

FABRICATING PERFUMES.

ATTEMPT IN LONDON TO RE-GAIN LOST INDUSTRY.

Essence of Pineapple From Rancid Butter - Scientific Wizardry.

A plain-fronted factory in a back street in Hackney, hard by Shore-ditch slums and Bethnal Green tenements, does not seem a fitting home for a craft that would have made mediaeval magicians hide their heads and ancient soothsayers own themselves beaten, says the London Mail.

Yet in just such a building in this unlikely quarter an attempt is being made to win back for England an industry around which all the romance of science clings. We have abolished the black-capped wizard, but in his place the modern synthetic chemist has come. He does things more wonderful than the magician pretended to do.

In his hands rancid butter, distilled with alcohol and sulphuric acid, is transformed into the essence of pineapple. He takes putrid cheese and sugar, and brings forth a preparation that recalls memories of Pacific islands in flower time. Evil smelling chlorine under his treatment becomes an agent for the production of the essence of the lilac, or geranium, or lily of the valley. Strong vinegar and alcohol yield the delicious flavor of the pear. Coal tar enters the laboratory, and after being subjected to treatment becomes the most delicate of flavorings or the most dainty of scents.

THE CHEMIST V. NATURE.

There was a time when men went for their dyes, flavorings, and scents to nature. Indigo, for example, was made from the indigo plant. To-day it is made without it by the chemist at a fraction of the cost, and many of the old indigo plantations now lie waste. Lily of the valley and other scents were extracted from flowers; this is no longer necessary. The chemist will tell you that the artificial product is better, since in the extraction of perfume from the flower valuable properties are left behind or destroyed, and even some undesirable ones remain. The artificial product, properly made, contains the properties of the perfume in the proportions in which they originally existed in the flower.

Science has stepped in to supply the shortcomings of nature. Faraday and Wohler, nearly eighty years ago, found out how multitudes of new and interesting substances could be created and artificially made. While chemists failed to learn how to make artificial diamonds profitably—the dream of so many—they succeeded in giving us aniline dyes, which have given greater profit than ever diamonds could.

It is an old story now how this new branch of chemistry, which in part originated in this country, was allowed to drift out of our hands. Here we had the facilities, the encouragement necessary for the long years of research work which had to be faced. Till quite recently young men could not learn if they would. And our manufacturers did not seem especially anxious to encourage them. Rules of thumb methods and the absence of exact research had to be paid for. Germany secured almost a monopoly. To-day it buys our coal tar and sells us back its aniline dyes. The aniline dye industry, originally a British invention, employs in Germany alone 15,000 men, and we import from there 90 per cent. of the dyes we use ourselves.

ESSENTIAL OILS.

In the essential oil of scents our record was even worse. It is this that lends special interest to the effort now being made to win back one branch of the trade by adopting the methods which in Germany have proved so successful. The house of Bush, of Hackney, has for generations been a prominent British scent and flavoring essence maker on the old lines. It has scent farms and depots in many lands. To the general public a firm like this is not well known, for firms that prepare the primary matter of scents do not deal with the public. Their business is to the advertising perfume manufacturers, who in turn combine, prepare, and place scent on the market.

While the British house was steadily pursuing the old way, in common with others, it found our markets being more and more invaded by German chemists. About three years ago it resolved to meet the Germans on their own ground. It was not a thing that could be done in a moment, for the formulas for producing artificial perfumes are among the most jealously guarded trade secrets.

The first start had to be made in the laboratory. For nearly two years Dr. Isherwood, himself trained at Wurzburg, and his assistants toiled over minute experiments. A quantity of the essential matter of a plant would be obtained and analyzed. The raw material thus dissected would perhaps cost £40 or £50. The first thing was to find exactly of what the perfume consisted. Why does the rose give forth its odor? What causes the scent of the lily to be of one kind and that of the geranium another? Easy questions to ask, but not so easy to answer. And when the answer was obtained the next step was to combine artificial material as exactly to reproduce this scent.

A TRANSFORMATION.

