The Mineralogist.---The description and locality of every important Mineral in the United States.

(*Continued.*)

NITRATE OF LIME.

Occurs in fibrous efflorescences, of a whitish color; dissolves in water; and melts; tastes bitter; deliquesces. Abounds in the caverns of Kentucky.

SILICEOUS BORATE OF LIME. (DATHOLITE.)

Occurs in crystals and masses, of a greenish white or grayish color; shining lustre; specific gravity of 3. Translucent; fusible; forms jelly with acids; yields to the knife; turns white in the flame of a candle. Found at Hampden, Middlefield, Ct.; Paterson. N. J.

FLUATE OF LIME. (FLUOR SPAR.)

Occurs in crystals of a blue, purple, green, white, red, gray, or yellow color; also limpid and transparent. specific gravity 3.10. Lustre, shining vitreous; yields to the knife; fusible. With oil of vitriol it yields a gas which corrodes glass. Found at Thetford, Vt.; White Mountains, N. H.; Southampton, Mass.; Huntington, Middletown, Ct.; Amity, Saratoga Springs, N. Y.; Hamburg, Franklin furnace, N. J.; west side of Blue Ridge, Md.; Shephardstown, Shenandoah Co. Va.; Smith Co. Tenn., Peter's Cr. 17 miles from Shawneetown, Fork of Grand Pierre Cr. 27 miles from do. Ill.

FERRO-MAGNESIAN CARBONATE OF LIME.

Occurs in lamellar masses and crystals of a of a yellowish, grayish, or reddish white color; pearly lustre; specific gravity of 2.50.—Translucent; turns dark gray or brown when heated; Slowly effervesces in aquafortis. Localities: Leverett, Charlestown, Mass.; Bethlehem, Liecester, Clinton, N. Y.; near Lancaster, Pa

SULPHATE OF LIME.

Occurs in transparent crystals or foliated masses, of a white color, sometimes with shades of various colors; Specific gravity of 2.3. Soft; yields to the nail; turns white and finally melts when heated; does not effervesce with acids. Found at Milton, Martha's Vineyard, Mass.; Manlius, Lockport, Onondaga and Madison Cos., near Cayuga Lake, near Niagara Falls, foot of Goat Island, N. Y.; head waters of Staunton River, Saltville, on Holstein River, near Preston's Salt Works, Va.; near Fort Washington, Baltimore, St. Mary's Co., on the Patuxent, on the Potomac, Md.; Poland, Ohio.

BITUMINOUS LIMESTONE.

Color, dark brown; when heated exhales the smell of bitumen; loses odor and color by heat. Found near Middletown, Ct., presenting impressions of fish.

GRANULAR LIMESTONE.

Occurs in masses, of a white, gray, bluish, greenish, yellowish or reddish color; splintery fracture; brilliant lustre; translucent; often resembles loaf sugar. Found at Middlebury, Shaftsbury, Scranton, Pittsford, Vt; Lanesborough, Stockbridge, Sheffield, Mass.; New Haven, Ct.; Philadelphia, Pa.; 50 miles above Washington on the Potomac, Md.

LINCOLNITE.

Occurs in crystals, of a white color. Translucent; whitens and melts by heat. It is found at Bellows Falls, Vt, and Deerfield, Mass.

LITHOMARGE.

Occurs in masses, of a reddish, yellowish, bluish, or grayish white; specific gravity of 2.2; fine grained texture; adheres to the tongue; soft; polishes with the nail; infusible; falls to powder in water. Found in Montgomery Co. Pa.; Bare Hills, near Baltimore, Md.

CARBONATE OF MAGNESIA.

Occurs compact, crystallized, earthy, and pulverulent; of a white, gray, or yellowish color. The compact variety adheres to the tongue; infusible; dissolves in oil of vitriol; yields to the nail; soft. Found at Staten Island, N. Y.; Hoboken, N. J.; Roxbury, Pa.; Bare Hills, near Baltimore, Md.

HYDRATE OF MAGNESIA.

Occurs in thin plates, of a white color; pearly lustre; specific gravity of 2.13. Soft; translucent; somewhat elastic; soluble in acids; slightly adheres to the tongue. Found at Hoboken, N. J. in veins traversing serpentine.

The whole of Europe at the present moment presents a prospect of general war.

The Mariner's Compass.

MESSRS. EDITORS.—I beg leave through the columns of your valuable paper, to call the attention of the public to the defects in the construction of this important instrument, as it is commonly manufactured. These defects are usually to be found in the box, in the card, in the spindle or pivot, and in the needle.

