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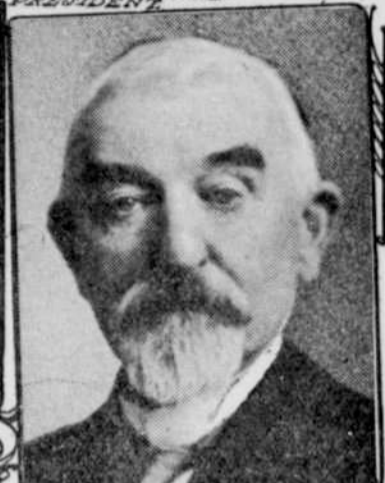
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Much business is to come before the delegates to the Oregon Development League which meets at Astoria during the Astoria Centennial pageant. The convention dates are August 14, 15 and 16, and the men whose pictures are printed here are the ones who will map out the program of work for the assembled delegates.

While meeting at Astoria, the delegates will be entertained by the Astoria Centennial committee and much of the success of the work of the league will be developed at this convention in "Astoria, City of Lights," at a time when the ocean breezes are most acceptable to sweltering humanity.

The complete program of the convention topics has not been announced by Secretary C. C. Chapman as yet.

cream which has previously been pasteurized in order to remove the undesirable bacteria. The inoculated cream is after inoculation allowed to ripen.

In the use of a starter, to be successful the dairyman must be first of all extremely clean. It is obvious that it would be valueless to inoculate milk with a desirable organism and at the same time allow by slovenly methods the entrance of other kinds of bacteria.

The work done by the right kinds of organisms would be offset by the work of the others.

The culture is sent out in a small bottle. A bottle of milk is pasteurized and the culture added to the milk, which is next set aside until it coagulates, when it is added to cans of pasteurized milk.

The principle back of the use of the starter is that of replacing harmful or useless bacteria by those with the power to produce exactly the right sort of chemical change in the cream. It is obvious therefore that a method which would destroy all the bacteria in the bottles of milk which are to be added to the cans for ripening purposes would be most desirable.

For this reason there has recently been put into use a method of sterilizing instead of pasteurizing (pasteurizing, of course, destroys only a certain percentage of the bacteria present.) The apparatus necessary in this operation is a simple metal retainer of some sort which can be connected with the main steam supply of the creamery. A simple boiler is sometimes used. A rather close fitting lid on this sort of steamer will allow a temperature of 100 degrees C. inside. Heating at this temperature for thirty minutes on four successive days will completely sterilize the milk in a quart bottle. To this sterilized milk is added the commercial culture of lactic acid bacteria, which of course rapidly multiply and after an incubation of twenty-four hours may be added to the cans of pasteurized milk.

In these operations loose cotton plugs are used to prevent the entrance of the bacteria of the air into the bottles. In making transfers, or if for any other purpose the plugs are removed, care must be taken to prevent the plugs coming in contact with any surface, which of course would result in a contamination of the milk when the plugs are replaced.

This method of handling starters by means of sterilized milk has met with success, and is recommended to those who have the facilities and inclination for its use. It has been used with entire success in the Corvallis creamery; and results from outside the state, notably from Michigan, where it was applied under the direction of the experiment station of the state, justify its recommendation. It requires only absolute cleanliness on the part of the operator and attention to the details of the operation.

The department of bacteriology of the Oregon experiment station proposes to publish a bulletin on this subject which will give instructions for the use and results of the use of the sterile method of handling starters.

FARM AND ORCHARD

Notes and Instructions from Agricultural Colleges and Experiment Stations of Oregon and Washington, Specially Suitable to Pacific Coast Conditions

THE CHICKEN MITE.

By A. G. Lunn, O. A. C.

Of all forms of vermin which prey upon poultry probably none are more harmful than the chicken mite. This little fellow is called by scientists "dermanyssus gallinae redi." With such a name we would suppose him to be quite a large creature. However, the mite is so small that in many cases it escapes notice from the farmer or poultryman, and thus may be permitted to carry on its work of devastation.

It has been noted that in some cases where hens have been infested with mites, egg production has ceased. Often setting hens will die upon the nest, and when examined they appear to be literally covered with mites. Death seems to be due to an impoverishing of the blood caused by the sucking of the blood by the mites. In other cases it has been found that a setting hen has left the nest, and when the nest was examined it was found to be alive with these mites.

Not only do mites attack setting hens, but laying hens and young chicks as well. As high as 90 per cent of young chicks have been lost by the evil work of the mite. In such cases the setting hen has been able to withstand the attacks, but when the chicks leave the shell the mites crawl upon them and suck their life blood, leaving them in such a condition that death results.

