HOW NUGGETS GROW.

A Chemist Shows That Gold Exists in a Soluble Form

It is generally supposed that the nug gets which are found in the river grav els of Klondike and other auriferous regions have been brought down by the rivers direct from the reefs in which the gold originally lay. Many practical miners and scientific

men, however, have long been of opinion that this cannot be the case, for no masses of gold of so large a size were ever found in the reefs themselves. They believe, on the other hand, that the nuggets have grown where they are now found, just as a crystal of salt will grow in a strong brine; but with so insoluble a substance as gold it was difficult to understand how such growth could take place. Experiments carried out in Australia have shown that decaying vegetable matter will cause the deposition of gold from solutions of gold salts, but these salts are

not known to occur in reefs. The mystery is now solved. A Sla-vonic chemist named Zzigmedy has just shown that gold itself can exist in a soluble form. By acting on a slightly alkaline solution of a gold salt with formaldehyde and submitting the product to dialysis, he has succeeded in ob-taining gold in a colloidal condition, in which state it is soluble in water and may be precipitated by the addition of common salt.

It is probable that some of the gold in quartz feefs exists in this condition. It is washed out by the rain, carried away in solution by the rivers, and deposited in the river gravels wherever there is anything containing salt to cause its precipitation. In the course of ages a large nugget may in this way be formed.

The Flying Fox.

The flying fox is a very curious in-habitant of the forests near Moreton Bay in East Australia. It lives in flocks moves generally toward the dusk of the evening, and the noise produced by the heavy flapping of the so-called wings is very singular. The flocks like quiet places, where there are large Araucarian pine trees, with an underwood of scrub and creepers. The foxes hang in vast numbers from the horizontal branches of the pine trees

When there is a clear space among the trees, an enormous number of the animals may be seen, and their noise can be heard, for directly they see anything unusual they utter a short bark. something like the sound made by young rooks. Often every branch is crowded and the flying foxes are seen either flapping their wings and holding on with their hind feet, and with their head downward, or snarling and fighting for places.

Suddenly the whole take to flight and flap their furry, wing-like sides and wheel around like heavy birds. Many fly with their young holding on to

The creature is not a true fox and there is a fold of skin which reaches from the fore to the hind legs. This is called the wing, and it enables the pteropus, as the animal is called, to float and turn in the air.

Cost of the Red Man.

Since the United States government as formed 19,000 white men, women d children have been slain in Indian rs and affrays and about 30,000 Inans, at an expense to our govern-ent of \$807,073,658. To this immense im must be added the civil expendie of the government on behalf of the ans, which, between 1776 and 1890, nted to \$259,944.082, making a to-\$1,067,017,740 for civil and milipenses in connection with the man

ies of Morro Castle. is one of the grandest pos ll Cuba, not as a fortress, iosity. The damage done oper by our navy could be \$50,000. Its construction are wonderful, and the prro ridge is unsurpassed guard there has explored roughly, but has not yet e entrance to the subterre rooms.

BEARS SLY AS FOXES.

In his native home the polar beat does not often meet with small boys anxious to treat him to buns and other dainties. The consequence is that Bruin has to devise many curious way: of securing his food, and none are more strange and interesting than that re lated by two trustworthy travelers in Greenland, that country of strange sights.

They have known the polar bear to take a stone or a huge lump of ice it his fore paws and from a favorable height, as a cliff or a precipitous ice hill, to hurl the missile down upon the head of a walrus—an enormous brute often twice the size of the bear—and se stun him that Bruin could rush in and complete the destruction at his leisure thus securing a month's rations. The most useful food of the ice bear

as the Germans very appropriately call this beast, is the common seal of the arctic regions. The latter is the wariest animal of the north, and both Es kimo and polar bear need their bes strategy to catch it.

In the summer time, when the snow is off the ice of the ocean shore and islets, the seals can be plainly seen as black dots on the ice, probably asleep but always near their holes, which lead down through the thick ice to the water below, and into which they car throw themselves by the least move ment. Bruin, seeing one afar, walks up as near as he deems safe, and ther begins crawling on his wary prey. The seal, if the weather be sunny

and pleasant, takes short naps, relieved by shorter moments when it is scanning the vicinity for signs of the enemy's approach. During these times the bear is very quiet and as still as death itself, with eyes apparently closed, though really a corner of each is kept open, and in this way he hopes the seal will solve him sea bean solve here as the seal will take him for a heap of snow, an appearance which his coat readily helps him to assume.

