

east of their residence. A little after five o'clock last evening, the older boy was standing alone in the room, looking out of the west window, and he saw Henry approaching the house, but did not see him enter.

The door opens towards a desk against which the gun was leaning, and his theory is that the door struck the desk, knocking it over and causing it to explode the cartridge. The charge entered the boy's face directly under the right eye, and came out under the left ear, tearing a terrible hole through his head. The jurors at the inquest were James T. Smith, Arthur Hess and John Hess. They returned a verdict of accidental death from a gun shot wound.

The funeral will be held from the ward meeting house at 2 o'clock tomorrow afternoon.

T. B. C.

FROM MONDAY'S DAILY, DECEMBER 5

**Randolph Round-Up:** Henry Grant, the 14-year-old son of J. Morgan Grant, had a sad misfortune to lose an eye last week. He was attending school when he was attacked with a severe pain in one of his eyes, which continued to grow worse. By the next morning the eye was badly swollen, and Mr. Grant took his son to Evanston to seek medical aid, where he was advised to go on to the hospital at Salt Lake City. Later word came that surgeons had removed the eye in order to prevent the impairment or loss of the sight of the other eye. It is bad enough to lose the sight of one eye, but darkness to lose both, and it is earnestly hoped that his remaining eye may be unimpaired. It seems, that about a year ago, while at play, Henry was struck in this eye with a sharpened peg, and its loss is supposed to be the final result of the injury.

The funeral services over the mortal remains of Mrs. Sarah M. G. Kimball were held in the Fifteenth ward meeting house yesterday, Sunday, forenoon, beginning at 10 o'clock, and were largely attended by friends of the deceased. Bishop Morgan presided and the ward choir artistically rendered a number of sympathetic musical selections. The opening prayer was offered by Elder Nephi Morris. The first speaker was Zina D. H. Young, who had been personally acquainted with Mrs. Kimball for a period of more than sixty-three years, or almost the allotted existence of man. Mrs. Young referred to the beautiful and useful life of her departed friend, and related many incidents of interest effected while addressing the congregation, and her auditors involuntarily shared her emotions.

Other speakers were Bishop R. F. Burton, Elders Angus M. Cannon, Heber J. Grant and Bishop Morgan. Mrs. M. I. Horne, that other well known advocate of woman's rights and progress, was the last speaker. She also wished to pay tribute to the high standard of intelligence and sterling worth of Mrs. Kimball, whom she had known for many years. Benediction was pronounced by Elder John Henry Smith.

The chief mourners were the three sons of the deceased, Hiram, Oliver and Frank, with their families, and her daughter Elizabeth. All were accorded the sincerest sympathy of their many friends. Floral offerings of beautiful design and artistic creation were in profuse evidence. Interment was in the city cemetery.

#### SCIENTIFIC MISCELLANY.

It is not to the calendar that we should go to find out the exact date of autumn's beginning, says Rev. Theodore Wood, the English naturalist, but to the birds and the spiders, who indicate the varying time with infallible precision. His own pet winter prophet, however, is the caterpillar of the Goat Moth—a huge, evil-smelling creature of

reddish-brown hue, with a broad chocolate stripe running down its back. For three long years these odorous creatures inhabit the trunks of willow trees, boring their way backward and forward through the solid wood, and making a light but sufficient meal on the wood which they cut away. During that period they increase some 72,000 times in bodily weight—a rate of increase which would convert the 10-pound human baby into a monster of about 321½ tons. And then, always in the first week in autumn, they leave the tree forever, and wander forth on the palings in search of a secluded nook wherein to turn to chrysalids.

Probably the most compact heat engine ever attempted is that driven by carbon dioxide. A horizontal motor of this kind exhibited by Mr. W. F. Roberts to the Franklin Institute had a bed-plate 24 by 14 inches in size, and a total weight of only 85 pounds. Yet it was claimed that the engine could develop 55 horse power, running at 2,000 revolutions per minute under a pressure of 1,500 pounds per square inch. The carbon dioxide was contained in liquefied form in steel cylinders, and was heated on its way to the engine in a small coil of copper pipe.

The later researches of Surgeon Ross, of the British army, have not only proved that malaria can be acquired from a mosquito bite, but that the malaria parasite is mostly one of insects and only an occasional visitor to man. Particular species of malaria parasites even demand particular species of mosquitoes—a fact at least partly explaining apparent vagaries in the distribution of varieties of malaria. When all is known, Europeans may be able to live in climates now made deadly by this pest.

