

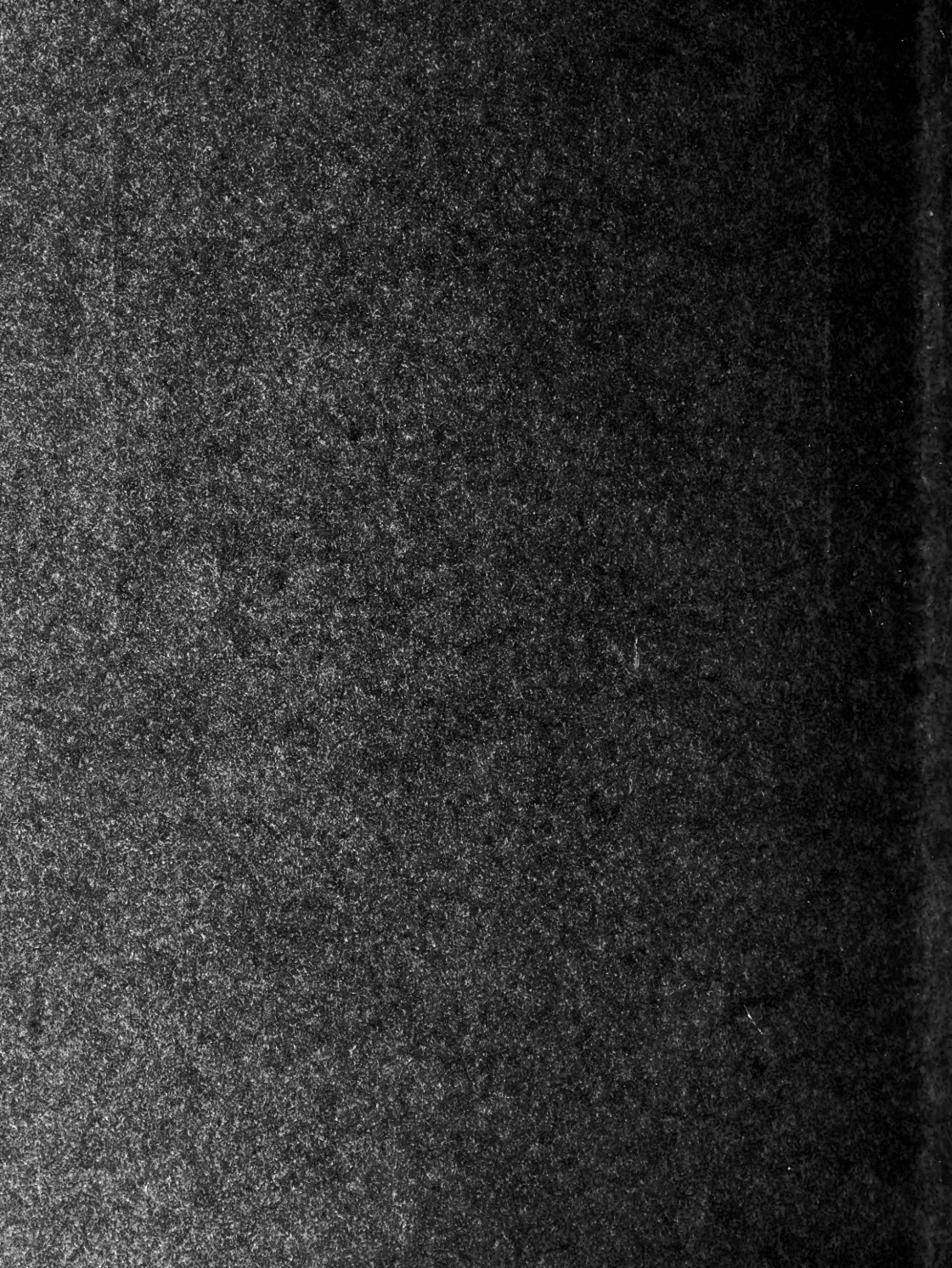
K 609

5

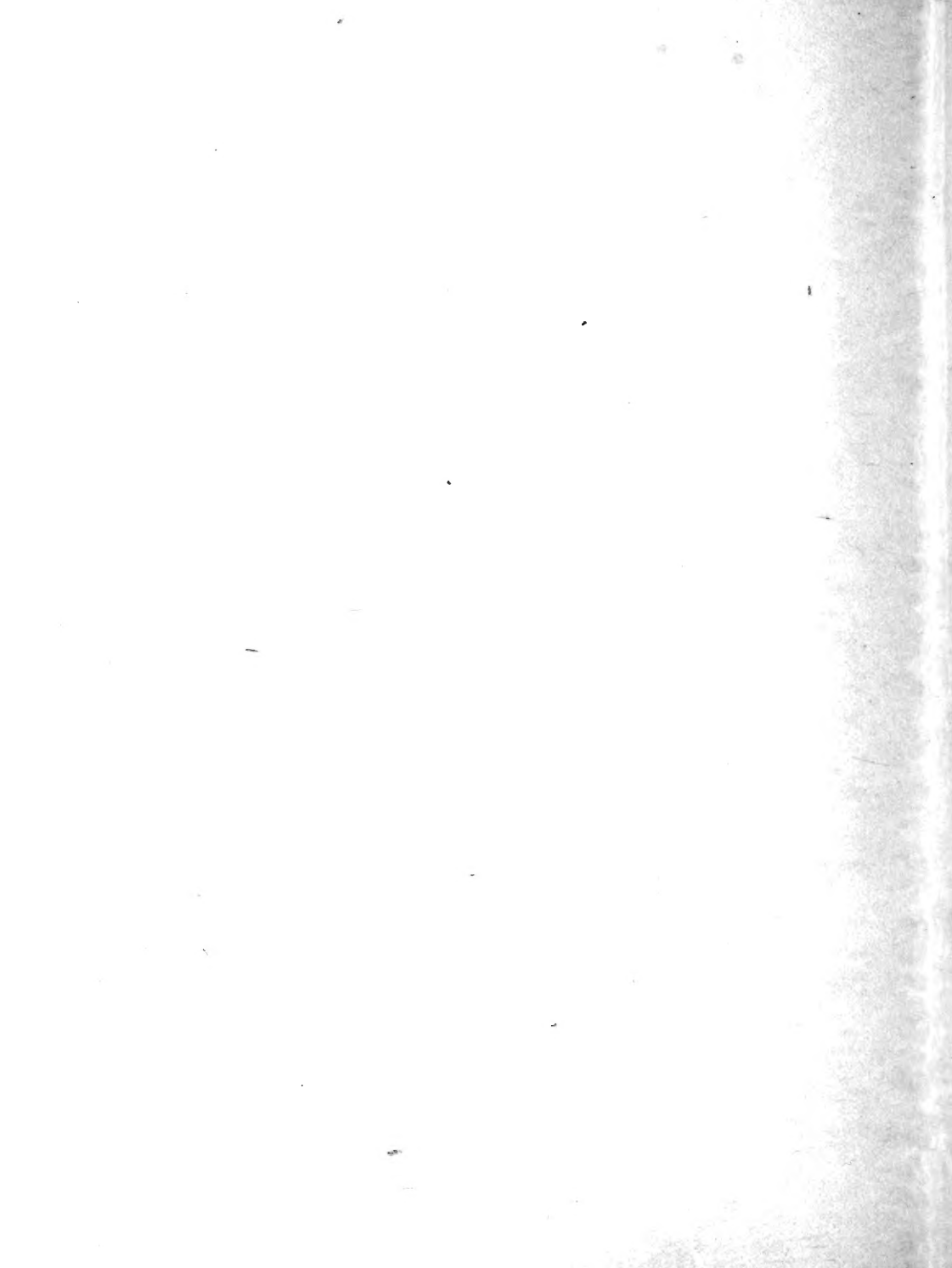
py 1

Dried Fruit

**Its Care, Protection from
Worms, Packing,
Storing, Etc.**







DRIED FRUIT

==== Its Care =====

Protection From Worms
Packing, Storing, Etc.

By CHAS. PHELAN

Entered according to Act of Congress in the Year Nineteen
Hundred and Two in the Office of the Librarian
of Congress at Washington.

PHELAN & CO., PUBLISHERS
SEATTLE, WASH.

