

[For the Scientific American.]
Weights and Measures.

As you are advocates of reform in everything susceptible of reform, I wish to present a few remarks in advocacy of reform in weights and measures. It seems to me to be entirely unnecessary to have three or four different kinds of weights. I have found, by many years' experience in teaching, that it is very perplexing to students, and unnecessarily retards their progress, in having to learn so many tables, and still more perplexing to go through the exercises under these tables.—But as I would not object to anything without offering a substitute, I propose the following:—

Let Apothecaries and Troy weight be abolished, and let us have such divisions of the lower denominations of Avoirdupois weight as may be necessary to express the smallest quantities desired. And where is the necessity for so many kinds of measure? If all our measures of capacity have the same unit, why not have the same number of units for the same denomination in all the tables? Let us have but one measure for all solids and liquids, and let our present standard of dry measure be made that standard. Our tables of long, square, and solid measure, I would not have altered. There is a vast deal of ignorance among the people on this subject, particularly in reference to measures. Many do not seem to know that Congress alone has power to establish weights and measures; and hence we hear of Tennessee measure, Alabama measure, &c. Such a State gives 32 quarts to the bushel, and another gives 40 quarts, &c. Now if a cubic inch is the measuring unit, and the law requires a bushel to contain 2150.4 of these units, the value of a bushel will not be changed by dividing it into 32 parts, or into 32,000 parts; for the sum of the parts is equal to the whole. But if a quart is one thirty-second part of 2150.4 inches=67.2 inches, then no community has a right to set up a standard that requires 40 quarts, or any other number of quarts to the bushel, inasmuch as it would be an open violation of the constitution, Art 1, Sec. 8, Sub. Sec. 5.

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Steam, Oil, and Milk for Wool.

I noticed in your valuable paper of March 12th, under the head of Events of the Week, "Milk for Lubricating Wool in England." I would as soon attempt an improvement upon the old stage coach to compete with the railroad cars as to think of using milk, or even oil of any kind, upon wool, which is a very great detriment to the process of manufacturing and requires an additional expense to be cleansed out again to the injury of the staple of the wool and the color. We introduced George L. Mason's Patent Steam Carding and Spinning in Sept. 1849, and have not used any oil or milk or any substance to lubricate our wool since except steam. The expense of steam for this purpose is about one dollar per day. Our bills for oil and cleansing soap were more than five thousand dollars per year. The cost of introducing the steam including the patent is about \$150 per set of cards, this expense is more than saved in four months' time.

We have used, since introducing the steam, more than seven thousand pounds of wool. Some of the benefits resulting from steam carding and spinning not named above, are more perfect carding and spinning, which produces a much finer and more even yarn, so much so, that we reduced our price of weaving two cents per yard, which amounts to ten dollars per day, and our weavers make more wages than formerly. The average of our yarns is about two runs per pound finer than with oil.

One important item is the removal of all risk of spontaneous combustion from a woolen mill.

Finally, all the benefits resulting from steam carding and spinning combined, are worthy of the consideration of woolen manufacturers in these perilous times of high prices for wool and low prices for goods.

C. W. COOKE, Supt.
Waterloo, N. Y., March 19, 1853.

An "Ornamental Tree Society" has been formed in Stoneham, Mass.

Has the Moon an Atmosphere.

It has for some time been considered a settled question among philosophers, that the moon has no atmosphere—the celebrated "Moon Story" of Richard M. Locke, to the contrary, notwithstanding. The fact relied upon to prove that the moon has no atmosphere is, that upon the occultation of a star by the intervention of the moon, there is no refraction of light, which there would be if it passed through an atmosphere; and further, that no clouds or anything like vapor has been discovered about the moon, nor anything indicating the existence of either animal or vegetable life.

Of late, however, an astronomer at Rome, M. Decuppis has devoted himself much to selenography, and has arrived at the conclusion deduced from a great number of observations that the moon has an atmosphere, though on a very moderate scale, it being only about a quarter of a mile in height, two hundred times less, probably, than the height of the earth's atmosphere, and of only the thirtieth part of its density; and further, that there are mountains which rise six or seven miles above the atmosphere, and when the star disappears behind them, there is no refraction; but if it disappears behind a valley or plain over which there is an atmosphere, then some refraction, though very slight, is perceptible, and of course there is an atmosphere.

