

## NEW USES FOR MAIZE.

ALL PARTS OF INDIAN CORN NOW UTILIZED.

Made Out of the Leaves—The German Yield Oil for Illumination and Machinery—The Cobs and Husks.

The demand for paper in the world is growing steadily. In order to supply it many new vegetable materials have been made to serve as stock, rags and paper furnishing only a minor fraction of the raw stuff employed for the purpose. Among these substances wood pulp stands first. A very important constituent is made also by the famous eastern grass of northern Africa and southern Europe. But the time is approaching when the leaves of Indian corn will be utilized in this way to an enormous extent. In Vienna the manufacture of paper from maize is already carried on an extensive scale. The *Allgemeine Zeitung*, a scientific journal of importance, is printed on sheets of this material, the yellowish tint of which is not objectionable. Very little sizing is required; it bleaches well and it is stronger than rag paper. No machinery is required for tearing up the corn leaves. The latter are merely soaked in water for a few days, after which they are easily separated into three parts—the large veins and ribs, the material between the ribs and a coarse paste.

The first are utilized for making gunny sacks, cordage and certain kinds of cloth; the second furnishes material for a peculiar sort of bread, described as having an agreeable flavor; the third is employed for paper pulp.

All of these uses for maize are new, and likewise the process of obtaining a valuable oil from corn. For this last purpose the grain is crushed, and the residue contains the oil, are separated by winnowing. The germs are then subjected to hydraulic pressure, yielding 15 per cent of oil, which is of a pale, golden-yellow color, and has a pleasant taste and odor. It is employed in dressing wool and to lubricate machinery. The yield is sixteen pounds to every one hundred bushels of maize.

Maize oil is well adapted for illumination purposes, giving a bright, white flame. It is also good for heating, developing a high temperature in burning. In the west, where the supply of fuel is often precarious, corn cobs are frequently used in stoves, three tons of them being reckoned as equal to one ton of hard coal. Sometimes, when there has been a fuel famine, the whole ear has been employed. In France the cobs, saturated with resin tar, are utilized as fire lighters, yielding, when thus prepared, from \$2.00 to \$4.00 per thousand, according to size.

The husks are used for packing oranges and cigars, as well as in stuffing pillows, mattresses and lounges. As stoppers for bottles also the cobs are sometimes employed. Toasted cornmeal is utilized in some parts of this country as a substitute for coffee. The cobs yield a large amount of potash. A mill shelling 500 bushels an hour turns out 7,000 pounds of cobs every sixty minutes, or 70,000 pounds for each working day. The cobs are consumed as fuel in the mills, and the refuse ashes are collected for the extraction of the potash. A factory of the above-mentioned capacity will furnish as by-product 535 pounds of potash per ton.

Science has devoted much attention to finding out where this most valuable of American farm products had its origin. An overwhelming weight of testimony goes to show that the earliest home of maize was the highlands of Central Mexico. All of the plants closely related to Indian corn are indigenous to that part of the world. It is believed that the vegetable originated in a circumscribed locality, above 4,500 feet elevation, north of the Isthmus of Tehuantepec and south of the twenty-second degree of north latitude, near the ancient seat of the Maya tribes. There is hardly a doubt that the Mayas were the first to cultivate maize, and that they distributed it in every direction. From them the use of the cereal spread north and south.

It is considered probable that the plant is known along the Rio Grande by 700 A. D. Three hundred years later it had reached the coast of Maine. In Peru the maize used it before the year 700. By the time of Columbus it was found everywhere. It was one of the products of American soil which the great navigator took back with him to Spain and showed Queen Isabella. From Spain it soon spread over Europe, and in the sixteenth century grains of it were sown in Italian, French, German and English gardens.

