



HANDBOOKS OF
PRACTICAL GARDENING

THE BOOK OF
FRUIT BOTTLING

BY

EDITH BRADLEY
AND
MAY CROOKE

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HANDBOOKS OF PRACTICAL GARDENING
EDITED BY HARRY ROBERTS

THE BOOK OF FRUIT BOTTLING



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CIDER MAKING IN THE MIDLANDS

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THE BOOK OF FRUIT · BOTTLING

BY
EDITH BRADLEY
AND
MAY CROOKE

A PRACTICAL MANUAL ON THE PROCESS OF FRUIT BOTTLING. JAMS, JELLIES, AND MARMALADE MAKING: CHAPTER ON FRUIT DRYING, HOME-MADE WINES AND CIDER MAKING, WITH PREFACE URGING UPON COUNTY COUNCILS THE IMPORTANCE OF FOSTERING THESE INDUSTRIES IN RURAL DISTRICTS. INTRODUCTION BY REV. W. WILKES, SECRETARY, ROYAL HORTICULTURAL SOCIETY

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DEDICATED

BY PERMISSION AND WITH PROFOUND RESPECT AND

ADMIRATION OF HIS WORK FOR IRELAND

AND FOR CO-OPERATION

TO

SIR HORACE PLUNKETT, K.C.V.O.

PREFACE

IN offering this Manual to the public, we are endeavouring to respond to frequent appeals for definite information upon the important subject of Fruit Bottling.

The keen interest which we have taken in its promotion and continuance has led people to associate our names with the industry.

A series of papers on the subject by Miss May Crooke, which appeared in *Farm and Garden*, 1905, form the basis of the book. These articles have been elaborated by myself, and the chapter on Cider-making has been added by me. My friend Mrs Collier has kindly permitted a reprint of a very delightful article on "Ancient Recipes and Old-World Cures," which she wrote originally for the *Woman's Agricultural Times*.

It is our good fortune to have for our publisher Mr John Lane.

It is my most earnest hope that the publication of the practical details of these Industries, which are within the reach of all living in Rural districts, may be instrumental in arousing a greater interest in them; and that other County Councils, fired by emulation at the example set by Worcester some seven or eight years ago, may devote some money, even a small amount, to fostering this work. Indeed, one would strongly urge the formation of Co-operative Societies to work small fruit-preserving factories in one or two of the best fruit districts, organising themselves for the purpose of instructing and educating the people in these subjects, and in an endeavour to obtain support and recognition from the County Councils on this basis.

In the recent Report of the Small Holdings Commission, much stress was laid upon Rural education bearing directly on rural subjects, and also upon the immense importance of Co-operation.

“If we want small holdings,” “and to make a success of them, the State must do everything in its power to stimulate, encourage, and popularise Co-operative action and methods.”

Here is an opening of a most practical nature, to combine education and Co-operation for the positive benefit of the small holder and rural population generally, with possibilities of national importance.

If this little book were instrumental in arousing sufficient interest to promote this end, and were another link in the chain being forged to bring our people “back to the land,” its purpose and my delight would be well served.

EDITH BRADLEY.

PROVIDENCE HOUSE, BREDONS NORTON,
Nr. TEWKESBURY,
Lady Day, 1907.

INTRODUCTION

MY DEAR MISS BRADLEY,—I promised that if you would write a book on Fruit Bottling I would write you an Introduction. May I make it take the form of an open letter addressed to yourself?

My promise was a rash one. For though I have practised the art and mystery of Fruit Bottling for many more years than you can have possibly done, still for the last fifteen years at least I have always looked on you as a master and myself as your humble disciple. You have, however, so often been kind enough to consult me, and I know your views on the subject so well, that perhaps I am more fitted to commend your book to the attention of the public than would at first sight appear.

I am old enough to be able to see back very clearly to the late forties and early fifties of the last century. It was the beginning of the decadence of housekeeping. The elder folk of those days were true housewives and were teaching the younger ones, but many of these were already beginning to shirk. Every country house at that time had its Store-room, and bottled its own fruits, made its own jams, dried its own cherries, and so forth. How well I recall the exquisite raspberries and cream we always had at Christmas, and the dried cherries—one of which was worth a dozen of the pretty, sweet, flavourless things we now import from Grasse. The ladies of those days did not think it beneath them, or too much trouble, to see to this department themselves. In those far-away days I was a very delicate lad, and

many and many a happy morning have I spent helping my dear old mother (God bless her) in doing these things.

And yet they had not half the conveniences and advantages for preserving that we have—only big, awkward shaped bottles, a fish kettle, hay-bands, and bits of green bladder. We used nothing else in 1850. But the result! A few bottles failed, no doubt, for all depended on the quality of the bladder and the rapidity with which it was put on and tied down. But roughly speaking the result was fruit preserved in abundance for the winter and spring, with none of its flavour and delicacy wanting. To this very day—even from your own hands, dear lady—I have never tasted quite such raspberries as my mother and her sisters preserved—they were just like fresh gathered fruit.

Well, I have seen the art as practised in our country houses die out amongst us—the lowest depths being reached about 1885, when I doubt whether there were a dozen ladies in the land who did their own bottling and preserving. Of late years the art has revived somewhat, owing chiefly, I think, to the influence of the Royal Horticultural Society amongst public bodies, and to a considerable extent to the exertions of yourself and Miss Crooke.

The work is essentially fitted for ladies—I mean ladies by birth and by education. It is by no means laborious, but interesting, pleasant, and healthy, though at the same time it demands the utmost nicety, cleanliness, and attention to details; and it is just in this minute attention to detail that an uneducated cook so often fails.

All fruits (as no doubt in your little book you will not fail to emphasise) may be—nay, should be bottled. The method is admirably suited to those particular fruits which are least in favour when gathered fresh, as black currants and damsons. These, when bottled and kept

six or eighteen months (or even longer), are vastly improved. They lose that element of "roughness"—almost acidity—which, in the fresh fruit, sometimes runs round the mouth and makes one shudder.

Apples and pears—the sharpest varieties, such as Pitmaston, Duchess, and Durondean amongst pears, should be chosen—should be bottled in quantity so as to prolong their season into May, June, July and August, when they are most flavoursome and refreshing simply turned out of the bottle into a glass dish and eaten with a cold milk pudding. Try it ye who scoff and you will never scoff again!

Most heartily then do I commend the book that you are writing to the attention of all ladies, whether it be for the replenishment of their own Store-rooms, or as a pleasant and convenient means of adding a trifle to a straitened income. In either case let them bottle and preserve all the surplus fruits they have in years of plenty, against the certain recurrence of the years of fruit famine which must come. And if they have no surplus let them seize every opportunity of buying fresh fruit when it is cheap and bottling it for winter and spring consumption. You and I, dear lady, know full well that no one who condescends to act upon our advice, and follows the directions which your book will give, will ever cease to be grateful to you and Miss Crooke in the major degree, and in the very minor to—
Yours most sincerely,

W. WILKS,
Vicar of Shirley, Sec. Royal Hort. Soc.

June 15th, 1907.

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CHAPTER I

FRUIT PRESERVING GENERALLY

THE importance of the preservation of fruit as a home industry is becoming more apparent every year. Whether it is done in large quantities for trade, when the season is good and the market glutted, or whether in small quantities for home consumption only, it is but just and right, nay more, it is a necessity, that greater attention should be paid to a systematic preservation of fruit, and vegetables also, than has hitherto obtained.

Setting aside for the moment fruit preserved in the form of jam, jelly, and marmalade, and also the products of fruit in the form of cider and wine, as these will be dealt with in the later chapters of the book, let us consider first the two principal methods of preserving fruit for daily and, shall we say, *homely* consumption, during the six or seven months when there is no fresh fruit to be had in this country. (By *homely* consumption we mean fruit preserved in some simple and inexpensive form, which shall put it within the means of *all*, cottagers as well as middle-class people to enjoy.)

The two principal methods therefore of preserving almost all fruit and certain kinds of vegetables are by:—

(1) Drying or evaporating, in which form it is very portable, and can be stored in a very small space.

(2) By bottling and sterilising. This latter form of preservation lends itself to many variations, and offers endless scope for experiment and effect, because we have

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by no means obtained perfection in our methods with the rarer and more difficult kinds of fruits.

We have said that it is a *necessity* that more systematic methods should prevail, and to justify our statement, we answer without fear of contradiction, that *any development of the fruit-growing industry is a step in the right direction*, because—we are a fruit-loving and fruit- and vegetable-eating nation!

The foreigner knows this, and sends all sorts of dainty and delicious fruits and vegetables to England, on which he must often make 60 to 100 per cent profit. Bottled and canned fruit forms a staple article of trade in all stores, large or small; but a large percentage of these were never grown or bottled in England. Why not? Because we have not learned to do them well enough, or cheaply enough, or in sufficiently large quantities: so we support the foreigner as usual!¹

In that admirable book of Mr Edwin Pratt's, "The Transition of Agriculture," he gives the following statistics of quantities and values of Colonial fruit and vegetables imported in 1900-4:—

¹At a well-known shop in London we were invited to inspect various preserves from the "Genesio Jam Kitchen," United States. We were told that the proprietor was making a huge fortune by her preserves. They certainly looked most inviting, displayed, as they were, in very attractive bottles; but an English fruit bottler would have staggered at the idea of pricing his goods at the high value which this American lady put on hers.

Here are some of the prices, for example:—

Fresh white cherries, peaches, raspberries	per quart	3	0
Preserved strawberries and apricots	„ pint	3	0
Peaches in brandy	„ quart	7	6
(to eat with Virginia hams)			
Peach chutney	„ pint	2	6
Fruit conserve	per 10 oz. globe	2	6

Now what is to prevent an English woman making a speciality of fruit preserving on such lines as these, and making a fortune also?

1901.	Fruits preserved,	828,541 cwt.	£801,584
1904.	„	„ 599,335	„ 394,776
1901.	Vegetables dried,	186,515	„ 140,442
„	„	canned, 218,775	„ 253,613
1904.	„	dried, 5,074	„ 8,228
„	„	canned, 284,128	„ 294,267

The classification of fruits preserved is not stated, but we may assume that bottled fruit plays a large part in the import; it is therefore satisfactory to see that both the quantity and value of imported fruits preserved has been diminished by almost one-half in three years, whilst the value of vegetables dried has dropped from £140,442 to £8228 in three years. On the other hand, however, it is important to note that the increase in value of vegetables canned has been £40,654 in the same time.

The natural deduction to draw therefore from these figures is that fruit preserving as a home industry has enormously increased, but that we are hopelessly behind with canning vegetables.

Truly, it is time to “Wake up, England!” and in this case we might say, “Wake up, women of England!” because this is essentially a branch of work suitable in every way for women to do.

One distinct advantage in bottled fruit is that it will keep for any length of time, if it is properly done; indeed, it improves by keeping. Therefore in years of plenty, when there is a glut of fruit (as we look for, this year, 1907), advantage should be taken to bottle great quantities, so that it can be preserved for bad seasons. This remark applies both to private persons and to the trade. In winter we are only too glad to get bottled fruit for pies and puddings, as well as dessert, as it not only gives variety to our food, but is also most valuable from the point of view of health.

CHAPTER II

STERILISERS AND STERILISATION

IN this and the succeeding chapter we propose to keep three main points in view:—

- (1) Why we should bottle fruit.
- (2) The different methods of doing it.
- (3) How to make it pay.

Why we should Bottle Fruit.—First, to be independent of the foreigner; and, second, to spend *English money in England*—let it turn over many times here before the foreigner has it. Our rural population would be immensely helped if the money which their produce brings them, could circulate for a longer time amongst themselves in the villages; very often “a little man’s” fortune is made or marred by his ability or non-ability to obtain capital for his venture, and in England as yet we have no definite system of Co-operative Credit Banks, as is in vogue on the Continent and in Ireland. Then, too, foreign competition cuts the prices for even good English-grown produce very fine. Nevertheless in the Midlands and other districts of England, the cottager looks to make his rent out of the fruit trees in his garden or allotment, and this he generally does, unless the season is very bad; and sometimes he has some money over. Added to this, in a very plentiful season he often has more fruit than it pays him to gather and send to market, and this is the very time when, in

every district, there should be a centre for both fruit-drying and fruit bottling, conducted on the lines of a Co-operative creamery. This would enable the villagers to dispose of their surplus fruit at a price which would pay for picking, although not perhaps for carriage; and the Co-operative factory would have a great bulk of preserved fruit to put on the market in the winter.

This is a subject which will repay very careful thought and organisation, because each year the acreage laid down in fruit increases, and rightly so; but in view of this the Board of Agriculture or the County Councils should have ready a well-thought-out scheme by which all fruit could be utilised, instead of wasted, as it often is, to the great discouragement of the grower. The whole trend of the Royal Commissions on Small Holdings and the Housing of the Working Classes is to *keep* the people *on* the land, much more than to get them *back* to it; and therefore common sense demands that life to the rural population must be made more attractive, and more profitable, than it is at present. One way by which the latter can be brought about is by fostering all kinds of gardening and small industries generally. Of these small industries we would place fruit preserving in a very foremost place.

This, then, is the producer's side of the question, as to why we should bottle fruit; but the consumer also can bring arguments to bear in its favour, the most practical one being, that he eats fruit in all forms, whether in the raw state or dried, bottled, canned, or preserved in sugar. Every day, every week, every year the demand increases, and the supply must therefore increase, from home or abroad. This is an authenticated statement which cannot possibly be refuted.

Take the single instance of bananas. Six or ten years ago they were hardly known, and their consumption was limited to a very few, these being mostly of the

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wealthy class ; now the costermonger hawks them about the streets in thousands, and finds a ready sale for them.

The consumer also demands jam, and eats it in enormous quantities. Unfortunately he does not always care to pay for pure jam, but eats a mixture of "all and sundry" fruit and pulp mixed up with glucose, which the producer sells him. Nevertheless, for good jam there is a large sale, and at a price which pays well to produce ; therefore this is again a point in favour of growing plenty of fruit.

The Different Methods of Bottling Fruit.—In the "good old times" of still-rooms, herbs, and simples, and decoctions of all sorts, there is no doubt that bottled fruit was "laid down" in dozens in the capacious cellars and store-rooms and cupboards which occupied so large a space in the old-fashioned English home. We know, for instance, that Gooseberries were put into bottles, water added, and that they were steamed in kettles and pots, tied over with a piece of bladder when cold, and sometimes buried in a pit especially dug for the purpose ; that damsons also were served in a similar way. Likewise French beans were preserved in salt, which in some places is still done.

It is not our purpose, then, to suggest that fruit bottling is anything new, but that with the entirely changed surroundings of domestic life, and the large demand for fruit preserved in a portable and marketable form—which demand is watched and catered for by the foreign markets, we must as a people have more systematic, "up to date" methods, which will do away with the haphazard ideas that have prevailed hitherto, and insure a certain percentage of first-rate results.

With the increased knowledge of the adaptability of steam to all kinds of purposes for the manufacture of man's requirements, it was not likely that it would be left out of use in the preservation of fruit, and so years



MERCIA PATENT STERILISER. SIZE A. HEAT SUPPLIED BY STEAM.
VALVE OF STEAM JET, BEING TURNED ON BY OPERATOR

ago extensive plant was laid down in Continental factories, especially in France, Germany, and Switzerland, for the bottling of fruit, which was done by the ton, and placed upon both the Continental and British markets.¹

The expense, however, of the plant and the skilled labour required to sterilise by steam is a drawback to doing it except on a very large scale, and this view of it is therefore rather outside the more simple processes which we are considering. Nevertheless, we will give some illustrations, and explain later on, two sterilisers, one the "Wyttenbach," which is constructed especially for steam, the other the "Mercia Patent Steriliser," which can be easily and inexpensively adapted for steam, and in the picture, p. 4, is thus shown.

It will be easier, however, to describe the steriliser, after explaining the process of sterilisation. Sterilisation is briefly this, to make sterile or deprive of vitality the bacteriological germs which cause decay and putrefaction in fruit and vegetables, as well as in other forms of food. If these germs are destroyed and kept from approaching the sterilised object again, it will keep perfectly sound and good for a considerable, possibly an unlimited time. This result is brought about by the following process. The article (fruit or vegetable) to be sterilised is packed into a glass jar or bottle, which is then filled with cold water and closed, either by a metal or glass cap fastened by a clip or a screw;² the bottles are placed in a vessel containing cold water, heat is applied in one form or another (see p. 12), and the temperature of the water bath is slowly raised until it is sufficiently high inside the glass jars to kill the bacteriological germs. The

¹ To realise the enormous quantity which is turned out, we would mention in passing that in the catalogue of a French firm which we have, there is an illustration of a corking and capping machine which was guaranteed to do 600 to 700 bottles an hour.

² The bottles, clips, and caps are explained on pp. 16, 17, and 18.

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exact degree of heat required to destroy the germs varies considerably according to the object which is being sterilised; in fact, some fruits and some vegetables, require three or four successive sterilisations (by which first one bacteriological family and then another are destroyed) to bring about the required conditions.

The hot air and steam by which the bottles in the steriliser or other vessel are now surrounded causes the water or juice *inside* the bottles to get hot and expand until it reaches the air-tight capsule or cover. The requisite temperature is sustained for some time at an equal height until the process is complete (this can be determined to a nicety by the fixed thermometer), and the bottles are either lifted out and put into a cool place, or else cold water is turned into the machine whilst the bottles are in it (the hot water having been previously drawn off). With the decreasing temperature a vacuum is created, and unless the caps or tops are imperfect or imperfectly adjusted, and so admit the air, the contents of the jar, as before stated, will keep for any length of time, because germs do not incubate in a vacuum. This, then, is the theory carried out by the process of sterilisation. If sufficiently complete—and, as before stated, the requisite temperatures for the different fruits and vegetables have been proved, and these temperatures are registered by a thermometer—the vacuum is attained and the germs made sterile. It may chance, however, that the rubber bands or the caps are not placed on the bottles quite evenly, or if the cap is screwed that the screw ring is not quite perfect, then, if from one cause or another air is admitted, as a certain consequence the vacuum is destroyed, the germs come into life, and immediately begin to cause decay and decomposition or fermentation. If this is not at once noted, and the batch of bottled fruit re-sterilised and re-capped, it will all go bad, and very bad too, especially in the case of

green peas, which are most difficult to bottle satisfactorily, and which give off the most offensive smell imaginable if sterilisation has failed.

Thus much for the actual process of sterilisation; now let us consider the construction of the steriliser; and we will first take the simple contrivance which can be used in an ordinary kitchen or any other room, and which is therefore specially adapted for the fostering and encouragement of fruit bottling as a rural or cottage industry.

