# sicientific American. 

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.
bol. 3.
New 110xk, August 19, 18̌s.
Nov. ${ }^{2}$ c.

THE
SCLENTIFIC AMMERICAN CIRCUSATION 11,000
At 1:28 Fulton Street, New York (Sun Building,) and 13 Court Street, Boston, Mas.
By Munn \& Company.
The Principal -ffice being at Now York.
cerms---\$2 a year- $\$ 1$ in advance, and the remainder in 6 months.
pactru.
What are riches, glory, pride Laurel-wreath, or jewelled crown, When upon life's troubled tide, Wery, wayworn man goes down :What are mankind's dearest pleasures, But the fitfnl meteor's gleam ?-
What his grandeur ?-what his treasures? Moonlight on a mountain stream

Soon we quit life's busy path, For silence ofthe grave,Soon the banner, mighty death, O'er the proudest head shall wave,Soon the dweller in the hall And the child of peasant birth
Like the forest leaves shall fall
Mingling with their mother earth.
Prince and peasant, priest and kingLike the little flowers that blush
On the bosom of the sprong
Time's unsparing toot shall crush. What ! 0 what is pleasure then Can it hushour woes to sleep? Can it still the throb of pain Rankling in the bosom deep?

When the brightest cloud that swims, Vision-like, across the sky Stays the summer's burning beams, As it floats unheeded by :Then shall glittering gems of earth Bid our sorrows cease to flowTo the joyous laugh of mirth, Change the thrilling pang of woe. GIVING.
The sun gives ever; so the earthWhat it can give so much 'tis worth, The ocean gives in many waysGives paths, gives fishes, rivers, brays, So, too, the air, it gives us breath, When it stops giving, comes in death.

Give, give, be always giving,
Who gives not is not living The more you give, The more you live.

God's love bath in us wealth unheaped Ouly by giving is it reaped ;
The body withers, and the mind,
If pent in by a selfish rind,
Give strength, give thought, give deeds, give pelf,
Give love, give tears, and give thyself. Give, give, be always giving,
Who gives not is not living. The more we give, The more we live. Kindness.
Oft unknowingly the tongue
Touches on a cord so aching,
That a word or accent wrong, Pains the heart almost to breaking; Many a tear of wounded pride, Many a fault of human blindness, Has been soothed or turned aside By a quiet voice of kindness.
Geologists mark two periods in the history of animals now living, one when marineanimals were created, and the other when fresh water animals appeared.

## LANE'S LAST MACHINE.



This engraving is taken from a rough model of a machine sent to us by Abner and Charles Lane, of Killingworth, Connecticut, represented to be a new invention. The motion and changing gearing is not displayed, as the model only shewed the parts.
Description.-This is a vertical view of the machıne, as seen looking down upon it from above. The letter A represents the frame, and the upper and lower figures represent the lasts to be turned and the $c$ utting tool with the pattern-the upper the rough mate. rials, the lower the cutting tool and pattern last. The upper figure is a large revolving spindle wheel-or it may be narned a double drum in which spindles are fixed as the axis of motion to secure the rough blocks to be turned into lasts. B, is the main shaft of this double drum, and $R$, drum for a band to propel it from a wheel or engine. M, represents the spindles to secure the lasts in the revolving drum. L, represents the rough wood to be turned into lasts. $O$, represents the side circular plates of the drum, and as the blocks will have to be shifted as each phase of the lasts are turned during one entire parallel motion of the cutter C , the $\operatorname{cog}$ wheels N , on each spindle, are to do this, but we cannot show nordescribe how it is done, although one of the most important points, as all turning depends entirely upon correct changing gear. The machine professes to turn from a pattern last H , along which the cutter moves parallel with the axis of the pattern lastso as to communicate the form of the same to the rough materials on the revolvirg spindles. It wilf be observed that the cutter must have a very particular motion as it does not go over the whole surface of the rough materials during

