

HOUSEHOLD.

SHADE FOR SWEET PEAS.

It is now two years since I began experimenting with sweet peas, and with unusually good success, all looking behind him and smiling at me. At the outset I saw me. He stopped, showed me how to grow them, and I began to grow them. I had planted two sites with a view of ascertaining which was the better. One was a southern exposure, the lines being planted east and west, entirely protected on north side, while upon the other the lines were planted to extend east and south, fronting the east and west on the west and north. The lines were put in about the first week in April. Those planted on the south side came up first, and the vines grew up and beautiful, while the others were comparatively slow in showing themselves above ground. For the south side vines I had provided wire netting and for those on the north side used ordinary twine fastened to stakes set about three feet apart. I soon found the netting, although by far the more convenient, does not mean a good arrangement for the vines, for the wire, acting as a screen, kept the vines from drying and withered and dried the first one to touch the wire. I should have known that the wire was not to be touched. I was skinned would make the difference of my case. All the vines sat down in a circle, and I tried to get up until they were up to the neck and Msiambiri, finished the vines. Then they rushed upon me, filled it with spear thrusts and dragged me through all the villages. Without fear and a head it looked like an old man. The butchers. Later in the day there was a funeral dance and noise. The body of the lion was put up on an enormous fire. Where we could hear the noise of the drums and see the red light of the fire which proved to us that the lions were making sure that extinction was complete.

THEIR STRANGE FATE.

Passing Through Dangers in Africa. Lord Delamere apparently the strange fate of those who passing through the most dangerous dangers in the wilds of Africa. Asia without sustaining injury to a hair of their heads, meet disasters the very moment that return to civilization. before many months were past recovered sufficiently to start another big game expedition. This time he crossed the continent from east to west, being absent so long that at one of the gravest fears were entertained for his safety. Three days after his home he went out hunting, and down with his horse at precisely the same spot where he had met his previous accident. Once again confined to his bed with an inflammation of the spine and concussion of the head, and great anxiety is felt by his friends concerning the chances of recovery.

PROBLEMS FOR MOTHERS.

How can I possibly keep my child safe and unharmed, and at the same time give her the necessary stimulus which she undoubtedly needs in her education by putting her either in a school or a class with the children of her friends? asked a perplexed mother on the other day. "To my surprise I must say also, to my consternation she returned home the other day with a pocket full of 'jackets'."

W THEY WERE KILLED.

It may be remembered that Emin Pasha passed unharmed through every danger in Africa, only to be shot out of a first-storey window to break his neck, at the close of his return to civilization. In the same way Speke, who achieved fame in connection with the Nile, died through an accidental shot of his gun while rabbit shooting after his return to England. Camoron, of the navy, was one of the first to cross Africa from west to east, and at least a dozen instances of the same kind have been mentioned.

FISH-EATING SPIDERS.

There are certain large sea spiders, from toe to toe, colossal in size, that live in the water and feed upon molluscs and worms. The pious wolf spider, an amphibious inhabitant of the tropical regions of America, is said to prefer to eat, though it is not averse to mice, young birds, and even resembling in this respect the phosidae, or bird-catching spider of India and Queensland, some of which are equal in size. The colossal spider is the most formidable of the spider family, measuring six inches round the body and six long, hairy legs with which it grips its finny prey. It kills several times larger than itself, after biting them through the neck and stinging them to death, itself by sucking the juices from the bodies of its victims.

young companionship. Of course, I can send her to another school, but these are the children of the people I know, and the girls she will be with later on in society, and they are really nice children, except for their worldliness. I want Mollie to be "in the world, but not of it," and how to bring that about is a puzzle."

HOME VAMPIRES.