Some eight or nine years ago an ex-soldier who lived in Maidstone, Fowler by name, gave an immense impetus to fruit bottling by the introduction of a simple contrivance for carrying out the process. It was good as far as it went, and Mr Fowler's efforts served a very important purpose in advertising the subject and bringing it within the range of "practical politics," by putting a simple and practical apparatus within the reach of all. To him will undoubtedly belong the honour of awakening public interest in fruit preserving.

Fowler's or Lee's Patent Economic Steam Cooker, as it was called, consists of two parts, A and B, A being a round or oval tin vessel with a lid and a strainer at the bottom, like a fish-kettle. This will hold about fourteen 20-oz. bottles. In the side is a hole through which the long spout of the kettle, forming the second part, B, is inserted. Heat is applied to the kettle either from an ordinary stove or gas or spirit lamp. The steam thus generated passes into the vessel A, and produces the required temperature. *Outside* the vessel A is placed a tin tube which contains a thermometer, the bulb of which is reached by the steam from the cooker, passing through a hole in the side.

The impossibility of gauging the temperature accurately with this thermometer, placed where it is, is the chief element of weakness in the apparatus,

because it stands to reason that the temperature to which the fruit is being subjected cannot be registered with accuracy by a thermometer which is *not* enclosed *inside* the vessel where the process is actually taking place.

In the Mercia Patent Steriliser every attempt has been made to put upon the market a steriliser which is the outcome of practical experience, presented in a portable, tangible, practical, and workmanlike form, and at a price which brings it within the reach of all who are taking the bottling of fruit, year by year, seriously. Under its original name of "Lady Warwick Hostel Patent Steriliser" it was used at the Hostel, Reading, and at Studley College, to bottle the fruits which won the Gold Medal and other medals from the Royal Horticultural Society; further, it has received many testimonials from private people, who find it satisfactory in every way.

The illustration, p. 11, shows its construction. It is made in three sizes of the best steeled tin. The largest, A, takes 25 bottles, holding 2 lbs. each, *i.e.* 50 lb. of fruit, or vegetables or milk, at a charge.

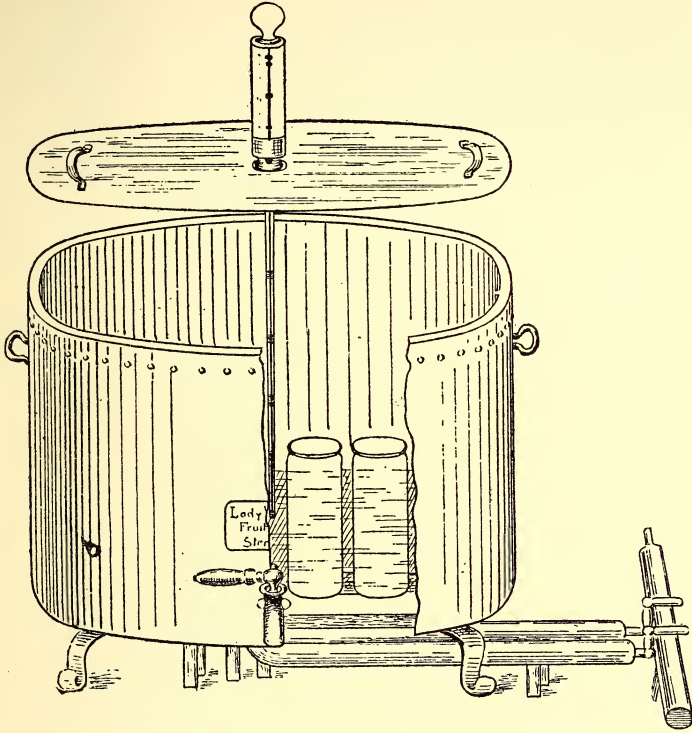
The second size, B, takes 12 bottles, holding 2 lb. each.

The third size, C, which is for household use and has no jacket, holds 6 bottles, containing 2 lb., or 9 smaller ones.

The first two sizes are constructed of two thicknesses of tin, with a hollow space of an inch diameter in between; the object of this is that a jacket is formed, which the heating apparatus fills with hot air, and this hot-air cushion helps to sustain an even temperature for half an hour or more, during the process of sterilisation, with a trifling expenditure of additional heat. It is not only economical, but the uniform temperature is undoubtedly advantageous to successful sterilisation.

STERILISERS AND STERILISATION 11

Upon the copper bottom of the vessel stands a low tin shelf pierced with holes. The bottles, when filled, stand on this shelf, and it prevents them from cracking,



MERCIA PATENT STERILISER

as they are liable to do, by coming into too close contact with the heating underneath. In the lid is an aperture in which is inserted a socket; into this socket is screwed (when it is required) a specially constructed thermometer, consisting of a long tube, the bulb of which reaches about midway down the bottles which

contain the fruit for sterilising (see illustration). As will readily be understood, when the water in which the bottles is immersed is heated and turned into steam, the *temperature* at which the *process* is *actually going on* is registered on the porcelain scale above the lid, and it is thus possible to adjust the temperature to a degree. The necessary heat for the Mercia steriliser can be supplied in four ways.

(a) In the illustration, a powerful gas burner is shown, and the steriliser is raised on iron feet only a little distance from the table. This form of heating is adaptable to all three sizes of the steriliser, and where gas can be obtained it is the simplest and probably cheapest method of heating.

(b) In place of gas, and for the second size steriliser, B, (p. 12), a "Primus" stove answers admirably. In this case the steriliser is raised on a strong iron stand (when filled with 24 lb. fruit, in bottles, and the necessary water, it is fairly heavy), and the "Primus" placed beneath, as shown in the illustration.

For the C size the same stand and stove will do, or an ordinary "Beatrice" or "Sunrise" cooking-stove also answers very well.

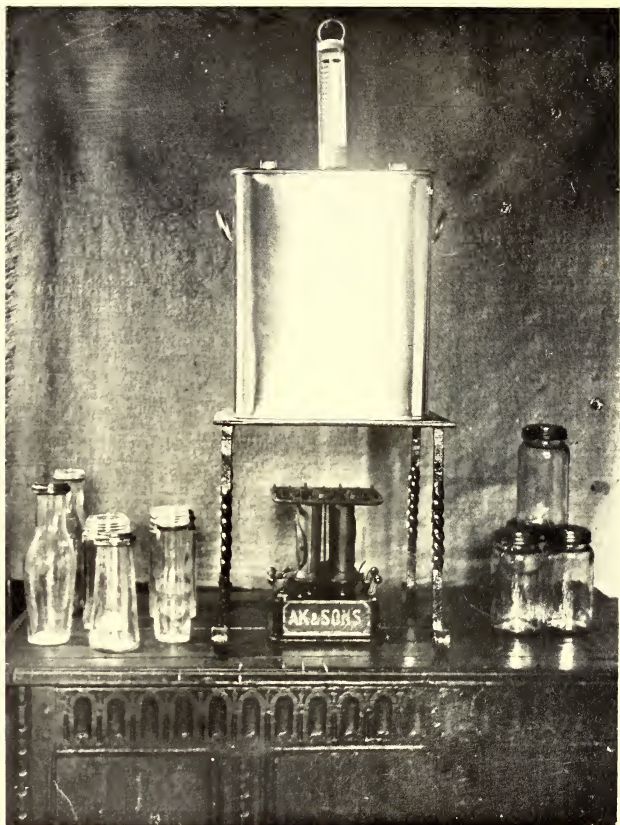
(c) Again both the B and C sizes can be used on an ordinary range, but the height and weight of the sterilisers with thermometers (B, 12 inches, C, 10 inches), makes it difficult to manipulate, and such an arrangement as shown on pp. 12 and 13 is much more simple and straightforward.

This season the Mercia steriliser will be brought out in yet another size—a lower one—to meet the special requirements of domestic bottling.

(d) The fourth method of supplying heat is by the insertion into the bottom of the large steriliser A (see illustration) of a steam jet, through which steam can be sent from any power boiler which is available on



MERCIA PATENT STERILISER. SIZE B. DIFFERENT KINDS OF BOTTLES
SHOWN :—1. "BORDEAUX FRUITS" BOTTLE. 2. CHURN SHAPED.
3. "DE LUCCA." 4. ATLAS FRUIT JAR



MERCIA PATENT STERILISER, SIZE C

the premises. It is a rapid way of dealing with large quantities of fruit, because, as we saw, the M.P.S., size A, will take bottles containing 50 lb. of fruit at a charge, and it is easy to do four charges a day or 200 lb. of fruit. If larger quantities have to be dealt with, then two or three large sterilisers can be employed at once.

We omitted to remark that the Primus stove burns petroleum and air, and is one of the latest inventions in cooking-stoves. It is simple to use, and the results are excellent.

The "Wytttenbach" steriliser or Pasteuriser, to which allusion was made on p. 7, and the "Standard" steriliser are constructed for factory work, or for milk-boiling (either sterilised or Pasteurised) in a big creamery. They are made of iron, and have two pipes inserted (see illustrations, pp. 14 and 15), one for water, the other for steam. They have as well an outlet for drawing off the water. The "Wytttenbach" and the Standard have to be permanently fixed in position. They are filled with bottles, standing in a small quantity of water, the steam is turned on, and the heat rises very rapidly. The lid has to be clamped on to prevent the steam blowing it off, because very high temperatures may be necessary for the Pasteurising, etc., done by these machines.

It will be well to give the prices of the sterilisers before leaving the subject.

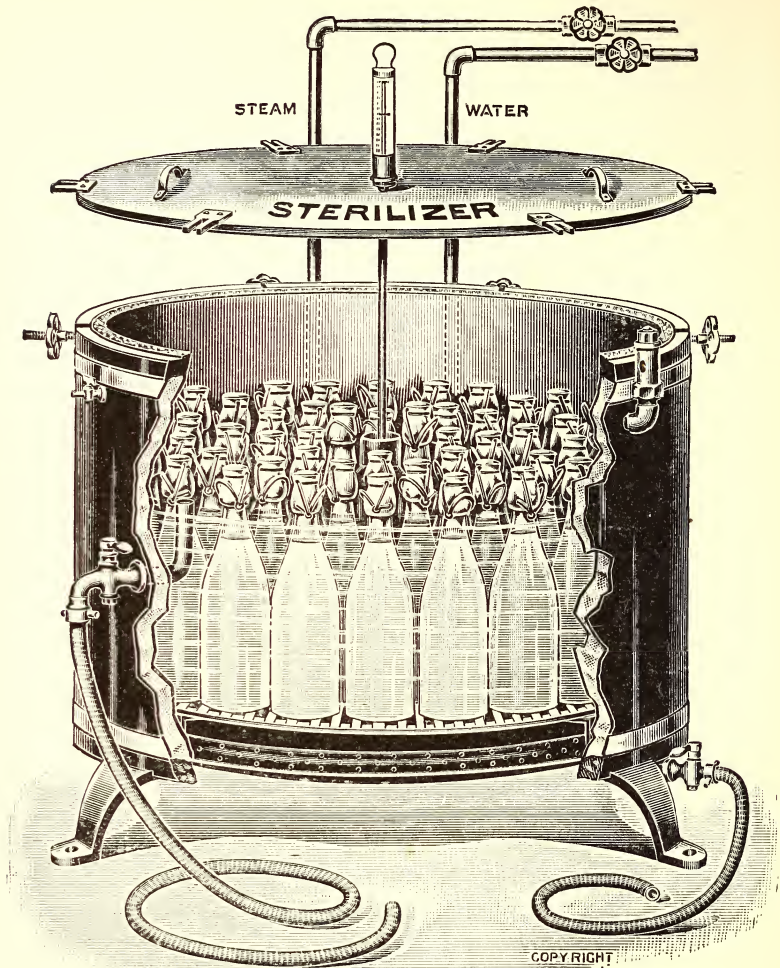
The Economic Cooker with Kettle, 25s., without, 21s.

The Mercia Patent Steriliser—

A size, to hold 22 to 25 bottles, complete with thermometer, £4.

B size, to hold 12 bottles, complete with thermometer, £3, 3s.

C and D sizes, to hold 6 bottles, of simple construction, for household use, 18s.



THE WYTENBACH STEAM STERILISER

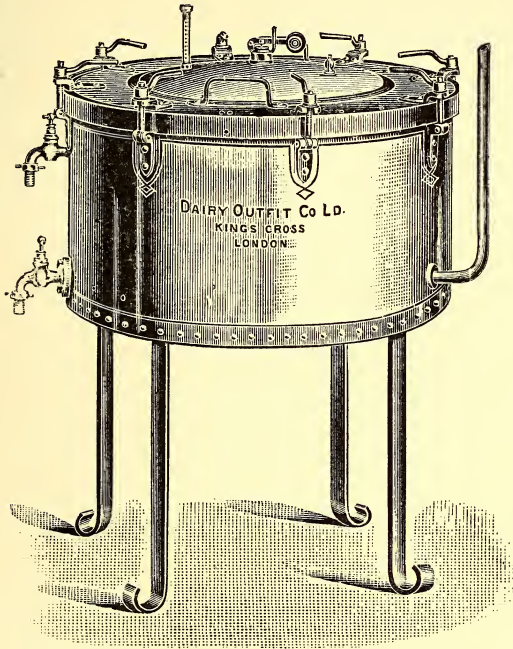
(2 ft. 9 in. diameter, 2 ft. high (inside dimensions); capacity, will hold 65 qt. bottles of $3\frac{1}{2}$ in. diameter)

STERILISERS AND STERILISATION 15

The Wyttenbach. Price on application.

After this long explanation of sterilisers and their work, we will consider the all-important question of bottles.

The cost of bottles is the chief drawback to fruit-



THE STANDARD STERILISER, ADAPTED FOR STEAMER

bottling becoming a rural industry. It is at present impossible to get even wholesale a bottle which with lid and clip, or screw-top lid, costs less than 2d.; generally they amount to 3d. and 4d. each. This is a heavy initial outlay, it is paid by the producer or the consumer. Of course it is true that the bottles will do again year after year, only the caps and rings re-

quiring renewal each season; but in the first instance, the stock has to be bought and in large quantities, because manufacturers only sell several gross at a time. Another point which one must lament is that the bottles are of foreign make; all the clear glass ones come from abroad; the native ones—as a rule—are a very bad colour, often blown with a twist and full of bubbles, therefore they do not show the fruit to advantage in any way, although they answer all right for home use. We are told that it is impossible to manufacture glass in England as cheaply as it can be done abroad. There is no doubt that the right bottle has yet to be put on the market. One is wanted which is cheap, made of good glass, and with a glass cap, as we do not consider the metal cap perfectly satisfactory.

Last season we obtained through the Co-operative Wholesale Society some English-made bottles, with screw tops, which, we think, were the most satisfactory ones we have found. They are called the "Atlas Fruit Jar," and are complete with screw top and rubber rings. They are shown on right sides of steriliser, B and C, in a group of three. Prices as follows:—

No. 1 Atlas fruit jar, to hold 2 lb., 3s. 9d. per doz., complete with screw cap and ring; £1, 17s. per gross.

No. 2 Atlas fruit jar, to hold 1 lb., 3s. per doz., complete with screw cap and ring; £1 10s. per gross.

To be obtained by the dozen or the gross from the Mercia Agricultural Store, Bredon's Norton, near Tewkesbury.

Patent air-tight jars, complete with covers and rings:—

20 oz., 4s. per doz.

27 oz., 4s. 6d. per doz.

40 oz., 5s. 6d. per doz.

From E. Lee & Co., Maidstone.



25 oz. 44s. gross

ORDER OF PLACING DISCS & RINGS ON NECK



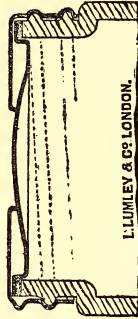
A CAPSULE WITH HOLE IN CENTRE



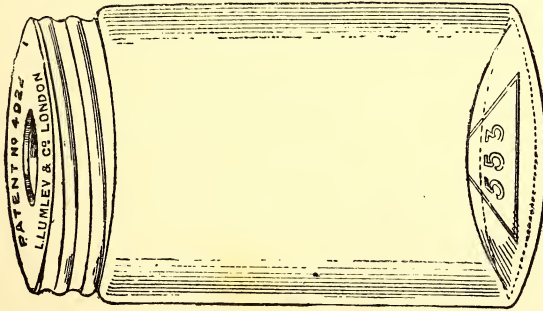
B DOMED SHAPED DISC
CC INDIA RUBBER RING



SECTION, SREWING CAPSULE FITTED & CLOSED



B



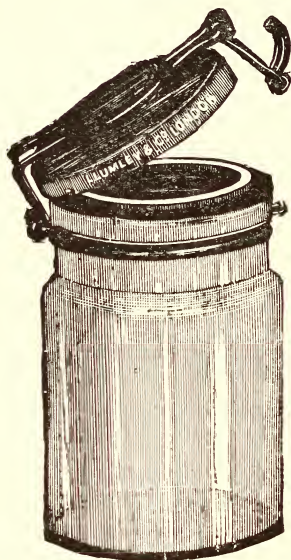
12½ oz. 30s. gross

THE "GNOM" PATENT SCREW VACUUM PRESERVING BOTTLES

The "Gnom" patent screw vacuum preserving bottles (p. 17).

12½-oz. round screw jars, 25s. 6d. per gross in 7 gross lots, 30s. single gross.

25 oz. round screw jars, 37s. per gross in 4 gross lots, 44s. single gross.



"GNOM" PATENT PRESERVING
JAR

"Gnom" perfect preserving jar, filled with patent air-tight covers:—

½ lb.; 66s. per gross; 1 lb., 69s. 9d.

2 lb., 86s. 3d. per gross.

Messrs Lumley & Co., The Minories, London, E.

The above is a selection of useful bottles, but none of them are attractive in form, nor do they lend themselves to effective grouping for an exhibit.

In illustrations of sterilisers B and C sizes will be seen on extreme left, an elegant-shaped bottle, technically described as "Bordeaux fruits," large and small, 32 and 16 oz. respectively. The price worked out about 3d. and 4d. per bottle,

but quantities of 3 to 5 gross had to be taken. On our last inquiry the mould was worn out, therefore the bottle may not be on the market, but if our readers desire these they should write to the Manager, Mercia Store (address as above), as for the Atlas jars, and information will be sent. Now we come to the last and most important point.

How to make Fruit Bottling Pay.—The usual prices

STERILISERS AND STERILISATION 19

for bottled fruit sold in shops or at the stores varies from 6d. to 10½d. and 1s. 3d. per bottle, according to the fruit. The quantity contained in a bottle is about 20 to 25 oz. Let us take the cheapest fruit, gooseberries, as our standard, which also is the easiest to bottle. We must assume, for the sake of showing the economic value of the industry, that the fruit has to be bought. Where it is actually grown in the garden or orchard there will be the value of the fruit to add to the profit.