TX609
.P5

LIBRARY of CONGRESS
Two Copies Received
JAN 2 1904
Copyright Entry
CLASS a XXc. No.
30954
COPY B

MADE IN
CHINA

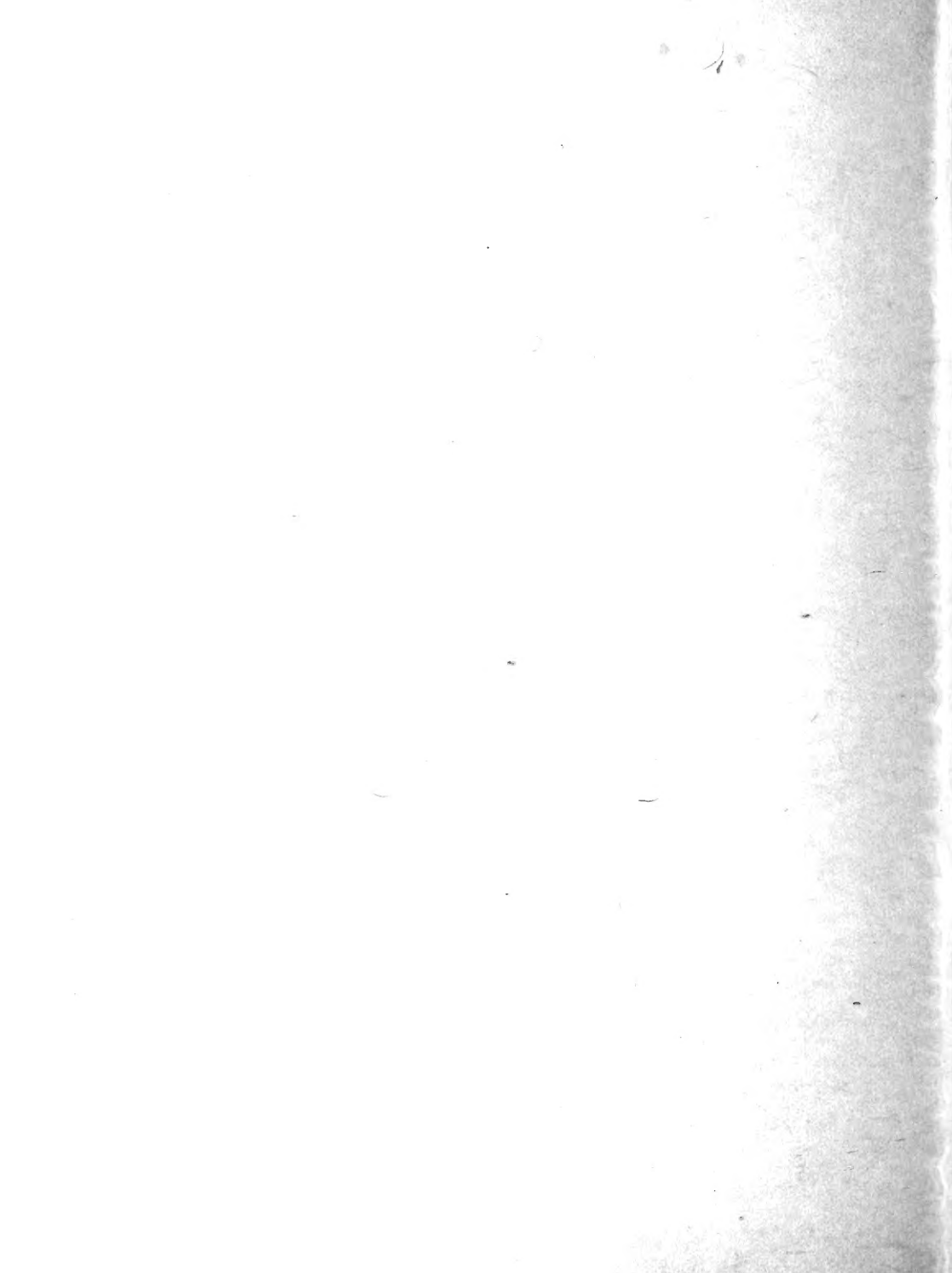
PREFACE.

The material embodied in this treatise was prepared and arranged with a view of supplying a long-felt want in the dried fruit business. For the past five years I have made experiments from information gathered from various sources. A considerable amount of labor and capital has been expended in the undertaking. In the dip formulas that I give I have selected nine, which will be found sufficient for treating all varieties of dried fruit; and the utensils, implements, etc., will be found all that is necessary to do the work. If the directions given be judiciously followed, profit will take the place of the loss being daily entailed by a lack of knowledge. It is an acknowledged fact by all the whole sale grocery houses that the dried fruit department is one of their most profitable lines, and why so little interest has been manifested toward improving its methods of cleaning, renovating, packing, etc., is hardly to be understood.

As to the implements and machinery herein illustrated, they are all of very simple construction and can be easily manufactured by an ordinary mechanic from the sketches shown.

In addition to this the book also embodies the benefits of my twenty-five years of practical work in the fruit room.

THE AUTHOR.



BUYING

In these days of shrewd business practices and keen competition, all purchases should be carefully examined, weighed and counted.

If the fruit is bought on sample, see that it is fully up to expectation. If not, report promptly to proper department for claim and adjustment.

Never make a claim unless perfectly just, and then insist upon a settlement accordingly.

Number each lot as received, keeping a book for that purpose. Enter number of sacks or boxes, weights, costs, etc. This will be of valuable service to you when taking inventory.

Consignments should be kept in a like manner, but not mixed in general stock until so taken. In receiving fruit, never undertake to examine same in the dark or by artificial light. Always do this in clear daylight or you may be disappointed. The same will apply to samples on contemplated purchases.

CARE OF STOCK.

One in charge of Dried Fruit Department should be ever watchful of its condition. Examine your stock about once a week, see that none of the fruit is heating or spoiling. Fruit improperly cured, or that has been dampened too much will do this sometimes and cause considerable damage and loss if not detected in time.

Separate any that may be found in bad condition and attend to it promptly according to directions given further on. Make a memorandum of such article, that may be getting low and report to buyer that your stock may be replenished in due time. It's a bad thing to be out of certain lines and forwarding orders, when a little care would avoid it.

Never allow accumulation of odds and ends, and always work off all old stock before starting in on the new. You can do this by mixing in small proportions as you work along.

A WORD TO THE MANAGEMENT.

In the course of my twenty-five years experience in the Dried Fruit room, all sorts of inconveniences have been encountered, and among them has been a want of knowledge on part of the manage-

ment of what was to be done, what was being done, and the help necessary to do it.

Sometimes a lot of fruit may be received that needs immediate attention, and if your fruit packer be too busy otherwise, the necessary help should be promptly furnished and the matter attended to at once. If this is neglected, the packer will no doubt do the best he can single handed, but a loss to the house will surely accrue.

CARE OF FRUIT ROOM, STORING, ETC

Floor space where work is done should be kept perfectly clean, and scrubbed out not less than once a week.

Fruit room should be well ventilated and have plenty light. It is a grave mistake to keep your fruit room darkened. Moths which lay the larva that creates the fruit worm do their mischief at night, and will be found in abundance at their nefarious work in secluded dark corners of the room. Such being the case, it becomes plainly apparent that in storing the fruit it should be so arranged as to throw the rays of light throughout the room, leaving no dark corners.

At beginning of season when getting ready to stock up, the floor where you intend storing your fruit should be scrubbed

out thoroughly, and a little lime sprinkled over it.

Never pile your fruit up against damp walls, or near a damp draught. Fruit absorbs moisture very readily and will become mildewed in a short time where these conditions exist. For protection against walls, use 1x3 scantlings 6 feet long and 12 to 15 inches apart; nail these about 3 inches from the walls which will allow ample space for free circulation of air.

The room should never be heated over 70 or 80 degrees or your loss in evaporation will be considerable.

GETTING FRUIT READY FOR RENOVATING.

The Following Applies to all Varieties.

In order that the dip or steam may have effect to all parts of the fruit, lumps and pieces gummed together must be broken up and separated.

This is important from the fact that the moth in laying the egg or larva that produces the fruit worm invariably deposits the same where it will meet with the least disturbance.

If this important part of the work has been neglected it may turn out after the process of renovation that the germ was

not destroyed and your fruit will become wormy.

But, if the work is done properly, you can pack and ship the same under guarantee of being free from worms, and you will have no trouble or complaints from your customers.

PACKING, FACING, ETC.

With fruit as with many things else, appearance goes a long way towards advancing the sale. All boxes or packages should be made neat and attractive. Boxes should be neatly stenciled, lined with lace paper, and carefully faced.

All fruit packers no doubt understand the manner of doing the work, but the question has been asked so often, that I give it here for those that may not.

Remove cover from boxes, place them in line on the floor, bottom from you (this will be the top after it is faced and packed). You now stencil your boxes or paste on a neat label stating contents and number pounds.

Now line the boxes with lace paper cut to fit, and place in a sheet of waxed paper covering the bottom; this prevents the fruit from soiling the lace. You now do the facing.

