SALT.

The Methods Employed ance—Abating a Nuisance. a Waste Product—Washing the Common Bicarbonate.

ge as it may seem, about all of our ing and baking soda is obtained indi- ly from our common table salt. Not- hstanding the fact that large quantities these compounds occur in many parts of the earth, it has been found more profitable and more desirable to manufacture them, even though the process is a long and complicated one, rather than to merely mine and purify the materials. Among the more important localities where they are found native may be mentioned the soda lakes of Egypt and Central Africa, the borders of the Caspian and Black seas, in California, Mexico and many parts of South America. The crude soda coming from the different places goes under various names, as Tro Na, Natron, Urao, &c.

Another source of supply is the ashes of sea weeds and of plants growing on the coast. The sea weeds are collected by the inhabitants, dried, burned and the ashes treated with water, lixiviated, as is technically termed. The water is then boiled down or concentrated, when the soda crystallizes out. Though the yield of soda from a given quantity of sea weed is very small, it being said that it takes twenty-four tons of dried weeds to make 50 to 100 pounds of soda, still there are a great many people engaged in the business; at one time over 20,000 people in the Orkney islands alone followed it for a livelihood. Of course, there are a few other substances obtained at the same time which somewhat increase the income, but the soda is the main one. The soda from this source also has several names, among the more common of which are Barilla, Salsola Soda and Varec.

In a specially constructed furnace well warmed oil of vitriol or sulphuric acid is added in certain proportions to heated common salt. A violent action takes place and immense quantities of an exceedingly suffocating gas are given off. When the reaction has ceased the mixture is shoveled or raked into another part of the furnace, where it is heated to a much higher temperature. More of the same gas is now given off and the substance formed on the mixing of the acid and salt, chemically known as bisulphate of soda, is converted into the normal sulphate of soda, or, as it is commonly called, Glauber's salts. This is the "salt cake" of the factory hands. For a long time the gas given off was a source of great trouble. It is very soluble in water forming muriatic acid, and it is from this source that we obtain the acid found in commerce. Now, at first the gas was allowed to escape directly into the atmosphere from the factory chimneys and uniting with the watery vapor fell as a rain of muriatic acid, killing all vegetation within a long distance, and even the fish in the neighboring streams. Thus many fertile parts of the country were converted into barren wastes.

This continued until a law was passed compelling the manufacturers to abate the nuisance, which was accomplished by passing the gas through "scrubbers." These are high towers filled with coke, over which water is kept constantly trickling. The water absorbs the gas and thus the difficulty is overcome. The resulting liquid (crude muriatic acid) is largely used in making bleaching powder, and is really about the only source of profit now to the soda manufacturers. We have here a very good illustration of the fact that a substance which is regarded as a waste product and thrown away often turns out to be more valuable than the main substances ought to be obtained when its composition has been determined and a use found for it. How well do we see this same fact demonstrated in the case of the manufacture of common illuminating gas. A few years ago men were paid for carting away waste material which today produces several times the amount of profit that all the coke and gas together pay.

But to go on with our process; the "salt cake" is mixed with chalk or marble and coal, the mixture is put into what is known as a reverberatory furnace and fused. The sulphate of soda is converted into the carbonate of soda, and the chalk into the oxysulphide of calcium. The mixture of these two substances, which has a dark color due to the presence of some undecomposed coal, is called "black ash," while the process itself is technically known as "balling." The "black ash" is then dissolved in water and allowed to stand so that some of the impurities and the coal can settle. This solution after careful decantation is evaporated to dryness and the resulting solid heated to redness. Soda ash or crude carbonate of soda is the result, and it is from this substance that our washing and baking sodas are directly made.

To obtain washing soda the soda ash is dissolved in hot water until the water will not dissolve any more, and the solution allowed to stand until all the solid impurities have settled to the bottom. The clear liquid is then carefully drawn off into very shallow iron pans so that a large surface may be exposed to the air and the evaporation of water go on more rapidly. The refined carbonate of soda gradually crystallizes, but forming large masses. These masses of crystals are now collected, and after the adhering liquid has been drained from them they are packed in barrels and sent into commerce as washing soda. In this condition they contain over 60 per cent. of water, hence when one buys ten pounds of washing soda he pays for ... pounds of water and but four pounds of ...

