F. & D. No. 2103.
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United States Department of Agricultur

OFFICE OF THE SECRETARY.

NOTICE OF JUDGMENT NO. 1576.

(Given pursuant to section 4 of the Food and Drugs Act.)

SUPPLEMENTAL TO NOTICE OF JUDGMENT NO. 1027.

ADULTERATION OF FROZEN EGG PRODUCT.

On April 10, 1911, a decree was entered in the District Court of the United States for the District of New Jersey, dismissing a libel against 443 cases of frozen egg product, for the reason that the Government had not sustained the burden of proof which rested upon it to show that the product was decomposed in whole or in part, and ordering the release of said product to the H. J. Keith Co., claimant. The facts of the case are fully set forth in Notice of Judgment No. 1027. From this decree the United States appealed to the United States Court of Appeals for the Third Circuit upon the following grounds, to wit:

ASSIGNMENT OF ERRORS.

First. The said court erred in dismissing the libel filed by the United States of America in this cause.

Second. The said court erred in making, entering, and rendering a decree in said cause in favor of the said claimant H. J. Keith Co., and in adjudging that the frozen egg product seized in this cause should be released by the marshal of this district.

Third. That the said court erred in making and entering a decree in said cause that the frozen egg product seized in said cause was not adulterated within the meaning of the act of Congress entitled "An act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors and for regulating traffic therein and for other purposes", approved June 30, 1906.

Fourth. That the said court erred in making and entering a decree in said cause that the frozen egg product seized in said cause did not at the time of said seizure consist in whole or in part of a decomposed animal substance within the meaning of the act of Congress known as "The Food and Drugs Act, June 30, 1906."

Fifth. That the said court erred in admitting in evidence, and in considering as an element in the case, the contract marked "Exhibit D 1," being a contract between the Waldorf Pound Cake Co. and the H. J. Keith Co.

Sixth. That the said court erred in admitting in evidence, and in considering as an element in the case, United States Letters Patent Number 955835 for preserving eggs, issued April 19, 1910, to H. J. Keith Co.

Seventh. That the court erred in not finding that the frozen egg product in question was adulterated within the meaning of the act of Congress known as "The Food and Drugs Act, June 30, 1906."

Eighth. That the court erred in not finding that the frozen egg product in question consisted in whole or in part of a decomposed animal substance.

Ninth. The said order and decree is contrary to the law and the evidence.

On February 20, 1912, the decree of the court below was reversed with directions to enter a decree of condemnation in favor of the Government. The opinion of the Circuit Court of Appeals for the Third Circuit (Buffington, Circuit Judge) follows:

In the court below, the United States, proceeding under the Act of Congress of June 30th, 1906, Supp. 1909, pp. 1187–1190, filed a libel for the condemnation of four hundred and forty-three cans of frozen egg product. So far as now pertinent, the libel charged that such product was intended for food, was decomposed, and that it was adulterated, in the statutory definition of adulteration. After seizure, the product was claimed by the company that made it and the proceeding defended. The claimant's answer admitted interstate shipment of the product and other jurisdictional facts as to three hundred and forty-two cans, that ten per cent of the product was superadded sugar, but denied it was decomposed or adulterated. The case turns on two questions: first, that of fact, whether the product was decomposed; and second, that of law, whether the product is adulterated as adulteration is defined by the Federal Food Law above referred to.

This product came from a company in Kansas which markets eggs in the shell and also in this frozen form. It was consigned to a baking company in New York City and was seized in New Jersey. The product was prepared under a patent, referred to below, and for convenience we refer to it hereafter as frozen eggs, the seized cans bearing the label, "* * * Eggs for Cooking. Slow Thawing Gives Best Results". Without entering into details we may say the company selected from the current supply which came from stores and dealers, the highest grade of eggs which it marketed in the shell. The remainder, termed "discards" were sorted by candling into three grades, namely "sec-