The new primary battery of O'Keenan, claimed to be a cheaper source of electric energy than any other primary battery yet devised, has a negative pole of zinc, and a positive plate of spongy lead, like the negative of a lead accumulator. The lead plates are prepared for use by oxidizing in the air and charging with sulphate of lead in dilute sulphuric acid. The necessary acid for electrolytic action is contained in the positive plate in the form of inert sulphate of lead, and in a fluid of water containing a little sulphate of zinc there is no action on open circuit, the sulphate of lead being reduced to metallic lead and the zinc dissolved when the circuit is closed. The positive plates are recharged by exposing to the air and then sulphating in the acid. The retaining cells are rectangular boxes of tinned iron, and these are protected from corrosion by connecting the zinc plates to them. The battery resembles the Daniell cell in constancy.

The pure water distributed to the inhabitants of Blankenberge is that of the Bruges canal after filtering through beds of sand and then subjecting its sterilizers to an electric current at a pressure of 1,000 volts. All traces of microbes are destroyed. The electrical plant has a capacity of about 55 horse power, and about 35,000 cubic feet of water per day are treated in summer and 10,000 in winter.

Gelatoid, a mixture of gelatine with formaldehyde, is being used for unbreakable goggles to protect the eyes of workmen exposed to flying particles of stone, metal or wood.

Cape Colony is almost treeless, its forests covering only 353,280 acres, or a little more than a quarter of one per cent of the total area of the country. Russia and Sweden each have 42 per cent; France, 16 per cent; and Great

Britain and Ireland, 4 per cent. The need of Cape Colony is emphasized by the heavy importation of wood, and the conservator of forests urges that tree plantations be formed wherever the annual rainfall exceeds 15 inches.

French violin makers report that aluminum, when used for stringed instruments, produces a richer sound than wood, especially with the higher notes, and the experiments with the new material have been entirely successful.

One of the products of the new chemistry opened up by the electric furnace is pure metallic calcium: M. Henri Moissan finds that on gently heating this in an atmosphere of nitrogen, the two combine, the reaction becoming so violent at a dark red heat that the whole mass is raised to incandescence. The resulting nitride of calcium is another remarkable new substance. It seems to contain two atoms of nitrogen to three of calcium, its specific gravity is 2.63, and it melts at about 2,500 deg. F. A surface coating of it is found to give the yellow color, usually described as belonging to the metallic calcium, the pure metal being quite white. The most remarkable property of the nitride is its reaction with water, which results in the production of ammonia, in exactly the same manner that acetylene is formed from calcium carbide. This reaction, M. Moissan believes, may become industrially important when the isolation of metallic calcium in the electric furnace is sufficiently cheapened.

A problem for scientific men and mechanics has been raised by a British committee on dangerous trades. The use of beds of lead by file cutters is a frequent cause of lead-poisoning, and not less than seventy-four cases have been reported in one district during the last three years. A substitute for lead as a rest for the files in hand-cutting is what is wanted. Paper has been used in Germany for light work; clay and fine sand enclosed in canvass, wood, copper, vulcanite and various compounds of rubber and gutta percha have been tried and discarded; and zinc and pewter are too hard.

A curious experience is related by a physician of Mendon, France. To examine the throat of one of his children, he held a lighted candle before its open mouth and placed the handle of a spoon on the base of the tongue, when there was a sudden flash of blue flame from the throat, and the doctor's slightly burned. It is explained that the spoon probably produced a slight retching, which brought a little inflammable gas from the stomach.

Osmium threads for incandescent electric lamps, giving a very brilliant light, have been patented in Germany. The threads are hollow, the osmium being coated on a thin copper wire, which is evaporated at a high temperature.

The nitro-gelatine house of the Judson Powder company at Pinole, Cal., blew up at 3:35 Monday afternoon, killing Superintendent Charles Kennedy and four Chinese, the only workmen in the building at the time. The explosion was a terrific one, four tons of nitro-gelatine blowing up, completely demolishing the building. The same house was badly damaged by an explosion six weeks ago and two Chinese were killed. Superintendent Kennedy was superintending some mixing when the explosion occurred. It is probable that the cause of the explosion will never be known, as no one who was in the building escaped death.