It is practically impossible for the layman to understand the process of chemical interchange by which chlorine and alcohol and ether are made into bergamot and hyacinth and May blossom. To see a rooking chemical heated, distilled in a vacuum, combined with even more evil-smelling stuffs, and then come forth so as to be indistinguishable from the scent which one's grandmother produced from her flower garden seems miraculous. And to do it meant years of experiment and disappointment.

When the chemists had done the first part of their work the business

had only begun. For the same thing had to be done under commercial conditions. The result might be satisfactory in the laboratory. Would it prove equally so in the workshop? Before this could be ascertained a special plant had to be designed to produce the results achieved on the small scale. A frequent and great source of difficulty was to find material to withstand the corrosive action of many of the re-agents necessary. More often than not unforeseen conditions made themselves apparent when the large apparatus was first set to work, and this frequently necessitated a complete rearrangement. Then they had to go back to combat these new difficulties.

In addition to all this workmen had to be trained, for something more than routine is wanted here. It says much for East London workmen that they could be trained. Not a single German worker was brought in. Men on the spot were taught. This is only two or three months since the British makers could place their output on the market. They reckoned on a hard fight, and doubtless will have it, for when a field has been for so long occupied by foreign firms, it will not be regained in a moment. But already the results are proving more than satisfactory. The British goods are making their way in Germany itself, and also in many manufactures, and further, a new British import trade is being built up in the United States.

The great value of this successful experiment in the British manufacture of the essential material of perfumes lies in the possibilities it presents. Perfumes are only one branch of the synthetic chemical trade we have lost. If we can win one back we can win back others. The lack of training is being gradually remedied. London University is awake on the matter, and the establishment of the new Birmingham University by a doctor, in the right direction. The London County Council has also recently made technical education a subject of special investigation.

DISOBEDIENCE TO ORDERS.

INSTANCES WHERE IT HAS LED TO FAME.

Men Who Would Never Have Been Heard of if They Had Not Disobeyed.

"Poor old Jameson!" cried the late Cecil Rhodes, on hearing that the impulsive and hot-headed doctor had actually started on his memorable raid. "We have been friends for twenty years, and now he's gone and upset my apple cart," says a writer in Pearson's Weekly. The remark was apposite and true. Dr. Jameson most certainly did, by an act of flagrant disobedience such as has rarely to be recorded of a Chief Administrator and an officer in the service of the Transvaal. But he did something more. On the day that he crossed the Transvaal frontier with his troops and his guns, he hewed for himself a niche in the Temple of Fame. But for the raid, he would have lived and died a plain subordinate official in the service of the Chartered Company. His very name, even, would have remained utterly unknown to the bulk of his fellow-countrymen. Whereas, now, no historian can ever write the story of South Africa without recording therein the part played by Leander Starr Jameson.

Every tourist who visits the beautiful collegiate church, commonly called a chapel, of Roslin, near Edinburgh, is shown, as a matter of course, the famous "Prentice Pillar." The youth who wrought this marvellous piece of workmanship achieved, to the story runs, immortality conjointly with his own death, by an act of flagrant, though under the circumstances, pardonable disobedience.

PARDONABLE DISOBEDIENCE.

The builder of the chapel in question went, it is said, to Rome, in order to steal thence a series of designs, which, blended together, should enable him to produce one column of surpassing excellence. This column had been already hewn in the rough, previous to his setting out on his journey, and he left it in charge of his chief apprentice. Strict injunctions that it was on no account to be touched until his return. The youth, however, conscious of his own genius, set to work in defiance of his master's injunctions, and completed the pillar as it remains to this day—a perfect specimen of mediaeval Gothic tracery standing out conspicuously where everything is beautiful. He had just finished his work, and was standing back a little way, lost in admiration of it, when his master entered. The old man was an artist in his way, and a single glance was sufficient to convince him that not only had the pillar been completed, but that the work had been done in such a fashion as rendered any attempt at rivalry.

OUT OF THE QUESTION.