onds", "checks" and "spots", or, to quote from complainant's testimony, "A current use egg is an egg that is full firm; it may be clean and some slightly soiled shell eggs. Number two is a dirty shelled egg, a small egg, though it may be dirty shelled or clean shelled, and the check egg is an egg that is cracked in course of transportation". Of the discards, the seconds and checks are used for food purposes in the frozen product here in question, while the spots, or third class, which consist of leakers, or eggs with broken shells, blood ringers and embryo chicks is used in liquid form for tanning purposes. "Candling" consists of examining the egg as it is held before an artificial light in a darkened room. As this sorting by candling is done with great rapidity—an expert girl sorting and breaking from seven to eleven thousand eggs in a day—there is a likelihood of bad eggs going into the mixture, for as the claimant's president, speaking of bad eggs, admits, "There is likely an egg (bad) that goes in once in a while through the candling process". In addition to the spoiled eggs there is danger from musty eggs, the deleterious effects of which are such that, as stated by one of claimant's witnesses, "One musty egg would spoil anywhere from two hundred and fifty to three hundred and fifty eggs". And as a musty egg cannot be detected by candling, and must be opened slowly to emit smell, the proof of claimant being, "The only way you can detect a musty egg is by smelling it; if a person opens a musty egg quick, it is very hard to detect it; you must open them slowly. You can smell them if you are not too quick opening them. If you take your time in opening the egg, you can smell if it is musty or fresh". It is clear therefore that the danger from contamination, both from bad and musty eggs, is very considerable in the rapid sorting at claimant's factory. After the eggs were thus sorted and broken they were run through a colander to break the yolks, chilled, thoroughly mixed by churning, passed through a fine meshed sieve and finally mixed with sugar and frozen solid. This sugar, to the extent of ten per cent., was added in pursuance of the patented process "to prevent the permanent thickening of the egg mixture containing the yolk of the egg when subjected to low temperatures, so that the physical characteristics of fresh eggs will be preserved and a deterioration of the egg both as to flavor and otherwise be preserved". But in this connection it will be noticed, as hereafter stated, that when the frozen product is melted the sugar tends to hasten decomposition. The patent covered both a process and a new article of manufacture, viz: "As a new article of manufacture egg containing added sugar and frozen below the temperature of decomposition etc."

The voluminous testimony consisted of two kinds, fact and expert, and has all had our full consideration. As to the facts, when the testimony is carefully analyzed there is little dispute, but the scientific deductions from such facts are as far apart as is usually the case where experts testify. After the seizure in Jersey City of the cans containing the product, samples were taken by the scientific representatives of both sides. The government experts made analyses and tests of their samples. Whether the claimant's experts made corresponding analyses and tests of theirs does not appear in the proofs. They did, however, make certain tests in the court below. Turning to the cooking and smelling tests to which the government samples were submitted, the proofs disclose the following facts. Benjamin R. Jacobs, qualified as a chemist, a graduate of scientific schools, of experience in testing bakers' products for manufacturing companies, and is now and for four years has been employed as a chemist in the government Bureau of Chemistry, where he carried on cooking experiments for that bureau. He used three different samples of the frozen eggs, which he received from Dr. Bacon, whose custody and prior treatment of which we will refer to later. At the same time he took

