislature for a bill autho-
rizing them to bridge the outlet of Lake
Champlain. It is highly probable that the
request will be granted, and that the work
will be immediately put under contract.
The proposed bridge, when constructed, will
establish a perfect connection between that
road and the roads in Vermont.

Atlantic and Pacific Railroad.

Should the treaty with Mexico be ratified,
we predict that not many years will pass, be-
fore the two oceans will be connected by
steam power, via the Rio Grande. Nature has
done her part towards the improvement, and
art will yet do hers. There are no great phy-
sical obstacles to be overcome, as is the case
further south, whether at the Isthmus of Te-
huantepec or that of Darien.

From the Paso del Norte to the mouth
of the Gila, on a direct line, is about 600
miles. The best practicable route for a road
from the most accurate information we have
been able to obtain, will not exceed 800
miles—making the whole distance from the
Gulf of Mexico, via Paso del Norte, to the
Gulf of California, 1300 miles.

The head waters of the Gila are directly
west of Paso del Norte; second they are only
distant 115 miles; third, that there is already
a high road opened, not only to California,
but also through the state of Sonora, to the
lower end of the Gulf of California; fourth
that the Gila is a rapid mountain stream, 30
feet wide and in the shoalest places one foot
deep, (and this at extreme low water, as we
learn elsewhere,) and must therefore afford
ample water for a large canal which might
be made from this point down the Gila to
the Gulf of California; fifth, that a Rail-
road could be made without difficulty, con-
necting Paso del Norte and the Gila. The
mountains between the two oceans are not
very high, they can easily be surmounted by
American genius and enterprise.

Quebec Railroad.

A bill has been introduced into the New
Brunswick House of Assembly which propo-
ses the issue of £100,000 in Provincial scrip,
bearing interest at 6 per cent, and redeemable
in thirty, forty and fifty years, to be loaned
to the Company formed for the construction
of the St. Andrews and Quebec Railroad.

Champlain Railroad.

A meeting of the directors of the Ogdens-
burg and Champlain Railroad was lately held
in Boston and the most energetic measures ta-
ken for the early completion of the whole
work. Sixty miles of the road will be ready
for the rails the early part of next autumn.—
A portion of the remainder in the month of
April following, and all by the first of July
succeeding.

A Railroad is to be built between the towns
of Lawrence and Manchester in N. H.

The Massachusetts Legislature have grant-
ed a charter for a railroad between Salem and
Lowell.

Mr. Ellett, the engineer and contractor of
the Niagara Suspension Bridge has stated that
by the 1st of June next the work will be so
far advanced that he will be able to cross on
horseback.

Several new Telegraphic lines are to be put
up between Buffalo, Detroit, Chicago and oth-
er lake towns.