The man who leaves the breakfast table and enters the public ways with the shame of a home conflict upon him, in which he has contended for his own side of the question, refusing to yield his point to the very last, will not be likely to wear the appearance of a Knight, and if he has submitted meekly to injustice, and has felt conscious of being misunderstood, if he has the smallest germ of manhood in his nature, he must write under the treatment, and cannot step like a conqueror or go forth with the courage necessary to win great things in the world. Such a one must wear the look of the vanquished, no matter how loyal his heart may be or how strong his original purpose for true service.

And what often makes the condition more pitiful is the fact that the husband is large-souled, willing to give more than he receives, ready to make sacrifices of his own ease, pleasure and comfort generally while trying to serve his precious purpose for a future fulfillment. Though he closes his eyes against the signs of selfishness in the woman whom he chose as the fairest and sweetest and best, he cannot but feel the awful despair of defeat, all on account of the fascinating, unprincipled woman whom he took to share his life.

The woman who can thus bring defeat to a high-souled, unselfish man is the "vampire" that has been portrayed with such unerring skill by Kipling, and many a poor victim of a narrow-minded wife might recognize in it his own experience:

Oh, the toil we lost, and the spoil we lost,
And the excellent things we planned,
Belong to the woman who didn't know why
(And now we know she never knew why)
And did not understand.

And it isn't the shame, and it isn't the blame
That stings like a white-hot brand;
It's coming to know that she never knew why
(Seeing at last she could never know why)
And never could understand.

QUICK AND SLOW COOKING.

One great mistake cooks make is to how fast certain articles should be cooked. For instance, meat is always tough enough though it falls from the bones, if boiled hard. For soup it should be put to cook in cold water and heated so slowly that it will not come to a boil in less than an hour, and then it should boil only very gently. When one wishes the flavor all to stay in the meat it should be put to cook in boiling water and allowed to boil a few minutes, and then set back where it will just simmer. Meat should not be salted until nearly done. Potatoes should boil briskly the first five minutes and then more slowly the remainder of the half hour. Beans, peas and corn should boil hard till done. Green vegetables should generally be cooked in salted water to best retain their flavor. This is particularly true of onions and cabbage. One reason that young cooks pay so little attention to the above rules is that they think the difference is only in the flavor and that isn't much. But the greatest loss is in the value. And that we may have all the nutrition certain foods possess we must give them the treatment they require.

GREATEST HEAT.

Electrical Furnace Produces a Temperature that Breaks the Record.

The highest temperature yet produced by man has been reached by an especially constructed furnace at the Columbia University. Prof. Tuckerm, to whom belongs the honor of the experiment, had been working for years on the idea so successfully carried out and has finally generated heat 20 degrees higher than the record made some time ago by Prof. Moisson, of Paris. The heat of the sun is estimated at 10,000 degrees. The heat generated at Columbia was 6,500. The effect was tremendous. The electrical furnace was charged with a current of unusual power, which was so high that under it steel, hard quartz and even platinum were vaporized. As for ordinary crucibles, they disappeared at once in a little puff of smoke. It is difficult to appreciate the degree of such heat without some comparisons. Scalding water means a temperature of 212 degrees Fahrenheit and red-hot iron 800 degrees. Steel melts at 3,000 degrees and boils like water at 3,000 degrees. Commercially the experiment is very useful because it has shown that diamonds of marketable size and purity may be made artificially. Further, it has given to commerce two products of almost incalculable value—calcium carbide and silicon carbide.

The Baroness Burdett-Coutts is said to be worth about £800,000, and her income is set down as being close upon £100 a day.

Agricultural

MANURES AND MANURING.

(T. C. Wallace, Before the Ontario Farmers' Institute.)
(Continued.)

The important action of water in manuring does not receive the attention it warrants.

