[*Written for the Canadian Illustrated News.*]

TIME WITH EVEN SPEED.

I.

Time with even speed
Moves on its way,
This hour we live—the next—
We are but clay.
As a ship urged on
By wind and wave,
Each hour we are wafted
Nearer the grave.

II.

Willing or unwilling,
Death is the goal;
And we may not tarry
Upon the shoal.
One rapid moment
And all is o'er,
We pass from this earth
To live evermore.

TIMOR.

Quebec, *Dec.*, 1871.

SCIENTIFIC.

SPECTRA IN HYDROGEN.—In the *Comptes Rendus*, and in the *Philosophical Magazine*, M. Angstrom gives an analysis of the spectra which are observed in connection with hydrogen, and criticises the conclusions of M. Wulner "that hydrogen has no less than four, and oxygen no less than three, distinct spectra." He explains that the spectrum lines of hydrogen (as observed by Plucker in rare hydrogen) spread out in disruptive discharges when the tension of the gas is increasing, and end by uniting so as to form a continuous spectrum. With regard to M. Wulner's second spectrum of hydrogen, he points out that it is no other than the spectrum observed by M. Berthelot, and ascribed by him to *acetylene*. Also, by a comparison of wave-lengths for sulphur, and for M. Wulner's third hydrogen-spectrum, he shows this to be, in all probability, the spectrum of sulphur. M. Angstrom also points out the close agreement between one of the oxygen spectra of M. Wulner, and the spectrum of oxide of carbon, and his tables show also a very close agreement between another of these oxygen spectra and the spectrum of chlorine, and concludes that neither oxygen nor hydrogen has more than one spectrum.

LONDON SMOKE.—The public are beginning to have a languid kind of idea not only that London smoke is a great nuisance, but that it does admit of some remedy. Two letters on the subject have appeared in the *Times* in the course of a week. We (*Medical Times and Gazette*) should be glad to see the matter taken up warmly in the public journals, as the first step towards doing something. The scientific elements are few and simple. The first point is, to diminish the formation of smoke. This is already done, by a careful method of stoking, in all furnaces for manufacturing purposes within the metropolitan area. Something may be done towards this end in private houses by more careful stoking—by never letting a fire get too low, and never putting on more coal at a time than will get into a blaze in a few minutes. It is the slow heating of too large a mass of coal that generates black smoke. Some kinds of grates are devised to answer this purpose. But, after all, even with the greatest care in stoking, much smoke must escape; and even if no black smoke, the quantity of fine dust and ash, and of the products of sulphur-combustion, that contaminates the air is very great. We want "smoke arcades," to collect the fumes of chimneys and conduct them into underground sewers, where the smoke may be purified and utilised. The plan was made public in the *Medical Times and Gazette* of August 20, 1853, by Mr. Spencer Wells.

GERMS IN WATER.—One teaspoonful of Condy's fluid dropped slowly into every gallon of drinking water is the best known oxidiser, says a correspondent, of organic matter. I make my own Condy, to save expense; it is merely five grains permanganate of potash to each fluid ounce of distilled water. I am never without it in my travels. I sojourned at Port Louis, Mauritius, for a month, when the deaths from typhus fever were two to three hundred daily. I never was once ill. Not a drop of liquid, even to the hotel claret, passed my lips, without the addition of "Condy." Strange to say, a leading French chemist of the island was ignorant of its qualities, and, when I purchased my permanganate, a great sealed jar was brought out of a store-room, and, as he told me, had never been inquired for! You may drink ditch-water in half an hour after this treatment, and it will be sweet and wholesome too; and, if you wish to know the constituent matter of the brown deposit which rapidly subsides, a little chemical knowledge will tell you its nature, and the percentage of grains to the gallon (four or five is considered a large return). The colour and flavour of the water so treated rapidly becomes natural after exposure to the air, and quite crystal and pure.

