#### NATURE OF DIAMONDS.

#### Composition of the Gems and How They Are Formed.

The exact mode of formation of diaonds is one of nature's secrets, for hough scientists have been able to understand the chemical nature of the diamond by analysis, the reverse process, its manufacture by synthesis, has thus far been far beyond their skill, We know what a diamond is, but how nature makes it the careful dame has not yet permitted us to learn. The diamond is of the simplest chemical composition, being pure carbon. Charcoal is pure carbon also, but the secret process by which nature rearranges the atoms of the black, lusterless charcoal into the form of the flashing diamond, the most perfect specimen of matter, is one that even long hope on the part of the chemist, stimulated by the honor of great gains, has not been able to discover. Nor is it certaiuly known from what department nature takes the diamond-making material. It is generally supposed that it is furnished by vegetable charcoal, which undergoes a peculiar process of decomposition and crystallization, but it has also been conjectured that the carbonic acid, shut ap from remote periods in the calcarous rocks, may have solidified in this perfect form. Sir David Brewster, from a study of the polarization of light in the minute cavities of the diamond, has concluded that the substance was once in a soft state, and, by the actions of an expanding gas or fluid within, its small cavities, which refract the light to such a remarkable degree, are formed. He regards it as certain that the orignal softness of the diamond was not caused by either solvents or heat, and therefore concludes that the diamond, like amber, is a vegetable substance slowly crystallized into its present form .--Chicago Inter-Occan.

### FAST WALKING HORSES.

#### Why Farmers Should Raise None But

Spirited, Energetic Animals, Profits are small on the farm and all waste must be prevented "to make both ends meet." Waste of time is one of the things to be looked after as closely as any thing else, and with it the kind of horses that are kept has considerable to do. Compare the distance traveled in a day by a strong, sturdy, fastwalking team, with that which a slow, creeping team will travel, and the difference will be surprising. If this difference of a day is so noticeable, what must that of a year or the average lifetime of a horse be? If the slow team pulls a plow or draws a load but twenty miles per day, while the other in history. covers twenty-five miles with as little fatigue, it is easy to calculate what the difference would be in a year, and how long it would take to gain a whole year's time by using the active instead of the slothful horses. As the most of farm work is done at the walking gait, it is then the duty of the farmer to look after the walking qualities of the horses he breeds as much as it is for those who producing qualities of the horses they ar. While much depends upon the training of a horse as to whether he is afast walker or not, there is a great deal in the breeding. Some horses are naturally fast walkers, and, like natural fast trotters or pacers, can stand to work at their natural gait much better than those which acquired the habit of walking fast by being pushed. Active, energetic horses, with an inclination for getting over the ground with a strong, square walk, will be more apt to produce colts that will be a success in this direction than clumsy horses with sleepy dispositions, and these points should be considered when selecting for breeding purposes. - Agricultural Gazette.

#### HISTORICAL TREES.

The Old Liberty Tree-Pope's Weeping Hints to Women Who Entertain in Fashiouable Bat Simple Way. Elm.

The Boston tree that had most of a history was the old liberty tree. At the corner of Washington and Essex streets stands a building in whose wall is inserted a tablet bearing the form of a tree in bas relief. This building covers the ground where the liberty tree grew. The tree was said to have been planted in 1646. A century and a quarter later the sons of liberty held meetings under its branches, and in the days preceding the outbreak of the revolution the ground on which it stood was a place of assembly for the men who conspired to throw off the British yoke. In 1773 an anti-tea party was held beneath it, and it became so obnoxious to the British that in 1775 it was

cut down by a detachment of soldiers of the invading army, one of whom was killed.

The poet Pope had sent to him from Smyrna a drum of figs. In it was a small twig, which he stuck in the ground near Twickenham villa. It took root and grew rapidly and was the admiration of himself and his friends, and it proved to be the Salix Babylonica, or weeping willow, and it was the parent of all its kind in England and America. A British officer who came to this country in 1775 brought with him, wrapped in oiled silk, a twig from Pope's willow, "intending to plant it himself in American soil. The young officer became acquainted with Custis, Washington's stepson, and he gave him the willow twig. Custis planted it at Abingdon, in Virginia, where it grew vigorously. In 1790 General Gates brought from Abingdon a shoot of the Custis willow and planted it at the entrance gate to his estate on Manhattan Island, and it was known as Gates' weeping willow.

