

FREAKS OF LIGHTNING.

The Rev. J. B. Evans and his son-in-law, of Brookville, Pa., were killed while planting corn.

In a storm at La Salle, Ill., one man, thirteen head of stock and a large amount of farm machinery were destroyed by lightning.

There were twelve horses in a barn in Bloomington, Ill., when it was struck by lightning. A \$5,000 stallion, the only animal of value, was killed.

At Lynn, Mass., lightning entered the house of Mrs. Charles Hawkes, ripped up the carpets, upset the furniture and set clothing in a closet on fire.

Two brothers named Bowen, plowing in a field near Clarksville, Ark., were instantly killed by lightning. Every bone in their bodies was broken.

Mrs. Alexander and her three children were instantly killed at their home at Habersham, Ga., and John Lannone, of Calloway county, Ky., aged twenty years, was killed while standing beside a crib with arms folded.

During a recent storm at Troy, N. Y., Jacob Thersduenof went to the telephone to answer a call. As he was replacing the receiver on the hook the lightning struck his hand, mauling it terribly and paralyzing his arm.

The first death by lightning ever recorded in Nevada occurred recently in Virginia City, the victim being a Chinaman. In the same storm a bolt chipped out fifty tons of rock from a cliff and sent it down the mountain into the valley.

Robert Burns, living near New Hampton, Iowa, while planting corn, was struck by lightning and instantly killed. John Fry, while herding cattle near Williamsport, Pa., had just reached a tree for shelter when a lightning flash struck him dead.

While Frank Patterson, a bachelor residing on Big Creek, Kansas, was cooking his breakfast his clothes were peeled from him in an instant and he was hurled naked upon the floor. The same bolt passed out of his heels through the floor and killed five chickens. Patterson recovered.

When lightning struck the residence of Dr. M. F. Baldwin, of Geneseville, Mich., every window in the house was shattered. The bolt entered the chimney, followed the stovepipes and ruined every stove in the house. The doctor had a two-year-old child in his arms. The fluid struck him on the shoulder, passed down between him and the child, scorched his entire side and went into his boot and tore it into pieces. As it left his foot a cloud of smoke burst from it.

Color of Lightning.

The color of lightning is altogether due to the nature of the substance which is made incandescent in its track. The blue, red, purple or silver tints, which are ordinarily much more brilliantly marked in warm climates and intertropical countries than they ever are in England, are due to the same circumstances as the color which is designedly communicated to the light of different kinds of fireworks.

It is a result of the intrinsic nature of the vaporized particles which are made to shine. The vapor from iron has one kind of sheen and the vapor of sulphur another. Each different foreign ingredient that floats in the air has its own proper hue, which it can communicate to the lightning.

The broad flashes of light that appear in the clouds during a thunder-storm, and that are distinguished as sheet-lightning, are very often merely the reflections from the cloud mist of the discharges that pass from one part to another with each redistribution of the internal charge, as the tension at the outer surface is changed by an external flash.

This redistribution of the internal charge is sometimes also marked by very beautiful lines of coronation plying upon the dark background as the storm drifts away.

There is a table mountain a few miles away from Pietermaritzburg, in Natal, over which this kind of display is continually exhibited.

The retreating storm clouds linger over the flat top of this mountain, where they can be seen from the city in the advancing night.

In this dark canopy of the mountain bright coronations, accompanying each redistribution of the electric charge, can be watched for hours at a time—now assuming the form of coronals of electric fire, now running along in machiolated horizontal lines just above the flat top of the mountain, and now radiating out in all directions from a central loop, like the cracks of starred glass.

A Dime-Novel Hero.

The dime-novel readers would rejoice in Buckshot Bill, of Nevada. He speaks twenty-five Indian tongues. Once he saw eleven comrades burned alive by the Comanches, signed with his blood a vow to have the scalps of eleven Indians who killed his brother and stole his diamond pin, and has on exhibition 117 scalps taken by his own hands. He is a scout after the boy's own heart.

"MOONLIGHTING."

