

The Glass of Venice.

It may appear strange, but it is true, that with all our improvements and inventions our ancestors did certain things that far surpassed anything we can produce in the same way, and in fact, our modern novelties are often but the result of searches after lost arts and dead knowledge. Thus is it with the glass manufactures of "the bride of the sea," artistic Venice. Although her wondrous story seems one of fable, and the Doge with his retainers has now forever passed away, yet, in the public museums of art and in the cabinets of connoisseurs (which being freely translated means "knowing gentlemen"), there are to be seen evidences of her industrial art and her workmen's skill. In very early times her glass manufactures were celebrated; and when in the thirteenth century, the Venetian republic aided in taking Constantinople, she made good use of the conquest by learning secrets from Eastern nations concerning the manufacture of colored glasses and enamels. At the commencement of the sixteenth century, the filagree glass-work was introduced on the island of Murano, where the furnaces were placed, and a goblet of this manufacture has been bid \$1,000 for. This filagree work, though well understood by our manufacturers, is seldom made, for, from some cause, the delicacy of the Venetian tints and threads seem to be again unattainable. It was produced by making thin rods of glass by imbedding strings of colored glass or opaque white glass in colorless glass, and these thin rods were heated, and then blown, twisted, and welded, and then molded into goblets, vases and jugs. The effect is very pretty and unique, the stem and thick parts presenting a mass of varied colors which gradually thin and spread out into the form of the vessel, which seems to be made up of a series of colored curves that harmonize with the design of the goblet. It is an exceedingly elegant manufacture, and might, we should think, be advantageously revived in another republic whose flag is composed of stars and stripes.

The Pacific Gulf Stream.

The coasts of Western America in Oregon and Vancouver's Island have a climate very similar to that which prevails in western Europe in the same latitudes, and owing to similar causes; that is, it is much warmer in the winter season than regions situated several degrees further south. The cause of this is a warm ocean current which has its origin in the tropics and sets in towards the north-east in the Pacific, and towards the north-east in the Atlantic. The Pacific warm current is stated by a recent writer in *Blackwood's Magazine* to have its origin, for a certainty, in the China Sea, and that it has been traced across to Behring's Straits by sea-weed from Borneo. This ocean current flows along the coast of Japan and is the source of fearful storms, similar to the cyclones of the Atlantic and the hurricanes of the West Indies. Sailors dislike to navigate along the Chinese and Japanese coasts, on account of these gales, as they are frequent and very violent. This current moves with the velocity of two and a half miles per hour, and if fraught with storms for the sailor, it brings warm winter breezes and fruitful showers to coasts that would otherwise be blocked up with ice, and lands that would be buried in snow eight months out of the twelve. "Every bitter has its sweet, and every poison its antidote."

A Primitive Method of Measuring Time.

Certain people of the East measure time by the length of their shadows. If you ask a man what o'clock it is, he goes into the sunshine, stands erect, then, looking where his shadow terminates, he measures its length with his feet, and tells you nearly the time.

The New Orleans *Delta* estimates the sugar crop of Louisiana for the past year to be 326,482 hogsheads, of which 144,861 have yet to be forwarded. Louisiana is a great State for "sweetening" the cup of life.

An Interesting Report on Milk.

We attended the regular meeting of the New York Academy of Medicine last week, and listened with much gratification to an elaborate and philosophical investigation on "Swill Milk," by Dr. Samuel R. Percy (our good friend Dr. Samuel P. Rotten, who stated in a short introductory that he had taken the proper legal steps to regain his family name). The report was in answer to a request from the Mayor, that the Academy of Medicine would appoint a Committee of Investigation on this subject. Dr. Percy occupied more than two hours in reading his report, and it was listened to with marked attention and warmly applauded. The eloquent old historian of New York, Dr. J. W. Francis, spoke most

highly of the industry and perseverance shown by Dr. Percy, and expressed the gratification he felt at the document he had just heard. He said: "It showed philosophical investigation and deep inquiry, and corresponded with the learning of the times, and the spirit of the age. He thought that upon the present occasion their Academy had signalized itself, and that the document just read would add largely to its renown. It was worthy of learned Europe, and was pregnant of mighty results as affecting the subject of sanitary laws."

We present this week a series of analysis from the report, and we purpose, as opportunity permits, to make further extracts and comments. This report should be printed, and placed in the hands of the public.

ANALYSIS OF COW'S MILK.