The charter oak of Hartford, Conn., was estimated to be about six hundred years old when Hooker laid the foundation for a commonwealth there. It was at one time known as Wyllys's tree, as it stood in front of the house occupied by Hon. Samuel Wyllys. It measured twenty-six feet in circumference a foot from the ground. The cavity in which the charter was placed on the night of October 31, 1687, was near the root and large enough to admit a child. The cavity gradually became smaller, until it would scarcely admit a hand. The oak was prostrated in August, 1854, and nearly every particle of it was worked into some pleasing form and cherished as a memento of a singular incident in co-

The treaty tree was a large elm which stood on the banks of the Delaware river, near what is now known as Kensington precinct, Philadelphia. It was under this tree that William Penn formed his treaty with the Indians in 1682. Voltaire said "it was the only treaty between these nations and the Christians which was never sworn to and never broken." The tree then became an object of interest and venerabreed fast horses to look after the speed making his permanent home in Pennsylvania he tried to purchase the land

#### AFTERNOON AT-HOMES.

Afternoon at-nomes have come to the

rescue of both the great and the little ones of the earth. Al! feel the relief to their purses that this modest and inexpensive form of entertainment offers, and this will be so until the great pressure of excess of luxury and undue extravagance is removed, and until we-

Ring in the nobler modes of life, With sweeter matters, purer laws. Should invitations to afternoon at homes be acknowledged, when the cards do not bear the letters R. S. V P., is a question repeatedly put to us and which we decidedly answer in the affirmative, and to remove any lingering doubts on the subject a few words of further explanation may not be inappropriate.

It is an act of discourtesy not to answer an invitation, whether it is to be accepted or declined, for if invitations remain unanswered, the usual conclusion is that absence from home is the reason for this; and when Mrs. Brown asks Mrs. Smith if their mutual friend. Lady Robinson, is expected, the answer naturally is, "I am afraid not. I asked her to come, but I think she must be away, as I have not heard from her." Perhaps Lady Robinson subsequently arrives, and feels from the remarks of not expected, that some apology is due, and then follows: "I ought to have written to you, but I was rather uncertain about our movements: I did not quite know what Sir John wished me to do to-day," etc. This is precisely the reason why answers are frequently not sent to invitations to afternoon at-homes. People are inclined to think that among so many the absence of any particular individual is of little importance, that other engagements might stand in the way and render the going to the at-home rather inconvenient. Thus they study themselves rather than the friends who have invited them. At-homes are so numerous that invitations to them are apt to be disregarded in a measure, but if everyone took this line a hostess might arrange for giving tea to fifty guests, and perhaps only ten would put in an appearance, whereas, if she received refusals, she could either invite others, or make arrangements on a smaller scale. It is polite and considerate, when acceptance is doubtful, to state the fact, and then a host could have a list of doubtfuls, as well as certainties, to refer to. It is every thing for a hostess to know who is, or who is not, coming to her at-home, so as to regulate her list accordingly. To common, for instance, and are well acquainted, or those whose acquaintance

wise people would consider it a triste affair, when forced to admit "that there was hardly any one there they knew inore of."

ance, and gives a series of at-homes, if posited at the entrance of the mine she wishes to make them pleasant to all, she issues her invitations with this end in view, bearing in mind the prejudices and partialities of her friends; but when giving an occasional at-home her course is not so clear, and she is fearful of wounding the susceptibilities of some of her acquaintances by leaving them out of her invitation list. On the other hand, if she asks them to meet each other they feel that they have not been asked to the large athome, and consider the invitation a doubtful compliment; this is a dilemuna dreds of feet away, but near at hand in that many experience, and circumstances and self-interest often influence the decision arrived at for and against. A little difficulty often presents itself when a card is received for a series of "at-homes," as to whether the recipi- is watched. - Golden Days. ent is expected to go at all. If the "at-homes" are to take place every week, it would be advisable to put in an appearance fortnightly, and to mention the first date of acceptance in apswering an invitation of this nature. But a visiting card with an "athome" day written on it can not be regarded in the light of an invitation: it is merely an intimation that if the friends of a certaia lady call upon her they will find her at home. But this does not necessitate a call being made, if convenient, or any excuses offered for non-appearance on the "at-home" day .- London Queen.

