

## SCIENTIFIC MUSEUM.

## Olive Oil.

Having said something last week about the probability of the revival of oil-anointing, it will be of some interest to many to know something more about olive oil, than what was contained in the article to which we refer. Olive oil has been long distinguished for its excellent qualities, and it has been used from time immemorial, both as an article of diet and of usefulness as applied to many necessary purposes, by the inhabitants of various countries. The olive tree grows wild and in luxuriant grandeur in the Holy Land, and its fruit and the oil derived from it were and are used by all the dwellers in Syria and Judea. The olives of the Grecian Isles have long been famous, and a great quantity of oil is exported from that portion of the world every year. Italy is also famous for its olives and its oil; throughout all the district of La Terra d'Otranta, scarcely anything else is cultivated. The port of Gallipoli in that country from which this oil is exported in great quantities to Germany, France, and England, has given its name to the oil, which is known to many only as Gallipoli oil, and not that produced from the olive. The olive tree bears when two years old, but not fully for six years afterwards, when it becomes a source of wealth to its owner. It lives to a great age, three, four, and seven hundred years, and bears abundantly during all that time. There is a celebrated tree in Pescio, in Italy, which is 700 years old, and bears two and three hundred weight of oil yearly.

When the fruit is fully ripe, it is gathered mostly by hand and crushed in a mill consisting mostly of a single stone turned in a circular bed. When the pulp is sufficiently crushed it is placed in sacks and heaped on the platform of a press. This pulp is submitted at first to a very low pressure in the press, and the oil so obtained is beautiful and sweet and is of the first quality for table use, and known as 'salad oil.' After the fine oil is extracted, there yet remains a considerable quantity mixed with vegetable albumen.—The bags of pulp are therefore lifted up and into each is poured a small quantity of boiling water. This causes the pulp to swell, the albumen coagulates, and the more fluid oil flows freely. A certain quantity, however, remains in the refuse, which is subject to further treatment, and is principally used for making soap.

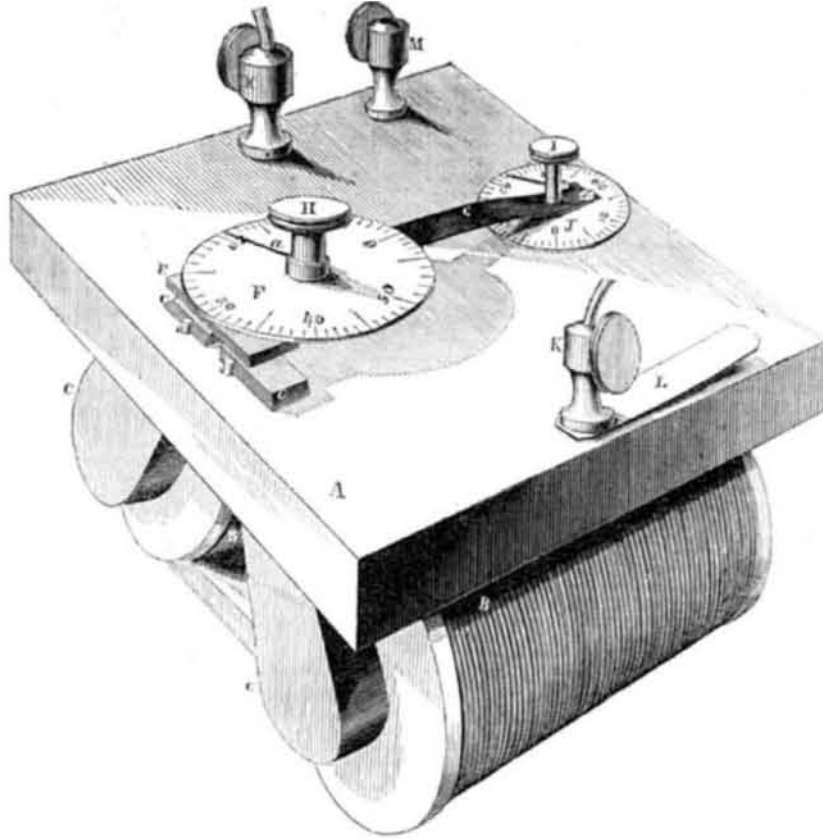
As soon as the first run of fine oil is obtained, it is conveyed in skins to reservoirs, for future good keeping. The town of Gallipoli being built on a rocky island, is famous for its caverns, where the oil is placed and where it soon clarifies and can be preserved without becoming viscid. The oil is kept for seven years in these caverns, without becoming rancid, and when it has to be shipped, it is carried down in skins, run into casks, and sometimes the oil is sent off in the skins. The fine oil called *Florence oil*, is brought from Leghorn in bottles, and is of the very first quality. Olive oil is employed for making the castile soap, and it is also much used in the arts of dyeing Turkey-red on cotton, and for oiling wool. Owing to the great quantity of oil sold in our country as *olive oil*, it is our opinion that there is much deception employed by the sellers of it—that much oil is sold for the pure olive, which is not olive oil at all. We believe that the olive could be cultivated with profit in our southern States, and we hope that some of our planters may be induced to enter upon its culture.