THE KING OF SIAM AND ENGLISH MINERS.—The King of Siam is resolved to avail himself of the knowledge and experience of the English miners and men of sciences. Several Cornish tin-miners have been engaged to proceed to Siam to work over the auriferous deposits of that country; and Mr. Charles Twite, a gentleman who has spent many years in Paraguay, as Mineral Surveyor, under the late President Lopez, is engaged to go at once to Siam, to direct, in the first place, the mining operations, and, during the hot season, when work in the field is not possible, to give instruction in geology to the youth of Siam.

A NEW BRONZE.—We learn from a recent copy of the *Polytechnisches Journal*, that some investigators have succeeded in producing a new alloy which possesses peculiar advantages over others, for a number of processes in the arts. The peculiarity of the new compound consists in the fact that it contains phosphorus as an ingredient. The authors have not divulged the details of the plan by which they succeeded in introducing this substance into combination. It is used with copper, or with copper and tin, either with or without the addition of zinc. The alloy produced is said to be peculiarly adapted for the construction of certain portions of machinery, as also for gun-barrels.

It seems, from an editorial note from Dr. Dinglar, that the attempt to introduce phosphorus into the composition of several common alloys had been repeatedly made, but without success. The well-marked influence which its presence, in even trifling quantity, exerts upon the physical properties of irons, would seem to be the ground upon which the repeated efforts to utilize its presumable influence on other metals, is based; and there can be very little doubt but that the subject is worthy of the most careful attention of workers in metal.

HINTS FOR THE HOUSEHOLD.

BRONZE TURKEYS.—A few years ago a cock turkey weighing forty pounds, or a hen weighing twenty-two pounds would have been regarded as a wonder if they could have been found, which they couldn't excepting in a wild state, and wild turkeys, you know, do not domesticate. The bronze turkey at maturity attains the weights given, and when it is remembered that the common turkeys of the country average less than twelve pounds apiece, the contrast is quite striking. We find in the *Poultry Bulletin* a record of turkey-raising which resulted in a flock of eight gobblers weighing from 23½ to 29½ lbs., and six hens weighing from 13½ to 16 lbs. A tolerably good average, to say the least. The writer says that hens are best for breeding in their second year. When the turkeys are about to lay, let them have access to a few old barrels laid on their sides and partly covered with brush to secure privacy. Nest eggs are placed on hay in the barrels, and the eggs which are laid are removed every evening until the hens want to set, when about seventeen eggs are given to each. The young require no food during the first day of existence, but after that they are fed with onion tops chopped fine and mixed with curd. Hard-boiled eggs are also good for them. They require feeding little and often, once in two hours if possible. After they are a week old they can feed upon cracked corn or wheaten grits. Give fresh cool water two or three times a day. Lice may be exterminated by rubbing on dry flowers of sulphur. Make a little yard around the coop by nailing four boards together in a square, or by making some kind of a moveable fence about fifteen inches high, so the young turkeys can have fresh grass. The old turkey will stay with the young, although she could of course easily pass the fence. At night, during storms and when the grass is wet, the old and young are shut in the coop, but have the range of the little yard at all other times. When the young ones are able to fly over the fence they may be allowed to range with the hen and begin their life-labour of catching grasshoppers.

TO PREPARE A MUSHROOM BED.—A cellar or root-house is a proper place in which to grow mushrooms. To prepare the bed, take fresh horse-manure and place it in a heap to ferment. Allow it to heat cautiously, so that it may not firefang. Turn it and allow it to heat again. Then place it in the cellar where the bed is to be made. It should be mixed with an equal part of clean loam. The bed should be in the proportion of three feet wide by twelve long, which will be sufficient to furnish a good supply of mushrooms. Make the bed about a foot and a half high in the centre, gradually rounding off to the floor at the sides. Tread the manure down solidly and cover with an inch or so of fine, clean soil from a garden-bed or an old fence-row. Procure some spawn from the seed-stores, where it is kept in the shape of bricks. Break these bricks into small pieces the size of a pigeon's egg, and insert them into the bed about a foot apart. The bed may then be covered with an old horse-blanket and left for a few days, during which time the spawn will vegetate. Some water will have to be given, but only in moderate quantities, as the blanket will keep the surface somewhat moist. Now a covering of an inch or more of fine clean soil may be spread over the bed, and as soon as cracks appear in the surface, the "buttons" may be gathered if desired, The full-grown fungi will be ready in a few days, as they mature very well.—*Hearth and Home.*

AGRICULTURE.

