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SUCCESSFUL
JAM MAKING AND
FRUIT BOTTLING
LUCY H. YATES

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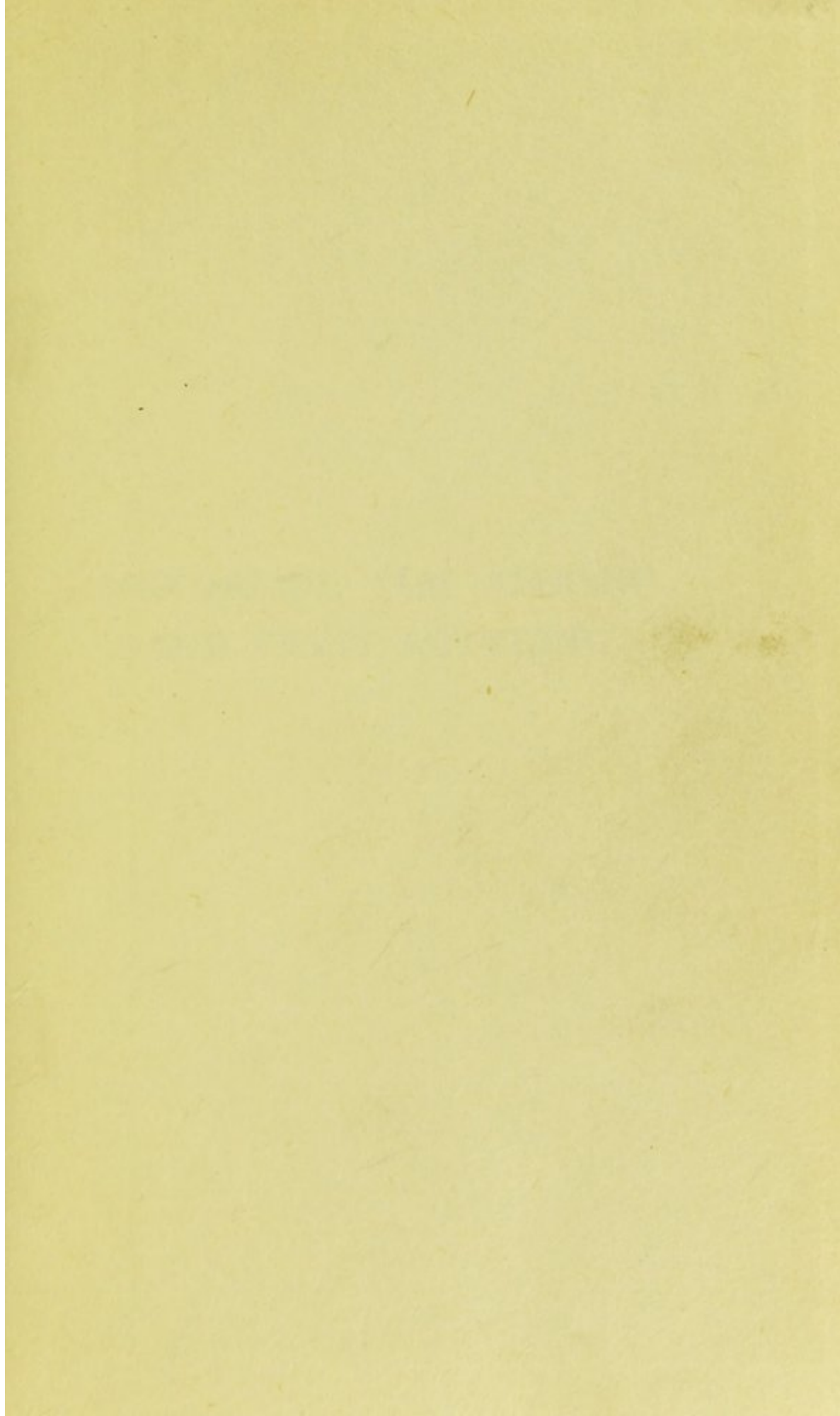
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and the crops grow well.

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of the road, and contains
about 2 acres of land.

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SUCCESSFUL JAM MAKING AND FRUIT BOTTLING

BY

LUCY H. YATES

AUTHOR OF

"MODERN HOUSECRAFT" "THE PROFESSION OF COOKERY"
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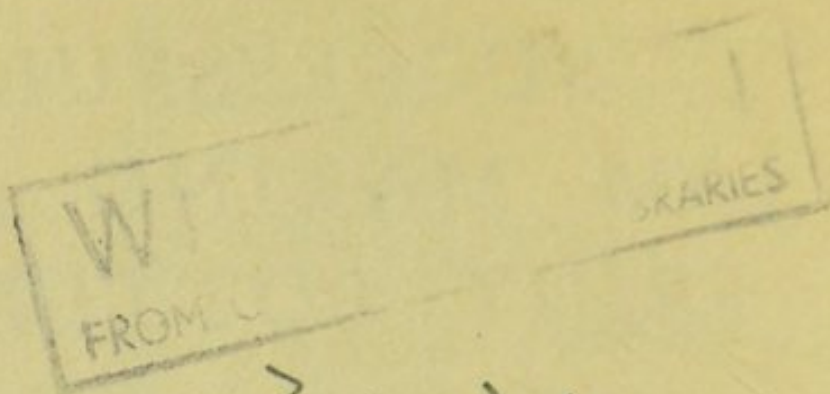


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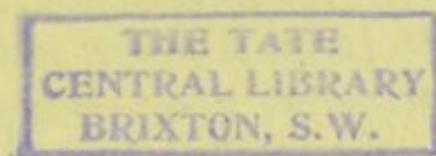
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INTRODUCTION

A MARKED characteristic of the present day is the close attention that is being given to all aspects of dietetics. It is recognised that health of body and mind is largely influenced by the foods of which we partake. Not only must they be suited to our physical needs, but they must also be pure. This study of the food question has naturally brought about a certain reaction in popular sentiment. There is, with the tendency to be more inquiring and fastidious, a leaning in many cases to seek supplies from persons who are able to give individual attention to the preparation of the foods. So we find a distinct revival in favour of what may be termed "home manufacture" of various items in our daily diet. This tendency has made itself manifest for some time past in the choice of preserves and confections, because it is felt that here purity and delicacy of flavour depend mainly upon attention to details. The huge factory may be well planned and lavishly equipped, even exceptionally well manned, yet, where great quantities have to be dealt with, details have to be neglected in order to attain a good average rather than strive after perfection. There is, there-

fore, a fine opening for the small manufacturer in the preparation of fruits, whether as bottled kitchen and dessert fruits, jams, jellies, or pastes. After all, the equipment necessary is simple and inexpensive, and given skill, and the faculty of taking infinite pains, on the part of the person embarking in the industry, it may be successfully carried on in a country cottage, a farmhouse, or a model countryside factory. The preserving of fruit and making of jam may be carried on with profit by the actual grower in a large or small way, or by the country dweller, who, setting up a convenient boiling shed, packing and storerooms, is willing to organise a system of purchasing fruit from neighbouring growers. In this way a profitable outlet may be found even in seasons of exceptional plenty for crops which are often allowed to go to waste for the want of some such local organisation. For if we want really high-class products we must have the fruit brought to the factory perfectly fresh. We must, in most cases, make the jellies and jams on the spot where the fruit is grown. It is in this that the small, or comparatively small, producer has the great advantage; for the fruit is gathered locally and is converted into preserves before its beauty of appearance and delicacy of flavour has had time to wane. The demand for such articles is so large and increasing, that there is ample room for almost indefinite extension of these local industries, which will not only bring profit to the individual manufacturer, but prove an immense boon to growers, making possible some

form of producing fruit on a co-operative plan among those cultivating small holdings, and even allotments and private gardens.

The essentials of the business are absolute cleanliness, purity of materials, and uniformity (on as high a plane as possible) of the products.

Now, cleanliness must begin at the beginning. Whether we have a model factory, or propose using a converted cottage or outbuilding, it is easy to see that floors, walls, and roofs are kept in good repair; that light is ample and ventilation efficient; that drainage is adequate; and that suitable lavatory accommodation is provided. For, as to this last item, while we lay down hygienic conditions for the factory itself, we must also insist on cleanliness of the persons working therein, and to this end good washing accommodation is imperative. Then as regards materials, the water supply must be above reproach, and the best of sugars bought and carefully stored. As for the fruit, the wise manufacturer will take pains to investigate the methods of picking. There is far too much laxity in this matter, especially where fruit is grown in huge quantities, and casual town labour is drafted into a district to gather crops in the height of the season. The manufacturer in a modest way of business is in a better position to study this question, and to put matters right; for, as often as not, the disgusting conditions that do prevail on many fruit farms—and this applies more particularly to the gathering of soft fruit crops—are due to want of forethought and proper supervision.

The local purchaser who is a good and steady customer may easily improve conditions, and by a little sound advice and example, ensure the picking of fruit under decent conditions. Even so, the fruit as it reaches the factory should undergo systematic inspection, and all that are unripe, over-ripe, or damaged be rejected. All fruit, with the exception of strawberries, raspberries, and blackberries, should be washed; that is, rinsed in clear water and the larger varieties wiped as taken out of the bath. This is rendered all the more necessary now that spraying with the useful, but often poisonous, anti-pest fluids are so generally employed. Even if not poisonous to human beings, such chemicals necessarily detract from the delicacy of flavour, no matter in how minute a quantity they may be present. Next, we must have perfect cleanliness of all utensils used. The rule should be, "Clean up as you go along"; or, if that is not practicable, then put everything in order at the end of the day. The work should be so planned that anything taken in hand is completed within the day. Half-boiled jam must not be left in the pans overnight, must not be left uncovered when removed from the fire.

Heat is of great importance in fruit preserving. To begin with, there is the chemical action. In jam making, heat develops the finer flavours, and, in conjunction with the added sugar, converts the pectose into a firm jelly. But, above all, it is the best preventative of fermentation. By raising the temperature in the steriliser for bottling, and in the

pan in jam making, to boiling-point, and keeping it at that for a sufficient length of time, all micro-organisms capable of producing fermentation or other chemical changes, are destroyed. So it is imperative to watch this phase of manufacture; to see that the temperature is really sufficiently high, is evenly distributed, and is kept up long enough. There can be no doubt that this salutary thorough cooking at a high temperature can best be ensured in the household kitchen or medium-sized factory, where there is direct application of heat to a moderate mass of material, with constant supervision. In large factories, where huge cauldrons are heated by steam, the temperature is rarely maintained sufficiently high throughout the mass, and the cooking is not perfect. It follows that interrupted boiling, if there is too long a lapse of time between each operation, should be avoided, more especially if the pan containing the half-cooked fruit is left exposed to the air. What is required is high temperature steadily applied, and then immediate potting, or bottling, and sealing. If jam is boiled and then left exposed to cool, much of the benefit derived from the prolonged cooking is lost, as the germ-laden air may, so to say, inoculate the jam with ferment germs. Every precaution must be taken to exclude the air from contact with the cooling fruit. For this reason, too, it is necessary to keep the boiling shed and its surroundings as sweet as possible. Remove all refuse fruit, cover up fruit and sugar until required, and avoid dampness. By such

rigorous attention to cleanliness, the dangers resulting from germ-laden air coming in contact with the half-prepared or the finished products are considerably minimised.

So much for the hygienic aspect of the question, which leads us directly to the next all-important consideration—that of quality. As we have endeavoured to show, one of the main arguments in favour of the small manufacturer, who takes the fruit direct from the land to the boiling shed, is the greater facility existing under such conditions for personal supervision and attention to details. This being so, and now generally admitted, it naturally follows that patrons of these small manufacturers will look for something exceptionally good as regards quality. And this is just what must be aimed at, to be able to fairly claim consideration from the discriminating purchaser on the ground that the product is wholesome, of good appearance, and perfect flavour. To be able to make such a claim, it is necessary to use choice fruit of the best varieties, to pay scrupulous attention at every stage in the preparation, and finally to show neatness in the bottling or potting of the products. But while appearance must be considered, the chief point is to turn out preserves that please the palate, owing to their excellence and the fact that they retain the natural flavours. If uniformly high results are to be maintained in these respects, the selection of the best materials and careful carrying out of every detail relating to reliable recipes must be followed up by constant observation, and

prompt control of every phase of manufacture. In this way results can be attained which will justify pride in the business, and command success.

Having produced high-class preserves, the next problem is that of distribution. Broadly speaking, there are two methods open to the small manufacturer. It is possible to appeal direct to the consumer or to the carefully selected dealer. Of course much will depend upon circumstances. When the business is begun on quite a moderate scale, it is possible to do much through personal friends and acquaintances and their recommendations, this being followed up by a little judicious advertising. If the business is carried out in a rather bigger way, circularising will be necessary, combined with advertising in a few papers appealing to the well-to-do housewife. It is often possible, and advisable, to make some arrangement with one or more tradesmen in neighbouring towns, and perhaps in populous cities farther afield, to act as agents. Many shopkeepers who deal even largely with the great manufacturing firms, are quite open to stock small quantities of exceptionally high quality preserves, especially if rather out of the common rut of goods turned out by the average manufacturer, and put up in distinctive packages, for they have customers willing to pay the extra price that can be rightfully demanded for such products. In such cases, the manufacturer's name or trade mark should be given prominence.

When the output is fairly large, the maker may be disposed to avoid the undoubtedly heavy amount

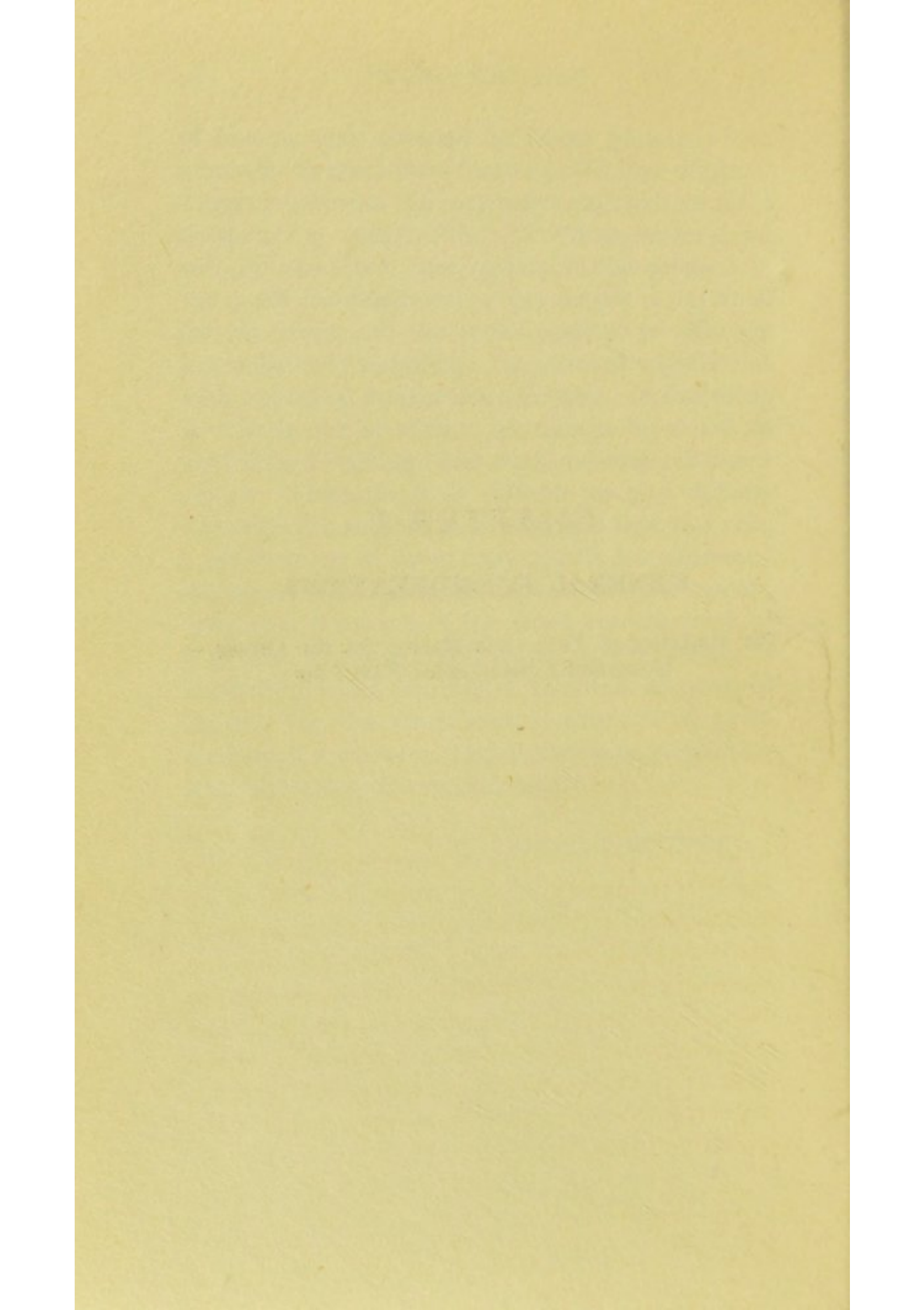
of routine work entailed by direct trading, which generally means a considerable percentage of postal dispatch business. In such cases, negotiations must be opened up with traders. Wholesale dealers, as a rule, do not much care to handle the produce of the small manufacturer, as the output is too small for his needs, and the terms possible to offer are not sufficiently tempting. So personal negotiations with the actual retailer are necessary. Advertising is of little use in such cases, except by means of exhibiting at the big trade, food, and fruit and flower shows. Although it is difficult to give definite advice on the subject, it may be said that, as a rule, a combination of direct trading with the consumer, combined with representation by a few retail agents, suits best the needs of the small manufacturer, as it permits of considerable elasticity as to details of marketing, while ensuring a retention of personal identity for the manufacturer, which is of great moment if a permanent reputation is to be built up and profitable prices maintained.

G. CADOGAN ROTHERY.

CHAPTER I

GENERAL CONSIDERATIONS

The Marketing of Fruit—Jam Making for the Grower—
Home and Export Trade—Fruit Pulp



CHAPTER I

GENERAL CONSIDERATIONS

IN spite of the fact that even in the most favourable years the English fruit crop is never large enough to meet home demands, and although a large export trade awaits the manufacturer who can put up the commoner kinds of English-grown fruit for the Colonies, yet every year a great deal is wasted or sold at a time when it fetches no price because there is a glut on the market.

For lack of a proper system of co-operation the small fruit grower is unable to reach fresh markets, and for want of better methods of storage he is not able to keep back the overplus until such time as demand creates better prices. Nor is he able to avail himself of those opportunities offered by English residents overseas, where, in spite of an abundance of such fruits as bananas, pines, apricots, and others, there is ever a craving felt for the commoner produce of English soil—black and red currants, gooseberries, damsons, and the like. The demand is that these shall be exported in some form other than jam, say as natural bottled fruit, without sugar, in which shape they would fetch almost any price.

Every grower might profit by taking part in some form of jam manufacturing if he realised how simple an equipment will suffice for the initial processes and for the preserving of fruits without sugar—such as sterilised and bottled fruits, dried fruit and fruit pulps.

The foreign fruitgrower rarely attempts to deal with his produce as a jam manufacturer, but the larger cultivator will collect from the smaller one, gathering together the produce of gardens and orchards, constituting himself the intermediary between these and the jam manufactory by furnishing the latter with fruit pulp, which is fruit in the initial stage for preserving. Thus the process of jam making is divided into two great sections, the two being but rarely carried out under one roof.

Vast quantities of fruit pulp comes to our English jam factories every year from abroad—from France and Germany and Spain. The pulp is prepared almost on the ground where the fruit is grown, and when it reaches the factory it is converted into jam of differing qualities, according to grade and treatment.

This "provisional" preparation of fruit presents decided advantages for those who are unprepared to carry out the entire process of preserving, or whose produce is not a large or certain crop. Again, it is obviously impossible for the small jam manufacturer to make a sufficient stock of any one kind of jam while the brief season lasts when the fruit is at its point of perfection. Wastage is

almost bound to occur in the attempt. By making fruit pulp and storing it in quantities, the later processes are practicable all through the year, according as demand calls for them.

Some of these pulps are made with single fruits only, others have apple pulp as the foundation, because the apple so easily assimilates the perfume and flavour of whatever is put with it, while it is rich in pectin, the gelatinous principle.

All pulps are graded and classified and made with the utmost care and discrimination. They should show whole pieces of fruit, for pulp is not a marmalade. There must be no mixing of ripe and unripe or of defaced and inferior fruits, but all must be as nearly as possible equal in quality when they are put together. Being cooked and hermetically sealed down in tubs or barrels, the pulp will keep indefinitely while unopened.

Next to apple pulp, the largest consignments reaching us are of apricots from Spain. These apricots have been washed by hand to free them from the down on the skin, then cut in half, and thrown into water containing a very slight admixture of sulphuric acid, which prevents a stain on the fruit from the cutting by knives.

Having the preliminary processes thus undertaken for him, the foreign jam manufacturer is able to bestow all his time and attention on the later stages of syrup making, sugar boiling, and the finishing processes needed, hence a finer product results. For his household jam—*confiture de ménage*—the foreign consumer generally buys

the English article, but the large consignments of superior confections on which he makes from 60 to 100 per cent. profit are found in the bills which we pay every year for foreign jams, which could quite well be made by the home producer.

It is certain that many small fruit growers might with advantage study the subject of pulp making, since the jam manufacturer is perpetually faced with the difficulty of obtaining a sufficient supply of material while the season lasts. It is one of the best ways of preventing wastage, also of preventing a glut on the markets, which again means lowering of prices, so that fruit does not even pay the cost of its gathering and transport.