## Vegetable Wax.

At a late regular meeting of the Farmers' Club, in this city, Judge Scott read a report on the wax and tallow plant. The myrtle tallow, or candleberry, has long been known in America, and occasionally collected for medicinal purposes, but never used as candles to take the place of spermaceti or tallow. If the subject was properly taken up, the writer had but little doubt but vegetable wax would grow into a manufacture of national importance. The bush is from three to eight feet high. It yields a supply of 25 per cent. of wax. The wax is obtained by boiling the berries in water until the wax floats, it is then skimmed off.

## Swain's Magnetometer.

The annexed engraving is a perspective view of a Magnetometer, invented by James Swain, of Philadelphia, who has taken means to secure a patent. A is a small rosewood block; B represents an electro magnet placed in the block. The extremities of the coil surrounding this electro magnet, are attached to the binding screws, K K. The poles of the



screw an arm or indicator is fixed so as to turn with the screw, I. Under the spring a fixed graduated disc, J, is placed. As the screw, I, is raised or lowered, the indicator points to a degree of the disc, and thus the extent of elevation or depression of the screw can be accurately observed. At H a similar screw to I is inserted through the spring into a nut in the block, A, and an indicator, a, is attached to the screw. A second fixed graduated disc, F, is placed on the spring, and under the indicator. The extent of elevation and depression of the screw, H, is indicated by the position of the indicator, a, on this fixed disc.

The operation of this apparatus is as follows:—The extremities of the wire, K K, are to be placed in the course of any galvanic circuit, or are connected with the poles of any battery, the current of which it is desired to measure. The current passing through any such circuit will induce, in the electro-magnet, a power of attraction proportionate to the force of such current. The attractive power of the magnet will be shown by the distance through which it will attract the armature, and the resistance of the spring, G, that such attraction will overcome.

The screw, H, regulates the upward limit of the armature. The screw, I, regulates the re-acting force of the spring, G. By moving these screws, H and I, until the electro-magnet is just able to cause the armature to vibrate, when the galvanic current passing

electro-magnet pass through the top of the block, A, and the armature, E, is suspended immediately across these poles from a straight spring, G. One extremity of this spring is fastened by screws to the block, A. At the point where the spring rises from the block, a hole is made in the spring, and a screw, I, is inserted through this hole into a nut fixed in the frame. To the frame of this

## On the Temperature of Man within the Tropics.

In continuation of some researches on the temperature of man, Dr. Davy communicated to the Royal Society the results of his observations on this subject, during a period of three years and a half, chiefly at Barbadoes, where the mean annual temperature of the atmosphere, he states, is 80° Fah., and the range of temperature throughout the year from about 10° to 18° in the open air. The observations were made three times a day; the temperature of the body being noted, with that of the external air, the pulse and the number of respirations per minute; all of which are duly set forth in elaborate tables. The chief general results are the following:—

