

was generated, which soon set the wood of the switch on fire. When discovered the conflagration could not have been continued over ten minutes, yet the time was sufficient to seriously damage the elegant woodwork, warp and twist the multitude of wires into every conceivable shape, and render them inoperative and worthless for future use.

The actual loss to the building will not exceed \$700, but the fire caused a temporary cessation of business of the department, which, together with the loss of wires, switch, and the extra labor entailed, it is claimed, will make the loss to the company about \$20,000.

SUNSHINE IN LONDON AND NEW YORK.

At the Royal Observatory, Greenwich, Eng., a self-registering sun dial is used to indicate and record the daily duration of sunshine. The instrument consists of a lens made in the form of a ball, of glass, 4 inches in diameter, supported concentrically with a metallic bowl. The focus of the ball lens falls on the concave surface of the bowl, in which is placed a strip of suitable combustible material; the arrangement being such that, when the sun shines, the material is charred and a burned line is made, the length and position of which indicates the time and the duration of the solar radiance. Some very curious results are given, which illustrate in a striking manner the difference between the atmospheric conditions of London and New York, especially in the fall and winter months.

During the entire year ending April, 1877, there were, according to this register, only 1,200 hours of sunshine at Greenwich, or an average of a trifle over 3¼ hours per diem. The monthly record was as follows:

May.....	152.3	Sept.....	106.1	Jan.....	18.7
June.....	184.5	Oct.....	47.3	Feb.....	36.4
July.....	214.3	Nov.....	35.9	Mar.....	99.3
Aug.....	216.9	Dec.....	6.5	Apr.....	71.8

We have not at hand any reliable register of sunshine in New York like the above; but it is within the experience of every one living here that our periods of sunshine far surpass those of London. For example, London makes the beggarly show of only six and a half hours of sun during the entire month of December. In New York, we have in December many days of solar brilliancy, any one of which would register more hours of sunshine than the Londoners get during the whole month.

We hope that some one will introduce the globe lens here and ascertain the exact sunny records for this latitude. The instrument would form a useful addition to the meteorological observatory of the Central Park.

DIMNESS OF THE EYES.

Dr. George C. Harlan, of Philadelphia, Pa., has lately communicated to the Medical Society, of that city, some very interesting observations concerning that insidious and often incurable disease, albuminuria. The presence of the disease, in cases previously unsuspected, he has discovered by examination of the patient's eyes by means of the ophthalmoscope. In one instance, a gentleman, 35 years of age, a picture of health, with appetite and digestion good, complained of a dimness in the sight of the left eye, which rapidly increased, and then the right eye became similarly affected. Examination of the eyes with the instrument showed well marked *retinitis albuminurica*. Further medical examinations revealed the presence of the hyaline casts, and the fact that the patient had reached the last stages of albuminuric disease. Two and a half months later he died. Dr. Harlan cites quite a number of other cases of persons who considered themselves in perfect health, but in whose eyes the impress of the terrible disease was discovered, and who quickly succumbed to its power. It remains for the students of medical science to discover some means whereby the early approach of the disease can be detected and proper remedies applied in time to effect a cure.

Professor Isaac W. Jackson.

Professor Isaac W. Jackson died on the 28th ult. in Schenectady, N. Y., in the 73d year of his age. For 51 years he was a professor in Union College. He was born at Cornwall, Orange county, N. Y., in 1805. In 1824 he was graduated at the Albany Academy with the highest honors. Two years later he was graduated at Union College, where he has ever since remained as tutor and professor. As a student, an author, and an instructor in mathematics, he gave evidence of the singleness of purpose with which he took up his life work. His works and text books on conic sections, optics, mechanics and trigonometry, have received the cordial appreciation of competent critics, and have stood the severest test of use in the class room both at home and in foreign lands. In the development of the art of landscape gardening and the improvement of horticulture, he was peculiarly fortunate. The College garden owed its existence to his wise forethought and prudent management. Through his famous garden he contributed largely during many years to the introduction and distribution of the choicest fruits and flowers. Professor Jackson's life was a noble, self-sacrificing one. He devoted himself earnestly to the education and improvement of the youths under his charge.

CLEOPATRA'S NEEDLE.—In preparing to move the obelisk at Alexandria, two inscriptions have been found upon it—one in Latin, the other in Greek. They fix as the year of its erection at Alexandria, by Barbarus, prefect of Egypt, the eighth year of Augustus Cæsar's reign; or about 32 years before the birth of Christ. Pontius, the engineer, did it.

