

FUNCTIONS OF LEAVES.
In a recent lecture on this subject Prof. Goodale said that leaves assume different forms for the different kinds of work they have to do. They consist of a framework of green cells with a water-proof coating. The woody structure which we had seen to be found in the roots and stem continued into the leaves, and spread out into a network of veins which served to convey water and other matter absorbed by the roots to all parts of the leaves. In the waterproof coating of the leaves, on the underside, the tiny plants, and to be found innumerable little valves, capable of opening and contracting, through which the water, pumped up from the ground, is evaporated. In a large cabbage, there are some eleven millions of these little openings, and a sunflower leaf perhaps thirteen millions, covering in all about one quarter part of the surface of the leaf. A healthy sunflower plant will evaporate in one day from its leaves a quantity of water equal to its weight. Owing to this rapid evaporation in the epulcypis, this tree is planted in swampy land which is thus effectively drained.

DIFFERENT FORMS AND ENDINGS OF LEAVES were explained, and it was shown that all this variation was especially adapted to resist storms of wind and rain, for nature does not care to take many risks. Prickle-like leaves and tendrils were discussed, and the best device was given of a very interesting account of the action of the leaves of the Sundew and Venus-fly-trap, two American plants made famous by the investigations of Darwin.

THE QUESTION HAD BEEN ASKED whether, if Paris green is sprinkled upon potato plants, and, falling, becomes mixed with the earth, the roots would absorb it and the potatoes become poisonous. It was explained that this has been the subject of careful investigation at experimental stations, and it might be definitely asserted that not a particle of the poison was absorbed by the roots of potatoes.

MR. JOHN C. GOODRIDGE, JR. has suggested a project for modifying the climate of the Atlantic coast by closing the Strait of Belle Isle, and advancing the theory that this is feasible as a problem in physical geography capable of an engineering solution. He argues that it is shown by charts that the great body of the cold water comes to us through the Gulf Stream, Newfoundland deducts the remainder of the Arctic current to the southeast. Here, pressing against the Gulf Stream, it veers southward in the form of a loop, and finally, running under the Gulf Stream, it returns to the north. That part of the Gulf Stream that passes our shores has a course directly north and a little west, is deflected slightly towards the east by the coast of South America and the Gulf Stream, and then more to the north again, when it is deflected by the cold current returning from the pole. When this cold current is of least strength, as in August and September, the Gulf Stream is within twenty miles of Barnegat; at other times it is distant 120 miles, changing with the amount of the cold current and of the wind. If we had not the cold water between our shores, the climate would be a fair to presume that we should have a less stormy coast, as the juxtaposition of these two currents with their difference in temperature must from that circumstance be a source of disturbance of atmospheric equilibrium. Our cold northwest winds would then sweep to the north of us and become westerly and southwesterly winds.

DR. GEORGE L. STERNBERG confirms, in a communication to the John Hopkins University, as a result of his own observation, Laveran's discovery of the germ, or micro-organism, of malaria. He has found this microbe in the blood of an amoeboid parasite in the shape of patients suffering from fever, and also observed that the germs disappeared from the blood when quinine was administered in effective doses. At a recent visit to Rome Dr. Sternberg was present at a most satisfactory demonstration of the presence and amoeboid movements of the parasite in blood drawn from a patient who had a malarial patient during his fever.

THE SKIN OF THE EARTH.
We talk a good deal about boring and digging into the bowels of the earth. It is a mistake. We have never reached the bowels of the earth any more than the bill of a grout that pries you on the abdomen reaches your bowels.

The human body is one two hundred and fifth of the diameter of the body; allow the earth's skin proportionately thick and it will be 30 miles thick.

The deepest borings have been about a half mile, not through the soil, but in outer layer of skin; not near to the center. The highest mountains have only shown us what may be about one fifteenth the thickness of the earth's skin, and that is not true. The earth's skin is made up of the crust of the earth, which would be discovered.

