POPULAR SCIENCE NOTES.

-"A Southern Engineer" contributes a also to find fossil tree stems, lying valuable article on "Geology and the mashed flat between the layers of black ber of the Engineering Magazine. In it as well as the impressions of the leaves, he says: "We find in water the only tireless agent that works in the modification in tion of continents; and, instead of being beds of cannel coal whole trees have the great renovator of the land, as it is been found with roots, branches, popularly conceived, it is the great de- leaves and seeds complete, and all con-Rome has been attributed to time. But that by which they were surrounded. it was due simply to the moisture of the Geologists are of the opinion, that bituatmosphere working through chemical minous and anthracite coals were formed penetrating even the very stones of the like conditions. Originally they wonderful city, that caused her to crum- were all bituminous, but during ble into ruins, and gave to modern the violent contortions and upheavals Rome a grade greatly elevated above of the earth's crust at the close in the cities and towns. There is not coals involved in that disturbance were something of its altitude by this subtle consequent expulsion of volatile matter force, and there is not a mountain on from bituminous to anthracite. Cannel lower its peak before this universal leveler of the exalted. It may be a dread-called "candle coal" by the English peoful thought, indeed, but we do not know ple who first used it, as it often served as absolutely that we are dependent on the a substitute for candles. The name beour continental habitat above the level remained. It is more compact than orcarry off to its burial place in the sea all tain variety of it found in Yorkshire, that it has caused to perish. It may take | England, is manufactured into a kind of a long time at its task; but working jewelry known as "jet." either in its gaseous, its liquid, or its solid form, it seems to be the most persistent thing on earth, never perishing, and, however divided and invisible at

on "How the Waters of the Ocean Be- wine, and glaze to a nice color, basting early geological times, but it by no means followed that they were as fully sauce in a saucepan with a pinch of red saline as those of the present day. There pepper, a ladleful of tomato sauce, and from very carly periods of geological through a napkin.—[German Culinary time. First, by supposing that the primeral waters were saturated with acid MUTTON BROTH.—The most famous gases which were held in suspension in broths of Scotland are those made of the vapor surrounding the incandescent globe; or, secondly, that the salinity resulted from a process resembling that by which salt lakes of the present day had been formed. He thought that they must concur with Dr. Sterry with about a pint of water and the lean Hunt that from some cause or other chlorine largely abounded in the waters of the primeval ocean, as by far the greater proportion of the as by far the greater proportion of the half cup of barley. Pour about three salts were chlorides, and chlorine was pints of cold water over these ingredients. but very slightly represented in river Let the mixture come slowly to the boilwaters at the present day. From the examples of closed lakes they could determine the process of salinification time, strain the water off the bones and with the utmost certainty. Throughout greater or shorter periods these lakes had been receiving the waters of rivers spoonful of flour, mixed with a table-spoonful of ter. Wet this with a bringing down both mechanically sus- little of the h pended sediments and chemically dispended sediments and chemically dis-solved salts, silicates, and carbonates. two or thre The sediments were precipitated over the fine, and le bottoms of the lakes, and the water being carried off into the atmosphere in the which meat and vegetables are served, form of vapor as far as it entered, left and for this reason it is called in some behind the dissolved ingredients. These necessarily augmented in quantity, and ultimately the waters of the lakes became saturated with salts and carbonates, which were then deposited. The ocean was a closed lake of enormous magnitude, and they were thus brought to the conclusion that the saltness of the sea might have originated in very much the same way as had that of the Dead Sea. Lake Oroomiah, or the Great Salt Lake of Utah, and many others which possessed in common the characteristic of having no outlet. When the great envelope of vapor which sur-rounded the incandescent globe began to condense upon its cooling surface, the resulting waters, though containing, as Dr. Sterry Hust supposed, acid gases, were destitute of saline ingredients. The process of salinification began with the substance for the gravy, add a little hot the bordering uplands, and this process carried on throughout the long ages pre-ceding the silurian period, brought the waters to a condition suited to sustain the life of forms of inbabitants representative of those which inhabited the ocean at the present day. These long ages might be supposed to include, not only the archæan and azoic periods, but that during which the first crust was in course of fomentation over the incandescent