The jam manufacturer, on the other hand, must face the fact that by long familiarity with foreign goods the English taste has been brought up to judge largely by appearances, and the average British housewife will not be tempted into buying a clumsily put-up jar simply because its contents can be certified as "home-made," if in colour and general presentment it is inferior to the trim, workmanlike, attractive jar of foreign, American, or even Colonial produce. Goods must be made attractive to the eye and be uniform in quality and flavour if they are to command their market. There is a fair profit to be made on all grades of jam and bottled fruit if each grade is made systematically and the purchaser is assured of meeting with a perfectly uniform quality each time of buying.

We have large and small jam manufactories in

our midst, and English household jam commands a splendid export market, and meets an ever-increasing demand in home consumption; still, there is room for many more to take up the industry, so long as we pay out great bills every year for foreign preserves which could, we repeat, be made every whit as well at home.

One point should be borne in mind by those who are contemplating taking up jam making and fruit bottling as a business, and that is, it is easier to compete successfully for a choice market, than to make any kind of profit on cheap products. There are always plenty of people willing and ready to pay for a really high-class article, something above the ordinary, which has been well and cleanly prepared. For such goods remunerative prices can be obtained, and a profit made on a small turn-over. But when the articles are only of average, or below average quality, then it is more difficult to secure a market, and the prices received do not leave sufficient margin of profit, unless the business is carried out on a very large scale. To the person with small capital the select trade is the one to be cultivated. It cannot be too strenuously insisted upon that absolute cleanliness—the best of hygienic conditions—are necessary in order to attain success in this higher branch of the industry.

Although the industry of fruit preserving and bottling is one of almost national importance, and jam constitutes a staple article of diet, it is remarkable how few books we have that deal with the

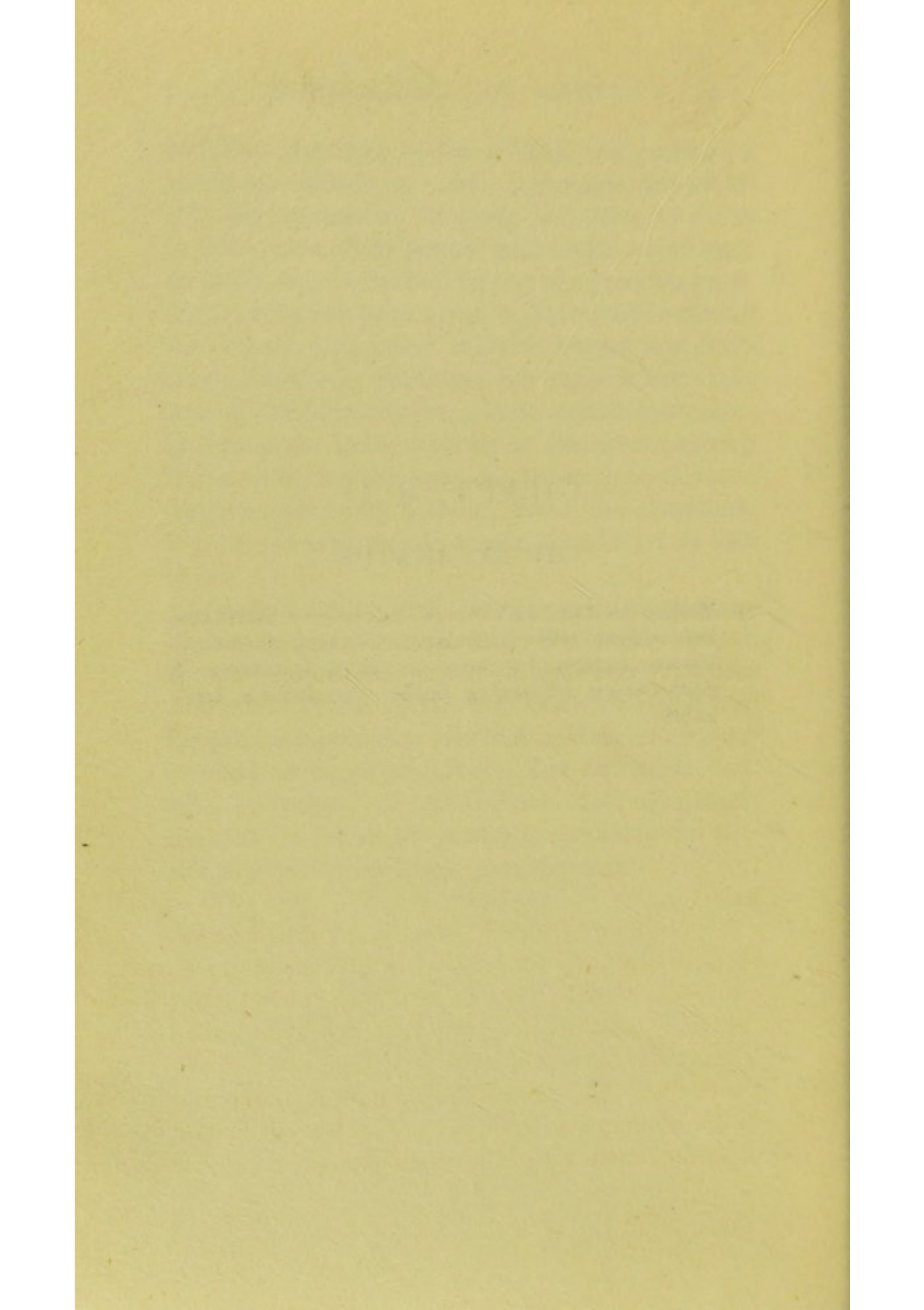
technical character of the subject, and perhaps it would be difficult to name any single one which tells the beginner in the trade just what he wants to know about the points that make for success, for profit, and for the building up of a good business. Much study has been given to the scientific side of the subject, and many valuable papers and pamphlets have been published, but there is little that is available in handy form, little indeed that corresponds to the bulky amount of literature existing in Germany, for example, for the help of German manufacturers and traders. Even the American book world is singularly empty of volumes on this topic.

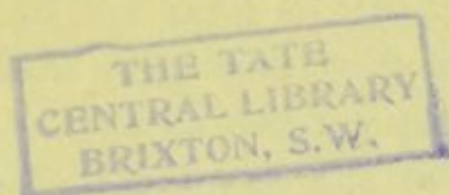
Hence it is there has seemed to us scope for a concise and practical manual that shall present the chief points and put them into right relation with each other, giving the home manufacturer the help and guidance required on first setting up business, and giving also a few workable and reliable recipes of specialities not altogether common in type or generally included in the category of the ordinary manufacturer.

CHAPTER II

THE APPARATUS

The Boiling Shed and its Fittings—Storeroom—Stoves and Boiling Pans—Peeling, Coring, and Stoning Machines—Vacuum Process of Sealing—Sterilising Appliances—A good Cement for Sealing Bottles—An Ink for Bottle Labels





CHAPTER II

THE APPARATUS

THE beginner who is making tentative experiments in jam manufacturing, or the grower who is contenting himself with undertaking those "provisional" processes mentioned in Chapter I., will need no elaborate apparatus to start with, nor will he find it necessary to build specially for the purpose. But the manufacturer setting out as such, and establishing himself in the centre of a fruit district where he is assured of abundant supply, and is confident of both home and export trade, will find it a good investment to build a small factory at once.

We must attempt, therefore, as far as possible to consider the requirements of both forms of the industry.

To begin with, a boiling shed cannot be a storeroom, except it be for barrels of fruit pulp, perhaps, and even these are better stored elsewhere. But the first essential of both places is ventilation. The storeroom requires, in addition, evenness of temperature and perfect freedom from damp, but in the boiling shed temperature matters little, and a certain amount of damp is unavoidable. While

the storeroom must be kept for its one purpose only, the boiling shed may quite well be used for all the preliminary process as well as for the cooking of fruit. For the small manufacturer, as for the larger one, both boiling shed and storeroom are indispensable.

As to the kind of shed best suited for the purpose, an ordinary lean-to will answer all the requirements of the beginner, providing it is ventilated and damp-proof. It is an advantage if this lean-to be built against the wall of the house, especially if it be the kitchen wall. The floor should be either concrete floated with cement, or brick, as these floors are more easily kept clean and free from dust. In building the factory, the boiling room should most certainly be given a concrete floor, floated with good cement, and laid with a slope towards a central gutter, to facilitate flushing after work, and drainage during work. The walls should be as smooth as possible, and either limewashed, or painted with a good washable distemper of a light shade. Large windows to afford ample light are necessary.

The best of all storerooms is the cold house, built half down into the earth, that is, into an earth pit dug several feet deep, bricked round and concreted, and roofed over. The walls may rise about a third of their height above ground, but not more, and very little window-glass is needed, as the fruit and stores keep better in a dark place. This kind of room is cool in summer and yet never touched by frosts in winter, as the earth is the best of all

preventives of heat or cold. Ripe fruit laid out on shelves in such a storeroom will not shrivel or go bad as it will in the ordinary closet or cupboard. Such a room need not be more than 12 or 14 feet square, and about 8 or 10 feet deep. It is quite easy to erect, and should be regarded as a necessity by all fruit growers and jam manufacturers. It can be fitted from floor to ceiling with shelves, and the ground space utilised for barrels and large boxes. Ventilating bricks or holes covered with perforated zinc are the best means of airing this room. A small door and flight of steps lead down into it, and the door should not be left open.

In the boiling shed, long trestle tables that can be moved about or removed at will are better than any fixed erection. The advantages of trestle tables is that when a large number of bottles and jars have to be filled they can be set up on the spot where they will be handiest, and when the preparatory processes of cleaning and picking fruit are in progress the tables can be put out of the way. A few stools will also be required for the workers to sit upon.

A long double rail should be fixed to one side of the shed wall, on which all basins and pans can be inverted when not in use, and thus kept dry and clean.

It is very desirable that a supply of water, by pipe or tank, should be brought into the shed, and this, of course, is easily managed when a special place is being built; but water will be wanted in large quantities, and much labour is saved if a tap

or pipe is properly fixed at the start, whether the shed has been specially built or merely adapted.

Large zinc trays, to use with hot or cold water, will also be required, for the washing of jars and bottles, and for them to stand in when keeping hot for use or for sterilising purposes. It is well to have one or two oil stoves so fixed as to admit of standing these trays upon them for boiling the water they hold when jars or bottles are being sterilised, as this economises space on the boiling stove or hot plate.

Where no gas is laid on, the ordinary kitchener, or better still the portable American kitchener, will answer the purpose admirably, if fitted with a long stove pipe so as to ensure good draught.

Before deciding upon the kind of boiling pan that shall be employed, the manufacturer, whether of a large or small scale, would be well advised who would write to Messrs. Fowler, Lee & Co., for their prospectus. This illustrates both the patented boiling pan and the whole equipment for fruit bottling, brought out by the firm after many experiments and trials, and found to be as nearly as possible suited to all requirements, and they are to be had in different sizes.

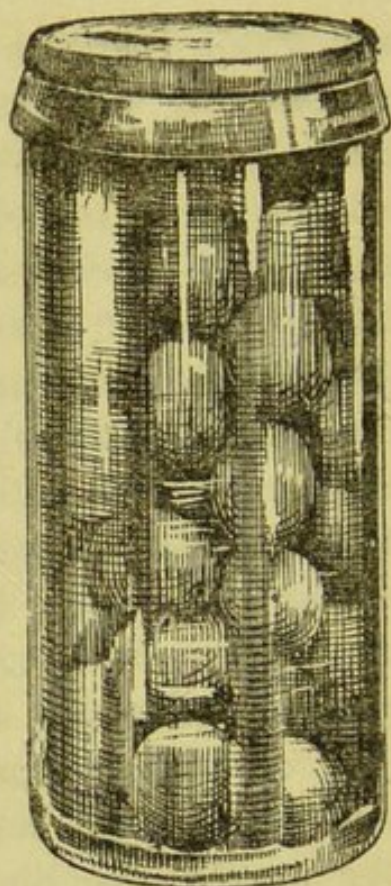
Messrs. Lumley bring out several types of machines for preparing fruit, one of which will core, pare, and ring apples at one operation, and another will peel any kind of fruit. A cherry stoner is an indispensable possession before fruit bottling or jamming can be undertaken, and so, of course, is an orange cutter for making marmalade.

One French authority, to whom I am indebted for information as to methods of fruit preservation abroad, says that the greatest economy is made when as many operations as possible are done mechanically and not by hand—that all these machines save their cost in time and labour over and over again.

In the German Fruit Institute and School at Geisenheim, the building equipped as a fruit-preserving room has a vertical boiler, with all the best German and American machines for cutting, peeling, and stoning and otherwise preparing the material, the "Invicta" and "Gnom" fruit driers, a set of steam-jacketed copper pans for boiling, fruit pressers, tin closers, and pulping machines. Where the simple turning of a handle will perform any operation, it is obviously a waste of time and effort to attempt the same thing by hand. And time, in the jamming season, is an all-important quantity. Moreover, operations that are done mechanically are done with greater evenness, as, for instance, in fruit paring; the machine removes the skin only, the hand invariably takes a good deal of the fruit itself with it. Bruises or blemishes in any fruit must, of course, be cut out by hand.

It should be clearly settled in the mind that in order to make the best profits out of a business the preservation of the best fruits should be done *whole*, in bottles, with or without syrup; the second-grade fruits—second in size and kind, that is, for only good and sound fruit will make good jam—should be boiled for jam to be sold as

household jam, and the rest of the harvest should be made into fruit pulp for turning into jam at a more convenient season. If time admits not of doing as much as this, let bottling be the first consideration and fruit pulp making the next, leaving jam for a later period.



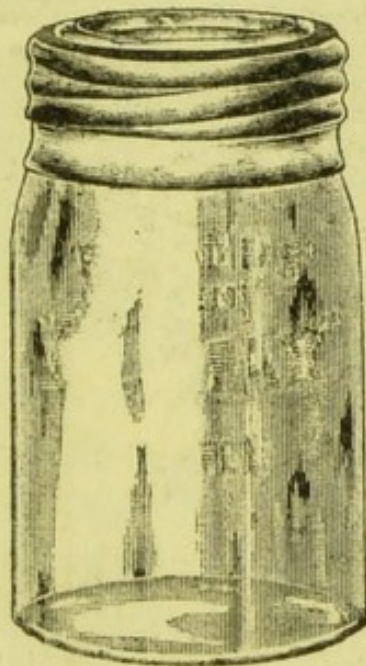
VALVE VACUUM JAR (Fowler, Lee & Co.).

Details of actual procedure are dealt with in the next chapter.

The great difficulty in the matter of whole-fruit preservation, one which has for years baffled the small trader, has been the seeming impossibility of achieving at one operation the essentials, namely, to preserve the fruit and at the same

time to effectively seal the bottles. As every different fruit has its own special characteristics, requiring individual treatment, this has certainly presented a great stumbling-block.

These difficulties have, however, been overcome by several excellent systems. The most simple are, perhaps, the vacuum processes, as applied to jars and bottles. The two best types are those of

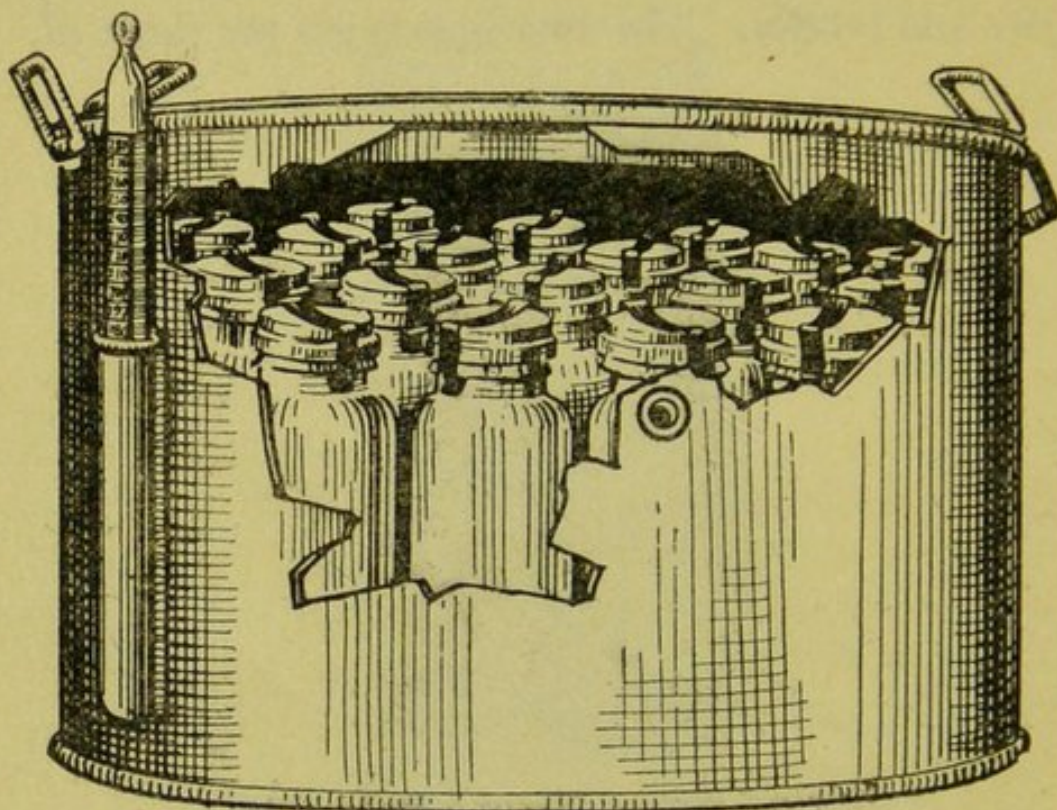


“CLIMAX” BOTTLE (Young & Hodgson Ltd.).

Messrs. Fowler, Lee & Co., and of Mr. De Luca. Mr. George Fowler, F.R.H.S., has paid much attention to the art of fruit preserving. The valve vacuum glass stoppered jar, here illustrated, has been carefully designed in every particular. It is of a clear glass, with slight greenish hue, a tint protecting the fruit from the bleaching tendency of light. It has a wide mouth, so that the jar is easily filled and emptied, without fear

of damaging large fruits. The fastening gives a hermetical seal, thus preventing the possibility of mildew or crystallisation, while the rubber washer does not come in contact with the contents of the bottle.

A different, and excellent, description of bottle



FOWLER-LEE BOTTLING OUTFIT.

is the "Climax" with wide mouth and screw-down glass airtight stopper, is suitable for whole fruit bottling and preserves. The form of bottle or jar may be varied. No metal or rubber comes in contact with the fruit or syrup.

The fruit and vegetable bottling outfits patented by Messrs. Fowler, Lee & Co., of Reading, are the outcome of long and careful

study of the principles of sterilisation, and have deservedly won many medals and prizes at Exhibitions, and, what is better still, have won the complete satisfaction of those who have put them to a practical test.

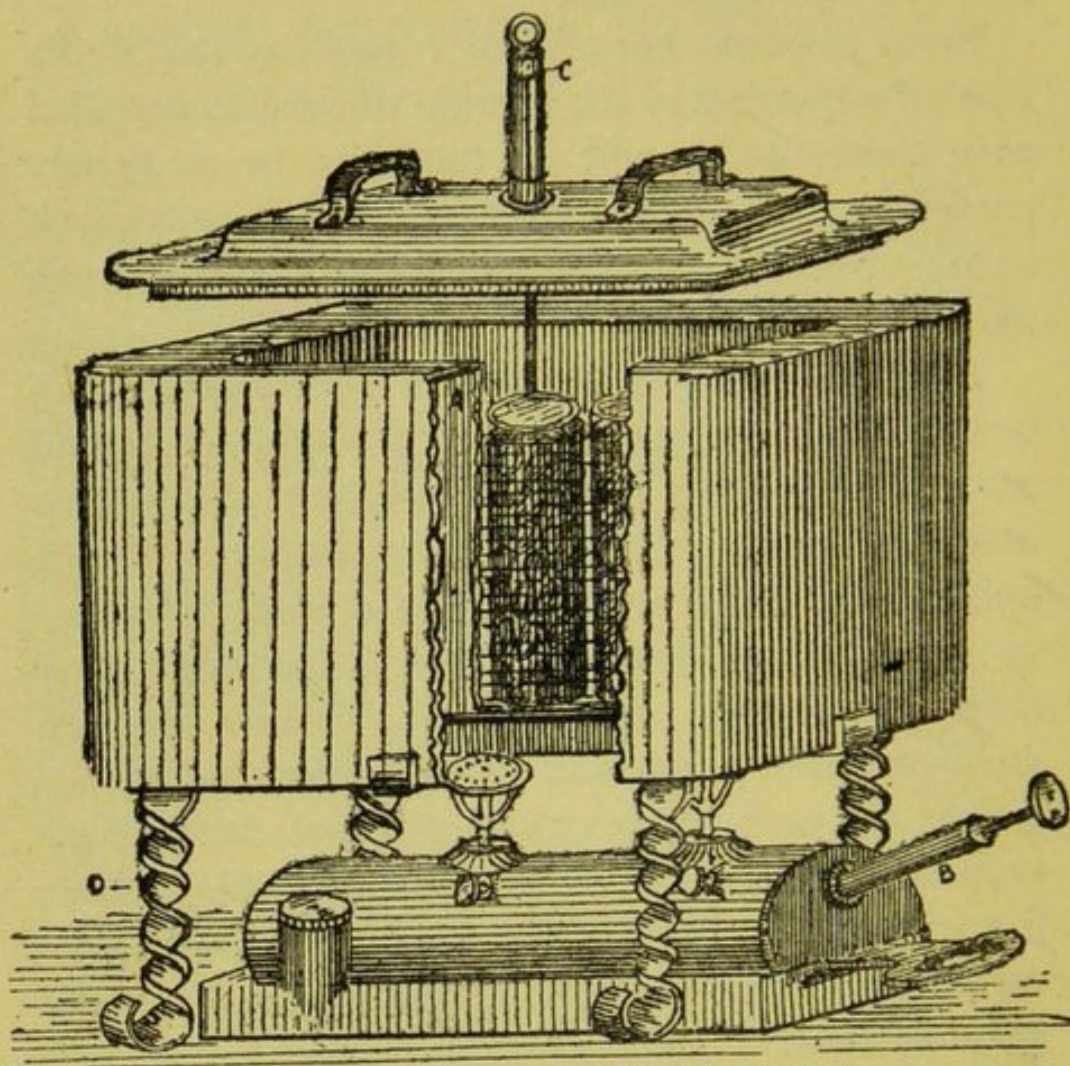
From personal knowledge I can say that fruits bottled according to the minute directions supplied with these outfits will be found to be as nearly perfect in the matter of colour, flavour, and shape as it is possible to wish, and moreover they keep excellently well.