Cost of production per bottle—

(A) <i>Gooseberries</i> —2-lb. jar complete costs	3¼d.
2 lb. fruit at 1d.	2d.
Oil or other heat, say ⅛d.	⅛d.
(this is very outside cost)	⅛d.
	5⅜d.

Selling price of 2-lb. bottle, 8d.

Therefore profit per bottle, 2⅝d, or, say, 2½d.

B steriliser, holding 12 bottles, would therefore give a profit of $12 \times 2\frac{1}{2}d. = 2s. 6d.$ per charge.

It can easily be charged four times a day. Therefore working one steriliser daily would give a profit of $2s. 6d. \times 4 = 10s.$ per day.

Multiply this by 5 working days in the week (as Saturday morning should be devoted to cleaning all utensils and general tidying), $10s. \times 5 = 50s. = \pounds 2, 10s.$ per week.

(B) Let us take *Red Currants* as another test in 1-lb. bottles, as these pack in closely.

1-lb. bottle complete costs	2½d.
1 lb. fruit costs	2½d.
Fuel	⅛d.
	5⅛d.

20 THE BOOK OF FRUIT BOTTLING

Selling price of 1-lb. bottle, 8d.

Therefore profit per bottle, $2\frac{7}{8}$ d. or 3d.

B steriliser, profit per charge, $12 \times 3\text{d.} = 3\text{s.}$ per charge.

4 charges \times 3s. = 12s. per day.

5 days \times 12s. = 60s. = £3 per week.

Working expenses and capital must of course be considered, otherwise there would be no "business" in it.

Labour—	s.	d.
Forewoman or owner of the garden per day (as whole time would not be completely filled)	4	0
One woman to pick over fruit and fill bottles, etc.	1	6
Interest on capital, 5% on, say, £10		$\frac{1}{4}$
Depreciation		$\frac{1}{4}$
Rent, allow for room or shed, presumably on the premises, $1\frac{1}{2}$ d. per day, say 1s. per week		2
	5	$8\frac{1}{2}$

Result (A) Deduct 5s. $8\frac{1}{2}$ d. from 10s. and this will leave a nett profit of 4s. $3\frac{1}{2}$ d. per day, or £1, 1s. $5\frac{1}{2}$ d. per week (5 days), after paying own time and buying fruit

4	$3\frac{1}{2}$
10	0

(B) Deduct 5s. $8\frac{1}{2}$ d. from 12s. and the nett profit will be 6s. $3\frac{1}{2}$ d. per day, or £1, 11s. $5\frac{1}{2}$ d. per week.

Capital required—

Cost of B sterilisers	£3,	3s. od.
Two gross bottles, say	£3,	7s. od.
	<u>£6,</u>	<u>10s. od.</u>

This represents the necessary stock in trade for a start. Of course if the bottled fruit can be held until it can be put on the market to the best advantage, better prices will be realised. Again, two sterilisers working at the same time would increase the profits and not double the work.

This is an industry which private women might well take up in their own homes and make a great success of it with care and perseverance. For instance, two friends could start and make a nice little business as a season's trade. This book, let us here remark, is not of course written for the trade, but for private individuals and rural Co-operative Societies.

We trust that this full explanation of the process of sterilisation, with the description of sterilisers and bottles, may put the matter clearly before our readers, and that they may be induced to try this interesting work, especially as it has been clearly demonstrated that it can be *made to pay*. We will now turn our attention to the best method of bottling soft fruit.

CHAPTER III

BOTTLING SOFT FRUIT

THE best soft fruits for bottling are gooseberries, cherries, currants, raspberries, apricots, plums, damsons, blackberries, tomatoes, apples, and pears. Strawberries can also be successfully bottled, but they require more care and trouble than other fruits, because they are so much softer.

Gooseberries.—Gooseberries are the easiest of all fruits to bottle, and as a rule give the most satisfactory results. The following directions should be carefully followed. Have the bottles ready, making quite sure that they are perfectly clean and quite dry. The gooseberries should be picked when green and hard, and before they get too large. For bottling they ought always to be picked in the same condition as that in which they are used for green gooseberry tart. Before putting the fruit into the bottles it should be topped and tailed, and to insure a good appearance when finished it is always best to grade the fruit, and only put berries in which are the same size, rejecting any that are too large or not sound, or are disfigured in any way. These can always be used up in the preserving pan. Pack the fruit closely into the jars without bruising, to within an inch of the top, and fill up with cold water or syrup to the very top of the bottle. Do not put on the cap at once, as the water often sinks when it has worked its way down amongst the fruit. If this happens the bottles should be filled up again, as the fruit ought always to be well covered.

Capping the Bottles.—The bottles are now ready for

capping, and much of the success depends upon the care taken in capping. The indiarubber rings are next put on. Have ready a basin of hot water, and before laying the ring on the mouth of the bottle dip it into the hot water, for a second or two. This makes the rubber more flexible and more likely to lie quite flat, which is an important point. When the ring is in its place put on the metal cap. Care must be taken to place it on the bottle perfectly straight. The spring clip is then put on, and the bottle is ready to go into the steriliser. Imperfect capping is often due to the ring, or the cap being carelessly put on. This allows the air to get in, and prevents the bottle becoming hermetically sealed, as it should be.

Sterilising the Fruit.—The bottles are now placed in the steriliser. They should stand just clear of each other. A sufficient quantity of cold water is put in to cover the bottle three parts of the way up. The lid is then put on, and the thermometer screwed into its socket. The temperature generally registered at this stage is about 60° . It is very gradually allowed to rise till it reaches 155° . An increase of two degrees a minute is rapid enough. If the temperature is allowed to go up with a rush the skin of the fruit in the bottles will be cracked. It nearly always takes an hour, if not more, before the required temperature is reached. The bottles should be kept at 155° for 45 minutes. If gas or oil is used for the heating this is easily done by regulating the flame. In the jacketed sterilisers (Mercia) the hot air cushion keeps the temperature very even. At the end of 45 minutes the bottles are taken out and put to cool. If a screw-topped bottle is used, such as the De Lucca or Atlas Fruit Jar, the loose rim is now tightly screwed down. Where the spring clip is used it is left on till the bottles are quite cold. When this stage has been reached

(probably the next day) each bottle should be examined to see if the cap is perfectly tight, if so it has become hermetically sealed, and will only move by pressure from without, such as the insertion of a knife between cap and rubber ring to raise it. This will be a proof of the fruit keeping. If any are found imperfectly capped they should be re-sterilised; but a careful examination should be made of the cap, to see if it fits properly or not, as a certain percentage of those sent out are sure to be faulty.

Cherries.—The Kentish cherry is excellent for preserving in this way. Pick the cherries off their stalks, and pack in the bottles. The fruit should be firm but nearly ripe. When packing shake the bottle gently up and down, so that the fruit may fit in closely. If the fruit is pricked at one end with a needle it prevents bursting. Fill up the bottles with syrup or water. Proceed as indicated in the foregoing recipe, and sterilise at 150°. Another method is to split the cherries in half with a sharp knife, take out the stones, crack some, and return the kernels to the bottles when packing. This latter method keeps the fruit a beautiful colour, but it would be well to use syrup instead of water, because preserved in this way they are richer in flavour and appearance and sell for a higher price. Unless in a cherry-growing district this is generally an expensive fruit to do, and is therefore not so much seen in the market. In the Midlands cherries are sold by the "side," and "half side" which represent about 60 lb. and 30 lbs. A side costs anything from 12s. to 18s., according to the amount of fruit in the market and the season. Morello cherries may be bottled according to either of the foregoing recipes.

Raspberries and Red Currants.—Raspberries and currants together make one of the very best fruits for winter use. They are always liked, and as they keep

their colour well when bottled they look appetising. Also they can generally be procured at very reasonable prices, currants from 1½d. to 2½d. per lb. and raspberries from 3d. to 4d. Discrimination should be used in the weather for bottling, and a specially dry day should be chosen for doing soft fruits, for if saturated with rain they lose their flavour, and do not keep as well as when picked on a warm dry day. The currants should be carefully picked off their stalks, and also the raspberries. Place a layer of raspberries about 1 in. thick first in the bottle, and shake gently down; then place a layer of red currants. Proceed in this manner till the bottles are filled to within an inch of the top. Fill up and proceed as in the foregoing recipes. Sterilise at 155°.

Black Currants.—These are an excellent fruit for this work, and command a ready sale at and good prices which will give a considerable profit. A 32-oz. bottle sells for 1s. 3d. or 1s. 6d. and the fruit can usually be bought at 2d. to 3d. per lb. therefore putting the price of the bottle at 3¼d., a profit of 6d. to 9d. is shown on each bottle.

Syrup for Bottled Fruits.—Sometimes it is desirable to bottle the fruit in Syrup instead of water only. The following is a good recipe: To every quart of water allow ½ lb. of the best cane sugar. Bring to the boil, and continue to boil at 212° for half an hour, taking care to skim when necessary. Pour the syrup into a vessel and keep till quite cold before pouring over the fruits.

The foregoing directions can be applied, broadly speaking, to all the soft fruits enumerated at the commencement of the chapter. The temperature also must depend upon the quality of the fruit. If young and tender 155°-160° is a usual standard. The time occupied in sterilising varies with the fruit, larger fruit—such as plums—require 25 minutes, pears 1 hour, apricots 45, peaches 45, tomatoes 30, rhubarb 20 minutes.

CHAPTER IV

BOTTLING STONE FRUIT

Plums.—Plums should be quite freshly gathered for bottling, and only those of a fairly good size should be used. The smaller plums can always be turned into jam. The fruit should be quite firm and not quite ripe. For all the stone fruits it is best to use the larger bottles, as with the smaller bottles the mouths are not big enough to allow the insertion of any very fine fruit. The packing of plums in the bottles is an important item, because if the fruit is not properly packed the bottles present a very ugly appearance when finished. To pack properly the fruit must be graded, and plums chosen as near of a size as possible. It is always best to make a good beginning by getting three even fruits if possible into the bottom of, say, a “De Lucca” or Atlas bottle (p. 12). When the lowest round is started properly the rest of the packing is fairly simple. The bottles should be gently shaken from side to side, and a round piece of wood with a blunt end should be used to help to slide the fruit gently into place. Great care must be taken, not on any account to break the skin. Some people prick their fruit with a steel knitting needle at the stalk end, to prevent the skin breaking, but we have serious doubts whether anything is gained by so doing. The bottles, after packing, are filled up with either water or syrup. When very large plums are used they may be cut in half with a dessert knife, and the stones extracted and cracked. The kernels may then be distributed among the fruit in the bottles.

A French Method.—Plums which are bottled abroad often have their skins entirely removed before they are packed in the bottles. This is done by dipping the fruit into very hot water, when it will be found that the skins may be removed without any difficulty; but it is a matter of opinion whether any object is gained by the process, because the skins of plums do not become in the least uneatable from being bottled, and as it represents a good deal more time and trouble in the preparation, they must be sold at a higher price. Moreover, when finished the appearance is not so good or appetising as when bottled with the skins on.

Sterilising Plums.—When placed in the steriliser the temperature should be brought up very gradually till it reaches 160°. If the plums are in good condition the temperature should rise to this point without the skin cracking, but if the fruit is at all soft 155° will be sufficient. Plums are one of the most profitable of all fruits for bottling. In the plum districts the very best may be bought during the season at from 10s. to 12s. per pot which represents about 70 lb. By the very best choice fruit we mean Victorias, Czars, and Monarchs, and these in our opinion are the best varieties for preserving. The well-known Pershore plum must not be forgotten, as it bottles admirably. Damsons can be bottled in the same way.

Apricots, Peaches, and Nectarines.—These fruits, unless quite small, should be cut into halves, always remembering to use a dessert knife, as a steel knife will not only make the fruit taste but mark it and turn it brown or black. The stones should be cracked, and some of the kernels placed amongst the fruit when packing. The packing of the fruit is a slightly difficult operation. The halves should over-lap each other evenly up the sides of the bottles, no spaces being left. Before trying packing of this sort it would be well to purchase a properly-packed

bottle and use it as a model. Care must be taken that all the juice which the fruit loses when it is being cut is saved and put into the bottles with the kernels. This can be done by halving the fruit on a plate. As apricots, peaches, and nectarines are generally expensive in this country they are not so much used for bottling, though they are very delicious, and for those who have gardens they are quite worth doing. When these fruits are in season, they come in with a rush, and the market is glutted, in consequence people do not even have the fruit gathered; as there is no sale for them raw, this is the time for bottling. All the foregoing being choice fruits, syrup may be used in the bottling instead of water. When used the fruit must not be ripe, but quite firm. Care must be taken not to bruise it when placing in the bottles. Bring them gradually up to a temperature of 155°, following in all cases the general directions for bottling.



BOTTLED FRUIT IN STORE

CHAPTER V

BOTTLING VARIOUS FRUITS AND VEGETABLES

BESIDES soft fruits and stone fruits, there are other varieties which do not lend themselves readily for classification, *e.g.*, apples, pears, tomatoes, strawberries, etc.

The bottling of vegetables has hardly been touched upon in England yet, but we feel sure that there is a great future for this branch. Let us quote again from *The Transition of Agriculture*. This time Mr Pratt is advocating the bottling of asparagus.

“The further question is being seriously discussed at Evesham whether the ordinary markets of the country, as an outlet for fresh fruit and vegetables, could not be supplemented by the organisation of a substantial canning business which would not only utilise any possible surplus, but also substitute an important British industry for a large proportion of those canned fruits and vegetables now coming into the United Kingdom in such large quantities from other countries. It is especially pointed out that since the imposition of a duty on tinned fruit, equal to about 2s. per dozen 3-lb. tins, English fruit growers have been placed in a much better position in regard to the utilisation of their surplus produce, so much so that two years ago one firm in this country turned out in the course of the season no fewer than 1,000,000 cans of fruit. Other firms have since taken up the enterprise, which the Evesham growers expect will develop before long into a business of considerable importance, with wide possibilities of an export as well

as of a home trade. In any case it should afford a *better alternation in times of 'glut'* than that of allowing plums or other fruit to rot on the trees because, with the *extreme lowness of market prices*, it will not pay to pluck them."

With regard to vegetables, and especially asparagus, Mr Pratt mentions on p. 141 the enormous increase of production, now covering an extent of between 3000 and 4000 acres in the Evesham district; he then continues: "The production could be extended over thousands of acres more if the surplus, after the ordinary markets had been supplied, were tinned, and either sold at home—in place of that coming in the same form from France and Germany—or else exported to our colonies or foreign countries."

The writer then shows that in the United States there are 20,000 fruit and vegetable canning factories, "*giving direct employment* to 1,000,000 persons, and indirect employment (in the way of making tins, printing labels, etc.) to 4,000,000 others." The acreage devoted to the production of these fruits and vegetables is 1,500,000 acres, divided between 30,000 farms, representing in monetary value over £6,000,000, with an output of 600,000,000 cans in a season.

Of course if we could introduce a big industry of that kind, in other places, as well as in the "Vale of Evesham," it would mean an enormous increase in the demand for labour, for which good wages could be paid, and would act as a most practical inducement to come "back to the land," or better still, for boys and youths to grow up and stay on it.

And it is no impossible chimera we are suggesting, but a thoroughly sound practical means of livelihood and prosperity.

Apples and pears must be carefully and evenly peeled before bottling. They should be cut down the middle as already advised for peaches, etc., removing the cores.



AN EXHIBIT OF BOTTLED FRUIT AND JAM

Have ready a basin of water, into which some lemon juice has been squeezed; drop the fruit into this, and then fill the bottles with the fruit so prepared, and at once add the water or syrup. If there is any delay the fruit will turn brown, and it is to prevent this happening that it is dropped into the basin of water, the lemon juice keeping it white.

Tomatoes may be taken either as fruit or vegetable. Generally they come under the head of the latter, but as either they are most excellent bottled. They require a little more trouble than most other fruits to bottle successfully. They should be used small, and just coloured, as they have to be done at a high temperature, in order to insure complete sterilisation. In places where tomatoes are grown in quantities the small ones are often reserved for bottling. Pack in bottles as directed for plums, and cover with water. Bring the temperature up to 170°. Take out of the steriliser after an hour at this temperature, and leave for 24 hours; then repeat sterilisation at 170. Again leave for two or three days, and again sterilise at the same temperature. By doing them thus three times they will remain like fresh fruit, and can be kept for any length of time.

Strawberries.—When mentioning the soft fruits strawberries were omitted. Of all the soft fruits strawberries are the only ones that are really difficult. To the uninitiated strawberries are always a disappointment. When the bottles are taken out of the steriliser they present the appearance of a quarter of a bottle of strawberries floating at the top of a sea of juice. The only way to overcome this is to empty the contents of one bottle into another after sterilising. When one bottle is full, fill with syrup, and sterilise again. This fruit loses its colour very much during the process, takes a lot of trouble to do, and is rather insipid when done.

CHAPTER VI

JAM-MAKING

THE great difference between preserving fruit whole in air-tight bottles and jam-making, is, that in bottling fruit no sugar is necessary, but in jam and jelly making sugar must always be used, and it ought to be of the best quality. Pure cane sugar or crushed lump are very good for the purpose. The ordinary moist sugars ought never to be used, as, in the first place, jams made with them will often not keep so well, and in the second place, they impart an unpleasant flavour to the jam.

The Use of Sugar.—Sugar must always be employed in the making of jams, and it must be remembered that the use of a great deal of sugar renders jams and jellies very indigestible as articles of food; therefore the great aim should be to use as little as is absolutely necessary in order that the preserve may keep. Sugar also undoubtedly destroys the flavour of the fruits; a jam retaining the flavour of the fresh fruit is not to be met with. The fruit must, however, be preserved with sugar, because the presence of sugar will help it to keep, not by reason of any tendency in the sugar to preserve the fruit, but simply because through the presence of sugar the temperature reached will be higher during the boiling process, and therefore the germs will be more likely to be destroyed. The strong point to be emphasised is, that if all germs are killed the keeping of preserves is assured.

Best Vessels to Preserve in.—Jams and jellies can

never be made successfully in ordinary saucepans. Copper, brass, and aluminium pans are the best for ordinary household purposes. A pan that will hold 16 to 18 lb. of fruit and the equivalent of sugar is a very good and useful size. These are, however, rather expensive, as a good copper pan of this size would cost about 27s. to 30s. Iron enamel-lined pans are sold for the purpose, and to hold the amount they should cost about 15s. However, in jam-making, as in a good many other things, the first cost is the least. If much preserving is going to be done, have a good pan to start with, and, for preference, have a brass one. The jams and jellies made in brass pans always take a better colour. Great care must be taken on no account to let the pan burn, as if this once occurs it is always liable to do so again. In jam-making, letting the pan burn must be looked upon as an act of great carelessness. The enamel-lined pans are much more likely to catch than any of the others named. They also, by constant use, wear very thin, whilst with the more expensive pans this does not happen. All vessels used must be kept scrupulously clean and bright. Never attempt to preserve in a dirty vessel. If aluminium pans are used soda must not be employed in cleaning, as it discolours the metal, and it will never come up to colour again. The best way of cleaning an aluminium pan is, after the jam is emptied out, to stand the pan on the fire full of cold or warm water, and let it come to the boil; then scour well with a brush, and rinse in cold water. The pan can then be polished with one of the numerous brass or metal polishes, and if it is still stained with the fruit (some fruits such as blackberries stain very much) Brooks' soap will, as a rule, remove all such stains. If it is intended to use the pan at once for a second boiling be very careful that it is quite dry before the fruit is put in.

