IN THE MITCHAM FLOWER-FIELDS.



THE benevolent fairy who conducts the day-in-the-country-fund for pressmen smiled upon the editorial staff of THE CHEMIST AND DRUGGIST the other day, and summoned one of its members to arise and betake himself to where the lavender-fields are purple with blossom and the peppermint rears its head in its pride. In obedience to the call our man, accompanied by a trusty and experienced guide, was presently whirling along the London-Brighton line to a spot indicated upon the railway-bank in letters of burnt ballast, coal, and chalk, by the unromantic name of Waddon.

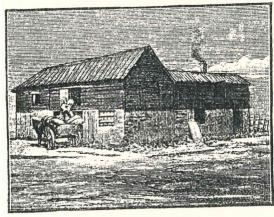
Just before reaching that starting-point of the peppermint pilgrimage, a whiff of a familiar odour diffused the compartment, and directed attention to an eighteenthcentury country cottage, flanked by a large black shed, upon the tarred boards of which the sunlight played brilliantly, while within several stills were busy exhausting their fragrant charges. At the other side of the road our man espied numerous patches of lavender, evidently much damaged by frost, and of weed-strangled peppermint. These, we were informed, belonged to several small local cultivators. principal object of our man's journey was to obtain ocular evidence of the state of the essential-oil crops, but as one or two distilling-sheds— "factories" they scarcely deserve to be called—are established within a stone's throw of Waddon Station,

and the prospective ramble through the fields was almost certain to lead us far from our starting-point, it was decided to pay a preliminary visit to one of the distilling headquarters before "trekking" into the far-stretching russet and greenhued fields that lay before us, basking in the warm September sun, and almost imperceptibly blending with the steel grey hills on the horizon. Waddon is not altogether a romantic spot. Around the station spreads a settlement of more or less pretentious villa residences, "partly in block, partly in detached pieces," to borrow a classic phrase from the marketreport, and behind the mock-ancient house-fronts the newly-washed domestic linen of Waddonian villadom fluttered unabashed upon ropes stretching from black paling to black paling across the gardens boites-à-tiroir that form an indispensable appanage of these eligible residences.

THE FIRST STILL-HOUSE.

Turning sharply to the left, and ploughing our way along a rather moist cart-rut, a large shed (not the one we had noticed from the carriage window) was reached. It was brick-built to a height of about five feet, the superstructure consisting of tarred boards. Here work was proceeding with the nearest approach to the nervous haste of the town factory of which the bucolic frame is capable.

Three large carts, laden with freshly-cut peppermint-herb, were drawn up alongside the shed, and while the horses peacefully munched the contents of their nosebags, a wooden-faced, stubble-bearded, and stolid-looking labourer, standing upon the load, seized the matsful of herb one after another with the measured precision of an automaton, and jerked them upon the upper floor of the shed, to be pounced upon by his equally stolid and automatic-looking mate.



THE FIRST STILL-HOUSE.

Before tracing the farther progress of the mats we will cast a glance at the distilling apparatus. We said that the shed was a large building—of its kind. It is probably about seventeen feet high, and is divided into two storeys, at a height of about eight feet from the ground, by a strong wooden flooring securely resting upon rafters. Access to the upper floor is obtained by two steep wooden ladders. The shed holds two complete stills, each one of which rests upon a solid brick-built furnace, the masonry of which reaches to the upper floor, and which is surmounted by a huge apple-shaped copper container, into which is packed the material for distillation. A massive copper still-head is affixed to the charged container; heat is applied from below; the water begins to boil, and carries away in its vapour the volatile oil from the herb. The oil-laden vapour passes through an enormous worm, the coils of which measure from 200 to 300 feet from end to end. The worm is immersed in a huge wooden vat, from 9 to 10 feet in height,

between 40 and 50 feet circumference, filled with cold water. There the vapour condenses and runs as water through the end of the worm, which projects from the lower part of the vat about 2½ feet from the ground, into a copper container. Oil and water separate in this container, the former floating on the surface, where it is collected, filtered (sometimes re-distilled), and bottled for the market. Such, in brief, is the process of distillation. which has been described, but is none the worse for repetition here. It may be remarked, in passing, that the Mitcham stills are probably, taken all round, the largest used for the distillation of essential oils. They are very much larger than the apparatus in use at the flower farms of Southern France, and, we may add, more antiquated also.

THE SHRINKAGE OF THE HERB FIELDS.