One instant he paused, lost in admiration. Then, chagrin, quickly changing to insane passion, took possession of his soul, and, seizing a mason's hammer which lay handily, he crept stealthily behind the still unconscious youth and struck him dead.

Lord Wolseley might never have risen to be Commander-in-Chief of the British Army had it not been for an act of disobedience well nigh unparalleled in those days. It was during the Indian Mutiny, in the fierce fighting which preceded the second relief of Lucknow. A mess-house commanding our lines was held by the rebels. Beyond that lay the strong fort of Moti-Mahal. It was necessary that the former should be occupied, and at the point of the bayonet, and young Wolseley, then a captain in the 90th Foot, was selected by Sir Colin Campbell for the task.

"But mind," ran his parting injunctions, "no advancing beyond your goal. I don't want to hazard bringing on a general engagement." Wolseley promised anything and everything, and then, at the head of

his company, swept through and over the mess-house like a whirlwind, leaving a little heap of dusky bodies behind him, and, under a terrific fire, scaled the south bastion of the Moti-Mahal and DROVE OUT THE DEFENDERS.

Sir Colin was outwardly furious, and gave the presumptuous young officer a terrible quarter of an hour the following morning at Ordeley Room. But a few months after the offender found himself gazetted to a majorate out of his regular "turn"; and, for the rest of his life, he was constantly befriended after the same indulgent fashion by the grim old warrior, who, not long after the incident recorded above, himself broke away from all precedent by leading in person, sword in hand, the last desperate rush of his decimated troops on the mutineer's stronghold.

Not a few Victoria crosses have been won by acts of more or less direct disobedience, but perhaps the most striking instance in point is afforded by the case of Private Timothy O'Hea, the deed which gained him the honor, and which, at the time unique in another direction, in that it was not performed in war time, nor in the presence of an enemy.

On June 19th, 1866, on a railway siding at Daville Station, near Quebec, a car loaded with several tons of powder and ammunition caught fire. The risk seemed so terrible, and the certainty of a terrific immediate explosion so startlingly apparent, that an order was issued forbidding anyone to approach within a thousand yards of the conflagration, and a detachment of the Rifle Brigade, then stationed in the Citadel, was told off to see that no one disobeyed.

O'Hea was one of the detachment, and, despite the remonstrances of his sergeant, and the warning cries of his horror-stricken comrades, who naturally imagined that he was rushing straight to his death, he disobeyed the order, and, suddenly bolting out of the ranks and across the intervening space, arrived at the blazing car, he smashed in the locked door, with a coupling pin; and, procured from a near-by ditch, he succeeded in

EXTINGUISHING THE FLAMES.

Perhaps, however, the most striking instance of disobedience bringing to the disobedient one a world-wide and deathless fame, is afforded by the case of Livingstone. We, of this generation, are so used to regarding the discoverer of the Zambesi as an explorer pure and simple, that it is apt to be overlooked at times that his premier object in journeying into the interior of Africa was to preach the gospel to the heathen, and had he been built as other men he would doubtless have settled down in Mahotsa—which was the territory assigned to him—made himself as comfortable as he could under the circumstances, and contented himself thereafter with transmitting home to his employers the conclusion that his proper sphere of work was pioneering, opening up, and starting new ground, rather than preaching. So he plunged boldly north into the unknown.

The London Missionary Society, as postulated, and on their missionary proving obdurate, recalled him. He disobeyed the summons, going on and on, penetrating into regions never before visited by white men, and, in the process, discovering a number of "conversions." But he was not built as other men. He thought and acted for himself. He had not been twelve months in the country before he came to the conclusion that his proper sphere of work was pioneering, opening up, and starting new ground, rather than preaching. So he plunged boldly north into the unknown.

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GATHERING WEALTH.

Men Are Doing It Right Now in This Country.