Jam-making on a large Scale.—Where jam-making is carried out on a large scale, of course pans of the above size would be quite useless. Large copper steam-jacketed pans are used, the steam being supplied by a boiler from 6 h.p. upwards. The smallest of these pans will take about 56 lb. of fruit, and 56 lb. of sugar. It is in the use of these pans that the professional jam-maker has a great advantage over the home preserver, for in the steam-jacketed pans the jam really boils, and boils at a very high temperature, while in the case of the amateur, the jam, as a rule, stews instead of boils; hence the germs are not destroyed, and the result is, the preserve does not keep. Very few people who make jam really understand what boiling it means. In the case of making jam on a kitchener, for instance, a very fierce red fire has to be kept up, and the jam can only be kept boiling at serious physical inconvenience, and the chance of small burns on the hands and arms, because, as it boils it ought to be bubbling up all over the pan.

Best Jars for Jams and Jellies.—For home use, and where very large quantities are not required, it is always best to keep the jam in 1-lb. clear glass jars, because in these it can be seen at once whether the jam is keeping or not; and also jam is always better when it is used soon after opening. But good jam ought to keep well in any pots, and where it is used in great quantities by far the cheapest jar is the stone, which can be procured in any size, from 1 lb. to 14 lb. Jellies ought to be put into $\frac{1}{4}$ -lb. and $\frac{1}{2}$ -lb. jars, as they always set better in small quantities.

Points to be considered.—In estimating the character and quality of jam, the following points should be taken careful note of: Good flavour, good colour, and whole fruit are essentials. The flavour depends a good deal upon the condition the fruit is in when used for jam-making. It is quite wrong to suppose that any kind of

fruit will do. It is true that a great deal in the way of small and badly formed fruit may be used up, but it must be in good condition, not over ripe or in any way rotten. Flavour also depends a good deal on the way the fruit is cooked, for, if it is steamed instead of being rapidly boiled it is likely to destroy the flavour. Good colour depends very much upon the boiling, and also upon the amount of sugar used. Where jam is intended for commercial purposes good colour is a most important essential. In jams such as strawberry, blackberry, gooseberry, etc., it is a great mistake to break the fruit, as it is far more appetising to look at, and in every way better, if the fruit is kept whole.

CHAPTER VII

JAM-MAKING (*continued*)

UNDOUBTEDLY the most difficult of all jams to make well and keep well is strawberry ; and here let us say a word as to the keeping of jams. *Any* press or store-room that is at command will not do for keeping preserves, and in a great many instances, jam goes bad because it is kept in some unsuitable place. Dryness, airiness, and a certain amount of warmth are necessary to keep preserves in good condition. If stored in cellars or above ground where it is the least damp jams and jellies will not keep.

To make Strawberry Jam.—The fruit should be picked the same day, and be quite sound. Always remember to use small strawberries, and do not on any account pick for jam-making in wet weather, or failure will result. The jam will not keep, and also it will be very tasteless. Pick the strawberries off their stems, taking care not to bruise the fruit in so doing. Weigh the fruit, and to every pound of fruit allow $\frac{3}{4}$ lb. of sugar. Put the fruit on the fire by itself, and boil for 30 minutes, keeping it well stirred. Meantime place the sugar in a pan in the oven, so that it will be well warmed at the end of the 30 minutes. Take the fruit off the fire and add the sugar. Boil both together for another 30 minutes. One pint of red currant juice to every 4 lb. of fruit will greatly improve the flavour. Have the jars all ready, making quite sure that they are perfectly dry. Fill with jam almost to the brim, and put over the wax circle. Tie down when cold.

Raspberry Jam.—To every pound of fruit allow 1 lb. of sugar. Pick the berries over carefully, and put them on the fire by themselves. Mash the fruit with a wooden spoon, and boil for 15 minutes. Take the pan off and add the sugar which should be heated as advised for strawberry jam. Boil for 30 minutes, keeping it well stirred.

Black Currant Jam.—To every pound of fruit allow $\frac{3}{4}$ lb. of sugar. Pick the currants off their stems, and put the sugar and fruit on the fire together. Keep well stirred, and after the jam comes to the boil, boil rapidly for 15 minutes.

Gooseberry Jam.—Make in the same manner as advised for strawberry, boiling the fruit by itself for one hour, and the fruit and sugar together for another hour.

Plum, Damson, and Greengage Jams.—Allow $\frac{3}{4}$ lb. of sugar to every pound of fruit. Boil the fruit and sugar rapidly together for three-quarters of an hour after boiling point has been reached.

Blackberry Jam.—If properly made blackberry is a very delicious jam, but it is somewhat troublesome. A good American receipt is the following: Pick the berries off their stalks into a pan, mash them with a wooden spoon, and let them cook in their own juice till they are thoroughly heated. Press through a sieve to remove all seeds. Measure the liquid, and to every pint of juice allow $\frac{1}{2}$ lb. sugar. Return the juice and sugar to the fire, and when it comes to the boil, boil rapidly for 25 minutes.

Red Tomato Jam.—A jam which has only to be known to be appreciated is tomato. To every pound of ripe tomatoes allow 1 lb. of sugar. Scald the tomatoes and remove the skins. Cut open the fruit and remove the seeds. Put the fruit and sugar together in a pan, and add the juice of two lemons to every 3 lb. of fruit and sugar, and a small teaspoonful of ground ginger. Crush the fruit with a wooden spoon, and mix the whole well

together. Boil slowly for three hours, keeping it well stirred and skimmed. August is the month which is best for making this preserve, as tomatoes are then very cheap and plentiful.

Green Tomato Jam.—This is a specially useful recipe, as often late in the season, when sunshine is getting scarce, there are many green tomatoes left in the open which it is difficult to know what to do with. They can, however, be turned into a very excellent preserve. Gather the fruit freshly and wipe over with a soft cloth to remove all grit. Cut it open and remove all seeds. To every pound of fruit allow $\frac{3}{4}$ lb. of sugar. Put the fruit and sugar into a pan, and to every 12 lb. allow three-quarters of a pint of cold water. Add one lemon very finely sliced to every 4 lb. of fruit and sugar. Bring the whole to the boil, and keep boiling till the syrup is quite thick.

Vegetable Marrow Jam.—To those who like it vegetable marrow jam is one of the most delicious. Peel the marrows and remove all seeds and stringy parts, and cut up the fruit into pieces about 1 in. broad to $1\frac{1}{2}$ in. long. To every pound of fruit allow 1 lb. lump sugar, and to every 8 lb. of fruit and sugar mixed, a heaped-up teaspoonful of whole ginger and one small saltspoonful of cayenne. Have ready a large bowl or glazed crock, and into this put the marrow and sugar in alternate layers, starting with a layer of sugar. The sugar will then melt and blend with the fruit. Well bruise the ginger and tie it up in two or three muslin bags, and put into the crock with the fruit and sugar. Leave them standing all night. In the morning add the bag of cayenne, and to every 2 lb. of fruit the very thinly pared rind and juice of one lemon, taking care to remove the pips. Now put all the ingredients into a pan, and set on a clear fire to boil, keeping it stirred all the while. The jam will be done when the lemon rind and marrow are boiled quite

clear. The marrow takes a considerable time to clear, and upon its being thoroughly cooked to clearness depends the whole success of this excellent preserve. Remove the ginger and cayenne bags when the boiling is over. Put the jam into jars at once, and cover when cold.

CHAPTER VIII

JELLY-MAKING

OF all branches of fruit preserving perhaps none has undergone such a great change during the last few years as jelly-making. The original process was to boil the fruits and then squeeze them through a jelly bag, putting into the operation an extraordinary amount of energy and muscle. After all the liquid possible had been squeezed out of the fruits it was measured and boiled with equal quantities of sugar. After many tests by putting spoonfuls to cool to see if it would set or not it was put into its jars or pots. The process was sometimes successful, sometimes not. In the present day in all preserve-making, if certain rules are followed, the result should be certainty not chance, and this is especially applicable to jelly-making. Every one may make jelly with all hope of success if they are willing to give Time, Trouble, and Forethought to the work.

To get the greatest amount of liquid from the various fruits, the juices must be extracted by a slow and gentle heat, and not by rapid boiling. A clear, slow fire must be used for this purpose, and not a fierce one. This will take time. Great trouble must be taken to carry out all the detail, for it is on trifles that success depends. Forethought is necessary in order to have all the various things for use all ready beforehand, and plenty of boiling water is always required, as the jelly bag must always be wrung

out in boiling water, and the ladles and various jugs used must be dipped into it before use.

Preparation.—All fruit used for jelly-making should be quite sound. The larger fruits are cut in pieces and put into a preserving pan on a slow fire, with just sufficient water to cover them. They are stirred occasionally with a wooden spoon, and when quite soft they will be ready for straining. The smaller fruits, such as currants, are better put into an earthen jar, which should be stood in a saucepan of hot water, and so their juices with all be extracted.

The Jelly Bag.—If this is a new one it must be soaked for six hours before using. After each lot of jelly has run through it must be thoroughly cleansed. Before using for straining wring out in boiling water. This is easily done by putting it into a cloth and wringing out. Make quite sure that the bag is wrung quite dry. It may be hung between the backs of two chairs on a stand provided for the purpose, with a vessel underneath to catch the liquid. Always bear in mind that everything connected with jelly-making must be as hot as possible, and that the place chosen for it to run through in must be quite free from draughts and near a fire. As the liquid cools it jellies, and if it becomes jelly in the bag it will not run through, and the contents of the bag will have to be heated again. For the best jelly the bag should never be squeezed or pressed to make the liquid run through, but a small wooden spoon may every now and then be passed down the middle of the bag gently to dislodge the fruit which has gathered at the bottom. If the least pressure is used to get the fruit through cloudy jelly will be the result.

General Recipe.—As in all other forms of preserving, the different kinds of fruit require slightly different treatment when being made into jelly, but generally speaking to every pint of juice 1 lb. of sugar is allowed.

The juice is placed in a preserving pan and brought to the boil, and then boiled steadily for 15 minutes. The sugar is warmed by setting in a pan in the oven, care being taken that it does not burn. To prevent this it may be moved from the bottom every now and then with a wooden spoon. When the sugar is thoroughly heated it is to be added to the juice, and both together brought to the boil. Boil quickly for five minutes. Have ready a piece of cheese cloth, and strain the jelly into the jug which will be used to fill the glasses. The jug and glass should be quite hot. Strain through the cloth, which should be wrung out of boiling water, and fill the $\frac{1}{2}$ -lb. and $\frac{1}{4}$ -lb. glass jars. Jelly made in this way should be perfectly bright and clear and quite firm. To set, stand the jelly in the hot sun. Never reboil if avoidable, as the colour is at once lost, the sugar darkening it.

Red Currant Jelly.—Good large fruit should be chosen, rather over than under ripe. If picked off the stems it facilitates the running through of the liquid. Draw the juices from the fruits by putting them in a jar standing in a saucepan of hot water. When all the fruit is quite soft and mashy it is ready for straining. Measure the liquid, and to every pint of liquid allow $\frac{1}{2}$ lb. of sugar. Boil the liquid for twenty minutes after it comes to the boil, and then add the sugar, which should be warm. Boil quickly together for ten minutes and strain into glasses.

Black Currant Jelly.—Same as above. If liked sweet $\frac{3}{4}$ lb. of sugar may be added.

Apple Jelly.—Peel and core the apples. Cut them up and put into a preserving pan with enough water to prevent them burning. Simmer gently till reduced to fine pulp. Strain through a bag, and to every pint of juice allow 1 lb. of sugar. Boil the liquid for twenty minutes and add the sugar. Apple jelly differs from

other jellies in requiring a good deal more boiling when the sugar and fruit are added together. Twenty minutes to half an hour is always necessary, and then before taking off the fire it should be tested to see if it jellies well. If not, go on boiling till this is the case.

Crab Apple Jelly is made in the same manner. The larger the crabs are the better, as it is very tedious making it with small fruits.

Grape Jelly.—This is a preserve little known, but quite worth trying, especially as it is an excellent way of using up the thinnings of grapes. When the berries are of a good size they should be put into a preserving pan with just enough water to prevent them burning. When quite soft strain, and to every pint of juice allow 1 lb. of sugar. Boil the juice and sugar together for one hour and set in jars.

CHAPTER IX

MARMALADE-MAKING

MARMALADE is not, as many people suppose, a preserve made only of oranges. It is really the same as jam, the only difference being that the larger fruits are used, while jam proper is almost always made of the small fruits. Marmalade made from oranges is the most generally known, and will therefore be dealt with first. The points that go to make good marmalade are as follows: 1. Colour: This is an important item. It must not be too dark, as this shows over-boiling, but it should be a nice golden colour which makes the preserve attractive and appetising to look at. 2. Flavour: It must not on any account be too sweet. We must remember that marmalade is mostly eaten at breakfast, and at that time of day people do not want anything that will leave a clotted, sickly taste in the mouth, but something that will give a sharp agreeable flavour. 3. Clearness: The preserve should be clear and bright, or else it proves that it is not properly prepared. Either the best materials have not been used or else sufficient care has not been given to the preparation. Marmalade differs from jam in several ways. The preparation is much more difficult and takes longer. It also requires a good deal more boiling, but a great point in its favour is that it keeps better than the generality of jams.

Preparation.—To obtain the best results only the best materials should be used, viz., Seville oranges and lump sugar. The cheapest way of buying the oranges is in

the imported cases, which contain 200 (small) to about 450 (large). The sugar should be bought by the cwt. or ton, and usually costs from 17s. to 24s. per cwt. The profit on the marmalade will depend to a great extent upon the price of sugar. For instance in 1904 the best lump sugar could be bought for 17s. 6d. per cwt., but in 1905 exactly the same article cost 24s. per cwt., this being a difference of £6 per ton on the wholesale price; it will therefore be easily understood, how necessary it is to exercise judgment and care in buying the ingredients for fruit preserving to the best advantage, otherwise all chances of profit are lost.

There are various ways of making marmalade — some more expensive than others; therefore it is proposed to give them under headings that will best explain their various uses. Where large quantities are to be dealt with, a cutting machine for slicing the oranges ought to be procured. They can often be hired at a large ironmonger's, but the cost of a new one is about 16s. to 20s. If kept oiled and clean they last for years. Care must be taken to keep the knives sharp. The best time for making marmalade is from the beginning of February to the middle of March.

A Good Recipe for the Household.—Take twelve Seville oranges and cut them into quarters and remove the pips. Slice very thinly and put them to soak for 24 hours in 10 pints of cold water. Put the whole into a preserving pan with the pips, which should be tied up in muslin



MARMALADE
CUTTING MACHINE.

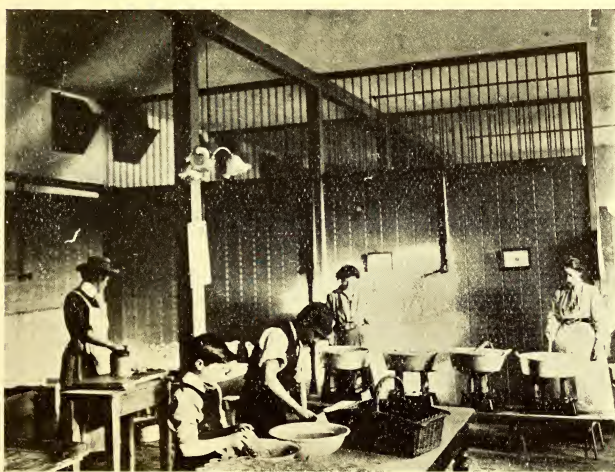
bags, and bring gently to the boil. Boil till the skin is quite tender, then add 10 lb. of lump sugar, and again bring to the boil. Boil for two hours, constantly stirring with a wooden spoon all the time. When once the sugar is added constant attention must be given, for there is no preserve that is more likely to burn than marmalade. Test by placing a little on a saucer and allowing it to cool. If it jellies on the saucer the marmalade is done. Lift off the fire at once, and pour into jars. When cold tie down. A great improvement to the above is to add two lemons, but if this is done two more pounds of sugar and two more pints of water will be required.

A Delicious Marmalade.—Take twelve Seville oranges, and halve them horizontally. Squeeze out all the juice and pips. Take a silver spoon and remove all the pulp and put it into a vessel. Put the rinds to soak for 12 hours in sufficient cold water to cover them. To every two quarts of water allow one tablespoonful of salt. Next day pour all into a preserving pan, and boil till the rind is tender. Strain through a colander. Take the rinds and slice very thinly; weigh them, and to every pound of sliced peel allow $1\frac{1}{2}$ lb. of sugar. The pips should have been strained out of the juice and put into muslin bags ready to be thrown into the pan for boiling. Next measure the juice and pulp, and to every pint allow 1 lb. of sugar. Put all together into a preserving pan, keep well stirred, and bring to the boil. Boil rapidly for half-an-hour, and test. If sufficiently cooked pour into jars. Always remember to have the jars quite dry.

A good American Recipe.—Take five dozen oranges, and pare the rind off thirty. Cut the rind into very small pieces, and put it to soak for 24 hours in sufficient water to cover it. Change the water three times during the 24 hours, as this draws out all the bitter oil. Put in a



MARMALADE MAKING. PICKING OUT PIPS



MAKING 10,000 POUNDS OF MARMALADE IN ALLUMINIUM PANS, ON OIL STOVES

preserving pan and boil till tender. Grate the rind of the remaining thirty oranges, peel off all the white inner skin, and cut the remaining pulp into small pieces, removing all pips. Now take the boiled and grated rind and weigh them together with the pulp, and to every pound of fruit allow 1 lb. of loaf sugar. Put the sugar into a pan, and pour over it all the juice that has escaped from the fruit during the preparation. Add 1 pint of water and beat the sugar very gently till it comes to the boil. Skim it, and then add all the fruit and bring gently to the boil. Boil for twenty minutes from the time of starting. If the flavour of lemon is liked in the marmalade add lemons in proportion of two to every ten oranges, but do not use the pulp—only squeeze out the juice and grate the rinds.