The apparatus, of round or oval shape, is to be obtained in three sizes, at 12s. 6d., 21s., and 25s. This is fitted with a thermometer, and, being made in block tin, is light and easily portable, and can be used over an ordinary kitchen range or American kitchener, or over a gas ring or oil stove—a distinct point in its favour. In the small country household this steriliser might be in use for ordinary cooking purposes, over an oil stove in some outer shed, and thus save the kitchen fire with all the labour that gives, and prove itself an economical investment from more than one point of view.

The complete fruit and vegetable bottling outfit, comprising the apparatus and copyright book of directions, with 12, 18, 36, or 72 airtight bottles, bottle clips, and brush, is supplied at 20s., 35s., and 50s. per outfit.

Another type of steriliser is the "Mercia," patented by Miss Edith Bradley. It is made of tinned steel, with a perforated false bottom to

prevent the bottles being injured by direct contact with the heated plate. It is provided with a tap for emptying, and a thermometer. Various sizes are made, some being made for heating by means of



"MERCIA" STERILISER (Edith Bradley).

an oil stove,—for instance, the "Primus" stove with large burner (as shown in the illustration),—others are fitted with gas burners, while a third type has an attachment of pipes for heating by steam. It is claimed for the "Mercia" steriliser—which, by the way, is the outcome of many trials and long

personal testing of different systems—that it carries out the whole process in from one to two hours for each charge, and that the heat can be supplied to it in four different ways, namely, by the lamp that goes with the outfit, though an extra charge, by a gas stove, an ordinary oil stove of the “Primus” type, or by the usual kitchen range, upon which the steriliser may stand. The great advantage of this steriliser is that the temperature can be accurately gauged, as the thermometer is fitted into the lid, where it can easily be read. Fruit jars with glass or metal tops are supplied according to the price list, obtainable on application.

The perfect sterilisation of bottles and tops, rings, etc., is one of the great essentials. The tops and rings should be kept in hot water until required, and then fitted on immediately the jars have been filled, and screwed not too tightly just then, but a second looking over and further screwing down is always needful.

According to the best authorities, British-grown fruits are particularly well adapted to fruit bottling and to preservation whole. They do not lend themselves readily to processes of drying, not nearly so well as do foreign fruits, but bottling is the one method that brings out the full and special characteristics of English produce.

From the foreigner we may, however, learn one or two useful hints both in regard to bottling and the commoner process of jam making, in which it is generally conceded we excel. Abroad we find

the open, shallow, narrow-bottomed pan of copper, unlined, is always chosen for the boiling of household jam; this is because it allows of the escape of moisture by steam, and of that rapid boiling essential to the preservation of colour and flavour. Copper pans are also preferred for the boiling of syrup.

Another point which the foreign manufacturer lays stress upon is that a cold syrup—made without boiling—produces a better result than one that is used hot. Naturally the making of cold syrup is a slower process, as it takes some time for two quarts of sugar to dissolve in a quart of cold water,—this is the proportion generally used,—but for certain fine and special conserves this cold syrup is always preferred.

The beginner may obtain very fair success with the ordinary tall bottle, corked afterwards and sealed, and the ordinary kitchen oven. The points to observe are to have the oven at the same temperature as for roasting meat, that is, between 300 and 310° F.; to fill the bottles with sound picked fruit, cover them, and when the fruit shows signs of cracking to take out and fill up to the brim with boiling water; to cork down at once, and seal when cool. A thin syrup may be used instead of water if preferred.

A GOOD CEMENT FOR SEALING BOTTLES

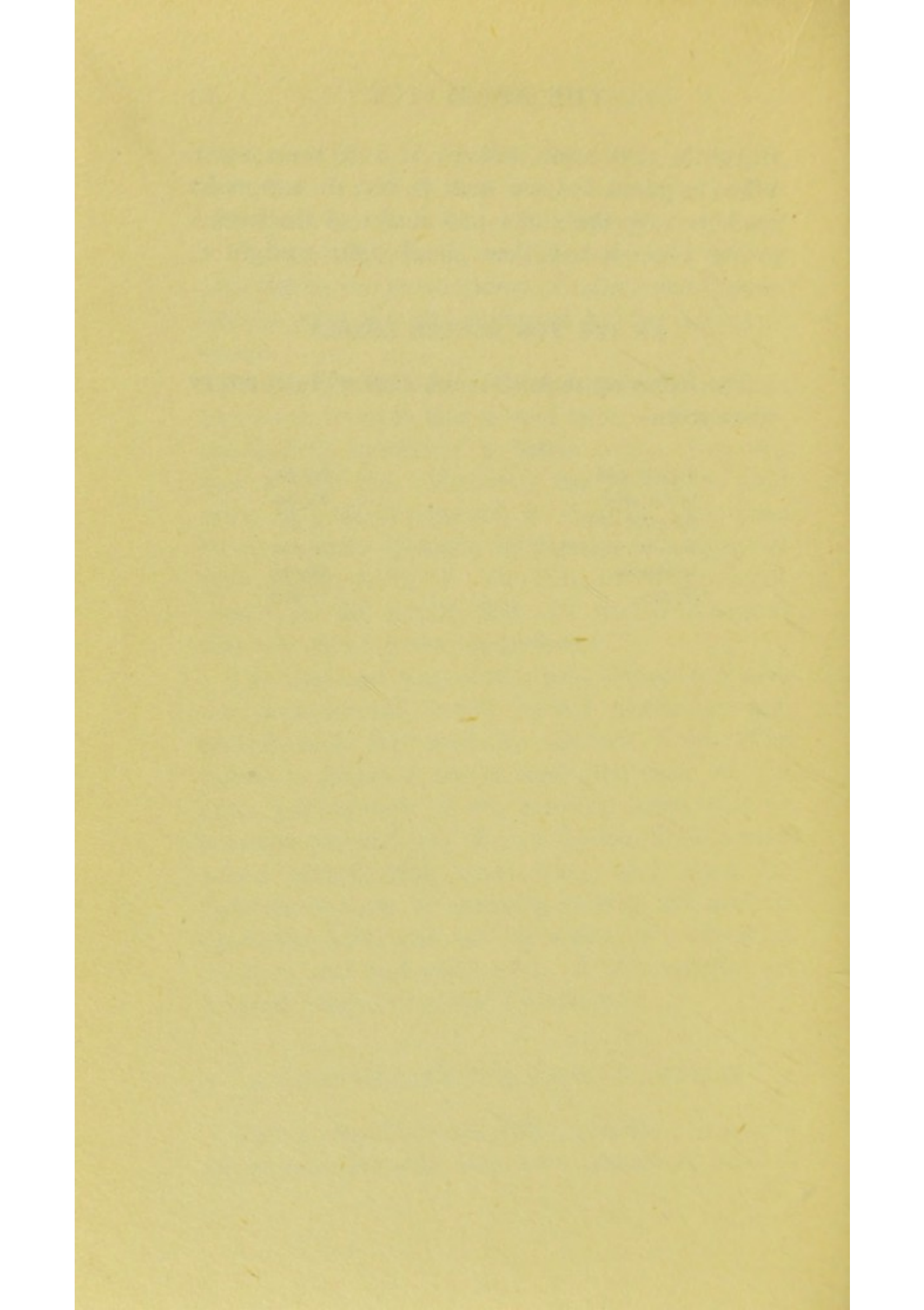
Melt a pound of resin with a quarter of a pound of yellow beeswax and two ounces of tallow.

If brittle, add more tallow ; if soft, more resin. When required for use melt it, but do not make too hot. Dip the corks and necks of the bottles in the cement, and then stand them upright to cool.

AN INK FOR BOTTLE LABELS

The following makes an ink that will not smear when wet :—

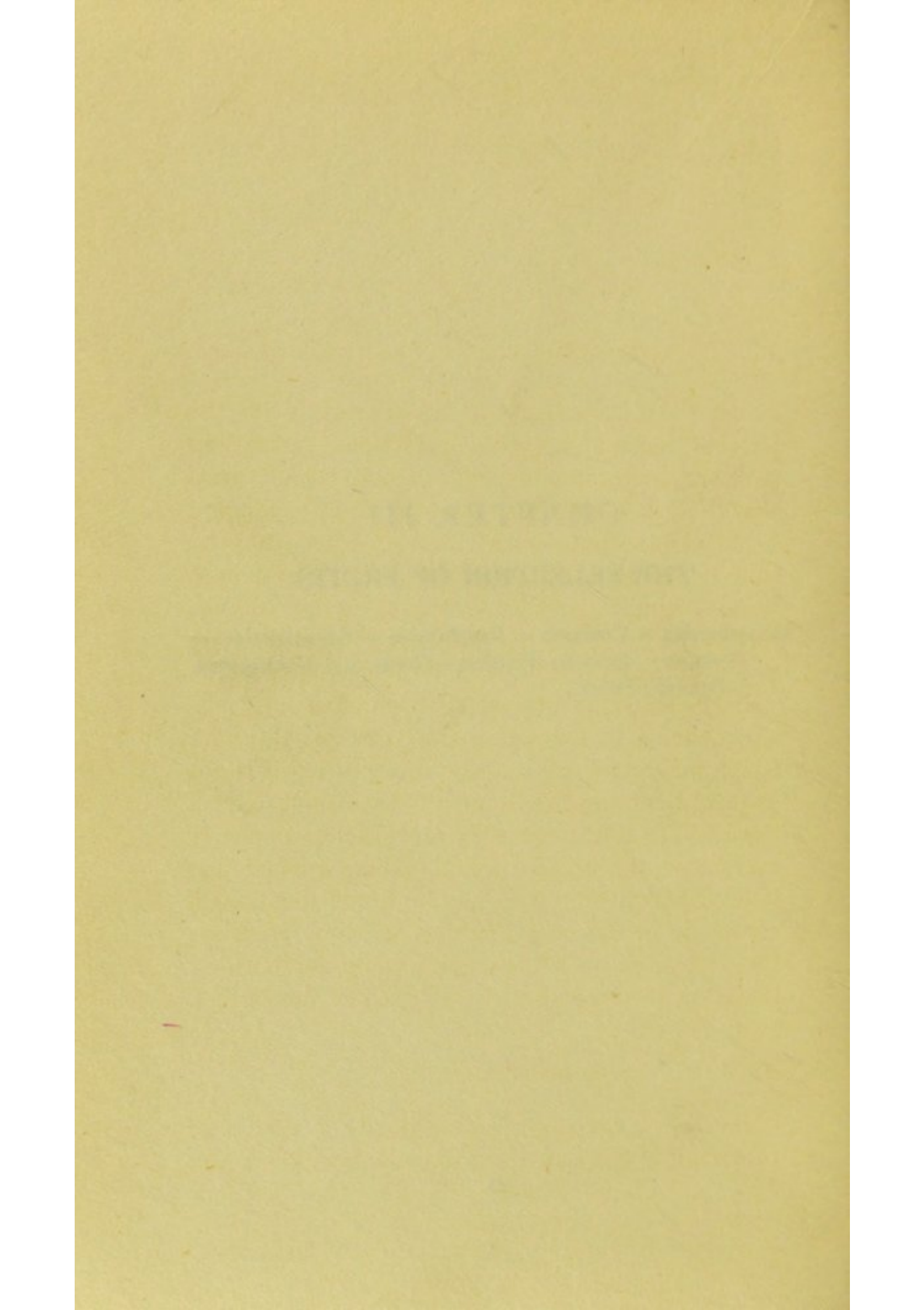
Tannic acid	.	.	.	.	80 grs.
Gallic acid	.	.	.	.	14 grs.
Salycilic acid	.	.	.	.	1 gr.
Ferrous sulphate	.	.	.	.	102 grs.
Indigotine	.	.	.	.	90 grs.
Water	.	.	.	.	1 pint.



CHAPTER III

THE SELECTION OF FRUITS

Gooseberries — Currants — Raspberries — Strawberries —
Cherries—Apricots—Peaches—Plums and Greengages
—Apples—Pears



CHAPTER III

THE SELECTION OF FRUITS

UPON the selection of the right variety for the purpose, much of the success attained in bottling and preserving will depend. Good colour, firmness of flesh, a certain amount of natural acid, and a sufficiently pronounced flavour, these may be said to be the broad essentials. Early and non-keeping kinds, generally speaking, are not suitable, just as the best types for eating as dessert fruit are as a rule the least suitable for culinary purposes.

In the following brief selection, only the most suitable culinary varieties are named; others there are which may yield quite as good results, but it is not possible to attempt to enumerate them, and some of them will be sorts not readily procurable. In nearly every case, the broad rule of gathering when just under-ripe will apply to all the kinds mentioned, especially in the case of plums and gooseberries; the greengage is an exception, and for bottling purposes, at all events, it is better to be almost ripe.

GOOSEBERRIES

As the gooseberry was originally a native of Siberia, it is not surprising that the best kinds and

the most flourishing plantations are found as we go further into the northern counties and towards Scotland. The Scotch berries do not attain the size of the English, but they are usually much superior in point of flavour. The best crops of gooseberries are raised in Lancashire. The best results for jam, jelly, and for bottling are obtained with green berries, while some of the red sorts yield a splendid wine, often mistaken for champagne. Yellow berries are only eaten ripe for dessert.

The best for bottling are Whinham's Industry and Keepsake. They should be gathered before the colour begins to turn, as when ripe they become red. They are of splendid flavour and size. Victoria, a newer variety, is especially fine in flavour and size, and particularly well adapted for bottling. Whitesmith is another excellent gooseberry for bottling as well as for dessert.

Messrs Veitch, of Chelsea, have raised three particularly fine seedling varieties, Golden Gem, Langley Beauty, and Langley Gage, all of which may be preserved when under-ripe, or eaten for dessert fruit when ripened.

CURRANTS

Red Dutch is the market favourite, a free, prolific producer, well adapted for preserving purposes. Raby Castle or Cherry is still better for bottling purposes, as the fruit is larger and more grape-like, of bright colour and large size. Among black currants the best are Black Naples and Baldwins,

both very fine types; while Bostoop Giant is a grand fruit, the berries large, sweet, and well-flavoured.

White currants preserve well if taken under-ripe, and White Dutch is the best ordinary variety.

RASPBERRIES

The raspberry was originally of wild stock, and its size and variety is entirely a matter of cultivation; it belongs to the whole bramble family.

Red Antwerp and River's Hornet are the types most commonly met with; the latter is specially good for the brilliant juice which it yields, but the fruit itself when preserved is somewhat flat. A variety specially grown now for preserving purposes is *Semper Fidelis*. It is a favourite with all jam manufacturers; it bears abundantly, and the fruit is large, rich, and deeply coloured, and firm enough to maintain its shape well when cooked—which is really the chief point of importance in all soft fruits. The flavour is likewise excellent. Red and Yellow Superlatives are also remarkably good for preserving purposes, having a brisk, sub-acid flavour.

The Japanese wineberry, which is so popular as a garden decorative wildling, covering trellises and pergolas with its beautiful leaves and berries, has fruit of a distinct raspberry flavour, but slightly sharper and more acid. It is treated exactly as the raspberry or blackberry would be.

The loganberry is produced by crossing the

raspberry and blackberry. Its fruit is like a large raspberry, of rich flavour, is admirably suited to and much liked for tarts and preserves. Like the blackberry, it is being much cultivated in gardens.

STRAWBERRIES

The largest and finest berries are not the best for preserving by any means, and surplus gatherings cannot be utilised this way with any success. The result will generally end in making a strawberry pulp. From the ordinary varieties, the later crop, which will be smaller in size and firmer in flesh, will give very fair results, but the special preserving sorts are:—

Vicomtesse Hericaut de Thury, sometimes called Garibaldi, a fine bright scarlet, firm and well-favoured.

Grove End Scarlet, a small variety, very bright in colour, and slightly acid.

Laxton's Reward, a new and improved British Queen, which for flavour cannot be surpassed; and Elton Pine, which is dark in colour, and makes a rich jam.

Sir Charles Napier, Stirling Castle, and Scarlet Queen are all excellent.

CHERRIES

The original stock of all cherries was the wild cherry, which still is used as a stock upon which to engraft others. The wild black cherry provides

the material from which is made Kirschwasser and Maraschino, the first-named in Germany, the second in Dalmatia. The Scotch name for the wild or sour cherry is gean, and there is a whole family of geans of different kinds. The effect of cultivation on the cherry is to increase the size of the fruit and lessen its acrid flavour.

The May Duke is the earliest hardy cherry, and good for preserving as well as for eating, being firm and crisp and rather acid; but the Morello is the true bottling variety, and is always selected for preserving in brandy. For jam making the juicy, tart varieties are alone of use; sweet cherries, whether dark or white, are no good when cooked.

An excellent mixture is that of apricots and cherries, with a few kernels added to intensify the flavour.

APRICOTS

In France and Spain, in dry districts, the apricot grows almost wild, and bears abundant crops. Most of the fruit which we turn into apricot jam comes to us from these countries as a pulp. A larger variety, one of the Alberge type, is cultivated specially for preserving, being used for the finer conserves. A good deal of pumpkin finds its way into the apricot marmalade that is manufactured abroad. The favourite preserving apricot grown in England is Moorpark, a large, juicy, and rich fruit, sometimes called the peach-apricot.

PEACHES

The two distinct varieties of peaches possible for service are the Melting and the Clingstone varieties. In the one the flesh parts easily from the stone, and the fruit is juicy and soft; in the other it adheres to the stone, and the fruit is acid in flavour. In England a plum stock is favoured for a peach tree, and in France the almond stock is chosen by preference. Nectarines are often grown from peach seed, and *vice versa*.

PLUMS AND GREENGAGES

Most plums are rich in a substance which by cooking is converted into a jelly, and the making of good and rich jams with this fruit is an easy matter, providing it be gathered when not fully ripe. Victoria plums when only half ripe make a delicious jam. On the other hand, if fully ripe and peeled, that is, the skin removed, a jelly results which is little inferior in flavour and appearance to apricot jam, and is, in fact, often sold for the same. Victoria plums bottle well, perhaps better than any other variety.

Excellent culinary plums are the following:—

Autumn Compôte, gathered in September; large, bright red, and thin-skinned.

Denyer's Victoria, September; large, oval, moderately juicy.

Diamond, mid-September; large oval, deep purple, juicy, and acid.

Pershire Egg plum, mid-August; yellow, slightly

acid, and if taken when half-ripe, makes a jam equal to if not surpassing greengage. For bottling purposes, should be taken quite ripe.

Of greengages, the best varieties are Reine Claude, an early greengage, and Reine Claude Violette, a purple gage. Early Transparent Gage is also an excellent variety.

For crystallising and glazing, the small yellow plum is the best.

The damson, bullace, sloe, and winesour are all excellent for making jam, for fruit cheeses, and for bottling. They all require the addition of sugar and longer time for cooking in order to obtain the best results.

Large dark purple plums, especially of the later varieties, should be skinned before making them into jam, as the skin will remain tough even after long cooking.

APPLES

The cultivated apple comes from the wild crab, and a crab stock is the best for grafting purposes. The crab apple still is the best for jelly making, and next to the wild crab the small hardy green type affords the finest jelly both in colour and appearance. Early and non-keeping apples, those which ripen quickly, are the least suitable for preserving.

French people favour the Russet apple for all such purposes, likewise the Nonpareil, but any apple which is firm and acid will cook well. As a rule some colour in the skin is desirable when

choosing them for jelly. One of the oldest sorts, still found in some districts, was a variety of Pippin called the Costard, the sellers of which acquired the name of costard-mongers — now costermongers; it was a popular fruit, and if a little rough had a good flavour.

The best apples for bottling are:—

Early Victoria, of medium size and brisk flavoured.

Early Rivers, medium, juicy, and pleasantly acid.

Lord Suffield, large, yellow, briskly acid, and well flavoured.

PEARS

Among the best preserving pears are:—

Catillac, a large fruit, crisp and astringent; if cooked sufficiently long, both pulp and juice become a fine red.

Gilles-o-Gilles, a thick russet skin; flesh white and juicy.

Flemish Bon Chretien, yellow and russet skin, a first-rate culinary pear.