At the last session of congress there was a movement to get an appropriation to bore a hole as deep as it could possibly be made under the earth, and many other objects.

The heat and gases of the earth's interior are to be the forces of the future for motor power, lighting and heating. A bore 10, 15, 20, 30 miles deep, with a shaft, but he is not wise who says impossible of anything within human endeavor.

We simply mean that, since so much has been discovered by merely scratching and penetrating the false skin of the earth, much more will be obtained by reaching through its skin.

M. Ervey has read a paper at the French Academy of Sciences describing the successful researches made by him, with M. Verneuil's assistance, in obtaining artificial rubies. By letting alumina dissolved in fluoride of calcium he obtained crystals of alumina—that is, sapphire, rubies, defining the closest similarity to the natural stone, and made of natural stones. They can be made of large size.

FARM NOTES.
WASHING FRUIT TREES.—There are insects common to all trees, and it is only by constant care that we can get satisfaction from our trees. The pear and apple tree is a scale insect which attaches itself to the bark and injures the tree if allowed to remain. It is known that there are many compounds of this nature used for washing trees. Kerosene oil for hard wood has been used with success by many persons, but it is not necessary by adding one pound of whale oil soap to three gallons of warm water, stirring well and applying with a stiff brush. The trunk should be rubbed thoroughly and hard to remove that the liquid may reach every part of the surface. Another good wash is a weak lye from wood ashes. A third wash is made by adding a quart of kerosene to a gallon of oil soap. Place these in a vessel over the fire, the soap and water readily combine by stirring, and should be applied like the other oil application. The tree should be washed at least three times during the season, applying in the first in March or April, the second in June, the last in August. The insects, as well as moss, will be effectually removed, leaving the bark in a healthy condition.

CARE OF HORSES.—Do not wait until you begin work in the spring to feed your horses. Do not starve them all winter and expect a week or two of feeding to bring them up to the working point. Begin now. Keep them in and assimilate it. They retain it better. Do not accuse your horse of being lazy because he cannot do the stable and cannot eat regular meals. He may be as you do, and like to get out once in a while as you do. It is a mistake to suppose he does not need any enjoyment, even if it is a drive on a strange road. The horse has trodden all winter and expects a week or two of feeding to bring them up to the working point. Begin now. Keep them in and assimilate it. They retain it better. Do not accuse your horse of being lazy because he cannot do the stable and cannot eat regular meals. He may be as you do, and like to get out once in a while as you do. It is a mistake to suppose he does not need any enjoyment, even if it is a drive on a strange road.

BREAD CAKE.—Bread cake fried may be a novelty to some cooks. Two cups and a half of sugar, two eggs, a quarter of a cup of melted butter, half a teaspoonful of salt and a little nutmeg. Knead them well into the dough, using as much flour as is needed to make a smooth dough. Let it rise then until it is very light, then knead again and cut out into fancy shapes; let them rise again and fry in boiling fat.

MUCH UNNECESSARY SUFFERING is caused by allowing the skin of a sick person to become so tender by constant lying in bed that at length it breaks, or is literally worn through. If there is the least redness, or even before that, if the least heat that the skin may be tender, touch the places with the white of an egg beaten to a stiff froth, in which is mixed two teaspoonfuls of spirits of wine. You may also bathe the patient on the sides and back with brandy, and give a small quantity of powdered starch, sifted through a muslin bag.

COCONUT CUSTARD.—Make a good boiled custard, flavor with one teaspoonful of bitter almond essence, grate a coconut, and when the custard is done, mix the coconut with the custard, and when warm into a glass bowl, strew the coconut on top. Sift white sugar over this.

BURNT CUSTARD.—What is called burnt custard in the South is simply burnt milk, and is made by boiling the milk, and with the whites beaten up with sugar laid on the top. This meringue was burnt or rather browned by holding a hot shovel over it.

COCONUT COOKIES.—One and a half cups of sugar, one cup of butter, one cup of sweet milk, one-half teaspoonful of soda, one teaspoonful of vanilla and flour to make a soft dough. Roll as you do common cookies, using a rolling pin, and bake in a muslin bag.

