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Special Notice.

All subscribers to the SCIENTIFIC AMERICAN who have paid the full subscription price (two dollars) for the complete volume which has heretofore terminated in September, are informed that by remitting $1 60 more, their subscriptions will be continued for one year on the New Series commencing July 1st.

CLUBS of subscribers who have paid up to September, and wish to renew their subscriptions or form new clubs at that time, can do so at the club rates, deducting 30 cents each from all the present subscribers and complying to our advertised rates on new ones; for instance a club of 10 subscribers who have paid $15 for one year's subscription up to September, may have their subscriptions continued till the end of Vol. II., New Series, or one year from July 1, 1859, by remitting $12.

Ancient Tables of Wood.

A very general opinion prevails that the rich folk of ancient days were rather a poor set of fellows in comparison with our modern nabobs; and that they could not afford to buy decent chairs and tables for their parlors. We are also liable to lift up our hands in astonishment at the domestic extravagance sometimes displayed at the present day, and to consider that this is the age superlative of foolish expenditures for fancy bits of household garnishings. We rather think that with all the public self-complacency for modern grandeur, the old Romans would "take the shine" out of us, in the table line at any rate. Pliny states that Cicero once paid about $45,000 for a fancy table of citrus wood, and that one which had belonged to King Juba, on being exposed at auction, was knocked down for the nice little sum of $54,000. As Cicero was a Roman lawyer, we would like to know which of his disciples in New York could afford to present such a comfortable table to his amiable spouse at this day.

Among the Greeks and Romans there existed, for a period of 150 years, a ruling passion to possess beautiful tables of citrus wood, the finer specimens of which were compared to gold for their value. The veins of this wood run in spirals and wavy lines, and these were rich and brilliant in their colors, being a mixture of wine-and-honey colored veins. Its polish, without any varnish, was brilliant as glass. It had a fragrant odor, and for this reason it was sometimes employed in religious sacrifices and for statues of the heathen gods.

A knowledge of the tree from which this famous wood was obtained has been lost for centuries; but a correspondent of the London *Builder* states that it is the *callitris quadrivalvis* or wild-spreading cypress of Mount Atlas, and that the most fancy pieces employed in the ancient tables were obtained from excrescences or knots, something like the elm knots of which wooden bowls are frequently made in various parts of our country. The Roman citrus tables were generally of a round shape, supported on ivory legs, carved out to represent those of animals.

The principal ornamental woods now used in the manufacture of fine furniture are mahogany, rosewood and black walnut—rosewood being the most highly esteemed, not because it is finer in the grain than mahogany, but because it has the greatest contrast of colors and is not so monotonous to the eye. In California there are some beautiful colored woods which have not yet been introduced into our cabinet-work; but they no doubt will yet find a place in the parlors of our people, if it were upon no other consideration than to afford pleasure from their variety. A few years ago curly and bird's-eye maple were employed extensively for making chairs and other articles of furniture, but the demand for these woods has almost ceased. Splendid logs of these kinds of maple, which a few years since would have brought a high price, are now burned for fuel in various portions of our country, there being no demand for them for any other purpose. The peculiar appearance of these woods is now imitated by staining soft timber, which is so much easier worked that cabinet-makers prefer to operate with the imitated rather than the genuine article. Oak has recently come into pretty good repute in chair-making, and it is certainly a very beautiful wood for this purpose, but not equal to American bird's-eye maple.

The fashion for tables, at present, is very different from that which reigned in Rome in the days of Cicero; fine marble, not wood, being the prevailing material employed for the tops. Our taste may not be so refined as that of some others in this respect, but we certainly think marble is inferior to fine wood in point of beauty for this purpose; it is totally devoid of that warmth of color which is so pleasing to the eye in rosewood and the finer qualities of mahogany.

A New Motive Agent.

