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Contents.

(Illustrated articles are marked with an asterisk.)

Alarm ragistar new* 997	Inventions, metallurgical 23
A cohol of ferm. and dis. liquors 283	Inventions, miscellaneous 23
Alone 939	Inventions, recent*
Alone	Inventions, textile 23
Areas of our States 939	Inventors 23
Areas of our States	Ironclad Dandolo, Italian* 22
Blue fire as an explosive 224	Voy ring DAW*
Bombardment, the, cost of 230	Key ring, new*
Boring with hort	Light of the sky
Boring with bort 225	London, a new port for 23
Cable, American, largest 231	Making a dead man's heart beat. 22
Calligraph, Wallis's* 233	Metals, vapors of
Candlestick and loading tool* 233	Milk as a curative agent 23
Chronograph for engineering	Mountains, sliding, in Oregon 22
purPose, with the llipp es-	Mushroom, the, and its poison 22
capement*	Natural history notes 22
capement*	Newspaper, oldest, the 23
Death of a French electrician 230	Notes and queries 23
Dinner pail* 233	Panama canal project in 1846 229
Ditch, long, a 232	Planets, the aspects of for Oct., 22
Ear drum ruptured by diving 232	Pneumonia an infectious disease 23
Edelweiss, the 226	Putrefaction and antiseptics 2
Explosive, new	Reptile house, new 22
Factory bell, ringing 226	River obstructions, removing 22
Fish, food, new 227	Saccharine diabetes, cure of 229
Floods, Mississippi, theory of 225	Saw, circular, large 226
Gas engine, an early	Snow in Melbourne 23
Gute, improved. Decker's* 233	Sydney Exhib. building burned 22
Hailstones and forests 232	Technical art, Met. Mus 220
Heloderma horrldum, the* 231	Till coupling, anti-rattling* 23
Horse, a, in spectacles	Tile fish
Houses, old-fashioned, new* 226	Trade mark law, modif. of 22
Invention, stealing, penalty 233	Water Closet portable imp * 99
Inventions, agricultural 234	Water closet, portable, imp.* 22
Inventions alectrical	Welch, Ashbel 23 White water off the Maine Coast. 23
Inventions, electrical 234	
Inventions, engineering 234	Work, heavy on West Shore R'y. 22

TABLE OF CONTENTS OF

THE SCIENTIFIC AMERICAN SUPPLEMENT. TT $\Omega \bowtie \Omega$

No. 858,	
For the Week ending October 7, 1882.	
Price 10 cents. For sale by all newsdealers,	
	AGE
1. ENGINEERING AND MECHANICS.—Chenot's Atmospheric Rock Drill and Hammer.—2 figures.—Details of atmospheric power hammer.—Rock drill actuated by electricity. Hart's Cyclic Elevator.—3 figures.—Elevator in place.—View of car at the upper story of a London house.—Motive power of the	5628
cyclic elevator Production of Lead in 1881. The New Channel Stemmer Invicta. Narrow Gauge Railways. Artesian Wells in Sahara. By P. De Tchihatcher. Friction Matches and their Influence in Ignitions.—Early improvements in tinder box and steel.—Friction matches as a cause	5629 56 9 5630 5630 5630
How to Make Paper Canes.—2 figures.—Punch and paper disks.— Paper cane and mode of manufacture. Koads, Tunnels, Bridges, and Canals. Abstract of the recent address to the Mechanical Section of the British Association, deliv-	5631
ered by Mr. John Fowler, M. Inst. C. E., president of section G.— Railway engineering.—Tunnel engineering.—The great bridge over the Forth.—Egypt and the Nile.—The Suez Canal.—Incidents in Steam Navigatiou. Egrot's Small Distilling Apparatus.—2 figures.—Egrot's stationary still.—Egrot's portable still.	5624
Apparatus for Instantaneous Photography —4 figures.—Dr. Candeze's diaphragm shutter and facsimile of instantaneous photography obtained with Dr. Candeze's apparatus Fish Curing in New York Beer and Civilization. By Dr. HANS Vegel.—What is beer?—Who first made beer?—Egyptian beer without hops.—No beer in Greece and Rome.—German beer.—Beer with hops.—Hops in England.—Beer in time of Charlemagne.—Ancients' tests for beer.—Decline of the first period of German brewing.—The revival.—Lager beer.—Vienna beer.—Pilsen beer.	5632 5636 5636
III. ELECTRICITY, ETC.—Appearances of the Electric Arc in the Vapor of Carbon Disulphide. On Double Refraction in Glass and Sulphuret of Carbon Occasioned by Electric Influence. By H. BRONGERSMA The Western Union Telegraph Company.—Directory and staff. On Lightoing Conductors. By M. MELSENS New Process for the Rapid Formation of Secondary Couples with Plates of Lead. Deprez and Carpentier's Voltmeter and Amperemeter.—2 figures, D'Arsonva's Telephone with Circular Magnetic Field.—1 figure. An Experiment in Hydraulics.—2 figures. Electro-Metallurgic Process of MM. Blas and Miest.	5632 5633
IV. HTGIENE, MEDICINE, ETC.—On the Use of Certain Instruments in the Treatment of Skin Diseases. By Geo. HENRY FOX, M.D.—Instruments for treating pustular and indurated acne—For searification.—The dermal curette.—Removal of hair by electricity.—The angreciasis.—Navus araneus.—Angloma.—Navus Figneutokis.—Bitoroma simplex.—Zanthoma. Sudatories at the Heiser Medical Gymnasum.—2 figures.	:

