found in clusters, and is rapidly deliquescent, so that while standing, or more speedily when gathered, it melts away, drop by drop, into a fluid like ink—indeed, it is often used as such The lovely-looking rose-coloured fungus Russula emetica, is one of the most poisonous of its tribe, and fortunately is not very common with us. Although commonly red, it sometimes fades into pink, or deepens into purple. Many stories have been told of disasters arising from the inadvertent indulgence in this emetic agaric, as it is called, only a small piece of which is sufficient to produce very unpleasant results. Cantharellus cornucopeoides, which is more curious than beautiful, belongs to the same genus as the beautiful little yellow Chantarelle, which having once been seen is sure to be recognised, and once tasted, to be remembered. It smells like ripe apricots, and is delicious if properly cooked, as we have tasted it in France and Italy. The pretty white Agaricus nutans and the lowly Peziza humosa complete our illustration. This last fungus is found growing close to the ground, and is one of a large genus whose species are exceedingly variable in size, some being microscopically minute. On damp walls, decayed wood, sticks, rushes, dead leaves, or even gravel walks, we find specimens of the minute and beautiful Pezizas. In the early spring on old dead branches in woods and copses who has not seen the lovely crimson cups of Peziza coccinea, or Dryad's cup, a circular basin of the richest carmine about an inch and a half in diameter? Fries, the great German writer on fungi, attributes his first incitement to the study of this family of plants to his delight in seeing the crimson peziza in its native woods.

POTATO-PLANTING AND PEA-PICKING.

So accustomed are we all at this time of day to the daily and unstinted use of the potato in our ordinary diet that we feel as if we could almost as easily give up wheat and other grain as this pleasant and wholesome root, and we are apt to forget that not very long ago it was unknown in England, and even as late as the end of the seventeenth century writers on gardening treated it with indifference and regarded it as the "food of poor people." In 1584 Queen Elizabeth, of excellent memory, granted a patent "for discovering and planting new countries not possessed by Christians," and under this sanction some ships equipped by Sir Walter Raleigh sailed with him to America. Thomas Hurriott, who accompanied this expedition, sent to England the description of a plant called by the natives of North America openawk. Sir Walter Raleigh, with courtier-like gallantry, called this land Virginia, and here the curious plant was found. Gerarde in his "Herbal" describes the plant, and figures it as having "round roots hanging on ropes, and being good for food either boiled or roasted." Even earlier than Sir Walter Raleigh's expedition to North America, the same plant was known in Quito, South America, under the name of "Papas," which the Spaniards corrupted into battata, and the Portuguese into ba ta ta, to which potato is a very near approach. It seems that Sir Walter Raleigh, on his return from America, planted some of these potatoes on his estate in Youghal, near Cork, in Ireland, and that this easily-grown food became popular in Ireland before it was adopted in England. It is related that it was accidently introduced into England in consequence of the wreck of a vessel on the coast of Lancashire which had a quantity on board. For a long time the potato was cultivated only in gardens and regarded as a delicacy. Gerarde recommends it as the basis of delicate conserves and restorative sweetmeats, with the assurance that its "flatulent effects may be infallibly corrected by having the roots "eaten sopped in wine," adding "to give them the greater grace in eating they should be boiled with prunes." Not until after a considerable time did this valuable plant become the palatable, productive, and farinaceous article of food and cultivation it now is. It appears that in 1725 the few potato plants then existing in gardens about Edinburgh were left in the same ground from year to year as recommended by Evelyn, a few tubers were perhaps removed for use in the autumn, and the parent plants well covered with litter to save them from the winter's frost. The botanist recognises the potato as Solanum tuberosum, belonging to the same natural order of plants as the poisonous deadly nightshade (Atropa belladonna) and the henbane (Hyoscyamus niger). It may be propagated both by its seed and tubers, which latter we eat as potatoes; the eyes or specks we cut out are the buds whence grow the young tubers. The most generally adopted mode of propagation is by the tubers, though new varieties are procured by using the seed, which may be mixed, and so improve the kinds and qualities of the tubers. The shoots coming from the tubers and layers of the stalks may also be used. Planting in the open ground is best done in October and November and may be continued till the end of March Our Illustration shows us that the ground must first be well dug, and that the sets or pieces of the potato or tuber to be planted must each have one or more little eyes or roots in it. Some gardeners recommend the largest potato to be planted whole, others that they be sliced into pieces containing several eyes. Many device are suggested to secure early potato crops, and long treatises have been written on potato-growing. Anyone can plant potatoes if the ground be previously prepared and dug, and we cannot even object to the employment of female labour in this branch of agriculture. With her apron full of slices of the tuber nicely prepared she proceeds to insert them in rows with the dibble, an instrument which is invaluable for the purpose, for early crops twelve inches apart each way, and for the main ones eighteen inches. The sets should be put in about six inches beneath the surface. Afterwards the earth should be raked or struck in with the spade and not trampled upon, but planted as sufficient is dug for receiving a row, for the looser the soil the less does frost penetrate and the more readily does superfluous moisture escape. As soon as the plants come up and can well be distinguished they should be freed from weeds, and of the early crops the earth drawn round each plant so as to form a cup as a shelter from the cold winds, which are their chief enemies in the early part of the year; but the main crops should not be earthed up, as it lessens their productiveness. This year we are reminded that our crops are not always successful, and that the potato is subject to a sort of epidemic disease which is very fatal to its health and life. Very sad tales are told of the great losses to growers of potato crops owing to this visitation. For eleven years we have not had so bad a time. The disease first became generally apparent in 1845, when the whole crop in Ireland, the mainstay of the people's food, was lost, and a famine ensued. Since that time the disease has constantly reappeared, blackening the leaves before they become ripe and rotting the tubers in the ground. Royal commissions have been formed to investigate the nature of this disease, and scientific men are yet discussing it.