#### FOUR - FOOTED MINERS.

#### Timidity and Skill Displayed by the Gopher in Underground Boring.

In Southern California a number of interesting miners are found, and one very attractive fellow is a long-tailed gray squirrel that constructs the most astonishing tunnels. The most skilled worker, however, is a gopher, known to science as the Geomys Mexicanus.

Ten or twelve years ago they reigned supreme in the now fertile valley of San Gabriel, that lies east of the famous city of Los Angeles. From my window, as I write, numbers of the mounds of these miners can be seen, but they are so remarkably sly and cunning that, though I have watched for hours, I have only seen one six inches away from his hole, but as this short experience was repeated an indefinite number of times, I may be said to be on terms of intimacy with one of the most timid of all miners.

In appearance the gopher, or pouched rat, as it is sometimes called, resembles a short-tailed and short-legged rat, with a large head and protruding teeth. Their cheeks attract attention, having the appearance of being pushed out or stuffed with something, but this is owing to the fact that our miner has two very strange receptacles, one on each side, separate and distinct from her hostess, by whom she was evidently the mouth; little carpet-bags, we might call them, each lined with fur, and large enough to enable me to thrust in my thumb to the first joint. Pouches they are sometimes or often called, and as to their use there seems to be a diversity of opinion.

The front claws of this miner are extremely large and powerful, and enables it to construct tunnels with remarkable rapidity. When once beneath the surface they construct their mines in every direction, with no great regularity, but evidently with the idea of forming a labyrinth that will carry off floods. Th t this is successful I have frequently demonstrated by turning a large stream of water into the mines. It would run in without overflowing for a long time, and I have never succeeded in forcing one out by this means. It would naturally be supposed that such miners would place their nest at some distant or deep lead in the mine, but the reverse is the rule, the warm nest of bits of weed being formed very near the surface, from which different mines lead away, taking any water that might come in.

It might be assumed that the bags or pouches were used to carry out the dirt and stones removed; but, curiously enough, they use them for exactly the reverse, and for carrying seeds or render an at-home a success, the right food. As soon as a gopher makes up people should be invited to meet each is mind that its mining operations other, those who have something in have been observed it invariably crawls out, or partly crawls out, of the mine or burrow, and, filling its pouches it would be pleasant to make; other- with sticks and sand, backs quickly in. its tail seemingly guiding it to the hole with unfailing regularity, the animal never turning but always backing, and to speak to," and several present that moving so rapidly that it seems almost they did not care to know or to know | like the curious lizard that runs one way as well as another. The soil and When a lady has a large acquaint material carried in in this way is dé-

#### PUNGENT PARAGRAPHS.

-No man fails who dies trying. -On the elevated situations of fortune, the great calamities of life chiefly

fall -It is far better to educate person to keep out of sin than to convert them out

-The dead elephant Alice was dis sected at Hartford and 300 pennies found in her stomach. It is believed she had started a moument fund .-Omaha Bee.

-Presence of mind is all well enough in some cases, but when a man finds himself in danger of freezing to death he shouldn't try to keep too cool .-Epoch.

-"I'm goin' to leave, mum!" "What for? I am sure I have done all the work myself, in order to keep a girl." "Well, mum, ther work's not done to suit me!"-Puck.

-Milton was asked if he intended to instruct his daughters in the different languages-to which he replied, "No. sir, one tongue is sufficient for a woman.-Salem Standard.

-Women are bothersome creatures sometimes and cause us no end of trouble, but after all, what would we men do if we hadn't somebody to whom we can attribute all our faults?

- -Knowledge which Came too Late .-I imagined Maria had thousands
- Laid up in strong vaults : I wedded, and find she has millions-Of faults.

