For the Scientific American.

To Dye Blue.

A light blue may be dyed on silk by the sulphate of indigo, that is, 1 pound of the best indigo ground fine to 6 pounds of pure sulphuric acid, added gradually and stirred well. It will take three days to make well, and nine perfectly. It is good to keep the vessel in which the *chemic*, as it is called, is made, at at a moderate heat in cold weather. A very small portion of this compound mixed well with with warm water, will dye a very good blue on silk, and if turmeric or fustic are added to the chemic solution a green is the result. This mixture will also dye blue on woollen but the goods must be boiled in it, and if a dark shade is wanted, a preparation of the goods in logwood liquor having a small quantity of the muriate of tin along with it, is a good basis—then the indigo sulphate on the top. It is impossible to describe the exact quantities, more or less of each is given according to the shade wanted. The sulphate of indigo will not dye cotton unless the acid is neutralized by feeding the chemic with chalk. A beautiful pencil blue is made by adding the acetate of lead to the sulphate of indigo. This composition is used in calico printing.

A blue can be dyed on wool by boiling woollen goods for one hour in a preparation of the sulphate of copper, two ounces to the pound and a little alum, then wash them well and boil one hour longer in logwood liquor. This color is very fugitive. A more fast color may be made by using the same quantity of copperas and one ounce tartar to the pound of goods, and treating the goods in the same manner. Boiling don't spoil woollen goods as some suppose, for all colors on wool, are boiled and the better they are boiled the faster and cleaner the colors will be. By increasing the quantity in the last receipt a good blue black is the result.

A logwood blue can be dyed on cotton by a preparation of the cotton for two hours in a strong solution of the sulphate of copper and alum, then washing them well, squeezing or wringing them and afterwards putting them through a good strong solution of logwood and then running them through a weak solution of soda ley. There are very few colors that are dyed on cotton that have to be boiled, in this instance is it necessary for logwood colors to be so treated. This color will do well for carpet rags and coarse canvas that may be used to tread upon, such as to cover stair carpet. Blue can also be dyed upon cotton by repeated dips in a strong solution of the sulphate of copper in one vessel and caustic potass in another. The goods must be wrung out of each of the solutions This is an expensive job and cannot be done easily, but it is the most perfect *sea blue* of all the blues, and if arsenic be added to the copper solution, it is the beautiful sea or sage green. Like the serpent, it is beautiful to look upon but it is as dangerous to labor at, as to receive the bite of the reptile. Many a dyer has lost his life by this color.

We have been very plain, so that any person may understand the meaning of the foregoing receipts. We shall treat of the dyeing of indigo blue on cotton, silk and wool, in our next.

Freezing Mixtures without Snow or Ice.

As brine freezes at 0° degrees Fahrenheit, and as several of the accompanying freezing mixtures without the aid of snow or ice, produce an amount of artificial cold that is much below 0 degrees, and much greater than sufficient, therefore, to freeze the salt water of the ocean: it would be possible by their aid to produce ice at sea, but more especially during any particular emergency, and by the thawing of which there would be obtained fresh water; as the salt in it separates during the act of freezing. Sulphate of soda, 8 parts muriatic acid 5 parts, thermometer sinks (Fahrenheit's) from X50 degress to 0 degrees Sulphate of soda, 3 parts, diluted nitric acid, 2 parts, thermometer sinks X50 degrees to—3 degrees. Phosphate of soda, 9 parts, diluted nitric acid, 4 parts, thermometer sinks from X50 degrees to—12 degrees. Sulphate of soda, 6 parts, muriate of ammonia, 2 parts, nitrate of potash, 2 parts, diluted nitric acid 4 parts, thermometer sinks from X53 degrees to 14 degrees. Phosphate of soda, 9 parts, nitrate of ammonia 6 parts, diluted nitric acid. 4 parts, thermometer sinks from X50 degrees to—21 degrees.

If the temperature is warmer than 50 deg. when the foregoing ingredients are mixed, the effect will be proportionably greater; thus if the most powerful of the mixtures be made use of, when the air is X83 degrees (or 33 degrees higher than 50 degrees), the thermometer will sink nevertheless to 0 degrees, being in the latter case a diminution of 88 degrees, while in the former it was only 71 degrees.

But should the temperature in the first instance be higher than 83 degrees, not only the brine, but the materials for mixing, more especially, should be previously cooled by one or other of the preceding mixtures, and in this way an intense cold may be produced in any climate.

Thermometers.

There are four different thermometers used at present in Europe, differing from one another in the number of degrees into which the space between the freezing and boiling points are divided: these are Fahrenheit's Celsius's, Reaumur's and Delisle's.