We are told on good authority that thoroughly-dried potatoes will always produce a good crop free from disease. Such is the positive assertion of Mr. Bollman, a professor of agriculture in Russia. In a pamphlet written by this gentleman it is asserted as an unquestionable fact that mere drying, if conducted at a sufficiently high temperature and continued long enough, is a complete antidote to the disease. This fact Mr. Bollman proved by a number of experiments, and it has been corroborated by many other agriculturists; but is not, as far as we know, frequently adopted in these islands, where so much loss and suffering is occasioned by a failure of the potato crop, we suppose because, in agriculture as in sanitary matters and many other things, we have yet to learn that "prevention is better than cure." Few persons are probably aware of the quantity of potatoes used in England, America, and the Continent, in the manufacture of starch, arrowroot, and tapioca. A starch manufactory in Maine, U.S., grinds from 16,000 to 24,000 bushels of potatoes annually, and makes 140,000 lb. to 240,000 lb. of starch, which finds a ready market at four dollars per 100 lb.

Dr. Hooker, of the Royal Gardens, Kew, has lately been reviving a suggestion made by the late Professor Henslow, when the potato disease first invaded the counties of Suffolk and Norfolk. It appears that the disease does not affect the nutritive properties of the starch of the potato, and his plan is to grate the potato into water; the starch will then fall to the bottom, and the diseased matter, woody fibre, &c., remain suspended in it. The plan is to drain off the water after several washings, and to dry the starch for use as arrowroot, for puddings or cakes, or mixed with flour as bread. We fear, however, this device will be but a very sorry substitute for "a good mealy potato," and we turn to our next Illustration to assist us out of the difficulty and recollect that even dried peas and beans are no bad food when potatoes or green vegetables cannot be had. Here, however, we have fresh green peas lading the stems and filling the basket. Pisum sativum is the botanist's name for this delicious vegetable, and, were we not reminded of dainty dishes by the sight of its pretty delicate green tendrils and leaves, and its pure white blossoms, we should be forced to admire the graceful appearance of the common garden pea. The varieties of peas are innumerable; but

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we incline to the excellence of the Early Conqueror, the Blue Scimitar, and the incomparable Marrowfat. The natural order to which the pea belongs—Leguminosæ—supplies provender and food for cattle in ten or twelve native species. There are the clover, vetch, saintfoin, and many others. The common broad or Windsor bean, so good with farmhouse cheer, and the more delicate French bean and scarlet-runner, which come to compensate us for the loss of the green peas.