Odors of the Human Body.

At a recent meeting of the American Neurological Association, Dr. Hammond called attention to some facts in regard to the natural odor of the body in the human species, and of the faculty which some of the lower animals possessed,—that of differentiating between the odors of different individuals. Besides the inherent odor of the body, there was reason for believing that an entirely different one may be given off, not only as a consequence of disease, but as a result of emotional disturbance. During the middle ages, manifestations of the kind in question were not uncommon in the persons of both sexes, and were attributed to miraculous power. That such cases existed was probable, not, however, as a special gift of God, but as a neurosis similar to other instances which had come under the doctor's own observation. Cases were then cited, of a number of the more important instances among the saints, who were considered highly odoriferous. So far as the author of the paper was aware, there had been no attention given to the subject in the relations now under notice. The cases cited by Dr. Hammond as bearing upon this point were briefly as follows:

A young married lady of strong hysterical tendencies, from whom, during a paroxysm, an agreeable odor, similar to that of violets, was exhaled only from the left lateral half of the anterior wall of the chest. At such times the perspiration was remarkably increased in this region, as compared with the corresponding part opposite. The odor was perceptible at a distance of several feet, but was entirely absent during the intervals of the paroxysms. From an examination of an alcoholic extract of the odoriferous perspiration exhaled by this patient, it was presumed that the odor was due to the presence of butyric ether. The local application of several remedies to the parts, among which were preparations of carbolic acid, soap and water, and other alkaline substances, gave the patient only temporary relief from the odor; but the internal administration of the salicylate of soda, in doses of five grains, entirely cured this lady of her violaceous odor, and the perspiration of the region was reduced to the normal character.

A second case was that of a young lady in whom the first exhibition of the odor (in this case that of pine apple) occurred contemporaneously with an attack of chorea.

In a third case a pine-apple odor was emitted from the skin of the head, neck, and chest of a woman whenever she was angry.

A fourth case was that of a man who, during frequent hypochondriacal periods, emitted a violaceous odor. Occasionally cases were met with from whom a disagreeable odor was exhaled during sexual excitement. No opinion as to the actual and immediate cause of these odorous emanations was expressed, further than that they were due to a nervous disturbance.

Dr. Hammond passed around a small vial containing an alcoholic extract of the odoriferous perspiration of his first patient, which had a distinct violet smell; also a second vial of the same extract, with the addition of bicarbonate of soda, smelling strongly of pine-apple.

The paper was discussed by Drs. Jewell, Beard, Hammond, Seguin, Hamilton, and Spitzka, cases of a similar nature to those mentioned in Dr. Hammond's paper being cited.

Combination Wood and Iron Pavement.

By permission of the Commissioners of Sewers of the City of London, a portion of the new wood paving in Beech street has been charged with iron (3 cwt. to the square yard) by way of experiment. The object is to increase the durability of wood and preserve and protect it from heavy racking traffic, and to test the practicability of securing small blocks of iron without framework, and so as to deaden the noise and counteract the other disadvantage of metal, as hitherto applied. The ordinary wood paving blocks are beveled by machinery on the upper and lower edges, and between each row is laid a row of cast iron blocks of double wedged section, thicker at the upper and lower surfaces than in the center, so as to fit mechanically between the bevelled wood blocks, which on section are thicker in the center than at the upper and lower surfaces. The iron blocks weigh 16 lbs. each, are rounded and serrated on surface for foothold, and perforated for grouting material, and are bedded in sand on the ordinary concrete bed.

Hints for Home Builders.

First, let your cellars be large, well ventilated, and lined with stone or cemented above the level of the ground. The breath of life in furnace-heated houses depends literally on the air of the cellar, unless there be a flue for fresh air extending from the furnace out-of-doors (never the case in cheap, showy houses). The air of the whole house is sucked through this narrow and often unclean apartment, the care of which is usually intrusted to ignorant servants. We have spoken in a previous number of the malaria engendered by massing quantities of vegetables in the cellars, as is the practice in farmhouses during the winter. The lining of stone or cement not only prevents dampness, but is absolutely necessary in streets through which the sewers pass, as a protection from rats. Terriers, ferrets, traps, or poison are feeble defences against the legions which swarm in nightly from a neighboring culvert. Next to the cellars comes the kitchen, which should be large, airy, and sunny. To take no higher ground, conveniences in this department are a politic investment which pay a full interest of capital, espe-