One of the Peculiar Industries of the Pennsylvania Oil Regions.

"Moonlighting" is a peculiar industry that owes its existence to the patent laws. The late Colonel E. A. Roberts introduced the use of nitro-glycerine torpedoes in increasing the yield of oil wells. When the great flowing wells of Oil Creek, after draining the petroleum pools of the lower field for three years, had exhausted the supply, as was supposed, Colonel Roberts experimented on an abandoned well with a quantity of nitro-glycerine, confined in a tin shell and exploded by concussion. The explosion was followed by a flow of oil, and the old well yielded thirty barrels a day for several years afterward. The nitro-glycerine had shattered the oil-bearing rock and opened the paraffine-clogged veins. While serving in the army Colonel Roberts noticed that a bombshell exploding beneath water invariably spent its force on the bottom of the stream, throwing up mud and stones in great quantities. This was due, he supposed, to the solid fluid tamping above the explosive. It was this idea that led him to try the experiment of nitro-glycerine at the bottom of oil wells, beneath hundreds of feet of fluid tamping—oil and water collected in the well. He obtained patents on his device. The validity of the patents was questioned, and nitro-glycerine torpedoes were used by others without paying royalty to Roberts. He brought nearly 5,000 suits to protect his rights. One of these, as a test, was carried through all the State courts and to the United States supreme court. Roberts won in every court, and nearly a million dollars in royalties was recovered.

The monopoly in nitro-glycerine torpedoes led to the illicit use of them in wells. Men without fear of death or regard for law went into the business of "shooting" wells for producers who did not care to pay tribute to Roberts. Any one has a right to manufacture nitro-glycerine and to place torpedoes in wells. In the exploding of them lies the liability to prosecution and penalty. The moonlighter is always ready to contract for the shooting of a well. He carries his nitro-glycerine in wagons made especially for the purpose. They are buckboards, with cushioned apartments under the seat, into which the cans are placed. The roads of the oil regions would scarcely be called roads elsewhere. When not hub deep with mud, they are stretches of deep ruts and gulleys and projecting rocks. Drawn by powerful horses, these wagons, loaded with sixty or a hundred quarts of one of the most destructive explosives known, and which a sudden jar is at any moment likely to explode, are driven by their reckless owners over these roads in the darkest nights at the top of their horses' speed. The men work at night always. They are called moonlighters, but the absence of the moon does not prevent them from undertaking a job. The Roberts company has a wonderful detective system, which is constantly employed in ferreting out the trespassers in the torpedo patent. It frequently happens that a moonlighter is spotted as he starts out on one of his nocturnal missions. The moonlighter rarely fails to be aware of the fact when he is followed by one of Roberts' men. Then it is a race between the two. If the moonshiner cannot evade the detective and finish his job, he manages to secrete his nitro-glycerine in the bushes, old buildings, barns, or other outbuildings of farms, or in any place where he is most likely to recover it for use on a more auspicious occasion. Thus it happens that these dangerous storehouses are liable to be come upon at any time by people passing through the woods or along the streams, or by the farmers whose premises have been utilized.

The cost of torpedoing a well under the Roberts patent averages \$250. The moonlighter will shoot it for less than half of that. Thus the saving effected if the work is not discovered is a great temptation to a certain class of producers. If detected, however, the penalty is heavy. The Roberts price for torpedoing must be paid, and whatever damages may be assessed. If the well is an old one and has been shot to increase its yield the value of the increased yield up to the time the damages are assessed is added to the cost of detected illicit torpedoing.

