

Scientific American.

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

Vol. 3.

New York, July 15, 1848.

No. 43.

THE
SCIENTIFIC AMERICAN :
CIRCULATION 11,000.

PUBLISHED WEEKLY.

At 125 Fulton Street, New York (Sun Building,) and
13 Court Street, Boston, Mass.

By Munn & Company.

The Principal Office being at New York.

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

See advertisement on last page.

Poetry.

JOHN LITTLEJOHN.

BY CHARLES MACKAY.

John Littlejohn was staunch and strong,
Upright, and downright, scorning wrong :
He gave good weight, and paid his way,
He thought for himself, and said his say,
Whenever a rascal strove to pass,
Instead of silver, money or brass,
He took his hammer, and said with a frown,
"The coin is spurious, nail it down."

John Littlejohn was firm and true,
You could not cheat him in "two and two,"
When foolish Arguers, might and main,
Darkened and twisted the light and plain,
He saw through the mazes of their speech
The simple truth beyond their reach ;
And crushing their logic, said with a frown,
'Your coin is spurious, nail it down.'

John Littlejohn maintained the right,
Through storm and shine, in the World's de-
spite ;

When fools or quacks desired his vote,
Dosed him with arguments learnt by rote,
Or by coaxing, threats, or promises tried
To gain his support to the wrongful side,
"Nay, nay," said John with an angry frown,
"Your coin is spurious, nail it down."

When told that kings had a right divine,
And that the people were herds of swine,
That nobles alone were fit to rule,
That the poor were unimproved by school,
That ceaseless toil, was the proper fate
Of all but the wealthy and the great,
John shook his head, and swore with a frown,
"The coin is spurious nail it down,"

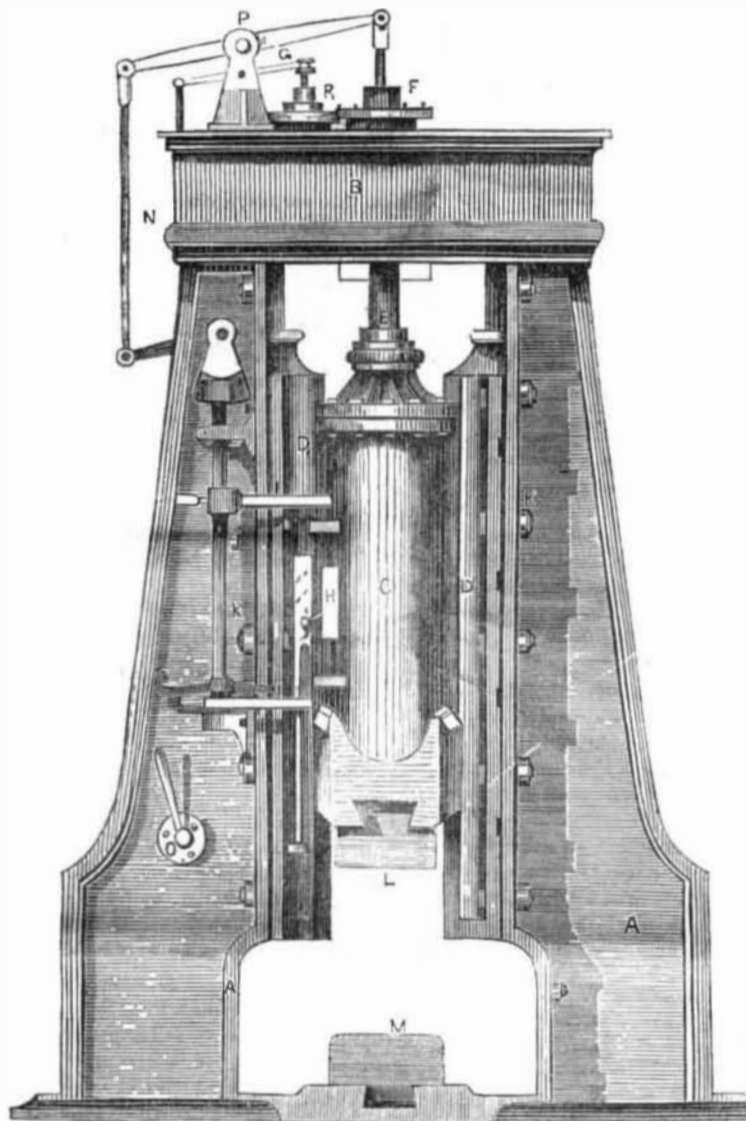
When told that events would justify,
A false and crooked policy.
That a decent hope of future good
Might excuse departure from rectitude,
That a lie of white, was of small offence,
To be forgiven by men of sense,
"Nay, nay," said John, with a sigh and
frown,
"The coin is spurious, nail it down."

When told from the pulpit, or the press
That heaven was a place of exclusiveness,
That none but those, could enter there
Who knelt with the "orthodox" at prayer,
And held all virtues out of their pale
As idle works of no avail,
John's face grew dark, as he swore with a
frown,
"The coin is spurious, nail it down."

Whenever the world our eyes would blind
With false pretence of such a kind.
With humbug, cant, and bigotry,
Or a specious sham philosophy,
With wrong dressed up in the guise of right,
And darkness passing itself for light,
Let us imitate John, and exclaim with a frown
"The coin is spurious, nail it down."

At the bottom of a lake the water must be
heavier than at the surface, and if it be deep
enough, there must be a point at which a
stone will not sink below it, and this has gi-
ven rise to stories of ponds without bottom,
because the sounding stone could never find it.