Now let us return to our friend on the top of the van, who by this time is approaching the last mat of his load. All herbs grown in the Mitcham district, with a view to distillation, are brought to the still in mats of a coarse fibre, known as "bass"—the piassava of the produce trade. The cultivation of medicinal and fragrant plants is now practically limited to three varieties—peppermint, lavender, and camomile. Here and there an odd comer is still planted with rosemary, spearmint, or pennyroyal; but the many roots, herbs, and flowers for which Surrey was renowned in years—liquorice, poppy-heads, former belladonna, Iovage, stramonium, roses, and what not-are now scarcely known there as articles of home growth. A mat of lavender weighs from 100 lbs. to 120 lbs., a mat of peppermint a little more. The mats which we saw unloaded were small ones, and a pair-horse van comfortably held forty-seven of them. In the field the herb is placed upon the mats flower-heads inwards, and the two ends of the matting are simply skewered together with three bits of wood, somewhat resembling

clothes-pegs. Our automatic friend number two, on the upper floor, who receives the mats from his mate on the cart, deftly withdraws the three skewers, throws them on a heap in a comer, and "chucks" the contents of the mat into the depths of the red copper container over the furnace, whence a voice is heard at intervals—"of course the proverbial still small voice, which may naturally be looked for from such a quarter," opines the punster. Wrong, my worthy friend, the voice is a stentorian one, and its accents reveal a brogue of the richest emerald green. Presently the owner of the brogue appears in person, trampling upon the herb in the now fast-filling container, and reveals himself as a burly Irishman, sometimes answering to the name of Mike, and sometimes declining altogether to answer, for his temper is uncertain. Mike is understood to be the "strongest man in Surrey," an assertion to which herculean frame and the enormous biceps of his ochre-coloured arms impthe stamp of truth. He is now rapidly emerging from the still, all the while stamping down the herb within with the whole weight of his enormous body, the task causing him to perspire and mutter freely. He is not a communicative Irishman, and veracity compels us to state that we found it utterly impossible to extract from him anything in the way of "comic" copy, of which every Irishman in print, from Thakeray to the melodramists of the "Princess's," is expected to contribute his regulation quota. "That is young mint," said our companion, picking up a bunch of the herb, "but it's fine mint all the same, and not a bit of 'snuff' on it!"

"I call that good mint, now!" he added, throwing the bunch into the container, the last contribution to its charge. Mike thought it was some of the first year's growth, and then, without wasting words, proceeded to let in the water into the container. When enough water has been admitted to fill the copper halfway up (a limit which the filler of the container

ascertains by pulling out the pole placed in the centre of the container, around which he has trampled down the plant, and placing his arm in the aperture thus created), the massive copper condenser, or head, is let down by means of a crane, and firmly riveted upon the still. The cooling vat has meanwhile been filled with water, the fire is kindled in the furnace below, and the distilling operation is started. Most of the stills in Mitcham are very old, and combine in a high degree that excellence thoroughness material and workmanship which at one time were synonymous with the "English manufacture."

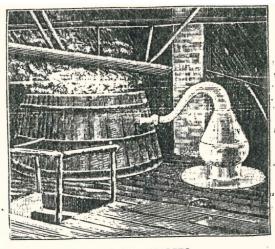
THE OLD SYSTEM.

But in the distilling operation itself no improvement appears to have been thought of since distilling first began in the county of Surrey. The main part of the process, it is true, is probably not susceptible to improvement, but one cannot help thinking, as one watches the process from the beginning to the end, that experience would have recalled some means of rendering the yield more uniform in quality, of exhausting the material more thoroughly, and of using to greater advantage the water of distillation now allowed to run to waste at most of the stillhouses. The distillation of a charge of peppermint herb—the average capacity of a container is somewhat above 20 cwts. takes six hours from beginning to end, and in busy seasons some of the stills are kept going day and night, about 18 tons of fresh herb being thus treated from week's end to week's end. The stillman is required to exercise considerable skill in regulating the heat of the fire. His practised hand, by touching the copper head of the still, is able to discern the moment when the oil commences to "come over." Most of the oil is carried away during the first two hours of the operation, after that time very little is gained, and the quality of the first oil is perceptibly finer than that of the later distillate. The lavender plant appears to

become exhausted more quickly that the peppermint herb, and the camomile still quicker. As a proof of the lack of experimental enterprise which characterises some of the distillers, it may mentioned during that, peregrinations through the district, we were told that one of the stills of a certain proprietor had for some seasons yielded a product distinctly inferior to that which it produced in former years. deterioration dated from the time when a leakage in the still-head had been repaired, and it is surmised that it was caused by the use of an inferior kind of tin in the patched place. But no farther trouble had been taken to ascertain beyond doubt, and to remove, the cause of the deterioration, the owner simply taking the untoward event as a kind of unalterable visitation, as who should fold his hands and cry out, "Bismillah!" after the manner of the unspeakable Turk.

THE RECEIVER.

