

weight of the pendulum will be 300 kilogrammes, and it will oscillate at the end of an iron wire from 65 to 70 metres long. Thus a special construction will be required for its suspension. The pendulum will be suspended above a grooved pipe, which will move freely on an axis in its centre. The pendulum in oscillating will displace this pipe, which will remain, like the pendulum itself, fixed in space in reference to the constellations. Underneath the pendulum will be arranged a large terrestrial globe from 25 to 30 metres in diameter. This globe, resting on the ground, will necessarily follow with the spectators the movement of the earth. The pipe on the contrary, supported by a pivot at the extremity of the axis will carry large indices, which will appear to be displaced with it. The globe, which will represent the earth, having a considerable volume, the movement of these indices will be visible; it will render tangible in some degree to the least inattentive the rotation of the planet on its axis.—*Nature*.

*CELASTRUS SCANDENS* is a magnificent woody climber, recently introduced successfully to Nova Scotia, by J. Norman Ritchie, Esq., Q. C. The following account of it is from the *Country Gentleman* of Albany, N. Y., Jan. 3, 1878:

This is a native deciduous climbing shrub, known generally as "bitter sweet" or "wax-work," and found growing in thickets, twining round trees to the height of fifteen feet. The leaves are of a glossy green on the upper surface, underneath paler, about three inches long. The flowers are produced in terminal racemes of a greenish color, and are quite inconspicuous. The fruit, however, is very attractive in the fall; the capsules are a bright orange scarlet; when matured and bursting open they display the seeds, which are of a reddish brown color giving it a very attractive appearance. They are very useful for decorative purposes, retaining their color during the winter months, long after being cut from the plant. This climber should be more cultivated than it is in the Eastern States, where it is not so common in the woods as in the Eastern and Middle States. When under cultivation it should not be manured too highly if grown for the beauty of its fruit, as it is apt to grow too strong for flowering freely. In poor soil it does not grow so rampant, but produces more fruit. For rapidly covering unsightly objects it is well adapted, and might with advantage be planted in positions where its bright showy fruit would make it attractive during the autumn months. It is easily propagated by seeds or cuttings.

The Telephone was shown in operation on Monday evening, 14th January at the Institute of Natural Science. It appears from *Nature* that Col. W. H. Reynolds has concluded a contract with the English Government by which the Post Office Department has adopted the Bell Telephone as a part of the telegraphic system. In a recent telephonic experiment in connection with the cable 21½ miles long, between Dover and Calais, there was not the slightest failure during a period of two hours. Though three other wires were busy at the same time, every word was heard through the telephone, and individual voices were distinguished. This important experiment was conducted by Mr. J. Bourdeaux, of the Submarine Telegraph Company. Some very successful experiments were made on Saturday night between Aberdeen and Inverness, a distance of 108 miles. Songs and choruses were distinctly transmitted, and conversation was carried on at times with marvellous distinctness, notwithstanding the weather was unfavourable. The experiments were made with Prof. Bell's instruments. The Berlin correspondent of the *Daily News* states that a Berlin house is making a number of telephones for experimental use in the Prussian army. The result is awaited with great curiosity in military circles. The *Cologne Gazette* denies that any telephone is in existence between Varzin and Bismark's office at Berlin. Our contemporary says that the distance, 363 kilometers, is too large for using a telephone with any advantage.—*Nature*.

Dr. LORING, in an address at a Farmers' Meeting in Portland, Me., said that turnips are better food for horses than carrots, but this assertion was disputed by some of the farmers present, on hearing which Messrs. Welch, Teel and Palmer, of Salem, Mass., sent the Doctor the following letter:

"We noticed that in the farmers' meeting at Portland, your statement that Swedish turnips as food for horses was questioned once more, and that Mr. Ware declared you were all wrong in your low estimate of carrots. Now, we have had a good deal of experience in this thing as well as yourself. Some years ago we noticed the good condition of your horses, and on inquiry of your groom how much grain they got, we were told that they had little or none, but were fed on Swedish turnips. We had found out ourselves that carrots were not good food for continual use—that they made our horses very soft, unfit for work, and that they affected their kidneys badly, and we were glad to lay them aside and take turnips as a substitute. Since we did this our horses have improved in every way. They look healthier, work better, and

keep in good condition. You are right about carrots, and deserve the thanks of all who keep horses, for introducing the use of turnips as a feed for them. We always keep from ten to twenty horses on hand, and we know what we are talking about." It is strange, if this true, that the farmers did not find it out till this late day. But carrots are much more nutritious than turnips; and the probability is, that what the above men say is not reliable, but it is a subject of interest to farmers.—*Colonial Farmer*.

ONLY those who have not reflected upon the shallowness of the British Channel, and the compactness of its floor of chalk have any doubt as to the feasibility of tunnelling through from England to France. In a recent number of *Nature* we are informed that the preliminary works for boring the British Channel Tunnel are being prosecuted with great activity at Sangate. A shaft has been sunk to the depth of 100 metres, and the experimental gallery has been commenced. It is to be continued for a kilometre under the sea. If no obstacle is met with the work will be continued without further delay. Two powerful pumps have been established for elevating the water which, of course, filters in in large quantity.

THE deepest artesian well in the world is being bored at Pesth, and has reached already a depth of 951 meters. The well at Paris, which measures 547 metres has hitherto been the first. The work is undertaken by the brothers Zsigmondy, partially at the expense of the city, which has granted £40,000 for the purpose, with the intention of obtaining an unlimited supply of water for the municipal establishments and public baths. A temperature of 161° F. is shown by the water at present issuing from the well, and the work will be prosecuted until water of 178° is obtained. About 175,000 gallons of warm water stream out daily, rising to a height of 35 feet. This amount will not only supply all the wants of the city, but convert the surrounding region into a tropical garden. Since last June the Loring has penetrated through 200 feet of dolomite. The preceding strata have supplied a number of interesting facts to the geologist, which have been recorded from time to time in the Hungarian Academy of Sciences. Among some of the ingenious engineering devices invented during the course of the boring, are especially noteworthy the arrangements for driving in nails at the enormous depth mentioned above, for pulling them out (with magnets), for cutting off and pulling up broken tubes, and, above all, a valuable mechanical apparatus by means of which