The United States has become a great nation because she possessed a country vast and rich. It would have been impossible for her to open up such a country without amazing wealth. All the raw materials for producing a greater prosperity and broader progress than any theretofore seen in the world were strewn thick in all directions. It is the same with Canada. We have a vast country, richly stored with materials that our people can refine into wealth. Nature has given us an immense capital with which to do business in the world, and as we bring it more and more into use, prosperity is bound to increase.

Men who make fortunes on this continent are disposed to pride themselves on it and to ascribe it to their own shrewdness and to the progressive methods generally in vogue here, but after all, in some cases they do not require any greater forethought than that of those who set out barrels to catch water while it rains. They catch fortunes by putting out barrels in the golden showers. Men are doing that, right now in Canada, and some very large barrels are being filled to overflowing. Some men disport themselves in the shower and gather nothing; some get a painful and clumsily spill it; but most are under fire, catching all they can of the shower for others.

The great natural wealth of the United States, when brought into utilization, gave incalculable riches to a comparative few, and the same is happening in Canada. It is happening more rapidly here because ways and means of bringing about this result do not have to be devised by our wealth-amassers, but copied from the larger manipulators of the United States. The welfare of Canada requires the broadest possible distribution of wealth, and therefore an increasing number of people are being won over to the idea of public ownership and control of all properties and franchises that are capable of being handled by and for the people.

CARE OF THE HUMAN BODY

SIMPLE RULES OF HEALTH TO KEEP YOU WELL.

If You Observe Them Faithfully You Will Save Big Doctors' Bills.

When the body gets out of order, we have to go to the doctor for drugging, and to pay a pretty big bill for medical and surgical attendance, says a writer in London Answers.

By a morning post recently I received a document detailing the cost of medical treatment for self and family for a twelvemonth. The amount—\$66.37—staggered me, and I sought out our doctor for explanations.

"My dear sir," he said, "if you are sick, you must get well. You must be content to pay the doctor. You need not get ill if you wish, and then you will have no doctor's bills to bother you."

"I will give you one hundred dollars down," I answered, "if you tell me how to avoid all illness."

"Not all," said the doctor, "but the greater part. As I am going out of practice, and you are an old patient, I don't mind giving you a FEW WHINKLES.

"Now, here is an item of \$8.75—ten visits, with medicines for dyspepsia of self and wife. Now, you can easily avoid dyspepsia. You yourself must not bolt your breakfast, luncheon, or dinner. Take them leisurely and enjoy them. Food properly taken is the source of one of the great pleasures of life. Masticate every piece of meat, bread, or vegetables twenty times before swallowing.

"Do not take your food very hot. If it burns the mouth, it burns the stomach. Tell your wife not to drink more than three cups of tea per day, and to loosen her corsets. Don't rush about after meals, but sit or walk quietly. That's a saving of \$8.75.

"Now, here is item No. 2. Three dollars and seventy-five cents for treating three bad colds. How are you to avoid colds? Go straight from bed into a cold bath in the morning. You must not dawdle, or walk through draughty passages. If you cannot have a plunge-bath in your dressing-room, take a sponge-bath in your bedroom, or rub the body with a well-wetted towel. Then dry and dress as if you were trying to

BREAK A RECORD.

But remember this warning. If your nails are blue, or if you feel depressed after the bath, do not take it. Your heart or nerves are too weak for the shock of cold water.

"Should you get a cold in spite of the bath, take a glass of hot lemonade. Go to bed, and cover yourself warmly. This must be done after the first sneeze or shivering fit, or it is of no use.

"The third item is \$2.50. You could not sleep, and when you could you had bad dreams. You can save future expenditure on this head by never going to bed with cold feet, taking supper at least an hour and a half before retiring, and cultivating the habit of putting all thoughts away the moment your head touches the pillow. But you must also keep the bedroom windows open, and wear only sufficient bedclothes to keep you warm.

"Here are two large items. For treating case of typhoid fever \$22.50; for treating case of diphtheria, \$15. I have no doubt you

COULD HAVE SAVED

that sum of \$38.25 by the simple precaution of boiling your milk and your drinking water. Not only in all typhoid fever comes from contaminated milk or water, while milk is the great source of diphtheria.