still making coal, though, unfortunately, the world, writes a correspondent. It is not at a rate anything like fast enough to make up for the consumption of this product. The processes may be watched from beginning to end. For this purpose one must first go to a peat bed, which is simply an accumulation of the remains of plants that grew and decayed on the continuous that the continuous continuo on the spot where they are now found. When the upper layer of this material is removed one finds peat with 52 to 66 per cent of carbon, and the deeper one goes the better in quality it gets. It may be cut in blocks with sharp spades, the Longfellow as descending upon the coast water may be pressed from the blocks, of Norway, and he and other writers of and they may be stacked up, covered and poetry and prose have often noted it in dried and used for fuel. There is a certain kind of moss called "sphagnum," which in large part makes up the peat-producing. vegetation Its roots die out annually, but from the living top new roots are sent out each "Whence it comes or whither it goes is year. The workmen who dig peat un-ders; and that if this surface is destroyed longs to no one quarter of the globe. the growth of the bed must stop; so It is more distinctive of this region, I commonly they remove the sod carefully, replacing it after they have taken out a times more abundant and prevalent here stratum of peat. There is little doubt than on the Atlantic coast or in the inthat if these beds of peat could lie undis- terior of this country. But I think I am turbed and covered over through many not mistaken in saying that we are ages they would take on all the charac- favored beyond many other parts only in teristics of mineral coal. The substance of coal has been so compressed that the forms of the plants composing it cannot usually be seen. But when a piece of its made so thin that it will transmit is made so thin that it will transmit light, and is then subjected to a powerful continent, but touches the New England microscope, its vegetable structure may readily be distinguished. Immediately under every separate seem of coal there is a stratum of what is known as fireclay. This stratum is always present and contains in great abundance the fossil impressions in veilture.

of roots and stems and twigs, showing that it was once the soil from which vege-THE PERSISTENT POWER OF WATER. tation grew luxuriantly. It is common Mississippi Problem" to the current num- slate which form the roofs of coal mines The destruction of ancient verted into the same quality of coal as agencies. It was water, invisible but during the same period and under her ancient grade. But it works not alone of the carboniferous age the bituminous a hill on earth that has not been shorn of changed by heat and pressure and the earth, if not fitfully renewed by volcanic coal is a variety of bituminous coal which action, that has not been compelled to burns with great freedom, the flame of it earthquake and the volcano for keeping came corrupted to "cannel" and has since of the ocean; for water not only destroys, dinary bituminous coal and it can be but it has the persistency and force to wrought in a lathe and polished. A cer-

RELIABLE RECIPES.

BOILED HAM, MADEIRA SAUCE .- Select times, always ready to unite its forces for a ham of about twenty pounds, not too a supreme effort at the degradation of a fat nor too lean; steep in cold water continedt. How THE OCEAN BECAME SALT .- hours; drain on a dish, take off the rind, Prof. Edward Hill read a paper before sprinkle with granulated sugar, put in the Victoria Institute, London, recently, the oven with two glasses of Madeira came Salt." From an inquiry into the occasionally with the wine; trim the character and affinities of the organic book bone, ornament it with a fancifully forms of past geological ages, the con- made paper ruffle, place on a dish; pour clusion was justified that the waters of Madeira sauce round the ham, and serve the ocean must have been salt from very with more sauce in a sauce-bowl, Madeira sauce--Put a quart of Spanish were two ways by which they might ac- a gill of Madeira wine; stir steadily, and count for the salinity of the ocean waters briskly for ten minutes; then press

> MUTTON BROTH .- The most famous mutton, by the slow homely method of up to prevent any pos then stir it in. Add gs of parsley, minced parts of Scotland "hotch potch."

> ROAST REEF.-The ribs and sirloin are nice for roasting, wipe the roast with a damp cloth; a rack with slats which fits in the dripping pan, can be procured at a hardware store, and meat is much nicer when laid on a rack than on the bottom of the pan; have the oven very hot when the roast is put in; in fifteen minutes pour a cupful of hot water into the pan, add a small spoonful of sait, baste well every fifteen minutes, keep the oven hot the first half hour, then lessen the heat, and let the meat cook slowly, turning it over when brown on one side; allow fifteen minutes for every pound of meat if you like it rare done, longer if well done-when done remove to a platter and set in a warming oven. Pour off all water; prepare one or two tablespoonfuls of flour wet with cold water, made smooth, set the dripping pan on top the hot stove when the gravy begins to boil, stir in the flour, not too much, or the gravy will get too thick; strain through a gravy strainer and it is ready to serve.

The Chinook Wind.

There is only one impression respecting the Chinook wind which I think it would be well to correct, and that is THE FORMATION OF COAL .- Nature is that it is a wind peculiar to this part of only characteristic of this region in its often refers to, the wind that Homer describes in the Odyssey as blowing soft from the ocean upon those fabled islands where winter is not, nor any burning summer heat. It is also noticed by

hills and valleys to unlock the rigors of winter still later there .- [Seattle (Washington) Post-Intelligencer.

The carmival veil is the fad of the hour

An Important Difference.