In the year 1836, the French chemist, Thilorier, succeeded in producing solid carbonic acid, which up to that period had only been obtained in the state of a gas and a liquid. Soon after this, Faraday repeated his experiments with success in London, and afterwards Natterer, of Vienna, simplified the method of making it. This acid in the liquid state, owing to its great sensitiveness to heat, was proposed by Brunel as a motive agent in 1832, and now, Dr. A. H. Eusman, Professor at Stettin, Prussia, proposes (in *Dingler's Polytechnic Journal*, from which the following is translated for the SCIENTIFIC AMERICAN,) to employ it in the solid state for the same purpose.

He says: "I consider solid carbonic acid as a new motive agent, which may be able to supersede steam in locomotives, and by which the navigation of the atmosphere with balloons may be rendered practicable. Faraday states that carbonic acid is a singular substance on account of the high pressure which emanates from it in passing from the solid state; there is nothing equal to it in this respect, and it reverses the natural order entirely of other substances. It has the form of snow, and also of crystals which are so transparent that it is difficult to distinguish them from the pure glass bottle in which they may be kept. If solid carbonic acid is not enclosed in vessels of great strength, and sealed up perfectly tight, it passes into gas, not suddenly, like gunpowder, when a match is applied to it, but by degrees in the same manner that ice forms into water. Its vapor has an expansive force or pressure which increases with its temperature in the ratio of 23 atmospheres at zero, 29 at 16°, and 38 at 32°. On this high expansive force, together with the slow evaporation of solid carbonic acid my ideas are founded for using it as a motive agent.

"The only difficulty in the application is the production of the solid acid in sufficient quantities. It has been made by Natterer from chalk treated with sulphuric acid in quantities of several pounds at once, and an apparatus such as he used, and which is able to withstand a pressure of 2,000 atmospheres is now sold in Vienna for 100 florins ($50). If a demand were made for this solid acid, it may be produced in any quantity. If this can be done, the next thing is to make experiments first to move small loads on railways. My idea of rendering this power useful is on the principle of reaction—that is, in the same manner which causes the motion of rockets. Let a vessel of sufficient strength, filled with solid carbonic acid, and provided with a stop-cock or valve, be fastened on a light carriage having one person to direct its motion, and let this vessel be considered as similar to a rocket with its mouth behind. When its valve is opened, the solid carbonic acid will assume the gaseous condition, and its great pressure in escaping will move the carriage in the opposite direction, with a velocity and force equal to the pressure and the area of the rocket vessel. With the employment of a sufficient force of this kind, several railroad carriages attached together in front of the driving one may be propelled along a railroad. The idea appears to me be worth trying, and, if successful, large and costly locomotives may be done away with, as this power will act directly; and heavy engines, to provide sufficient adhesion on the rails as now required, will not be necessary, and the power now consumed in overcoming the resistance of the machinery will also be avoided. By attaching such rockets to the gondola of a balloon, it may be steered in any direction at pleasure. I, however, do not expect that much benefit will ever be derived from aerial navigation, as balloons will always be subjected to the same influences as sailing vessels on the ocean. The principal advantage of this motive agent would be its application to railroads."

Death of Consul Robertson.