For so long it was cultivated upon a small scale in the fields. It became known to the New World as confused in the popular mind with the East Indies, the product of which was carried on by way of the Malay Archipelago. The ancient Mexicans, to whom the development of the usefulness of Indian corn is due, were a highly civilized people. They were skillful builders, made use of silver in ornaments, had an elaborate religious system, preserved a literary literature on parchment, of the magno plant, kept a calendar and understood the arts of agriculture, raising beans, pepper, gourds and many other things. Their country was so densely populated that floating gardens were constructed, on which all products of the soil known to them, particularly corn and beans, were sown. These gardens were constructed of logs overlaid with earth. They have been described by historians as "fairly islets of green" overshadowed by trees of considerable size. Even to this day such floating gardens are built and anchored in the lakes for purposes of pleasure. The ruins of great irrigation works

testify to the extent and development of the cultivation of maize by the ancient Peruvians. Their tombs commonly contained corn, either in the ear or the grain. The bodies of these people were buried in a squatting position, with the knees drawn up beneath the chin, and were rolled and tied up in mats. Heads of corn and copper agricultural implements were included in the rolling. With the corpse were usually placed a water vessel and a pot with grains of maize. All along the coast of Peru for 1,200 miles are scattered thousands of such prehistoric tombs. Darwin unearthed some ears of corn on the seashore, in a stratum which had evidently been raised by geologic action from nearer the sea-level, and to them he assigned a great antiquity.—[Washington Star.]

## IN CHINESE PRISONS.

### Deplorable Pens in Which Malefactors Are Locked Up.

The Chinese are law abiding. With those of their own number who are law breakers they have but little sympathy, and the government has none at all. I like China. I like the Chinese. Moreover, I respect them. But in two details their national life they merit unqualified condemnation. Their hospitals and their prisons are unmitigated national disgraces.

The deplorable condition of the Chinese prisons is justified in the national philosophy. To the Chinese mind a law is a thing to be obeyed. A law concerns millions and conserves the welfare of millions. It must be held inviolate by the individual, be his whim, his personal bent, whatever it may. The Chinaman who disregards any item of the Chinese law becomes a social leper. Individual tendency, moral ill-health, inherited traits, they are taken into account not at all. This is cruel? Yes! But it renders existence possible in the over-density of Chinese population.

No Chinaman is "noble" except through personal fitness. There are two exceptions to this rule—two only. The direct descendants of Confucius have a right of their own. It is a high rank. It is respected. But it gives them no power of interference with national affairs. The descendants of an emperor are never less than royal. But they have no necessary power. In brief, then, in China "every man is served according to his deserts."

A Chinese prison is called a "cangue." Its outer door is barred with bamboo, and is guarded by petty soldiers or policemen. The "cangue" contains two rooms and two yards. One room and one yard are for men. The other room and yard are for women. The space set apart for women is very much smaller than that for men. But the women's quarters and the men's quarters are alike in being entirely devoid of any provision for personal comfort or for personal decency.

Chinese prisoners are by the government provided with absolutely nothing but the space beyond which they may not pass. If their friends thrust food to them through the bars of the prison fence the law does not interpose. Otherwise the prisoners may starve. The law does not interpose.

I used to take food to the Shanghai prison yards. I was not jeered at. A Chinese crowd is, I believe, incapable of jeering at a woman. But I was condemned for it. And a high Chinese official remonstrated with my husband. I used to buy Chinese food at a cheap chow shop, and when I reached a prison fence, hire a coolie to feed the poor, starving wretches. I did not quite care to feed them myself. And it was quite impossible for them to feed themselves. No Chinese prisoner can reach his own mouth, for his neck is invariably locked in a board, which is about three feet square. It is very heavy and galls the neck. It blisters or ossifies the shoulders. The "pig-tail" drags heavily over it, and pulls the poor unlocked head uncomfortably to one side. It prevents the hands from lifting rice or water to the craving mouth, and from brushing from the tingling nose one of the myriad insects that infest the prisons and the prison yards of China.—[Pall Mall Gazette.]