fresh eggs and used them and the frozen eggs in cake making in the same manner. After describing his mixtures and preliminary work, the witness—to reduce the questions and answers to narrative form—in substance said—this dough was placed into small gem cups—so called cake cups—and baked for twenty-five minutes. The finished product of this blank or fresh eggs was taken as a standard to judge the odor, both hot and cold, the color and appearance of all the eggs. The fresh eggs had the normal odor of a fresh egg, and the sample number 11,158 C, while it was being beaten, had a very strong odor of rotten eggs; sample 11,167 C had rather a strong odor of rotten eggs; and sample 11,173 had a very strong odor of rotten eggs while being beaten. The odor permeated his and the adjoining rooms and people in the next one called attention to it. All the samples had a strong odor of rotten eggs while hot and a normal odor when cold. When the cakes baked from these samples were cold, there was nothing in their color or smell different from the cakes he baked from fresh eggs at the same time. The odor was only detected when the cakes came from the oven and were broken. Dr. Bacon, also a chemist of the Bureau, who had had very considerable experience in the chemistry and decomposition of foods, testified to observing Dr. Jacob's cooking experiments, that he handled the frozen eggs and they were odorless, but when Jacobs baked the cakes they had, when broken open hot, the foul odor of decomposed albuminous matter. He further says he distilled both fresh and frozen eggs at the same time by the same process. In the distillate of the former he simply found the ordinary odor of fresh-boiled eggs, while in the latter his distillate was very foul, had a fishy odor, very pronounced, the odor of decomposing fish. This odor not only permeated the witness's room, but got out into the hall to such an extent that occupants of other rooms came and complained. Dr. Rosenberger, who received several of these samples for analysis, among them 11,158 C, 11,167 C and 11,173, is Professor of Hygiene and Bacteriology of the Jefferson Medical College, Philadelphia, and for three years has examined eggs and egg products for the Pennsylvania State Food Department. Speaking of No. 11,158 C, he says it smelled like stale fish, a stale fishy odor, and from his observation and experience with such matters he would say it was decomposed. Dr. Stiles, who is in charge of the bacteriological work of the Bureau of Chemistry, made bacteriological tests of the frozen eggs. He said that when the claimant's eggs were frozen they had no appreciable odor, but as melting went on the odor came. He then said: "By taking one of the Mason jars and vigorously shaking it and then removing the cover—I did that after removing our bacteriological samples—I could detect, plainly detect, an odor; this odor increased as the product stood, and in our sample I observed during the day that it was kept at approximately a temperature of twenty-two degrees centigrade, at the end of two hours there was a distinct odor, which increased on the standing of the egg. It was a sweetish, rancid, fishy odor."

Unless in some way counteracted this testimony would seem conclusive of the fact that this product was decomposed. This it is sought to do on several grounds. First, that other samples taken from the same cans were tasted, smelled and cooked by the claimant's witnesses, without any odors or other evidence of the decomposition being discovered. But this testimony, while it is persuasive as to the particular samples used by claimant's witnesses, is at best but negative and does not disprove the positive and affirmative evidence as to the foulness of the samples used by the government witnesses. Moreover, it is to be borne in mind that no analysis was made by the claimant of the samples taken by its experts at the same time and from the same

packages the government's samples were taken. To us it is clear that testimony of the limited, negative character referred to above cannot avail to counteract and discredit the strong, positive proofs of decomposition found in the testimony of those who testified thereto. And in weighing testimony founded on the senses, and this is particularly true of the sense of smell, it is a fact that there is a wide difference in individuals in the sensitiveness of the olfactory nerves. Two men may truthfully testify as to the acute presence or the absence of odor, but with such testimony before it, that of the man who detected the odor should have the greater weight. One is positive, the other negative. It is also contended that the samples of the government were not subjected to proper treatment, and by reason of delay in treatment they were unfairly allowed to deteriorate before the tests were made. It must be borne in mind that the question we have before us is whether this product, when subjected to the conditions ordinarily incident to its use as a food product, was decomposed. The test is not whether decomposition existed and was going on while the product was frozen solid, but when it was melted and used as a liquified food product. The nature of that change we have from the directions to the user placed on the can by the maker, viz: "Slow thawing gives best results", and the description of the process in the patent, viz: "The mixture is then frozen solid, and held below the point where decomposition may occur, as by subjecting it to a temperature of zero Fahrenheit, and is maintained frozen until desired for use. When thawed, the egg substance resembles that of the natural egg in its useful physical characteristics and is of much greater commercial value than ordinary frozen egg". It is, then, apparent that if the frozen product is of the proper character it can be slowly thawed out and used without resultant decomposition, and by thawing is meant not a careful, close scientific maintenance of exact thermal conditions, but the gradual reduction of the frozen product to a liquid state in the ordinary way a cook would allow a solid to liquify in the place where the cooking was going on. Under such directions a baker would naturally allow the product to gradually melt in the atmosphere of the room where he was working, or the cook in her kitchen. And not only is this the case, but if this frozen product is so near decomposition that exact chemical and thermal precautions are necessary to prevent decomposition, then the product is, as an article of food, so close to the danger line as to excite suspicion and not only warrant but demand the closest judicial scrutiny before it is allowed to become an article of food consumption. In this case we find no proof that the treatment of these samples by the government chemists was unfair or subjected the product to conditions producing more rapid decomposition than if it had been used for baking. As will be seen by the proofs, on February 10, 1911, the government samples were set apart on ice and on February 14th, were shipped to Washington. When received there the next day they were still frozen solid. They were then delivered to doctors Bacon and Anderson, government chemists, and on March 7th some of them were packed in ice and sent to Dr. Rosenberger at Philadelphia, from the cold storage where they had meanwhile been kept at ten degrees Fahrenheit. From the samples which he received, Dr. Bacon melted two samples "very slowly, according to the direction on the can." They were placed in Mason jars closed with a screw top and rubber bands and allowed to stand at room temperature for ten hours. They were given to Jacobs within an hour after melting and were used by him in the cooking operation. We find no evidence of unfair or improper treatment of the product in this evidence and the suggestion that the odor of the eggs, which Dr. Bacon testified was noticeable as soon as the product melted, came from the sterilizing of Mason jars