cially to the housekeeper who does not live in a large city. Stationary tubs, closets beneath the dressers for flour, dry groceries, spices, etc., will be likely to tempt into her household a better class of servants, and, when she is forced to turn cook and baker herself, will take half the burden from her weary hands. An addition to comfort, much neglected by builders, is the lighting of stairways, closets, pantries. We have in our mind's eye a modest little house, in a closely built neighborhood of dark buildings, which gives you a sunny, cheerful welcome in every corner: a result produced not only by windows wherever a window is practicable, but by a sky-light of plate glass which sends down sunshine through three floors of closets, halls, and pantries. A mistake made also, which resolves itself into a question of humanity, is the placing the servants' chambers on the top of the house, be that three or seven stories above the kitchen. Passing along a city street at night one cannot look up at the dim lights burning in these far skyey attics without a groan of compassion for the wearied wretches dragging themselves to their beds up yonder after the day's hard labor.—*Scribner*.

To Detect Bad Water.

For detection of animal decomposition products in water, a watery extract of gall nuts was used by M. Fauré. It has also been recommended to use tannic acid for improvement of bad drinking water. M. Kämmerer has recently advised the use of tannin for discovering putrefying animal products in water. He considers that the presence of gelatin in ground water can no longer be doubted, and it is often found in comparatively large quantities. The presence of salt and other compounds in water may delay the precipitation by tannin; hence the purity of water should not be affirmed, as regards tannin reaction, till after 24 hours of this. Every water which becomes troubled in a considerable degree through tannin must be held dangerous as drinking water. For this judgment it is all the same whether a precipitate occurs at once or only after a long time; for the time depends less on the nature of the precipitated body than on the dissolved substances which retard precipitation.

American Institute Exhibition.

Applications for space should be forwarded at once to the General Superintendent, room 22, Cooper Union building, New York, and all details arranged through him with as little delay as possible. Persons familiar with the exhibitions annually given by this Institute are aware that one of the great troubles with which the exhibitor has to contend is that of sufficient space; as all applications which comply with the rules are considered in the order of their coming, it is therefore evident that better location is secured by the early than by the late applicant. The Exhibition will open on the 12th day of September.

Pigeon vs. Locomotive.

A race between a carrier pigeon and a mail train recently took place from Dover to London. The pigeon was of the Belgian breed, and was "homed" to a house in Cannon street. On the train leaving Dover it was thrown from a carriage, and was observed to circle round for a few moments, when it took its flight in a line between Sittingbourne and Maidstone, which would, of course, be the nearest route to London. Although the railway people were confident in the powers of their locomotive (the Continental express) the bird arrived twenty minutes before the train. The times are not given, but the pigeon must have flown at the rate of fifty miles an hour.

Spontaneous Combustion of Zinc Dust.

Zinc dust, so called, is a fine, grayish powder, used extensively in dye works, and consists of 40 per cent zinc, 2½ per cent lead, 4 per cent cadmium, 50 per cent oxide of zinc, 3½ per cent carbonate of zinc, and some non-metallic dust. Such zinc dust becomes spontaneously incandescent at the presence of moisture, and has been known, says *Dingler's Journal*, to cause conflagration on shipboard.

Davyum—A New Metal.

Another new metal has been discovered. M. Sergius Kern, of St. Petersburg, has found in platinum "ores" a new metal which appears to occupy a place midway between molybdenum and ruthenium. He is studying its physical and chemical properties, and proposes to call it Davyum, in honor of Sir Humphrey Davy. Platinum is found in the metallic state in alluvial deposits; but is rarely, if ever, pure, being generally alloyed with iron, palladium, osmium, iridium, and copper.

Solubility of Sulphur in Acetic Acid.

Liebermann draws attention to the fact that sulphur is soluble to a not inconsiderable degree in warm concentrated acetic acid, while a trace is taken up even by the dilute acid. If the concentrated solvent be diluted with water, much of the sulphur separates as "milk of sulphur;" if it be concentrated with the Bunsen pump, fine long prisms of sulphur separate; when cooled, the liquid deposits sulphur in a crystalline form. All modifications of this element appear to be taken up by acetic acid. The author points to cases in analysis where these changes occur, and are apt to mislead the operator.—*Wiener Anz.*

SILVER was first coined by Phidon, King of Argos, about 860 B. C., the epoch of the building of Carthage, and about 140 years after the construction of Solomon's Temple.