Fahrenheit's thermometer is used in Britain. The space between the boilin g and the freezing points are divided into 180 degrees, but the scale begins at the temperature produced by mixing together snow and common salt, and which is 32 degrees below the freezing point. From the zero then (0 degrees) to the boiling point in this thermometer there are 212 degrees.

The thermometer of Celsius is used in Sweden and in France, where it is called *Thermometre Centigrade;* in it the space between the freezing and boiling points are divided into 100 degrees; the freezing paint is therefore marked 0 degrees, the boiling point 100.

The thermometer known by the name of Reaumur's Thermometer, but which was, in fact, constructed by De Luc, is still used in Italy and Spain, but very little in France. In it the space between the freezing and boiling points is divided into 80 degrees.

Delisle's thermometer is used in Russia. The space in it between the boiling and freezing points is divided into 150 degrees, but the graduation begins at the boiling point, and increases towards the freezing point. The boiling point being marked 0 degrees, and the freezing point 150.

Mercury freezes at 39 degrees below zero, but alcohol has never yet been known to freeze, pure alcohol. It is therefore better than mercury to test the different degrees of cold.

Nautical Monster.

The British Builder gives the following conjectural account of some anomalous mechanical monster which is in progress of creation at Liverpool:

"The 'mysterious machine,' for some time in course of preparation, has still a local habitation and a name, at least, if only half a reality. A witness 'attempts' to describe it, as well as he can, but he admits that he cannot make either head or tail of it. It is tubular, 120 feet long, and 35 in girth at the broadest part, which is at one end of it—whether head or tail, deponent knoweth not, It is built of pine-plank, air-tight and free of knots. The entrance door is at one side, and he talks of ante room and public saloon, a winding staircase to a 'good-look-out' in the roof, &c., all in the belly of what appears to be so 'very like a whale' or a Trojan horse. It will take two years more to finish it in the 'superior style' in which it is being fitted up, at least for one hundred 'passengers; but, whether through the heaven above, the earth beneath, or the water under the earth, is a mystery as yet profound as chaos itself. May not this ingenious conundrum be some new fangled canal boat, or a steamer for diving into smooth water under the stormy surface of the ocean, so as to to ensure smooth sailing—to the bottom at least—if not to ensure the lives of those who are evidently expected to follow by the lot the special example of Jonah?"

A store has been opened in Broadway, this city, for the sale of mourning dry goods.

For the Scientific American,

Mineral Wealth of Russia.

Many have been surprised at the amount of gold which the Emperor of Russia has been able to throw lately into the French and English Funds. But as regarding the extent and resources of that vast empire, there is so much ignorance and so little knowledge, that no wonder that we were surprised when Douglas Jerrold declared, that if Nicholas at the present moment demanded his pay, England would be bankrupt to the biggest despot in the world We have been imbued with the idea that Russia generally, was a cold, barren, pine clad country, but instead of this nature has endowed her profusely with spices from all her kingdoms, and not less so with metals and minerals, as the following statistics, which we have collected from various sources will abundantly testify.

Nearly all the metals are found in Russia of a superior quality. Mining has been rapidly progressing there, more especially since 1815, when the Duke of Leuchtenberg, the supreme head and director of the mining works in Russia, by his scientific knowledge, profitably explored the mining districts. The principal mines are in the Ural mountains, and in Siberia. Ever since 1815, very rich gold sand has been found on the Ural, upon an area of about 3000 English square miles. Alexander Humboldt calculates that Russia gains annually, upon an average, from her mines $2,772,000 in gold and $1,684,000 of silver. In recent times, Russia's gain in gold (to which is added ever since 1830 a considerable amount of platina,) has progressed to an enormous rate. In 1841 the total weight of gold gained in the Ural and Altal mines, already amounted to 53,633 lbs., while that of platina had risen to 3960 lbs. The gold mining works of the Ural had furnished in the same year 1242 lbs., while the gold of Eastern Siberia amounted to 20,729 lbs. The richest mines, are now, however, in the district of Taglisk, belonging to the family of Prince Dsmidoff. From 1824 till the end of 1833, platina was coined to the amount of $6,339,770 of silver Platina, however, having been found more useful for chemical ends, a stop was entirely made in the coinage of that metal by an ukase in 1846.—In copper, Russia gained already, in 1840, about 9,232,000 lbs., and in iron nearly 480,000,000 lbs., but has considerably increased of late. The lead found there is not of a superior quality, and the quantity hardly covers the consumption of the country. Granite, porphyry, malachite, and other species of stone are found in vast quantities, and superior in size and beauty. Finland is peculiarly rich in granite, and the lofty Alexander statue before the winter palace at St. Petersburg, and the pillars of the Kazan church, are erected of that stone. In 1829, the first diamond was discovered in the gold sands of Countess Polier—neither is there any lack in precious stones. Universally known is the Russian isinglass, which is found upon an islet in the White Sea, in tables of the size of a square foot. Porcelain and argilaceous earth are furnished by Siberia and Tauria. Extremely rich is the country in salt, and more especially in the boundary provinces towards Asia, and the produce may be calculated to amount to about 1,600,000,000 lbs.