-Tid-Bits

-Inquisitive people are the funnels of conversation: they do not take in any thing for their own use, but merely to pass it to another. - Steele,

Voice (from under sofa)-"From this time forth, I shall cease to call you wife; you have beaten me shamefully, and I have still enough of the spirit of a man left within me to remain here until you apologize for your conduct.' Judge.

#### DECEPTION IN FOOD.

How Lard, Spices and Other Food Arti-ticles Are Adulterated.

Food adulteration still goes on. I was disclosed by Mr. Armour, the Chicago lard and pork packer, not long ago, that millions of gallons of cotton seed oil are used for adulterating lard. It is claimed by the manufacturers that the oil has no suspicion of disease about it and that it is perfectly wholesome. A large portion of the "olive oil" consumed in this country also, is the oil of cotton seed. It is sent in large quantities to England and Germany where it enters into lardine, butterine and olive oil, the same as on this side of the water. Holland imports great quantities of it to make Dutch cheese. One oil refinery last year, sold four thousand barrels of the oil to preserve sardines, and the "sardines" were not sardines DR. J. C. GRAY, at all, but some other kind of fish caught off the coast of Maine. Soap is made by the thousand boxes in Chicago with the same base. Along with all this is the assertion that the industry is as yet in its infancy; there is no telling how many food products it will enter speedily, nor how largely.

The investigation of the chemists of the National Department of Agriculture, recently completed, show

SOCIETIES.

E Meets first and third Wednesdays in each

S PENCER BUTTE LODGE NO. 9, L O. O. F. Meets every Tuesday evening.

WIMAWHALA ENCAMPMENT NO. 6. Meets on the second and fourth Wednes-days in each month.

EUGENE LODGE NO. 15, A. O. U. W. Meets at Masonic Hall the second and fourth Fridays in each month. M. W.

J. M. GEARY POST NO. 40, G. A. R. MEETS at Masonic Hall the first and third Fri-days of each month. By order. COMMANDER.

BUTTE LODGE NO. 367, I. O. G. T. MEETS every Saturday night in Odd Fellows' Hall.

LEADING STAR BAND OF HOPE. MEETS at the C. P. Church every Sunday after-noon at \$30. Visitors made welcome.

#### O. & C. R. R. TIME TABLE.

Mail Train Porth, 4:45 A. M. Mail train south, 9:55 P. M. Eugene Local – Leave north 9:00 A. M. Eugene Local – Arrive 2:40 P. M.

#### OFFICE HOURS, EUGENE CITY POSTOFFICE.

行印

General Delivery, from 7 A. M. to 7 F. M. Money Order, from 7 A. M. to 5 F. M. Register, from 7 A. M. to 5 F. M. Mails for north close at 8500 F. M. Mails for south close at 8500 F. M. Mails by Local close at 8200 A. M. Mails for Franklin close at 7 A. M. Monday Mails for Frankin close at 7 A. M. Monday and Thursday. Mails for Mabel close at 7 A. M. Monday and Thursday.

#### Eugene City Business Directory.

BETTMAN, G.-Dry goods, clothing, groceries and general merchandise, southwest corner, Willamette and Eighth streets

CRAIN BROS. Dealers in jewelry, watches clocks and musical instruments, Willamore street, between Seventh and Eighth.

FRIENDLY, S. H.-Dealer in dry goods, cloth ing and general merchandise, Willamette street, between Eighth and Ninth.

GILL, J. P.-Physician and surgeon, Willam ette street, between Seventh and Eighth.

HODES, C.—Keeps on hand fine wines, liquors, cigars and a pool and billiard table, Willam-ette street, between Eighth and Ninth.

HORN, CHAS, M.-Gunsmith, rifles and shot-guns, breech and muzzle loaders, for sale, Repairing done in the nestest style and war-ranted. Shop on Ninth street.

LUCKEY, J. S.-Watchmaker and jeweler, keeps a fine stock of goods in his line, William-ette street, in Ellaworth's drug store,

MCCLAREN, JAMES-Choice wines, liquors and cigars, Willamette street, between Eighth and cigars, and Ninth.

POST OFFICE-A new stock of standard school books just received at the post office.

WILL ATTEND TO PROFESSIONAL calls day or night.