In a corner of the lower floor of the first still-house which we visited lay a big heap of the slaty coal with which the furnace is fed. A good-sized still, working at full pressure, requires half a ton of coal per day. A rude wooden bench, a few receivers—the large tin-canisters, provided with a long tea-kettle spout, into which the worm pours out its charge of oil and water of condensation—and some odds and ends in the way of apparatus, complete the



THE STILL STARTED.

equipment of this portion of the building. Where the end of the worm projects from the cooling vat a wooden bin, covered with a wire-netting grating, is attached to the still. In this bin, which completely covers the aperture of the worm, the receiver is placed, and the wire-netting lid is secured with a padlock, tampering with the running oil being thereby rendered practically impossible.

The practice of thus encasing and securing the receiver is almost universal, and it should be remembered, in explanation of this fact, that most of the smaller cultivators have no stills of their own, but pay the still-owners for the use of their apparatus. The bin, to which the cultivator can affix his own padlock, is thus the only guarantee he has that he receives the full product of his herb. The fee for distilling is about 20s. per "charge" for a still of moderate size. In years of a fair average crop, a "charge" should yield about 8 lbs. of oil. At the time of our visit to the first still-house, the proprietor of which grows little or no herb himself, but almost exclusively distils that of the smaller growers, one of the two stills was just being emptied of the exhausted herb, while in the other the process of "charging" with fresh herb was proceeding.

We will now again ascend the steep wooden ladder leading to the upper floor, and witness the work of

DISCHARGING THE STILL.

The regulation time allowed for the distilling operation has just come to an end. The huge still-head has been removed from the copper container, and clouds of poignant aromatic fumes, most unpleasantly assailing the nose and eyes of the unacclimatised visitor, ascend from the seething mass of exhausted herb below. The still is the smaller one of the two in the shed, yet it holds about 20 cwts. of raw—or rather cooked—material. Two men are busy at the work of emptying it. One works the crank of the windlass, from

which runs a chain, passing through a hook in the ceiling, and fastened to the end of a heavy six-pronged fork manipulated by the second labourer. The latter gives the signal. Down go chain and fork; a load of the reeking herb is secured. Another sign—the chain tightens, and, by the nnited efforts of the two men, a huge forkful of herb is brought to the surface, and thrown through a trap-door into the yard below.



THE WASTE-WATERS.

The exhausted herb is left to dry in the open and used as manure. Behind the stillhouse is a huge stack of it, lavender and peppermint mixed, the sweetest smelling manure heap one could wish to see. While the container is being emptied above the water of distillation runs out below. It runs waste. So does the water condensation from the receiver when the layer of oil has been drawn off. Way down the back yard, past the perfumed dungheap of exhausted herb, you may trace the little stream of these yet oily waters. It has gradually hollowed out a channel through the light soil, and is lost into a miniature pool on the top of which floats a shimmering bronze layer of volatile oil, carrying the imagination to the petroleumcharged waters of some Central Asian lake. "Are you sure that you could not obtain a larger percentage of oil from your herb than you do now? Could no use be found for the waters that have played so useful a part in the distillation?" We could

not help asking. No—they thought not. In some places the water of condensation from the lavender stills is given to the workman as a perquisite, and they sell it by the quart for a trifle, uat, generally speaking, no serious effort is made to utilise the by-products.

The same stills are used, of course, for peppermint, lavender, or camomile distillation. When a charge of mint follows one of lavender, the worm of the still is well washed with boiling water; but if lavender follows mint, and especially if camomile has been the preceding charge, it is necessary to boil out the still with lime and water.

THE LADY OF THE LAVENDER.

Another still-house, containing four stills, in the same neighbourhood, is owned by a lady, the daughter of a farmer lately deceased, who carried on the business of an herb-grower for many years in succession. The lady in question does not now cultivate any land, but she has many clients who send her their produce for distillation, and she also deals in essential oils, of which she is no mean judge. Woman's strength is in her weakness, and after a short interview with the excellent business woman who, from her modest old country cottage in Mitcham, deals with the smartest firms in the essential oil business in the City, and is enterprising enough to send her prettily beribboned bottles of lavender water and salts (and very good at that) to exhibitions from Kamtchatka to Peru, our man commenced his walk through the fields with a depressed conviction that at the very moment the sexes are placed upon a footing of perfect equality—equality will vanish for ever, and man become of no more account in the management of the world than the peliosaurus. With a meekly triumphant smile the good Mitcham lady unrolled a handsome scroll of paper setting forth that her essential oils and salts had been awarded a gold medal at the Grand International Exhibition of Yucatan, and

handed it for inspection to her visitors. Our guide, who is himself in the essential oil trade, but had not exhibited in Yucatan, and had no more thought of competing at the World's Fair in the Fiji Islands (where the lady, with quiet confidence, announced her intention of exhibiting her oils next year), than of flying to the planet Venus, at once began to show signs of distress. He felt that the masculine dealers would have to look to their laurels if they did not want be outdistanced by their to competitor. Accepting the proffered offering from her store of lavender water and salts, we departed with feelings of sincere admiration for the plucky lady who, for business enterprise and acuteness, can give points to most of her masculine competitors.