I refer particularly to the soil waters termed as capillary and gravity in their action. That film which surrounds and clings to each particle of soil, or like a casing along the roots and hairs of plants in the soil forms a vehicle for the solution of plant food, and for carrying sustenance to the plant, has been explained before. To understand what is meant by capillary water one has but to observe the action of water rising from the saucer of a flower pot up through and saturating the dry packed earth. Capillaries are then tubes or chimneys which form in the soil, and up which the water climbs to the surface. If these are not broken by cultivation, during dry weather, the water is rapidly evaporated and carried away by the winds. This loss of moisture by capillarity and evaporation can also be observed with the same simple apparatus, by weighing the water supplied from time to time to the saucer. The original weight of the dry soil in the pot being, of course, first obtained, a final weighing of the soil presents a very simple calculation.

When we consider that crops use from 300 to 1,000 tons of water per acre per season, and often even more, and that it takes about an inch of water all over an acre to make 100 tons, the loss of water brought to the surface by capillarity and blown away by the winds is a serious matter, which no amount of applied manure can compensate for. This shows us quite clearly the necessity and advantage of frequent surface cultivation, by which means the capillary chimneys are broken and a sort of mulch is formed for a few inches at the surface, but it is to the gravity water I wish to draw special attention. I mean the heavy amount of water formed in the soils by fall, winter and early spring rains and melting snows. So abundantly does this accumulate that the soils are at times practically afloat in it. It freezes up pretty solidly in the winter, and in the spring, when the weather becomes milder, the swollen land bursts apart by the action of the frost. The loosened particles of material become active in the soil, and by a sort of polarity or attraction which takes place among them, new combinations are formed. Particles of decomposed or decomposing manures and chemicals form combinations with soil particles, and thus the foundation of plant food for the coming season's crops is formed. If then we put off our applications of manures until after the gravity water has drained off we lose much of the benefit sought to be obtained by manuring. There is no machine of man's invention which does this distributing work for us so well as the natural method described.

If you examine the dung of the animals by throwing some of it into a tub of water and stirring it up you will notice how finely most of it is subdivided. It will then be easily worked into the soil by the action of water I have described if placed on the fall ploughed land while the gravity water is still plentiful and the heavy rains assist in washing it in. While it may be suspended in solution it does not immediately become liquid and get washed away, but on the contrary forms combinations with other substances in the soil. For the same reason we observe surer and better action from phosphates, or other manuring materials reduced to a very fine powder. In understanding these things we appreciate more fully the deductions of eminent scientific agriculturists like Wagner, Maercker and others who emphasize the necessity of reducing manuring materials by fine grinding. It is true that in doing this we are but stimulating nature, which gradually reduces straw, clover and other organic substances to fine humus powder. But this action is slow and in the struggle which competition in this age forces upon us we must use methods to produce more rapid effects. One other point suggests itself and that is the air in the soil.

A soil in proper mechanical condition should contain about one-sixth of its bulk of air, for plants take their oxygen through their roots. This is a matter which is left almost entirely to chance. The pressure of the air on the soil is only about 14 pounds, and as the gases formed by decomposition of materials to form humus in the earth drive off the air to a considerable extent, a thorough loosening of the soil is advisable. If it were not for this pressure of the air upon the earth the water would not percolate down through the soil, as it is the air pressure which forces it down. This pressure which is understood by withdrawing the air from the cylinder of the pump and note that the water then rushes upwards instead of downwards when the air pressure is lifted from it. The soil then gets its air mostly by the air following and occupying the

spaces from which it ousts the water, and it then forms pockets, or rather bubbles, in the soil. Each of these bubbles, or pockets, is surrounded by a film of water. Minute bubbles constantly detach from the storage pockets and pass to the roots of the growing plant by the water which carries the other food materials.

Now we see throughout this whole operation of farming there is a steady depletion of phosphoric acid, and when we consider the axiom "a good phosphoric heart is the basis of all successful agriculture," it presents to us a very serious problem. After a careful practical study of the manuring question, I am of the opinion that our best lands can be brought to produce double and treble the feeding value of the crops usually obtained from them. I also feel assured from successes which I have observed that our seemingly worn-out lands can, under rational methods of cultivation and manuring, be profitably brought to the highest condition of agriculture. I will even go so far as to say that the richest wheat lands of Manitoba are only half producing. The qualities of our Ontario grains can be materially improved. Our fodders and roots can be doubled and trebled in their feeding value. Our fruits can be improved, both in keeping and nourishing qualities. Grapes can be increased in quantity of yield and improved in the quality of the wine they produce. The attacks of fungoid diseases can be lessened and even the ravages of insects withstood by properly growing crops.

