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TRAPPERS.—Please note I don't want rabbitkins at present.

GARDEN NOTES**THE VEGETABLE GARDEN.**

The principal crops of vegetables will be coming in soon, and for some time peas, beans, cauliflowers, carrots, cabbages, and other things will all be in at once. Abundance at one season and a dearth at another. It is no great trouble to produce lots of vegetables during the summer months, but to have good vegetables and a plentiful supply of them all the year round requires a considerable amount of forethought and skill. We will presume that a good supply is provided for the next three months or so. The next thing is to secure a supply for the winter and spring. We will suppose that such things as parsnips, intermediate carrots, beet-root, and onions are already in, as previously advised. The next thing should be a good plot of celery, and leeks may be planted in the same manner, but they do not require so much moisture as celery.

The next and principal crop is cauliflower, broccoli, savoy, curled kale, Brussels sprouts, and a good garden sward of green or purple-top turnip, the latter for standing the winter. If the swedes are not in already, no time should be lost in getting them in, also the turnips.

Brussels sprouts should be got in at once to secure good sprouts.

The next to be planted is autumn giant cauliflower, in good rich soil; then comes the broccoli, some of the late autumn late Queen or Latest of All to follow. These will carry you until well into the varieties, then Winter Mammoth, with spring.

Curled kale is very highly appreciated for winter use, especially after it has had sharp frosts. It is something like parsnips in that respect, being improved with frost.

Garden rubbish is apt to accumulate in odd corners and become offensive, especially from cabbages and cauliflowers. They give off the most obnoxious odours that might become quite offensive to one's neighbours. Therefore get rid of them. The best and most profitable way to do so is to put them into the bottom of the trench and dig them in. In preparing ground for future crops not only do they cease to be a nuisance, but become a valuable manure.

The sowing of French beans for succession should continue, but be sure not to sow too thickly—2in or 3in between the seeds is quite thick enough, as a finer crop and better beans are procured than if sown thickly. Sow peas for succession, but the kinds sown now should be of the early kinds, so that the crop will be matured before the early frosts occur, which generally make their appearance about April, and sometimes earlier; so it would be useless to sow the tall kinds that are much longer in maturing.

Plant out leeks in trenches, also celery in showery weather. Potatoes, where there is a good crop of an early kind, may be lifted without waiting for the tops to die down. The tender skins will be damaged if this work is done roughly, but they will soon harden and ripen in the store, as well as if left in the ground. The advantage gained by this early lifting is twofold. Firstly, if they are wanted for seeds for next early spring planting, they are better for sets from the early lifting than they are from those left in the ground until the tops die down; and, secondly, it gives very suitable ground for the early planting of winter greens, such as broccoli for coming in in late autumn, winter, and spring, also savoy, curly greens, and Brussels sprouts. All these are better and finer if got in in early January than if left until later on in the summer, as late planting does not give them time to get sufficiently advanced before winter sets in.

THE FLOWER GARDEN.

Gladiolas are very liable to be damaged by high winds; therefore it is necessary that they should be staked singly, or if they are in rows they may have a stake at intervals or at the ends of each row, with good stout material run around them to hold up the heads of the flowers.

Wallflower may still be sown. Sow in shallow drills 6in apart in good free loam, thin out the young plants to 3in apart, and transplant the thinnings, and when they are strong lift and plant them with the trowel, taking a ball of earth with them. By this they start into growth right away.

Sow also aquilegia for next season's flowering.

THE TOMATO-HOUSE.

As the fruit becomes well advanced, increase the ventilation, and do not give them quite so much water from the time they are beginning to ripen, but do not let them suffer for want of it.

SCIENCE NOTES.**RAPID PHOTOGRAPHY.**

One second is a brief period of time, and if we concentrate our attention on such a period, and then try to imagine the taking of 15,000 separate successive photographs during that time, the feat will appear to most of us absurd and impossible. However, there appears to be no limit to the ingenuity of man. Provided that a definite problem is set, and attacked by properly trained men, with facilities for experiment and research, a successful solution may sooner or later be confidently anticipated. It is so with rapid photography. It was about 40 years ago that the use of certain "rapid" photographic plates made it possible, for the first time, to obtain a photograph of a cannon ball in flight. Certainly all that could be seen was a black, smudgy line, marking the path of the projectile, but the achievement was regarded by man as something distinctly in advance of previous efforts.

Later, an Englishman further perfected apparatus and plates and obtained a distinct picture of the projectile during its flight. Then came the idea of a series of rapid pictures, and scientists saw at once the value of this for noting matters that were too rapid for the eye to see, such as the wing movement in a flight of birds, insects, etc. One experimenter, working on the flight of pigeons, perfected apparatus that enabled him to take 12 photographs a second. To-day ordinary moving picture photographs are taken at the rate of 250 per second, though about 15 a second is said to be the most generally useful speed. A Frenchman, M. Bull, first succeeded in taking 3,000 pictures a second, and has followed up this success, using a process invented by a fellow-countryman, by taking 15,000 photographs per second. Only a limited variety of things can be so photographed: the passage of a rifle bullet, for instance.

