

11. By what method?—By boiling and getting rid of the bodies of animal matter—destroying it.

12. Supposing the washings of a large dairy factory amounted to thousands of gallons per day, would it be practicable to apply the remedy you speak of?—There is one other way of doing it—by irrigation. Plants purify the water which flows through them, and also the exposure to light and sunshine. That is the reason why river-water is fairly good—it flows through the plant-life, and the plants absorb a lot of the animal and vegetable matter; and light and sunshine act as purifiers.

13. If it were practicable to spray or distribute the effluent sufficiently over a big grass paddock, how would that do?—That would be very satisfactory, I think.

14. You think that the plant-life would absorb a great deal of the putrefying matter that now creates the nuisance?—Yes, and the sun would destroy the organisms in it, and the chemical things would not be left in a low form; they would be oxidized and become innocuous.

15. A dairy factory in the Wairarapa District, putting through the milk of 700 cows, uses two drains, each half a mile long, leading into a creek. The washings go for several days into one drain, and for several other days into the other. These drains are close to the Town of Featherston, and I am informed that no complaint has ever been made that any nuisance is caused. Could you explain scientifically if any decomposing products are got rid of by exposure to the sun in these open drains?—A number would be, undoubtedly. Five minutes' exposure to the sun of the germs of consumption would destroy them. Twenty-four hours' exposure to the light of this room would destroy them.

16. I am speaking of the decomposing matter that smells intensely if there is a sufficient quantity of it. Would the action of the atmosphere, under the circumstances I have described, have the effect of making this stuff largely innocuous?—I do not know. That is a matter of experiment. You had better ask Dr. MacLaurin or Mr. Hurley, of the Pathological Department, to make an examination of it.

17. *Mr. Nathan.*] Supposing that a factory had a washing-up from the floor of something like 5,000 gallons a day, would you seriously recommend that they should sterilize all that?—I should seriously suggest that it should be filtered.

18. By what method of filtration?—By means of septic tanks; or you might adopt distillation.

19. Is it not within your knowledge that septic tanks are an absolute failure in connection with butter-factories and cheese-factories?—Yes, if they are not properly looked after.

20. We can point to, at any rate, two factories that put in septic tanks under the supervision of the Health Department, and spared no expense, and those tanks have been in both cases absolute failures?—I do not know anything about them. I know a hotel in the Wellington District that has a septic tank which is an utter disgrace.

21. Where there is such a superabundance of fluids and no solids, septic tanks have never yet been a success?—Then go in for distillation.

22. Can you give us any plan of distillation?—Yes.

23. We shall be very happy to try it?—It would be a little expensive, that is all.

24. Supposing a dairy factory put in a sufficiently large grease-sump, according to the size of the factory, and from there the drainage was run through filter-beds composed of coke. In your opinion would the resultant fluid be harmful to animal life?—That, surely, is purely a question of experiment.

25. I am asking your opinion?—I am not going to give an opinion on a supposititious case. You have to test each filter-bed to see if it is acting properly.

26. That is to say, you have had really very little practical experience of the fluid from a butter or cheese factory?—Or none. But what I say applies to everything of this kind. Any animal or vegetable matter getting into a stream must injure the water.

27. You suggested that the fluid should be distributed over grass lands?—That is one way.

28. Factories have tried that, and they find that if the fluid is taken before filtration and spread on grass land in any quantity, it kills the grass?—You know the answer to that. What do you wash your utensils with?

29. With water?—What is in the water?

30. Nothing?—How do you get the fat out of your utensils? Do you mean to say that you use no caustic soda or anything of that sort?

*Mr. Nathan:* No, only water and steam.

*The Chairman:* Do you actually state to this Committee, Mr. Nathan, that washings applied every day to a plot of grass and not allowed to stagnate would actually kill the grass?

*Mr. Nathan:* No, but I put it to you in this way: A large butter-factory will have from 3,000 to 6,000 gallons a day to dispose of—in many cases on a clay land and in a densely populated district. I say that the suggestion that the land should be irrigated with this fluid is impracticable.

*The Chairman:* In other words, the quantity is too great for the land to absorb?

*Mr. Nathan:* Yes.

31. *Mr. Baldwin* (to witness).] The ferment that is set up when this flax-pulp is decomposing in water is harmful to life?—Unquestionably.

32. And if it were increased to a sufficient quantity it would be exceedingly detrimental to stock?—Absolutely.

33. If it were increased to such an extent that it would be unsafe to use the water for human beings, would it be detrimental to stock?—Certainly.

34. What would be the effect of water charged with this fermenting and decomposing matter to an enormous extent upon milk that was stood in the neighbourhood of that water?—It would make it practically unfit for human consumption. On the hills of Kaiwarra, near that boiling-down establishment, the people live on tinned milk rather than purchase the milk from the hills.