A LAVENDER FIELD.

Our way now took us along many fields of black mint, the principal variety grown in this neighbourhood. It did not require a proficient herb grower to discern how poor the crop looked. The day of our visit was the first day of undiluted and uninterrupted sunshine that Wallington had enjoyed for many weeks. Most of the land was badly weeded, and in some places bare patches of soil proclaimed the ravages wrought by the winter frosts. Acre upon acre was pointed out to us which had been converted from peppermint or lavender into potato or cabbage land. And scarcely any new herb fields had been laid out this season. Presently we halted at a large stretch of land whence the sweet odour of lavender was wafted in bountiful waves. Passing through a gate we found ourselves in a wide field, covering, may be, some fifty or sixty acres. The field itself was completely treeless—no shade is wanted on herb fields—but it was sheltered in the east by a small wood, while its other sides were bounded by single rows of tall trees. A road divided the place in two, the half lying to our right-hand being partly devoted to market produce, the other being entirely under herb. First there was a long

stretch of "white mint," a comparatively rare sight in this part of the district. There is no botanical difference between the white and the black mint, and there are probably not half-a-dozen men living who could accurately distinguish by colour, taste, or smell the oil of the white mint from that of the black, but for all that white Mitcham mint realises a considerably higher price than black, and is accounted the finest variety of peppermint oil extant. The plants are distinguished easily enough. The leaf of the black mint is of a very dark green, and the flowers, as the herb stands in the field, are scarcely perceptible.

MINT AND CAMOMILES.

But the white mint, in addition to its paler foliage, has a distinctly marked mauve and pale-grey coloured flower, and, seen from a distance, a field of white peppermint closely resembles one of lavender. The yield of essential oil from the white mint is considerably less than that from the black. It is usually calculated at about threefourths, but the largest grower of white mint in the county, about whom more anon, told us that he estimated the output from the white at very little more than half that of the black plant. The peppermint plants, both black and white, are planted in long rows, and require careful weeding. The first year's crop is always a poor one, and does little more than pay the cost of production, and the farmer looks to the second and third year's crops for his remuneration. After the harvest of the third, or sometimes the fourth season, the new runners are hoed; "dotting" is the local term for this operation. In the month of November the old plants are ploughed in, and the new ones covered to protect them from the frost. Next to the peppermint strip was a large area under camomiles; the finest camomile field, as the owner, who had joined us meanwhile, observed, that could be found in England this year. Very pretty the delicate snowwhite double flowers looked, growing in large circular patches of green. Last year the crop was so thick, and the flowerstalks grew to such height, that one plant touched and uplifted its neighbour until the leaves and stalks were completely hidden, and the broad field looked as if covered with fresh snow. But this year the crop is not only late—quite half the flowers were yet immature—but excessively thin, and black spots of weeded earth were painfully frequent among the white and green of the plants. Camomiles are distilled when the peppermint and lavender oils have been extracted, but there will scarcely be any oil this season, and the proprietor rubbed his bands in glee at the prospect of a "famine price." "Don't sell a pound under 60s., mate," warned our guide, and proprietor needed little persuasion to take the hint. We suggested that it might pay to sell the flowers to the druggists, camomiles being so short this year in Belgium and France that the beautiful soft English flowers would be certain to fetch a very high price. But the decision to throw them into the still was unalterable. Adjoining the camomiles was more mint, and the furthest portion of the farm was covered with an immense field of purple lavender— relieved here and there by a solitary scarlet poppy—now rapidly falling before the hooks of the cutters.

DISTILLING v. BUNCHING.

"Is all this lavender going to be distilled?" was our query. "Most of it. We bunch some and send it to Covent Garden, where it has fetched from 3s. to 4s. per dozen bunches this season, and may send some more there; but with the prospect of high oil-prices this season we rather think it is better policy to distil our herb. But we reckon that, unless we can get 50s. per lb. for our lavender oil, it would have paid us just as well to bunch it and sell it at Covent Garden." The proprietor then recalled memories of 1881, the black-letter year in the lavender-trade, when eight guineas was paid for a pound of the oil, and hardly any could be obtained at that price. But there is no chance of a recurrence of such a figure

this season. We had now reached the spot where the cutters were at work. Armed with a sickle, the cutter seizes a plant, which grows about 2½ feet high—lavender, like peppermint, is neatly planted in rows—cuts it off about 6 inches from the ground, and places it upon the mat which has been spread out beside him, care being always taken to turn the lower part of the herb outwards.