1st. The box, of what is called the light compass, is made of wood, which is often very slightly painted, or only stained with some water color; the consequence is, that as soon as it gets wet, or is ever exposed to a moist atmosphere, it swells and the compass splits and is thus rendered useless. The box should always be well painted with oil colors, or what would perhaps be better, be saturated with linseed oil and varnished with shellac varnish

The boxes of both the wooden and copper compasses are generally whitened on the inside with whiting mixed with a little size; the consequence of this method is that in a short time the size is dissolved by the moisture to which the compass is necessarily exposed, and a quantity of loose whiting is in the box, which injures the compass in three ways. 1st. it obscures the glass. 2d. it renders the said indistinct by getting on it; and 3d. it by getting in the cup and clogging up the pivot, prevents the needle from traversing freely.—The lubber mark being made with a lead pencil is often obliterated. Would it not be better to paint the inside of a compass with white lead, and make the lubber mark with black paint?

2d. The card is generally made of paper and pasted together and balanced by sticking sealing wax on the under side. This method of manufacturing compass cards has at least three objections. 1st The paste is decomposed by moisture. 2d. the balance of the card is often destroyed by the sealing wax dropping off in consequence of the destruction of the paste, and 3d, the card itself is sometimes destroyed by getting wet.

I would suggest, that instead of printing the points of the compass on paper that they be engraved on a thin sheet of metal, say copper or brass, or perhaps German silver or some other metal would be better. The proper parts would of course have to be blackened so as to render the points distinct.

3d. The pivot or centre pin is generally made of brass without a steel point, the consequence is that when it comes down again on the centre pin the point is turned into a hook, the needle is either prevented from traversing, or traverses very badly; and is as likely, if not more likely, to stop at the false point as the true one. The usual remedy for this accident on board ship is, to make the point with a knife; but the evil is only partially remedied by this method; for the point instead of being perfectly circular, is rendered (if I may coin a word) polyangular. The centre pin should always be pointed with steel which should work in an agate or glass cup. Cast brass is very objectionable for this purpose, in consequence of the number of air cells which are almost always to be found in it.

4th. The needle is often made rectangular. This form is very objectionable; it should always be avoided for the following reasons:—

Without entering into the different theories concerning galvanism, magnetism and electricity, which may be considered as the same thing under different forms, I shall consider the important and essential property of the needle, viz. its divertive tendency as owing to electricity. It is a well ascertained fact that this mysterious agent or fluid (call it what you will) is never absolutely at rest, it is never perfectly quiescent—attraction and repulsion appear to be its inherent properties. The magnetic needle when nicely balanced, is never perfectly at rest; even when well constructed it will vary in its direction; but when it consists of a rectangular bar, as it often is in mariner's compasses, it is liable to a very serious variation, as will be seen by inspecting the drawing, bearing in mind the constant tendency of the electric or magnetic fluid to separate its different powers, or in other words its poles, so far as the nature of the apparatus will permit. Thus, when a compass is first made, the line of direction is N. S., but it may change to the line A D, in consequence of the point A. becoming the North pole instead of the point N, or B, may become the South pole and C, the North. That these

changes sometimes do take place I have no doubt, and have probably caused the loss of many a vessel. They may have been the cause of the loss of the steamer Great Britain. I detected the change of the line of deviation once in a needle of this form. I magnetized it very strongly by means of an electro magnet.—When the compass left the shop, the line of direction was parallel to the sides of the bar, but when the captain returned from a trip down the river, he complained that his compass had run him out of his course. I examined the compass, and found that the line of direction was diagonal. I destroyed the magnetism of the needle by reversing the poles and re-magnetized it with permanent magnets. I have had no complaint of this compass since.

The navigators on board of a vessel would be able to detect such an important change.—But the compass is left for hours in charge of the seamen, who generally are unable to detect the errors in it. The compass is at best an uncertain and fallacious guide.

Yours, &c. JOHN PRIME.

Washington. N. C.

The Mississippi Overflows.

The New-Orleans Crescent of the 11th inst. has an article, brief and terse, upon the overflows of the Mississippi, wherein are some reflections upon the means of counteracting these yearly inroads. Hitherto, it says, the principal means of protection has been Levees,—in themselves rude instruments for controlling water, and during any extraordinary rise of the River are but weak agents for keeping it within its banks. It behooves us then, to consider whether at the present day, our scientific knowledge and social advancement do not furnish us with more effectual means than Levees for controlling the course and movements of the Mississippi.