An Economical Recipe.—Cut the oranges in quarters and slice very thinly. To do this successfully the knives must always be kept well sharpened. Take out all pips. Weigh the fruit, and to every pound of sliced fruit allow one quart of cold water. Pour the water over the fruit, and let it stand for 24 hours; then put all into a pan and boil till the rind is tender. The pips should be tied up in muslin bags and boiled with the oranges. Let all stand till next day, then to each pound of boiled fruit add $1\frac{1}{4}$ lb. of loaf sugar. Bring gently to boil, stirring constantly. Test in the usual manner. The grated rind and juice of two lemons will greatly improve the flavour if added at the last boiling. Tie down when quite cool.

Rhubarb Marmalade.—This is a delicious and economical preserve. The rhubarb should be young and quite fresh. Cut into lengths without peeling, weigh it, and allow $\frac{3}{4}$ lb. of sugar to every pound of rhubarb. Put all together in a preserving pan, and bring gently to the boil. Boil for three-quarters of an hour, stirring constantly.

CHAPTER X

FRUITS PRESERVED IN VARIOUS WAYS; SOME LIQUEURS AND CANDIES

It is proposed in this article to give some good recipes for preserving fruits by less common methods than those already given.

Fruits preserved in Brandy.—One of the best fruits for preserving in this manner is cherries. Good, sound Morellos should be chosen. They must be weighed, and, if the stalk is long, half should be cut off. The cherries are then pricked with a needle and dropped into a wide-mouthed jar or bottle. Pound in a mortar three-quarters of their weight of the best white sugar, and strew it over the cherries. Fill up the jar with brandy, and cork and seal, or else tie down with bladder.

Cherries preserved in this way ought to be kept a year at least, before opening. Great care must be taken to keep the cherries air-tight. In the preparation of all fruits preserved in this manner, strict attention must be given to the condition of the fruit used. None but perfect fruit should be selected. One of the first qualifications of the excellence of fruits preserved in brandy arises from their retaining as much as possible their original colour; therefore, in order to attain that end, well-coloured fruits should be chosen. It must be remembered that preserving fruits in brandy is expensive; so, if success is not attained, the loss is considerable, much more so than in ordinary preserving.

Cherry Brandy.—Of all the many excellent things which are obtained from fruits, perhaps cherry brandy

is one of the best. Black or Morello cherries are generally used. Take 10 lb. of cherries, and carefully stone these over the vessel into which they are going to be put. This will prevent undue waste of the juice. Put the stones into a mortar and break them up and put them into the vessel with the cherries. Over this pour one gallon of the best brandy. Tie a covering carefully over the vessel, and let it stand for 40 days. Strain off the liquid and bottle. Well cork and seal, and lay the bottles in the wine cellar on their sides. Remember that this liqueur improves greatly by keeping.

Peaches in Brandy.—This is a delicacy which has been introduced from America, where “peaches in brandy” are considered the correct thing to serve with Virginia Hams. Miss North, to whom reference has already been made, p. 2, caters for the “Americans in London” by sending over peaches in brandy, amongst her other bottled fruit. The following is an American recipe:

Split the peaches in halves, and remove the stones. Scald them by dipping into boiling syrup. This will enable the skins to be removed without trouble. Let them simmer gently for five minutes in the same syrup as they were scalded in. Take them off the fire, and leave in the pan with their syrup till next day. Pack the peaches neatly in wide-mouthed jars or bottles, set the syrup on the fire, and boil it down. To test whether the syrup is sufficiently done, the skimmer may be dipped into it, and then held up, the syrup will run off in a sort of thready fringe. Add to the syrup an equal proportion of pale brandy, and, when nearly cold, pour it on the peaches. Cork down and tie over with bladder, or better still, seal it. Keep in a cool, dry place.

Apricots, Greengages, and Plums can be prepared in the same way. Pears should be divided into halves or quarters, and dropped into water into which has been

placed some lemon juice before putting them into the bottles, to prevent them turning brown. They are finished in the same way as any of the above.

Candying Fruits.—The chief art in candying and crystallising fruit is the proper constituency of the syrup. In two or three minutes a syrup over a fire passes from one degree to another. Of these degrees there are seven; but it is on these degrees that the whole success of candying turns. The first degree is the lissé or thread, and as this is the one that we have most to do with, we will explain the process. Take one pound of the best loaf sugar, and put it in a vessel. Over this pour half a pint of spring water. Boil it in a brass or copper pan over a sharp fire, removing all scum as it rises to the surface. Test it by dipping the forefinger of your right hand first into cold water and then into the boiling sugar. Dip it back at once into the cold water to prevent the finger being burnt, but immediately withdraw it from the water before the sugar has time to drop off. Pinch the sugar between the finger and thumb, and, on slightly separating, you will find a thread is formed, which, after being pulled to a certain length, will snap. This, then, is the first degree of syrup, or the thread.

To Candy.—Greengages, apricots, plums, and cherries are very delicious when successfully prepared in this manner, but it is a long business, and requires great care. Split the fruits and remove the stones. Lay them carefully into the prepared syrup, and boil them slowly until they become clear. Remove any scum that arises. Lift them out one by one with a skimmer, and lay on flat dishes in a perfectly dry place. Cover over for 24 hours. Have the syrup again ready. It should now have been cooked to its second degree, or pearl. This is done by boiling it a few minutes longer. It is then tested in the same manner. If found that on draw-

ing out to a thread it snaps quickly, and also that when boiling the sugar presents the form of large pearls or globules on the surface, it will have reached the pearl stage. Into this lay the fruit as before and boil gently till quite tender. Put on a flat dish again, and leave for another 24 hours. The fruit is again laid in the syrup and boiled for another few minutes. Have ready some of the best castor sugar, and sift it over the fruit on all sides, till quite white. Lay the fruit on the shallow end of a clean and perfectly dry sieve (wire trays are excellent for this purpose), and place the sieves or trays in a moderately warm oven. The oven must not be allowed to get cold till all the fruit is quite dry. Watch it carefully and turn over two or three times. When dry it is finished. All fruits thus preserved should be kept in a dry place.

Preserving Fruits in Mustard.—The following recipe is much used by the German housewives for preserving plums, apricots, greengages, figs, pears, and other fruits. Take the same weight of the best white sugar, mustard, and fruit. Lay the fruit in an earthen jar. Make a syrup of the sugar and mustard by adding half a pint of water to every 1 lb. of sugar. Boil slowly for half-an-hour, and pour while boiling over the fruit. Fill up the jar with the syrup, and tie down at once with bladder to render it air-tight.

A very good Liqueur.—Take one dozen lemons and grate off all the peel. Put the peel into a vessel with 4 lb. of white sugar and 4 oz. of bitter almonds. Over this pour four quarts of whisky. Throw in two or three pieces of cinnamon. Leave for three weeks, having carefully tied down the vessel to exclude dust and air. At the end of this time add three-quarters of a pint of new milk, put all into a preserving pan, and bring gently to the boil. Let all stand for 24 hours and then strain and bottle.

CHAPTER XI

HOME-MADE WINES

IN these days, the delicious home-made wines which some of us so well remember in the days of our youth are not to be found in many households; they are old-fashioned and therefore considered out of date. The rush of the present day is so great that nobody has the time to make them, but they are none the less good for all that, and every home that has a fruit garden attached ought to utilise a certain amount of the often surplus fruit in this manner. But it is not even necessary to have a garden. One of the most delicious of home-made wines is elderberry and another blackberry. Elderberry is particularly valuable for its medicinal qualities. In cases of severe cold if taken hot on going to bed at night it will be found to be most efficacious. Some recipes for the best home-made wines will now be given.

Currant Wine.—Take 12 gallons of ripe currants, wash the fruit if at all dusty, and pick it off the stems. Put into a pickling pan and mash well with a wooden masher. Pour over 5 gallons of boiling water. Leave the fruit thus for twelve hours, then strain, taking care to press out all the juice. Put into a preserving pan and add $3\frac{1}{2}$ lb. of brown sugar. Boil together for five minutes and put away in a stone jar to ferment. After fermentation, strain carefully and bottle. Keep the bottles lying on their sides.

Elderberry Wine (American recipe).—Gather the berries when quite ripe. Remove all stems. Measure the fruit

by a quart measure and put into a stone pan. Mash well, and to every eight quarts of berries add six quarts of boiling water. Let them remain for twelve hours and then strain. Measure the juice and mix the ingredients in the following proportion: To every four quarts of juice add:

Three and a half pounds of brown sugar.

One tablespoonful of powdered cinnamon.

Half-tablespoonful of allspice.

Half-tablespoonful of ginger root.

Half-tablespoonful of cloves.

Half-tablespoonful of carraway seed.

(These spices should be tied up in a muslin bag.)

Place all together in a preserving pan and bring gently to the boil; then boil for five minutes. Pour into a stone jar, and when quite cold put in it one yeast cake. The wine will ferment in a short time. The one thing needful to success is to be quite sure that the fermentation has ceased before bottling.

English Elderberry Wine.—Take eight quarts of berries and pour over them four quarts of boiling water. Let them stand for two days, then put them in the preserving pan and bring gently to the boil. Boil for one hour and strain. Measure, and to every gallon of liquid add:

Three pounds of brown sugar.

One ounce of cloves.

One ounce of cinnamon.

Two ounces of ground ginger.

(The spices to be tied up, as in previous recipe.)

Boil all together, and when cold add the yeast. Allow the wine to ferment and bottle in the usual way.

Blackberry Wine.—Proceed as for elderberry wine till straining, then to every four quarts of liquid allow 3 lb. of brown sugar. Return the liquid to a jar to ferment, and when fermentation has ceased bottle. Blackberry wine has valuable medicinal properties.

Grape Wine.—To every 20 lb. of ripe grapes allow 10 lb. of sugar and six quarts of boiling water. Mash the grapes and pour on the boiling water. Let it stand in the pan for three days, taking care to keep it covered so as to exclude all dust. Strain the fruit and juice and return the juice to the jar. Add the sugar and let it remain till fermentation has ceased. Take the scum off, strain again, and bottle.

Gooseberry Wine.—To every four gallons of ripe gooseberries allow 1 lb. raspberries, two and a half gallons water, and 24 lb. brown sugar. Mash the gooseberries together and pour on the two and a half gallons of water when boiling. Leave for two days and strain, taking care to press out all the juice. Put in a preserving pan with the sugar, and bring gently to the boil. Boil for ten minutes and set aside to ferment in the usual way. This quantity of fruit, water, and sugar will make five gallons of wine.

Raspberry Vinegar.—Take four quarts of ripe raspberries and one quart of vinegar. Put two quarts of the raspberries into a pan and over them pour the vinegar. Let all stand for 24 hours. Strain through a sieve. Take the liquid which comes through the sieve, and pour it over the remaining two quarts of berries. Let all stand for 24 hours and strain again. Measure the juice, and to every pint of juice allow 1 $\frac{1}{4}$ lb. of sugar. Put the sugar and juice into a pan and simmer very slowly till the sugar is dissolved. Remove the scum as it rises. Strain and bottle. One tablespoonful of this to each glass of water makes a delicious drink.

Points to observe.—Success in the making of home-made wines is acquired by following a few simple rules. Use always the best ingredients. Never try to hurry the proceedings, and do not on any account attempt to bottle any wine till fermentation has ceased. After bottling, great care is necessary in the corking and sealing. The

corks should fit well and be put in with a proper corking machine, or failing that be forced in very tightly. A good recipe for the sealing-wax is as follows :

One pound white resin.

One ounce cinnabar or vermilion.

Half ounce boiled linseed oil.

Three ounces prepared chalk.

Melt the resin in a tin over a slow fire, then add some of the linseed oil. Test by dropping a teaspoonful of the mixture on a cold stone. If the resin has lost its brittleness enough oil has been added, but if it is still brittle add more oil. Mix in the chalk and vermilion, and stir till all lumps are dissolved. It is then ready for using, and a little can be poured on the cork and neck of each bottle. Remember always to keep the bottles on their side in a cool place

CHAPTER XII

TWO CHAPTERS ON FRUIT DRYING

VERY few people are really aware of the great demand there is for dried fruits and vegetables. Every year many thousands are spent by the Government in buying the necessary supplies for the army and navy, and this trade is not confined to these Public Bodies, as dried fruit and vegetables are greatly in demand in many parts of our Colonies. In the time of war they are some of the most valuable articles of food, the reason for which is easy to see, because large quantities can be carried in a small compass.

When we speak of preserving fruits and vegetables by evaporation, we mean that we artificially evaporate their moisture, by a process which preserves their food value, and the products which in the ordinary course would decay, by this means retain their food value and can be stored in a concentrated form, until required for future use.¹ Thus for export purposes and where storage space is limited, the goods so prepared can be compressed into a very small compass without the slightest detriment to them in flavour or nutritious value. Many hundred rations can be packed in a box a foot square. The storage room they consequently require is

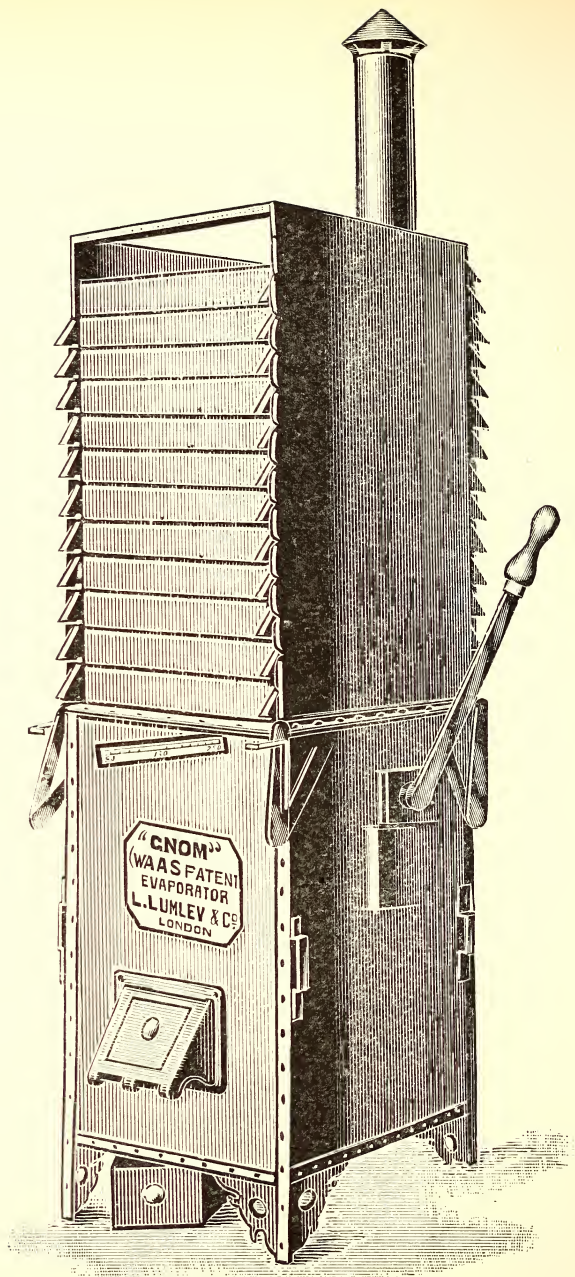
¹ When this time arrives the fruit or vegetable is *rehydrated*, i.e. to say it is soaked in water for some hours, when it again reabsorbs *moisture* and expands to its original size and form. It should be cooked in the water in which it has been soaked, and when properly done, the flavour will be found to have been retained completely.

very small, and care only must be taken to store them in a dry place, when they will keep for years and be deprived of none of their goodness.

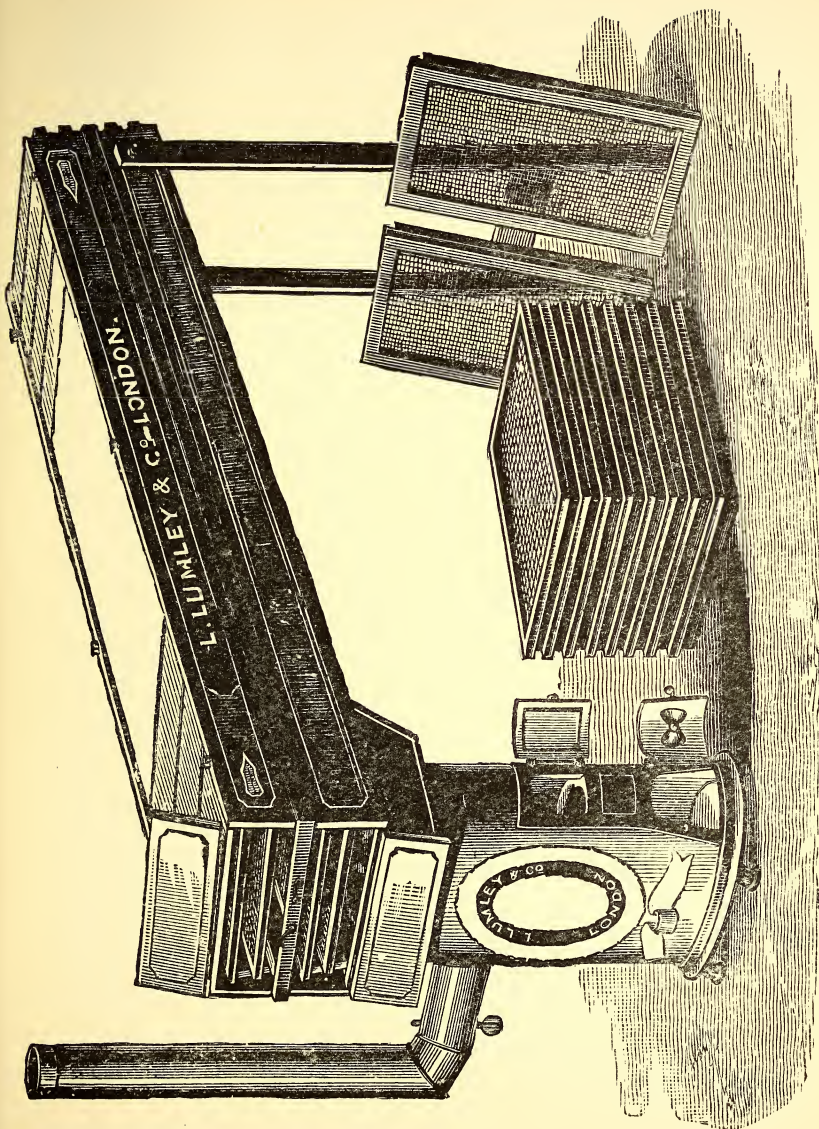
Why Fruits should be Dried.—The reasons are almost too many to enumerate, but a few of the principal ones are as follows: First, there is a steady and increasing demand both at home and abroad for them, and “demand” ought to create “supply.” Second, as a commercial enterprise it is found to be a most profitable one in other countries, and it should be the same with us. Third, second grade fruits such as the smaller and mis-shapen ones, can be evaporated, if in quantities, at a cost that will pay better than marketing it as fresh fruit; although the point must be emphasised, that *the best fruit makes the best preserve*, in whatever form it is done. Fourth, in a season of great plenty, instead of the waste that usually occurs, the fruits can be easily and cheaply preserved in this way, when they can be kept till a scarce season occur, and then sold profitably. These four reasons ought to show the reader why it is necessary that, in a fruit-producing country such as England is rapidly becoming, interest should be taken in the drying of fruit, and as much should be learned about it as possible.