	Water.	Solid Matter.	Butter.	Sugar.	Casein.	Saline Matter.
Milk analysed by Poggiale.....	862.8	137.2	viz., 43.8	52.7	38.0	2.7
Milk from Mr. Suydam's cow, kept for family use.....	852.60	147.40	(Doremus) 44.00	39.70	57.10	6.60
Milk from swill-fed cows, kept at 16th street distillery.....	858.60	141.40	" 44.20	17.90	70.80	8.50
Milk from one of the fattest cows in the same place.....	858.0	142.0	(Percy) 44.0	18.0	66.0	14.0
Milk from a grass-fed cow in Westchester county.....	868.0	132.0	" 44.0	46.0	39.0	3.0
Milk from 4 cows, kept at the Williamsburg distillery.....	870.0	130.0	" 35.0	15.0	68.0	12.0
Milk from the same, obtained from the man while delivering to customers.....	924.0	76.0	" 19.0	10.0	36.0	11.0
Milk from the same, taken from large cooling cans immediately after milking.....	869.0	131.0	" 31.0	17.0	70.0	13.0
Milk from a dealer (Decker) in E. 27th street, obtained while delivering.....	856.0	144.0	" 47.0	48.0	43.0	6.0
Milk taken from a sick cow in Williamsburg distillery.....	877.0	123.0	" 19.0	13.0	74.0	17.0
Milk from 16th and 10th streets distilleries, milked in presence of analyst (4 cows).....	867.0	133.0	" 34.0	18.0	69.0	12.0
Milk from the same, obtained from the man while delivering to his customers.....	923.0	77.0	" 20.0	10.0	37.0	10.0
Milk from D. Baldwin, dealer, obtained while delivering.....	869.0	131.0	" 38.0	34.0	52.0	7.0
Milk from J. Willets, dealer, obtained after delivery to a customer.....	860.0	140.0	" 47.0	46.0	41.0	6.0
Milk from 6 Alderney cows, J. T. Norton, Farmington, Ct.....	829.0	171.0	" 72.0	47.0	47.0	5.0
Gail Borden's condensed milk.....	578.0	422.0	" 124.0	157.0	131.0	10.0

ANALYSIS OF CREAM.

J. T. Norton, Farmington, Ct.....	364.0	636.0	(Percy) 568.0	28.0	38.0	2.0
Husted's Distillery.....	494.0	506.0	" 311.0	19.0	165.0	11.0
Gail Borden.....	490.0	510.0	" 424.0	38.0	42.0	6.0

ANALYSIS OF WOMAN'S MILK.

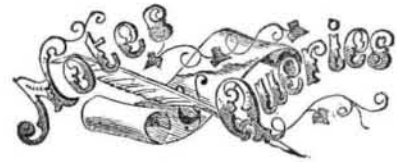
A lady suffering with ague in the left breast.—From the right breast (healthy) alk.....	896.0	104.0	(Percy) 22.0	61.0	19.0	2.0
From the left breast (ague) milk, acid.....	918.0	82.0	" 10.0	24.0	41.0	7.0
From both breasts of a drunken woman—acid.....	920.0	80.0	" 11.0	22.0	39.0	8.0
From both breasts of a healthy woman—alkaline.....	892.0	108.0	" 26.0	60.0	20.0	2.0
From M. R. S. (baby starving), milk alkaline.....	927.0	73.0	" 9.0	22.0	41.0	1.0

Desulphurizing Coke.

Iron made from wood charcoal is superior to that made from mineral coal, because it contains less of those impurities which exercise an injurious effect, by combining with the iron in the smelting process. Sulphur is more injurious to iron than any other substance usually associated with it, a very small percentage rendering the metal what is called *red-short*. In those parts of our country where bituminous coals are employed in the smelting of iron, these are first converted into coke, and as they generally contain a considerable amount of pyrites, they exert a deleterious action upon the product. We have received letters frequently in regard to this evil, more especially in relation to the pig iron made from coals coked in ovens. Coke, which contains more than one and a half per cent of sulphur is unfit for making good iron, and most of our coke contains as much as this. How shall it be removed is the important question? One of the cheapest agents for this purpose is moisture; as the sulphur left in coke is in the form of a protosulphide of iron, with which, when moisture is brought into contact at a high heat, the oxygen unites with the metal, and the sulphur with the hydrogen then passes off in the form of sulphureted hydro-

gen. This is the offensive smell which we experience when water is thrown upon hot coal ashes. Coals baked by the old method of pits in the ground, make a superior coke for iron smelting, but the reason why is known only to a limited number of persons. Overman, in his treatise, has set forth the cause, namely, the moisture absorbed from the ground. This unites with the sulphur in the coal, and carries it off in the form of gas. By admitting jets of steam into coke ovens, a similar result is effected. This method has recently been adopted in England by Messrs. Carlidge & Roper, who use coke ovens with perforated floors, through which steam can be admitted in minute jets, and shut off at pleasure. The celebrated Low Moor English iron is made from coke containing no sulphur; when the same ore from which it is made was smelted with inferior coke, it produced a very inferior iron. This is a subject of great importance to our iron manufacturers who use coal containing pyrites.