Habits of the Mite.

The term "robber" may be truthfully applied to the mite, for most of its work is done at night or in the darkness. Their hiding places are in the cracks and corners, also under the roosts and in any place where they may be hidden from view. In these secure places they lay their eggs and hatch their young. Great masses have been found at some distance from the chicken house. For instance, where the chicken house is built against the barn, mites have been

found in the adjoining lofts, thus showing their tendency to wander. A very common place for the mite to hide is under the straw in a nest. When the chicken goes on the roost or in the nest the mite leaves its place of hiding and crawls upon the fowl. It will only stay upon the fowl, as a rule, long enough to obtain its supply of food, which is the chicken's blood. It then leaves the fowl and returns to its place of hiding. Thus it escapes the attention of the attendant.

How Mites Are Carried.

There are various ways by which mites may be introduced into a flock of chickens. Probably the most common of these is by introducing of a new fowl to the flock from a neighbor's without first taking the precaution in seeing that it is free from mites. They may also be carried from one farm to another upon clothes or shoes of the farmer. Or they may be transported upon farm wagons or machinery.

These are only a few of the innumerable ways by which the distribution of mites is made possible. Every precaution should be taken, and when a new fowl is introduced into the flock it should first be examined well, and if infested should receive a thorough dusting before being placed with the other fowls.

Getting Rid of the Mite.

There are a great many methods of destroying the mite. Some of which would be fumigating, burning with a torch, and spraying.

Fumigating as a rule is impracticable, for in order to fumigate the house thoroughly it must be made air tight. Burning with a torch is not to be advised, for not only is there danger of fire, but it is impossible to reach any of the mites but those upon the surface. It has therefore been found that spraying is the best method, for by the thorough application of the spray it has been found possible to reach most of the hiding places.

BACTERIA IN THE DAIRY.

New Methods in Creameries as Result of Use of Bacteria.

By Dr. E. G. Peterson, Oregon Agricultural College.

Creameries and dairies which are run on any considerable scale now use what is called a starter. A starter is simply a growth of lactic acid bacteria (bacteria which produce lactic acid from the sugar in the milk) upon some suitable food, as sterile milk, or beef extract. The starter is added to the pasteurized milk or cream to produce the right kind of change in the milk or cream for butter and cheese making.

Usually the right kind of souring occurs naturally, but it cannot be depended upon. Very frequently the product becomesropy or stringy or bitter, or it tastes or smells in an undesirable way. It is to avoid these undesirable conditions that cultures of the right kind of bacteria are prepared in bottles and poured into the

World's Champion Will Run.

The Multnomah Amateur Athletic club will send a full team, and in addition to Dan Kelley, holder of the World's 100 and 200 yard championships in the sprints, and a broad jumper who represented America at the London Olympic games in 1903, will also secure the attendance of the world famous Forrest Smithson, the only man who ever topped the 120-yard hurdles in less than 15 seconds.

High Schools Represented.

The high school relay promises to be a big hit at the Astoria Centennial celebration in August, with a four-man team from each high school in the state. Athletics in the various high schools has grown wonderfully in the past five years, and there is not a school of any pretension in the Northwest that does not boast of a school track team. Each year the big college sponsor meets at which the state championships are held for the schools.

Fisheries Department Will Exhibit.

Salem, Ore.—The state department of fisheries will maintain an extensive exhibit in Astoria during the Centennial celebration, showing in detail the methods of the propagation of fish and salmon in particular. A number of aquarium tanks showing the many species of live fish native to the state of Oregon as well as a fish hatchery in active operation will make this exhibit complete and an educational feature of great interest to all visitors.

WIT and HUMOR



GAVE DESCRIPTION OF DOG

Man Couldn't Give Police Any Information Regarding Wife, but Knew Canine's Points.

Mr. Smith was a nervous man, and when, at eight o'clock Mrs. Smith had not come home, he telephoned to the police to inform them that she was missing. She returned safely enough a little later, having been detained by a slight taxi-cab accident, and her husband scrutinized her carefully. His reason for doing so may be inferred from the account of the telephone conversation between Mr. Smith and the police department.

"What's her description?" asked the official at the telephone. "Her height? Weight?"

"Er—er—about average, I guess," stammered the husband.

"Color of eyes?"

A confused burring sound came back over the wire.

"Blue or brown?" prompted the official.

"I—I don't know!"

"How was she dressed?"

"I think she wore her coat and hat—she took the dog with her."

"What kind of a dog?"