Pea-picking is suggestive of bright days and cloudless skies, and it is well that those maidens who fill their baskets with the crisp, bright green pods, plucked from the tender plants, should cover their heads from the sun's scorching rays. In Queen Elizabeth's time peas were brought from Holland, and were accounted "fit dainties for ladies, they came so far and cost so dear." Lydgate mentions them as being sold in London in the time of Henry VI., so that the taste is not a novel one. Peas contain much farinaceous and saccharine matter, and also a substance known as caseine, a flesh-forming material, so essential to health and life in food, hence they are extremely nutritious. In a table prepared by Dr. Lankester, at the Kensington Museum of Food, now removed to Bethnal-green, we find that 14 oz. of beans contain 3 oz. 368 gr. of flesh-forming material or caseine, peas 3 oz. 324 gr.; whilst potatoes contain none of this material, and consist of 12 parts of water, 2 of starch, a little fat, gluten, cellulose, and gum. So that we see how much better it would have been for our Irish neighbours to have made any of the leguminous plants, such as peas, beans, or lentils, their staple article of diet, rather than the unnutritive potato. As food for hard-working men, peas, well boiled and mixed with some animal fat, such as bacon, are excellent food. Pea meal is also good, and may be used in various ways. The soil best suited to peas is a light or sandy loam of some depth. They should be sown in January in sheltered borders, and continued throughout February and March. Sow in drills by the dibble, in rows ranging north and south, and put the sticks alternately on each side of the row. Too much care cannot be taken, when the peas are gathered, not to injure the stems; and we know from experience that if the pods be cut off with scissors the plants produce one fourth more than if roughly gathered. The more regularly the plants are gathered from, the longer they continue in production, as the later pods never attain maturity if the earlier ones are allowed to grow old before they are gathered. As a vegetable, nothing is more delicious than a dish of young peas plainly boiled; but the inventions of a chef de cuisine comprehend transformations of all sorts, and in the greenish brown compound handed to us at a Continental table d'hôte we fail to recognise the fresh, bright green little morsels we associate with our recollections of pea-picking. The pod of the pea is the type of its family, the Leguminosæ, and very curious are the varieties to be found in this little pod. Nature seems to take a droll and special delight in showing how many changes can be wrought upon an idea so simple as that of the pea-pod, and which in the pea would be thought complete. In our own country the little legumes of the Medicago roll up into prickly spheres; those of the Ornithopus are jointed, and grow in sets of three or four, resembling the claws of a newly-fledged bird. Some legumes to be seen in museums, and belonging to tropical natives of this family, are coiled so as to resemble writhing snakes; others are shaped like a scimitar, or covered with dense brown hair, or defended with sharp prickles. The ordinary kinds, when ripe, and the atmosphere is dry and hot, are apt to burst open, sometimes with a sharp crack, the valves curling up spirally and discharging their seeds. These include a considerable number of the most beautiful in nature; they are often of resplendent colours, or prettily mottled, like the French and kidney beans; and even in a single genus, as in the lupins, we find a dozen different shades and modes of spotting. Every one knows the little scarlet bead, black at one end, of the common rosary pea, Abrus precatorius; and there are few fireside museums that do not contain the huge flat or convex and polished brown seeds, two inches across, called "lady nuts." These are the produce of the Entada pursaecitha, the pods of which are a yard long! But we have been led into a botanical gossip at the reollection of a pea-pod; and, indeed, the family of which we are writing realises the beau ideal of a botanical family, for every diversity of size, stature, and configuration occurs in it, from the tender annual that dies in the embraces of the summer sun to trees so enormous that in reading of them we almost suspect travellers' tales. Each one, however great its diversity, maintains intact the family arms—a legume.

REMARKABLE EVENTS.

Among the few remarkable events of the past twelve months, the foremost place is due to

THE GENEVA ARBITRATION AND ITS AWARD.

The Geneva Tribunal was constituted by Treaty concluded and signed at Washington on May 8, 1871, to refer all the claims generically known as the Alabama Claims to a Tribunal of Arbitration, to be composed of five Arbitrators named—one by her Britannic Majesty, one by the President of the United States, one by his Majesty the King of Italy, one by the President of the Swiss Confederation, one by his Majesty the Emperor of Brazil; having respectively named their Arbitrators, to wit: her Britannic Majesty, Sir Alexander James Edmund Cockburn, Baronet, a member of her Majesty's Privy Council, Lord Chief Justice of England; the President of the United States, Charles Francis Adams, Esq.; his Majesty the King of Italy, his Excellency Count Frederic Sclopis of Salerano, a Knight of the Order of the Annunciata, Minister of State, Senator of the Kingdom of Italy; the President of the Swiss Confederation, Mr. James Stæmpfli; his Majesty the Emperor of Brazil, his Excellency Marcos Antonio d'Araujo, Viscount d'Itajuba, a Grandee of the Empire of Brazil, Member of the Council of the Emperor of Brazil, and his Envoy Extraordinary and Minister Plenipotentiary in France: and the five Arbitrators above named having assembled at Geneva, Switzerland, in one of the chambers of the Hôtel de Ville on Dec. 15, 1871, in conformity with the terms of the Treaty, after repeated sittings, made the following award, on Sept. 14, 1872.