OFFICE-Up stairs in Titus' brick: or can be found at E. R. Luckey & Co's drug stare. Office hours: 9 to 12 M., 1 to 4 P. M., 6 to 8 P. M.

# DENTIST.

OFFICE OVER GRANGE STORE. ALL Laughing gas administered for painless es-

#### GEO. W. KINSEY,

## RHINEHART, J. B.—House, sign and carriage painter. Work guaranteed first-class Stock sold at lower rates than by anyone in Eugene. DR. L. F. JONES, Physician and Surgeon.

#### How to Steam Oysters.

stewed in the usual manner sometimes enjoy them steamed after the following recipe. As cooked in this way they seem sweeter and do not have so strong an oyster taste. Spread the oysters upon the bottom of a basis or pan, according to the amount of oysters used. so that they will form one layer upon the bottom of the pan. In doing this handle each oyster with a fork, so as to find any pieces of shell that may cling to them. Sprinkle on salt, a teaspoonful to a pint of oysters; add pepper and small lumps of butter to suit taste. Pour over this the liquor, and enough milk, or milk and hot water, to cover the oysters. Cover the pan perfectly tight, place over a hot fire, and allow the oysters to boil up quickly, and they are done. Serve immediately .- Chris-Bun Union.

-It seemed at one time as though the construction of the Panama Ship Canal would have to be abandoned by M. De Lesseps because it was impossible to procure laborers to carry on the work, inasmuch as the climate is so deadly that a man who worked in the trenches was almost sure to die within a few months. But scientific invention has come to the relief of De Lesseps, and steam excavators and dredges of vast power have been devised to take the place of men. Of these inventions it is said: "They do not mind malaria; they are not poisoned by marshy water; they thrive on the black vomit; they have no fear of chills or sunstrokes; and, what is more, they are never tired, and will work all the days and nights of their natural lives without interruption, if properly fed and cared for."-N. Y. Ledger.

-An electric street railway company, with a capital stock of \$200,000, has been organized at Little Rock, Ark.

near the tree, considering it one of the finest situations on the river. The tree was long protected with care, but was at last blown down in a gale on March 3, 1810. It was found to be 283 years old, and its trunk measured twenty-three feet in circumference. The Penn Society erected a monument, with proper inscriptions, upon its site. - Chicago News.

#### · How to Market Poultry.

No matter how good poultry you may have, if you don't kill and dress it in good shape and send it to market in attactive style the chances are strongly in favor of your getting only a second-rate price. Kill the fowis in a way so they will not get bruised or soiled by dirt or blood. Dry pick them, on no account People who do not relish oysters | scalding before picking. Dress neatly, which means draw the intestines, emptying the gizzard of its contents and keeping every speck of blood or filth from coming in contact with the flesh or skin. Cut off the head, leaving the neck only moderately long. Sever the wings at the outer joint, have the legs picked clean to the knee joints, singe the hairs from the body, being careful not to discolor it by smoke, wind each bird about the wings in strips of white, clean cotton cloth, pack in nice, clean boxes, with rye straw between the layers of poultry. laying the birds upon their backs with legs extended. Don't attempt to palm off fowis for chicks, for grocerymen who haven't their eye teeth cut don't tend stalls in our city markets, and be sure such tricks will cost more than they will net in the long run.-Farm and Home.

> -Noodles are delicious served in any consomne soup, or as a vegetable. Break a good-sized egg into a bowl, stir into it about a half cupful of flour and a teaspoonful of salt. Work this till it is smooth, and turn out on a kneading board and knead it well till it is firm, elastic dough. Roll this out till it is as thin as a wafer. Let it dry about an hour. Roll it up in small rolls, cutting off the end to form little curls of paste. Put three cupfuls of noodles in about two quarts of stock and cook rapidly for half an hour. Skin them out and serve in a cream sauce, or mixed with half cupful of bread crumbs fried brown. If they are cooked in stock, the stock should be seasoned and served for a dinner soup. - Toledo Blade.

Free Press. -A few inexpensive changes in the barn and stable arrangements might save you much time and labor in the

course of a year. Get out the plans sensation after retiring try wearing is going to have poured in on himithis winter and do the work next spring. woolen underwear at night.