V. ASTRONOMY AND METEOROLOGY.—Craters of the Moon..... 5635 The Cyclone at Brownsville, Mo., April 18, 1882. By W. H. Wil.-

VI. BOTANY, HORTICULTURE, ETC.-The Cannon Ball Tree.-1

Is ure
The California Jupiter.
Garden Culture of Roses

BLUE FIRE AS AN EXPLOSIVE

Last winter a fire in the pyrotechnic establishment of Professor Samuel Jackson, at Chester, Pennsylvania, resulted in an explosion more severe and disastrous than could be accounted for by the quantity of explosive material known to be stored in the building.

The recent occurrence of an explosion in the yard of a New Zealand chemist who had compounded an unsatisfactory blue fire, and had sent an assistant out to destroy it, has put Professor Jackson on the track, he thinks, of an explanation to the mysterious explosion in his establishment. The New Zealand explosion resulted from throwing a little water on the burning blue fire. Professor Jackson remembered in a small building attached to his factory there were stored a number of blue light stars. He had made blue light for nearly forty years, and had never known it to develop extraordinary force; yet, acting on the hint given by the New Zealand accident, he set about making experiments, which have convinced him that blue light powder fired by a detonating compound is not only explosive, but more powerful than dynamite in its explosive effects. In a public experiment to test the explosiveness of blue fire, made at Woodbury, N. J., a tube containing a couple of pounds of the blue fire was placed in the earth and a huge stone laid on top of it. The party went off a couple of hundred feet, and the detonation was caused by electricity being applied to a percussion cap. The effect was startling. The stone was shattered into fragments, a large hole was dug into the ground, and a cloud of dirt and dust thrown into the air at least a hundred feet. The same amount of powder was exploded under exactly similar conditions, but the result was nothing worth speaking of. A little gunpowder was placed in the top of the can of blue fire, and it was exploded with about the same result as the previous one had been. Fire was applied to a can of the blue fire, and it merely burned

Speaking of this and subsequent experiments, Professor Jackson said to the Philadelphia Record that concussion will always cause a detonation of blue fire, especially when it is highly heated. He believes that the Chester explosion resulted from a spattering of water on the highly heated cars containing the blue fire mentioned. A direct stream of water, he thinks, could not possibly have resulted in an explosion.

Professor Jackson believes that blue fire will be found valuable as an explosive for blasting purposes. It is more powerful than dynamite, and safer, since it is a more stable compound, and is not liable to explode when struck with a hammer or wben dropped. By means of a percussion cap, or the concussion of exploding gunpowder, it explodes readily, wet or dry.

There are two kinds of blue fire made. One is composed of chlorate of potash, three parts by weight; sulphur, one part; and ammonio-sulphate of copper, one part. Another 1881. If they were in use before that date, they can be and safer kind is made without sulphur. Its formula is: Ammonio-sulphate of copper, eight parts; chlorate of potash, six parts; and shellac, one part. The salts should be dried on a plate or shovel, powdered separately, and then carefully mixed with a spatula on a sheet of paper.

THE COMMON MUSHROOM AND ITS POISON.

The current belief is that, while many fungi are virulently poisonous, others, including the common mushroom, are free from poison and may be eaten in any quantity. When mushroom eaters show symptoms of poisoning, it is accordingly assumed that a blunder has been made, and noxious species taken for or with wholesome ones. The fact that an eminent English fungiologist is numbered among those who have lost their lives by the alleged mistake, would seem to throw grave doubt upon blunder theory, unless it be true, as some have held, that the edible species are mimicked by those that are poisonous so closely that the most expert is liable to misjudge them. The fear that this may be the case deters many from making any use of this savory and nourishing but treacherous vegetable.