During the naps he creeps forward with greater or less rapidity, according to his nearness to the seal and conse quent fear of being seen or heard When but ten or twelve yards away and the seal is in the depths of a good nap, the bear rushes upon him, and with a single blow of his powerful paw knocks the smaller brute senseless and so far away from the hole that he cannot escape by that way, even if the blow received is not immediately fatal

In winter time the ice is covered with snow, and this is hollowed out by the seal into a snow house, cover-ing the hole in the ice and connecting at the top of the do ue with an aperture about the size of a shilling, called the blow hole, for it is through this that the seal breathes when he is in want of fresh air.

Here the bear watches for many a long hour, if nece-sary, and when the snorts of the seal are heard he crushes in the fragile done of the snow house with his paw; impoling the seal on his curved claws, and proceeds to practically demonstrate how polar bears can subsist in an arctic winter.

Ingenuity of the Tahitans

The Tahitans are said to be the peo-ple most serviceable to the traveler They seem, in fact, to command at all times the principal conveniences of life Half an hour of daylight is sufficient

for building a house of the stems and leaves of the fehi-banana, and fire is produced by rubbing sticks. If the running water is deeply sunk

among stones by working in banana leaves they bring it to the surface.

The chase of eels, which in those dripping mountains become almost amphibious, offers another instance of their ingenuity. They tear off with their teeth the

fibrous bark of "puran" (Hibiscus til-iaceus), and a moment after apply it to noosing small fish.

If one is sent for fruit he will us-ually makes a basket on the way by plaiting segments of a cocoanut leaf. A mat will be manufactured with al-

IN JAIL FOR DEBT.

They Throw Lumps of Ice at Walruses (t. A Debtor's Prison Where Immorality Stun and Capture Them. Reigned Supreme.

The King's Bench was the largest of all the debtors' prisons. It formerly stood on the east side of the High street, on the site of what is now the second street north of St. George's Church, London. This prison was taken down in 1758, and the debtors were removed to a larger and much more commodious place on the other side of the street south of Lant street—

the site is now marked by a number of new and very ugly houses and mean streets. In the year 1776 the prisoners had to lie two in a bed, and even for those who could ray there were not beds enough, and many slept on the floor of the chapel. There were 395 prisoners: in addition to the prisoners many of them had wives and children with them. There were 279 wives and 275 children-a total of 1,399 sleeping every night in the prison. There was a good water supply, but there was no infirmary, no resident surgeon, and no bath. Imagine a place containing 1.399 persons, and no bath and no infirmary! Among these prisoners, about a hundred years ago, was a certain Colonel George Hanger, who has left his "Memoirs" behind him for the edification of posterity. According to him the prison "rivaled the purlieus of Wapping, St. Giles, and St. James' in vice, debauchery, and drunkenness." The The general immorality was so great that it was only possible, he says, to escape contagion by living separate, or by consorting only with the few gentle-men of honor who might be found there. "Otherwise a man will quickly sink into dissipation: he will lose every sense of honor and dignity every moral principal and virtuous disposition."

Authors in China.

Authors in China have a lovely time. When the editor rejects a contribution he does not return it together with a cruelly polite little printed slip which states that "it is not because of any fault with the MS., but because of the present large supply on hand of matter of the same description" the article is returned. No; this is the kind of letter the Chinese editor writes:

"Illustrious Brother of the Sun and Moon! Behold thy servant at thy feet, Moon! Benote thy set the the and who kisses the earth before the and asks thy gracious permission to speak asks thy gracious permission to and live. We have read thy manuccript with delight. By the bones of our ancestors we swear that we have never found such manuscript! If we should print it, his majesty, the emperor, would command us to adopt it as a standard and never again print anything not equal to it. As that would not be possible within 10,000 years, we return thy manuscript, trembling and imploring thy pardon 10,000 times. My head is at thy feet and I am the slave of thy slave.

Courtesy could hardly be carried further, and whenever they decline an ar-ticle the Chinese newspapers must make a friend of the author.

A Talking Crow. Bethel, Me's, latest curiosity is a talking crow which entertains the boys and girls. The bird was found in the woods over a year ago when young, having fallen from its nest and broken a wing. It was taken home and cared for but showed no inclination to talk until a few months ago. It talks as well as parrots, but favors words containing "o" and "Hello, hel-lo, Moses, Ora. Whoa there!" cause the passersby to turn quickly at times.