Select from fruit to be packed pieces of

one size and arrange them in rows so as to cover entire bottom surface. When this is done, put in two or three pounds carefully over the whole to prevent disturbing the facing in handling. This done, you are now ready to weigh, press, and nail on the covers.

Set scales to weigh desired amount, allowing tare for box and hopper. Fill, draw under the press, place a piece of paper over the fruit (this prevents the fruit from sticking to press board), press down to depth desired and let stand a while. Now another box on the scales, put on hopper (use two hoppers) and fill as before. Now the first box will be ready for nailing on the cover. This being done, place third box on scale, put on hopper, fill, etc., and go right along until the packing is done.

Where the packer has a helper, one should fill and press while the other nails on the covers.

Care should be taken while nailing on covers not to allow edges to project—use a plane and shave them off. When this is not done, the cover or projecting part is sometimes broken off in handling, and damages contents.

Use none but first class boxes, free from knot holes and imperfections.

CURRENTS AND RAISINS, TO PACK IN CARTONS.

Use a square funnel to fit inside carton around which wrap a piece of waxed paper. Place same in the carton, fill to desired weight and withdraw funnel. The wax paper is used to prevent fruit from soiling the cartons.

DIPPING.

The object of dipping is to improve appearances, clean and soften the fruit and add to its weight.

Before commencing to dip any fruit, be sure that all lumps are broken up. This is necessary even if you have to pick them apart by hand; and in order that the dip may reach all surface parts of the fruit and destroy the hidden larva.

When handling fruit that is very dirty, allow the dip to boil up after dipping every 500 lbs. A piece of soda the size of a nutmeg will cause all dirt to rise to the surface, when it can be skimmed off easily. If you fail to do this the dirt will adhere to the fruit and give it a dirty appearance, very noticeable in such fruit as pears, apricots, figs, nectarines, etc.

Work the basket up and down while the dipping is going on. All small particles

that come to the surface within the dipping basket, can be worked out through the meshes of the dipping basket with a wooden paddle, stirring it around just before taking basket out of dipping pan.

In replenishing the dip, reduce all solid matter in proportion to the evaporation that takes place. This is necessary, to keep the dip at proper consistency, and to do good and regular work.

APPLES—SLICED.

Sliced apples and sliced pears are the only two varieties of dried fruit that will not stand dipping—it makes them entirely too wet, so we have to treat these by the steam process. If the fruit shows any signs of being wormy, put it through the renovator, allowing it to remain until thoroughly heated, say 10 or 12 minutes, then spread out on the floor to cool. If after cooling, you find the fruit has not absorbed sufficient moisture, add difference with sprinkler. Apples will stand from 10 to 15% water with safety; use dip No. 1 as a sprinkler.

If the apples are not wormy, prepare as follows: Use a wide table, loosen the apples up thoroughly, spread on floor to a thickness of 4 inches and add one-half of the moisture desired, with the sprinkler.

Shovel them over and add the other half. You now mix them up thoroughly, and bunch them up in a pile, and allow to remain 7 or 8 hours, by which time they will have absorbed all the water, and be in nice shape to pack in sacks or boxes.

APPLES, $\frac{1}{4}$ s

With these the work is done quicker and more evenly by dipping. If the apples are wormy use the dip hot, if not wormy, use it cold. Use perforated cover over dipping basket to prevent them buoying out. Dip 3 to 5 seconds (dip No. 1). Spread out on the floor, and allow to cool and absorb all outside moisture before bunching in a pile.

Do not pile them up wet as you would sliced apples or you may have trouble.

APRICOTS.

In localities where this fruit is most successfully cultivated the fruit moth abounds the year round, and in many instances damages the fruit before it leaves the drying house, and the worm is developed without apparent cause after the fruit has been stored away in your fruit room. Dip 10 to 20 seconds or longer as the dryness of the fruit may require. (Use dip No. 1, hot.) Apricots should be dipped in the evening,

and allowed to remain over night before packing.

Spread evenly on the floor to a depth of about 6 inches. Do not bunch in a pile before thoroughly cool or they will gum and stick together and make it bad for handling.

BLACKBERRIES.

This is one of the most difficult of fruits to handle when wormy. The berries being black and the worms of a creamy color, they must be separated in order to avoid the disgusting contrast.

I give three methods of doing the work and must leave it to the packer as to which of them his case requires.

1st. After loosening up the berries and carefully breaking up all lumps, spread them on the floor, say 4 inches thick and cover them over with empty sacks. In a short time the worms will crawl onto the sacks. If they don't all crawl out at one covering, stir the berries with a rake, cover again and repeat the operation until you get them all out. The sacks should be well shaken out each time, the worms swept up, and thrown in the fire.

2nd. Use two sifters, one with meshes large enough to allow the seeds and worms through, and one of smaller mesh which

will allow the seeds through but retain the worms. This being done you mix seeds and berries and you are now ready for the dipping. Fill your berry dipping basket to about 1 inch of the top, put on the cover and dip up and down two or three times, allow to drain over pan a moment, then put through the centrifugal and dry. The work must be done fast. Berries are very porous and absorb very rapidly, and if allowed to absorb too much moisture are liable to sour. Spread on the floor and allow to cool thoroughly before packing. Where the fruit packer has an assistant, one can do the dipping while the other works the centrifugal. (Use dip No. 9, boiling hot.)

3rd. If the berries are very old and mildewed, mix them up thoroughly with dip No. 5, about 5 pounds of the dip to 100 pounds of berries.

Rub in well with the hands until all appearance of the whitish color has left them. Now spread on trays about 2 inches thick and put through the dryer at a moderate heat, until sufficiently dry. Do not add moisture to these after coming from dryer.

Note:—Berries from different sections are so irregular in size, it is impossible to establish a standard size of mesh for the sifters, so the operator must select such as will suit his case.

For fresh berries the dipping and centrifugal operation is all that is necessary.

CHERRIES.

Pitted—Put through same operation as blackberries, allowing to remain in the dip 10 to 15 seconds. (Use dip No. 9, boiling hot.)

Unpitted—Dip for one-half minute. (Use dip No. 6, boiling hot.)

CITRON, LEMON AND ORANGE.

See Peels.

DATES.

Separate them carefully and dip one-half minute. (Use dip No. 8, boiling hot.)

CURRENTS, "ZANTE."

Break up all lumps and treat in same manner as blackberries. Use dip No. 8, allowing the currants to remain in the dip (boiling hot) 15 seconds.

FIGS—All Varieties.

Break up all lumps and dip one-half to one minute. Use dip No. 3, boiling hot. Spread on floor and allow to cool before packing.

If the figs are very old and dry, the fol-

lowing will put them in fine shape: After having broken up all lumps, put them in a large tub. Make up enough of No. 3 dip to cover the lot, bring to a boil and pour over the figs, allow to remain 6 to 12 hours or such time as it may require to soften them. Keep well covered and examine occasionally.

Smyrna Figs.

Owing to tedious manner in which these are packed, it is best to work them without disturbing original package. Apply glycerine over the surface with a sponge, lay a piece of cloth over the whole and smooth over with a hot smoothing iron. This will dissolve the sugar, force in the glycerine and give the surface a bright, glossy appearance. Cover with a piece of wax paper and nail on cover. Should the figs be very old however, it will be necessary to carefully pick them apart and put through process first given.

DRIED GRAPES.

Work in the same manner as blackberries, using dip No. 6 and allowing to remain in dip one-quarter to one-half minute.

PEACHES—Freestone and Peeled.

If very wormy, sift before dipping.
The dip should be hot enough to kill the

worm and larva but not boiling. Allow to remain in the dip long enough to work up and down three or four times. Spread on floor 4 to 6 inches thick. Allow all surface moisture to be absorbed before packing. If there be no worms in the peaches, use the dip lukewarm and allow the fruit to remain in the dip longer. Use dip No. 1.

PEACHES—CLING.

For cling peaches use the dip boiling. Allow to remain one-quarter to one-half minute. Spread on floor and allow to cool and absorb all surface moisture before packing.

PEELS—CITRON, LEMON, ORANGE.

From the nature of these fruits worms seldom attack them. I have had little or no trouble during my experience so far as worms go. But no fruit is immune from the pest, so a treatment is necessary. With age, however, these become dry and must be renovated.

I give the process of crystalization in which shape most of the peels are now marketed and which at the same time will do as a renovator.