"Brindle bull-terrier, weight four teen pounds and a half, four dark blotches on his body, shading from gray into white; a round blackish spot over the left eye; white stub of a tail, three white legs, and the right front leg nicely brindled all but the toes; a small nick in his left ear, gold filling in his upper right molar, a silver link collar with—"

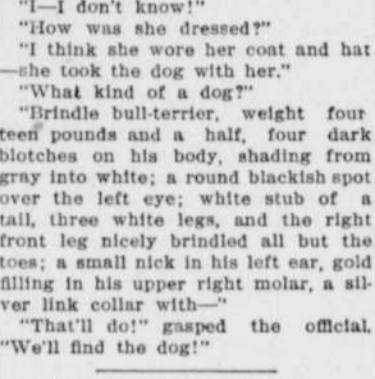
"That'll do!" gasped the official.

"We'll find the dog!"

DID ALL HE COULD DO.

POETS TREATED FIRMLY BUT POLITELY BY THE EDITOR.

POETS MAY KEEP THEIR HATS ON IN PRESENCE OF EDITOR.



Consider This Advice.

No woman should submit to a surgical operation, which may mean death, until she has given Lydia E. Pinkham's Vegetable Compound a fair trial.

This famous medicine, made only from roots and herbs, has for thirty years proved to be the most valuable tonic and invigorator of the female organism. Women residing in almost every city and town in the United States bear willing testimony to the wonderful virtue of Lydia E. Pinkham's Vegetable Compound.

Mrs. Pinkham, at Lynn, Mass., invites all sick women to write her for advice. Her advice is free, confidential, and always helpful.

Swedish "Church Boat."

The "church boat" is a popular institution in Sweden. It brings families to service from the farms around Lake Siljan to Leksand. The water route is the nearest and most convenient, and so the big boat goes from farm to farm along the shore picking up the churchgoers, who later return by the same route.—Wide World Magazine.

100 Years Old

Pettit's Eye Salve

Where They Disagreed.

Meyerbeer and Rossini, in spite of all their rivalries, were the warmest of friends. Rossini once said: "Meyerbeer and I can never agree." When some one in surprise asked why, he replied: "Meyerbeer likes sauerkraut better than he does macaroni."

Only Too Willing.

"Give us bone and sinew!" shouted the college students, who were boosting for a new gymnasium.

And the lady of the house where the students boarded winked humorously.

"Bone and sinew they want, eh?" she chuckled. "Well, I'll see that they get plenty of bones and sinew at every meal."

A Reason for Wrath.

"That fat man seems to be surcharged with passion."

"Yes, indeed. He looks dangerous."

"What do you suppose is the matter?"

"Maybe his tailor has just told him that he will have to wear skin-tight trousers."

A Sense of Immunity.

"Don't you get weary of winter weather?"

"No," replied Mr. Sirius Barker. "So long as there's a little snow on the ground here and there, I know it's still too early to start another excitement about early Christmas shopping."

Dignifying Labor.

"Did you tell the man to scrub the whis-wagon shed?"

"No, my dear; I told him to massage the garage."

STOMACH DISTRESS?

DON'T WORRY—THAT ONLY MAKES MATTERS WORSE, JUST GET A BOTTLE OF

HOSTETTER'S STOMACH BITTERS

today and see how quickly your trouble will disappear. There is nothing like it for Stomach and Liver ills or Malarial disorders.

AVOID SUBSTITUTES
At All Druggists and Dealers.

OTTUMWA WOMAN CURED

By Lydia E. Pinkham's Vegetable Compound

Ottumwa, Iowa.—"For years I was almost a constant sufferer from female trouble in all its dreadful forms; shooting pains all over my body, sick headache, spinal weakness, dizziness, depression, and everything that was horrid. I tried many doctors in different parts of the United States, but Lydia E. Pinkham's Vegetable Compound has done more for me than all the doctors. I feel it my duty to tell you these facts. My heart is full of gratitude to you for my cure."—Mrs. HARRIET E. WAMPLER, 524 S. Ransom Street, Ottumwa, Iowa.



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Where is Your Hair?

In your comb? Why so? Is not the head a much better place for it? Better keep what is left where it belongs! Ayer's Hair Vigor, new improved formula, quickly stops falling hair. There is not a particle of doubt about it. We speak very positively about this, for we know.

Does not change the color of the hair.

Formula with each bottle

Show it to your doctor

Ask him about it.

Then do as he suggests.

Ayer's

Indeed, the one great leading feature of our new Hair Vigor may well be said to be this—it stops falling hair. Then it goes one step further—it aids nature in restoring the hair and scalp to a healthy condition. Ask for "the new kind."

Made by the J. C. Ayer Co., Lowell, Mass.