The whole of Europe together with Asiatic Russia furnishes $3,278,000 in gold and $2,476,000 of silver.

Veins of Platina have lately been discovered in France, which we hope will lessen the price of this metal, and confer an everlasting boon upon chemical and electric science.

Louis Phillipe and the Bell-Ringers.

His Majesty, the King of the French has been entertaining the Lancashire bell-ringers or rather they have been entertaining him, at the palace of St. Cloud. Louis Phillippe who is a perfect master of English—we mean the language not the nation—conversed very freely with the bell-ringers, and after praising the great variety of their changes, asked them if they could by any means of their bells give him any idea of the great Sir Robert Peel.—*Punch.*

In a copy of an old work not now extant, on "Necromancy," is the following quaint passage: "Ques.—How to raise a devele?—Ans.—Contradict your wyfe.

Michael Buonarotti Angelo.

This celebrated painter was born in 1474. He was not only a distinguised painter, but a sculptor and architect. In architecture he surpsssed all moderns, and he was the greatest designer ever known. The most celebrated of his paintings, is the "Last Judgment." His architectural abilities are best displayed on the Church of St. Peter's at Rome. His style is that of grandeur and sublimity, united with the utmost sublimity and beauty. Sir Joshua Reynolds delared that the last words he wished to utter from the Academic chair, was the name of Michael Angelo. Between Angelo and Raphael, there was a warm rivalry. The Farnesian family had built a house upon the banks of the Tiber, and the halls of which Cardinal Farnese wished to have adorned by the pencil of Raphael. The artist accepted the proposals of his eminence, but stipulated that no one should inspect his work until it was finished. The highly colored reports of which the friends of the artist spread abroad, respecting the triumph which the painter had achieved, so inflamed the curiosity of Angelo, that he swore by the "Interns of Dante," that he would gain admission into the Farnesian villa, and examine the works of Raphael. Having discovered that Raphael went late to his work, Angelo disguised himself as a vender of brandy, and taking a huge basket filled with biscuit and the liquor, directed his steps at an early honr to the gates of the palace. His cries of, "brandy! brandy!" roused the masons—the gate was opened and Angelo quickly admitted. The workmen were busily employed upon the biscuit and brandy and he passed through the coridors and was soon before the frescoes of his rival Noticing a scaffold and wall in readiness for the painter he ascended and he drew with a piece of charcoal, a gigantic head of Jupiter, after which he left the villa percipitately, without stopping for his basket. When Raphael arrived and beheld the splendid head, he exclaimed "Michael Angelo!" From that day he painted no more in the farnesina, and all of his works remained unfinished.

Repartee.

A Quakeress preaching at Nantucket, said, "Every tub must stand upon its own bottom." A sailor jumped up and said, "But madam, but suppose it had no bottom?" "Then it is no tub," returned she quickly, and went on with the sermon.

Genuine Bull.

It is said that when Miss Edgeworth's Essays on Irish Bulls appeared, the Farming Society of Ireland, supposing the work to relate to the kind of animal called by that name, ordered twenty copies.

An Irishman trying to put out a gas light with his fingers, cried out, "Och murder the divil a wick's in it." This reminds us of a printer from the country on his coming to work in a city office and wishing to light the gas, asking the foreman if he "would show him how to touch off them candlesticks."

Queer Enough.

It was lately decided in an English Court that the absence of a man from his wife four years in America, made her a widow.

Rare Felicity.

Col. Webb of the Courier and Enquirer, in a commendatory sketch of Lt. Thorn says:—"We are happy to add, that Lieut. Thorn has been so fortunate as to distinguish himself in all the recent affairs, and he has been twice wounded."

Independant Voting.

John Randolph once avowed himself decided in favor of the Fall Elections. He said he wisbed the voters to appear at the polls, when they could feel their independance.' 'In the spring, said he, the people have corn to buy—in the fall they have it to sell; and they always feel more independant when they have corn to sell, than when they have it to buy."

Slaughter.

Within the last two years 373,400 oxen and sheep have been slaughtered in New South Wales, in order to boil their carcases for the tallow.