When Colonel Roberts died recently his income was about \$1,000 a day. He had been separated from his wife and family for several years. Mrs. Roberts had begun proceedings against him and they were pending at the time of his death. A nephew of the deceased man, a resident of Bradford, Pa., was made his heir. The nephew voluntarily transferred a third of the wealth he inherited to each of the two children of the dead inventor, keeping the other third himself. Appraisers of the estate of Colonel Roberts have been seven weeks engaged in fixing its value. Their duties are accompanied with a risk that the appraisers of no dead man's property ever ran before. They are obliged to visit all the nitro-glycerine safes in the oil region, examine and place a value on their contents. There are thirty of these magazines connected with the estate in the Brad-

ford field alone. These magazines each contain from 1,000 to 10,000 pounds of the explosive. While the appraisers were cautiously creeping about in one of them which contained 2,000 pounds a driver of a Roberts nitro-glycerine wagon came tearing up to the safe with his team at the usual break-neck rate. He had been out torpedoing wells. He had seven twenty-pound cans left. These he brought into the magazine, carrying two under each arm, one in each hand and rolling the other along on the floor of the safe with his foot. The six cans he tumbled on the floor as if they were sticks of wood. The appraisers lost no time in getting out of that magazine.

When a nitro-glycerine wagon is met on the road every other vehicle gives it all the way its driver sees fit to ask. The carrying of this explosive in any but the wagons arranged for its transportation is forbidden by law, but it is not an uncommon thing to see some dare-devil driver jolting over the rough roads with cans of it knocking about in the bottom of an ordinary wagon. Carrying nitro-glycerine through towns is punishable by heavy fines; but as it requires a rather bold officer to chase a man who is carrying with him material that may explode at any moment, it is not an exceedingly rare sight to see drivers on their way to wells taking a short and easier cut through towns and villages with their stock of nitro-glycerine. A driver was some time ago discovered passing through one of the Bradford suburbs with a load of nitro-glycerine. The residents protested, and an officer halted the man to arrest him. The driver took one of his cans, raised it above his head, and informed the crowd that if any one attempted to interfere with him he would throw the can against a rock by the roadside not three feet away. The man was moonlighter, and from his reputation the crowd believed that he would like nothing better than blowing up the town and its inhabitants, even if he disappeared in pieces at the same time; so they allowed him to pass on.—*New York Sun.*

PEARLS OF THOUGHT.

Belief is not in our power but truthfulness is.

Life is too short for its possessors to wear long faces.

A sensual disposition deforms the loveliest features.

Divine vengeance comes with feet of lead, but strikes with hands of iron.

He needs no other rosary whose thread of life is strung with beads of love and thought.

He who, with good health, has a true friend, may laugh adversity to scorn and defy the world.

True benevolence is to love all men. Recompense injury with justice, and kindness with kindness.

This is the present reward of virtuous conduct—that no unlucky consequence can oblige us to regret it.

Flowers sweeten the air, rejoice the eye, link us with nature and innocence, and are something to love.

Venture not into the company of those that are infected with the plague; no, though thou think thyself guarded with an antidote.

To pronounce a man happy merely because he is rich, is just as absurd as to pronounce a man healthy merely because he has enough to eat.

No man ought to complain if the world measures him as he measures others. To measure one with his own yardstick may be hard, but it is fair.

Swimming.

Every boy and girl should be taught to swim, and be trained to it. Most boys learn of themselves, while the reverse is true of most girls. This latter fact is a grave mistake. The mistake is more serious than formerly, because so large a portion of our population spend weeks or months every year at our watering-places, and because travel on river, lake and ocean, and sailing in boats and yachts for pleasure have increased to such an extent. For these reasons as well as others a knowledge of the art has become a necessity. The lives that were recently lost in consequence of the collisions and burning of steamboats might most of them have been saved had all the passengers known how to swim.

The mere consciousness of ability to swim and the feeling of familiarity with deep water that it creates, would either prevent or greatly diminish the panics that are so disastrous in cases of accidents on the sea. Besides this the inability to swim of persons who are in the water when a disaster has occurred, greatly imperils the lives of those who can swim and are abundantly able to care for themselves; for the swimmers are often overpowered by the wild clinging to them of the luckless persons who are drowning near by. The time man's property ever ran before. They are obliged to visit all the nitro-glycerine safes in the oil region, examine and place a value on their contents. There are thirty of these magazines connected with the estate in the Brad-

LADIES' DEPARTMENT.