...ake baking soda they dissolve the soda ... water and let it stand and settle. ... washing soda, but it is further ... filtering it through layers of ... bone black. The soda is then ... and drained. After drain- ... ound into a coarse powder and ... cakes having holes running ... them. These cakes are placed on ... shelves in specially constructed ... rooms, which have a capacity of ... tons of soda. After the room has ... the door is closed and locked and ... acid gas, formed by burning coal, ... by means of a blower. The soda ... this atmosphere for from three ... month, at the end of which time ... enough of the gas to change ... bonate to the bicarbonate of ... is our baking soda. The ... and the cakes taken out. ... into halves and the fresh ... by an expert, who judges ... what grade the pieces ... over, the cakes are put ... resembling a coffee mill ... ound to a coarse powder ... conveyed to other mills, ... It is then packed ... into the market.

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... a prominent ... has purchased in ..., dated 1716, for ...

The gathering of buffalo bones has again become a business at Manitoba. Chicago recently ordered 350 carloads.

The English Volapuk dictionary which is to be issued this year will be the first of its kind either in this country or in England.

People in Alaska at this time of the year can see to read without artificial light from 2 o'clock in the morning until 11 at night.

A Boston professor who has married a distinguished senior classic presented his bride for a wedding gift with the works of Plato, Sophocles and Dante.

The Oregon Alpine club will anchor a copper box to the very apex of Mount Hood. It is to be a depository of record to all making the ascent.

There is a coachman at Saratoga who is attracting a great deal of attention by his wonderful resemblance to the pictures of the first Duke of Wellington.

Rarely has such a harvest been known in Russia as that of the present year. The granaries are already filled to overflowing, and farmers are puzzled to know what to do with the surplus.

At an English dinner party the table was covered with a white satin cloth, on which were placed large sacks of white satin tied with silver cords, from which a wealth of white flowers seemed to be tumbling.

A cynic at a summer hotel finds amusement in the number of broken dishes. He says he expects to hear at least one terrific crash of crockery every day in the dining room, and during a visit of three weeks he has not been disappointed.

Pennsylvania has some girls worth having. In the haying season a gentleman during a short drive counted nine young women driving two-horse mowers, and seventeen managing horse rakes.

The colossal statue of John Marshall, who is reputed the first discoverer of gold in California, represents him as a backwoodsman, holding a nugget in his right hand, while his left hand points downward. The statue will stand on Marshall hill in Eldorado county, where Marshall first found gold.

A Philadelphia boy, who was anxious to follow in the footsteps of Buffalo Bill, lassoed a lady in the streets the other day and was held in $500 bail for his future good behavior. The little fellow practiced on the hydrant for several days before he tried his hand as a public performer.

At Portsdown Hill, England, an extremely curious graveyard relic was recently found. It was a human skeleton in a good state of preservation, which was buried in the chalky soil of the locality in the second century. The skeleton was six feet in length, and in its left hand were found twenty-two Roman coins.

A remarkable funeral took place at Binghamton. Dr. Wheaton, an old and influential citizen, a believer in the dogma of "good cheer," died, after having directed that no outward signs of mourning be assumed at his funeral. Accordingly the friends of the family, when they met at the appointed hour, were astonished to find the widow and daughters of the deceased attired in the purest white and wearing bouquets of flowers. The corpse lay on a sofa covered by a many colored robe, and was not removed to the coffin until the last moment.

A few days ago a fly flew into the ear of John Lord, who lives near Athens, Ga. He got the insect out almost immediately and thought no more about it until he was awakened in the night by a violent itching in the ear. The itching became a pain, and that increased until the man was almost crazy. He sought a doctor, who, with considerable difficulty, brought out eleven well developed and very active maggots, which had hatched from the eggs laid by that fly during its brief stay in Mr. Lord's ear.

The Deposed King of Samoa.