Place the peels into very thick hot syrup and let stand for about two days; then drain off the syrup, which will now be very

thin, and boil it down until it is thick again. Put in the peels and let them heat through and stand for about 4 days, then repeat the process, letting it stand longer every time. When the syrup no longer gets thin, remove the peels and dry in the evaporator with gentle heat. They may be rolled in granulated sugar to fully dry them. If this process be found too slow for the occasion, dip them for one or two minutes in dip No. 8, roll in granulated sugar and dry in evaporator at a mild heat. In order that the dip may reach all parts, the peels must be carefully put in the dipping basket on their edges; if you lay them flat the air will prevent the dip from entering the oval shape left by the fruit.

Water Melon Rind.

Quite as good as citron and much cheaper.

No preserve is more delicious than the water melon rind.

It quite equals the citron and is far more economical.

Cut the rind into small pieces, trim the upper edge evenly and tear off the outer skin. Then put in a stone jar, and to every 5 pounds add a half cup of salt.

Cover with cold water and let stand for five hours, then drain and again cover with

fresh cold water. Soak for three hours, changing the water three times during that period. Dissolve a teaspoonful of powdered alum in two quarts of boiling water, bring to the boiling point and pour over the rind, allowing this quantity for every 5 pounds of fruit.

Let stand for a moment, then drain. Make a syrup by boiling together $2\frac{1}{2}$ lbs. of granulated sugar and one quart and one pint of water for each 5 pounds. Boil and skim thoroughly. When perfectly clear, drop in the water melon rind and simmer gently until you can pierce it with a straw. When tender take the pieces out carefully with a skimmer and arrange them on large platters and stand in the sun until firm, which will usually require from one to two hours.

For each quantity of syrup allow two lemons and one small piece ginger root. Peel the yellow rind from one lemon, extract the juice of both and cut the ginger root into thin slices. Then add to the syrup and boil gently for ten minutes. When the water melon rind has hardened pack it in the jars. Bring the syrup to a boil and strain it over the rind, filling each jar. Seal and store in a cool place.

NECTARINES.

When stuck together, pick apart as you would apricots. Dip one-quarter to one-half minute. Do not bunch in a pile until thoroughly cool. Use dip No. 2.

PEARS.

Quarters and Halves.

Treat in same manner as nectarines, using dip No. 2. If the pears are very dry and hard, allow to remain in dip one-half minute.

If this does not render them soft enough, allow them to remain a while longer, and so on until you get them right. Spread evenly on the floor and allow to cool before packing.

PEARS—SLICED.

Treat same as you would apples, but for wetting down, add 20% granulated sugar to water and apply lukewarm.

PRUNES.

For prunes of all varieties (except the Bleached Silver prunes) I recommend the use of Phelan's dry dip. The prunes should be allowed to remain in the dip not less than 1 minute.

When this dip is used, you can sack the fruit an hour after dipping, and it will not drip or soil the sacks. For packing in boxes, the prunes can be packed as they come from the dipper, hot; but I would advise allowing them say 20 or 30 minutes before boxing. Should the prunes be sour, add 8 drams (10 teaspoonsfull) salicylic acid to every 50 gallons of dip.

Prunes that have become mildewed through improper curing or other causes, can be saved by the following process:

Make a solution as follows: Water, 50 gallons; concentrated lye, one-quarter lb.

Bring to a boil and dip the prunes for 1 minute or more, until the mildew disappears. Rinse in cold water to remove the lye.

Fill your trays and put through the dryer at a gentle heat, allowing to remain one or two hours, as the case may require, to solidify the prunes. When sufficiently dry, spread out on the floor to cool, then dip as you would other prunes, but allow to cool thoroughly before packing.

Some prunes will not stand the solution strong as others, the skin being thinner; so it would be advisable before proceeding with any large quantities to try the solution on a small scale. If too strong reduce the proportion of lye; if too weak, increase

it, and when you get it just right, go ahead.

The same precaution will apply to the drying. Do not have your dryer too hot. A heat of 145° will usually do the work and sometimes it may be done with less. Prepare enough to fill three or four trays and try it on a small scale before putting through the entire lot.

The following table will assist you in determining price of any special size on the basis of a given price for the four sizes:

Basis price, 4 sizes..	2	2	3	3	3	4	4	4	4	5	5	5	5	6
30 to 40.....	4	4	5	5	5	6	6	6	6	7	7	7	7	8
40 to 50.....	4	4	4	4	4	5	5	5	5	6	6	6	6	7
50 to 60.....	3	3	4	4	4	5	5	5	5	6	6	6	6	7
60 to 70, 4 sizes....	3	3	3	3	3	4	4	4	4	5	5	5	5	6
70 to 80, 4 sizes....	2	2	3	3	3	4	4	4	4	5	5	5	5	6
80 to 90, 4 sizes....	2	2	2	2	2	3	3	3	3	4	4	4	4	5
90 to 100, 4 sizes...	1	1	2	2	2	2	2	2	2	3	3	3	3	4
100 to 110.....	1	1	1	1	1	2	2	2	2	2	3	3	3	4
110 to 120.....	1	1	1	1	1	2	2	2	2	2	3	3	3	4

Prunes should average as follows: 30 to 40 should run 35 to the pound; 40 to 50, 45; 50 to 60, 55, and so on.

PLUMS—"PITTED."

Un-pitted Plums treated same as prunes.

There is something about the plum like apricots, which makes this fruit very attractive to the fruit moth, and unless carefully watched, becomes very wormy and often badly damages before discovered.

Examine closely during the moth season and if found in bad shape attend to at once. I would not advise dipping more of these at a time than the business requires.

Should you discover these getting wormy at any time, put the entire lot through the renovator, which will destroy the worms, etc. Allow to cool, then you can resack and put back in stock. Use clean sacks.

All plums should be dipped before being shipped. This insures the fruit against worms, puts them in fine marketable shape and leaves a handsome profit by way of the increase in weight. Use dip No. 8 and dip one-quarter to one-half minute. Spread out on the floor and allow to cool before packing.

RAISINS—SEEDED.

Remove from cartons in a manner to save the cartons. Loosen up thoroughly, sift out the worms. Dip one-quarter to one-half minute as the case may require to soften them thoroughly, then put through centrifugal. Allow to cool a little and repack. Use dip No. 6.

The above applies to loose muscatels, seedless muscatels, sultanas, Thompson's seedless, etc.

SEEDLESS MUSCATELS.

In the seedless muscatels you often find those dry reddish looking raisins that are of no account whatever. These can be separated from the sound raisins by a bath. Fill your centrifugal basket about half full and douse them into a tub full of water. Work basket up and down so as to work the bad raisins to the top and remove with strainer.

PECTIN.

The following is a modified process for converting the raisins into what is known as pectin—a delicious jelly which gives to this fruit its best flavor.

Dip in boiling water one-half minute to one minute; from boiling water dip into cold water until cool, and spread on floor to dry. If raisins be needed for immediate shipment, the drying may be done through the centrifugal.

RASPBERRIES.

Treat in same manner as blackberries, using dip No. 9. Allow to remain in dip just long enough to work basket up and down once or twice, put through centrifugal, dry thoroughly, and allow to cool before packing.

If the berries are mildewed, dip for one-quarter minute, put through centrifugal and dry in evaporator at gentle heat, add no moisture to these after coming from evaporator. To brighten them up before boxing, use a little lard oil, about one-half pint to 100 pounds. Put the berries in a tub, pour in the oil and stir them up thoroughly so that each berry is polished. You may use glycerine in place of oil, but oil answers the purpose and is much cheaper.

MIXING PRUNES FOR GRADES.

100 lbs. averaging 35	to the lb.	
100 lbs. averaging 45	to the lb.	
100 lbs. averaging 45	to the lb.sold as 30 40s
100 lbs. averaging 55	to the lb.	
100 lbs. averaging 55	to the lb.sold as 40 50s
100 lbs. averaging 65	to the lb.	
100 lbs. averaging 65	to the lb.sold as 50 60s

and so on down the line.

This gives you a profit of one-half cent per pound on each 100 pounds of the lower grades.

STRAY SHOTS.

Prunes become caked and lumpy after remaining piled up in bags for any length of time. To loosen up, roll them on the floor, bearing down the sides with your knees; this will put them in fine shape for dipping.

Apricots that are covered with worm dung: Work dipping basket up and down while in the dip. This will loosen and wash it off.

Bleached fruit should not be exposed to strong light.

During the dipping process impurities boil to the top. A small strainer should be handy to skim off with.

In replenishing the dip, solid matter should be gradually reduced in order to equalize its consistency.

To flatten prunes, figs, etc., used for facing, run through a clothes wringer. This is best done while the fruit is hot and soft.

During moth mating season, all boxed fruit should be kept securely covered, and broken boxes patched up to prevent the moths from entering and damaging the fruit.

The dip may be used from time to time by keeping it in iron buckets or tin cans, (I use coal oil cans, thoroughly cleaned.)