## Asparagus.

This universal vegetable is supposed to be a native of Great Britain, where it is found on banks of sandy soil contiguous to the sea, growing luxuriantly under the salt breezes. -Cultivators have found that salt brine, or a thin covering of salt thrown over the beds in the Fall, before they have their final dressing proves very beneficial to its growth. Although it is not considered a very nutritious vegetable, yet it occupies a considerable pro.
every recolution of the same on their axis. The cutting is done by aslide I I, to which the cutter C, and cutter head D, are attached, and the which shifting motion is regulated by a pall K , catching into J, a c g g whee?, which moves the axis of the pattern last. The pattern is retained by guides EF, which guide the cutter to turn the pattern of the last, the said guides moving the cutter to cut the same inequalities or forms out of rough pieces on the spindles of the wheeis, being guided to do so by the guides and the cutter pressed towards the blocks by an eliptic steel spring $U$, and a veight $G$, hung to hold the guides to the patern. Q, are moveable spindle braces for shifting the turned lasts. $S$, is a screw shaft to move the slide with the cutter regularly from left to right, and it is revolved by a strap from a drum T, connected with a drum on a revolving shaft below. P P , is the bub of the spindle wheel, or as we have named it, the double spindle drum. The inventors in their communication say, that " this represents the cutter moving horizontally from one end of the last to the other, cutting a section through lengthwise on the rough materials corresponding to the section on the pattern. Whenthe pattern and rough materials to be turned on their axis one fourth of a revolution, (though at the corners of the lasts they may be turned more than at the more flat parts,) the cutter then passing back and so on" Messrs. Lane also mention that they " have a contrivance to prevent the middle portion of a slim article, like an axe helve or spoke from approaching too near the cntter by centrifugal force."
The inventors have taken measures to get a patent.
portion of every garden, and is extensively cultivated for market, some growers having eight or ten acres under culture at once. No doubt is entertained by experienced gardeners that in a very few years it will be increased tenfold.
An explosion of a weak steam pipe lately took place on board the steamboat Highland Mary at St. Louis, Mo. by which six persons were mere or less scalded.

## RAIL ROAD NWWS.

Boston and Montreal Railroad The Boston, Concord and Montreal Railroad is open to Sanbornton bridge, 18 miles from Concord. It will be opened to Lake Village 12 miles trom Sanbornton bridge this month. Up to the fourth of July, when the portion of the road in operation had been opened but about two months, and the great summer travel to the White Mourtains could hardly be said to have commenced, it had earned 10 per cent. on the cost-about $\$ 216,000$-besides laying up in a surplus of $\$ 2,000$ or $\$ 3,000$ and paying expenses of running cars, together with other outlays. It is estimated that the extension will be effected to Plymouth by the close of the year.

Lowell and Lawrence Rallroad.
The Lowell and Lawrence, Mass., road is now doing a good business, both in freight and passengers. For the first week the passengers fares exceeded the highest previous estimates by $\$ 300$. At the Lowell end freight is accumulating so rapidly that it will be found necessary to put on a heavy freight train and engine. Stony Brook road also has already a lucrative custom. It has been leased to the Nashua and Lowell Railroad for 39 years and is considered good stock. Massachussetts has nine hundred miles of railroad in operation, in which $\$ 40,000,000$ are invested. The income for last year excceded $\$ 5,200$,000.

Hydraulle Eingine.
There is an engine now in use at the Albert Dock, Liverpool, England, which is wor: thy of awtice. It has two cylisters lying at an angle with each other, and the water is applied to each piston alternately like a steam engine. The water is conveyed in twopipes, the one from an elevation of 420 feet above the river and the other 230 feet, so that there is a differeuce of elevation between the two reservoirs of 190 feet, and a corresponding difference of pressure in the water supplied by each which is equal to 82 lbs . on the square inch. The engine is connected by branch pipes, with both the main pipes, so that the pistons are acted upon by the greater pressure of one main pipe on the one side, and the lesser on the other, so that it is consequently put in motion by a force equal to the difference between the two pressures. The water is rendered available for the use of the city, and the valves are of the slide kind with very wide ports. Both high speed and easy motion have been attained.

The Lcather Wood.
A correspondent of the Boston Cultivator relates the following interesting particulars respecting the Leather Wood shrub which is found in many districts of our country.
" The shrub is remarkable for its soft and very light wood, and exceedingly strong and fibrous bark, whichabounds in mucilage. -It posesses the siggular power of healing wounds made upon it by forming a new bark over the fractured part, instead of growing from the side; and the new wood closing over the wound, as is the case in other trees and shrubs.
This new bark adapts itself to all the inequalities of surface next to the wood but is smooth on the outside."
He noticed one brarch which had been split down five or six inches, by the snow, dividing it into equal parts. A new bark had formed over each part, and on cuttang them crosswise all the roughest of the fracture was distinctly visible.

At New Haver, Conn., by horing to a depth of forty feet, through the wharf, salt water, and soil, and sinking an jron tube to that depth fresh water, pure and sweet, llows up threugh the tube so abundant thatit cannot be exhausted of two pumps.