It is, of course, impossible to conceive of a camera shutter that could open and close 15,000 times a second. This difficulty is overcome by using the electric spark. Each spark lasts a few millionths of a second, and thus the necessary rapidity and illumination are obtained together. The travelling bullet passes in front of the spark and its "shadow" is projected on to a moving film; the "photographs" so obtained are quite clear cut and definite. The apparatus is arranged so that the firing of the gun sets the whole thing in motion, and the bullet, as it passes away, cuts certain threads and thus stops the apparatus. One of the workers, M. Abraham, has still further perfected the control of the sparking apparatus, and contemplates the possibility of taking similar pictures at the enormous rapidity of 80,000 a second.

THE LAZIEST OF ELEMENTS.

Chemically active elements are those which, like oxygen or chlorine, are anxious to combine with other elements. There are a few elements classified as lazy or inert, desiring as it were to be left alone, and entering into combination with other elements only under special and rare conditions. The nitrogen of the air has such characters, but modern chemistry has shown several other gases even more inert. Of these the chief is the gas Argon; this gas forms one per cent. of the atmosphere, and was discovered by Sir William Ramsay, about 1894. It has been noted that when nitrogen was obtained from the air it was heavier than nitrogen obtained by chemical means from various compounds; this puzzling feature was not understood until it became known that atmospheric nitrogen was accompanied by the gas argon, as well as by minute amounts of other rare gases. Even when argon became known, it was regarded as a useless asset as far as man's industrial activities were concerned. Now, however, the very inertness that caused it to be regarded as valueless is found to be the character that renders it valuable.

Not many years ago our electric light bulbs were made to enclose a vacuum. Dr Irving Langmuir, in that great wonderland of recent discovery, the research laboratories of the General Electric Company, U.S.A., discovered that it was an advantage to fill the bulbs with argon. The metallic filament in these bulbs is made of another equally wonderful element, the metal tungsten, only recently found to be valuable, and for which new and important uses are continually being discovered. By filling the bulbs with 90 per cent. argon, the heat from the filament is less readily conducted away, the evaporation of the metallic filament is decreased, and thus a much higher efficiency and the construction of more powerful lamps is made possible.

MOTORING NOTES.**LOOK TO YOUR BRAKES.**

How about those brakes of yours, Mr Motorist? Have you paid any attention to them lately? Do you know how long it takes you to stop when you are going 20 miles an hour? Do you know whether or not you have good brake lining? Your life may depend on these matters, and it is high time that you took an interest in them.

A REMEDY FOR A LOST FILLER CAP.

A missing petrol filler cap is not an infrequent occurrence, and the difficulty in finding another one of the same size and thread is generally considerable. Quite an efficient temporary cap can be made from an old syrup tin lid and a piece of lead. A hole is bored in the centre of the lid and a piece of wire approximately six inches long is attached. A piece of lead is secured to the end of the wire, which has the effect of holding down the lid over the filler hole when placed in position.

SUNLIGHT AND THE TYRES.

Automobile tyres are wrapped in paper by the manufacturer because tyre makers know that sunlight and air sap the strength of rubber. It should be protected until it actually goes on the rim for road service. Statistics prove that a tyre good for an average of 6000 miles when it leaves the factory will lose approximately 2000 miles of life by being carried unprotected, as a spare for one year. Neatly covered tyres look so much better hanging on the back of the machine than do bare tyres. The covers are waterproof and can be washed without injury as often as the car is washed. They come in colours to match the body finish.

PNEUMATIC TYRE SUBSTITUTE.

An efficient substitute for pneumatic tyres on motor vehicles is said to have been perfected by a Norwegian. It involves the use of steel springs tangentially applied to the wheels, with an outer rim of solid rubber, steel, wood or other material. The inventor claims that spring wheels manufactured to his designs may be used on motor trucks and street cars as well as on lighter vehicles. The shortage of rubber in Germany and neighbouring neutral countries made it necessary to develop spring wheels as a temporary expedient during the past war, but there is no record of these designs being successful enough to displace pneumatic tyres when these were available.

A PROPELLER MOTOR CAR.

Running about the streets of Paris is a small motor-car that has caused quite a sensation because of the novelty of its mechanism. It is run by an aeroplane propeller at the front instead of by driving wheels on the ground. The great advantage claimed for this method of propulsion over the ordinary method is that it does away with so many delicate and complex parts, for the engine works directly on the axle of the propeller, so there are none of the differentials, speed changing gears, clutches, etc. Again, the suppression of all these parts considerably lightens the load to be propelled, and the whole car can be built very much more lightly. The entire mechanism consists of one eight-horse-power motor with two cylinders in a V and cooling apparatus. The propeller has four blades, it is four feet six inches in diameter, and is surrounded by a circular protecting band. The motor acts directly upon the axle without gears or chains. Notwithstanding the small power of the motor—only eight horsepower—and thanks to the form and lightness of the car and the absence of all power wasted in mechanical transmissions, it goes easily fifty miles an hour and runs between 60 and 65 miles on a gallon of petrol. The car complete weighs 500 pounds and its wheel base is a little more than 11 feet.

The Great Kimberley diamond mine in South Africa is more than 4000ft deep.

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