The African expedition under Dr. Livingston, by the last accounts, was proceeding up the Zambesi river, and had dug some very good coal on its banks for their steamboat, which coal is well adapted for raising steam.



* Persons who write to us, expecting replies through this column, and those who may desire to make contributions to it of brief interesting facts, must always observe the strict rule, viz., to furnish their names, otherwise we cannot place confidence in their communications.

We are unable to supply several numbers of this volume; therefore, when our subscribers order missing numbers and do not receive them promptly, they may reasonably conclude that we cannot supply them.

A. L., of Pa.—There are a number of existing patents on horse-shoe nail machines. Send us a sketch and description of your machine for examination. We hope your friends will send in their subscriptions without delay.

J. S. E., of Ohio.—You can improve upon any patent, in any respect that you choose. You cannot make use of another's patent without the owner's consent, even if you have improved upon it. In regard to penalty, the law allows the court to double the amount assessed by the jury.

R. S. P., of Pa.—Your method of making carpeting is new to us, so far as we can understand it. Send us a full account of the process.

S. R. J., of Pa.—We have forwarded your letter to the Ansonia Clock Company, Ansonia, Conn. It will cost about \$15 to have your invention engraved for publishing in the *Sci. Am.* This is your best plan to adopt.

F. W. R., of Texas.—You can procure a crane, with hoisting apparatus, from the Novelty Iron Works of this city.

M. P., of Me.—We never gave directions how to make French brandy, but we described the method employed to make the adulterated stuff which goes by that name, to let the people know how they are imposed upon. The camphorated storm glass is very reliable, and may be either half an inch or an inch in diameter, and about a foot long.

J. L. G., of S. C.—Magnetic shoe-soles have never been used by tinsmiths to prevent them from slipping on roofs. We do not believe they would effect such an object, as magnets may be easily drawn across the face of metal, although not easily lifted or pulled from it.

J. R. C., of Ohio.—Your best way to obtain the Reports of the Commissioner of Patents is to apply to the Representative in Congress from your district. Burned steel must be carbonized again to restore it to its former quality. To case-harden polished iron, cover it with a paste made of flour and the prussiate of potash and allow it to dry, then heat it in the fire till red-hot, and plunge into cold water.

E. H., of Cal.—It will take 2½ [horse-power to force water at the rate of one inch per minute through a half-inch tube laid through the Atlantic 3,000 miles. This supposes the water in the tube to be in equilibrio before motion is given to it. In sinking such a tube, however, it would be squeezed as flat as a pan-cake.

E. S., of Pa.—We do not consider that there is any loss by the use of a crank in a steam-engine, except a small amount of friction on the crank-pin, and that of the connecting rod.

F. F. C., of Ga.—You can pack a bale of cotton with one-horse power, or with a man power according to the time that is taken in doing the work. Where the packing is done by hydraulic presses in this city, and steam power used, five and ten-horse power is applied, but the work is done five and ten times faster than with one-horse power.

T. S., of Mich.—Your system of musical notation is not quite like Mr. Mahoney's. The music for the blind which he embosses more resembles yours, and that was invented by him in 1847, and copyrighted in 1854. A specimen was published in "The Musical World" of that year, the piece being "What Fairy-like Music!"

H. W. G., of Mass.—If this earth at one period, very remote, was a glowing mass of fire, as is commonly taught by the majority of geologists, and all the grades of equatorial life first existed at the poles, as you suggest, because the earth first became cool in these regions, then upon the same principle of reasoning, it all must become like a "frozen turnip" at some remote future period.

H. D. S., of N. Y.—To dye feathers a bright scarlet color for fishing purposes, they must be first washed in soap-suds to remove all the grease, then boiled for half an hour in a clean tin or brass vessel with some ground cochineal, alum, tartar, and a little quercitron bark. Half an ounce of ground cochineal, the same amount of cream of tartar and alum in a gallon of water will color one-fourth of a pound of white feathers a beautiful scarlet. The best way to silverize brass is by an electric battery, and the use of the cyanide of silver in solution. The best mode of dishing fishing spoons is by a die and severe pressure.

M. M., of R. I.—No person can make, sell, or use a patented machine without being liable to the patentee for damages. Those who informed you to the contrary do not understand our Patent laws.

A. S., of N. C.—There are quite a number of companies that manufacture coal oil in different parts of our country. They all understand how to render it pure in color, but not how to remove the offensive odor.

J. O. M., of N. Y.—Wood is a very excellent conductor of sound; it is far superior to many of the metals for this purpose.

R. C. N., of N. Y.—Your links of an electric conductor connected to the pitman of an engine would not afford an economical power, nor be of the least practical benefit.