Gloves.

In gloves for summer wear the mitts of black and colored sewing silk, netted and embroidered, are exceedingly popular and are duplicated in mohair and cotton for those who cannot afford the more expensive grades. Silk and lisle thread gloves and mitts come in all the new lace designs, and are either with long or short wrists, as may be most desired. Some have long, loose ruffled wrists, without buttons or elastic, that are never expected to be in place, but are considered very stylish.

A Very Pretty Scrap Bag.

One of the prettiest scrap-bags for sitting-room or bedroom is made in a simple manner by taking a good-sized Japanese parasol, or small umbrella, take a piece of fine wire and make in a ring, catch it to the partly-opened parasol with thread, tie a bright ribbon to the handle. Of course this is serviceable only for bits of paper and light scraps.

A Novel Dress.

One of the ladies at Queen Victoria's latest drawing room was dressed like a pursuivant or herald, emblazoned all over with her own coat-of-arms. Her gown was of a sort of lavender satin, with a train of the same lined with black velvet. All down her back was heraldic devices—coat, supporters, crest, motto and all. Across her breast she wore a sash, repeating the coat-of-arms smaller. The whole turn-out is said to have been "a trifle loud."

News and Notes for Women.

Two girls at Waupaca, Or., tossed up for a lover, and the loser acted as bride-maid at the wedding.

A sentimental woman at Mayville, Canada, has put a strong iron fence around the tree whereon a sweetheart of youthful days once carved her name.

A woman of fifty-seven is applying for her third divorce from a man of sixty-four, in Davenport, Iowa, the grounds being the same as in two previous cases—cruel treatment.

A man justifies his meanness toward his wife by asserting that he and she are one, and, therefore, by refusing to furnish her money he practices the heroic virtue of self-denial.

In Tunis, as elsewhere in Africa, excessive stoutness is considered a mark of female beauty. Women are fed for this purpose like cattle when training for an agricultural show.

A sixteen-year-old daughter of Richard Misner, of Griffin's Corners, N. Y., weighs only thirty pounds. She is only three feet in height, and speaks in such a peculiar manner that few except her parents can understand her.

A Washington girl has highly interesting hair. Its color used to be a light blonde. Dr. D. W. Prentiss reports to the Smithsonian institution that he gave her jaborandi, a Brazilian plant, as a cure for blood poisoning. Her hair soon began to darken, and in four months was almost black.

Fashion Fancies.

Blue and white matings are liked for bedrooms by ladies who are tired of green and white and red and white checks.

China crape dresses with printed borders are made up over slips of silk matching the crape, and over white satin slips.

Softness is essential in black silks this summer. A gown that can stand alone is usually left to stand without being worn by any woman.

Fans match the costume and are made of the same material of the dress. Very often this idea is carried out with regard to the shoes or sandals.

Lace pins are more of a necessity than ever this season, for nearly all of the innumerable pretty things worn about the neck require some fastening.

Evening dresses for young misses are made princess style, laced up the back, and are worn high in the neck with a Stuart collar and short sleeves.

The summer woolen stuffs with wide stripes bear a more painful resemblance to furniture covers than any material that has appeared for some time.

The high Medicea collars shown upon imported costumes are covered with a seed pearl, jet, casimere or iris-tinted beads, or rich embroidery, and are stiffened with fine wire to keep them in place.

Ladies who possess the lace sacks of thread or lama, at present so completely out of style, are making them over into the pretty Stuart collars, pointed fichus, and antique shoulder capes now in vogue.

Crape draperies and waists of crape appear on the colored dresses made for young ladies to wear in the evening. The idea originated with a dressmaker who appreciated the becomingness of the crape waists worn for mourning.

Muslin is made into soft puffs with sherrings in the center for collarettes, which are exceedingly becoming, and as they require no ironing, needing only to be washed and to have a pencil passed

through them in order to restore them to their pristine freshness, they are likely to be favorites with ladies who do not like to pay heavy laundry bills.