MUTTON BROTH FOR AN INVALID.—Cut one pound of lean mutton in small pieces and put in a quart of cold water. Cover closely and boil until the meat falls to pieces. If you wish to add rice or barley let it cook in water while the meat is boiling; when soft skim out the meat and put in the cereal; simmer two hours.

TOMATO SOUP.—To one pint of canned tomatoes, or four large young ones cut up, add one cup of boiling water and let them boil, then add one teaspoonful of soda, immediately add one pint of sweet milk, with salt, pepper and a dash of nutmeg. Sprinkle with a little butter.

REMEDY FOR CRAMPS.—A writer declares that the raising of the head of the bed by placing under each leg a block of the thickness of two bricks, is an effective remedy for cramps. Patients who have suffered at night, and lying alone with pain, have found this plan to afford immediate, certain and permanent relief.

ALMOND DROPS.—Three-quarters of a pound of flour, one-half pound of butter, three-quarters of a pound of sugar, one-half pound of almonds, one-half pound of raisins, one-half pound of currants, one-half pound of stoned raisins, three-quarters of a pound of suet, three ounces of flour, a little nutmeg, one cup of water, and one tablespoonful of salt.

DOUGHNUTS.—One cup of sugar, one cup of sour milk, sweetened with soda, three eggs, spice; mix roll. Roll and cut in rings and fry in boiling fat. Each one in powdered sugar immediately on taking from the fat.

GINGER COOKIES.—One-half cup each of sugar, butter, water and soda, one egg, one teaspoonful of soda stirred in the molasses, one tablespoonful of ginger. Mix smooth with flour.

COOKIES.—Two teaspoons of sugar, three-quarters of a cup of butter, one cup, nutmeg, roll thin; bake slowly.

COOKIES.—Two teaspoons of sugar, three-quarters of a cup of butter, one cup, nutmeg, roll thin; bake slowly.

That Tired Feeling
The warm weather has a debilitating effect, especially upon those who are within doors most of the time. The peculiar, yet common, complaint known as "that tired feeling," is the result of this feeling being entirely overcome by taking Hood's Sarsaparilla, which gives new life and strength to all the functions of the body. No matter how long you have been suffering from this feeling, you can get it out of your system by taking Hood's Sarsaparilla. It is a powerful purifier of the blood, and will give you a new feeling of vigor and health. It is a powerful purifier of the blood, and will give you a new feeling of vigor and health. It is a powerful purifier of the blood, and will give you a new feeling of vigor and health.

COCKLE'S ANTI-BILIOUS PILLS,
THE GREAT ENGLISH REMEDY
For Liver, Bile, Indigestion, etc. Free from Mercury. Sold by all Druggists. Price, 25 Cents. 100 Doses One Dollar.

THE GREATEST EARTHLY BOON.
I UNDERSTAND, SIR," he began, as he walked into a Grand River avenue grocery "that you say I don't pay my rent. I owe you \$4. Take it out of that."
"Yes—ah—take it out—there's your change. No, sir, I never said anything of the kind. What I did say was that I wished you owned me a hundred dollars, as I was sure of getting my money."
"Oh, that was it? Well, why in blazes didn't you say so before I paid the account?"
A SUNDAY-SCHOOL teacher asked a little girl of her class if she had been baptized.
"Yes," said the little girl; "two times."
"Two times? Why, how could that be?"
"I didn't take the first time," said the little girl.

THE OUTGROWTH OF A VAST EXPERIENCE.
The treatment of many thousands of cases of chronic weakness, indigestion, and nervousness, has shown that a powerful, invigorating tonic, such as Dr. Pardee's Remedy, is the only reliable remedy for these ailments. It is a powerful, invigorating tonic, such as Dr. Pardee's Remedy, is the only reliable remedy for these ailments. It is a powerful, invigorating tonic, such as Dr. Pardee's Remedy, is the only reliable remedy for these ailments.