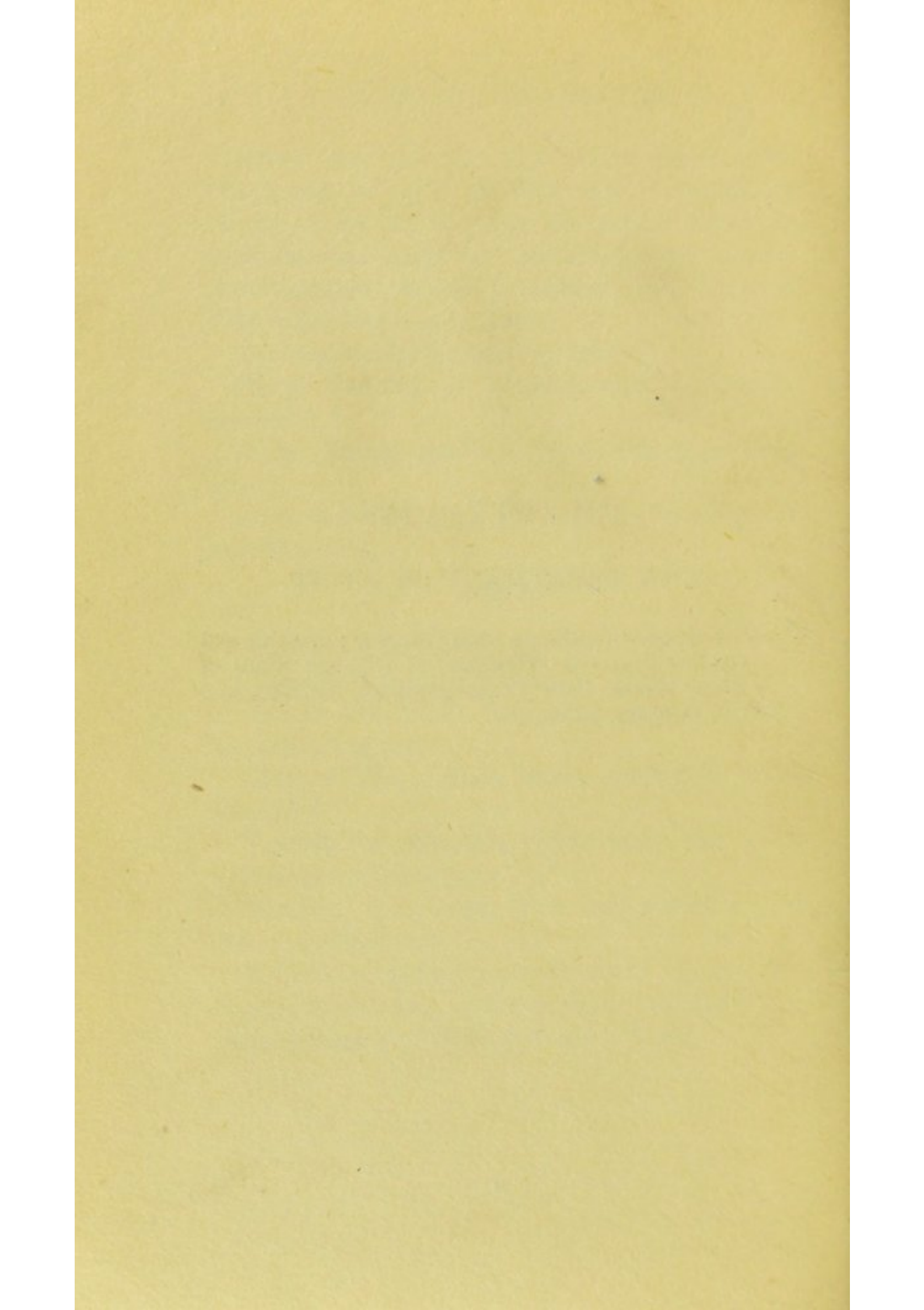
Verulam, fruit large, green and russet, of fine colour and flavour.

Bellissime d'Hiver, round fruit, green and brown, sweet and well-flavoured; especially excellent when grafted on the quince stock.

CHAPTER IV

THE TREATMENT OF FRUIT

Its Gathering and Purchase ; when to Gather ; Cleaning and Grading Processes—Treatment of Different Kinds of Fruit—Whole Fruit Conserves—Fine, Medium, and Ordinary Jam, Jellies, etc.



CHAPTER IV

THE TREATMENT OF FRUIT

LET it be written down as a rule invariable in its application, that only sound fruit will make good preserves, although by sound is not necessarily implied very fine individual specimens. But bruised, over-ripe, or otherwise defaced fruit, unsaleable in any other way, will never make jam ; the product will also become unsaleable, and reputation will soon be lost.

Those who grow their own fruit, or make their factory a centre for the produce of other fruit growers, will be well advised to bear in mind that, considering the brevity of seasons, profits are made by those who undertake whole-fruit preserving and the making of fruit pulps, in addition to the more usual bottling and boiling for jam. The advantage of having these different methods in work together is that large and small fruits are each made the most of, and none but the unsound need be rejected.

The time of gathering must depend mainly upon the weather, and in large fruit-growing districts the work proceeds, on suitable days, from early morning till dusk ; but the small grower who

gathers his own produce will prefer to do it at the close of a dry, sunny day, which is the best time of all. Where few hands are employed it is a good arrangement to keep them at work upon the actual manufacture through the day, and turn them to fruit gathering after five o'clock. All this is, however, a matter for individual judgment, the one essential being that fruit for boiling purposes must not be gathered after rain, or with heavy dew upon it.

Again, the fruit must be gathered when just under rather than perfectly ripe if it is to be at its best stage. The natural pectose will then quickly form a jelly when united with sugar, whereas if over-ripe this turns to a watery fluid. This applies especially to soft fruit and to pears; apples are best when fully though not over-ripe. Fruit should be picked, not pulled from tree or bush. But this should be done as gently as possible, and all unnecessary handling of such soft fruit as strawberries and currants avoided, so as to prevent bruising.

After being gathered, the first process to be undertaken in the shed will be that of grading. Quickness and skill in selecting and grading are readily acquired, and the sorter should have several wicker baskets in which to place the sizes as they are separated from one another. The finest specimens are generally set aside for bottling and whole-fruit preserving, the second and third grades for boiling as jam, the smallest for making pulp.

After sorting comes cleaning. Some fruit, like plums, may be lightly wiped with soft cloths, other kinds will bear washing; in fact, foreign jam manufacturers are not afraid to give a free washing to most fruits, drying them, of course, in the hot sun afterwards. They use large shallow copper vessels for the purpose, and with such fruits as the wild apricot, which grows so plentifully in the dry valleys in some districts of Spain, washing goes so far as to include the rubbing-off of the downy and rather hard skin.

Gooseberries are a fruit that will bear washing quite easily, and indeed where growers, as is now so frequently the case, use strong mixtures where-with to syringe their bushes on account of the dreaded mildew, this process of washing is absolutely necessary. In addition to cleansing, gooseberries will also require "topping and tailing"—the most tedious operation in connection with the preservation of this otherwise easy fruit. It must be done by hand, the process being facilitated by the previous washing.

Currants when intended for making jelly need not be stemmed, as the fruit has to be passed through a bag, but for bottling and for jam they must be picked from the stalks. A previous washing will, however, make the process considerably easier.

Cherries should be picked from the stalks and stoned. The little machine which does this is very easy to manipulate, and the operator can get through quite a good quantity in a short

time. Many people bottle cherries without stoning them, but for jam or jelly making this process must certainly be gone through.

Strawberries must not come in contact with any tin vessel, and they will not bear putting up in a can, as this turns their colour, nor do they lend themselves very well to bottling, being almost too soft a fruit for this purpose, and liable to lose colour unless put up with a strong syrup. But with the addition of red currant juice they make excellent jam, and with a syrup made of sugar and currant juice they are not by any means unsuccessful as a bottled fruit.

Apricots and peaches will require cutting in half with a sharp knife, and, to prevent discoloration by contact with steel, they may be thrown into shallow basins of water as they are done, in which a little sulphuric acid has been dissolved (a teaspoonful to every 10 pints). This will do no harm to the fruit, and will preserve its bright colour.

Before coming to details of manufacture—in the first place the manufacture of fine conserves such as those sent over from France, from the district of Bar-le-duc more especially, and upon which the largest profits are made—I would like in this connection to quote the words of Mr. J. F. Austin, F.R.H.S., an expert on the matter of whole-fruit preservation. A few years ago he wrote thus:—

“Notwithstanding the fact that largely increasing quantities of fruit are required every year for

manufacture into jams, and also that the consumption of fruit is rapidly on the increase, the grower has no certain means of disposal for the finer and choicer varieties upon which he has spent most of his time and labour.

“To the grower, therefore, the creation of a new outlet for his finest produce would come as a most welcome boon. If it were possible for the finest fruits of this country to be preserved whole—and I am prepared to show that it is—in such a way as not to destroy their delicious colour or flavour, and so that they might be obtainable all the year round, it would give the fruit industry an enormous impetus, and place the growers in a better position than at any previous time. . . .

“With regard to the effect which this new method of preserving (namely, the method of preserving fruit by the vacuum process) is likely to have upon our national fruit-growing industry . . . it is difficult to speak; . . . but if one may judge by the reception which fruits so preserved have met with from the general public, there is very little doubt that a wide door of hope has been opened for the British fruit grower, and at the same time it has made it possible for the consumer to enjoy home-grown fruits all the year round.”

Speaking of the brevity of the season with regard to British ripe fruits, the same writer refers to the extent of our import trade with the Continent as “simply colossal” in the matter of preserved fruits—other than jams—and asks why should not the sum of several millions sterling

per year paid for it be spent at home? The fact remains that few British fruit growers have made any serious attempt to preserve fruits in the same way as the continental preserver does, preferring to attain a certain amount of reputation in the larger field occupied by the producers of household jams, marmalades, and jellies.

It is not in this field, however, great as the trade in jams may be, that the best profits are made. This fact can hardly be repeated too often or too impressively.

Again, in another connection, this writer adds: "I am not forgetting that other countries have a superabundance of fruit, . . . but they have not got the *kind* of fruit which we grow upon our island. British fruits are just as great a luxury to them as some of their choice kinds are to us."

Great as is the demand for jam, especially English-made jam, there is, without doubt, a still greater demand for fruit preserved in a more natural form, with little sugar or none at all, and for finer conserves which keep the fruit whole with all its flavour and colour. We therefore give prominence to these methods of preserving, before coming to the subject of jam, jelly, and marmalade.

For preserving fruit whole in wholesale quantities, in bottles or jars, with weak syrup or water only, we cannot recommend a better course than to follow accurately the directions given with the particular apparatus bought for this purpose,

whether that be the "Mercia" steriliser, Fowler-Lee's Patent, or simply the vacuum jars before-mentioned. All these processes are quick and easy, and success is practically assured with them.

But we desire to call attention here and now to a few of those finer preserves, for which the best prices can always be obtained—the conserves of apricots, peaches, greengages, mirabelles, cherries, and pears which French manufacturers put on the market, and more especially to the exceedingly taking preparations of currants and grapes, in tiny glass jars, which emanate from Bar-le-duc.

To M. E. Dumont we are indebted for the particulars of the method of dealing with *Reines-Claudes*—or greengages, and for the assurance that apricots, peaches, pears, and green figs are equally successful when treated after the same manner.

With regard to greengages, then, he says: "Gather the finest specimens of the true greengage a few days before they attain perfect maturity; they must be crisp and juicy. With a sharp penknife cut a little minute round from the stalk end, and with a long darning needle prick them lengthwise from the same end. Throw each one as it is done into a wide basin containing enough water to cover well. When the whole quantity has been thus prepared, stand the basin—a brass or copper vessel, it should be—upon the stove, and heat until the hand can no longer be borne in it; take the basin off the fire, and throw into

the water about a teaspoonful of salt to every quart of fruit and liquid. Let it become cold, and in about an hour's time return the basin to the fire, and let it very gradually come almost to boiling-point, keeping the plums gently stirred about, as this process restores the green colour to those which may have turned yellow. After this, drain them by lifting out of the salted water into another basin of clean cold water first, then later drain carefully through a sieve, and leave in a china bowl.

In a brass pan dissolve as many pounds of sugar as you have of fruit, allowing one tumblerful of water to every pound of sugar. Bring this up to boiling-point over a clear fire or gas, and boil fast, skimming the surface, and let the syrup reach 29 degrees on the thermometer. Pour this boiling syrup over the plums in the bowl, and leave them for twenty-four hours.

The next day lift them out carefully, and reboil the syrup to a still higher degree, 32, and pour again over the plums, leaving for another twenty-four hours. A third time repeat the process, letting it attain 33 degrees if possible, and leave for forty-eight hours. After this the syrup and fruit together are brought again to boiling-point, bottles or jars being at once filled to the brim and tied down, sealed, wiped, and labelled when cool.

The other fruits mentioned above are treated in just the same way. These jars should be of small size and nice shape, and have attractive labels.

BAR-LE-DUC PRESERVES

The very finest grape currants are required for these. The best for the purpose are either red or white currants. They should be stemmed very carefully and weighed. A pound and a half of the finest granulated cane sugar is allowed to every pound of fruit; this is dissolved over the fire with a little water added; it is skimmed and kept boiling until it becomes a perfectly clear syrup. The fruit is carefully added to the syrup, brought up to boiling-point, and at once withdrawn from the fire; the small glasses—generally quarter-pound jars—are immediately filled, taking care that the fruit seems evenly distributed, and then sealed down.

RAISINÉ DE BOURGOGNE

Very ripe and sweet grapes are picked from the stalk, and squeezed through damp linen cloths. The juice so obtained is put into a brass pan and boiled until reduced nearly to half, being skimmed and stirred from time to time that it may not catch. At this point throw in slices of ripe pears, peeled and cored; boil again until the fruit is perfectly tender, then fill the jars. When the grapes are not very sweet it will be needful to add sugar to the juice, in the proportion of 3 lb. to 10 pints of liquid. In the case where sugar has been added, the boiling need not be so prolonged as when none is used, for the sugar acts as preservative.

CONSERVE OF APPLES, A NORMAN RECIPE

Boil some fresh cider for several hours, and when reduced to about half its quantity throw in peeled and cored apples cut into small sections; continue the boiling over a slow fire for about an hour to an hour and a half, according to the ripeness of the fruit, then put up in stoneware jars. The cider must be of a sweet kind.

Coming now to the manufacture of the more ordinary qualities of household jam and of jellies, the superiority of the properly manufactured article over the usual type of home-made conserve may invariably be traced to a different understanding of what boiling really means.

Where large copper steam-jacketed pans are used, the heat being supplied from boilers, the temperature attained is high, but by no means so high as when direct heat is employed. So that the small manufacturer and the amateur is in this matter generally in a better position to turn out really good jam than the great manufacturers. It is not enough if the pan keeps up a steady bubbling, for then the fruit is really stewing, and not boiling at all; so the germs are not destroyed, and the jam does not keep. One reason for the bad practice of adding preservatives is that jam made on a very large scale is not "boiled" long enough or at a sufficiently high temperature. If the jam has to be made over a fire or kitchener, a very fierce heat will need to be kept up, and the

bubbling ought to become a rapid ebullition that is constantly throwing up steam. The more rapidly jam or jelly boils, the shorter time will it need to remain over the fire. During that time, however, attention must never be relaxed, nor must the stirring be neglected; to allow it to catch at the bottom of the pan should be considered a sign of want of skill in the jam maker. Rapid boiling for a short time will cause less waste in every way than does the long and tedious process that preserving generally means in the home kitchen. On account of the great heat required, gas or steam are the best forms of heat to apply when considering the installation of apparatus in the first instance.

Where the professional takes precedence over the home manufacturer is in attention to details. Perfection and uniformity—especially uniformity—are aimed at, no trouble being spared in attaining the end in view. Attention to detail ought to be the rule writ large over every part of the industry. The foreigner pays scrupulous attention to having clear glass bottles and jars, to securing a bright translucency of colour, and to putting on attractive labels. The public has got accustomed to seeing produce put up in this fashion, and if asked to buy the unattractive-looking article, however pure and genuine it may be, fails to see the advantage to be gained by doing so.

Jams for sale should have the finer kinds put up in pound glass jars, the cheaper qualities in larger glass or stone jars, which can be obtained to con-

tain from 1 to 14 lb., and the jellies in pound, half-pound, and quarter-pound sizes of fancy glass. Jellies do not sell well in pots.

Both jams and jellies must be poured while boiling into the jars, these being made hot first by standing in trays of boiling water; they will then be in no danger of cracking. If the covers are lids, they should be lightly screwed on at the time, being more firmly tightened down afterwards; but if prepared paper covers are used, the covering may wait for an hour or so, though it must be done while the jam is still hot. Both jams and jellies shrink in the cooling process; therefore the jars need filling brimful. When quite cold and finished they should be well polished with damp cloths, labelled, and stacked away.

The commercial buyer will put colour before every other point when judging of jams, therefore this must be borne in mind, and the fact that rapid boiling is the way to ensure colour must be remembered.

Another cardinal point in jam and jelly making is the fact that it is the fruit that requires cooking and not the sugar. If this be remembered, we get a "fruity" result; if it be disregarded, the jam will have a flavour of treacle, if it be not almost a fruit candy. Many people forget this point, and put the sugar into the pan at the same time as the fruit, and "stew" both together.

In jelly-making the general process is to cook the fruits in a preserving pan, with a very little water added, and over a slow fire, for several hours,

in order to draw out the juice. Small fruits like currants and raspberries are better put into a stone jar, and set in a corner of the oven. When the fruit has become a pulp, the whole can be strained off through the jelly-bag, which should be of flannel, made in the shape of a deep inverted cone, and held open at the corners by strong supports. Before using, the bag should be soaked for some time, and then dipped in hot water and wrung out. Keep everything hot, as far as possible.

For fine jellies the first running only is used, but for household jellies the bag may be squeezed, and a wooden spoon used now and then as presser to help the extraction of all the juice.

Every pint of juice—as a general rule—will require a pound of sugar, and while the juice is re-heating over a brisker fire in an open preserving pan, the sugar should be spread out on trays or tin plates and set in a hot oven, care being taken that it does not actually dissolve or burn. When the juice has boiled, the sugar is added at once, and being nearly of the same heat it does not reduce the temperature much; stir both together until the sugar is entirely dissolved and clear, then withdraw the spoon and allow to boil rather quickly for just ten minutes, after which pour at once into the jars, setting them on trays in the sun. Do not cover until cold.

The above are the general rules for the making of ordinary fruit jam and jelly, but in certain individual instances they will require adaptation and alteration, and in Chapter VI. special

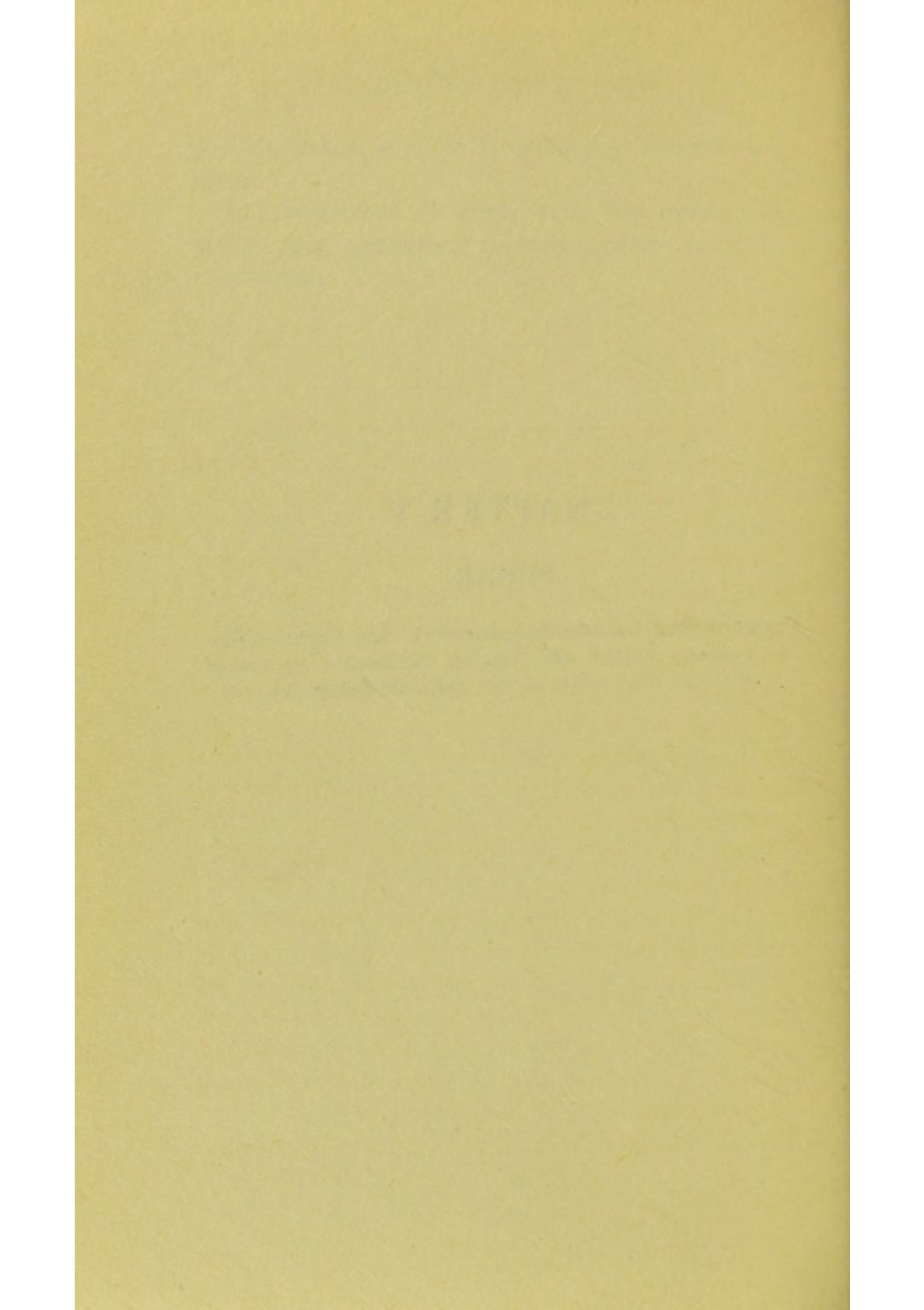
recipes, many of them from foreign sources, are given.