The tendency of the age has been either to manure blindly, or else to manure too accurately, by which I mean a hand-to-mouth plan of attempting to suit just what we consider the requirements of the plant's existence. Indeed if it were not possible to greatly increase the productivity of the land, there would be a poor outlook for the continuation of the human race for another century. I am, however, no pessimist, but rather an optimist. I have faith in Mother Earth, and I want to see Canada take the lead in showing the world that the path to health, wealth and contentment lies through the meadows and the grain-fields and beneath the orchards and the vineyards. But this path must be hewn out by the Axe of Industry, turnpiked by the Plow of good Husbandry, and kept in condition by the Cultivator's Art, under the administration of True Economy.

The End.

VARIETY OF FEED.

While cows need a variety, they want it to come by having a mixture of feeds at each meal and not by receiving one kind of feed at one meal, another in the next, and still another at the third. Such a method of giving a variety is sure to reduce the yield, as the cow at a given feeding time expects the same kind of feed that she ate yesterday at the same time, and if not given this she will be disturbed and will give less milk. It is not necessary to give a cow the same kinds of feed for supper that she had for breakfast, but the breakfast mixture should be alike for all breakfasts and the supper feeds the same for all suppers for a considerable period. Sudden changes usually decrease the milk yield even when the new ration is better than the old, and when it is necessary to make a change it should be made gradually, taking a week or ten days to make any radical change.

SMOKERS IN FRANCE.

In France there are 6,000,000 smokers, and of every 15 there are 8 who smoke a pipe, 5 who smoke cigars and only 2 who use cigarettes. Still they use more than 800,000,000 cigarettes a year, or enough to go around the world 500 times if they were placed end to end in a line.

RELATIONS ESTABLISHED.

George—How is your suit with Miss De Pink progressing?
Jack—Finely. When I call now her dog wags its tail.

Among the most remarkable women is Mrs. Finn, whose late husband was English Consul at Jerusalem for sixteen years. Mrs. Finn is a daughter of the Rev. Dr. McCaul, the great Hebrew scholar of his time, and can herself speak French, German, Spanish, Italian, Persian, Greek, Hebrew and Arabic. She is a writer, painter and lecturer, but takes greatest pleasure in running a soap factory which she established in Jerusalem and has carried on successfully for years.

The fact that Baron Ferdinand de Rothschild died without issue suggests that the house of Rothschild threatens to dwindle into very small numbers. The founder, Mayer Anselme, left at his death in 1812 five sons, and Jewish families are proverbially large, yet the progeny of these five sons to-day is far from numerous, either in England or on the continent. The founder of the house had little to do with England. It was his son Nathan, who came here in 1800, who laid the foundation of the fortunes of the English branch. Baron Nathan married a Cohen, but his eldest son, Lionel, married a daughter of Baron Anselm Rothschild, and his eldest daughter, a son of Baron Anselm. Lionel's son, the present Lord Selim, succeeded a sonless Rothschild, and a son of Baron Anselm, daughter of Baron Charles, of Frankfurt, and both his sisters also married cousins. The intermarriage of the family may perhaps help to explain its not increasing and multiplying.

IN MERRY OLD ENGLAND.

DOINGS OF THE ENGLISH PEOPLE REPORTED BY MAIL.

A Record of the Events Taking Place in the Land of the Rose—Interesting Occurrences.

There are 3,000,000 total abstainers in the United Kingdom.

Over twenty boys under 18 years of age have won the Victoria Cross.

The National Lifeboat Institution has saved over 45,000 lives since its establishment in 1824.