JERRY KEEPS MARCHING ON.

"Mind what you are about," observed the proprietor, as our companion took up a large bunch of the freshly-cut herb and carried it to his nose. "There are plenty of bees in it to-day." And so there were. The field was alive with the trumpetings of the busy insects, buzzing briskly in the brilliant sunlight. The bright blue sky flaked with downy cloudlets, presaging fine weather, the bright hues of the flowerfields, and the gently waving trees in the background made a scene so fair that one envied the lot of a Mitcham flowerfarmer. But his cup is by no means without its dash of bitterness. Land in Surrey is becoming more valuable every year for building purposes, and, even as the American Redskin has almost been crushed out of existence by the onward march of pale faced civilisation from East and West, so the Surrey herb-grower, season after season, sees his domain shrink by the encroachments of the omnivorous jerry builder. Already a row of mean yellow-brick villas had eaten deep into the field where we stood, and the herb grower had almost become reconciled to the idea that the operation of the law of the unearned increment would soon compel him to grow his herbs elsewhere. He was fortunate this season in having some of the best lavender in the county, but he was certain that the yield of essential oil would be an unusually poor one. And that is the same story we heard all round. What there is of the herb has little strength in it, and the fine weather has come too late to effect any improvement in this respect.

SNUFF AND MANURE.

"Snuff," a dreaded visitation of the plant, is not so general or so bad this year as it was last season; but we came upon several traces of its existence during oar progress. "Snuff" is a minute pest, apparently caused by an excess of moisture. It first attacks the lower leaves of the plant, which are the richest in oil, and gradually works its way upwards, strewing the leaves with an amorphous brown substance, whence it derives its name. The "snuff," when serious, affects the aroma of the oil; but, in any case, it destroys part of the leaves of the plant, and, as it is difficult to gather the fallen leaves from a field after harvest. much valuable distilling material is lost. The essential-oil herbs require a good deal of manuring, animal manure being almost exclusively used for that purpose in Mitcham. The proprietor of the lavenderfield which we have just visited is making some experiments with artificial manure, which have turned out highly satisfactory; but, on the whole, such innovations do not appear to be regarded with much favour. Another grower told us that the refuse of the Bradford woollen-mills was formerly much used as a manure for the peppermint

THE "DARNED MOUNSEER."

Taking leave of the urbane proprietor whose fields we had hitherto visited, we next determined to strike out for the grounds of a foreign grower, known among his native colleagues as "Frenchy," and not generally regarded by them with particular favour. Tales of his queer doings, his outlandish ways of cultivation and harvesting, his want of proficiency in the Anglo-Saxon tongue, and the new fangled notions which he had thought fit to introduce into the work of distilling form a perennial source of merriment. But in spite of these untoward circumstances the Frenchman appears to have come to Mitcham to stay. He has been there now for some seven or eight seasons, and he is

certainly as well known in the trade as any of his British competitors.

THE COCKNEY INVADER.

Our route into the French territories lay through a typical Surrey country lane of quiet and peaceful prettiness. "It is some satisfaction to know," said we, "that here at any rate remains a spot of undisturbed rural beauty." This remark, innocent and commonplace though it seemed. immediately roused a demon of apparently uncontrollable passion within our gentle companion. It was difficult to realise that the savage could lie hidden eo closely under the respectable exterior of our friend that the slightest scratch should suffice to rouse him. But the cause of the outburst "Peaceful rural soon became clear. beauty," hissed our companion, jerking his stick towards the roof of a distant building. "See that roof there? Not there—further along where the weather-vane is—Yes. That is a public-house which has recently changed hands, and the new proprietor" (with a forcible benediction upon that worthy's optics) "he advertises everywhere 'Country excursions to the lavender fields!' 'The heart of the lavender country!!' 'Lavender for miles around!!!' and so on—hang him! The result is that every summer Sunday a horde of cockney Bashi-Bazouks, with their female friends, come down upon us and make life a perfect plague here. They picnic about in the fields; they steal the lavender; they spoil the herb by walking through it; they leave paper and rubbish behind wherever they go, and we have been obliged to summons several of them for trespass and wilful damage before the magistrates! These excursions are becoming a mighty nuisance. It's all that house with the weather-vane that brings them here." "That weathervane. Oh that weather-vane! The Lord deliver us from that weather-vane!" thought our man, paraphrasing an historic ejaculation; but he kept the thought unto himself.