To make it apparent to thousands, who think themselves ill, that they are not affected with any disease, but that the system simply needs clean-ing, is to bring comfort home to their bearts, as a costive condition is easily cured by using Syrup of Figs. Manufactured by the California Fig Syrup Co.

Clothes may not make the man, but suits make the lawye.

"Remember that in Garfield Tea you have an untailing remedy for Indi estion, Sick Head-ache and every attending ill that an abused stomach can ake you suffer. Every druggist sells it. 25c., 50c. and \$1."

When one woman praise; another, folks think she is sarcastic.

SUDDEN WEATHFR CHANGES cause Throat Diseases. There is no more effectual remety for Coughs, Colds. etc., than Brown's MRON-CHIAL TROCKES. Sold only in b 2cs. Price 25 cts.

What is done cannot be undone, especially if it is a hard-colled egg.

If you have no employment, or are being poorly paid for the work you are doing, then write to B. F. Johnson & Co., of Richmond, Va., and they will show you how to transform Miss-fortune into Madame-fortune. Try it.

A first-class ellow-The freshm n. "August

Flower"

My wife suffered with indigestion and dyspepsia for years. Life became a burden to her. Physicians one of your books. I purchased a bottle of August Flower. It worked like a charm. My wife received immediate relief after taking the first dose. She was completely curednow weighs 165 pounds, and can eat anything she desires without any deleterious results as was formerly the case. C. H. Dear, Prop'r Washington House, Washington, Va. @

"MOTHERS" FRIEND"

MAKES CHILD BIRTH EASY.

Colvin, La., Dec. 2, 1886.-My wife used MOTHER'S FRIEND before her third confinement, and says she would not be without it for hundreds of dollars. DOCK MILLS.

Sent by express on receipt of price, \$1.50 per bot tle. Book "To Mothers" mailed free, ERADFIELD REGULATOR CO.,



Cures Consumption, Coughs, Croup, Sore Throat. Sold by all Druggists on a Guarantee.

The Desert Burro Superseded,

A prospector now in Yuma, and who made the trip here from Durango, Col., with two horses, says that the time honored burro, whose ancestry is inseparably mixed up with Mexican history, is not as good an animal for desert travel as the ordinary mustang horse. It has always been considered that the burro had the advantage of the horse in his capacity for endurance on a slim diet. This, the gentleman states, is not so great as is generally considered, although he once had a burro who ate a pair of gum boots and a Navajo blanket one afternoon. This was done merely to show off and was not considered to be a nutritious meal even by the jackass himself, who was of French descent, and merely wished to put on style to humiliate a band of scrub mustang horses with whom he was forced to associate. The gentleman who has had experience with both classes of animals prefers horses to the slow burro and says that although the latter will live a day longer without food or water, yet the distance covered by the horse in a given time is so much in his favor as to render him the superior of the immobile burro .- Yuma (Arizona)

Fairs of North China.

Northern China is the country of fairs. In any given district there is a constant succession of large gatherings at which it is not uncommon for as many as 10,-000 persons to be congregated. The fairs are sometimes called the "poor man's market" for the great display of second hand clothing which the owners wish to dispose of.

At Techou and at another point on the Grand Canal there are annual fairs held from the beginning of the twelfth month to the fifteenth day of the same month, at which there is a great display of foreign goods, especially woolens, sold at cheaper rates than at other times. This is called the fair of the grain fleet, and is one of the products of the vicious system of grain taxes. About 400 vessels are annually employed for transporting the Shantung grain tax to Tungchow, near Peking, and upon their return these vessels bring large quantities of goods from Tientsin, which are sold at the fairs. While some of the fairs are held at times rigidly fixed and never varied most of them are wholly uncertain as to time .- North China Herald.

BLOOD POISON A SPECIALTY.

ARE YOU PRETTY?

happy and healthy? That I was you may see by TEXX ... RA. Woman's Own Journal, San Prancison, Cal L

PISO'S CURE FOR The Best Cough Syrup. Pastes Good. Use in time. Sold by Druggists. We offer CONSUMPTION YOU a read y made medicine for Coughs,

Bronchitis and other diseases of the Throat and Lungs. Like other so called Patent Medicines, it is well advertised, and having merit it has attained a wide sale under the name of Piso's Cure for Consumption.

It is now a "Nostrum," hough at first it was compounded after a prescription by a regular physician, with no idea that it would ever go on the market as a proprietary medicine. But after compounding that prescription over a thousand times in one year, we named it "Piso's Cure for Consumption," and e gan advertising it in a small way. A medicine known all over the world is the result.