If put in wooden buckets, it will sour in short time.

— — —
To prevent fruit from sticking to shovel, wet the blade occasionally.

— — —
In picking over fruit that is sugared and gummy, have a bucket of water handy (into which dissolve one-quarter pound of salt), wet the hands occasionally; this will keep them free and clean.

— — —
To prevent fruit from sticking to your fingers while facing the boxes, use a wet cloth to dampen the fingers.

— — —
Work dipping basket up and down, and remove with a strainer the worms and dirt as it floats to the top; or, you can use a wooden paddle, stirring the dip around so as to work the worms and dirt out through meshes of dipper.

— — —
While in operation, centrifugal should make 500 or 600 revolutions per minute.

— — —
SOUR FRUIT.

Prunes, Pears, $\frac{1}{4}$ s and $\frac{1}{2}$ s, Nectarines, Figs, Pitted Plums, Etc., Etc.

Wash in a mild, hot solution of lye,

rinse in cold water and dry in evaporator at a gentle heat. Use rubber gloves in handling the fruit, and only wooden vessels.

Apples and Pears, "sliced."

Wash in dip No. 1 and dry in evaporator at a gentle heat. No moisture should be added to sour fruit after being restored.

THE PREVENTION OF WORMS AND MODE OF APPLICATION.

How to prevent fruit from getting wormy was something that puzzled me for some twenty years of my experience in that line, but after many experiments, I have succeeded and take pleasure in offering my method to the Dried Fruit handlers of this and other countries.

It is simple and easy when you know how, and costs but very little. It is to destroy the moth that creates the worm.

Take a 10-quart galvanized iron pail, have a rim soldered around the inside to admit a small iron kettle, (the kettle must be so arranged that it will not bouy up when the pail is filled with water) and at same time arranged so you can take it out and clean it when necessary. Fill the iron kettle with powdered sulphur to within an inch of the top. Now fill the pail with

water, put a few shavings on the sulphur and set it on fire with a match. This will start the sulphur burning and in a short time the water around the kettle will commence steaming and mix in with the sulphur fumes forming sulphuric acid gas. This gas permeates every crevice in the room and will destroy all moths.

As moths develop from the cocoon stage from day to day and do their work at night, the work is put into operation at quitting time. The fruit room should be closed and all windows put down to prevent any escape of the gas.

Sufficient sulphur should be used to completely fill the room with the fumes.

In the morning before resuming work, open the doors and windows, allowing the draught to clear your room of the fumes. There is absolutely no danger attached to the process, and it is of benefit to the fruit.

Use pure sulphur. The common adulterated sulphur leaves a slag sediment, difficult to remove.

See Machinery, Tools, etc., for sketch of the fumigator.

SULPHUR PROCESS.

For Bleaching and Preserving Fruit.

This is something entirely new in the

art of fruit packing, and will be found of great value to all who handle dried fruit.

It acts as a preserver and greatly assists the fruit in retaining its bright, bleached color.

Dip the fruit in boiling water for one-quarter to 1 minute or long enough to render it soft, and open all pores. From the dipping pan, you place the fruit on wooden trays (see sketch) to the thickness of one and one-half to two inches.

The trays are now put one over the other in the bleacher, doors closed and allowed to remain an hour or more. By this time all moisture will have been forced into the fruit by the sulphur fumes and the pores closed. The fruit is now ready for packing.

DIPS.

No. 1.

Water50 gallons
Salicylic Acid10 teaspoonsfull

Dissolve salicylic acid in boiling water, to which has been added a little soda.

To dampen apples apply with the sprinkling pan.

For apricots, quartered apples and peaches, use as directed under their respective headings.

No. 2.

Nectarines, Pears, Etc.

Water	50 gallons
Black Strap or N. O. molasses.....	3 gallons
Salt	1½ lbs.

NO. 3.

For Figs.

Water	50 gallons
Black Strap or N. O. Molasses....	3 gallons
Glycerine	8 ounces
Salt	2 lbs.

No. 4.

For Prunes.

Water	50 gallons
Glycerine	½ gallon
Soda	1¼ lbs.
Borax	¾ lbs.

To this may be added prunes with broken skins or any other fruit, the object being to get the fruit juice. The quantity may vary or it may be left out altogether or replaced by small quantities of grape sugar.

The whole is brought to a boil and the prunes subjected to a dip of not less than 1 minute. Allow prunes to drip a few minutes and pack hot for boxes. When prunes are to be sacked, allow to cool.

No. 5.

From Excelsior Fruit Cleaner.

Glycerine	4 oz.
White Wine Vinegar	1 pt.
Alcohol	1 oz.

This is sufficient for 50 pounds of fruit and is used cold. This dip is used to good effect by the Excelsior fruit cleaner and puts a lasting gloss on the fruit, but I do not recommend it for the reason that it is too expensive, and being used cold could not give satisfaction when worked on wormy fruit.

No. 6.

For Figs, French and Silver Prunes.

Water	50 gallons
Glucose	1½ gallons
Glycerine	2 lbs.
Salt	2½ lbs.

Bring to a boil and dip not less than 1 minute, allow to cool before packing.

No. 7.

For Prunes and Figs.

Grape Sugar	10 lbs.
Corn Starch	3 lbs.
Boiled Cider	½ gallon
Water	50 gallons

Dissolve corn starch in lukewarm water and mix thoroughly with the 50 gallons in dipping pan to which has been added the 10 pounds grape sugar, bring to a boil, then add the cider. Keep the dip boiling while in use and dip not less than 1 minute.

No. 8.

Phelan's Dry Prune Dip.

Water	50 gallons
Black Strap or N. O. Molasses...	3 gallons
Soda	1½ lbs.
Salt	2½ 7½ lbs.

Bring to a boil and dip not less than 1 minute. Should the prunes be very old and dry, allow them to remain in the dip 2 or 3 minutes. Prunes intended for boxing should be packed hot after allowing them to drain 5 or 10 minutes.

If the prunes are to be sacked, spread on the floor for about an hour. This dip will not soil the sacks as it dries before the prunes are cold.

No. 9.

For Blackberries and Raspberries.

Water	50 gallons
Black Strap or N. O. Molasses....	6 gallons
Salicylic Acid	10 teaspoonsfull

Salt2 lbs.
Soda1½ lbs.

This makes a very heavy dip and care should be taken that it does not boil over. Have a bucket full of cold water handy in case it should; a half gallon or so at a time will quiet it down.

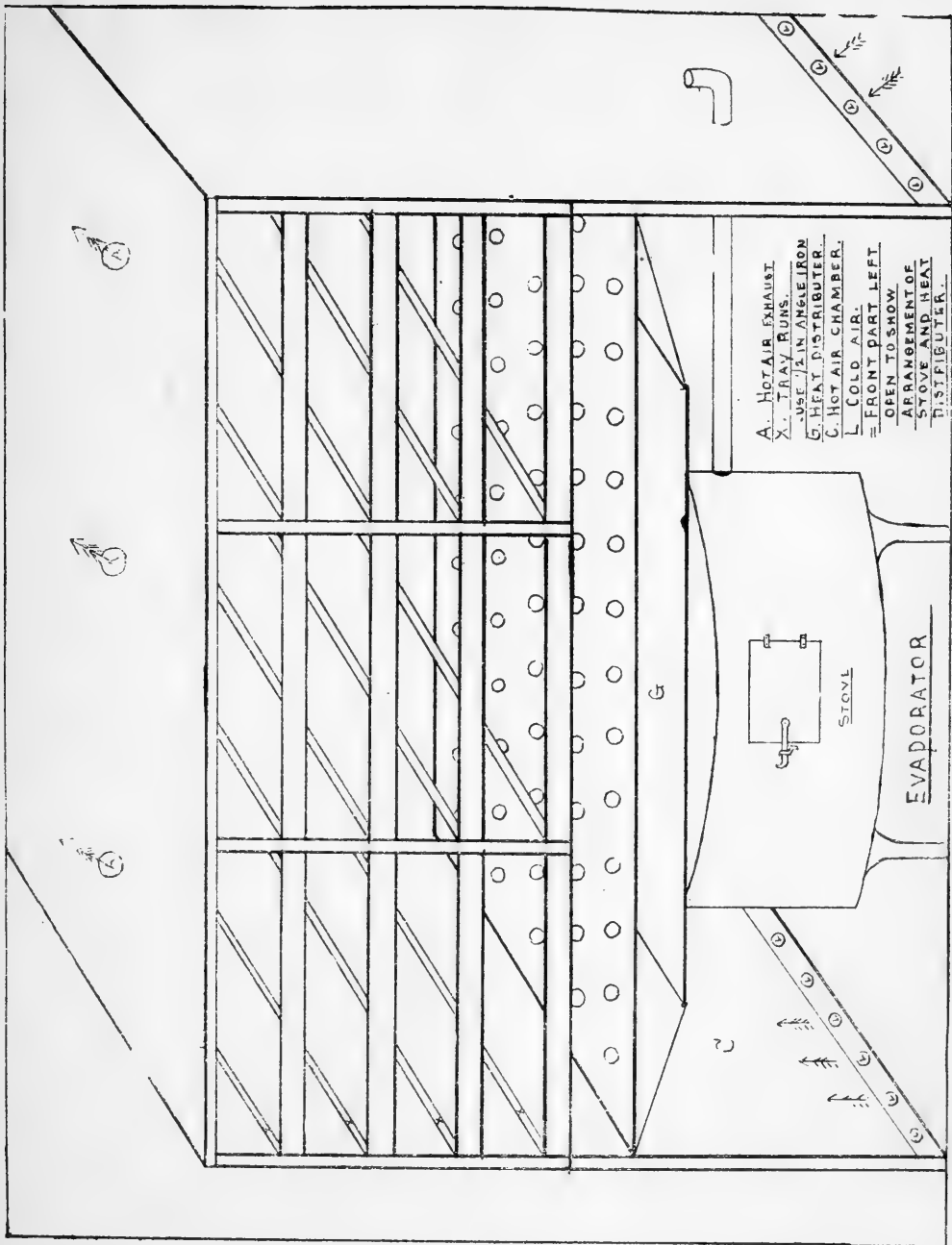
PASTE.