At this season, when the fields abound with wild mushrooms, and wher multitudes might find in them a cheap and enjoyable addition to the daily bill of fare if they were not

of Breslau, the question seems to be, not how to distinguish finished with what is said to be ash, but has more the appoisonous from harmless species, but how to treat mush- pearance of chestnut, which often closely resembles the rooms of every sort in such a way as to remove or neutral- coarser kinds of ash. A year or two after its completion ize the poison which they all contain, with the proper pre- the sexton noticed little heaps of dust on the carpet near the caution of using this class of food stuffs at all times with walls. These grew more and more frequent, and appeared

Professor Ponfick finds that repeated washing with cold gathered up regularly every week, and on searching for water removes most of the poison of mushrooms, and cook-their cause the wood of the base-boards and portions of the ing, especially boiling, dissolves out the rest. The water pews was found to be completely riddled with holes made in which mushrooms are boiled, however, is always poison by small, round, black or blue worms, the debris of whose ous, more so even than raw mushrooms. Experiments made borings fell out occasionally upon the floor in the form of upon dogs showed that if a dog ate one per cent of its own dust. Unlike most boring worms, this species seems not to weight of raw mushrooms it fell sick, but recovered; one object to the taste of varnish, for the polished surface of the and a half per cent produced violent illness; and if the dog wood is pierced in thousands of places. The stock was reate two per cent of its weight, the result was always death. garded as completely seasoned and in good condition when Of boiled mushrooms dogs ate ten per cent of their weight put into the building, but it would seem that it must have without harm. When the mushrooms were well washed contained the embryos of the insects, for the finish of the galwith cold water, a larger quantity could be eaten raw with- leries is attacked equally with that of the ground floor. If out bad effects than was possible with those that were not any of our readers, adds the News, met with a similar case washed; but simple washing never removed the poison we should be pleased to receive an account of it, and if any entirely. Dried mushrooms were found to be dangerous for know of a remedy, the trustees of the church would be glad

had been boiled. They were not really safe until after four months' drying.

The moral is: treat all mushrooms as poisonous; carefully throw out the water in which they have been washed or boiled; cook them well, and never eat them in large quantities. If men are no more susceptible than dogs are to the poison, a man can as safely gorge himself with well boiled mushrooms as with beef or any other highly nitrogenous food. When otherwise cooked, or when the species is doubtful, a sparing use is always prudent.

The fact that all mushrooms and allied growths are more or less poisonous should be no bar to their use as food, proper care being taken in the cooking and eating. The common potato is not free from poison; and the juice of the root from which tapioca is made is a virulent poison. The latter poison is expelled by heat, and the former is in quantity too small to be harmful, as is the case with many other useful vegetables.

In preparing mushrooms for the table, safety is assured, not by looking for specific characteristics supposed to indicate harmlessness, but in considering all as poisonous and requiring judicious treatment to destroy or remove their noxious qualities. This properly attended to, mushrooms and many other fungi are not only edible, but really delicious and valuable food stuffs.

MODIFICATION OF THE TRADE MARK LAW.

The following act, relating to the registration of trademarks, was passed at the last session of Congress:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That nothing contained in the law entitled "An Act to authorize the registration of trade-marks and protect the same," approved March third, eighteen hundred and eighty-one, shall prevent the registry of any lawful trade mark rightfully used by the applicant in foreign commerce or commerce with Indian tribes at the time of the passage of said act.

Section 3 of the law relative to the registration of trademarks, approved March 3, 1881, expressly prohibits the regist ration of a trade-mark which is merely the name of the applicant.

This rule was found to discriminate seriously against old. well-established, and valuable trade-marks, like "Collins' Axes," "Fairchild's Pens," and others. Accordingly an act was passed at the last session of Congress, and approved August 5, 1882, so modifying the above-mentioned section as to authorize the registration of the prohibited class of trade-marks, provided they were in rightful use by the applicants in foreign commerce or commerce with Indian tribes at the time of the passage of the act of 1881.

As the matter stands, new trade-marks which are merely the names of the applicants cannot now be registered, nor can such trade-marks, if brought into use since March 3, registered.

The Cure of Saccharine Diabetes.

In a paper by Dr. G. Félizet, read before the Academy of Sciences, August 14, says the Journal d'Hygiene, the author claims to have discovered a remedy for a disease usually regarded as incurable-saccharine diabetes. The author states that he has succeeded in putting an end to glycosuria artificially produced in animals, and that the medicine that suppresses that artificial glycosuria will likewise cure diabetes in a few weeks or months. There exists, says he, a bond of union between artificial glycosuria, intermittent diabetes and confirmed diabetes, and that bond is irritation of the rachidian bulb. It is not, then, in masking the disease by submission to the severities of a regime exempt from bread, feculents, sugar, etc., that we succeed in curing it, but by tapping the very source of the production of sugar, that is to say, by suppressing the irritation of the bulb. Bromide of potassium, by the elective action of sedation that it exerts on the functions of the bulb, suppresses the effects of such irritation with a rapidity that is often • surprising, and, in large and repeated doses, cures the diabetes.

THE Building News relates a singular misfortune which afraid to eat them, it is a matter of considerable importance has occurred to a small church in Andover, Mass., which to have the real standing of fungi as food stuffs made clear. seems to be in process of being eaten up bodily and swept According to recent investigations by Professor Ponfick, away. The church was erected about six years ago, and is in various portions of the building, so that they had to be