There are those who believe that the shallow atmosphere of M. Decuppis, may be one like that belonging to our planet in the course of formation. Many geologists entertain the opinion that there was a time when the atmosphere of this earth was chiefly composed of carbonic acid gas, and that races of animals lived in it, they having organs specially adapted for living in the same.

The valleys of the moon may be filled with carbonic or sulphurous acid gas, as they are exceedingly deep, and the regions volcanic. If the nebular hypothesis is correct, the moon should have an atmosphere like that of our earth in proportion to its magnitude, consequently no one who believes in that hypothesis can consistently say a word about the probability of a new atmosphere now forming in the moon. If any person studies the question of the "Earth's Atmosphere," its peculiar nature, such as the gases of which it is formed, their quality, weight, and mixture, and takes into consideration the law of gaseous absorption, and its relation and adaptability to man, he cannot but be convinced that it was made by the special act of a Great, Intelligent Being.

Singular Cause of Fire.

The "Boston Atlas" says the following fact may be useful, not only in guarding against a similar occurrence, but in suggesting one among many causes of fire, which are, undoubtedly, often wrongly attributed to incendiarism:—A few days since, a gentleman in the vicinity of Boston observed that the tassel to the shade of his chamber window was badly burned, and in a manner which gave no indication of the cause. He failed in his inquiries, and no person in the house could give him any information. A morning or two after, the domestic who was attending to the room, ran down in haste, exclaiming that the chamber window was on fire. An examination explained the mystery. In front of the window which looked easterly, stood a shaving glass affixed to a movable stand. A magnifying glass on the back reflected the rays of the sun, bringing them to a focus on the window, and whenever they struck on wood they burned into it, charring the frame in many places. A piece of paper placed against the window was set on fire, and, indeed, the heat was so intense that it instantly burned whatever it touched. When first discovered the frame of the window was blazing. Had the fire extended, it is not probable that the origin of it would have been discovered, and it would have been placed among those incomprehensible causes which can find no other solution than wilful mischief.

A planter near Franklin, La., has gathered this season eleven hundred and seventy-seven bushels of sweet potatoes from three acres of land—and left behind, he says, enough to fatten about forty hogs.

Steam Navigation with India.

Charles Huffnagle, Esq., American Consul at Calcutta, India, has written a letter to the "National Intelligencer," calling his countrymen to establish a line of steamers between California and Calcutta. He says:—

"The Peninsular and Oriental Company of London now carry mails and passengers from Bengal and China via the Red Sea, leaving Calcutta on the 8th of every month for Suez. Their large and commodious steamers are always crowded with passengers, and the fare to Suez, at the head of the Red Sea, a voyage of twenty days, amounts to nearly five hundred dollars. There is no opposition whatever on this section of the route. The same company have a line between Calcutta and Hong Kong, in China. From Hong Kong, across the Pacific towards our own shores, over a placid and resistless ocean, there is as yet no means of travelling, save by sailing vessels forced to leave the calm latitudes in search of favorable winds.

When the ship canal shall have been constructed through the isthmus, uniting the two great oceans, the wealth of the East must pass along our shores; but long before this desirable undertaking can be accomplished much of vast importance might be done, if, in the absence of private enterprise, unemployed Government steamers were commissioned to carry mails and passengers from Hong Kong, in China, to Panama, or some port within the territory of the United States, from which passengers could securely and comfortably be conveyed through the United States to Europe. This would be the opening of that great road for the world's commerce and traffic, and I venture to declare that hundreds from India would avail themselves of the opportunity, when once the route had been successfully explored."

Railroads in Canada.

The "Montreal Herald" publishes a railroad table, of which it says:—By this table it will be seen that of 2,051 miles of road, we have already in operation 225 (for the Rawdon and Industry line, of 20 miles, is completed) miles, 608 miles under construction, and 1,211 miles for which charters have been obtained. Of these last, however, 523 miles—the Main Trunk, from Trois Pistoles to Quebec, and from Montreal to Hamilton—are now contracted for, and their construction may be considered secured—leaving 688 miles of chartered road not yet contracted for. Of the 225 miles of completed road, 192 miles are in Lower, and 27 in Upper Canada. Of the 1,131 miles, under construction and contracted for, about 330 will be found to be in Lower Canada, and 800 in Upper; and of 688 miles of chartered roads not yet contracted for, with the exception, say, of 60 miles of the Ottawa and St. Lawrence Grand Junction Road, the whole are in the upper section of the Province. Thus when all the roads under construction contracted for and chartered, are completed, Upper Canada will possess 1,465, and lower Canada only 586 miles of road.