The treatment of sugar and the making of syrups for preserving purposes, must now be considered.

CHAPTER V

SUGAR

Cane and Beet Sugars—Appearance of Pure Sugar—Clarification ; French and English Methods—Degrees of Boiling ; Tests—Use of Hot and Cold Syrups, etc.



CHAPTER V

SUGAR

IT is important for the jam manufacturer to know the difference between cane and beet sugars, and to understand why cane is the only sugar suited for high class preserving purposes.

Beet sugar offers the most attractive appearance, but it can be known when in bulk by its rather rank vegetable odour, and if not exactly moist to the touch, it has what is known as a "fat" consistency. Although beet sugar is useful for many purposes, and a little cheaper, it will not serve the purpose of the jam manufacturer, because it has a peculiar flavour, and the property of attracting to itself moisture, and hence of inducing fermentation.

Pure cane sugar is somewhat dull and flat in colour, and is dry to handle.

The difference between the two varieties, and the cogent reasons for declaring cane sugar only as suitable for the fruit preserver, was well brought out by Mr. Arthur Morris in an article which was fully endorsed by Mr. F. W. Richardson, F.I.C., F.C.S. the Bradford City Analyst, and well-known authority on sugars. Mr. Morris says:—

"All commercial sugars, in fact, are the chemical

compound $C_{12}H_{22}O_{11}$, plus certain commercially inseparable chemical impurities.

"The difference between cane and beet sugar is thus due to two distinct causes. The more important consists in the proportion of extractives, many of which have a powerful and characteristic taste, found in the molasses, and some of these cling to the refined sugar. It is beyond the refiner's power to prevent it.

"The other circumstance influencing the taste of beet sugar is the large amount of carbonates of potash and soda which it contains as compared with cane sugar. These carbonates exert indirectly a distinct effect upon the flavour of the sugar.

"That cane and beetroot sugar are practically identical seems to be the very general opinion of well-informed men. There is a difference, and it is all in favour of the product of the cane. A single instance will show that it is not merely a question of prejudice. Alkaline carbonates, even in very small quantities, have a marked effect upon the flavour of many beverages which it is usual to sweeten with sugar. For example, two samples of the same blend of tea, brewed under exactly the same conditions, with the single exception that one is infused with pure water and the other with a solution of carbonate of soda in a *thousand* parts of water, give beverages differing widely in taste and in aroma. It follows that tea sweetened with sugar containing an alkaline carbonate will not be the same beverage as that made with a sugar free from such admixture. The same effect

is noticeable in coffee, and in several other sweetened drinks. Thus it is not merely the fancy of the epicure (and that is important enough) that tells him that cane sugar is the superior article."

It is best to purchase sugar in large quantities if there is a dry storeroom wherein to keep it. Large biscuit tins make good receptacles for it, unless it be already put up in wooden cases. Tate sugar has a well-deserved reputation for purity, and that manufactured by the Armstrongs of Carlisle is equally good. The latter firm put up a special brand of sugar for preserving which is exceedingly nice for the purpose.

For jam and syrup the best form of sugar is the granulated; it produces a clearer syrup than loaf sugar does, gives less scum, and dissolves more readily. It is slightly heavier than loaf in bulk.

The kind known technically as *Clayed Sugar* is often bought for preserving purposes, especially abroad. The boiling liquid has been poured into conical pots, the apex downwards. These pots have a hole in the extremity through which the molasses drains away. After the draining is finished, a stratum of moistened clay is spread over the surface of the pots, the moisture from which is found to contribute to its purification. Clayed sugar is certainly pure, and is easy to store, but, being very hard, is not easy to break up and weigh accurately. For ease of handling there is none like the granulated. Cheap loaf sugar,

roughly broken and mixed with powder, is the sort to be most avoided.

Too much care can hardly be taken to ensure getting a pure article, even for common household jam, but for syrup making, for fine conserves and jellies, absolute purity and quality is indispensable.

In whatever form it be purchased, sugar must on no account be left uncovered in the boiling shed, or where vapour can reach it; it very easily turns soft and acquires a bad odour, and loses part of its sweetness. It is possible to purify it by clarification, but not to restore its full sweetness again. Use very clean scales and receptacles for the weighing-out of sugar, and keep it covered until ready to put into the preserving pans.

Brown sugar, good Demerara for preference, is occasionally used, for instance in making apple and tomato butter. This sugar requires to be carefully stored, as it readily absorbs moisture and then quickly deteriorates.

CLARIFICATION OF SUGAR

This is the first process in the making of syrup, whether that be a weak and much diluted syrup for fruit bottling, or the heavy syrup required for the finest conserves of whole fruit. It is necessary, not only to remove any possible impurities, but also to prevent its frothing up and boiling over the pan when heated.

The following is the French method of clarification:—

Break into a large brass or copper pan (or aluminium saucepan) the whites of two fresh eggs, and whisk them with two tumblerfuls of water to a white froth; add about 6 pints of cold water to this, and withdraw one tumblerful of the liquid. Into the rest put 6 lb. of sugar. Place over moderate heat, keep stirring to prevent catching, and when it has boiled up once withdraw to a corner of the stove that it may throw up the scum; add the rest of the water set aside at first; skim carefully, and when no more scum rises the syrup can be strained off into another receptacle, and is ready for use. Some of it can be liquefied for bottling purposes, and the rest used for further boiling to the right degree for the conserves.

The following is the English method of clarifying sugar, which varies slightly from the former recipe, though not materially:—

Break the sugar into small pieces (loaf sugar, in this case) and put it into a thoroughly clean preserving-pan. Allow a pint of water for each pound if it is for syrup. The white of one egg will be required for every 12 lb. of refined sugar, one for every 6 lb. of the less refined qualities. Beat the white to a froth, stir it into the water, then pour over the sugar. Let it stand till dissolved, then stir thoroughly, and put the pan over a slow fire. Do not stir again after the scum begins to rise. Let it boil for five minutes, then remove the pan from the fire, and carefully remove all the scum. Set it on the fire again,

and when it is on the point of boiling throw in a little cold water reserved for the purpose from the quantity originally measured. Boil till more scum forms, remove and skim, and repeat the operation until the syrup is perfectly clear, then strain it through damp muslin. It is then fit for immediate use, or for re-boiling to produce heavy syrup.

By boiling and re-boiling alone sugar attains any of the five different degrees required in candying and sweet making, and distinguished technically as candied, blown, feathered, crackling, and caramel; hence it is that long boiling of sugar, with the fruit, is inimical to the making of a delicately flavoured jam or jelly. This, also, explains why some home-made jams are dark in colour, have a tendency to candy on the top, or taste of treacle—of anything, indeed, rather than of fruit!

The kind of pan to use for boiling sugar, if the preserving pan be not employed, is a straight-sided and rather deep brass, copper, or aluminium pan. To prevent the sugar coating on the sides of the pan whilst boiling, a small brush should be taken and dipped in cold water and passed round the edges at frequent intervals. As soon as the pan is emptied of its contents, fill it to the brim with cold water.

A sugar thermometer is indispensable for testing the degrees of heat; the "heights" are clearly marked thereon, and it is intended to stand in the pan while the boiling goes on. The

thermometers can be bought from wholesale confectionery stores, or trade outfitters.

Syrup when cold weighs about four degrees heavier than the same quantity will weigh when hot, therefore this should be allowed for in the calculation. It is also denser, or thicker, when cold.

The best authorities all agree in recommending that *cold* syrup be added to all red fruits. After the jars or bottles have been filled and the caps put on, they are placed in the steriliser, and gradually brought up to the requisite point of heat, at which they remain for twenty, twenty-five, or thirty minutes, according to kind of fruit. Cold syrup is also the best for adding to peeled apricots and peaches for the finer conserves before described.

Cold syrup is not, however, syrup boiled and left to become cold; it is made by dissolving the sugar in cold water, and takes several hours to prepare, the proportions being 1 pint of water to every 2 lb. of sugar. This undergoes no clarification previous to using.

In making up jam from fruit pulp, that is, from fruit boiled without sugar and kept in bulk till wanted, the foreign mode is to use a cooked syrup in place of raw sugar. The pulp is weighed and heated to boiling-point; the syrup is also weighed and then is added to the fruit, the further boiling of both together from twenty to thirty minutes tending to thicken the syrup and prevent fermentation, such as will occur where sugar is insufficiently cooked.

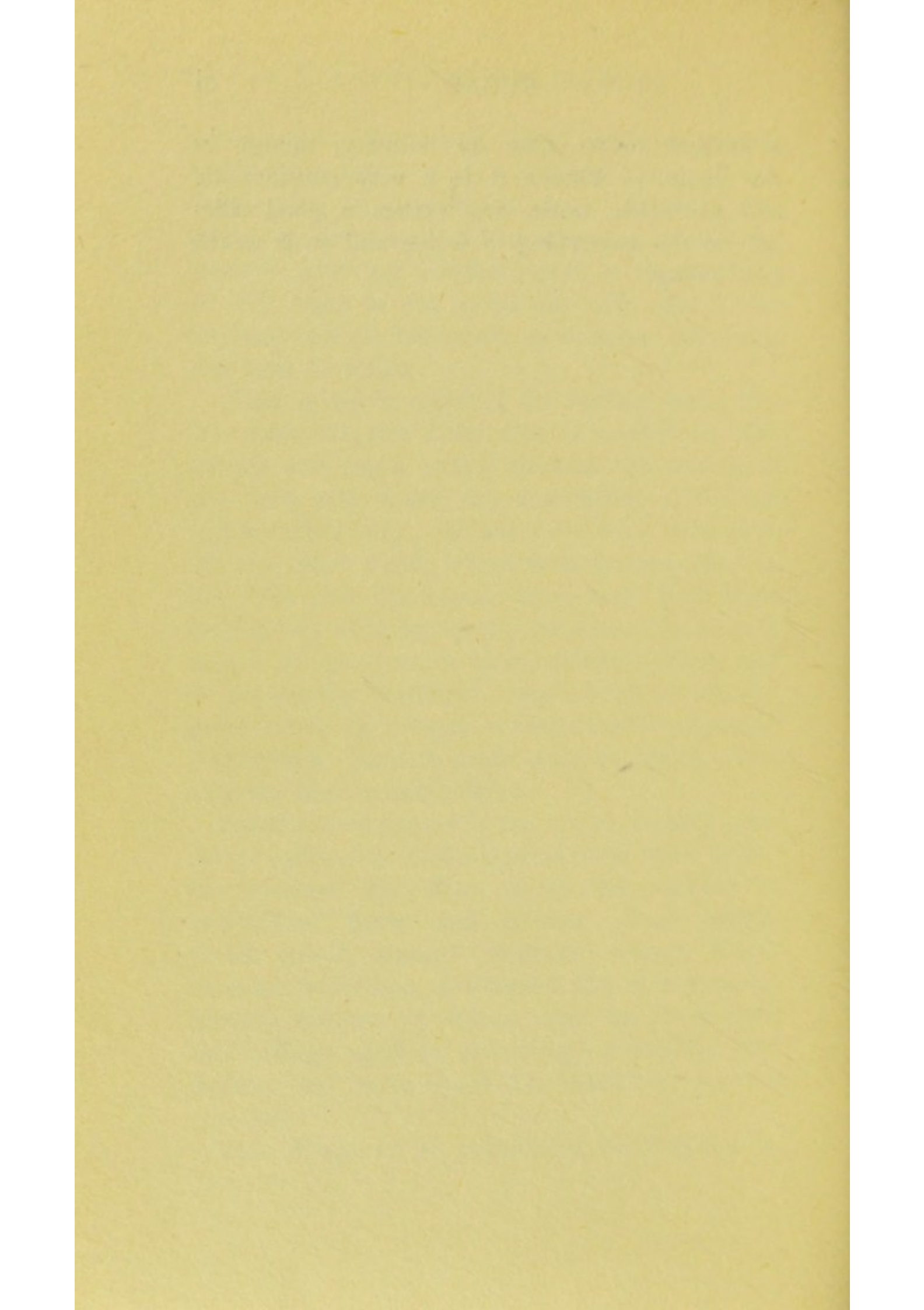
In ordinary jams and jellies, it is, of course, sugar alone which is used and not syrup, nevertheless the heating of the sugar by placing on baking sheets or trays in the oven is a great help towards achieving a better result, as the addition of cold sugar to hot liquid not only retards the cooking thereof, but tends to increase the scum and lead to waste.

While syrup is required for bottled fruits and fine conserves, the water that is needed for dissolving the sugar would prevent the setting of any fruit jelly, hence the desirability of heating without dissolving. In jam made from fruit pulp, on the other hand, where both factors—that is, the fruit and the sugar—have each had their preliminary cooking apart, the second boiling in unison brings about a quite different result, and is necessarily continued long enough to reach a point where all danger of fermentation or mould is removed. Jams so made must be sealed down with the least possible delay.

Practice once gained in the art of making clear syrup, quite a field of experiment is open before the operator who likes to try the making of crystallised fruits and flowers. Rose petals, violet petals, almond blossom, orange flower blossom, heliotrope, and indeed almost any sweet-scented flowers or leaves, may be crystallised by boiling, cooling, re-boiling, re-cooling, and boiling yet again until the candying stage is reached.

This is apt to be considered in England as

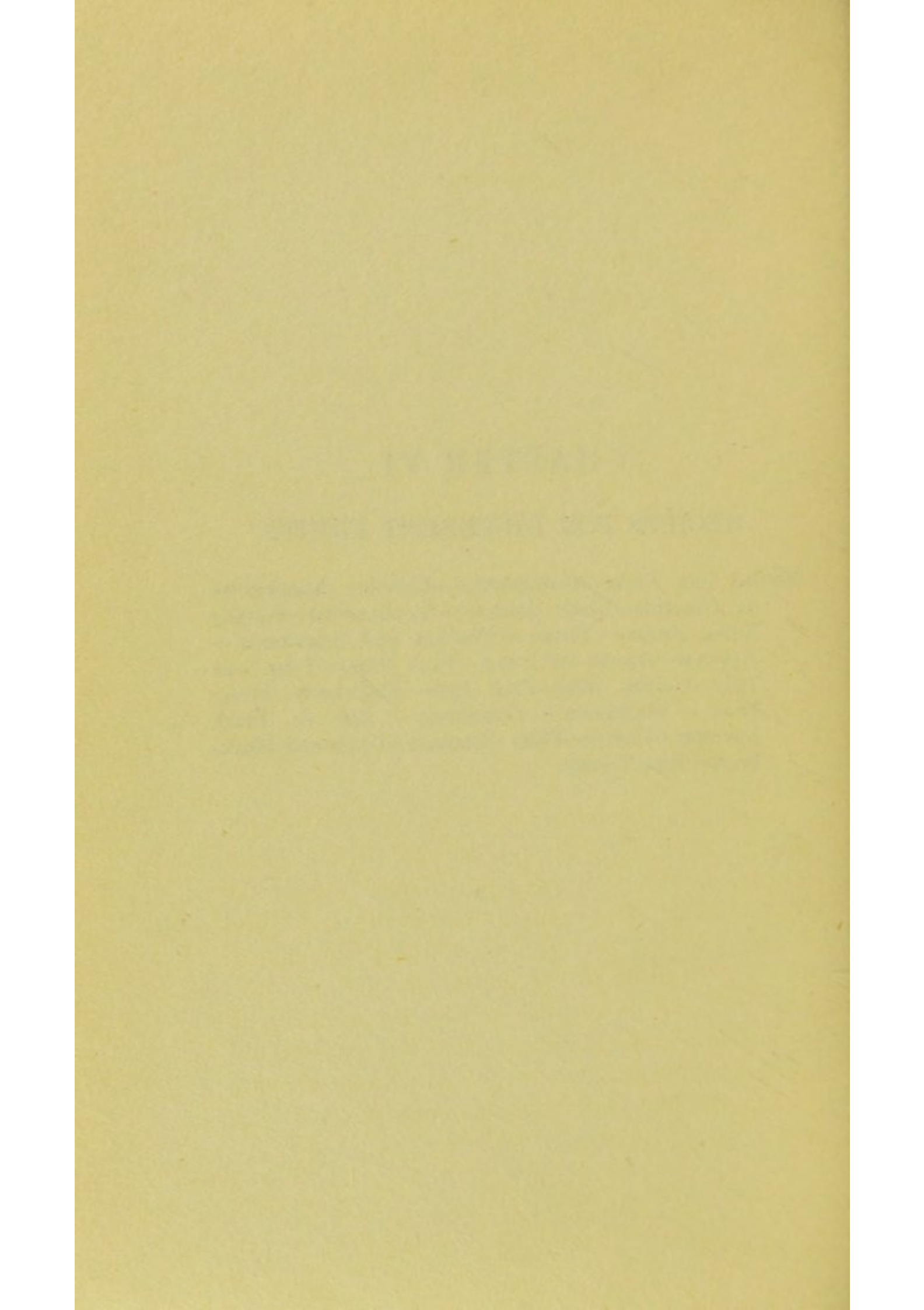
a pastime rather than an industry, though in the South of France it is a very considerable and profitable trade, and proves a good sideline in the preserving of fruits, and so is worth mentioning.



CHAPTER VI

RECIPES FOR DIFFERENT FRUITS

Bottled Soft Fruits—Gooseberries—Cherries—Raspberries or Currants—Black Currants—Blackberries—Bottling Stone Fruits — Plums — Peaches and Nectarines — Apricots—Apples and Pears—Fruit Jellies—Four-Fruit Jelly—Quince Jelly—Fruit Jams—Strawberry—Raspberry — Blackberry — Gooseberry — Red or Black Currants—Cherry—Plum—Damson—Apple and Blackberry—Ripe Tomato



CHAPTER VI

RECIPES FOR DIFFERENT FRUITS

BOTTLED SOFT FRUITS

OF the soft fruits for bottling purposes, the best results are gained with gooseberries and cherries; raspberries and currants give also satisfactory results, but strawberries and blackberries are both more difficult to treat and less easy to keep well. Strawberries and raspberries are both improved by having a thin syrup of sugar and red currant juice added to them.

GOOSEBERRIES

These are the easiest of all fruits to deal with. Gather them for bottling purposes when green and hard, fully grown but under-ripe. Grade the fruit as much as possible, not mixing small and large berries together. "Top and tail" them, wash and let them dry in the sun, then fill the bottles closely to within an inch of the top, and fill up with cold water or a thin syrup if preferred, but quite as good results are gained without the use of sugar. The fruit must be quite covered with water.

The caps must next be fitted on, the rubber rings being taken out of hot water as they are wanted, and the metal cap next, and then the clip. The bottle should be as hermetically sealed as it is possible for it to be, and thus placed in the steriliser. as many together as it will comfortably hold. The quantity of water indicated in the directions given with each apparatus is put in, the lid put on, the thermometer fitted into its place, and the heat applied. The increase of temperature should be gradual, not rapid; in fact, it usually takes an hour for the water to reach the sterilising point, which is indicated on the thermometer. The bottles must remain at this point for forty-five minutes. The spring clip is left on the bottles until they are quite cold. They are lifted out of the pan to cool, which can then be emptied of hot water, refilled with a fresh set of bottles and cold water, and the process be continued. Examine the cooled bottles after a time to see that the covers are perfectly tight and fast, and remove the clips. Any that show looseness should be re-sterilised and screwed down further. When cold, polish the bottles and label them, then stack them away in the storeroom.

CHERRIES

Large morella cherries give the best results. Pick them off the stalks, and stone them by help of the little machine made for the purpose, taking care that no juice is lost. The fruit should be just

under-ripe. Pack the bottles closely, and fill up with cold syrup or water, and proceed as before. The syrup keeps them a better colour than water alone will do.

RASPBERRIES OR CURRANTS

Singly, or both together, these make two of the most useful bottled fruits for the pastry-cook ; it is well to put them up in both ways. They should be perfectly dry and carefully picked, and, need it be said, very clean, at the time of bottling. Fill up the bottles, if using both fruits together let them be put in in layers, and add cold water or syrup, then sterilise at the highest temperature.

BLACK CURRANTS, ALSO BLACKBERRIES

Both are better if syrup be used rather than plain water, the syrup being, of course, thin and weak, and only added to the fruit when it is cold.

Syrup for this purpose is made by boiling together half a pound of pure cane sugar to each quart of water, boiling at 212° F. for thirty minutes, then pouring into large jugs to cool.

Thirty minutes in the steriliser will suffice for soft fruits like rhubarb and strawberries, or if very young and tender probably twenty minutes.

BOTTLING STONE FRUITS

PLUMS

Use only the finest plums for bottling, and gather them before the skins have had time to toughen. Grade them carefully, and pack very evenly, having great regard for the appearance of the fruit when in the bottle. Large apricot plums may, if preferred, be cut in half and the kernel extracted from the stone and added to the fruit in the bottles. Fill up with water, cap and sterilise as before directed, at a little higher temperature than that allowed to soft fruits. Keep in the steriliser for thirty minutes, and in the case of dark plums, like Orleans, date plums, and damsons, for thirty-five or forty minutes. Mirabelles and cherry plums, on the other hand, are sufficiently sterilised in twenty minutes' time, greengages in twenty-five.

PEACHES AND NECTARINES

For the finest conserves, where a heavy syrup is used, the fruit is skinned or pared, cut in half, and thrown into cold water at once to prevent discoloration, the bottles being filled when a sufficient quantity is ready.

The more ordinary way, of quick bottling, is to cut the fruit in half and remove the stone, take the kernels from some of these and add them to the fruit, fill up the bottles with cold

water or syrup, and sterilise for three-quarters of an hour.