There is a new quality of sateen called sateen foulard, which greatly resembles Indian silk in its appearance. It comes in a variety of designs, Egyptian, bayadere stripes, checks and plaids—multi-colored over grounds of almond, gray, pale blue, etc. Princesse polonaises are made of these fabrics, trimmed with fancy lace. They are worn over linen skirts of a monochrome color, the skirts being trimmed with tiny ruffles of the same goods.

American as well as European ladies are scintillating in a perfect armor of jets and beads. Whole ensembles, bodices, tabliers, skirts, panels, dolmans, shoulder capes, bonnets and slippers are covered with beaded embroidery. Elegant costumes of black are sparkling like "coats of mail" with a dense covering of jet and steel, and delicate toilets of white brocade, satin and tulle, are embellished with marvelous designs wrought in beads of pearl, gold, silver, crystal and other beads resembling costly gems. Tabliers, panels and portions of the corsage are each worked with a special design composed to suit its particular shape although uniform on the whole.

Why Persons Snore.

It may not be generally known that it is the vibration of the velum pendulum palati which causes snoring, but it is no less a matter of interest to a great many people who either snore themselves or are annoyed by snorers.

Dr. Lewis H. Sayre, of Fifth avenue, New York, was asked by a *Sun* reporter why people snore.

"Because they don't shut their mouths," he said.

"What is snoring?"

"Well, it's common enough," said Dr. Sayre; and in an off-hand fashion he explained that snoring is a noise made in the posterior part of the mouth and nasal fossae during the moments of inspiration. It is due to a relaxation of the levator palati molliis and the circumflexus palati in sleep, by which the velum pendulum palati is left free to vibrate or flap in the two currents of the air which enter at the same time through the nostrils and the mouth. Besides the vibration of the velum pendulum palati or soft palate there is also a vibration of the column of air itself. Thus is produced the rasping, snorting noise so well known and so unpleasant to every one within earshot of the placid snorer himself.

Dr. Sayre was asked what caused snoring.

"When a man is fatigued," he said, "and his self-control is unusually relaxed in sleep, he is apt to let his lower jaw drop down. No man was ever seen or heard to snore with his mouth shut. The moral is obvious. The soft palate flaps like a sheet in the wind, and the near neighbors of the snoring sleeper are correspondingly disturbed. Now, the Indians never snore. They think it a disgrace. An Indian believes that if he snores when he is young he will grow up to be even less handsome at maturity than nature originally intended. His vanity, therefore, is enough to make a savage sleep in a proper position."

A well-known physician uptown, whose practice has been largely in cases of affection of the respiratory system, was asked whether snoring is a disease.

"Not so much a disease as a bad habit," he said; "but I am frequently called upon to prescribe for its cure."

"Can it be cured?"

"Easily."

"Why do elderly or corpulent people commonly snore?"

"Because their systems are generally more relaxed in sleep, and their mouths then fall open. Any one will be likely to snore if he sleeps with his mouth open, and no one will if he shuts it."

"How can the habit be cured?"

"First, you must give a person a chance to breathe through the nose, and then make him do so. If there is any obstruction in the nasal passage that must be removed by treatment. Then if a snorer can't keep his mouth shut up by force of will, his jaw must be tied up. A harness for the lower jaw is sometimes employed in bad cases of snoring. A skull cap worn upon the head serves to hold a system of straps under the chin and keep the mouth shut until the patient can form a habit of sleeping on his side, or with his head sufficiently elevated to hold his jaw."

"Is it an easy matter to hold one's jaw when asleep?"

"Hardly more so than when awake."

"Why is snoring, then, so common if it is so easily cured?"

"Because catarrhal troubles are so common, which prevent free inspiration through the nostrils. In sleeping-cars and in hotels one frequently hears the resonant snore, because people in those places usually go to sleep tired out. An old doctor used to advocate sleeping on the face to guard against the possibility of snoring."

Mr. Edwin Booth dined with the Prince of Wales.

SCIENTIFIC SCRAPS.

Carbonic acid forms about 1-1000 of the entire atmosphere.