"The arbitrators find Great Britain liable for the acts committed by the Alabama; by a majority of the Italian, Swiss, Brazilian, and United States Arbitrators against the Arbitrator appointed by Great Britian, they find Great Britain liable for the acts committed by the Florida; and by a majority of the Italian, Swiss, and United States Arbitrators against the Arbitrators appointed by Great Britain and Brazil, they find Great Britain liable for the acts committed by the Shenandoah after leaving Melbourne. They unanimously decided that, in the cases in which Great Britain was held responsible, the acts of the tenders should be considered to follow the judgment given in regard to the cruisers to which they were attached. They decided that Great Britain was not responsible for the acts committed by the Georgia, or by any of the other Confederate cruisers, except the three above named. They rejected altogether the claim of the United States Government for expenditure incurred in pursuit and capture of the cruisers. They decided that interest should be allowed, and have awarded a gross sum of 15,500,000 dols. in gold (about £3,229,166 13s. 4d.) in satisfaction and final settlement of all claims, including interest. The amount of the claims preferred before the Tribunal, as appears from the revised statement of claims presented on the part of the United States in April last, was 19,739,095 dols. in gold, to which was added a claim for expenses of pursuit and capture to the amount of 7,080,478 dols., with interest at seven per cent on the whole amount for about ten years, or, in all, 45,500,000 dols. in gold (or about £9,479,166 13s. 4d.)."

This award was not signed by the Lord Chief Justice of England, who agreed only so far as the acts committed by the Alabama were concerned. It is said our concession to the United States, in short, was really made when we consented to the insertion of the new rules in the Treaty of Washington, and the consequent award of the Arbitrators will have far more significance as a guide to the future limits of international obligations than as an estimate of the manner in which we discharged the international duties of ten years ago.

MEETING OF THE THREE EMPERORS.

Another event of some importance occurred during the first and second week of September, 1872—the meeting of the three Emperors of Germany, Russia, and Austria, at Berlin. The meeting was said to have been quite of a friendly and domestic character, as the three were employed during the whole time in visiting and reviewing of troops. The Emperors were attended by their Chancellors. The Emperor William by Prince Bismarck, the Emperor Alexander by Prince Gortschakoff, and the Emperor Francis Joseph by Count Andrassy.

THE WORK OF THE POST OFFICE.

The great increase in the work of the Post Office during the past year should be placed on record.

The total number of letters in 1871 was nearly 915 millions; which, as compared with 1870, shows an increase of 52 millions, or, with the number ten years ago, of 322 millions, or, with the year previous to the introduction of the penny postage (1839) an, increase (omitting franks) of 839 millions; making the present number of letters twelve fold the number in 1839. The great increase in 1871—attributable chiefly, no doubt, to the prosperous state of the country—was equal to rather more than 6 per cent, as compared with 4 per cent, the average of the previous five years. The number of post-cards was rather more than 75 millions.

The development of the Telegraph Department has proceeded steadily and rapidly. More than 1300 new telegraph offices were opened during the year; making the whole number at the end of 1871 upwards of 5000; while the messages transmitted increased by about 25 per cent; the whole number during the year having been nearly 12,000,000. Besides these messages there were about 700,000 sent on behalf of the newspaper press.

The rapid progress of the Post-Office Savings Banks has been fully maintained. The depositors increased by 120,000, and the amount of deposits by nearly £2,000,000. On Dec. 31, 1871, the total sum standing to the credit of the depositors, and bearing interest, was rather more than £17,000,000, and the number of depositors upwards of 1,300,000; the average amount to the credit of each depositor (including interest) being rather more than £13. The sum accruing to the depositors last year for interest was more than £370,000.

Exclusive of the sum yielded by the Telegraphs, and exclusive also of about £21,000 mentioned under the head "Life Insurances," in relation to void money orders, the gross revenue of the Post Office last year was, in round numbers, £4,880,000—namely, £4,698,000 from postage, and £182,000 from money-orders. In 1870 the total was £4,929,000—namely, £4,745,000 from postage, and £184,000 from money-orders. Thus, notwithstanding a great increase in the number of letters, there was a decrease in the ordinary gross revenue of the Post Office of nearly £50,000. Again, excluding the Telegraph Service, the expenditure in 1871 was, in round numbers, £3,611,000, as compared with £3,435,000 in 1870; showing an increase of £175,000. The net revenue last year was about £1,269,000, as compared with £1,494,000 in 1870; showing a decrease of £225,000.

LEIGHTON, BROS.

PLANTING POTATOES.

LEIGHTON, BROS.

PICKING PEAS.