From whence do we obtain the supplies for this steadily increasing demand? Of course from abroad. Long ago the foreigner discovered that this fruit-loving nation must have these things, and he supplied them. In the winter and early months of the year when English fruit is over, there is a great demand for dried apples in various forms, also for plums and other kinds of dried fruit. The market is well supplied, but not with English goods.

We believe that it will prove a profitable trade when it has been taken up systematically and put upon a proper business footing. Unfortunately this has not been done



THE "GNOM" EVAPORATOR. TYPE E. £17, 17s.



“INVICTA” EVAPORATOR. NO. 2. £25-£32, 10s.

upon a large scale in England, and as far as we know, the Worcester County Council is the only one which has undertaken any definite experiments in this industry. "The Report on experiments in Fruit and Vegetable Drying, at the Experimental Garden, Droitwich," by the Horticultural Instructor, Mr James Udale, we have printed in full, but will here remark, that we consider it quite sufficiently satisfactory to justify other County Councils taking it up and advancing so useful an industry in every country district.

We venture to remark, however, that in our opinion the Evaporators already on the market leave very much to be desired, especially in the matter of expense, and we cannot help thinking that this is one of the chief reasons why Fruit Drying has not reached a commercial basis. The cost of appliances and expenditure of fuel and time have been so heavy, that when to this the cost of material is added, the finished article cannot be put upon the market at a price which will bear comparison with the Foreign Goods already there.

Machines for Drying.—At the present time there are many machines on the market. Messrs Lumley and Co., 1 America Square, Minories, London, have various kinds suitable for use in the household, with prices ranging from £1, 10s. up to £30. See illustrations, pp. 58, 59. For commercial purposes the Passburg, which is as yet almost unknown in this country, takes the lead. It was brought out at Berlin, and is still worked there. It consists of a rectangular cast-iron chamber, closed hermetically at one or both ends by doors. The chamber contains a number of galvanised perforated iron or earthenware trays on which the material which is to be dried is placed. The charging of the chamber is very simple, and the heat is regulated by means of valves.

The prices vary according to the size. No. 3 with 13 heating shelves will dry 4 to 5 cwt. of fresh fruit

per day in two charges. The price of it is £165. With these machines the heat is supplied by steam from a boiler which varies in power according to the size of the chamber used. Another evaporator which we understand is very largely and successfully used in America, both for household and commercial purposes, is the Excelsior. It is manufactured by the William Stahl Evaporating Company, Quincy, Ill., U.S.A. The working of it is very simple, and it is sold in various sizes. The small one (No. 1) can be used on a small cooking stove. The price complete with stove pipes (but without a stove) and trays is 18.00 dollars, or £3, 12s. Capacity, five bushels of green apples in 24 hours, or seven-eighths of a bushel of green apples at one charge.¹ The No. 3 is the one recommended for an "orchardist." It has 10 trays, and holds 4 bushels of apples at one charge, or 16-18 bushels in 24 hours. It has its own furnace attached, and is complete for \$65.00.

¹ A No. 3 Excelsior Evaporator is now at Bredon's Norton, and I intend to test it thoroughly this summer. If it prove as satisfactory as its description suggests, it will be a valuable acquisition to the fruit preserving industry.—EDITH BRADLEY.

CHAPTER XIII

FRUIT DRYING (*continued*)

ALL fruits require some preparation before they are placed in any of the machines mentioned for drying. Take apples, for instance, they can be dried in three or four different ways, but if they were just peeled, sliced, and cored, and put into any one of the machines for drying, and taken out again, at the expiration of the stated time, the result would be a bitter disappointment. A shrivelled, brown-looking object would come out instead of the beautiful white slices or whole apple that had been put in. To get proper results all fruits which have to be kept white must be bleached. Abroad this is done frequently by sulphur fumes, and when properly done it is supposed to make the fruit none the less wholesome, and it is even stated that bleaching by sulphur actually improves the flavour and quality of the fruit as well as its appearance; but there is always the danger in using sulphur of over-doing it, and so flavouring the fruit. To get over this difficulty in home preparation, immediately the apples are cut they should be thrown into a vessel containing water with either lemon juice or salt in it. The proportion is the juice of one lemon to every two quarts of water, or salt 1 oz. to three quarts. [Some of the evaporators are so constructed that the bleaching takes place while the drying is in process. In these cases sulphur only is used.]

Apples are dried in Three Ways.—(1) Whole. For this they are simply peeled and cored and dropped at once

into the water, where they are left till put into the machine. (2) Sliced. For this they are peeled and cored and cut into quarters. (3) In rings. It is in this form that we know them best. The fruit is peeled, cored, and cut into rings. The trays belonging to the machine (Invicta, Gnom or Excelsior) are all ready to hand, and on these the apples are placed. If whole apples are being done they should be stood on the trays quite close together, if rings they may be laid on, just over-lapping each other like slates on the roof of a house. As soon as a tray is full it should be placed in the machine at the bottom. [This applies to an upright machine like the Gnom or Excelsior.] Most of the machines are so constructed that the trays fit one above the other on little ledges. This makes it quite easy to push the trays in and out. The temperature of the drier for apples should register 180 to 210° Fahr.; this should be carefully ascertained by a thermometer before the fruit is put in. Meanwhile other trays are being filled, and as each in succession is put in, its predecessor is moved up, until the whole drier is full of trays. The heating should be carried on continuously. The trays must be examined from time to time, the driest ones being placed higher up or removed when finished, and the least dry being placed at the bottom where the heat is greatest.

Time required.—The time varies according to the kind of apple used and also according to the condition of the fruit. The form in which the apples are prepared also has a good deal of influence. Rings dry much more quickly than quarters, whilst whole apples take longer again. However, by leaving a margin, any time between two and four hours will dry a bushel of apples prepared in any way. Apples lose nearly one-tenth of their weight during evaporation. Thus one bushel of raw apples when dried weighs about 6 lb. to 6½ lb. This at

once proves the immense economy that is effected in the transport of fruits thus prepared. In addition to weighing less they require much less space for storage.

After-treatment.—When the fruit has been removed from the oven it is spread out in a dry building and exposed to the air for about a week. It should then be packed tightly in wooden boxes, which should be lined with clean white paper. The lids may be nailed on, and in this condition the fruit will keep for years. The same after-treatment is applied to all fruits prepared in this way.

Pears.—A little more preparation is necessary for pears before they are put on the trays. After they have been peeled and the seed vessels removed they are steamed for eight to ten minutes. This can be done in an ordinary steamer on a kitchener. If steaming is inconvenient immerse them in boiling water for ten minutes, put them on the trays, and proceed as for apples, the temperature being the same. It will be found that pears take longer than apples to dry. If halved they will take five to seven hours; if whole, longer. They do not lose quite so much weight as apples. One hundred pounds of fresh pears give 12 lb. to 16 lb. of dried produce.

Apricots.—Apricots are very simple to do. They are just cut in two and the stones taken out. They require a slightly higher temperature, 212° Fahr. being necessary. One hundred pounds of apricots give 10 lb. to 12 lb. of dried fruit.

Plums.—These are the best of all fruits for drying. There is no reason at all why England should not have a large trade in prunes. Great quantities are imported and used every year, and very often in England great quantities of plums go to waste every year, because it is not worth while to pick and sell them for the prices which can be obtained. Then why not dry them?

Undoubtedly money can be made in this work. It would not be necessary for each individual to go to the expense of a machine, but in a plum district the growers might co-operate and have one machine for the neighbourhood.

For drying, the plums should be as ripe as possible. The stems are removed, and the plums are placed in the trays with the ends up from which the stems have been drawn. This prevents the loss of juice. The temperature is the same as that given for apples, but they take much longer to dry, 12 to 16 hours being none too much for them. They, however, give a better return in weight than almost any other fruit. One hundred pounds of plums will give a return of 30 lb. of dry fruit. Other stone fruits are done in the same manner. When putting the trays of stone fruits in the oven a point to note is that they should be put in at the top first, and not at the bottom as advised for apples.

Cooking dried Fruits.—When required for use the fruits are merely put into warm water and soaked from four to six hours, when they again take up their moisture and become as fresh fruit. After soaking they are cooked just like fresh fruit, using the water they have been soaked in.

Vegetables.—The following vegetables have been found suitable for evaporating:—French beans, peas, cabbages, cauliflower, carrots, celery, onions, potatoes, herbs.

All the foregoing (except herbs) require in addition to peeling, slicing or cutting up, to be steamed or cooked for five to seven minutes before they are dried. Otherwise they lose their colour and become hard.

Peas	100 lb.	will yield	10 to 12 lb. of dried peas.
Beans	„	„	10 to 12 lb.
Cabbage	„	„	7 lb.
Cauliflower	„	„	4 to 5 lb.
Carrots	„	„	8 lb.

Celery	100 lb. will yield	$4\frac{1}{2}$ lb.
Onions	„ „	10 to 12 lb.

REPORT ON EXPERIMENTS IN FRUIT & VEGETABLE DRYING, AT THE EXPERIMENTAL GARDEN, DROITWICH, 1901. (Reprinted by permission from "Gardening for All," by James Udale, Hort. Instructor to Worc. C.C.)

I have, during the months of September and October, carried out certain experiments in drying fruit, vegetables, and herbs, by means of a Number O (Dr Ryder's Patent) Invicta Evaporator, supplied by Messrs Lumley & Co., The Minories, London, E.C. Twenty trays were supplied with it, and the catalogue price is £11, 10s., plus an advance of 10 per cent.

This Evaporator is, in my opinion, too small for commercial purposes; because it requires as much attention—and in respect to the regulation of temperature, more care—as one with three or four times its capacity. It is also very wasteful with fuel; because the Evaporator consists of only one short flue or air-chamber, through which the hot air rushes immediately into the atmosphere and is lost. For those two reasons the cost of labour and fuel is unnecessarily great, and the cost of the dried article much higher than it would be with an Evaporator of larger capacity.

In conducting the experiments I sought to ascertain (1) the best varieties for drying for commercial purposes. (2) The average time required to dry the respective varieties at known average temperatures. (3) The average loss in weight between the undried and the dried article. (4) The average consumption of fuel during 24 hours of continuous work; and (5) the

capacity of the Evaporator in drying a given quantity of damsons in the shortest space of time.

Plums.—The varieties of plums tested were—Bittern, Czar, Curlew, Cox's Emperor, Diamond, July Green Gage, Monarch, Pershore, Prince Englebert, Red Magnum Bonum, Victoria, White Perdrigon; and of damsons, Farleigh Prolific and the Shropshire damson.

Of the twelve varieties of plums dried, the following gave the best results in regard to the *weight* of the dried product :—

Czar	gave 33 per cent. of dried fruit.			
White Perdrigon	„ 27	„	„	„
Victoria	„ 25	„	„	„
Monarch	„ 25	„	„	„
Prince Englebert	„ 25	„	„	„
Red Magnum Bonum	„ 22	„	„	„
Cox's Emperor	„ 20	„	„	„
July Green Gage	„ 20	„	„	„
Pershore	„ 19	„	„	„

The best varieties in *appearance* are Monarch, Prince Englebert, Czar, Victoria and White Perdrigon, in the order named. These are followed by Red Magnum Bonum, Cox's Emperor, and Pershore.

The average time and temperature required by the better varieties to dry was as follows :—

Monarch	200—230° F.	15 hours.
Prince Englebert	160—200	14 „
Czar	180—210	12 „
White Perdrigon	190—220	16 „
Victoria	„ „	18 „
Red Magnum Bonum	180—200	12 „
Cox's Emperor	220—240	16 „
Pershore	160—220	16 „

The two varieties of damsons dried nicely, and kept their colour and flavour.

Farleigh Prolific yielded 33 per cent. of dried fruit.

Shropshire damson ,, 25 ,, ,, ,,

The average time required by the damsons for drying was 6 hours for the Shropshire variety and 7 hours for Farleigh Prolific; the temperature in each case being 160—200° F.

Continuous Drying.—The time required to dry the whole of the 135 lb. of Shropshire damsons was 54 hours of continuous drying; and fuel consumed during that period was $1\frac{3}{4}$ cwt. of good house coal, costing one shilling and twopence per cwt.

As fruit-drying is very suitable work for females, I charge for labour an average of 2/- per day; and taking that as a basis of payment for labour, the cost of the dried product—after allowing three shillings per bushel of 80 lb. for the fresh fruit, the price I actually paid for them—is $4\frac{1}{2}$ d. per pound. I have already stated that a larger machine would dry a much larger quantity of fruit for the same cost in labour and fuel, and I think the cost of production would be reduced to about one-half, allowing 3/- per 80 lb. as the value of the undried damsons.

The cost of the dried Victoria, Monarch, Perdrigon, and Cox's Emperor was 4d. to $4\frac{1}{4}$ d. per pound, as calculated on the above basis, and charging market prices for the fresh fruit, as actually received from salesmen.

The surplus plums and damsons have been sold *wholesale* and realised the following prices:—

Best Victoria	.	6d.	per pound.
,, Perdrigon	.	6d.	,,
Second Victoria	.	$4\frac{3}{4}$ d.	,,
,, Perdrigon	.	$4\frac{3}{4}$ d.	,,
Pershire	.	$4\frac{1}{2}$ d.	,,
Damson	.	$4\frac{1}{2}$ d.	,,

Apples and Pears.—Experiments were made in drying apples and pears: the former whole and in slices, the latter peeled and cored and cut in halves.

Four varieties of apples were dried whole, viz. Cellini, New Hawthornden, Lane's Prince Albert, and Red Hawthornden. The first were dried as gathered from the tree; the three latter were small fruit only, or third size. The results were as follow:—

lb.		lb.	oz.	
8	fresh fruit, Cellini	gave	1 12	dried product.
10	„ New Hawthornden	„	2 8	„
10	„ Lane's Prince Albert	„	4 0	„
12	„ Red Hawthornden	„	4 0	„

The small fruit dried in from 7 to 12 hours; the larger fruit of the Cellini required about 18 hours. Those dried in 7 hours were subjected to a temperature of 220—250° F., the others were in a temperature of 180—200° F.

Apple Slices.—Eight varieties of apples were peeled, cored, and sliced. They were—Cellini, Bramley's Seedling, *Ecklinville, *Ringer, Lord Suffield, Lord Grosvenor, *Lane's Prince Albert, and *New Hawthornden. Those marked with an asterisk were small apples only; the others were large and small as gathered from the trees.

The best results were obtained from Bramley's Seedling, Lord Grosvenor, Lord Suffield, and Ringer, in their order of merit; followed in the same order by Cellini, New Hawthornden, Ecklinville, and Lane's Prince Albert. The average result obtained from the eight varieties gave 15 ounces of dried product from 11 pounds of fresh fruit. The weight of the dried article is misleading; because, although the above is the actual weight when the slices, etc., are removed from the evaporator, the dried product absorbs atmospheric

moisture, and in a few days the weight is considerably increased; but I have not taken note of the actual increase—much depending upon atmospheric conditions.

Pears.—Two varieties of pears were tried: Williams' Bon Chrétien and Beurré d'Amanlis. They were peeled by the peeling machine, and cut in halves and cored by hand. They dried in 9 hours in a temperature of 200—240°.

lb.		lb.	oz.
10	of fresh Beurré d'Amanlis	gave	2 0
20	,, Williams' Bon Chrétien ,,		3 10

Morello Cherries.—Six pounds of cherries were dried and gave 1 lb. 14 oz. of dried fruit. They dried in 12 hours in a temperature of 160—200°.

VEGETABLES AND HERBS

Potatoes.—Sharpe's Victor and Sutton's Ringleader were peeled and sliced, and dried in a temperature of 220—240° F. They lost about four-fifths of their weight in drying, and took an average of 5 hours in the process.

Cauliflower dried successfully, and may be of commercial value for export purposes, but unnecessary at home.

Runner or Kidney Beans.—The above were sliced by a slicing machine and then dried. Thirty pounds of beans gave 2½ pounds of the dried article when weighed immediately after drying; but these absorb atmospheric moisture in due course and increase in weight.

One portion dried in 4 hours in a temperature of 200—240°; the other portions were 6 hours drying in a temperature of 130—140°.

Herbs.—Parsley, sage, mint, thyme, savory, and

marjoram were dried. The sage and parsley retained their fresh colour, but the others became dull, as when dried in the ordinary way.

They were subjected to a temperature of 130—140° and dried in the times as below:—

Marjoram	dried in	45	minutes.
Mint	„	50	„
Savory	„	55	„
Thyme	„	60	„
Sage	„	75	„
Parsley	„	90	„

The lessons learned from the experiments are:—

1. Ripe fruit dries more quickly than unripe fruit: the latter being several hours longer in the process, and therefore more costly to produce.

2. Unripe fruit loses a larger percentage in weight during the drying process, and is not a good colour for its kind or variety when dried.

3. Large fruit of the respective kind or variety produces the finest dried article of the same variety or kind.

4. Small specimens of the same variety of fruit or vegetables dry more quickly than larger specimens.

5. Stone fruit, such as plums, cherries, etc., should be exposed to a low temperature at first for several hours, and have the temperature gradually increased as evaporation proceeds.

6. Apples and vegetables may be exposed at once to a moderately high temperature, and finished in a lower temperature.

7. Stone fruit should be placed on the trays with the stalk ends uppermost.

8. Fruit of equal size should be placed upon the same tray, and not small mixed with large fruit.

9. Apples and pears should be immersed in a weak

solution of salt and water *immediately* after peeling: one ounce of salt to three quarts of water; if left exposed to the air after being peeled they quickly go discoloured.

GENERAL REMARKS

I think there is a prospect of plum-drying becoming an industry in this country; and that in years of great abundance of fruit and of very low, or no, prices, the fruit may be dried and sold wholesale at remunerative prices. Clearly we have varieties which are at once prolific and suitable for drying: notably Monarch, Czar, Prince Englebert, White Perdrigon, and Victoria.

I think it is tolerably safe to say that each of the varieties mentioned is worth, for drying purposes, from 3s. per bushel upwards.

The operation of preparing and drying fruit and vegetables is soon learned by any intelligent man or woman; and I think it is labour well adapted for women.