Col. W. H. Robertson, for many years U. S. Consul at Havana, and favorably known almost everywhere, died in that city on May 28, at the advanced age of 82 years. We were permitted to enjoy the personal friendship of Col. Robertson for many years, and the last time we saw him was in August, 1858, on his return from a visit to Saratoga, where he had gone with his family in quest of health. He returned to Havana early in the Fall of last year, and from that time until his death he gradually wasted away. He was a somewhat remarkable man in many respects; he was always an efficient public agent; had troops of friends, and never lost them even when under the cloud of adversity. For political life, however, he had no special taste; he preferred the study of practical science, employing much of his time in various fields of investigation, and had stored his mind with a large share of information bearing upon all the leading industrial arts. He was also the inventor of several useful improvements, some of which he secured by Letters Patent. He had a great anxiety to perfect, before his death, an important improvement in the clarifying of sugar—a subject on which he had expended much time and thought; and in the furtherance of this object he consulted many of the first scientific men of the time. While in Europe, a few years ago, his attention was attracted to the brilliant experiments of Andrew Crosse, the celebrated electrician. Col. Robertson's idea was that, by the aid of electricity properly applied, he could accomplish all his objects in reference to the clarifying of sugar. Crosse had succeeded, by the action of a voltaic battery upon a tumblerful of water taken from a cavern, in producing, in a few days, crystals of carbonate of lime; he also made some curious discoveries in reference to the effect of positive and negative electricity upon vegetation, and discovered a process for purifying salt water by means of electricity. These facts coming to the knowledge of Col. Robertson, he determined to seek an interview with Mr. Crosse; a correspondence was opened between them, which resulted in a visit of the former to Fyne Court, the estate of Mr. Crosse in Somersetshire, England; and although no practical results insued from this interview, Col. Robertson nevertheless continued his researches, and doubtless died fully impressed with the belief that, by the aid of that subtile agent, this desirable object would ultimately be attained. For sometime previous to his death, he was engaged with a company in Havana in the manufacture of bricks from the sands upon the shore of the island of Cuba; these sands are composed in some measure of disintegrated particles of shells. He was deeply interested in the discovery of a method whereby artificial stone suitable for building purposes could be economically produced. The discoveries of Hardinge, of this city, and Ransome, of Ipswich, England, in the reduction of silicates into liquid form, as published in the SCIENTIFIC AMERICAN, interested him. He made efforts through us to procure from Mr. Ransome samples of his product for the purpose of experiment in the island of Cuba, but without success. His interest, however, in the progress of science and invention continued up to the day of his death, as it was only a short time previous to this sad occurrence that we were professionally employed to prepare some patent papers in reference to a useful improvement. His body was embalmed by his physician under arrangements made some time previous to his death; and it is asserted that in all his preparations for the close of his earthly career he was probably more composed than he would have been in preparing for a pleasure tour to Europe, which had been in his contemplation. We shall miss the manly form and pleasant society of our friend, and all that we can add, in conclusion, is that he was a good citizen and an honest man.

Iron Ships—Water-Tight Compartments.

The benefits arising from constructing vessels with water-tight compartments were fully displayed in the case of the iron screw-steamship, *Edinburgh*, which plies between this city and Glasgow. On the 6th of June, when 186 miles east of St. Johns, Newfoundland, she struck an iceberg while in a dense fog, and her forward plates were stove in by the collision. Being divided into water-tight compartments, two of these at once filled up, but the others floated the vessel for thirty hours afterwards, during which period she run back to St. Johns. It is related by the Newfoundland papers that the captain (Cummings), officers, crew and passengers, conducted themselves with great self-possession and courage, and that excellent discipline was maintained throughout. Had this vessel not been built in compartments she would have sunk to the bottom in half an hour after she struck.

Supplement to the "Scientific American."

It will be recollected by our readers that on the 16th of April, we issued a double number of the SCIENTIFIC AMERICAN containing a history of its rise and progress; also, a rare and valuable collection of notes and information upon patents and patent law. It is the best popular treatise on the subject ever published, and should be in the hands of all who are interested either in procuring, managing or using patented inventions. An extra edition was published at that time, but it was soon exhausted, and in order to meet the continued demand, we have just issued another edition of twelve thousand copies. It is published in quarto form, sixteen pages, similar to the forthcoming new volume, and copies are mailed upon receipt of two three-cent stamps.

Libraries for Railroad Engineers.

At Altoona, Pa., where the machine-shops of the Pennsylvania Central Railroad are located, there is a large library for the journeymen and apprentices to which they resort for mental instruction and entertainment. It is kept in order by volunteers from the shops, who alternately discharge the duties of librarians, &c., after working hours. There are libraries connected with various factories and machine shops in our cities, such as the factories at Lowell, Mass., and Messrs. Hoe's machine-shops in this city, and these institutions we most heartily commend as evidences of liberality and enlightened understanding on the part of their proprietors. We also recommend the example of the Altoona machine shops to all the other railroad establishments in our country.

We have to thank Messrs. Grover & Baker, the celebrated sewing-machine manufacturers of this city, for an excellent map of New York State. It is engraved by J. H. Colton & Co., and does every credit to to those popular map publishers.

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