Chemical action is always accompanied by increase of temperature.

Between 600 and 700 different forms have been distinguished in snow crystals.

Pure water may be obtained from that which is impure, or from brine, by distillation.

Articles of food which would soon decay if exposed to the air may be long preserved in a vacuum.

In Switzerland the temperature of the bottom of deep, snow-fed lakes remains uniform during the year.

Respiration is slow combustion, in which carbon and other ingredients of the blood combine with oxygen.

To produce a change in the pitch of notes we have only to make a difference of 1-1200 of an inch in the vocal chords.

A composition of two metals may be more tenacious than either of them separately. Brass made of zinc and copper has more tenacity than either.

Why will not grass grow under our trees? M. Paul Bert has shown that green light hinders the development of plants. Plants inclosed in a green glass frame wither and die as though they were in darkness. M. Regnard finds that plants specially require the red rays. If sunlight is deprived of the red rays the plants soon cease to thrive.

Electric lamps are extremely attractive to insects of various orders. The writer noticed clouds of them about the lights used for the illumination of Prospect park and Niagara Falls last summer. Their shadows on the lawns and walks, sharply defined, gigantic, and crazily active, made a pantomime as fantastic and weird as it was amusing. This artificial sunlight is likely to become a favorite hunting ground for the entomologist.

Some of the Great Bridges.

Robert Stephenson, great engineer as he was, reported that suspension bridges would never do for steam. John A. Roebling answered with the Niagara suspension bridge, the cheapest structure and one of the best ever built for such a necessity.

In Menai strait, which divides an island from the northwestern corner of Wales, the tide rises to the height of thirty feet sometimes, and generally twelve feet. The British government erected a bridge on the great high road from England to Ireland over this strait in 1826. It is a suspension bridge built by Telford on chains, and cost \$600,000 (gold) at that time. It is 100 feet above water. Twenty years afterward George Stephenson began to build the tubular bridge three miles above, spanning the same strait. It took five years, and trains crossed it in 1850. It has four spans, the two in the middle being 460 feet wide each, and the whole bridge is about 1,840 feet long. It is 123 feet above high-water mark, and cost \$3,000,000.

The Niagara suspension bridge, built by Roebling in 1852, cost only \$500,000, is 800 feet long, 230 feet above the river, and its towers are about eighty-four feet high. The Niagara foot-bridge, built in 1869, cost \$175,000, and was said to be, when opened, the longest suspension bridge in the world or 1,268 feet between towers.

The Cincinnati suspension bridge, by Roebling, stands next to the East river bridge, and is 1,057 feet between towers and 2,252 between the ends; the bridge is 103 feet above low water, the towers are 230 feet high, and each is taller and larger than the Bunker Hill monument, and the structure cost \$1,800,000; it was built by a company, and charges three cents toll per man. This bridge has been in most useful operation since about 1867; it was eleven years between its commencement and opening.

Roebling, the projector of the Brooklyn bridge, was the greatest bridge-builder in the world. He started the making of wire cordage in America, and built suspension bridges to carry the aqueducts of canals across rivers, and engineered the Pennsylvania railroad across the mountains. The Brooklyn bridge, between towers, is 1,595 feet long. Behind the towers there are 940 feet each side, back to the anchorages. The whole length of the bridge and approaches is 6,000 feet. It is one of the widest bridges in the world, eighty-five feet, with a promenade thirteen feet wide, two railroad tracks and four carriage and two horse-car tracks. It is 135 feet in the center above the water. The rock on which the towers rest is about ninety feet below the surface of the water on the New York side, and half that depth on the Brooklyn side—the most stupendous thing about the structure. Each tower is 134 feet long by fifty-six wide, and at the top these dimensions are reduced to 120 feet by forty, or the size of a very large house. Each tower is 268 feet above high water. It is 1,336 feet from the beginning of the causeway on Chatham street out to the anchorage on the New York shore. The architect of the bridge received his death wound almost at its inception.—*Baldwin's Monthly.*