If five shillings and upwards can be obtained per hundredweight for good apples, I think it will be best to sell them in the undried state. Perhaps small apples will pay for drying, and they might also be remunerative for making into jelly.

Although we have made jelly from the peelings and corings of apples and pears—that “nothing be wasted”—I fear that the balance would be on the wrong side of the ledger if a strict debtor and creditor account had been kept.

We have demonstrated that all kinds of vegetables may be dried successfully—from pot herbs to cauliflowers—but we have not tested them sufficiently extensively to be able to say if, or how far, they could be dried with commercial success.

I have tested the eating qualities of the second grade

Victoria plums (I thought if the second grade were good, the first grade would be better) after gentle stewing for thirty minutes, with the addition of a little lump sugar, and I was more than satisfied with their quality. They were clean and delicious, and superior to any French plums I have bought at any time at 6d. per pound retail. I selected the Victoria for the test, because it has been condemned as unsuitable for drying by a certain writer for the horticultural press; and because I know the better varieties can take care of themselves.

Although it may be admitted that—so far as our experiments have gone—the best varieties for drying at home are Monarch, Prince Englebert, and Czar, and that they now realise remunerative prices when sold undried, we cannot be certain that they will be so remunerative five years hence, or even three years hence.

Monarch and Czar are being extensively planted, and we may have such abundant supplies of these—and of others as good—in the near future, that the prices realised for them may fall to a comparatively unremunerative amount in the fresh state; then the grower may dry them, and profit thereby.

Samples of French and Californian dried plums have been bought at 10d. and 6d. per pound respectively, for comparison with the home-grown and home-dried plums, and the following are the results:—

Competent judges are agreed that in appearance—

The Monarch	surpasses the French	at 10d. per pound.
Prince Englebert	„ „ „	„ 6d. „
Victoria	} „ „ Californian	„ 6d. „
White Perdrigon		
Czar		

and that their quality in order of merit when stewed gently for 30 minutes is as follows:—

1, White Perdrigon; 2, Victoria; 3, French at 10d.

per pound; 4, Californian at 6d. per pound; 5. French at 6d. per pound; 6, Pershore.

The tenderness of the skins *before* stewing varied in the following order:—

1, French at 10d.; 2, Victoria; 3, Pershore; 4, White Perdrigon; 5, Californian and French at 6d.

Three Silver Medals and a Bronze Medal have been awarded to the samples of Dried Fruit and Vegetables by the Royal Horticultural Society, Birmingham and Midland Counties' Chrysanthemum, Fruit, and Floral Society, and the Tamworth Chrysanthemum and Fruit Society.

CHAPTER XIV

CIDER-MAKING AND THE NATIONAL CIDER INSTITUTE

WE have now come to the last chapter in the book. Having dealt with the preservation of fruit itself in so many different forms, it seems a fitting conclusion that the conservation of the *juice* of two particular fruits—viz. the apple and pear—into Cider and Perry, should also receive attention, if we aim at making the book complete.

There is no doubt that cider is becoming more widely known and appreciated every year, and the demand for good cider is an increasing one. The manufacture of this delightful beverage has been limited hitherto to a certain number of counties, such as Kent in the south-east; Devon, Cornwall, and Somerset in the west; and Gloucester, Worcester, and Hereford in the Midlands.

In these districts nearly every small holder, as well as the larger farmer, grows his cider apples, or has them on his holding, and regards them as a valuable asset. Sometimes he sells his crop right out to the dealer, who picks the fruit when ready; but if he can afford it, the more frugal man picks his own apples, and gets them ground at the nearest farmer's big mill, and makes it into cider himself, by collecting the juice and fermenting it, and in due course it becomes cider or perry, as the case may be. This drink serves instead of beer and thus saves the small holder's pocket, because allowing for time of picking, grinding, and making into cider, it

works out at under 4d. a gallon. Of course it is made in a rough and ready fashion, often without any attempt at cleanliness, either with regard to the appliances, mill vats, cider cloths, carts or waggons into which the fruit is pitched; or with any care to the selection of the apples or pears; they are picked and tumbled in any-how, along with leaves and dirt and decayed fruit, to which may also be added the dirt from the unwashed farm hands. Luckily, however, the pure air of the country, or some special preservative which seems to attend so much of our food supply, keeps the rampant town microbe in abeyance, and we drink this "dangerous" concoction with impunity, and congratulate ourselves on the certain knowledge that on a hot day nothing is more delightful than a "long drink" of cider. Added to this, there are the picturesque surroundings of Farm-house cider-making: the rick-yard, in which the cider-mill is often to be seen, is crowded with the rich harvest now gathered in (October is the usual month for cider-making); the monotonous grind of the mill itself, as the great cog-wheel revolves, with the aid of the staid old horse who plods round and round the circle, always carefully avoiding stumbling over the long shaft which cuts across his circumference, and propels the machinery, in the half dark shed wherein the mysterious operations are performed. Add to this the varied conveyances which bring the fruit to be ground, and the still more varied owners who stand about in the delicious warmth of a late September or October sun, with just a touch of autumn in the air, and a background of old stone barns and thatched roofs with colours which would delight a Morland, and you have the whole scene of rural cider-making. See illustration, "Cider Making in the Midlands."

But alas! "this is not business," as "business" is understood by the readers of the *Daily Mail* or in

the stress of twentieth century competition, This kind of cider is not good enough for trade and exportation, the quality is too uncertain, we must have it standardised and reliable, and the wine merchants and others must know what they are buying, because the public will know what they are drinking. Therefore to bring this desirable result about (because we know that British brains and industry can produce the finest possible article of any description if the brains and industry combine), there is even now (March 1907) an agitation on foot to secure a standard for pure cider, in the same way as dairy-farmers have secured official standards for milk and butter. So much inferior cider (so called) has been put upon the market by unscrupulous people, who simply make up decoctions of nasty stuff, from which the juice of the apple is often entirely absent, that the trade is being damaged. This is all the more to be regretted, because, as pointed out in the *Midland Herald*, "The cider-making industry is worth encouragement. Its tendency to-day is towards expansion, for there is probably more cider drunk in the great cities to-day than ever before, and only lately the makers of the West have found a new and promising market for the best of their produce in the Low Countries, where cider is regarded in the light of wine, and those who drink it are prepared to pay ordinary Continental wine prices for such as suits their taste."

This being so, another important part of the problem is to encourage the making of only high-class cider and perry, and to accomplish this we have the aid of the National Cider Institute at Long Ashton, near Bristol.

To this we shall return almost immediately, but before doing so it is necessary to mention that a third difficulty which checks the progress of this important industry is the heavy cost of the transit of cider by the railways. This matter formed the subject of a recent

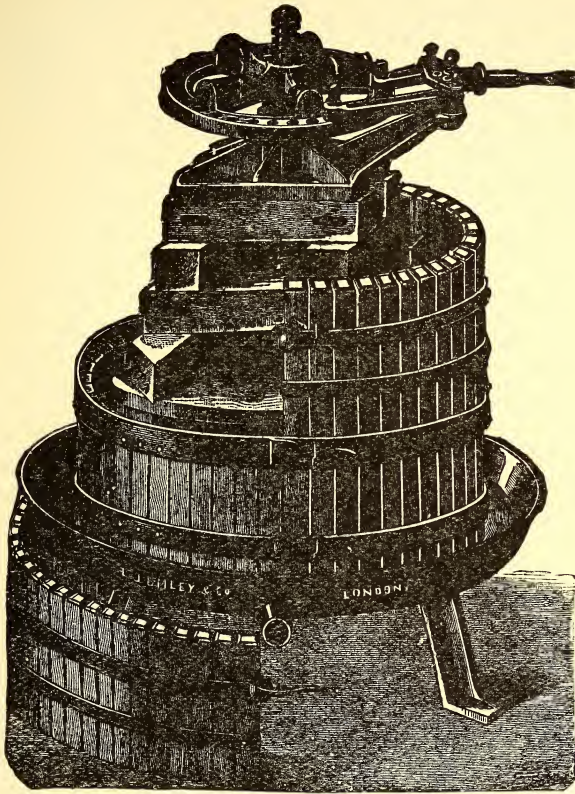
conference between representatives of the National Association of English Cider-makers and the Board of Trade.

Without attempting to enter at length into the different causes at work which led to the founding of the National Cider Institute, we may say briefly that it was due to the energy and private enterprise of certain well-known cider-makers, amongst others, Mr Neville-Grenville of Butleigh Court, Somerset, that cider-making as an industry was raised from the very low level to which it had fallen. Mr Neville-Grenville, in 1890, purchased the cider press and mill which had been used for cider-making trials by the Royal Agricultural Society at their meeting at Plymouth that year. He had these set up at Butleigh, and proceeded to make cider on improved methods. Four years later, 1894, the Bath and West of England Society took the matter up seriously, and supplied the scientific information required in the experiments which were being carried on at Butleigh. A little later the Board of Agriculture made a grant of £100 a year to the Bath and West, to assist in carrying on this important work, and after ten years' valuable experience in this industry, the following counties combined and founded a National Cider Institute at Long Ashton, near Bristol.

Devon County Council	}	With the Board of Agriculture and the Bath and West and Southern Counties Society.
Gloucester ,,		
Hereford ,,		
Monmouthshire ,,		
Somerset ,,		
Worcestershire ,,		

To make good cider, it is necessary to have the best kinds of good fruit, in exactly the right state of ripeness. This seems quite simple, but in point of fact it is very difficult, because the culture of the cider apple has been

sadly neglected of late years, and little attention has been paid to the varieties planted; added to which, in



IMPROVED "INVICTA" CIDER AND WINE PRESS, £4, 15s. TO £150,
ACCORDING TO CAPACITY

each county the same apple is known under a different name. It has been a work of great difficulty to get any standard of uniformity, or to ascertain the best varieties of apples which yield the highest amount of

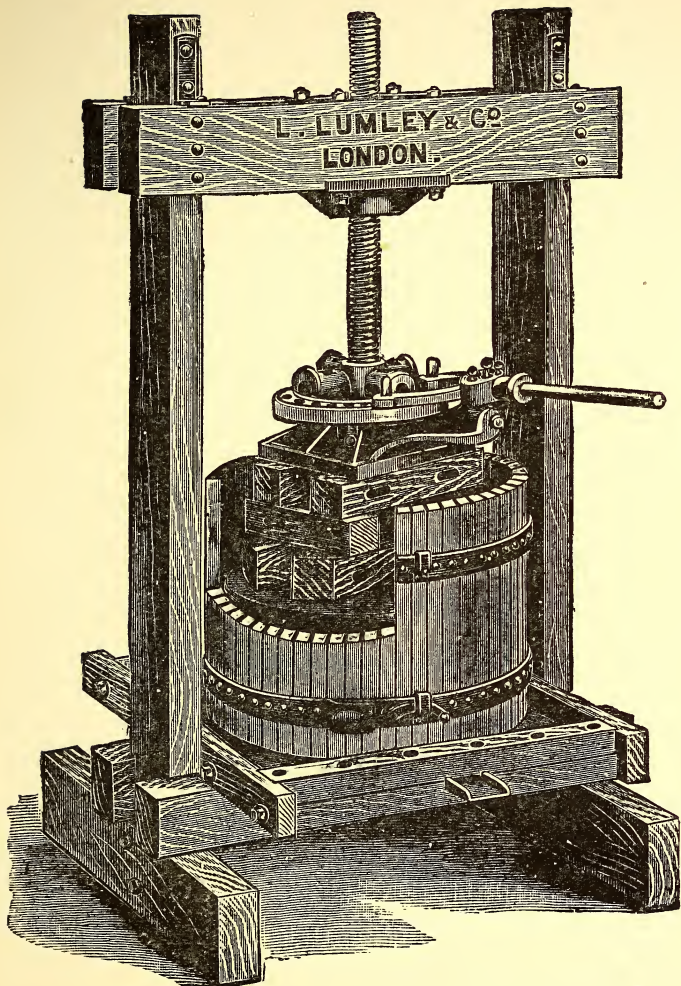
sugar in their extracted juice. It is this which is engaging the attention of the Cider Institute, as it is part of its work, and a most important one.

A valuable paper entitled "Hints on Cider-Making," by R. Neville-Grenville, reprinted from the *Royal Agricultural Society's Journal*, gives some very practical advice on Cider-making.

First, the apples must be ripe before they can be ground, and, if picked before, they must be *stored* till ready, not left in heaps in the orchard, exposed to weather and birds, and especially should they be dry and clean and free from rotten apples, leaves, and twigs.

[This seems so obviously desirable and necessary, that it is extraordinary to have to insist upon it; but, in point of fact, farmers are extremely careless in letting all sorts of refuse get in with the fruit, and as likely as not be ground with it.]

The fruit when ready is ground in a mill into what is called a "cheese." (Two illustrations (pp. 79 and 81) of hand mills and presses are given, taken from Messrs Lumley's Catalogue.) At the Institute a very powerful American mill and press have been erected, and in order to facilitate the "feeding" of the mill, the fruit is stored in bags in a loft above the press, which is on the ground level. The hopper which feeds the mill is let into the floor of the loft, the top of the hopper being level with the floor; this makes it easy to shovel in the apples (with a wooden shovel), which are spread out on the floor as each bag is opened. The mill grinds the apples into pulp before the extended canvas channel of the hopper reaches the press. Cider cloths are spread over the press, and, as the pulp descends, it is spread all over the surface covered by the cloth to a depth of about three inches. Then the layer is covered over with the ends of the cloth, which is hung cornerwise over the press, a heavy board is placed upon the covered-up



THE "GNOM" CIDER AND WINE PRESS, £8, 10S. TO £100,
ACCORDING TO CAPACITY

layer of fruit, and another cloth spread to receive more pulp. When the requisite number of layers are complete, very great pressure is applied, the juice falls into a vat below, and is conducted by a wooden trough, let into the floor, into slate tanks sunk into the floor of the cider-room, and from these tanks it is pumped into the "keeves"¹ in the keeing-room. When the keeing operations are complete and the frothy head which has risen shows signs of cracking, the juice is racked or pumped from the keeves into barrels placed in the cider-cellar, and here the process of fermentation goes on, and when complete the cask is bunged down lightly. The process of fermentation is that which converts the original apple juice into mature cider. In Leaflet No. 1, published by the National Cider Institute, the process of Alcoholic Fermentation is fully and lucidly described, and to it we would refer our readers for information, only quoting one paragraph to explain what is meant by Alcoholic Fermentation.

"Alcoholic Fermentation," says Mr B. T. P. Barker (Resident Director), "is the result of the action of certain living organisms or germs, called yeasts, on the sugar contained in the apple juice. Yeasts find their way into the juice from various sources: many, for example, being found attached to the skins of apples and being washed off into the juice at the time of grinding and pressing the fruit, while some are always present in the atmosphere of cider-making premises and attached to appliances used for cider-making. . . . As the sugar disappears and the sweetness is lost, alcohol is formed in its place and carbonic acid gas is given off from the liquid in the form of small gas bubbles. This, then, is the change which occurs in apple juice during the course of fermentation."

During this process the hydrometer should be

¹ Keeves = vats or pipes with the heads taken out.

frequently used to test the specific gravity of the cider. When it is between 1.030 and 1.020, Mr Neville-Grenville considers it should be filtered. From the filter it is pumped into barrels and bunged down, when the manufacture of the cider may be considered complete.

These same principles of cider-making are carried out in the rough by farmers and others in the rural manufacture of this article, with the exception of filtering, which is not usually done.

As Mr Neville-Grenville remarks, although great strides have been made in the manufacture of cider, much still remains to be done, as it is highly scientific work, and requires so many special appliances and conditions that the average farmer, with all the other calls upon his time, cannot hope to be conspicuously successful. Since Mr Grenville published his article, the National Cider Institute has been founded, and it certainly seems under its enthusiastic and able Director, Mr Barker, to have a splendid record of work, and practical, as well as scientific, usefulness, as the result of its three years' existence.

We hope that it may lead to a more careful selection of the varieties of cider apples for cultivation, and to the general production of a higher and better class of cider, with co-operative factories fitted with the best appliances for its production.

ADDENDA

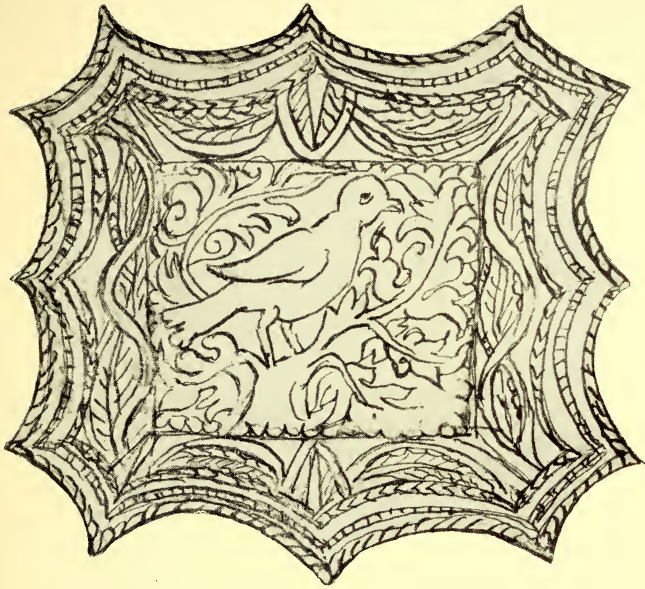
“ Oh ! Who can tell the hidden power of Herbes,
And might of magic spel ? ”—SPENSER.