ORPHEUS: "Have you noticed that ridiculous statement, Eurycleid, that the use of a rocking-chair is pronounced by high medical authority to be productive of heart disease? As a palliating agent for heart affection, I know that the good accomplished by the proper use of a rocking-chair is only limited by the capacity, strength and durability of the chair itself. Isn't that our experience, Eurycleid?"
"Yes, sir," replied Eurycleid.
"You know of course," said the old doctor to the young man, "that my daughter has \$100,000 in her own right?"
"Yes, sir."
"And you are not worth a cent."
"I'm poor, sir, but great Scott, \$100,000 is enough for two! Why, I'm economical to meanness."

W. L. DOUGLAS'S \$3 SHOE.
The only \$3 SEAMLESS shoe in the world. Made of the best material, and guaranteed to last. Sold by all druggists and shoe stores.

WIDOWER'S REVENGE.
"So your wife left all her money to your daughter?"
"She did, had less to her, but I got some with her."
"You did, eh? How did you manage it?"
"Begorra, I buried her in a second-hand coffin!"

HERBRAND FIFTH WHEEL.
A Great Medical Work for Young and Middle-Aged Men.
The Science of Life.
Know Thyself.

Why did the Women
of this country use over thirteen million cakes of Procter & Gamble's Lenox soap in 1886? Buy a cake of Lenox and you will soon understand why.

THROW AWAY YOUR SUPPORTER.
IT WORKS WONDERS.
The following words, in praise of Dr. Pardee's Favorite Prescription, are a remedy for those delicate diseases and weak nerves peculiar to women, must be of interest to their sense of gratitude for the inestimable boon of health which has been restored to them by the use of this world-famous medicine.

THROW AWAY YOUR SUPPORTER.
IT WORKS WONDERS.
The following words, in praise of Dr. Pardee's Favorite Prescription, are a remedy for those delicate diseases and weak nerves peculiar to women, must be of interest to their sense of gratitude for the inestimable boon of health which has been restored to them by the use of this world-famous medicine.

TREATING THE WRONG DISEASE.
Many times women call on their family physicians, suffering, as they imagine, one from dyspepsia, another from heart disease, another from liver or kidney disease, another from nervous exhaustion or prostration, another with pain here or there, and in each case the physician, ignorant of the cause of suffering, encourages his practice until he has made a complete wreck of the patient. The physician, ignorant of the cause of suffering, encourages his practice until he has made a complete wreck of the patient.

JEALOUS DOCTORS.
A Marvellous Cure.—Mrs. G. F. Sprague, of Crystal, Mich., writes: "I was troubled with female Leucorrhoea for seven years, and I had to keep up a good part of the time. I doctored with all kinds of medicine, but it did me no good. I was so weak, I could not do any work, and I was so nervous, I could not sleep. I had to give up my work, and I was so nervous, I could not sleep. I had to give up my work, and I was so nervous, I could not sleep.

DR. PARDEE'S REMEDY.
RHEUMATISM, SCROFULA, SALT RHEUM, NEURALGIA, RING WORM, AND ALL OTHER SKIN AND BLOOD DISEASES.
LIVER AND KIDNEYS.
Cures Indigestion and all diseases arising from an enfeebled condition of the system.

DR. LOBB'S AFFLICTED UNFORTUNATE.
After all others fail consult Dr. LOBB'S AFFLICTED UNFORTUNATE. A Great Medical Work for Young and Middle-Aged Men.

W. L. DOUGLAS'S \$3 SHOE.
The only \$3 SEAMLESS shoe in the world. Made of the best material, and guaranteed to last. Sold by all druggists and shoe stores.

HERBRAND FIFTH WHEEL.
A Great Medical Work for Young and Middle-Aged Men.
The Science of Life.
Know Thyself.

Why did the Women
of this country use over thirteen million cakes of Procter & Gamble's Lenox soap in 1886? Buy a cake of Lenox and you will soon understand why.