APRICOTS

Cut open and remove the stones, pack the bottles very evenly, add cold syrup to fill completely, and sterilise for forty minutes. Large apricots alone repay bottling, the smaller and those which are apt to be hard are better made into jam. As this fruit, like peaches, is one to use for dessert and not for kitchen purposes, it sells better when put up with heavy syrup, and after the more elaborate method, than if merely bottled in the ordinary way. However, a good price is always to be obtained for best preserves of this class, whether put up plain or in syrup.

APPLES AND PEARS

Both require paring and coring, and both are better for blanching in cold water, lest the steel of the knife stain them before there is time to add water or syrup to them. Pack the bottles when a sufficient quantity is ready, and to pears add cold thin syrup, to the apples water only. Cap tightly and sterilise the pears for fully an hour at high temperature, apples thirty minutes.

FRUIT JELLIES

Jelly, properly understood, is the juice of fruit—the pure essence, cleared from all other matter—to which sugar is added to give it solidity.

The best jellies for commercial purposes are gooseberry, red and black currant, apple, quince, and blackberry. Others there are, but these are mentioned in another connection.

From personal testing of the same we are able to say that one of the quickest, readiest, and surest methods of making any kind of fruit jelly is that advocated by an American authority, Marion Harland, in *Common Sense in the Household*, which is as follows:—

“Put the fruit into a stone jar; set this in a pan of water, and put over the fire. Keep the jar closely covered, and let the water boil fast for some four or five hours. Pour the fruit pulp and juice into a deep bag, and let it drain from a height into a basin until the last drop appears to have come, then pour off the clear fluid into the preserving pan; after which, into the same basin where the less clear fluid remains, the bag may be induced to give out a little more by squeezing, which will do for second quality jelly.

“Boil the juice alone for just twenty minutes from the time it reaches boiling-point; have the sugar weighed out, allowing 1 lb. to each pint of juice, and spread it on trays, setting these in the oven to become thoroughly hot, but not so as to burn. At the conclusion of the twenty minutes' boiling throw the sugar into the boiling juice, stirring rapidly all the while. It will “hiss” as it falls in, and will dissolve very quickly; as soon as it is all dissolved and clear, allow the pan

just to come to boiling-point once more, and take it from the fire. Fill the glasses—which must also be scalded and kept hot in readiness at once. Stand the jars in the sunshine to cool before covering. Certain kinds of fruit, currants and apples, will often form a jelly almost before the last jar is filled.”

Another quite different method, yet one which gives an excellent fruity jelly as a result, is that given in an old book on jellies, of French authority:—

“For a perfectly transparent jelly the fruit must not be quite ripe when gathered; if over-ripe, the jelly will always be soft and cloudy. Should it be desired that the jelly be light in colour, mix white currants with the red, and as currants have but little natural aroma, add a few raspberries to them. To make quite ordinary jelly, a pound of sugar is required for every pound of fruit; to make a finer quality still, it is not too much to allow five quarters to every four of fruit. Hence to every 6 lb. of red currants allow 3 lb. of white, and 1 lb. of raspberries, with 14 lb. of sugar.

“Pick the fruit carefully, and in wide shallow basins place first a layer of fruit, then one of the sugar, crushed or powdered, another of fruit, and so on till all has been disposed of. Leave thus to macerate for six or seven hours. Place over a gentle heat at first, and increase this as the juice begins to ooze out; let it gradually come up to fast boiling, so that the sugar may be fully dis-

solved. The raspberries are added at this stage, not before, and as soon as the liquid has boiled well the whole is withdrawn from the fire and slowly poured through a tamis or fine hair sieve (a stout muslin bag, would, however, be preferable), letting it run through without pressure. After all has run that will come, fill the pots from the receiving basin, pouring in the liquid very gradually, then leave them standing in the sun for some hours before covering over. The fruit pulp which remains in the bag or sieve can be squeezed under pressure, and will yield a secondary sort of jelly, or by pouring boiling water through it a very palatable fruit drink is obtained."

For apple jelly, the same authority gives the method of making which is peculiar to Rouen (Normandy).

"Peel sharp russet apples with a silver-bladed knife; this will prevent discoloration of the fruit. Throw the apples at once into cold water where also one or two cut halves of lemon are floating. Fill the preserving kettle with apples and sufficient of the acidulated water to just cover them well. Put over the fire, and when they begin to fall pour the contents of the pan into a sieve or bag, and leave to drain. Weigh the juice obtained, and add to it an equal quantity of powdered sugar, putting both together into the preserving pan, with some fine strips of lemon peel; boil until by testing with a spoonful in a saucer you find it will form a jelly, then fill the pots.

"It is not always necessary to peel the apples, a good brushing and washing in clear water will suffice, and they are boiled down as before; by this process the jelly obtained is not so light-coloured, but on the other hand it retains more the true flavour of the apple, as the real aroma of all fruits of this class is contained in the rind. Russet apples are almost invariably chosen for the making of jelly, because there is sufficient natural acidity to prevent the jelly tasting too sweet or from being insipid. A mixture of sorts, however, gives an excellent result.

"On the other hand, apple juice, like apple pulp, forms an excellent vehicle for the reception of other flavours, and apple jelly may receive the addition of quinces, blackberries, cranberries, or rowan berries, orange or lemon, at will.

"Crab apples make a most beautiful jelly, both in colour and flavour, and should always be utilised with the skin left on."

The same writer advocates the addition of orange-flower water or extract, or rose water, of the juice of cherries, of extract of bitter almonds, and of orange peel, as all suitable for adding to apple juice for the production of finely flavoured and choice table jellies. A few drops of carmine colouring should be added to rose jelly, of saffron to orange jelly, and a few almonds blanched and shred may be introduced into that of almond flavouring.

Another very saleable jelly is the following:—

FOUR-FRUIT JELLY

Take level quantities of cherries, gooseberries, raspberries, and strawberries, crush them under heavy pressure, then strain the juice first through a sieve, afterwards through muslin; put the juice so obtained into the preserving pan with three-quarters of a pound of sugar to each pint of liquid, bring to boiling-point and boil rapidly for twenty minutes, then pour into glasses.

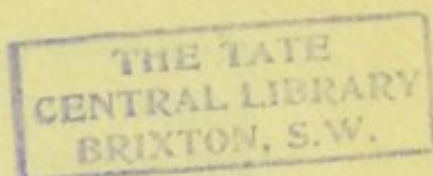
QUINCE JELLY

The quinces are cooked whole, without paring, until perfectly soft, and then passed through a bag to strain off the juice, to which three-quarters of a pound of sugar per pint of liquid is a sufficient allowance, as quinces set easily and form a stiff jelly.

For quince jam, the fruit should be peeled, cored, and cut into slices, the parings and cores being cooked in one jar, the fruit itself in another. The liquid obtained from the parings (which should have been covered with water) is strained and boiled first, the sugar added to this (in the same proportion as above mentioned), and when boiling-point is again reached the pulp is put in and the boiling continued for ten minutes longer. The juice of two oranges and a lemon to every pound of fruit moderates the rather strong flavour of the quinces. Both jam and jelly should be of a beautiful bright red colour.

FRUIT JAMS

STRAWBERRY JAM



To every pound of fruit allow three-quarters of a pound of sugar, and to every 4 lb. of strawberries 1 pint of red currant juice. When the currant juice is boiling add the sugar, and when that has boiled clear put in the strawberries, boiling altogether for just ten minutes, skimming off any scum that may rise. Put up in small jars. "Small Scarlets" are the best for preserving purposes. If the fruit is very juicy, increase the boiling to twenty minutes.

RASPBERRY JAM

Boil the fruit first, with the addition of 1 pint of red currant juice to every 4 lb. of raspberries. Boil for thirty minutes, stirring and crushing well. Then rub through a rather fine sieve to keep back the seeds, and weigh the juice and pulp, allowing three-quarters of a pound of sugar to each pound of fruit. Put the sugar in when the fruit boils, and boil twenty minutes only.

BLACKBERRY JAM is made the same way, substituting apple juice for that of red currants.

GOOSEBERRY JAM

Use the berries while under-ripe, "top and tail" them and boil down till soft, with a little water to

give more moisture; add sugar, pound per pound weight, and boil for half an hour, to obtain a clear red colour.

RED OR BLACK CURRANT JAM

Wash and pick the currants carefully, boil down till soft, stirring constantly; add sugar, pound for pound weight, when the fruit is well cooked, and boil half an hour together.

One pound of raspberries for every four pounds of currants is a great improvement to either red or black currant jam.

Black currant jam is greatly improved by the addition of rhubarb, cut small and added to the fruit in the proportion of 1 lb. to every 4 lb. of currants. Cooked with them it will quite dissolve, giving moisture and a smooth texture to the jam. This is an economical hint that it is well worth the while of the experimental trader to bear in mind; it overcomes the one objection often made to black currant jam, namely, that it is apt to be dry and somewhat harsh in texture. The rhubarb may slightly increase the acidity, but will impart no flavour of its own. It must, of course, be cut up quite finely *across* the stalk to prevent any stringiness.

CHERRY JAM

The cherries must be sour, as sweet cherries will never make good jam. Currant juice is a desirable

addition, as it helps to set the jam. If used let it be in the proportion of 1 pint to 4 lb. of stoned fruit. Add sugar when the fruit is cooked, pound for pound weight.

PLUM JAM

Unless the plums are taken much under-ripe, it is an improvement, after cooking the fruit to a pulp, to rub it through a coarse sieve to get rid of both skins and stones; return the pulp to the preserving pan with equal weight of sugar, and boil for thirty minutes.

DAMSON JAM

The damsons must certainly be passed through a sieve to exclude skins and stones, otherwise the waste is great in trying to lift these out afterwards. But the rubbing must be thorough to ensure getting all the pulp through, therefore the fruit should be well cooked first. Add sugar, pound for pound, as before, and boil the second time for twenty minutes only.

APPLE AND BLACKBERRY JAM

Cook the blackberries in a stone jar until quite soft, adding a little water to them; strain and rub through a sieve. Pare and core the apples, and boil them down to a pulp; add the blackberry juice to this, and when boiling put in sugar, pound

for pound weight, and boil together for half an hour.

RIPE TOMATO JAM

Use equal quantities of ripe peeled and sliced tomatoes and sugar, and the juice of three lemons to every 7 lb. of fruit. Place in layers in basins overnight. Drain off the liquid, boil for five minutes, then put in the fruit pulp. Boil for twenty minutes longer. A few drops of extract of ginger may be added at this stage. Put a little pulp into each jar, and fill up with the boiling syrup. Apple pulp may be added to this if the tomato alone seems to have insufficient solidity.

In conclusion, it may be well to repeat that rapid boiling at great heat is implied when ten, twenty, or thirty minutes' boiling is indicated. This is the essential condition in making jam for long keeping.

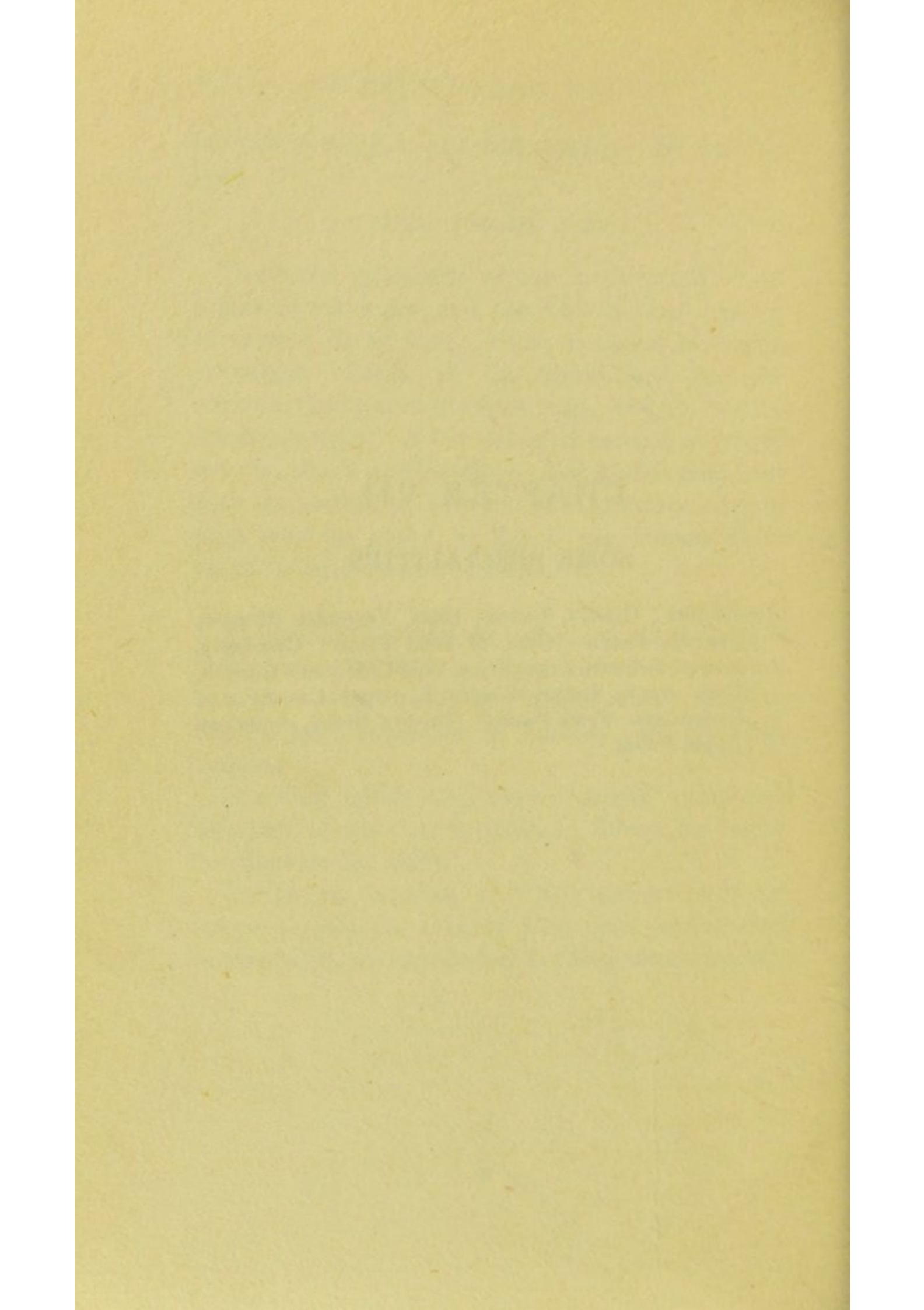
Covering while hot, except where otherwise directed, is another condition. Every jar must be filled to the brim.

Under the heading of "Specialities" will be found recipes for choicer jams and jellies, also marmalades, not mentioned in the present chapter.

CHAPTER VII

SOME SPECIALITIES

Marmalades : Orange, Lemon, Lime, Vegetable Marrow, Tomato, Peach—Jellies of Wild Fruits : Cranberry, Rowan, Arbutus, Loganberry, Wild Cherry and Currant, Crab Apple, Grape—Ginger - flavoured Carrots and Cucumbers—Fruit Pastes : Tomato Butter, American Apple Butter



CHAPTER VII

SOME SPECIALITIES

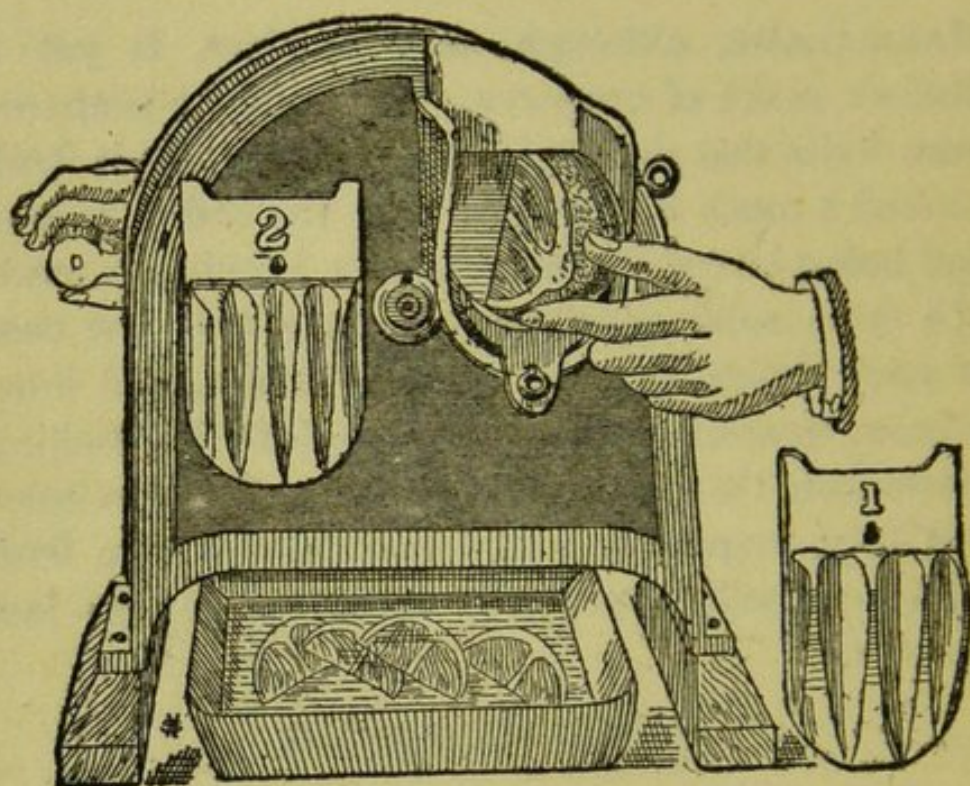
MARMALADE, although akin to jam, is yet a distinct make of conserve. It is usually prepared from fruits that demand longer cooking ; it is itself cooked a much longer time than the ordinary jam, and being intended for indefinite keeping is made of a more solid consistency. Except in the case of juicy fruits like the orange, lemon, and lime, a lesser quantity of sugar is required for making marmalade than is needed for jam. The foreigner will very frequently make marmalade from fruit pulp and boiled syrup, as indicated in the last chapter.

ORANGE MARMALADE

The most common make of marmalade is, of course, the orange. For orange marmalade there is an almost unlimited sale, and several varieties are favoured by the public, from the stiff, concentrated brand to the clear jelly with minute shreds of peel barely visible. The Seville, or bitter bigarade, orange should always be used, the sweet fruit being unsuitable for this purpose.

A cutter or mincing machine is indispensable

where any considerable quantity is being made, and this can usually be regulated so as to cut the peel according to any degree of fineness desired. In the so-called "Oxford" marmalade the peel is cut in coarse squares. The oranges must be cut in quarters and the pips removed before putting into the machine, the shreds and juice from which fall into a basin set below it.



MARMALADE SLICER (J. C. Allsopp, manufacturer).

The task of cutting up oranges and lemons for marmalade is greatly lightened by using a slicing machine, such as the one illustrated. This is a compact machine, with the thin, sharp steel blades concealed, and rotated by means of a handle. It is a machine that will slice any kind of vegetable or fruit with wonderful rapidity and accuracy, a

set of screws enabling the knives to be regulated so as to cut coarse or fine slices as desired. When used for oranges and lemons, a special "marmalade feed," or metal rest, shown in the illustration, is screwed on. With its assistance 2 lb. can be sliced per minute.

A great point to bear in mind is the fact that much natural gelatinous matter clings to the pips of this fruit, and therefore unless these are soaked in water and rubbed through a tamis a great deal that is of value is lost. The marmalade gains much in flavour and quality where the pips are carefully treated.

Good oranges will bear the addition of water in equal proportion to their own weight, or even more. The usual rule for a marmalade that is not required to be too solid is to add one and a half pints of water to every pound of pulp.

Mellowness of flavour comes from long soaking of the fruit previous to the addition of sugar. Perhaps one of the best methods of making orange marmalade is to leave the pulp covered with its proportionate quantity of water for twenty-four hours after cutting, then to boil this until tender, to return it to the basins and leave for another twenty-four hours, and once more to boil what is now a fruit pulp, adding the sugar only when the point of fast boiling has been reached. The amount of boiling allowed after the sugar has once fully dissolved will depend upon the colour and consistency desired; the

longer the marmalade cooks, the darker and richer will it be, but as a rule three-quarters of an hour is long enough.

Methods which advocate the removal of rind and pips and expression of the juice will produce a marmalade that can only become solid after very long boiling; when the bulk of the fruit is rejected the result must necessarily partake more of the character of a jelly or jam.

When manufacturing on a large scale, a mixture of bitter oranges may be employed with advantage as the season of the true Seville orange is but a limited one, the first consignments being generally purchasable about the middle of February to the beginning of March only. There are bitter oranges on the market both earlier and later than that, but not the true Seville, which is known by its reddish-hued skin, by its thickness of rind and rather dry pulp.

It is well for the manufacturer to make two or three different kinds or grades of orange marmalade, as some customers will prefer the transparent or jelly variety, others will demand a strong and concentrated make, others again will prefer what is known as the ordinary "Household." The "Household," "Oxford," and other coarse-cut varieties are the best for kitchen purposes in the preparation of puddings and tarts. There is a very fair profit to be made upon all grades of this preserve.

LEMON MARMALADE

Lemons may be mixed with oranges, though the mixture is hardly favoured by the general public, but lemon marmalade alone commands a very ready sale; it is liked by invalids, and by many others for use in summer in preference to the stronger flavour of orange. The lemons should be bought and stored for two or three weeks previous to using them, as they will then become more juicy and the rinds be less thick. Proceed by shredding right through, as finely as possible, excluding the pips (and soaking them as has been advocated in the case of oranges), adding water to the pulp in the proportion of one pint per pound of pulp, and sugar in the proportion of pound per pound of pulp and liquid weighed together. The very same method as advocated in the case of the orange may be followed, but, as the repeated boilings tend to darken the fruit, a still better way of making lemon marmalade is to add the sugar after the first boiling has made the fruit quite tender, and to continue boiling without a pause until by the shade of colour and apparent consistency it is judged to have been boiled enough.