Why is it not just as good as though costing fifty cents to a dollar for a prescription and an equal sum to have it put.up.at a drug store?

Justice to All.

It is now apparent to the Directors of the World's Columbian Exposition that millions of people will be denied the pleasure of becoming the possessors of

World's Fair Souvenir Coins

The Official Souvenir of the Great Exposition-

The extraordinary and growing demand for these Coins, and the desire on the part of the Directors that equal opportunities may be afforded for their purchase, have made it necessary to enlarge the channels of distribution. To relieve themselves of some responsibility, the Directors have invited

THE MERCHANTS

Throughout the Nation to unite with it e Banks in placing Columbian Half-Dollars on cale. This is done that the masses of the people, and those living at remote points, may be afforded the best possible opportunity to obtain the Coins.

THE FORTUNATE POSSESSORS

of SOUVENIR COINS will be those who are earliest in seizing upon these new advantages.

\$10,000 Was Paid For The First Coin

They are all alike, the issue is limited, and time must enhance their value. The price is One Dollar each.

HOW TO GET THE COINS:

Go to your nearest merchant or banker, as they are likely to have them. If you cannot procure them in this way, send direct to us, ordering not less than Five Coins, and remitting One Dollar for each Coin ordered. Send instructions how to ship the Coins and they will be sent free of expense. Remit by registered letter, or send express or post-office money

order, or bank draft to Treasurer World's Columbian Exposition, Chicago, Ill.

A Gigantie Skeleton.

Workmen in clearing the right of way for an extension of the tram road for the Yellow Pine Lumber Company, near Colmesniel, Texas, dug up an immense beech log, under which was found a human skeleton, the bones of which were only partly decomposed. The skeleton was that of a man of gigentic frame, and the skull was cieft as if with a tomabawk. An Indian tomahawk and numerous flint arrow heads were found beside the skeleton. The spot where the discovery was made is six miles from Colmesniel, on the Trinity River, in the immediate vicinity where history says La Salle, the great explorer, was slain when, with a few of his followers, he was making his way back to the Illinois River. The bones and the relics have been carefully preserved, and a thorough investigation will be made to determine, if possible, whether the bones are those of some Indian warrior or possibly of one of In Salle's men. - Chicago Herald.

Few "Kid" Gloves are Made of Kid Kid gloves are not made of kid; is fact, few of them are. The cheap ones are not kid and neither are the dearest ones. Ladies' gloves that cost under a dollar and a half or two dollars a pair are all made of lamb skin. It is likely that gloves paid for at a higher price than that will be of kid, but the very best and most expensive kid gloves are made of the skins of young coite. - New York Sun.

The Deadly Cancer.

The hope is entertained that science may yet be able to subdue the " flaming and deadly cancer." Recent study of cancer may not only indicate that it is an organic growth, but almost certainly proves that it is liable to the attack of another parasite. Better acquaintance with the relations of these parasites may possibly bring the long sought method of arresting cancer. - Detroit Free Press.

A Word To American Housewives.

I regard the Royal Baking. Cowder as the best manufacture and in the market. It is an act of comple justice and also a pleasure to keammend it magnelifiedly to American Hensemines. Marion Harland

Author of "Common Sense in the Household."

City of Toledo,) Lucas Co., State of Ohio.

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of Catarrh that cannot be cured by the use of HALL'S CATARRHICURE.

Frank & Cherry

Sworn to before me, and subscribed in my presence, this 6th day of December, A. D. 1889.

NOTARIAL SEAL LUCAS CO., O. A. W. GLEASON, NOTARY PUBLIC.

HALL'S **CATARRH CURE** INTERNALLY, mucous surfaces.

TESTIMONIALS:

E. B. WALTHALL & CO., Druggists, Horse lave, Ky., say: "Hall's Catarrh Cure cures every one that takes it."

REV. H. P. CARSON, Scotland, Dak., says: "Two bottles of Hall's Catarrh Cure complete ly cured my little girl." CONDUCTOR E. D. LOOMIS, Detroit, Mich., says: "The effect of Hall's Catarrh Cure is wonderful." Write him about it.

J. C. SIMPSON, Marquess, W. Va., says: "Hall's Catarrh Cure cured me of a very bad case of catarrh."

Hall's Catarrh Cure Is Sold by all Dealers in Patent Medicines PRICE 75 CENTS A BOTTLE.

THE ONLY GENUINE HALL'S CATARRH CURE IS MANUFACTURED BY

TOLEDO, O. BEWARE OF IMITATIONS.

Other Specialties as follows: \$2.00 & \$1.75 \$4.00 & \$5.00 \$3.00 Hand-\$2.50, \$2.25

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