"Rabbits are another nuisance," continued our companion when he had recovered his equanimity. "They positively swarm here, and they eat the lavender plants whenever they get the chance. We are also compelled to have the fields watched nightly during the harvesting season, for there have been many organised attempts to steal herb wholesale. Only the other day two men got three weeks each for such an offence."

ON FRENCH SOIL.

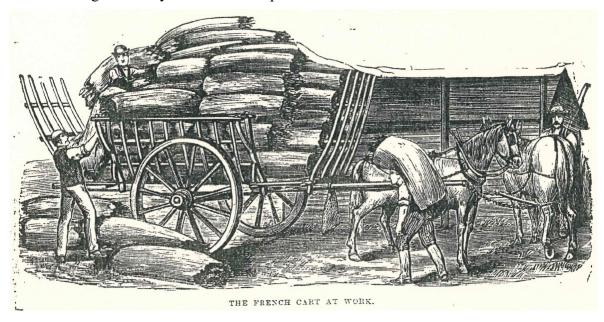
We had now reached a field which was pointed out to us as marking the outlying portion of the "Frenchy's" ground. M. Lelasseur, for that is the Frenchman's name, was not visible. Probably he was engaged in his distillery in the Mitcham Road, or perhaps he was the perpetrator of the partridge massacre of which the volleys reached us from afar. But though the propriétaire himself was absent, the field was not without a souvenir of sunny France, for yonder, at the foot of the ridge, stood one of those massive French country carts, such as you may see wearily drawn by oxen in a French harvest-field. This cart is the substantial butt at which the Surrey jokists are fond of hurling the barbed arrows of their wit. The cart was now being laden with mats of peppermint herb for the Frenchman's still, and looked massive enough to carry the whole crop

from the field where we stood. But see—yonder is another reminder of the presence of the Gaul. A black shed, erected in the middle of the field, bears the legend in huge letters—

Centre des Cultures de lavande et de menthe poivrée John Jakson & Co.

These are some of the outlandish notions that account for "the Frenchy's" unpopularity. "Do in Rome as Romans do" has not been his watchword.

It must be admitted that the particular plot of land upon which we were standing was neither highly cultivated nor particularly productive. We understand that further down the French firm own much more flourishing, and probably more productive, ground, and it would, therefore, be altogether unjust to take the corner we examined as typical of the estate. Two plots were devoted here to cultures we had not noticed elsewhere—French lavender and rosemary. The French lavender-plants are about the same size as the English, but their leaves are of a steel grey instead of a green colour. When we returned from French soil our companion told us that, next to the British wholesale druggists and lozenge-makers, he considered Germans the best customers of the English



distillers. France and Italy were practically lost markets since the advent in Mitcham of the "darned Mounseer," who had played the deuce with their customers in that direction. The Russians still buy a lot, and pay good prices, too; but during the last few years the lozenge-making industry in the North of England has made great progress, and the lozenge-makers now supply Continental markets with the readymade article, and thus the oil exports have been superseded to some extent. The best customers of all were a few large German wholesale firms, unsurpassed straightforwardness and punctuality. As it is not often that one hears an English dealer belaud the Germans as model customers, we gladly place the exceptional fact upon record here.

ARCADIA.

We had now arrived at the end of our peregrinations in this "section," to use an expressive Americanism. Fresh woods and pastures new awaited us further on, and, as we mentally arranged our plans for the portion of our route yet unexplored, we rested awhile to bid adieu to the smiling fields around us.

Here was a perfect Arcadia. Behind us lay a thick cluster of trees—chestnuts, oaks, and pines, overtopping the undergrowth of lilac, hawthorn, and bramble, while at a little distance one solitary silver birch—the Lady of the Woods—rustled her ample foliage. To the left, in a small paddock, a few sleek, black-coated Suffolk cattle were peacefully grazing. At the other side the setting sun cast his lengthening shadows over mint and lavender fields, with the brown figures of the labourers still busy garnering the harvest. The light played brightly upon a distant patch of snowy chamomiles, and increased the brilliancy of the few poppies which relieved it.

A rabbit started by our little black dog had made good its escape in the undergrowth. Birds warbled about us, and a plodding slug had tracked its laborious path along the back of our friend's coat, hazarding even unto the crown of his chimney-pot hat, and soiling that garment of gentility with a streak of slimy silver. It was time to go. And so we struck out for Mitcham Junction and civilisation. Presently the outposts of the metropolis, in the shape of eligible building-plots occupied by dead cats and discarded boots, hove in sight, and the nervous hum of the telegraph wires supplanted the peaceful buzz of the bees.

THE MILLERS.