Plan to Supply Brooklyn with Water.

A communication from J. J. Murdock, has been submitted to the Common Council, suggesting a new plan by which the city can be supplied with water. He says that the southern slope of the island rests upon a clean bed of sand and coarse gravel, which is filled with pure and fresh water, and he proposes to excavate a large basin, into which a sufficient quantity of water will collect, to supply 50 gallons for each of 500,000 inhabitants.—The basin to be of such extent of periphery, that the water flowing into it will not bring with it the sand, and of such depth that the sand shall not be forced up from the bottom. From near the centre of this reservoir—which is to be at a distance of five miles from the city boundary—he proposes to take the water at or near the surface through iron pipes, and conduct it to a pump placed at a suitable distance from the basin by which it would be forced into a stand pipe about 2,000 feet above tide-water, and thence be conducted through mains to a distributing reservoir on Prospect Hill. From this point its distribution would be the same as the one now proposed. The communication was referred to the Water Committee.

Sketches of American Society.

By Francis and Theresa Pulszky; 2 vols. 12mo. : price \$2. Redfield, 110 and 112 Nassau street, New York.—These two volumes are an account of the tour made by Kossuth and suite through the United States during the past year, and contain the opinions and sentiments of the authors upon the state of society in America. Little mention is made of the ex-Governor of Hungary, the volumes being intended to convey the impressions that their visit inspired in the writers, who are well known as the companions of Kossuth during his sojourn in the United States. It is a clever lively work, but contains nothing of a very striking character, being on a par with the ordinary written travels, and as a great portion is a transcript from the diary of Mrs. Pulszky, which must have been written during the hurry and excitement of their travelling and triumphant processions, there are several inaccuracies that would not perhaps have been made on a careful reflection. In the account of their first reception, on Staten Island, the travellers appear to have been rather annoyed than gratified at the noise and hubbub that they occasioned, nor do we wonder at it, for it really was a most uncouth way of exercising hospitality which was manifested by our neighbors on Staten Island—dragging a sick man, after a long voyage, before he had time to recruit himself, over every part of "their lovely but exposed Island," as Kossuth was pleased to designate it.

Pulszky at times indulges in a satirical vein and quizzes the habit of Congressmen in sending their speeches before hand to the newspaper,—he forgot to add that Kossuth is also guilty of the same misdemeanor, and that his speech at the dinner given by the New York Bar, was set up long before it was uttered.

The subject of slavery is discussed and treated upon; and here we would correct an error of the authors:—in their account of the various deputations that called upon Kossuth at the Irving House, it is stated that one of colored people was received in the drawing-room,—such was not the case: Mr. Howard, the late landlord of that hotel, conducted the deputation to an apartment adjoining the dining room, and it was in this room that the deputation was received, as well as all the others that were presented on the same day, Kossuth leaving the drawing-room for that purpose.

The account of their journey is relieved in various parts of the work with historical sketches of the early history of America,—Pulszky siding with the now-favored opinion that America had been discovered long before the times of Columbus, by voyagers from the north of Europe. He is evidently a well-informed man, and has taken some trouble to inquire into the history and former condition of America, when the Indian ruled supreme the lord of creation. We have no doubt, from their work, that both Mr. and Mrs. Pulszky are agreeable travelling companions, for they appear to have taken the rough and the smooth with the same equanimity. We are also glad to find that a sojourn with us has made quite a Republican of the former, for Pulszky, almost with indignation, disclaims the title of Count, with which he was generally honored by the English and American papers, and which we do not remember him previously to have denied. It is, we suppose, a sign of the times when, in Europe, nobility is at a discount: in his next attempt, Kossuth will depend, we hope, upon the people alone.

Iowa Coal.

The editor of the "Dubuque Daily Herald" has received specimens of coal of a superior description from the coal mines in Des Moines Valley, near Fort Des Moines. It exists abundantly in the vicinity of the town of that name, and is easy of access. A letter from a committee appointed at a public meeting says that the Des Moines river flows over a smooth bed of coal, the depth of which is as yet unknown while the upper stratum may be seen protruding from the sides of the hills in almost every direction.

The Canals of this State will be open for navigation about the 15th of April. The Ohio Canals will be open between the 24th of March and the 1st of April.