"Ah! here is \$1.75, charged for curing two headaches. All a case of sluggishness, and a little daily exercise every day, and you will have no more bills to pay for sluggish liver. The form of exercise does not matter much, but it is best taken in the open air. Dig in the garden, ride a horse, or buy a pair of Indian clubs, or one of the numerous 'exercisers' on the market, and use them for half an hour in the morning and half an hour at night.

"You are down for \$1 for an attack of neuralgia, and \$1.75 for the relief of two toothaches. Neuralgia arises from a variety of causes, and most attacks can be prevented by common sense. Do not stand in a draught, dry your hair thoroughly after a bath, do not let yourself run too low for want of a holiday, avoid cold feet. As for toothaches, you can only avoid them by going early to the dentist. But here is a tip. Most toothaches can be nipped in the bud by the application of a little bicarbonate of soda.

One dollar for fixing an ingrowing toe-nail. Cut your toenails straight across, and when one shows a tendency to grow into the flesh, place a small pad of

CONSUMPTION CAN BE CURED

EDITOR'S NOTE.—The Slocum System of Treatment for the cure of Consumption, Pulmonary Troubles, Catarrh, General Debility, and nearly all the ills of life, is medicine reduced to an exact science by the world's foremost specialist.

By its timely use thousands of apparently hopeless cases have been permanently cured.

The Emulsion of Cod Liver Oil is needed by some, the Tonic by



THE FREE TRIAL

The honor of this effectively arresting the progress of this fatal malady rests with the wonderful system of treatment which has been reduced to an exact science for the cure of Consumption and for the cure of Catarrh and other prevalent conditions which pave the way for Consumption—that successful method evolved by America's greatest scientific physician, Dr. T. A. Slocum, whose great liberality, through his Free Trial Treatment, sent broadcast throughout this broad land, has contributed most to the root of the most potent agency in the destruction of human life in this hemisphere.

His Free System of Treatment has arrested the hand of death in the cases of thousands of consumptives and has prevented the disease in countless instances.

The Slocum Treatment consists of four distinct remedies for the cure of Consumption, Weak Lungs, Bronchitis, Catarrh, and all pulmonary and wasting diseases, and is based upon principles essential to the correction of function, the rebuilding of the tissues, the overthrow of parasitic animal organisms and the estab-

lishment of health in all the departments of the human body.

The four preparations embody all the necessary elements of a complete treatment for Consumption—its cure and prevention—as well as for most of the chronic and wasting ills of life. Apparently hopeless cases are cured by their timely use.

These free remedies comprise the great curative forces discovered by the eminent physician, Dr. Slocum, they represent the acme of the pharmacist's skill and with them will be found explicit directions for their use in any case.

You are invited to test what this system will do for you, if you are sick, by writing for a FREE TRIAL TREATMENT and the Four Free Preparations will be forwarded you at once with complete directions for use.

Simply write to the T. A. Slocum Chemical Company, Limited, 179 King Street West, Toronto, giving post office and express address, and the free medicine (the Slocum Cure) will be promptly sent.

Persons in Canada seeing Slocum's free offer in American papers will please send for samples to Toronto.

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Woman are many is uq wou give way tired-out, the story wife of a Fenwick, of hope, 7 her on the "Yes, I am testimony liams' Pin experience er. A cou gan to give mia with tons of the emaciated, and a very thought t but in this ed to grow palpitate v my rest at a had con able to do: An aunt in had writt Pink Pills and I dete After the u distinct im and after u more the t me. I coug left made me se petite retu form my h always feel liams' Medi strongly re ting wome

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Such mala ach, cramps Polson's Ne periodically plants hand and t for quick rel Nerville is any houseb suffering ar year. Do yo SOLD B Hamilt

"Isn't this of Mr. Lam true to life, she's standin

20 Y Mr. Alex. Ont., writte d terribly f years: ago he best cure fo Dr. Chase's this treatme as he has nev old trouble, e and the lengt of "Tom's", d instrument is with a mouke