Major-General Sir W. Gatacre, K. C. B., who commanded the British division in the Sudan, in replying to the charge of inhumanity towards the wounded and defeated dervishes, gives an absolute contradiction to such accusations on behalf of those with whom he was connected.

It is announced that the 1st Coldstream Guards will go from Chelsea to Gibraltar, and the 1st Scots Guards will move from the Tower to Chelsea, the 2nd Coldstream from Gravesend to Wellington Barracks, and the 3rd Coldstream from Wellington Barracks to the Tower.

The death took place on the 27th ult. at Leamington of Mr. Crichton Kinmond of Cardney. Mr. Kinmond, who has been in bad health for some time, was well known as the inventor of many of the machines now used in the preparation of tea leaf for the market, and was the owner of extensive tea gardens in Ceylon.

Dickens' cigar box, which since his death has been in possession of E. B. Halsworth, publisher of All the Year Round, is now offered for sale by a London dealer, at \$100. It is of solid oak, the sides, top and ends having ornamental gilt scroll work, the feet represent hoofs, and Dickens' initials are cut in the lid.

The Hunters' Improvement Society of Great Britain announce that at this year's Horse Show all yearlings must be undocked. Next year the rule will be applied to yearlings and two-year-olds, the next year it will be extended to three-year-olds, and so on, until all horses exhibited are provided with natural caudal appendages.

Henry M. Stanley attributes the present trouble in the Congo Free State to the incapacity of Belgian officers in managing the natives. Mr. Stanley says central Africa will become civilized within the next twenty years. The natives are easily managed where kindness is combined with firmness. When educated they grow into peaceful and industrial citizens.

The wife of Dr. Parker, of the City Temple, London, who died the other day, had the following memorandum attached to her will:—"I particularly request and direct that at my death those who love me will put on no sign whatever of mourning, but that they will think of me as promoted to a higher school, where I shall meet my Lord, and know even as I am known."

It is said that Dinah Mulock Craik, the famous authoress of "John Halifax, Gentleman," made a habit of leaving at her bank the manuscript of each of her stories as soon as it was completed. It would remain there perhaps six months, and then she would call for it and see how the story affected her after that lapse of time. If it pleased her the manuscript was sent to the publishers, otherwise it was re-written or thrown away.

An oak tree of perhaps two hundred years' growth, was being felled at Bradenham Wood, Eng., when the woodman called attention to something peculiar on the tap-root. On clearing this of soil it was found that the object was a horse shoe of ancient make. Obviously in the beginning an acorn must have fallen into the hollow of this cast shoe, and as it grew through the slow generations, the root filled up the circle, carrying it down into the earth in the process of its increase, till at length the wood and iron were thus strangely wedded. That tap-root is now used as a paper weight in the vestibule at Bradenham Hall.

Some years ago, when the Queen visited a certain sisterhood, she desired the superior to show her the place just as an ordinary visitor, and not to treat her as Queen. The superior agreed, and proceeded to conduct her Majesty all over the building. The Queen was much interested, but observed with vexation that wherever they went the sisters curtsied. At last she remarked to her guide—"I thought I made you to understand that I wished to be treated as an ordinary visitor? Why, then, is every one curtsying?" "Pardon me, madam," replied the mother, "you have been obeyed. The reverence shown by the sisters was not intended for the Queen, but for me, their superior."

It is proposed to endow a scholarship at the Gordon College in memory of Colonel Hamill Stewart, and to raise a subscription for that object. Colonel Stewart was the heroic companion of Gordon on his mission to Khartoum, and was treacherously murdered near Berber in September, 1884. It was he who, in December, 1882, arrived in the Sudan to report on the growth and power of Mahdism, and from there sent down warning after warning to the Egyptian Government. Thirteen months later he was directed at a moment's notice to accompany Gordon alone on the long journey to Khartoum. Afterward he was sent down the Nile to make a report to the authorities and was murdered on the way.