Our next call was paid to Messrs. J. &. G. Miller, who till several farms between Mitcham Junction and Waddon. There are several Millers in the herb-growing business. The aboriginal Miller hailed from Essex, where he wooed his maid, and became the progenitor of a numerous family, most of whom migrated into Surrey and applied their energies to market-gardening and flower-farming. They have always recognised injunction of the great Manitou, that "all your strength is in your union, all your danger is in discord; therefore be at peace together, and as brothers live henceforward." In other words, they stick together through thick and thin, and that is one of the secrets of their success. The firm's "yard" is situated about half a mile from Mitcham Junction station, and there our man inquired for one of the partners from a country bumpkin who preceded him on the road. Without stopping, and looking neither to the left nor to the right, the bumpkin wagged his head in the direction of the field where the elder Mr. Miller stood, supervising the matting of the recently cut plant. Mr. Miller was positive about the failure of the peppermint crop, and handed us some figures he had prepared showing the result of this year's distillation as compared with last year's.

THE FIGURES.

In 1890 the first 34 stills of peppermint herb had yielded 240 lbs. 10 oz. oil; this season the same number had produced 170

lbs., a difference of 70 lbs. 10 oz., or nearly 30 per cent. One of Messrs. Miller's stills, having a capacity of 23 cwt., yielded in 1890 an average of 7 lbs. 1 oz. of peppermint oil per charge; this year the average had been 5 lbs., Even the 1890 yield was below the average, which would be fully 9 lbs. for a 23-cwt. still.

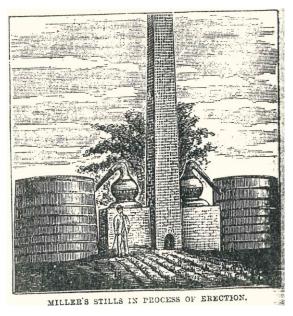
"At Wallington," Mr. Miller said, as he conducted us round his fields, "we have a 32-acre field under peppermint, and that, I am sure, is the largest single area planted with mint this year in the kingdom. Most of the mint we grow is white mint, of which we are the largest producers in England, and we will also stand against all England in the matter of total area under mint, which is over 100 acres on our four farms combined. We have challenged the world, in your journal, to prove that any of our oil has ever been tampered with before it left our hands, and offered 5,000l. reward to anyone who could prove that it had, but we haven't had a single application for the coin. Not one. How's that!"

Mildly expressing our admiration of the robust self-reliance which did not shrink from scattering challenges at large in this lordly way, we interpolated a question about lavender. No, they didn't grow much lavender, though they had a field or two. Of chamomiles they had 1½ acre this season, and that was more than half of the entire area in the county, though much less than in former years. In fact, camomile was going out. While thus conversing we had approached a field at the end of which the vermilion-painted wings of a mowing and reaping machine were busy laying low the herb. Until three or four years ago no one in Mitcham thought of mowing herbs; they were all cut by hand. Since then, however, favoured by a succession of wet seasons, which caused the herb to grow to unusual height, the mowing-machine has become an established favourite with some of the growers. And very neatly and expeditiously it performs its task, at a cost

of not more than 6s. or 7s. per acre, where hand-cutting would run to 20s. or 22s. The first year's mint cannot be cut by machine, as it is too low, and its growth generally too uneven. The field where we now watched the "reaper" at work was covered with a thick growth of two-year-old black mint. At a brisk pace the two sleek horses drew the smart machine along, each revolving vermilion-coloured wing behind. with mathematical throwing precision, as it reached its lowest point, a neat bunch of herb. So low did the wings approach the stubbles that most of the odd leaves—usually left as wastrels about the field—were seized with the bunch and thrown upon the little heap ready for gathering. Scores of frogs and insects, disturbed by the merciless destruction of their shelter, leapt, crawled, or hopped athwart our path as we followed the reaper, in the trail of which a cloud of dust was whirled about as it mowed its way along on the straightest of lines. When the end of the field was reached the back of the reaper was covered with a brown deposit. That powder was the "snuff," of which other informants had already told the doleful tale. This field had caught the infection badly, but fortunately the herb would be harvested before the pest had wrought its full extent of damage.

THE LAST STILL-HOUSE.