LIME MARMALADE

Limes, a small, more delicate, and more juicy variety of the lemon tribe, make an even more delicious marmalade when they can be purchased

in sufficient quantity, as is sometimes possible from the West Indian Produce Company, and high-class fruiterers.

VEGETABLE MARROW MARMALADE

This is one of the cheapest things that can be made, and it is a great favourite with many people, but it is not a preserve that can be guaranteed to keep very long, although while fresh made it is delicious. However, a little should certainly be included in the list.

The marrows must be firm and young, though fairly large. Pare, remove all the seeds, and cut the vegetables into moderate-sized pieces; put these into a shallow earthenware bowl, and to eight marrows add two or three pineapples (tinned ones will do) cut into smaller pieces, with the syrup, and also three lemons (the rind shred and juice strained). Put with these three-quarters of a pound of sugar to every pound of fruit, and leave the bowls standing thus till next day. Place in the preserving pan, with one or two roots of bruised ginger, and boil gently for nearly two hours, or until the whole is a smooth marmalade. Pour into small jars, and cover at once.

TOMATO MARMALADE

Take the fruit when not perfectly ripe, though of good colour. Cook in the pan until they will crush to a pulp; rub through a sieve to keep

back the skins and seeds; weigh the fruit, and to every pound allow three-quarters of a pound of sugar, and the shred rind and strained juice of two lemons, with a few drops of essence of ginger. Boil until quite thick, and put up in small glasses.

PEACH MARMALADE

Where peaches come in plentiful quantity, but do not ripen well, they make an excellent marmalade. Pare, stone, and weigh the fruit; put in the pan with a very little water, and heat gently to draw out the juices, stirring often. When becoming soft, increase the heat, and boil more rapidly; then add sugar, allowing three-quarters of a pound to each pound of fruit. Add the juice of one lemon for every 3 lb. of fruit. Remove every particle of scum as it rises, and put in some of the blanched kernels. Boil well for three-quarters of an hour, or one hour, after the sugar has reached boiling-point. Put up whilst hot. A large fresh and ripe pineapple, pared and cut up small, is a great addition to this marmalade.

As South African pines come more into the market, it will be found possible to use them for making delicious jams. Pineapple marmalade would be made in the same fashion as indicated for peaches.

Green fig marmalade is also made the same way, adding extract of ginger, or the root bruised, to give a little piquancy to the flavour.

JELLIES OF WILD FRUITS

CRANBERRY JELLY

Wash the cranberries, and to each pound of fruit add half a pint of water; cook gently for thirty minutes, then add sugar pound per pound with the fruit. Boil well for at least two hours, and strain through a tamis or coarse muslin bag; return to the pan and boil up once more, then put into glasses.

ROWAN JELLY

Put the berries into a pan, with enough water to keep them from burning, and when this water boils draw the pan to the side of the fire, and cook more slowly until the berries have become a pulp. Strain through a coarse flannel bag to get the clear liquid; weigh that, and allow an equal quantity of sugar. Boil the juice and add the sugar, then boil for twenty minutes longer, skimming carefully. Put up in very small pots.

ARBUTUS JELLY

The berries of the arbutus yield a very choice jelly not unlike the strawberry in flavour. Its preparation would be the same as that just given for the treatment of rowan or mountain ash berries. But a little lemon juice added to the water, or the use of rhubarb juice in place of water, is necessary, otherwise the flavour is rather mawkish.

Bilberries, whortleberries, and wild raspberries all make good jellies for eating with game and meat.

LOGANBERRY JELLY

Loganberries should hardly be classed among the wild fruits, for it is being much cultivated in gardens in the same way as the blackberry is cultivated, though originally a wild grower. Loganberries are highly esteemed, and the jelly which they make is in much request in fashionable society. It is one of these delicacies which the small manufacturer will find it very profitable to make, although the fruit may have to be bought at a somewhat high price.

For loganberry jelly proceed as for rowan berries.

WILD BLACKBERRY JELLY

The fruit should be under-ripe. Put it into a stone jar with cover, and stand the jar in a pan of water; heat gradually, and allow to stew for three or four hours. Pour into a jelly-bag, and press gently to get out all the juice. Measure this, and to every pint add 1 lb. of granulated sugar. Boil the juice for ten minutes before adding the sugar, then for ten minutes longer after that is dissolved. Pour into hot jars, and cover when cold. Excellent jam is made the same way, merely omitting the process of straining.

WILD CHERRY JAM

The wild cherry is plentiful in some parts of the country, although not a fruit purchasable in the market. It makes a delicious jam or jelly—the former by preference. The fruit must be stoned, as heat causes the stones to crack during the boiling process, and prussic acid is quickly evolved, so the danger is great of making a poisonous compound. A few of the kernels will do no harm, and only improve the flavour of the jam, but it is just as well to be very sparing in this matter. After stoning and cooking the fruit, add sugar pound per pound, and boil for thirty minutes longer.

WILD CHERRY AND CURRANT JELLY

Use two-thirds of stoned cherries and one of red currants. Cook well all together, and strain off the juice. (*N.B.* No water should have been added to the fruit.) Weigh, allow a pound of sugar to each pint of juice, and boil as for plain currant jelly.

This jelly is pleasantly tart and is an excellent astringent, useful in cases of weakness of the throat or of the digestive organs.

CRAB APPLE JELLY

Cut the crab apples across, but do not remove either skins or stones. Put the fruit into a stone jar, and set in another pan of boiling water, and

cook for eight or ten hours. Leave in the jar overnight, well covered over. Next day, strain off the juice and boil it, as for currant jelly, adding the sugar hot, 1 lb. for every pint of juice. This is a jelly splendid both in appearance and flavour.

TART GRAPE JELLY

Treat the grapes as above, adding the same quantity of sugar. Ordinary outdoor grapes, which are usually very tart, answer the purpose admirably. The juice is strong, and sets quickly after boiling the sugar.

All the above jellies should be classed as valuable for medicinal purposes. Rowan jelly is the correct accompaniment to game and venison.

Jelly from ripe grapes, indoor grown, is a delicate sweet conserve, pleasant and laxative, but not strictly medicinal.

GRAPE JELLY

The recipe given in a former chapter for *Raisiné de Bourgogne* is one of the best that can be followed, but a more simple mode of making grape jelly is to treat the grapes as if they were currants, straining the juice to keep out skins and seeds, and to boil that alone. Add three-quarters of a pound of sugar to each pint of juice obtained, and boil the whole ten minutes only.

GINGER-FLAVOURED CARROTS

Young carrots, especially the yellow variety, make an excellent preserve if cut and split lengthwise and flavoured strongly with ginger. Parboil them, taking care they do not lose their shape. Drain thoroughly and let them lie on a sieve all night. Next day weigh them, and put into a stewpan with an equal weight of ginger syrup. Allow the carrots to simmer, not boil, in this for four hours. Fill the pots, taking care to apportion equally carrots and syrup. Tie down and cover securely. This is an excellent imitation of the West Indian preserved ginger. The syrup of ginger should be made in the proportion of 2 lb. of sugar to 1 pint of water, flavoured with 3 fluid ounces of soluble essence of ginger to the gallon of syrup.

GINGER-FLAVOURED CUCUMBERS

Gather young cucumbers, and lay them without peeling in strong brine for a week. Wash, and soak for a day in clear cold water, changing it twice. Line the preserving pan with freshly gathered vine leaves, lay in the cucumbers with a pinch of powdered alum sprinkled among them, fill with clear cold water, [cover with more vine leaves, and close. Let them simmer for a couple of hours, but not boil. Drop into clear cold water. When cold, dry and wipe them and split them down into finger lengths. Weigh, and make a

syrup, allowing a pound of sugar and half a pint of water to every pound of cucumbers. When the syrup has boiled well, drop in the cucumbers, and with them three or four large pieces of bruised ginger-root. Boil very gently for half an hour. Lift the strips out into jars, and then boil down the syrup at a higher temperature, and, when thick, remove the ginger-root and pour the syrup over the fruit. This is a delicious sweetmeat.

FRUIT PASTES

These pastes, such as the favourite "Damson Cheese," are prepared by boiling the fruit alone until it can with ease be pulped through a sieve, leaving nothing but skins and stones behind. The pulp is returned to the pan again to dry up the moisture, for this purpose being again boiled before any sugar is added. The sugar, three-quarters of a pound per pound of pulp, is put in dry, mixed well, and left to boil slowly until a smooth, stiff paste results. Spread this on shallow dishes, or put up in pots like those used for potted meats, covered first with brandied paper and then with paraffin paper gummed down.

Pastes made from the fruit of the elder berry, from black currants, from damsons, and from quinces, are the most successful. These pastes are generally cut through with a knife and served in slices. They are much used in confectionery, for sweet making, and for decorating cakes.

According to the German methods of making

fruit paste—and the Germans are most successful with this manufacture—it becomes a sort of fruit tablet, keeps good for a very long time, and is reducible to a delicious compote by re-boiling with the addition of water and sugar.

The method of making fruit paste originated in Normandy, and is still carried out on a considerable scale, one firm in Abbeville having sent out 500 tons of apple paste only in one year, while further south, in Auvergne, they make apricot paste. There are few better methods of utilising windfalls and unripe fruit than this, and surplus crops can easily, yet effectively, be turned to good account, even better this way than by drying.

The finest pastes of all are made from apricots, mirabelles, and quinces, and after these, apples, cherries, certain kinds of plums, and wild berries.

The Russian method of making fruit paste, given by Herr Goethe of Geisenheim, is as follows:—

The fruit should be thoroughly boiled and then pressed. To every pint of pulp thus gained add $1\frac{1}{2}$ lb. of sugar, and to each pound one egg whipped stiff. The mass is beaten up with wooden spoons, and then poured into long, flat wooden trays. When cool it is dried at a temperature of 115° Fahrenheit, for about twenty-four hours. The pulp when dry weighs about half what fresh fruit does, and is re-thickened by the addition of sugar to one-fourth of its weight, and by boiling over a quick fire, stirring constantly all the time. After the pulp has become stiff it is

poured into trays again, and dried till it can be cut in strips.

TOMATO BUTTER

To 16 lb. of tomatoes, allow 4 lb. of apples clear weight after paring and slicing them, also the juice of four lemons and a tablespoonful of powdered ginger. Scald the tomatoes with boiling water and remove the skin; slice them and place them with the apples, and add to the whole 8 lb. of brown sugar with the juice of the lemons. Allow this to stand overnight in a deep bowl, then pour into the pan, and boil slowly for four or five hours, until the whole is a thick butter.

AMERICAN APPLE BUTTER

Fill a preserving pan with small apples which have been pared, cored, and quartered. Add a few cloves or mixed spices. Cover the whole with cider, and boil slowly for six or eight hours, stirring from time to time. It should result in a dark brown jam. If the cider is not sweet add a little brown sugar (Demerara) to it. Keep the butter a few weeks before using. An excellent substitute for real butter.

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BY [illegible]

LONDON: [illegible]

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CHAPTER VIII

STORING AND PACKING

Choice of Jars and Bottles—The Distinctive Type—Labels
—Packing of Goods for Transit—Carriage

APPENDIX

CONTAINING

A LIST OF THE NAMES OF THE
OFFICERS AND MEMBERS OF THE

CHAPTER VIII

STORING AND PACKING

WHILE the cost of bottles and jars is a very considerable item, it is not one that can be wisely reduced to the limit of cheapness.

A special and distinctive type of jar or bottle is in itself an advertisement, assisting to make popular the goods of the manufacturer who adopts it. Where an order for several gross of jars can be given at a time, it is worth while selecting a special pattern or shape.

The housewife's predilection for a "nicely shaped jar" is not altogether to be left out of the reckoning, for the housewife is, after all, the manufacturer's best customer, and it pays to treat her idiosyncrasies with respect. Even her liking for a jar which can eventually be turned into a flower-holder is worth remembering, as certainly her preference for one which allows of the easy insertion of a large spoon is reasonable. The jar with the narrow neck condemns itself.

Some manufacturers, having adopted a distinctive type of jar, make a practice of allowing a penny or halfpenny upon the return of them; and this is a good plan, as it helps to emphasise

the maker's name, the class of goods, and their appearance, on the mind of the public.

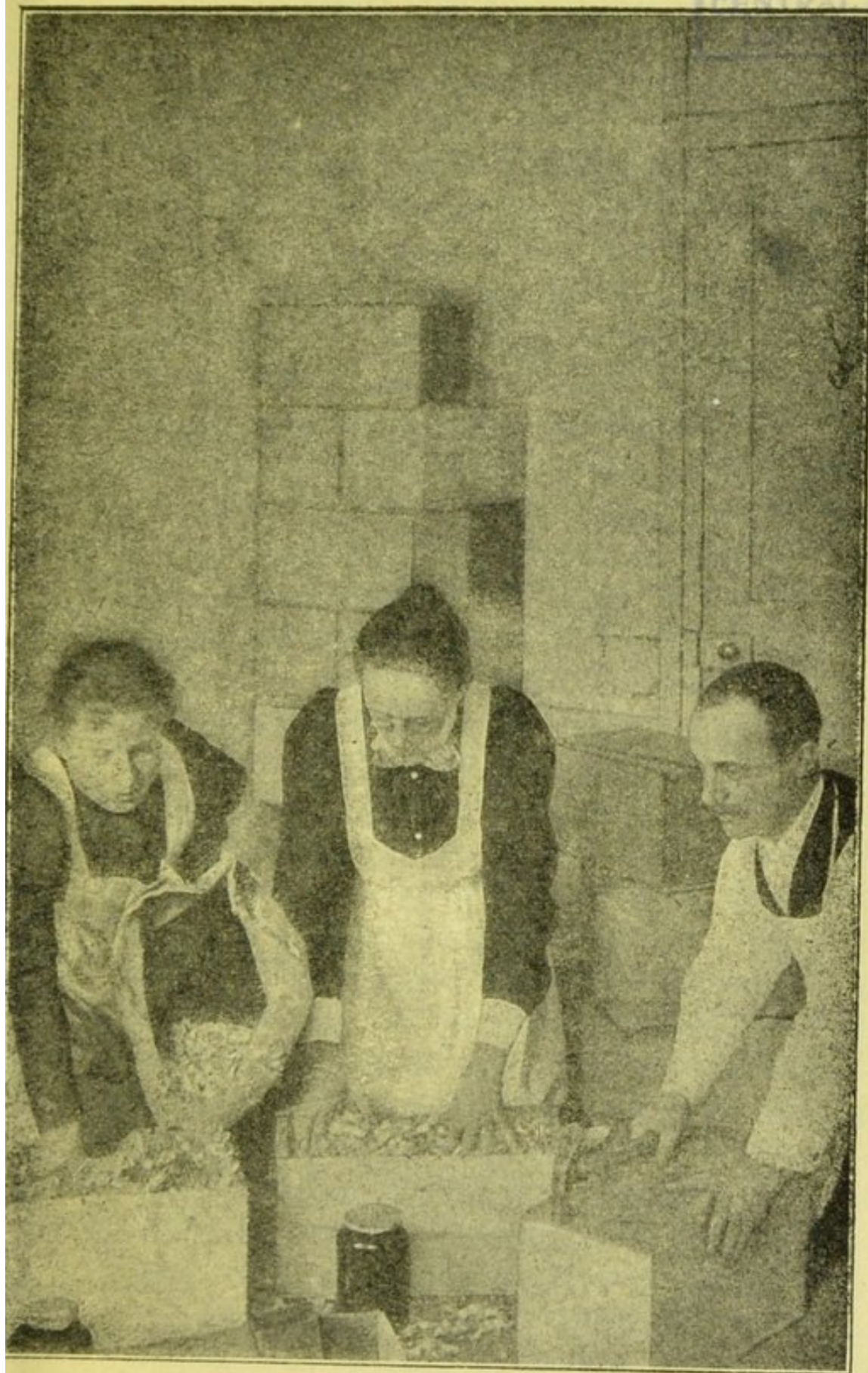
One point of great importance to the manufacturer who is selecting a special type of jar will be the question of adaptability to packing and safety in transit, with the least wastage of space in boxes. This accounts for the almost invariable selection of the plain round jar, equal at top and bottom.

But why not the three-sided or square jar? Such could be fitted accurately together in a case, and in the pound size would certainly be rather attractive to put upon the table.

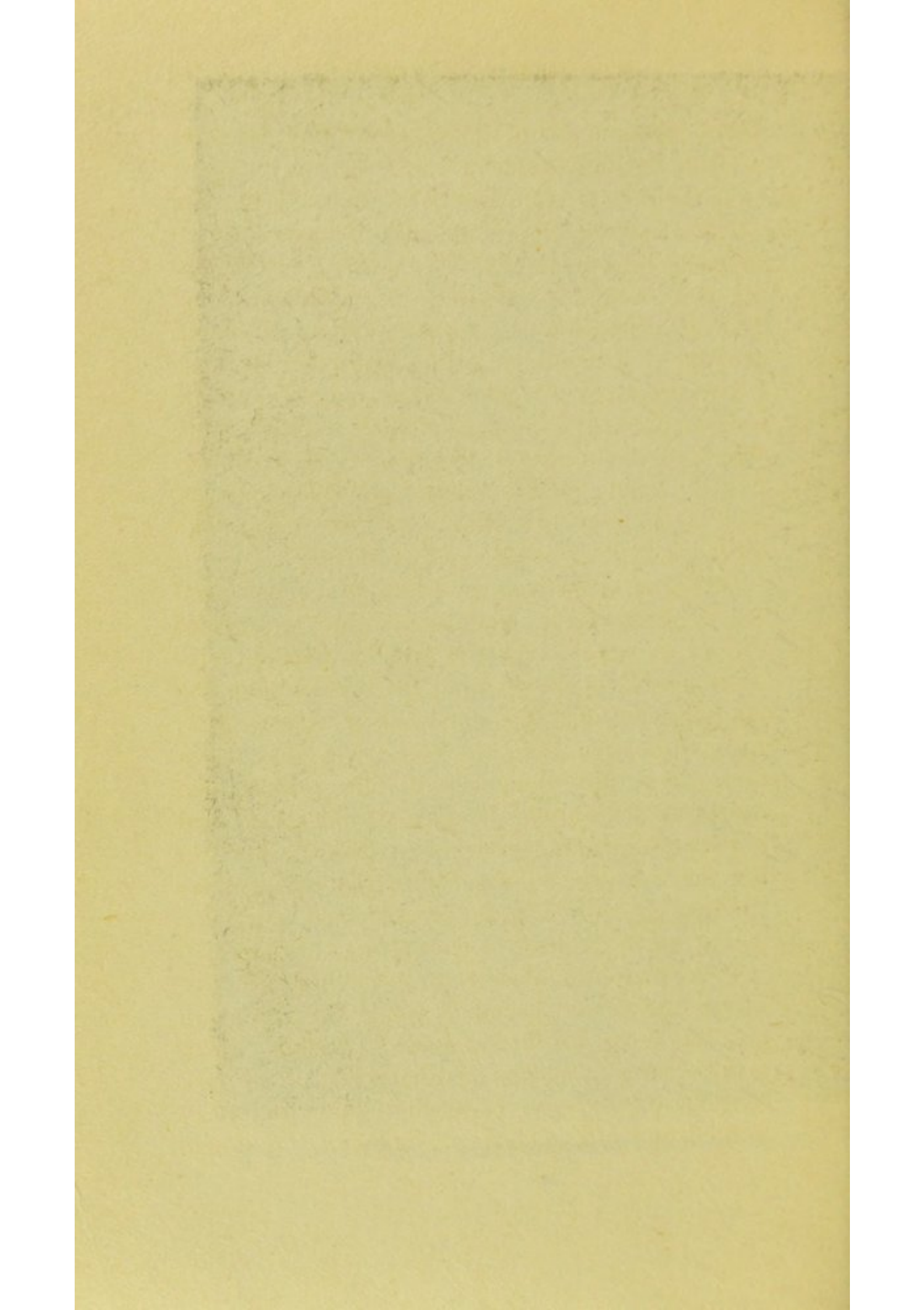
Colour, again, is a factor. There is no reason why a stoneware jar should necessarily be dull white or drab. It might just as well be a pretty china blue or pale green, with a stamp upon it in lettering of another shade.

Clear glass jars, especially for jelly, are attractive when their contents are so; but the appearance is further improved by the choice of a good shape, and by a fluting in the glass, and a suitable stamp or label. At least it must be acknowledged that the ordinary type of plain round jar, glass or stone, has little but obvious utility to commend it!

The same remarks apply equally well to bottles used for whole fruits. Foreign manufacturers, however, offer us a lesson in this connection, being most careful in their selection of bottles, seeking not only after variety and distinction, but after grace and style. The foreign bottle of preserved



PACKING "PAROCHIAL MARMALADE."



fruits, when emptied, almost invariably becomes a favourite flower-holder !

In the case of stoneware jars, especially those of large size, used for holding jam or marmalade in bulk, the introduction of two shades of colour into the glaze would transform the somewhat ugly and clumsy article into a desirable thing. A manufacturer of art pottery, known to the writer, made a large quantity of lemon marmalade one season and filled all his bowls and pitchers with it, saying that if he could not sell them empty he would try if they would tempt purchasers by their contents, and his experiment certainly justified itself. The converse of this may prove equally true.

Points of attractiveness in form and colour need not be dismissed as inadmissible on the score of adding to expense, for the artistic shape, if carefully chosen, costs no more to produce than the inartistic one, and the good colour is very little more expensive than the bad one. Most large firms of pottery manufacturers keep their own artists, as do printers, die-sinkers, and others, and if the patterns and specimens supplied by the firm are not suitable, an idea submitted to them for working out will generally be welcomed, and pains will be taken to meet the wishes of a customer.