Farmers as business men should employ the beginning of the year in making settlements of a business kind. Pay every debt that is on your books, collect every one that is due, or settle it in some way as soon after the first of January as possible. It is a great deal better to come to a direct understanding about these things, than for both debtor and creditor to grow cool and half unfriendly because one owes the other a few dollars, or a few hundred dollars, and can not pay. There is no friendship lost by coming to a direct understanding about debts, and it will oftener than not happen that things may be turned in some way to lessen the account, or some way to cancel it. A man who has a practical, common sense turn of mind, and has had a little mercantile training, having been a few years in a country store or in business in the city, or in some manufacturing establishment, will almost invariably prove a more successful farmer than one who has been trained solely upon the farm. We ought to regard farming more as a business than as a trade, more as work for the head than for the hands and teams only.

In January is the proper time for the farmers to make preparations for future operations, as in this month there are only five hours a day available for out-door work, unless the season be unusually mild. Mat over tulip beds, begin to force roses. Pot over secale and plant dried roots of border flowers in mild weather. Take strawberries in pots into the green-house. Prune and plant goosberry, fruit and deciduous trees and shrubs. Cucumbers and melons to be sown in the hot bed. Apply manures. Continue in open weather to procure vacant ground for spring, and to protect plants from frost. Cover bulbous roots with matting. Roll grass plats if the season be mild and not too wet. Prepare poles, stakes, pea-sticks, &c., for spring.

THE KITCHEN GARDEN.—This is one of the most important parts of the general domestic economy, whenever the situation of a home will permit a family to avail themselves of its assistance, in aid of butchers' bills. It is, indeed, much to be regretted that small plots of ground, in the immediate vicinity of the metropolis more especially, are too often frittered away into shrubberies and baby gardens, when they might more usefully be employed in raising vegetables for the family, during the weekday residence in town, than wasting their sweetness on the smoky air in all the pride of lilac, hollyhock and batchelors' buttons, to be merely smelled to, by the whole emigrating household, on the day of rest. With a little care and attention, a kitchen garden, though small, might be rendered not only useful, but in fact, as ornamental as a modern grass carpet; and the same expense incurred to make the ground a labyrinth of sweets, might suffice to render it agreeable to the palate, as well as to the olfactory nerves, and that even without offending the most delicate optics. It is only in accordance with our plan to give the hint, and to record such novel points as may facilitate the proposed arrangement. It is one objection of a kitchen garden in front of the dwelling, or in sight of the family departments, that its very nature is rather an eye-sore than otherwise, at all seasons. This, however, is an objection that may be readily got over by a little attention to neatness and good order, whilst the plants themselves, if judiciously attended to, and the borders sown or planted with ranunculus, polyanthus, mignonette, &c., in succession, will really be ornamental; but then, in cutting the plants for use, the business must be done neatly, all useless leaves cleared from the ground, the roots no longer wanted taken up, and the ravages of insects to be guarded against by sedulous extirpation. It will also be found a great improvement, where space will admit of it, to surround the beds with neat espaliers, with fruit trees, or even gooseberry and currant bushes trained along them, instead of these being suffered to grow in a state of ragged wilderness.

FOUNDER IN HORSES.—Take a table-spoonful of pulverized alum, pull the horse's tongue out of his mouth as far as possible, and throw the alum down his throat; let go of his tongue and hold up his head until he swallows. In six hours' time (no matter how bad the founder) he will be fit for moderate service. I have seen this remedy tested so often with perfect success, that I would not make five dollars difference in a horse foundered (if done recently) and one that was not.