Then we neared the new still-house of the brothers Miller. The stills were the relics of one of the most famous house of herbgrowers ever known in the district, now extinct, after several generations of neverquestioned paramount chieftainship of the trade. A too pronounced addiction to the seductions of woman, wine, and song had laid this famous peppermint dynasty low, and their stills, "the oldest in the county of Surrey," as Mr. Miller observed, again indulging in his favourite mood of confident assertion and general challenging, had been secured at auction by the twin brethren. The biggest of the two stills holds 1,500 gallons, and, if not working for the firm, they are let out to still-less growers at fees of 23s. and 30s. respectively. charge, manufacture of the large still about 3½ tons of the finest copper and $2\frac{1}{2}$ tons of tin were used. The tin was believed to contain a large admixture of silver, and when the stills were transported to their present location a local dealer offered to buy the old worm of the larger one, replace it by a new one, and give 501. into the bargain. This variation on the old scheme of exchanging new lamps for old ones was, however, declined by the brothers. The larger still was charged with herb, now nearly exhausted, and an examination of the receiver revealed a layer of 1½ inches of oil upon the surface. It had taken three hours' distilling to produce this result, another demonstration of the poverty of the essential-oil glands this season. The aroma of newly-drawn peppermint oil is by no means a pleasant one. To our man it was most disagreeably suggestive of the tan-coloured cod-liver oil of the days of his boyhood, and he beat a hasty retreat. The characteristic peppermint aroma develops but slowly, say after an interval of several weeks. In Messrs. Millers' stills the waters of condensation and distillation are not run to waste, but are used over again several times, though it has been impossible to ascertain whether any oil is recovered from them. This still-house is



the only one in the district possessing a brick-built chimney-shaft, which carries the odour of the operations well up into the air. The herb-stills are generally voted a nuisance by the surrounding residents, and it is found impracticable to build houses of a superior kind in their immediate neighbour-hood. So strong is the prejudice against them that one of the Waddon still-houses will be dismantled and the plant sold at the close of this season, to enhance the value of the neighbouring property.

Next season the Miller firm propose to eclipse their present achievements by planting a fifty-acre field with black mint, thereby further establishing their coveted supremacy as the champion growers.

MITCHAM CROP PROSPECTS.

Our representative, who has been making the round of the Mitcham district, and whose report we print elsewhere, has had an opportunity of convincing himself of the correctness of the reports that all the herb crops in that centre would fall below the average this year. Agriculturists are proverbial grumblers, and their forecasts have never been known to err in the direction of optimism, but, without altogether endorsing the view, which we heard freely expressed, that this season's herb crops would be the smallest for twenty years, we have seen enough to enable us to state as a fact that it will fall considerably below the average. The peppermint crop may, perhaps, yield 75 per cent. of last season's output, which was already somewhat below the average in quantity, although the oil was unusually fine but the lavender crop will be one of the shortest ever harvested, and a few Winchesters of chamomile oil will practically represent the entire product of the Mitcham industry this season. So far as peppermint is concerned, the deficiency in the crop will turn out to be, perhaps, rather a good thing for the cultivators, for the price of the oil is already considerably in excess of the highest point reached last season; and, while it is believed that the

old stocks of oil are light, the new crop will be almost wholly in the hands of a few growers who can afford to keep it. The lavender produce also will be held by a few owners, and it is not unlikely that they will be able to obtain prices for it which, next season, will give a much-needed fillip to this culture, and induce the herb-farmers to increase their acreage under this crop to a considerable extent. The lavender herb appears to have suffered even more from adverse climatic conditions than the peppermint plant. Only one or two fields show a fair crop, but the bulk is very much blighted.

It is not only in Surrey that the lavender crop is unusually poor; but from other parts of the country where the herb is grown, and especially from Hitchin, which ranks next in importance to Mitcham, comes the same tale. The figures comparing the result of the distillation of peppermint oil during the present season with those of 1890, which we quote in our Mitcham report, have since corroborated by the books of another distiller, showing that from an equal area under peppermint cultivation he obtained in 1889 500 lbs., and in 1890 420 lbs. of this oil. The same acreage is estimated to produce only 300 lbs of oil this season. The distilling season has opened nearly four weeks later than usual this year. Mitcham fair takes place on August 12, and on that date distilling is expected, as a matter of course, to be in full swing. But this season many stills had not started at the beginning of September.

The decline of the Mitcham herb culture may be estimated from the fact that this season's peppermint acreage does not attain one-tenth of the average extent of ground cultivated with the same crop ten years ago. It is quite likely that next year and the year after that a considerable extension of planting may take place, especially if oil prices should rule high throughout the winter; but it almost appears as if the herb culture in Mitcham

were doomed to extinction within a measurable span of years. With all its advantages of soil and climate, it is questionable whether the Mitcham district is not too near to the metropolitan area to remain a suitable ground for purely agricultural operations other than market gardening. There can be little doubt, however, that if, under conditions holding out the hope of an adequate remuneration to the grower, experiments in lavender and peppermint cultivation were made in other parts of the country, such experiments would be successful. English peppermint and English lavender are too firmly established in popular favour to allow of their culture becoming altogether unremunerative.

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