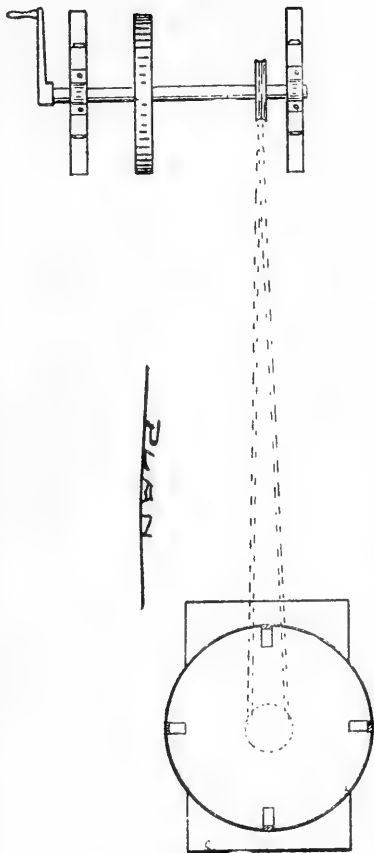
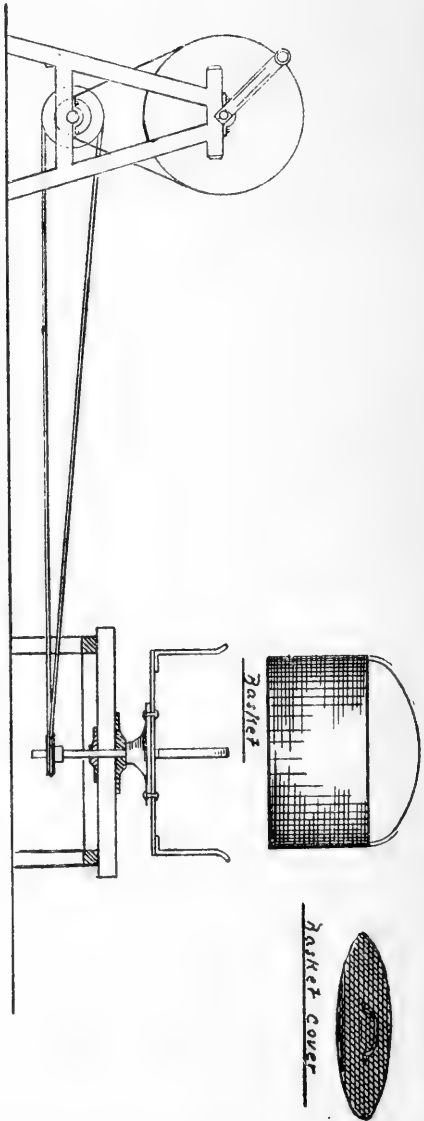
To make a good paste is no easy matter, and after experimenting with some dozen or more formulas, I recommend the following:

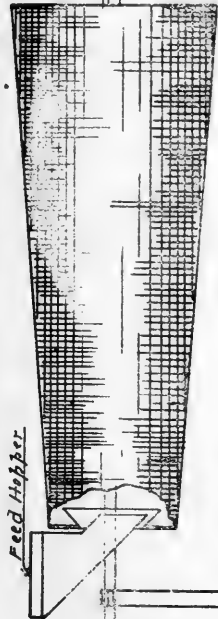
Boiling water4 gallons
Cold water1 gallon
Flour (best)4 lbs.
Alum4 teaspoonsfull
Oil of cloves4 teaspoonsfull

Dissolve alum in the gallon of cold water, mix flour with the gallon cold water and stir until all lumps disappear; this brings it to a very thin batter. Now add the 4 gallons boiling water, stirring all the time (be sure that the water is boiling), stir for 5 or 10 minutes and allow to cool; when cold add oil of cloves and emulsify thoroughly.



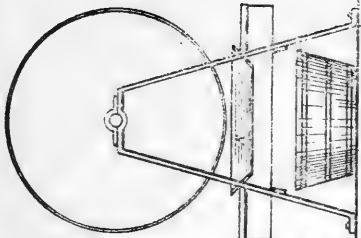






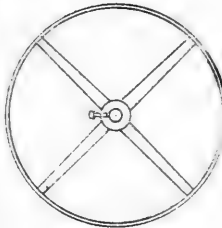
Feed Hopper

Pan to catch dirt

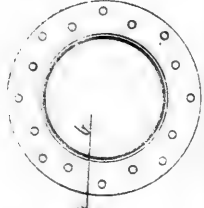
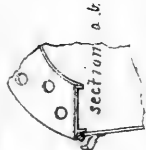
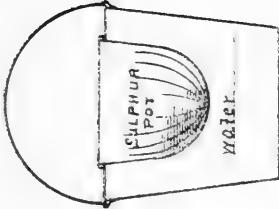


REAR VIEW

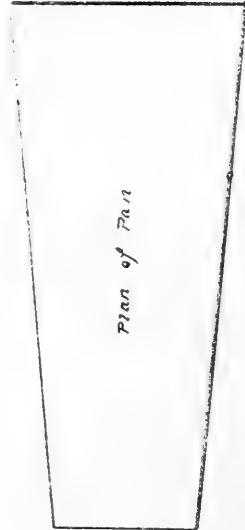
SIFTER



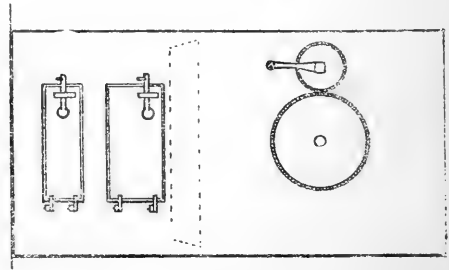
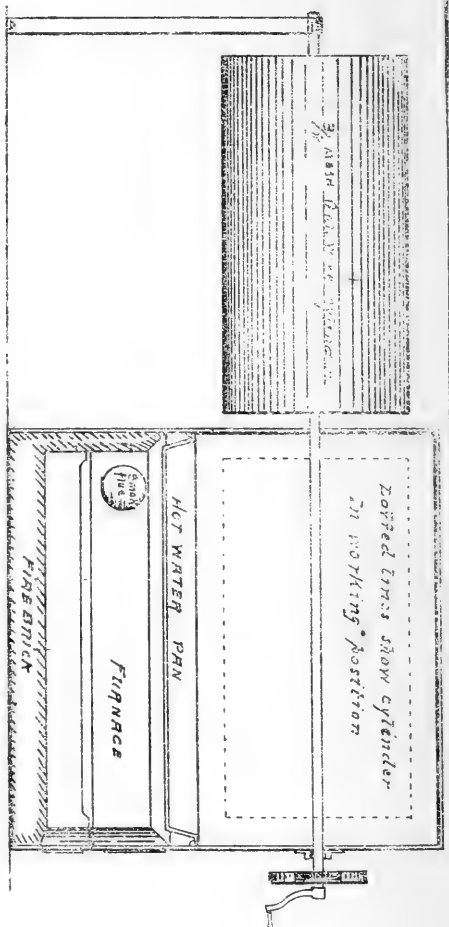
Sifter frame