## A Valuable Saurian.

The alligator was never beloved by the people living in the regions where it abounded. The farmers anathematized it as a destroyer of young pigs, while every one was agreed it was an ugly, useless animal. But since the demand for its skin for valises, pocketbooks, and a thousand and one such uses, has resulted in the almost entire destruction of the alligator, the residents of the bay and bayou regions of Louisiana and Florida have discovered the huge saurian's value. With its disappearance there has been a great increase in the number of muskrats, rabbits, raccoons, and other mischievous animals, and in some parts of Louisiana since the disappearance of the alligator these animals have lately become a dangerous pest. The rats burrow through the levees built to keep the water on the rice fields during the growing season, and do immense damage. Constant watchfulness and much hard work is required to keep up the levees, which oftentimes are so honeycombed as to need entire reconstruction. The rabbits and raccoons make great havoc on the truck farms, destroying lettuce, cauliflower, and cabbage wholesale. Some farmers have had to build wire fences about their fields, while others have abandoned the raising of these vegetables. Several years ago a law was made in Plaquemine's parish forbidding the killing of alligators, and with their increase the destructive vermin decreased. But that law has since been repealed.—[New York Sun.]

Sonoma has more grape vines and pear trees than any other county in California.

## SUPERSTITIONS OF THE SEA.

Signs that Terrible Jack Tars Who Believe in Witchcraft.

A sense of unreality, weirdness, and sometimes of uncanny feeling actuates nearly every one connected with the sea, this being particularly strong on a moonlight night, when the water of the ocean looks more weird, if, withal, more beautiful than at any other time. Then it is that a ring around the moon is frequently to be observed, and the sailors believe that this is a sure sign of bad weather; while Longfellow, in his "Golden Legend," interprets it thus:

I pray thee put in yonder port,  
For I fear a hurricane;  
Last night the moon had a golden ring,  
And to-night no moon we see.

We have often noticed how quaint the fisher-folks are who live in solitary places near the ocean, and this is true to a greater or less extent of all dwellers by the sea. It is believed on Cape Cod and in many other districts along the New England coast that a sick man cannot die until the ebb tide begins to run. Watchers by beds of sickness anxiously note the change of the tide, and if the patient lives until the turn, he will live until the ebb. The best educated and most intelligent people on the New England coast are not entirely free from this superstition, and to them there is a vivid meaning in Dickens' description of the death of Barks:

"And it being high water, he went out with the tide."

The belief that the ninth or tenth wave was more powerful than the others has existed since Ovid's time, who says: "The wave that is now coming o'ertops all the others; 'tis the wave that comes after the ninth and before the tenth." Even nowadays at the seashore you will hear people counting the waves and saying that the next one will be the biggest. Fishermen on our own coast think that the swell sometimes noticed during a fog is caused by it, and they call it the fog-swell, while in reality it is simply the incoming tide; but fog is associated with such terrible disasters in the minds of fishermen that it is little wonder it is believed to have power to raise the waters of the sea.

### Deafness Cannot be Cured

by local application, as they cannot reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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### A White House 'Mistress.

"Which, then, will you marry me?" It was the hundredth time of asking, and the first time of showing impatience.

"I will marry you, sir, when you are elected judge!" The young man's eyes flushed sharply.

"And I," he retorted, "will have you when your father is elected Governor of Tennessee!"

"A Rowland for an Oliver." The speakers were David H. Patterson, a clever young Democratic lawyer of Tennessee, and Martha Johnson, eldest daughter and child of Andrew Johnson, who was at that time the apparently hopeless candidate of his party for the Governor of his State.

The time was the night before the election, and the place the parlor of the Johnson homestead at Greenville, Tennessee, writes M. V. Moore in a delightful sketch, with portrait, of Mrs. Patterson the only surviving member of the immediate family of Andrew Johnson, in the Ladies' Home Journal.

Whether both these young people had private knowledge of the Democratic victory which was to sweep their State on the morrow, or whether they were merely amusing themselves with "lovers' perjuries," for Jove's and their own amusement, cannot be known, as the wedding day was settled for them by the result of the election, and their marriage was solemnized at their Greenville home on the thirteenth of December, 1866, David H. Patterson having been elected judge on the same ticket with his future father-in-law.

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### Wyoming's Wealth.

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### No Mules Mentioned.

Arkansas has 100,000 farms which produce 600,000 bales of cotton, 1,000,000 bushels of sweet potatoes, 1,000,000 pounds of tobacco, 42,000,000 bushels of corn and 2,000,000 bushels of wheat. From the Arkansas forests are cut over 20,000,000 feet of lumber every year.

### Rich in Remains.

There have been more remains of mastodons and other extinct mammals found in Ichitucknee River, Florida, than in any other stream in the world.

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