It seems to us that the Mississiopi is a Samson that must be shorn of his locks before you take away his power to injure. It must be overcome by cunning and skill rather than by force and violence. It is not by throwing up barriers and attempting to resist the river that you can most effectually restrain its power. A better plan would be to divert its energies into many channels, weaken it by division, and then permanently deprive it of its fearful and destroying qualities. Able engineers have at various times suggested plans to the Legislature for turning a part of the waters of the Mississippi into artificial canals running from the river to the lake. And this seems to be the course pointed out by nature as well as by common sense for relieving the pressure on levees during high water. The bayous which carry off a portion of the waters of the Mississippi, are hints to Man for using similar artificial contrivances for effecting the same end. In the same way you relieve an apoplectic man by opening a vein and letting off the blood which presses on his brain, so by opening communications from the river to the lake you take off the water which would otherwise burst through the banks that tremblingly attempt to hold it, and relieve the country from the continual fear of the overflow and inundation. Nor would the work be difficult, or expensive. The river being several feet higher than the land between it and the lake, it would only be necessary to raise embankments and tap the levee in order to take off the water. The only danger in such an operation would be that of taking too much water from the main channel. Hence it would be necessary to have the work superintended by men thoroughly scientific and practical.

Mr. Layard, the Ninevite Antiquarian, has been appointed an attache of the British Embassy at Constantinople, with $1,250 a year, and the British museum has voted him $15,000, to assist him in further researches.

Physical Advantages of the Sabbath.

The following extract from the North British Review, should at least be read by every working man.

The Sabbath is God's gracious present to a world, and for wearied minds and bodies it is the grand restorative. The Creator has given us a natural restorative—sleep; and a moral restorative—Sabbath-keeping; and it is ruin to dispense with either. Under the pressure of high excitement, individuals have passed weeks together with little or no sleep; but when the process is long continued, the overdriven powers rebel, and fever, delirium and death come on. Nor can the natural amount be systematically curtailed without corresponding mischief. The Sabbath does not arrive like sleep. The day of rest does not steal over us like the hours of slumber. It does not entrance us almost whether we will or not; but, addressing us as intelligent beings, our Creator assures us that we need it, and bids us notice its return and court its renovation. And if, going in the face of the Creator's kindness, we force ourselves to work all days alike, it is not long till we pay the forfeit.

The mental worker, the man of business or the man of letters, finds his ideas becoming turbid and slow—equipoise of his faculties is upset—he grows moody, fitful and capricious; and with his mental elasticity broken, should any disaster occur, he subsides into habitual melancholy, or in self-destruction speeds his guilty exit from a gloomy world. And the manual worker, the artisan, the engineer—toiling on from day to day, and week to week, the bright intuition of his eye gets blunted, and forgetful of their cunning, his fingers no longer perform their feats of twinkling agility, nor by a plastic and tuneful touch mould dead matter or wield mechanic power; but mingling his life's blood in his daily drudgery, his locks are prematurely gray, his general humor sours, and slaving it till he has became a morose or sullen man, for any extra effort or any blink of balmy feeling he must stand indebted to opium or alcohol. To an industrious population, so essential is the periodic rest, that when the attempt was made in France to abolish the weekly Sabbath, it was found necessary to issue a decree suspending labor one day in every ten. Master manufacturers have stated that they could perceive an evident deterioriation in the quality of goods produced, as the week drew near a close, just because the tact, alertness, and energy of the workers began to experience inevitable exhaustion.

When a steamer on the Thames blew up, a few months ago, the firemen and stokers laid the blame on their broken Sabbath; it stupified and embittered them, made them blunder at their work, and heedless what havoc those blunders might create. And we have been informed that when the engines of an extensive steam-packet company, in the South of England were getting constantly damaged, the mischief was instantly repaired by giving the men what the bounty of our Creator had long before—the rest of each seventh day. And what is so essential to industrial efficiency, is no less indispensable to the laborer's health and longevity.

Young Men.

It should be the aim of young men to go into good society—we mean not the rich, nor the proud, nor the fashionable, but the society of the wise, the intelligent, and the good.—When you find men that know more than you do, and from whose conversation you can get information, it is always safe to be found with them. It has broken down many a man to associate with the low and vulgar, where the ribbald song was sung, and the indecent story told to excite laughter or influence the bad passions

Lord Clarendon attributed success and happiness in life, to associating with persons more learned and virtuous than ourselves. If you wish to be wise and respected, if you desire happiness and not misery, we advise you to associate with the intelligent and good. Strive for excellence and strict integrity, and you will never be found in the sinks of pollution, or in the ranks of profligates and gamblers.—Once habituate yourself to a virtuous course, and no punishment would be greater than, by accident, to be obliged, for half a day to associate with the low and vulgar.