1. that the average temperature of man within the tropics is a little higher—nearly 1°—than in a temperate climate; such as England.
2. That within the tropics, as in cooler regi-

ons, the temperature of the body is almost constantly fluctuating. 3. That within the tropics, as in cooler climate; the minimum degree being early in the morning, after a night's rest, and not at night. 4. That all exertion, whether of body or mind, except it be very gentle, has a heightening effect on the temperature; while passive exercise, especially carriage exercise, has a lowering tendency. 5. That heavy clothing, if tight and close, tends to raise the temperature unduly, especially under active exercise; and that close, ill-ventilated rooms, particularly when crowded, have in a marked manner the same tendency. 6. That when the body is in a healthy state, it rapidly recovers its normal condition as to temperature. 7. That when laboring under disease, however slight, the temperature is abnormally elevated, its undue degree being some criterion of the diseased action. 8. That within the

tropics there is comparatively little difference of temperature between the surface of the body and the internal parts; the skin is more active in its functions, and the kidneys are less active. 9. That the effect of wine, unless used in great moderation, is commonly lowering as to temperature, while it accelerates the heart's action, followed, after a while, by an increase of temperature. 10. The tendency of sea-sickness, like that of disease, is to elevate the temperature. 11. The tendency of a sea-voyage, apart from sea-sickness, is to equalize the temperature without permanently elevating it. 12. That even at sea, with a change of atmospheric temperature, there is a tendency to change of temperature of the body, increasing towards the tropics. The most interesting facts, however, are the changes of temperature depending on changes of health or disease, and the lowering influence of wines and ordinary stimulants.

An iron railroad bridge over the Monongahela, above Fairmount, Va., is nearly completed. It is said to be the first in size in the United States, and second only to that over the Menai Straits in Great Britain.

## LITERARY NOTICES.

NEW CITY DIRECTORY.—Trow's New York City Directory, compiled and published by H. Wilson, 51 Ann street, contains 769 pages, 8vo., with a most valuable appendix of useful information, comprising over 100 pages. It has about 140,000 names, more by 15,000 than any former issue. It is a volume which does honor to the proprietors, as well as honor to our city. It is got up with a great amount of accuracy, and is a record which will bear the criticism of our own great city and country, as well as the scrutiny of foreigners. We are happy to say that those who visit us during the coming exhibition, will have a much more perfect register than has ever before been presented to our community. We need not add that it is invaluable to us, and no man who pretends to do business in this metropolis can dispense with it. It is well bound, and will stand the wear to which it will be subjected.

LITTELL'S LIVING AGE.—This weekly, which has been greatly enlarged, as we have noticed before has reached its 8th number, new series, and maintains more than its former excellence. This No. contains 11 articles, and all good. The first article is on the search of Sir John Franklin, and is very interesting in connection with our new American Expedition, just fitting under Dr. Kane. It is published by Littell, Son & Co., Boston.

GRAHAM'S MAGAZINE.—For June is at hand, it is well sustained in beauty, elegance, interest and classical diction. Published by Geo. R. Graham, Philadelphia, Pa., at \$3 per annum.

BEATRICE.—Or the Unknown Relatives, by Catharine Sinclair. This powerful and highly interesting story has run through several editions, and is attracting much attention in consequence of its alleged exposure of the Romish Practice. Dewitt & Davenport, publishers.

CHARLOTINA.—Or a Night with the Jesuits at Rome; by Edmund Farrance, 12 mo., pp. 431. The above is the title of an exciting new story, just issued by John S. Taylor, 17 Ann st. The author has performed his task with ingenuity, and we leave the reader to decide upon the merits of the work without attempting to influence his judgment.



## Manufacturers and Inventors.

A new Volume of the SCIENTIFIC AMERICAN commences about the middle of September in each year. It is a journal of Scientific, Mechanical, and other improvements; the advocate of industry in all its various branches. It is published weekly in a form suitable for binding, and constitutes, at the end of each year, a splendid volume of over 400 pages, with a copious index, and from five to six hundred original engravings, together with a great amount of practical information concerning the progress of invention and discovery throughout the world.

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