STEAM HAMMER ENGINE.



This is an engraving representing a side elevation of an improvement in machinery for the manufacture of malleable iron invented by Mr. J. Condie, of Glasgow, Scotland, and recently patented in Britain. The nature of the invention is that of a steam hammer, but it differs from Napier's, and Lewis Kirk's, in one feature, viz. the piston is stationary and the cylinder is the hammer. We do not think that it is equal to Kirk's for a machine shop, but it possesses some novelty. In connection with the moveable cylinder, however, there is one useful improvement claimed by the inventor, that is, he has in combination with his cylinder hammer, malleable iron tubes which are connected with the hammers and anvils, for the purpose of throwing in jets of water to keep them cool. These pipes are not seen in the engraving, but the mentioning of them will we trust not be overlooked by some of our mechanics. As there are some arrangements which are not represented in this view of the invention, the reader must be satisfied with but a notice of the same.

DESCRIPTION.—A A, is the vertical standard frame bolted firmly to the floor B, is the cross head frame. C, is the moveable cylinder, on the butt of which is firmly attached the hammer L. D D are cylinder guides with flange fastenings bolted through the standard. E, is the piston rod, which is also the steam pipe, it being hollow and the steam admitted through it to the cylinder. F,

The leech has the property of exhausting the air from the spot on which it fastens, then makes his bite, and the pressure of the air drives the blood into his mouth. Cupping instruments are also applied on the same

is a stuffing box of steam way, and P N, the lever operated by an arm on the spindle J, which arm is lifted up and down by a motion rod H, on the cylinder, and through a slot in the frame a handle touches alternately the lever of the throttle valve and regulates the supply of the steam. K K, are screw bolts, or shifting keys, for the purpose of fixing the flanges to the required gauge. G R, is what the inventor calls his equilibrium throttle steam valve, and is connected with the steam way ; by it can be regulated the speed and power of the hammer. M, is the anvil on which the iron is placed to be acted on by the hammer sliding up and down on the moveable cylinder. The steam is admitted between the piston and the bottom of the cylinder for the downward motion and between the piston and the top of the cylinder for the upward motion. The claim of the inventor is for a moveable cylinder as applied to the manufacture of malleable iron, and also for malleable iron tubes introduced into hammers and anvils for conducting water to keep the hammers and anvils cool. The common mode of cooling the face of the anvil when a heavy piece of forging is under the trip hammer, is simply to pour on water from a bucket. The introduction of water by the tube is an improvement—the moveable cylinder, no doubt, gives a square blow, but it appears to us as being liable to much breakage, and therefore will be expensive.

principle. The mosquito understands the trade to a diamond shaving.

Cast steel requires to be hammered or rolled in order to render it fine and sound in its grain.

RAIL ROAD NEWS.

Michigan Central Railroad.

The Michigan Central Road, under the management of its Eastern owners, gives the amount of its last year's earnings as follows :

The total receipts from passengers during the last thirteen months, ending May, 31, 1848, were : : : \$401,047 52
The expenses during this time 201,858 46

Leaving their net earnings at \$199,189 06

The whole number of passengers who were passed over the Road, during that time was 80,231.

The road will soon be extended across the State. The grading is completed, and the road-bed ready for the superstructure.

The Commissioners of the Westchester and Philadelphia (Direct) Railroad have appointed Edward F. Gay, Esq., Engineer of the road, who will immediately proceed to survey one or more routes. A report from his hand will afford a full and reliable exposition of the business and profits, and of the cost and eligibility of the road. It is gratifying to observe the spirit with which this desirable enterprise is conducted. We shall look for the report with interest

Large Locomotive.

The New Castle Manufacturing Company have just completed a very large locomotive for the Baltimore and Ohio Railroad Company, which in power far surpasses ordinary engines, and is calculated to draw one thousand tons. It is called "Saturn." It weighs about twenty tons, and cost \$80,000.

Items.

The Maine Railroad has reduced its passenger fare to nearly two cents per mile, and modifies the freight tariff in conformity. The Eastern has reduced its freight charge between Boston and Salem 20 per cent. In the Portland, Saco and Portsmouth railroad annual report, an intimation is given of a reduction, "the rates heretofore demanded having barely given interest on the outlay." In the year ending May, 31st, the gross receipts were \$160,805 and the expenditures \$101,580. The interest paid was \$11,765, and the dividends, including that paid this month, \$71,555, leaving a surplus of \$18,250. For the previous year, a surplus of \$1,803 only was realized.

The Lowell and Lawrence and the Stoneybrook Railroads have been opened with appropriate ceremonies.

The Southern Magnetic Telegraph.

The Southern line of Telegraph is in operation from New Orleans to Montgomery. About 120 miles more are to be put up, in order to complete the line between New Orleans and Washington. This last link is being put up very rapidly, and if the instruments and operators arrive in due time, New Orleans will be in direct communication with Boston, and all intermediate places by the 15th July.

Items of Niagara Suspension Bridge.

Number of cables for bridge 16 ; number of strands in each cable 600 ; number of strands in the ferry cable, 37 ; diameter of the cable half an inch ; height of stone tower, 68 feet 1 inch ; height of wood tower for ferry, 50 feet ; base of the tower 20 square feet ; size at the top 11 square feet ; span of the bridge 800 feet ; whole weight of the bridge 650 tons ; height from the water, 230 feet ; depth of the water under the bridge, 350 feet.

For foot passengers it was to be ready last Tuesday.

A new vein of platinum has been discovered in France.