King Malietoa, who was infamously betrayed and deposed from the Samoan throne last year by the Germans, is now a prisoner at Cameroons, Africa. He writes to a friend: "In the good providence of God I am well, and the young men also who have come here with me. There are three of them. Alesana and Aisake, of Apia, and Tali, the son of Pomare, who was with us in old times at Malua. This country is very hot, like Samoa. Cocoanuts are plentiful, and also bread fruits and bananas. Here, however, fever is prevalent, and it does not agree with us. The governor is kind to us in the way of food. We have bread, and tea, and rice, and bananas also as our food. Nothing has been said to me as to the time we are to remain here, or as to when we may return to our own land in Samoa. The governor, however, has said that my brother and I are to remain here at Cameroons, but Aisake and Tali are soon to return to Samoa. * * * I keep at a distance from all spirit drinking. We do not go about at night. When it gets dark we go into our house and sit there. We are afraid to go about this place at night."—Foreign Letter.

Character of a School.

A school never ought to depend for its character on the exceptional excellence or success of a few of its masters. If it does, these few reputations may become cloaks for a vast amount of poor work, and the character of the school, as a school, is a sham, without any element of fixity in it. The ordinary arrangements should have a strong tendency, at least, to insure sound work, from the lowest to the highest class.—George R. Parkin in The Century.

Gladstone's Private Library.

Gladstone's private library contains 15,000 volumes, and the venerable statesman can lay his hand on any one book of them at a minute's notice. "I have not a single book that I am not on intimate terms with."—New York Press.

With all her natural modesty, woman has less bashfulness than man.—Uncle Esek.

THE FAN IN JAPAN.

DETAILS OF THE PROCESS OF DESIGNING AND MANUFACTURING.

A Great Variety of Colors Applied by Means of Blocks of Cherry Wood—Fans for Gentlemen of Taste—The Fan's Many Uses—Etiquette.

Among the scenes of unique interest which arrest the eye of the traveler in Japan one finds one's self well repaid for a visit to the fan makers. Few of those who visit the curios shops to purchase these gaudy trifles have any idea of the meaning of their picturesque designs or the method by which they are made. Yet this handicraft does really more to advertise Japan than any other manufacture. Fans are made by thousands of independent laborers, centralized capital and labor for the manufacture of works of art and handicraft being as yet little known in Japan. The principal workers in this trade are found in Tokio, Kioto, Nagoya and Fukui.

We have have watched the operation from beginning to end—the splitting of bamboo, the cutting and pasting of delicate rice paper by the girls, the artistic, dainty picturing, the finishing and packing. They are sometimes inscribed with classic quotations, poetry, statistical tables, almanac lore, maps, pictures of noted places and congratulations. Often these are made to depict life, customs, architecture in Europe, or even Yokohama, that city being the immediate link between the Japanese and foreigners. Thus are the fans in the household, of which there are many, made to educate the family.

The design for the pictures on an ordinary flat fan is first drawn on thin paper, then pasted on a block of cherry wood and engraved; afterward printed from this by laying the fan paper on the block and pressing smoothly. Japanese books have been printed in this way for centuries prior to the late changes in the empire. The variety of colors are put on with not infrequently as many as twenty blocks. Often the picture papers have the choicest of perfumes laid between them before being pasted on the frame, then finished with ivory handles, inlaid and gold lacquered.

FOR GENTLEMEN OF TASTE.

Gentlemen of luxurious tastes have large collections of these refreshing trifles, with autograph inscriptions and pictures from celebrated artists. A very dainty custom in vogue is to exchange fans as we do photographs.

We, as foreigners, are supposed to do things upside down. In this country the large, flat fans are for the use of gentlemen, but in Japan it would be a dire breach of etiquette, as these are used exclusively by women. The gentleman always carries a folding fan in his girdle or bosom, usually elegantly decorated. If he is a scholar or author, when he invites his literary friends to his house they must go prepared to inscribe this dainty bit of refreshment offered them on arrival. A rack of silver hooks, or a tubular fan holder is found in every house of the least pretention.

Japan uses the fan for a great variety of purposes; made of stout paper to winnow grain, for dust pans and charcoal fire blowers; of waterproof paper for dipping in water and as a vaporizer, for producing extra coolness to the face. There are double winged fans for the juggler, who makes a butterfly of paper flutter up the edge of a sword, for the judges at wrestling matches and for the dancing girl, who makes her fan a part of her own graceful motion and classic pose. In charming grace of manner the Japanese are unequaled, and secret though decorous love is often expressed in artistic use of the fan till consummated by openly avowed attachment.