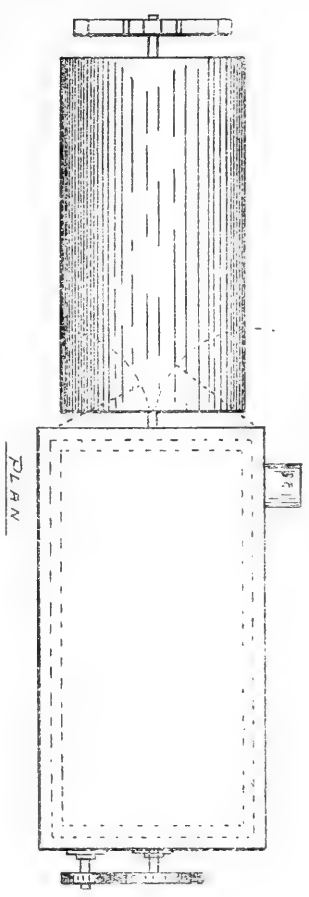
THE FUMIGATOR & MESH DESTROYER



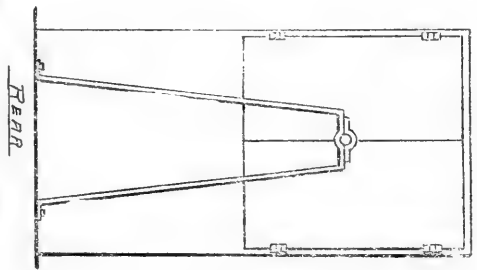
Plan of Pan



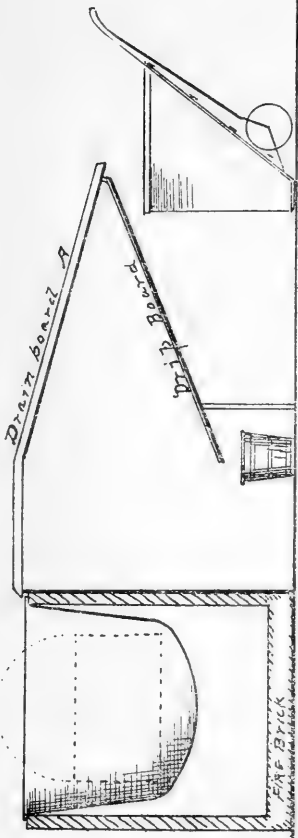
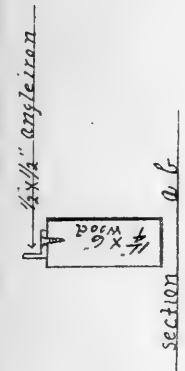
SECTION OF RENOVATOR



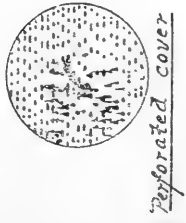
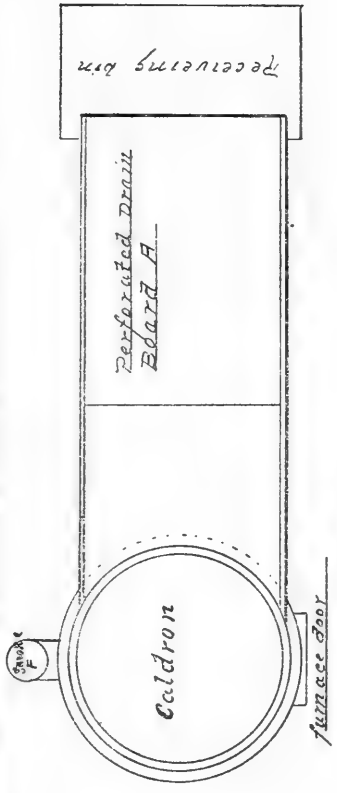
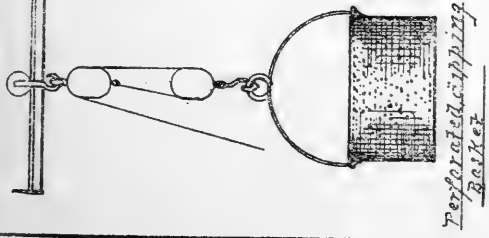
PLAN

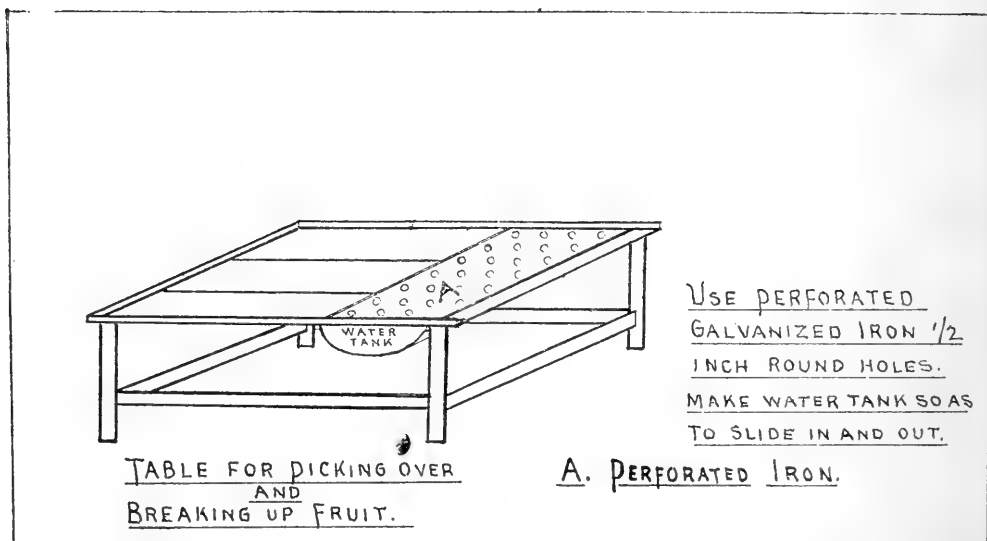
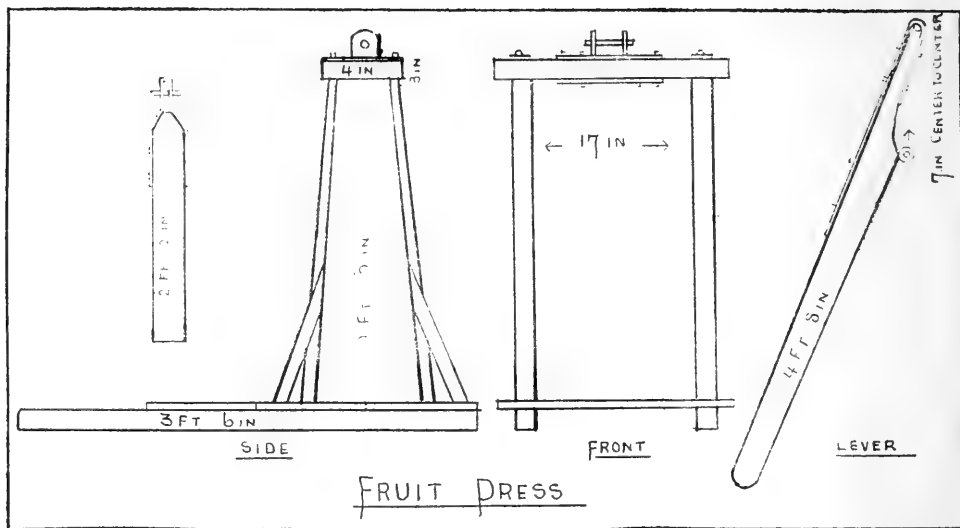