A Long Voyage.

The unwieldiness of an empire which should embrace the Philippines is illustrated by the experience of a merchant skipper of Castine, Me. He left Ma-nilla in a sailing vessel for a voyage around the Cape, stopping at St. Hele-na. When he started there was no expectation of war; when he reached Maine the war was over,

Alcohol in Temperance Drinks. One thousand, five hundred and eighty samples of temperance drinks were A mat will be meautactured with an-most equal ease. Clothing is always at hand, and a banana leaf serves for an umbrella. Tumblers and bottles are supplied by zingle joints of the bamboo, and casks and buckets by the bamboo, and casks and backets by the bamboo, and casks and backets by the bamboo, and casks and backets by the banboo, and casks and backets by the backet by the the British governme

BURNT WOOD ORNAMENTS. The Manner in Which to Decorate With

Heated Irons.

The decoration of wood by the appli-cation of heated irons is an art of long standing, and many interesting ex-amples of old work are occasioally to be found. For a trifling sum a complete apparatus may be bought, which in-cludes a platinum point that is kept heated while the work is in progress, not by electricity not by electricity, as many suppose, but by fumes of benzine, which is suppiled by pressure on a rubber bellows which is connected by tubing to a bot-tle half filed with benzine. When be-ginning the work, the point should not be heated in any flame but that of an alcohol lamp. Any other flame would be liable to smoke and ruin the point. burning outlines remember that to make a broad, firm line it is not necesmake a broad, firm line it is not neces-sary to press. The lines are to be scorched, not incised. The point is held and guided much in the same manner as a drawing pencil, but some little practice is needed to enable the worker to pass it smoothly and readily over the wood the tendence of all beover the wood, the tendency of all be-ginners being to allow it to rest and make dots. No discouragement, how-ever, must be felt at this, as with a little practice the manipulation will become easy, and the worker be able to make dark or light strokes at will. Bold outlines and strongly burned backgrounds come out well on ordinary white worden early be white wooden articles, such as tables, stools, chairs, bowls, plates, racks, etc.

Make Your Own Ozone.

Almost every person has noticed the Annost every person has noticed the peculiarly refreshing smell of clean linen, especially when just removed from the lines. But few people are aware that there is any connection be-tween fresh, cool linen, just from the outside air, and the ozone of an apart-ment. It is stated that the atmosphere of an apartment may be charged with ozone by bringing into it damp linen sheets that have just been exposed to a dry, sharp wind; bringing them into the house and shaking them or waving them about in the air of the room will, according to the statements made, change the character of the air. This is a matter of importance to invalids, who often become exhausted from lack of ozone in the air they breathe. A means so simple and effective and one that is within the means of every person should be generally understood seems that all that is necessary is to bring the linen to the room immediate-ly after it is taken from the lines out of doors and shake and whirl it about, when the character of the air will be

He Knew How to Advertise.

altered at once.

An original form of an advertisement comes from Russia, where a shopkeeper posted up the following announcement:

The reason why I have hithertc been able to sell my goods so much cheaper than anybody else is that I am a bachelor, and do not need to make a profit for the maintenance of a wife and children. It is now my duty to inform the public that this advantage will shortly be withdrawn from them, as I am about to be married. They will, therefore, do well to make their purchases at once at the old rate.'

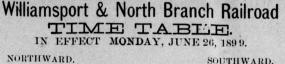
The result was that there was such a run on the shop that in the course of a few days this shopkeeper had made enough money to pay the expenses of his wedding on a very lavish scale.

A Famous Bell.

St. John's church, at Ellicottville, N. Y., has a bell that was made nearly two centuries ago in Spain and which for over 100 years sounded matin and ves-per calls at a monastery on the outskirts of Malaga. The monastery was destroyed during a civil war and for years the bell lay among the ruins. It was finally brought to this country by a New England skipper and purchased for the Ellicottville church in 1838. It is 4 feet 2 inches in circumference at the top and a little over 7 feet at the base.

Lightest of Liquids.

Additional experiments by Professor Dewar have shown that liquid hydrogen is by far the lightest of all known liquids. Its density is one-fourteenth





For Farmers and Villagers, The News Item.

BOTH One Year for \$1.25.