As tokens of good feeling and polite attention Americans are not infrequently the recipients of costly fans from their Japanese friends. On a certain special occasion, accompanying an invitation to dinner, tied with daintiest silk corn on perfumed paper, was a tray of confections and sponge cake in a lacquered box of exquisite make and a case of three rare, painted fans, each tied in silk napkins.

On leaving the empire, a family with whom delightful relations had been established, sent as a parting gift a beautiful gold lacquered cabinet, in one of the drawers of which was found a number of perfumed fans of elegant manufacture, which will be lifelong keepsakes in memory of the æsthetic Japanese.—Helen H. S. Thompson in Good Housekeeping.

Russia's Stalwart Soldiers.

The Cossacks are closely connected with Muscovite history. They conquered Siberia and kept the Turks in check in the south; they crossed the St. Gothard under Souvaroff and entered Paris with Platoff; they excited the admiration of Napoleon I, and later on, in the last war, they crossed the Balkans, led by Gen. Gourko, and performed wonders of valor and recklessness. As a reward for their glorious services this heroic population enjoys special privileges. In 1870 the Cossacks were declared proprietors of the lands they had cultivated and the "Black Country" became their fatherland. The Cossack is a soldier at 17 and wears the uniform till he is 50. He is ever in readiness to obey any order, to start as an escort on a reconnoissance or as the bearer of dispatches. When he returns to his home he tills the land, raises cattle, breeds horses, works salt mines, or fishes. The steppes of the Don are the hunter's Eldorado.

Stalwart, strong, active and abstemious, the only exception to the Cossack's frugality is his inordinate passion for the alcohol he calls vodki, of which he imbibes enormous quantities. Their Cossack capital, Novo Tcherkask, situated at the entrance of a broad, deep valley, resembles a chess board with straight avenues intersecting it of such unusual width that whole regiments can easily manauver between the rows of houses. The nobility entertain during the winter, and even the modern improvements of tram cars and telephones have been introduced. The country is a mine of glory, wealth and power for Russia, and the Cossacks are her best soldiers. The Emperor Alexander draws all his cavalry from the territory of the Ukraine.—"M. de S." in New York Sun.

"Send for Kelly."

"Send for Kelly," was an expression that was sometimes used by the late Gen. Sheridan when he was provoked into impatience by the discovery of some extraordinary act of foolishness on the part of an overzealous or idiotic person. "Kelly" is the name in the army for "the fool killer," and the tradition is that when "Kelly" was sent for and let loose he would cause fearful slaughter in the ranks of the blunderers and stupid people, on whose account his services were invoked, singling out his victims with an unerring intelligence and dispatching them without quarter. — Washington Cor. New York Times.

The season wanes; we soon shall see
For whom the pennant was designed,
And happy will the umpire be
Who then alive himself shall find.
—Boston Courier.

A BIG SNAKE STORY.

A Reptile as Unique as the Sea Serpent. The Porpoise Snake.

I, alone, one day in June, was fishing on the banks of the bayou Yucatan, under the shade of an oak, in north Louisiana, having left my sailboat several hundred yards from me, in order to escape the hot sun.

I had hardly seated myself conveniently when a dark object was seen approaching on the surface of the water. At first I thought it was an alligator, but on closer observation discovered it to be an enormous creeping serpent. When this huge monster was within a few yards of the spot where I was seated I gathered some stones about the size of goose eggs and struck him eleven times, and, strange to relate, the blows did not appear to worry him to any great degree, as he never once left the surface of the water, but continued unconcernedly at a slow pace up stream.

I immediately left my rod and reel and hastily scampered to my boat. It was only a question of several minutes before I was in midstream in hot pursuit of this object, which was soon overtaken. When within close proximity I noticed it to be blind and apparently harmless. Fearing, however, an attack, I seized my rifle, and, taking aim at its head, fired. The bullet lodged in the collar bone and broke his neck. There was a slight movement of the tail, a little slashing of the water, and all was over, the monster floating down stream. Curious to learn the species of this peculiar reptile, a made a lasso from a stout rope which I had in my boat and threw it around its body, thus enabling me to tow it ashore.