In the matter of labels, too, especially of adhesive labels, care should be taken at first in securing a good style and distinctive mark or design. Some manufacturers, recognising this point, go to very considerable expense in having a pictorial label printed, and often fail by overdoing it. A simple

label, and one that is easily read, if distinguished by good type and colouring, invariably pleases the customer, and is remembered. It should declare the name of the fruit at a glance, so that the grocer or other salesman is helped, and on that account should be placed on the jar itself, not merely on the cover. An attractive label often induces a salesman to make a display of the goods, where an unattractive one will prejudice him against the best thing ever brought to his notice. Thus there is scope for the artist's influence even in the jam manufacturer's business!

In this connection it may be well to point out that not labels only, but bill heads, packing-case labels, trade letter-paper and circulars should all be in uniformity with one another, and bear the same distinctive stamp, where it is desired to establish a name and reputation. A great deal, far more than at first sight seems possible, depends upon the attention given to matters of this kind.

It is largely because of attention paid to matters of detail in appearance that the foreign manufacturer has so readily captured our markets. In doing this he has educated our buying public, and, as we have before remarked, the mere fact that the *contents* of the jar or bottle are of home manufacture will not induce the ordinary British housewife to support home industries unless by their own attractive appearance, and by their equality with the foreign, they also make appeal to her.

PACKING GOODS FOR TRANSIT

Jars and bottles pack well into barrels, and if wood pulp or shavings be wrapped round them they will travel easily, although bottles containing liquid should be further protected by a wrapping of corrugated paper round each one, fastening this with an elastic band. The barrels which bring fruit over from the Colonies and America are very good for returning preserves and bottled fruits, as they are easy to handle on ship or train. Where square or oblong wooden cases are used, these should not be larger in size than a man can lift alone, otherwise they will invariably get turned on end and knocked about more or less roughly. Small boxes holding a dozen jars can easily be lifted and stacked one above another in a railway truck, and if several are going to the same destination they can be corded together. Place labels in a position where they can be seen without lifting the boxes down. The name of the despatching firm should be stamped on every box belonging to it.

Wooden cases can be bought from grocers at 2d. each, and at the beginning this plan will be the cheapest to follow, but where consignments are large it will be better to employ a handy man or youth to make up boxes from matchboarding; in the former case the packages would probably be non-returnable, but where the cases are specially made and stamped with the firm's name, it pays to have them back.

Hay and straw are sometimes more cheaply

obtained in country districts than shavings of either paper or wood. Sawdust is not to be commended for packing, as it shifts too easily. Bottles travel better when standing upright.

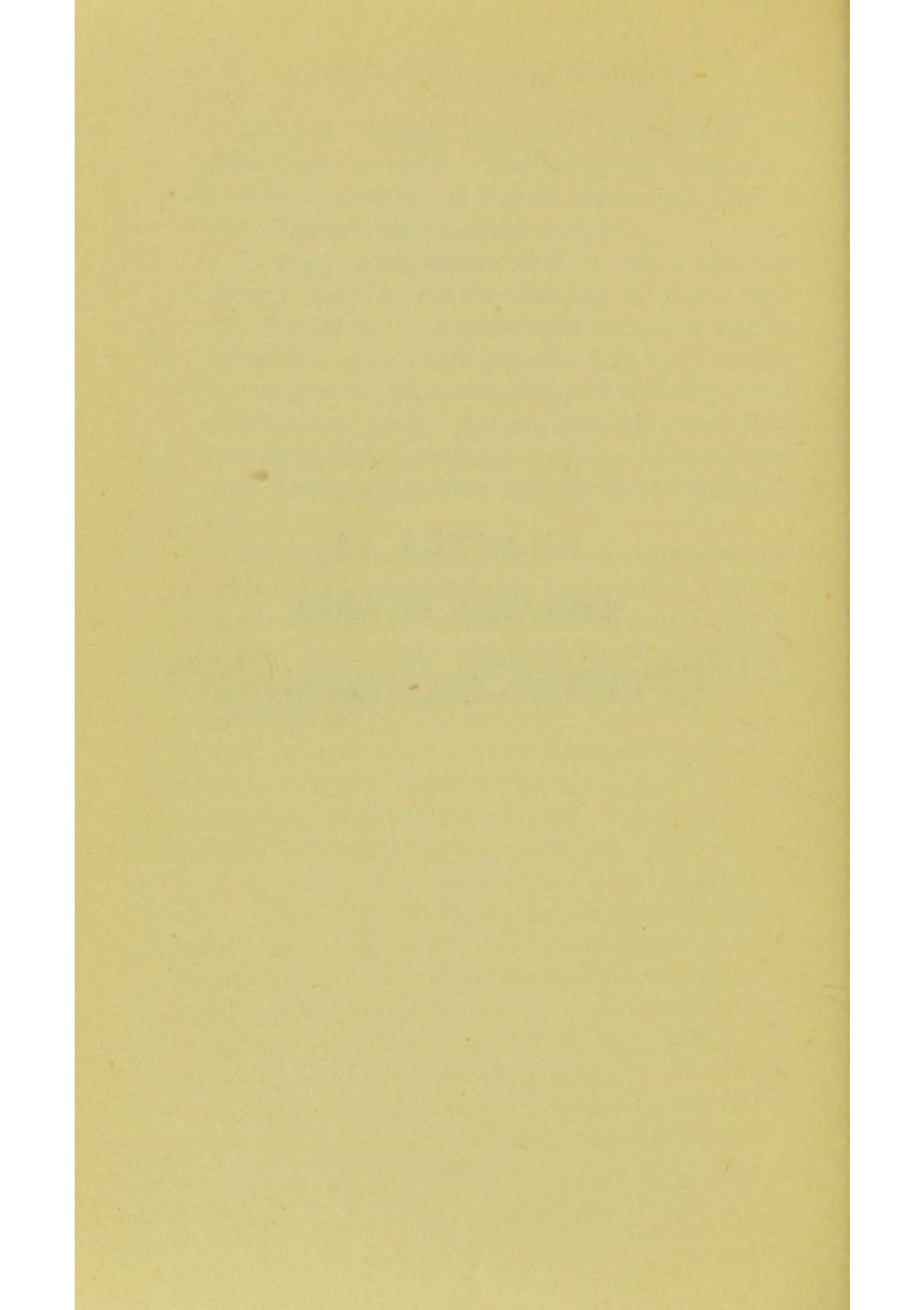
A large consignment, sent by rail, works out cheaper than a smaller one, but in either case the charges per hundredweight or ton should be demanded, and where possible fruit rates should be required for preserved fruits as well as for that which is sent fresh. An understanding should be arrived at with the railway company as to whether their charge will include delivery and collection or not.

The expenses on a small industry are relatively greater than upon a larger undertaking, hence it is often desirable for small manufacturers or producers to combine together so that wholesale prices and lowest rates may be obtained to the benefit of all.

CHAPTER IX

MARKETING OF STOCK

Accounting—Keeping of Stock—Circularising and Advertising—Exhibitions—Balancing of Costs and Profits



CHAPTER IX

MARKETING OF STOCK

THE books, and the books only, are an exact record of business prosperity, and on them alone can an estimate be formed as to the profits or losses upon an enterprise. Therefore, however small the business may be, account-keeping must go on side by side with manufacture and other work. And it must not be haphazard account-keeping, though it need not involve any formidable array of books, or the special services of a book-keeper. But it must follow some plan adapted to the style of the business of which it forms the record.

The jam manufacturer will need to keep a stock-book which should show at a glance how much stock has been made from materials bought or otherwise obtained; the dates of each boiling; the cost of production in labour, etc.; dates and amounts of sales; and the balance in profits at the end of each season or year. The particular shelf in the storeroom allotted to each sort of jam

or jelly might be indicated by an alphabetical letter, for easy reference and checking. Where the business is large a separate stock-book will be required for jam, jelly, and for bottled fruits. The stock-book should take in two pages for each item, set out similarly to a cash-book, with Debit and Credit side, somewhat after the rough draft shown on the opposite page.

The invoice-book will show the particulars relating to each consignment sent out, as invoice notes should be written in duplicate. The ledger will show the account open with each customer.

The two last-named books show the business as it is transacted in money and kind; the stock-book shows the profit or loss upon the different items of the stock, from which it is easy to gather the quantity in store at any date. When the item entered under *Costs* on the Credit side is deducted from the *Amount Paid*, the balance is entered under *Gross Profits*. The value of the stock in hand should be reckoned on the Credit side, such stock including empty bottles, sugar, etc.

In order to get exact results, for personal satisfaction, the costs should be further worked out, from time to time, upon each bottle of fruit or jar of jelly and jam, taking the selling price of the different kinds as sold in shops and stores for guide.

Assuming that the fruit has been bought at market price, the cost of production per bottle

Dr.

Name of Fruit.	Quantity used.	Value.	Sugar.	Cost of Labour and Fuel.	Carriage and Packing.	No. of filled Bottles (Jars).	Cost of Bottles.	Total.
		£ s. d.	lb. £ s. d.	£ s. d.	£ s. d.		£ s. d.	

On the opposite page, Credit side, would be shown—

Cr.

Date.	Sales.	Amount Paid.	Customer's Reference in Ledger.	Costs.	Gross Profits.
		£ s. d.		£ s. d.	£ s. d.

may be set out thus, on gooseberries (the cheapest to buy and lowest in cost):—

Cost of 2 lb. jar (with rubbers, etc.).	4½d.
2 lb. gooseberries at 1d. per lb.	2d.
Fuel, labour, etc., per bottle.	1d.
Packing and carriage, per bottle	¼d.
	7¾d.

Selling price in shops, 10d. per bottle.

Wholesale price to trade, 8¾d. „

Trade profit, 1d. per bottle.

Private „ 2¼d. „ „

On the steriliser holding 36 bottles, the profit per charge is therefore 3s. It should be quite easy to charge the steriliser at least four times in the day.

On fruits which sell at a higher price the working costs are not increased, but the profits are doubled, unless the price of the fruit itself is relatively high.

In estimating the cost per jar of jam and jelly, there will be the item of sugar to add to the above, but the jars cost about half, or even less. The greater the quantity made at the same time, the more the profit, generally speaking, as the cost in labour and fuel is often as much for a small quantity as for a larger one. Two sterilisers working at the same time, for example, double the profits and do not increase the cost of labour.

If bottled fruits are kept back until the best time for putting them on the market, which is *just before* the fresh fruit of each kind is in, a better price is obtained. The demand is always the greatest at that time; thus most gooseberries are

sold in April and May, most raspberries and currants in May and June, because restaurants and hotels must have these fruits on their bills of fare, whether they can obtain them in the market or not.

In estimating the results of a whole season's work, the items to be taken into consideration are:—

Percentage upon cost of plant and its maintenance, as—

Buildings,
Machinery,
Apparatus.

The highest percentage usually reckoned is 10 per cent. In addition to this another 10 per cent. should be allowed for depreciation, but this 10 per cent. is calculated upon a sliding scale,—thus, first year on £100, second year upon £90, and so on.

The costs of manufacture are estimated as follows:—

Fuel,
Labour,
Carriage,
Packing,
Jars and bottles (wholesale),
Sugar (wholesale),
Fruit bought (wholesale),
Cost of advertising, printing, postage, etc.

Where fruit is grown on the property and has not to be purchased, the extra profit obtained

upon the manufactures will be the difference between the cost of growing and cost of purchase wholesale.

In estimating working expenses or labour, allowance should be made for own time or that of manager, fruit pickers, portorage, and any other help employed.

CIRCULARISING AND ADVERTISING

An introduction to the trade is often a more difficult thing to obtain than the support of private custom. Perhaps one of the best means of gaining notice is to make an exhibit at one of the Grocers' and Allied Trades, Food and Cookery, or similar Exhibitions held every year in London. At these the retail trader is on the look-out for novelties to introduce to his customers, and can be induced to take samples for trial. A beginner in manufacture, if sure that he will be able to supply any demand that may come, will find the expenses connected with making an exhibit at one of these periodical shows is money well laid out. Often local trade exhibitions and floral shows are useful for advertising purposes.

During the first year or two a considerable portion of new stock may have to be distributed gratis in the form of samples to tradesmen and the public, but a thoroughly good article is not long in winning its way into favour, and once established its progress should be steady, if uniformity in quality is maintained.

The circular is perhaps the best means of advertising where a private or postal trade is sought. It can either be sent out broadcast, or with a discriminating care in selection of names.

The circular should be headed with the name and address of the maker. Then should follow a brief, pointed account of the special claims made: such as the use of choice fruits fresh from the fields, the hygienic conditions of the factory, the purity of the goods ("no addition of chemical preservatives"), the high quality of the goods. After this there should follow a list of the various preserves, with sizes of packages and prices. The specialities (and every manufacturer should make a point of having several novelties and preparations out of the common run) can be brought prominently forward either by means of forming a special list, or printing the items in bold, distinctive type, or in colour. At the bottom, or on the back, of the circular the terms on which business is done should be given. Accompanying the circular there should be a list of the goods, with column for marking quantities, and an order form at the bottom.

In sending circulars out, it is best to make a selection of addresses in districts, the names being classified, so that orders which come in response may be traced, and where no response is made a further sending of the circular will not mean over-lapping. After a sufficient lapse of time an order once given and not repeated should receive a "follow-up" with a polite reminder or inquiry.

Advertisements inserted in newspapers, trade journals, and magazines should also be classified, and so worded that some clue is obtained from the order itself as to which paper or journal it is that has brought it. A special way of wording the advertisement or some significant title will assist the manufacturer to satisfy himself as to the advertisements that have brought him the best return. It is quite easy to spend large sums uselessly in advertisements, or to receive very little return for them, whereas judicious advertising will as certainly bring very great results. The public are readers of advertisements to a much greater extent than is commonly supposed, and something which is impressive by its originality will be noticed and remain in the mind longer than the most blatant poster which caught the eye merely and was instantly forgotten. Just because of this the circular is often the most effective advertisement.

Advertising must be reckoned among the necessary items of working costs, at least for the first year or two, and even after reputation is gained a certain amount will be wisely spent in this way, merely to keep the name before the public. Most firms set aside a specific sum for expenditure in this way every year.

As a practical commentary on my suggestions, I may say that since penning the above remarks on advertising I have received a letter from Miss Edith Bradley, of the Mercia Agricultural Scheme, in which she says :—

"My partner and I had a stall at an Ideal Home Exhibition, named the "Mercia Small Holding," where we had on view a large quantity of bottled fruit and jams and preserves. We could have sold about three times as much as we had, at very good prices, the demand was so great.

"This has encouraged us to add a jam factory, worked by a steam boiler, to our small holding, and we are now making large quantities of marmalade, bottled fruits, and jams." A most interesting fact is that "the whole cost of the plant and adaptation of a cottage for this purpose has not exceeded £70."

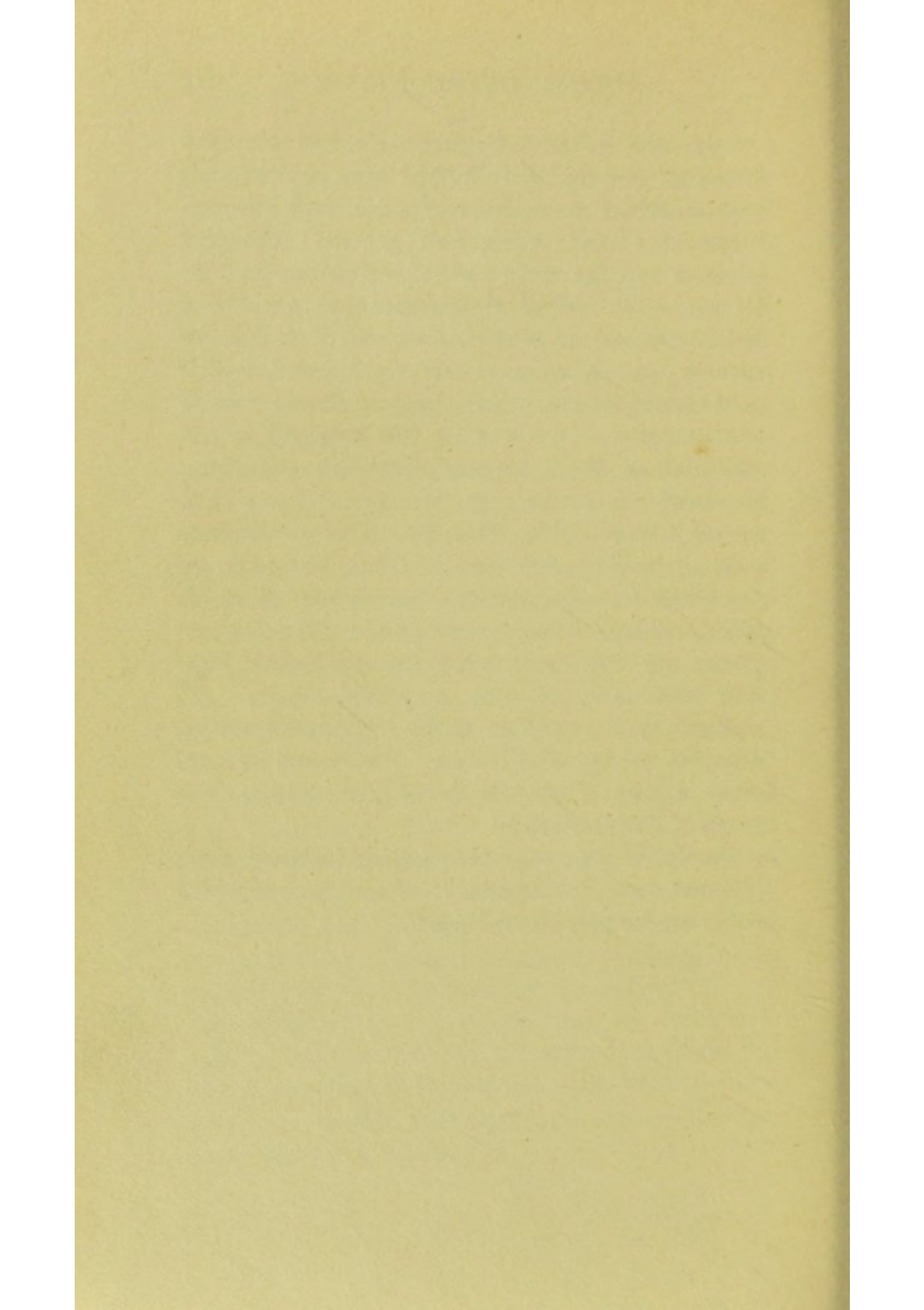
An instance of what it is possible to do in a small way—or, shall we say, of what may be achieved from small beginnings, was furnished at King's Langley a few years ago, where a flourishing industry, known as "Parochial Marmalade," became established from the initiative selling of a few pounds of home-made marmalade among friends. As season by season orders flowed in, the impossibility of carrying them out in the home kitchen became patent, and other accommodation had to be sought. What this was is best described in the words of the energetic lady who originated the enterprise; she says:—

"During the summer a two-roomed cottage close by fell vacant; in December we took it at the enormous rental of one-and-fivepence a week. The landlord did the necessary whitewashing, one room being entirely treated in that way, walls and ceiling. The papering and painting of the other

room was our business, but when finished our little abode looked a model spot wherein to exercise the culinary art. Each room had a small casement window facing the front; these we clothed with plain frilled white muslin curtains, for we felt a principle was involved. The second room was where we actually cooked, and there also we kept our pots, oranges, sugar, etc.; at the back was a shed which held packing boxes, baskets, and oil for the lamps. The question of furniture much exercised my mind, as only what was absolutely necessary must be indulged in. A visit to a second-hand shop resulted in the purchase of a table for ten-and-sixpence, good and substantial, with drawers and two flaps; two rush-bottomed chairs at one-and-ninepence each, and a small amount of crockery had to be invested in, also four wooden spoons and a knife. The oil stove was a serious matter; after many inquiries I decided upon a Rippingill's 'Triumph,' a powerful stove with two 6-inch burners, giving out tremendous heat. A few weeks later we purchased two 'Twin Sunrise,' and always had three at work; indeed for three weeks we borrowed two more, and had five going, all in a row. At the beginning of the next season we bought another two stoves. A machine for cutting oranges had appeared in the market, and we thought it wise to invest in one; . . . I must bear testimony to its excellence; it does its work perfectly and gives no trouble whatever. . . . Our record was three oranges a minute!

"By way of advertisement we had our pot covers printed, and they looked very professional; announcement cards, bills of sales, and acknowledgment of orders are also printed; the cost is small and the saving of labour enormous. . . . Of course we found it necessary to employ a certain amount of labour; a woman who was for several years a cook is our right hand, and is paid eighteenpence a time, long or short; a small boy at half-a-crown a week was engaged to run about, clean the cottage daily, wash pots, etc.; the next season he was substituted by a girl. Packing is a serious business. Our garden-boy used to be accorded that privilege, but later we employed a man, a quondam sailor, who spent his spare evenings doing up our boxes. We kept no stock; our customers knew the marmalade kept well, and they ordered a year's supply. All accounts were wound up at the end of each season, and the profits distributed. The latest records show a sale of 21,686 lb. of marmalade, at a profit of £117, 3s. 7½d."

Surely this is a very encouraging instance, since this was done for the benefit of parochial charities only, not for private enrichment.



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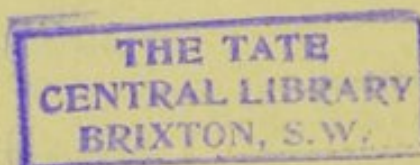
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