OF ANCIENT RECIPES AND OLD-WORLD CURES

BY BLANCHE F. COLLIER

(Reprinted by permission from “ The Woman’s Agricultural Times,” January 1905)

I AM a lover of old customs and practices of long past times. Freely I admit that they are often sadly unsuited to modern methods and manners. Of many it may be truly said that, though they had charm and uses too in the olden days, they would be quite hopelessly unfit and ridiculously inadequate if reinstated and generally accepted in the present day. Apart from that reasonable contention, it may be asked what temptation or what leisure have, for instance, our intellectual and highly-educated women of the twentieth century to cultivate such a study as that which was common to the housewife of bygone centuries of the properties of herbs, their collection, classification, and the manufacture of numerous curative or store-house recipes, with the patient research and experiments as to the virtue of mixtures and decoctions for use in minor ailments. Nor can one expect that the wife and daughters of the county magnate or the country squire, or even of the ordinary gentry of the suburban districts, should go out into the fields and the highways and byways of the country-



A LAMB PASTY, AS SERVED ABOUT 1730

side to gather specimens of the common vegetation and the wild flowers and grasses for examination, or with a view to discover their hidden merits. No doubt it would be waste of time now that the spread of knowledge has invaded the most out-of-the-way neighbourhood. There is, too, the ubiquitous doctor at hand with his advice and his remedies for every occasion; and every village has its store, where we can get our sweets, our scents, our pickles and preserves ready made; and the ready means of locomotion, the restless coming and going in all parts from city to country, has rendered the old solitude of provincial life altogether a thing of the past—so there is no longer any need for these legitimate occupations of the gentlewomen who were extolled as good housewives and ornaments of their sex in the old homes of long ago. The leisurely existence which would now be looked on contemptuously as vegetating in country tedium, afforded the requisite time and opportunities for exercising the taste inherent in womankind for the culture of flowers, for the delicate manipulation of plants, and the making of various decoctions, and compiling notes and descriptions of their use. Botany could be studied, the neighbourhood could be searched for specimens, and such medical knowledge as was attainable could be called into requisition, so that often the Lady Bountiful of the country seat was also practically the doctor for the countryside: and who shall say that her simple remedies were not frequently efficacious, and sometimes certainly less harmful than the more scientific and experimental methods of these later days? It is indeed not entirely a cause for satisfaction that the study of the medicinal properties of herbs has gone out of fashion, or that the more general use of them for purposes of food and household stuff is much neglected, if not despised. Yet even now in some ancient dwellings, where family traditions linger,

one occasionally comes across an old recipe still in use, or the fragrance of perfume compounded according to an old formula, a syrup or a sweetly tasting wine, even perhaps a potent liquor, warranted home made. There we may meet an old house-keeper still willing to descant on some curative mixture, of the ingredients of which she alone has the secret. But these survivals are but far-off echoes of what once were the customary duties and habits of gentlewomen, and no one would propose to recommend a return to such dull and uninteresting occupations. I confess, however, that I nourish a sort of sentimental regret for some of these old forgotten pursuits. These reflections, indeed, I have here indulged in, by way of an introduction to some specimens of cures and recipes of past days which have come to my notice, and some of which are certainly more curious from an antiquarian point of view than practical or useful, even in their own times, except in so far as they were garnished with that delightful all-pervading mediæval quality of faith which one may almost assever had such an influence that it did indeed lend a wondrous efficacy to the most unpromising and apparently incongruous cures, both for mind and body; while the simpler recipes of a later age, when miracles had ceased in the land, are at least as curious in their way, representing as they do an outcome of the patience and practical efforts of successive generations of our ancestors who, while looking on the vanished age of faith as a period of vain superstition, were themselves the credulous supporters of the traditional virtues of their various concoctions and remedies. The old folk's cures and the mediæval charms and panaceas are now alike discarded as futile, and superseded by patent medicines and scientific methods of treatment; while scents and preserves, pickles and sweetmeats, are manufactured by the gross on modern principles, and the individual must

not expect anything distinctive to suit his particular taste.

Having now prepared the way by a somewhat discursive preamble, I will, without further delay, proceed to put down verbatim a few selections from my "Copies of Ancient Cures and later Recipes." The first on my list is a cure entitled

"A DRINK FOR A FIEND-SICK MAN.

(To be drunk out of a church-bell.)

"Githrife, cynoglomuny, yarrow, lupin, betony, altorloltie, carsock, flower de luce, fennel, church lichen, lichen of Christ's mark or cross-lovage. Work up the drink off clear ale. Sing seven masses over the worts, add garlic and holy water, and drip the drink into every drink which he will subsequently drink, and let him say the Psalms, 'Beati immaculati' and 'Excurgat,' and 'Salvum me fac, Deus,' and then let the Mass the drink out of a church-bell, and let the Mass priest, after the drink, sing over him, 'Domine, Sancti Pater Omnipotens.'"

Note.—The above is copied from an ancient black letter fifteenth-century volume in the Bodleian Library at Oxford.

The second specimen from the same work is as follows:—

"AGAINST MENTAL VACANCY AND AGAINST FOLLY.

"Put into ale Bishop's wort, lupins, betony, the Southern or Italian fennel, nepti, water agrimony, corble-march. Then let the man drink."

(3)

“RECIPES AGAINST THE DEVIL.

“A little drink against the Devil and dementedness.

“Put into ale carsuck, roots of lupin, fennel, autre betony, hendreal, marshe rue, elfthone, wolf’s comb. Ring twelve masses over the drink, and let the man drink; it will soon be well with him.” (We will hope it was!)

4, 5, and 6 are—

(4)

“VARIOUS DEVICES AGAINST THE DEVIL AND
OVERLOOKING.

“If a man or hag ride a man, take lupins and garlic and betony and frankincense; bind them on a faun’s skin. Let a man have it put on him, and let him go to his home.”

(5)

“A DRINK AGAINST TEMPTATIONS OF THE DEVIL.

“Tufty thorn, croleek, lupin, ontre, bishop’s wort, fennel, cassuck, betony, hallow tree’s wort. Put into some ale some holy water, and let the drink be in the same chamber as the sick man, and constantly before he drinketh, sing over the drink: ‘Deus, in nomine tuo, Salvum me fac.’”

(6)

The last I shall quote of these quasi-charm cures is too long to insert in full. It is called “A Charm Against Elf’s Disease,” and ends with the following advice:—

“If it listeth thee not to take the trouble thyself, let

the man himself or whosoever be nearest, give to him to do it; and let him cross himself as well as he can. This craft is powerful against every temptation of the Devil."

(It also appears a conveniently vicarious alternative, handy for avoiding a lengthy process of preparation and religious exercises.)

It may appear that the above specimens are mainly concerned with mental or spiritual disorders, but in the so-called age of faith, when sickness and accidents were generally attributed either to the agency of the Devil and witchcraft, or else accounted as punishments for sin, it was natural to seek relief by a judicious mixture of reputed medicinal remedies combined with due appeals to heaven through the recognised channels as prescribed by the authority of Church and tradition. The recipe following is taken from the same ancient book, and also partakes of the nature of a charm, although the object is not the cure of disease, but

“FOR CATCHING A SWARM OF BEES.

“Take some earth, throw it with thy right hand under thy right foot, and say, ‘I am trying what earth avails for everything in the world against spite and against malice, and against the mickle tongue of man, and against displeasure.’ Throw over them (the bees) some gravel when they swarm, and say, ‘Sit ye my ladies. Sink, sink ye to earth down. Never be so wild as to the wood to fly. Be ye mindful of my good as every man is of meat and estate.’”

A word of advice is added: “Against the loss of bees. Put a plant of madder on thy hive, then no man will be able to steal them while the plant is on the hive.”

The next authority I shall quote is a learned work, called the “*Epulario*, or the Italian *Bouquet*,” printed in

London, A.D. 1598. The author extols the virtues of a drink much in vogue and known as Aqua Composita. This most famous mixture was invented by Dr Stevens, and commonly called Dr S.'s Imperial Sovereign Water. Dr S. is said to have preserved his own life with this water, "untill such extreame age, that he could neither goe nor ride, and he continued his life, being bed-rid for five years. Also the Archbishop of Canterbury used it, and found such goodnesse in it that he lived till he was not able to drink of a cup, but sucked his drink through a hollow pipe of silver." To learn the ingredients of this notable drink we are referred to the "Treasury of Commodious Conceits," printed in London, 1586, where we find they are as follows:—

"A gallon of gascoign wine, with an infusion of ginger, galingale, camomile, cinnamon, nutmegs, grains, cloves, mace, anise seeds, fennel seeds, caraway seeds." Unfortunately the proportion of each ingredient is not stated, but the effect of the mixture is represented as "almost miraculous." The recipe seems to have been of enduring fame. It is copied in a book called the "Accomplished Lady's Delight," which was published as late as 1684, and in an earlier edition of that work (1654) we learn that from this water may be made usquebah or Irish aquavitæ, by adding certain things to it.

To revert to that valuable work, the "Treasury of Commodious Conceits," we will note therein a much-esteemed recipe for the making of a very efficacious specific called "Manus Christi," which seems usually to have been made up in the form of lozenges. In the Privy Purse expenses of the Princess Mary Tudor there is an entry for payment of seven shillings (a large sum at that time) for a "Boxe of Manus Christi." Its use also is noticed by Carew in his "Survey of Cornwall," 1603, showing to what a distance the fame of this

compound or "cordial," as he terms it, had reached at that date. The recipe runs as follows:—

"Take halfe a pounce of white sugar, put thereto four ounces of rose water, see the them upon a soft fire of coales until the water be consumed and the sugar is become hard, then put therein a quater of an ounce of ye powder of pearls, stir them well together, put for every spoonfull a piece of golde, cut of purpose, cast them upon a leaf of white paper, anointed first with oile of sweet almondes or sweet butter for cleaning [clinging?] to."

In a book of much later date, "A Closet for Ladies," 1654, the same recipe is copied, but the compiler adds, "Cast it (on the paper) with art, that is in round goblets, and so keep them." "The Good Huswife's Jewele," 1596, had already varied or amplified the first recipe, and directs that the composition should be made into cakes and gilded. Expense was, therefore, not spared to ensure efficacy, and the virtues of the preparation were supposed to be well worth the cost. "The Widdowe's Treasure" (Black Letter), 1595, advises "To eate a morninges the yolke of an egg with 'Manus Christi,' to preserve health." Already at this period experiments in practical methods seem to supersede the charms and invocations of the preceding centuries.

A work which greatly impressed contemporaries when published, and which has been much quoted and appreciated for its information and knowledge displayed, is "Gerrard's Herbal or History of Plants." This fine book, published late in the sixteenth century, is a perfect mine of curious and valuable research, and is much admired and studied by antiquaries and botanists even now. Some of the matter introduced is certainly archaic, and he quotes the dictums of ancient authorities with more respect than modern scientists would be disposed

to allot to them, but much may still be learnt by dipping into his voluminous pages. And I cannot resist copying one or two specimens here, even though they may be known to many readers. Amongst many quaint recipes cited there is one headed, "Cucumber as a Wash for the Face," to be prepared as follows:—"The fruit cut in pieces or chopped as herbes to the pot; and boiled in a small pipkin with a piece of mutton, being made into a pottage, with otemeal even as herbes pottage are made, of which a messe eaten to breakfast, as much to dinner, and the light to supper, taken in this manner for the space of three weeks together without intermission, doth perfectly cure all manner of phlegme, and copper face, red and shining noses (as red as roses), with pimples, pumples, rubies, and such like precious faces. Provided always that during the time of curing you doe use to wash or bathe the face with the liquor following. Take a pint of strong white wine vinegar, powder of the roots of Irros or Orrice three dragms, stamped with two blanched almonds, foure lemons. Put them all together in a strong double glasse, shake them together for the space of ten daies, setting the same in the sunne, with which let the face be washed and bathed daily, suffering it to drie of itself, without wiping it away. † This doth not only helpe fiery faces, but also taketh away lentils spots, morphew, sunburne, and all other deformities of the face."

Another specimen from the same author is a description of "Solomon's Seale and its Virtues," and reads as follows:—"The roots of ye seale, as Galen saith, have (saith he) a certain kind of astriction or binding and biting withall; and likewise a certain loathsome bitterness as the same author affirmeth, which is not to be found in those that do grow in our climate. Dioscorides writeth that the roots are excellent good for to seale or close up grievous wounds, being stamped and laid thereon. Whereupon it was called 'Sigillum Solomonis' of



FOR TART OR PASTY



A FLORENTINE TART



A FLORENTINE PASTY

the singular virtue that it hath in sealing or healing up wounds, broken bones, and such like. Some have thought it took the name *Sigillum* of the marks upon the roots, but the first reason seems to be more probable. The root of Solomon's Seale, stamped while it is fresh and green, and applied, taketh away in one night or two at the most, any bruise, black or blue spots gotten by falls, or women's wilfullnesse, in stumbling on their hasty husband's fists or such like. That which might be written of this herbe as knitting of bones, and that truly would seem to some incredible, but common experience teacheth that there is not to be found another herbe comparable to it for the purposes aforesaid. Matthiolas teacheth that a water is drawne out of the roots wherewith the women of Italy use to scoure their faces from sun-burnnes and freckles with good success. Galen saith that neither root nor herbe thereof is to be given inwardly; but mark what experience hath found out and of late daies among the vulgar sort of people in Hampshire, which Galen, Dioscorides, or any other that have written of plants have not so much as dreamt of, which is 'That if any, of what age or sex soever; chance to have any bones broken in any part whatsoever of their bodies, their refuge is to stampe the roots thereof and give it to the patient in ale to drinke, which sodereth and glues together the bones in very short space and very strongly. Yea, though the bones be but slenderly and unhandsomely placed and wrapped. Moreover, the said people do give it in like manner to their cattle with good success, which they do also stampe and apply outwardly in manner of poultices as well unto themselves as their cattle.' "

So much for John Gerrard's Herbal, 1597, which will well repay examination on its merits, and the illustrations are quite delightful to the eye, and wonderfully correct and minute in detail.

But I must not linger, or I should like to introduce some further quotations out of another old Herbal in my possession, and which gives some quite practical suggestions purporting to be "proved by experience." This book is called the "Useful Family Herbal," and is intended for the "use of families and all who are desirous of relieving the distressed sick." It is of a later date than the works hitherto cited, being apparently early eighteenth century. However, some of the cures prescribed in its pages would rather surprise, not to say alarm, most patients at the present time.

I think, however, I shall better employ the remaining space at my disposal by the description and recipes for a few of the popular dishes favoured by our forefathers, and of which I have been able to procure illustrations from a contemporary authority. I shall, therefore, leave the wide topic of ancient preserving and the various examples of scent and powder-making to descant upon when another occasion arises. It is difficult to know where to start when one turns to the multifarious recipes of the worthy housewife for her kitchen department. A selection from the pie and pasty recipes must suffice. The covers or lids of these ornamental dishes must have entailed an amount of patience and artistic taste in design which may seem somewhat misdirected, but at least lends itself to pictorial effect, and must have given an imposing appearance to the dinner table and sideboard of the period. Much ingenuity must have been expended, and a deft hand required in turning these really dainty dishes out, if they were indeed as perfect in form and symmetry as the examples shown in a work called the "Whole Duty of a Woman, or an Infallible Guide to the Fair Sex." This book purports to give directions "how to obtain all useful and fashionable accomplishments suitable to the sex," which, it must be observed, are, in fact, "good housewifery, particularly rules and receipts in every

kind of cookery." There are many French names introduced, though applied, it seems, to very English dishes. To quote one, of which the cover is represented with the design of a bird, but which is described as a "sweet Lamb Pasty," the recipe is as follows:—"After cutting your lamb in pieces, season it with a little salt, cloves, mace, and nutmeg. Your pie being made, put in your lamb, strew on it some stoned raisins, currants, and some sugar, then lay on it some forced meat balls made sweet, and in the summer some artichoke bottoms boiled, and scalded grapes in winter. Boil Spanish potatoes, cut in pieces, candy'd citron, candy'd orange peel and lemon peel, and three or four large blades of mace; put butter on the top; close up your pie and bake it. Make the caudle of white wine, juice of lemon, and sugar; thicken it up with the yolks of two or three eggs and a bit of butter; and when your pie is baked pour in the caudle as hot as you can, and shake it well in the pie, and serve it up."

Next to the above may be cited a "Venison Pasty." The cover shows a graphic representation of a stag with well-developed antlers, and a fine conventional decoration of some quite uncommon forest shrub surrounding him. The recipe runs as follows:—"Lay down half a peck of flour, put to it four pounds of butter; beat eight eggs, and make the paste with warm water; bone the venison, break the bones, season them with salt and pepper, and boil them. With this fill up the pasty when it comes out of the oven. Take a pound of beef suet, cut it into long slices, strew pepper and salt upon it; lay the venison in, seasoned pretty high, with salt and black pepper bruised, set the pudding crust round the inside of the pasty, and put in about three-quarters of a pint of water. Lay on a layer of fresh butter, and cover it. When it comes out of the oven pour in the liquor you have made of the bones boiled, and shake all

well together." This is indeed a pie to set before a king! However, for size and quantity, if not quality, the Christmas pie noted in the *Newcastle Chronicle* of January 6, 1770, certainly beats the record, and is truly called a "very great curiosity." It was made by Mrs Dorothy Patterson, housekeeper at Howick, in the North Country. It was near nine feet in circumference, "weighs twelve stone, takes two men to carry to table, is fitted in a case on four small wheels, to move round the table." The contents are catalogued, viz., "two bushels of flour, twenty pounds of butter, four geese, two turkeys, two rabbits, four wild ducks, two woodcocks, six snipes, and four partridges; two neat's-tongues, two curlews, seven blackbirds, and six pigeons." How all this was prepared and cooked is not stated. The pie was brought from Howick to Berwick to be shipped for London, to appear at the table of Sir Henry Grey, Bart.

I have no space to give the recipes for dressing a "Pig au Pere-douillet," or "En Malelote," nor may I describe the manner of preparing "Pullets à la Sainte Menehout," and I must pass over various "Surprise Dishes," and even refrain from mentioning how that you may make a "Fat Lamb of a Pig." These recipes and many others are to be learnt by practising according to the precepts of the "Whole Duty of Woman."

I must, however, insert some recipes for the famous "Florendines Tarts and Pasties," much in vogue two hundred years ago, and indeed quoted as "palatable confections" for Christmas and other entertainments as late as the opening of the nineteenth century. Some of the "Florendines" contained Scotch collops, oysters, or other savories. Others were of the nature of "Sweets." A "Florendine" of a kidney of veal is made after this manner: "You must take a kidney of veal, fat and all, with a little spinach, parsley and lettuce, three pippins,



A GAME PASTY, 1735



A WILD BOAR PIE, AS SERVED IN 1737

and some orange peel, season with spice and sugar; put in a good handful of currants, two or three grated biskits, canary or orange flower water, and two or three eggs; mix them well together, put them into a dish with cover of paste, lay on the lid and garnish the rim." An "Apple Florendine" consisted of an immensely large dish, filled with baking apples, sugar, and lemon to the very brim, with rich paste covering, pie fashion. When baked, before serving up, the "upper crust" or "lid" was taken off by a "skilful hand, divided into portions or shares, to be again returned to the dish, ranged around, by way of garnish, when, to complete the mess, a full quart of well-spiced ale was poured in 'hissing hot.'" This ancient dainty was prepared for many a Christmas board as a prelude to the popular "snap-dragon." We have also a "Florendine of Rice," made very carefully, as per recipe, viz. :—

"Boil half a pound of rice in fair water till it is very tender, then put in a quart of milk or cream, boil till thick, and season it with sweet spice and sugar; beat eight eggs very well and mix with it. Add to it half a pound of currants, half a pound of butter, and the marrow of two bones, three grated biskits, sack and orange flower water. Having covered your dish with paste, put in your mixture and bake it."

I must here bring my quotations to an end, having already, I believe, exceeded the limits of space allotted to my paper, though I have not touched on many and various topics of interest connected with my subject, some of which would perhaps be more worthy of attention than the antiquated specimens here recorded.

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