-Pea, Pancakes.-Cook a pint more green peas than you will require for dinner. At this season you will have to use canned peas. While hot put them in a wooden bowl, add a lump of butter and a little pepper, and mash to a paste with a potato pestie. In the morning make a batter of wheat flour, eggs and a little milk, adding a pinch of soda. Stir in the pea jam until it is thoroughly incorporated with the batter, and cook like any other griddle cakes. They make a beautiful and palatable breakfast dish.-Good Cheer.

-Boiled Ham.-Soak in water over night. Next morning wash hard with a coarse cloth or stiff brush, and put on to boil with plenty of cold water. Allow a quarter of an hour to each pound for cooking, and do not boil too fast. Do not remove the skin until cold-it will come off easily and cleanly then, and the juices are better preserved than when it is stripped hot. Cut very thin when carving .- Detroit

-If you are troubled with a clammy

and if the animal thinks that danger is imminent it bites off earth at the mouth of the burrow. Having done this for a few moments it disappears, and a second later the opening closes, and a close examination shows a quivering of the earth and a repeated pushing up as if some one was patting it from below.

In short, the mine has been filled up from below, and so skillfully that few would notice it. But where is the miner? Not off in some deep lead huna tunnel quite at the surface that has a porthole about as large as a pea. Through this "peep hole" the wily miner takes observations, and the tunnel will not be reopened for weeks if it

## A DROP OF RAIN.

#### It Becomes a Microscopic Ocean by the Time It Reaches the Earth.

It might be supposed that rain-water, coming from the sky, would be perfeetly pure. Far from that. While the vapor condenses into rain-drops, small amounts of nitrate and nitrate of ammonia are formed and dissolved in the on a given day, mentioned on the card, nascent drop; the drop finds in the atmosphere oxygen, nitrogen, carbonic acid, ozone, ammonia, ready and eager to be dissolved; they are all taken up, and with the drop begin their journey earthward. While the drop is falling, it attracts dust floating in the air containing all the mineral elements of the earth's crust, especially salt, magnesia, silica, lime, etc. They all dissolve in it and travel downward. Nearer the surface coal and tar particles from smoke, sulphur gases and effluvia are gathered and either dissolved or carried along mechanically, germs of myriads of low organisms constantly floating in the air are harbored and sheltered, and by the time the drop dashes into thousands of minute particles against a stone, it has become a microscopic ocean, containing all the elements of the earth's surface and the beginning of an active line. When people use cistern water they have abundant opportunity to observe the impurity of rain water. After the rain water had struck the soil it hastens to enter it. but during the short passage through the sod it takes up great cargoes of impurities, the product of rotten vegetable substances, and where man dwells, of human activity, shiftlessness and filth. -Science.

-A Georgia paper offers to take chestnuts in payment for subscriptions. What a lot of ancient jokes that editor Exclange.

food is so much adulterated as spices. Of twenty samples of ground cloves examined only two were pure. The others had suffered the extraction of their essential oils and had been polluted by the addition of clove stems, allspice and husks of various kinds. Of eight samples of cayenne pepper only one was pure. Of ten samples of mustard none was pure, though several had only suffered the loss of their fixed oil; the others contained quantities of wheat flour, the spurious matter being in some cases two-thirds of the compound. This made it necessary to add tumeric acid (harmless) to restore the mustard color. Ten samples of allspice were examined, eight of which were pure. Four samples of cassia were all pure. Of ten samples of ginger, four were pure. Only one out of thirteen samples of black pepper was found to be what it purported to be. A specimen sent from Baltimore to a man who had an army contract was almost entirely spurious. Cayenne pepper, black pepper, husks and mustard hulls were used to give flavor and pungency while "body" was supplied by ground beans and rice, and color by charcoal. Two samples of white pepper out of five were pure, two samples of mace out of were pure, two samples of mace out of five were pure, and of three samples of nutmeg examined all were pure. A New York spice grinder lately, worked off five thousand pounds of cocoanut husks.—Good Housekeeping

PROPRIETORS.

BEEF.