America's Ten Greatest **Dairying Authorities on Cream Separators.**

The Wisconsin Agricultural Experiment Station. Mabison, Wis, July 13, 1

Manusov, Wiss, July 12, 1397. In conducting our Dairy School, we have had occasion to use the various sizes of Improved U. S. Separators for dairy instruction during several winters past. Our students have always been pleased with the operation of these Separators, and we find that they skim the milk very clean indeed from fat, and that they are generally very satisfactory. W. A. HENRY, Dean College of Agriculture.

Cornell University Experiment Station.

ITHACA, N. Y., November 15, 1897. We have used the U. S. Separators for the past four or five years, and have found them at all times efficient and reliable. They are easily cleaned and kept in order, and can be depended upon for satisfactory work. H. H. WING, Prof. Dairy Husbandry.

Massachusetts Agricultural College. AMIERST, MASS., July 7, 1807. Tound machines. In cleanness of skimming it surpassed all the others. It compares favorably with the rest in capacity. Our man calls it the smoothest running machine we have, although it has been in use nearly three years-a good comment on its wearing qualities. F. S. COOLEY, Prof. of Ag't.

Michigan Experiment Station. ARRCULTURAL COLLEGE, MICH., Jan. 67, 1897. Your No. 5 Separator was received, set upin d hob before and daily since the sh of January. Each of our dairy boys has now had a turn at it, setting it up, running it, washing it, and testing the skinn-milk. They all like the machine, on account of its easy running and simplicity. We are running through milk ito 24 hours old, warmed to over 80 and usually about 90 degrees. The per cent. of fat in the skinn-milk, so far as reported, will not reach on the average a tenth of a per cent. and often its too small to read, in the skinn-milk botle. We are pleased with the machine in every possible way, as far as we have been able to observe it in a month's use. e pleased with the machine in every possible way, as an observe it in a month's use. CLINTON D. SMITH, Director Michigan Experiment Station.

1898 Record Equally as Good. AGRICULTURAL COLLEGE, MICH., March 25, 1895. I do not know that I have anything to add to what I wrote you in January, 1897, or any changes to make in the statements therein made (see above). C. D. SMITH, Director.

Vermont Experiment Station.

Vermont Experiment Station. UNIVERSITY OF VERMONT AND STATE AGRICULTURAL COLLEGE, BICKLINGTON, VT., June 24, 189, 5 It has been the uniform custom of the officers of the Vermont Station to decline to issue letters of a testimonial nature. I may say, however, that I can and do refer parties inquiring regarding the merits of the Improved United States Separators to the records of the running of the same as published in our report for 184. "The tests referred to are as follows): Aug. 19,.....0.05 10.....0.05 The results obtained by the use of these machines at our Dairy Schools of the past two years are full better, so far as the character of the skimming is con-cerned, than those given in the report. JOSEPH L, HILLS (Director Vt. Experiment Station).

Spoonament.

nannock county, Va., they "spoonament." All the s were ladies. They rode ack at a fast gallop, each dinner spoon with an egg in who rode three times one e arena without dropping the crowned queen of the spoona-A world of fun was had by both crowned queen of the pants and spectators.

Some Large Libraries.

The largest library in the world is that of Paris. It contains upward of 2,000,000 printed books and 160,000 manuscripts. The British museum contains about 1,500,000 volumes and the imperial library at St. Petersburg about the same number. These are the largest libraries in the world.

A Queer Suit.

A Kentucky druggist has been sued for \$10,000 damages for selling poison to a young man who made use of it to commit suicide. The suit is brought by the administrator of the suicide's estate.

A Collar Buttoner.

A Georgian has designed a collar buttoner which is shaped like a glovebuttoner and has the hook portion ben at an angle with the shank, to aid ir releasing it from the button.

Death by Marthquakes.

It is estimated that since the beginning of the historical era 13,000,000 persons have perished in earthquakes.

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long stems, and whether you ask for a hatchet, knife, spoon, toothbrush, or

wash basin, the guides will never be found at a loss.

An English Advertisement. The following advertisement is from a paper published in the north of England: "To Let—A house in Melville street, situated immediately alongside of a fine plum garden, from which an abundant supply of the most delicious fruit may be stolen during the season. Rent low, and the greater part taken in plums.

Where There Are No Inns In some of the less accessible parts of Norway visited by tourists there are no inns in the villages. The govern ment has now decided to grant in such cases a certain annual sum to the owner of a spacious house in each village the proprietor agreeing, in turn, to ac commodate four or more guests if call ed upon.