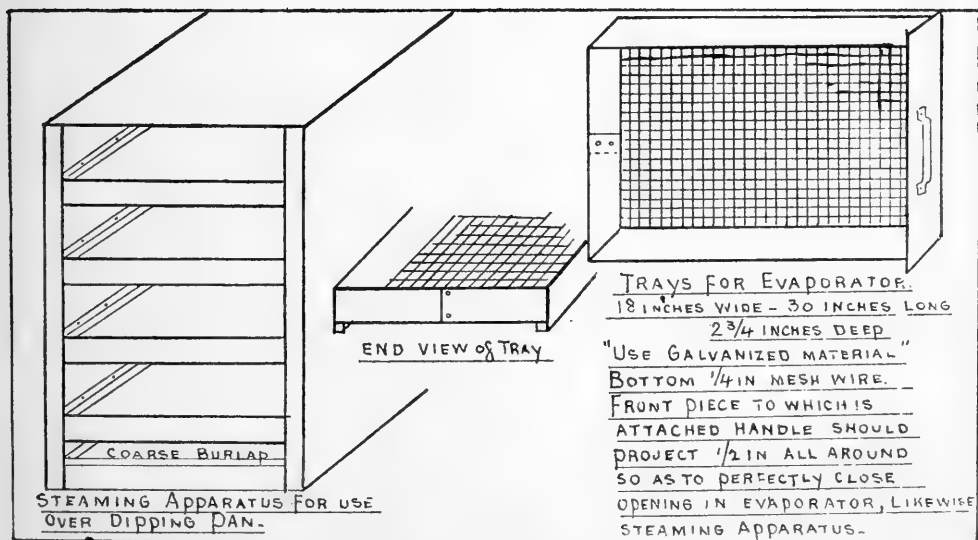
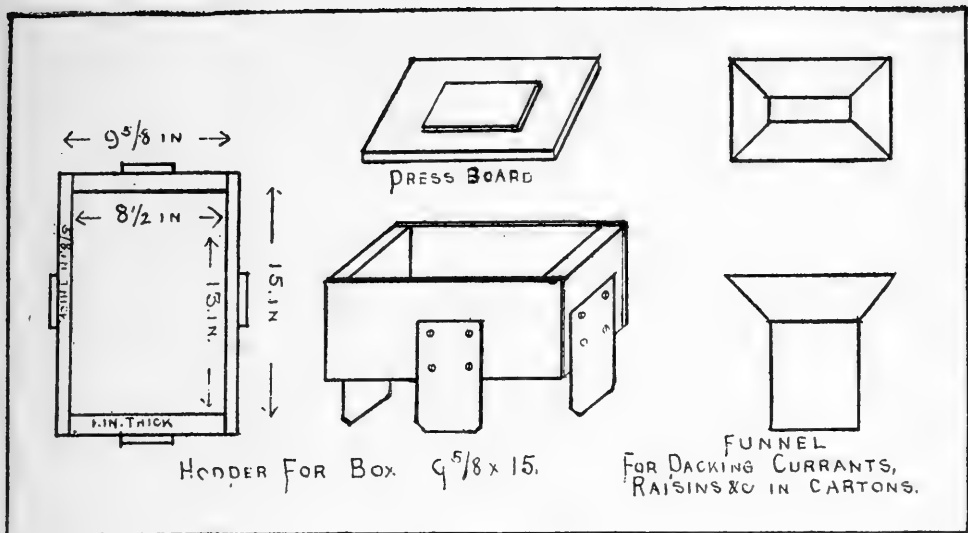
REAR

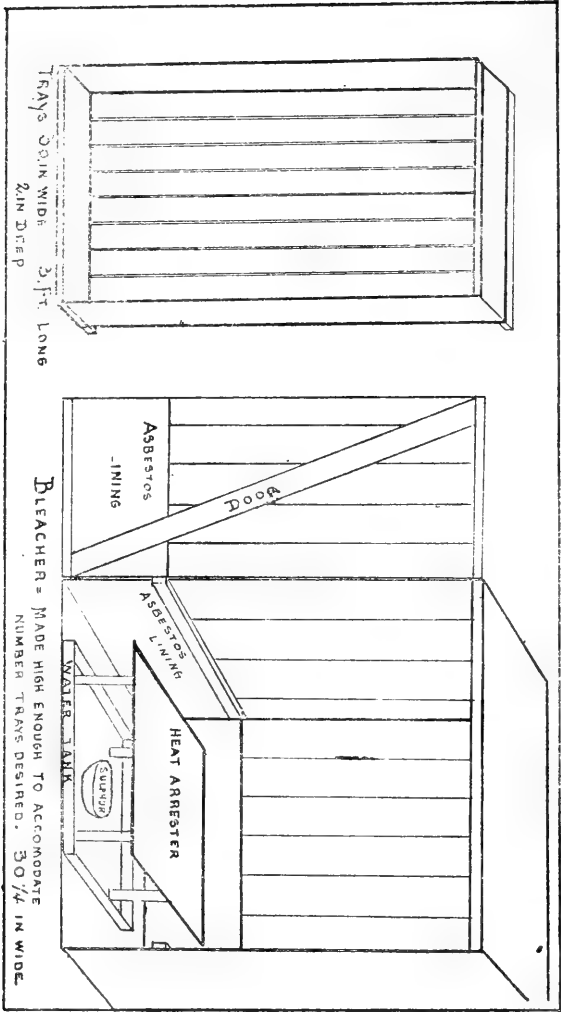


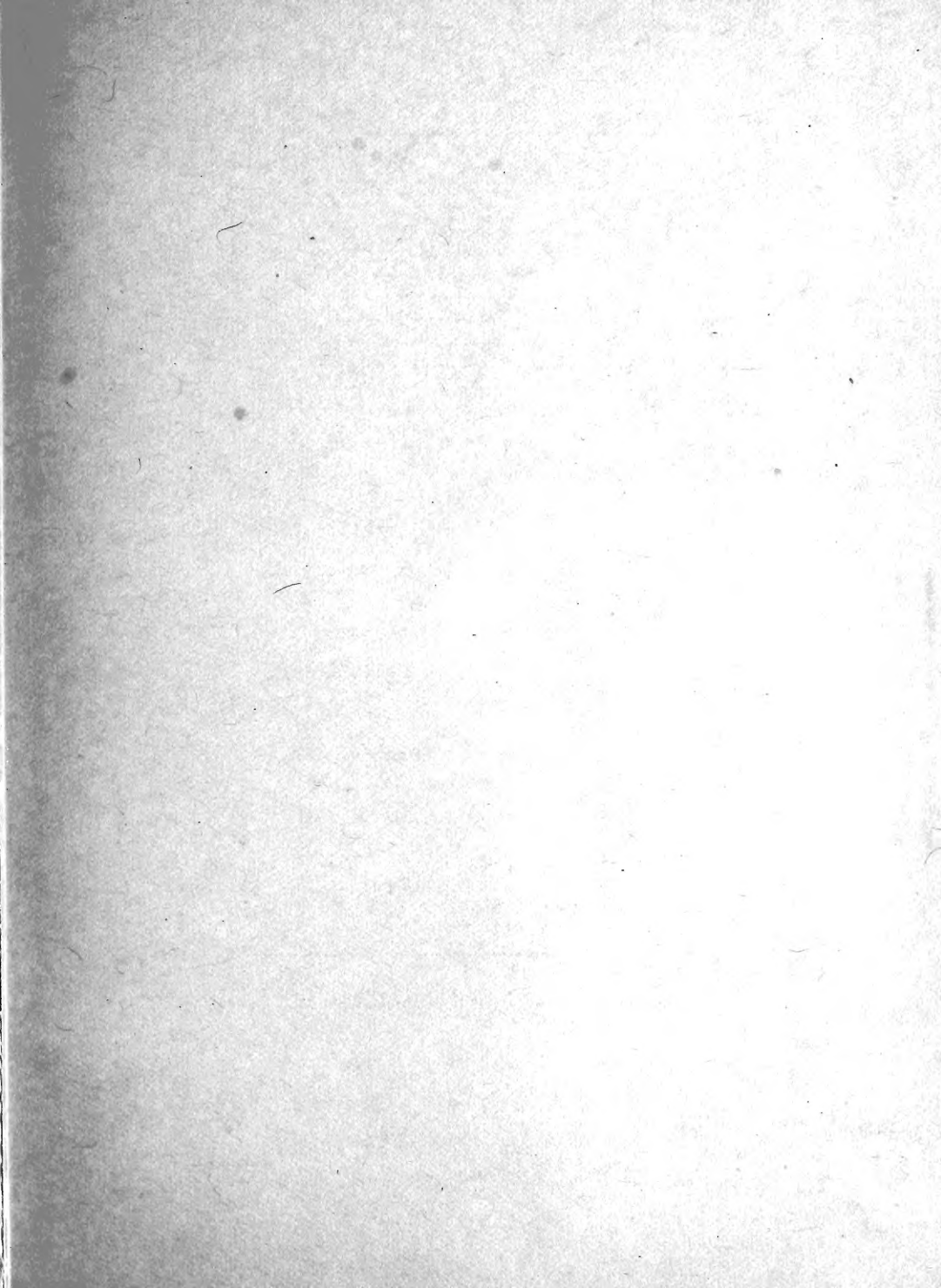
SECTION OF DIPPING PAN & FURNACE







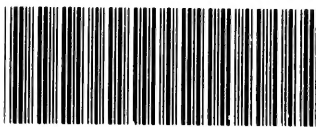




JAN 2 1904



LIBRARY OF CONGRESS



0 014 420 535 2