REMEDY FOR WORMS IN HORSES.—Put a handful of sifted wood-ashes in a quart bottle, and fill the bottle with cider vinegar. It will foam like a glass of soda; and it should be given to the horse that has worms the moment it foams. Two bottles will cure the worst attack of worms. For forty years I have never known an instance of failure where this remedy was applied at once.

TOP DRAINING THE WHEAT FIELDS where needed, is of the greatest importance, and it is better to do it as soon as the wheat is sown than to wait till the rains come. There are fields where it is necessary to plow out every dead furrow, but ordinarily all that needs to be done is to make furrows from the lower parts of the field where water accumulates. Secure a good outlet from these, and the upper portions, unless there are hollows, will not need furrowing.

THE MOTHER OF MOSES CONFIDING HIM TO THE NILE.

The artist who has depicted this favourite incident of Bible history as shown in our double-page engraving, is one to whom our readers have already been introduced. Herr Kochler, of Dusseldorf, whose Juliet was reproduced in the NEWS a couple of months ago, has treated this subject in his own peculiar manner. His female figures are characteristic and bear to each other a resemblance that cannot fail to strike the most careless observer. In the present instance the likeness between Moses' mother and the stalwart Juliet is very great. While speaking of the latter painting we remarked that his ideal of Shakespeare's heroine was not one that accorded with our English notions of the fair Capulet. The Hebrew mother, in this case, is more what our fancy would paint her; but the artist has taken a painter's license in introducing Pharaoh's daughter on the scene, contrary to the statement made in Exodus.

A PAGAN LEGEND OF JESUS.

Publius Lentulus, assumed by some to have been proconsul of Judea prior to Herod, is reported to haven seen the Saviour, and to have written the following letter to the Roman Senate:—"At this time appeared a man who is still living and endowed with a mighty power; his name is Jesus Christ. His disciples call him the Son of God; others regard him as a powerful prophet. He raises the dead to life, and heals the sick of every description of infirmity and disease. This man is of lofty stature and well proportioned; his countenance severe and virtuous, so that he inspires beholders with feelings both of fear and love. The hair of his head is of the colour of wine, and from the top of the head to the ears, straight, and without radiance, but it descends in shining curls. From the shoulders the hair flows down the back, divided into two portions, after the manner of the Nazarenes; his face free from blemish, and slightly tinged with red, and his physiognomy noble and gracious. His beard is abundant, the same colour as his hair, and forked. His eyes are blue and very brilliant. In reproving or censuring he is awe-inspiring; in exhorting and teaching, his speech is gentle and caressing. His countenance is marvellous in seriousness and grace. He has never been seen to laugh, but many have seen him weep. He is slender in person, his hands are straight and long, his arms beautiful. Grave and solemn in his discourse, his language simple, quiet. In his appearance he is the most beautiful of the children of men."

THE GRAND DUKE ALEXIS.

H. I. H. the Grand Duke Alexis arrived at Ottawa at half-past six on the evening of the 18th inst. At the station he was received by Lieut.-Col. Ponsonby, the Aide-de-Camp in waiting, and was immediately driven off with his suite to the residence of the Governor-General. On the following day he visited the Public Buildings, in company with the Governor-General. At five o'clock he received an address from the Mayor and Corporation, in the Senate Chamber, and in the evening attended Lady Lisgar's reception. On Wednesday morning, the 20th, the Grand Duke left Ottawa at nine o'clock, and arrived at Toronto at about a quarter-past eleven the same evening. Next morning the members of the Corporation waited on H. I. H. at the Queen's Hotel, and presented him with an address of welcome, to which a suitable answer was returned. In the afternoon the Imperial party, accompanied by Lieut.-Governor Howland, visited the principal places of interest in the city. On Friday the Grand Duke left for Niagara, whence, after visiting the Falls and the other attractions of the neighbourhood, he left on Saturday for Buffalo.

On our first page we reproduce our artist's sketch of the scene at the Skating Rink in this city on the night of the Grand Duke's visit.

A loving wife in Williamsport, on the decease of her husband, sent the following thrilling telegram to a friend: "Dear John is dead. Loss fully covered by insurance."