The Knife in Italy. A Lega Contro Il Coltello (league against the knife) has been formed among the workingmen of Rome, its object being to aid in enforcing the law against the carrying of that weap-on. Knives are the instruments used in the perpetration of upward of 4,000 homicides in Italy annually.

To Make a Cashmere Shawl. The constant lalor of four persons for an entire year is required to pro duce a cashmere shawl of the best quality.

An Old Expression.

To "dance attendance" is an expression borrowed from the medieval custom which compelled the bride at a wedding to dance with whomsoever asked her. No matter how low the con-dition or how objectionable the person the bride could not refuse.

Beneficial Quince Juice.

Two teaspoonsful of quince juice were recently administered to a sufferer from an aggravated case of hic-coughs in Chillicothe, O., and cured af-ter many other remedies had failed.

A Soliloguy.

"I must confess," remarked the battered tin can, " that to the best of my knowledge I have never pointed a moral, but I have never pointed a ed many a tail."

A Valuable Coin.

The largest gold coin in existence is worth about \$315. It is the ingot or "loof" of Annam and its value is written on the coin with Indian ink.

Blindness in Australia.

The number of blind persons in Australia in proportion to the number of the population is considerably less than in most other countries.

An Atlantic Liner In three years the expense of running an Atlantic steamer exceeds the cost of construction.

that of water and, curtously enough this happens to be the same ration of density that hydrogen in the gaseous state bears to air. Heretofore the lightest liquid known has been liquefied marsh gas, which possesses about two-fifths the density of water.

The World's Volcanoes.

There are 672 known volcanoes in the world, of which 270 are active; 80 in America, 24 in Asia, 20 in Africa; Java has 109, 28 active. In New Zealand, within an area of 127 miles, there are 63, ranging from 196 feet to 900 feet in height.

\$50,000 a Day.

Li Hung Chang is said to head the list of the great multi-millionaries of the world, and to be worth nearly one hundred million pounds. To this comfortable little sum it is computed that he is adding about \$50,000 a day.

Some One Suffers

If a Chinaman dies while being tried for murder, the very fact of his dying is taken as evidence of his guilt. He has departed, but somebody must suf-fer; and his eldest son, if he has one, is sent to prison for a year.

Definition of An Optimist

An optimist is a man who can keep lying about the fish he caught until persuades himself that it is true.

First Cup of Coffee Louis XIV. of France drank the first up of coffee made in Western Europe. Coffee was then worth \$24 a pound

Again in June; lowa Experiment Station. MMES, IOWA, June 21, 1897. Your large size factory machine has been doing excellent work. We have used it six days per week for the past two months, and it skims to a trace right along, skimming 2,500 to 2,700 pounds per hour. G. L. MCKAY, State Dairy Instructor.

Ohio State University. COLUMBUS, OHIO, June 25, 1897. Benerators.

Benarators Tests from the runs referred to show the following): January 15.....0.02 February 2.....0.00 February 15.....0.02 B tests show not over 0.05 of one per cent. of fat. Of course, you will understand that these runs were made by students who at the beginning had no knowledge of separator work. The same efficiency can hardly be expected under such circumstances as where operated by an expert. THOMAS F. HUNT (Professor of Agriculture).

Idaho Experiment Station.

Moscow, IDAHO, March 26, 1897. Moscow, IDAHO, March 26, 1897. We used daily one of your No. 5 Improved U. S. Separators. It has given perfect satisfaction, and is the favorite with all the bors. CHAS. P. FOX, Professor of Agriculture.

The Improved U. S. Steam Turbine is running every day, and has been since April. It is an easy-running and thorough skinming machine. In two recent tests, made on different days, running a trifle over 700 lbs, of milk per hour, the skinmilk showed: No. 1, 0.06 of 1 per cent, butter fat. No. 2, 0.07

This is as close as any one could ask for: A. W. OGDEN, Chemist, Conn. Ag'l Experiment Station.

Missouri Experiment Station. COLUMELS, MO., March es, 1698. The Improved U. S. Hand Separator was used in our Dairy School during the winter term to the entire satisfaction of instructors and students, and did most scellent work. J. H. WATERS, Dean and Director.

The Improved United States Separators are now not almost but altogether universal. The number in use is 120,000, more or less. Their sale is eleven to one of all imitating machines combined. The latest improve-ments carry them still further to the front. Send for new Dairy catalogue No. 201 or new Creamery catalogue No. 196.

VERMONT FARM MACHINE CO.,

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Bellows Falls, Vt.