A critical examination developed the fact that I had captured a monster snake never before seen by me. It had a head resembling a long funnel shaped horn, the body being similar to small kegs joined together. What made matters more queer, each keg had a bunghole (some of the bungs being on top and some on the sides). Hauling the tail on the bank (which was by no means an easy task), out of curiosity to learn the contents of the kegs, I opened one of the bungholes by means of a jackknife, and found it to contain a very fine purified oil.

Just at this juncture my uncle, who is an old fisherman and has been a member of the city council, came up, and the minute his eyes fell on the captive, with frantic gesticulations he exclaimed that I had captured a valuable porpoise snake, seldom seen in these waters.

The oil in the kegs I found to be pure, unadulterated porpoise oil. I had twelve forty-nine gallon oil barrels sent to the bank and filled them all. The oil was shipped to the most extensive watch making establishment in this country, and brought a handsome sum.

By way of explanation, I would say that this snake obtains the oil by plunging its sharp head into the side of the porpoise and drains every drop of oil from its body.

The snake had fifty-three kegs and was sixty-nine feet long.

I still have possession of the kegs and bungs (the head having decayed), which I prize.

Should any one doubt the veracity of this statement, I can exhibit the kegs and bungs. —New Orleans Picayune.

Clearing a Railroad Wreck.

A gentleman tells me that he has seen one of the most extraordinary pieces of executive dispatch in his life. "I was coming down the Hudson River road," he said, "two or three days ago, when the train was stopped by a wreck near Hudson. A freight train had been thrown off the track. The engine was lying imbedded in a hole, one car was lying across the track; another had lost its trucks and was flat on the track, and the tender of the locomotive was also deeply imbedded.

We had waited there an hour and a half or two hours, and twenty trains had been stopped. They had yanked one of the cars up on jack screws, as if to run trucks under it, and then get it out of the way. It looked as if we were going to stay until night, and we began to think about finding a steamboat or buggy or something to get on to New York, when all at once an engine and wrecking car heaved in sight.

Before the engine had come to a stop we could hear the roadmaster's voice ring out, giving his orders before he had seen the situation. He seemed to be as familiar with everything on the spot as if he had been there all night. There was an engine off at some distance, but doing nothing. He called out to the engineer to come up and make fast to the buried locomotive. In half a minute the engine was attached and pulling to get the other out of the hole, and at the second effort the great mass of iron came up suddenly, and was hauled out of the road.

"Pass that rope over the top of that car, and make fast to the tree younder," he cried. It was done. "Now 500 of you lay hold of that rope," he shouted. The entire little army, under the inspiration of that voice, lay hold of the rope, using the tree for a purchase, and they pulled the car across the track square and out of the way by main strength.

"Come on here with that engine," he cries again, "make fast to this truck." With another tremendous pull the whole thing came out of the ground like a tree by the roots, and was rushed off. "Now start that first train," cried the man. In less than two minutes from the time of his arrival, what looked to be a week's job was out of the way, and the passengers went on.—New York Letter.

A Child's Solo in Church.

An interesting incident was the first appearance in public of a young singer who holds a responsible position as soprano in one of the leading choirs of the city. Before the young lady was more than 3 or 4 years old she accompanied her mother to church, and to her the singing was by far the most important part of the service. The child's voice was pleasing, being much admired by those of the congregation who heard her. On one occasion the minister announced the hymn which is usually sung to the tune "Greenfield." The little singer felt that she was familiar with this tune and could do justice to the hymn.

As the first stanza was sung the child's voice ascended above the others, and many in the congregation stopped singing to listen to the young singer. When the second stanza was begun the few who took up the air with the choir stopped singing, and as the choir continued with the regular words of the hymn the child took up a solo, which was heard all over the little church. In clear tones she sang "Go Tell Aunt Nabby," etc., a song adapted to "Greenfield," the familiar tune.—Troy Times.

Paris' Educated Beggar.

There is in Paris, a current story has it, an educated beggar in the person of a young man formerly a pupil of the Ecole Normale, whose modus operandi is as follows: He comes up to the terrace of a cafe, and addressing himself to the most intelligent looking man present, invites him to ask any historical question he can think of, any date of French history, from the earliest to the present time, saying, "I will answer at once." He generally fulfills his promise with remarkable alacrity, and with equal sagacity passes around the hat.—Chicago Herald.