or from the rubber sealing bands is a mere suggestion not based on facts, and that such jars were improper as receptacles for samples is negatived by the very fact that the claimant's chemists used such jars in part for taking their samples, and there is no proof that in any subsequent use of such samples they detected any odor from the rubber bands at all resembling bad eggs. We are therefore of opinion the liquified samples of the government, when tested by the experts for bacteriological results and used for cooking, were in a condition fully as favorable to the product as would be its liquified condition when used by bakers and other consumers. And the condition of a product in the hands of a consumer is the place and time to test its fitness for food. Turning from this proof of practical facts to the theories of the expert witness, we find a wide difference of conclusions. As we stated above, the government witnesses subjected the samples to well known scientific tests and in the absence of any opposing tests made by the claimant, we are justified in accepting these tests as correct. Without entering into details, we may summarize such tests as proving in this liquified product recognized products of decomposition; that the product when hypodermically injected into guinea pigs and other animals used in laboratory experiments produced sickness and death when the like administering of fresh egg product had no harmful effect. The tests showed the presence of such bacteria as produce disease, blood poisoning and death and are found in animal excreta. From these facts, which are not controverted, the government experts infer that the product was decomposed, while the claimant's experts testify they do not prove decomposition. Indeed, as we understand the contention of the claimant's experts, it is contended, to use the language of Professor Folin of the Harvard Medical School, "the number of bacteria in an unknown product is no index to the degree or extent of the decomposition in that product. I mean that in a bacterial decomposed product there are other factors involved than the mere number of bacteria found in that product at any particular time." Viewing the problem then from the standpoint of decomposed, in the technical meaning of that word, and not from the word as meaning spoiled, (for as he himself said, "On terms in common use, such as 'spoiled', an expert does not really know any more than the person who asks him. It is spoiled to that person"), Professor Folin examined one of Dr. Bacon's samples for the presence of ammonia, which he says is an indication of technical decomposition. Finding none he concluded there was no decomposition. But such value as this test and the inference drawn from it might ordinarily have, it appears to us the time of such test is as open to the criticism of having been made too soon as Dr. Bacon's was of being made too late. We have already shown that the latter was made under conditions similar to those to which the product was subjected in culinary working conditions. But such we do not find to be the case in Professor Folin's test for ammonia, where he took the product from cold storage and put "the vessel containing the egg in cold water and allowing it to stand; but in all cases, for the first determination, I started the ammonia within two hours after I took the sample out of cold storage." Now in view of the fact he stated that it is not possible to determine the ammonia in the product while frozen, that this frozen product stood in cold water and that for only two hours, we are not convinced that this testimony throws any helpful light on the question before us, for it is not shown that his sample had liquified to the extent incident to ordinary baking use. It may well be in view of the frozen condition of the product initially, its test within two hours, and that meanwhile it was kept standing in cold water, the product was proof against the ammonia test. But, as we have said, this may prove nothing as to this product considered from

a food standpoint. Professor Folin admits he purposely omitted to make the tests Bacon had made and that he did this "because I knew that in the presence of so much sugar the subsequent decomposition which would take place was largely the fermentation of the sugar which results in the formation of carbonic acid and which would figure as an acid, and therefore it did not indicate anything *in the decomposition of the egg substance.*" From this it is evident that his test was not to discover whether decomposition of the product as a whole, superinduced, it may be, by sugar, had begun, but whether it was found in the egg product alone. It is therefore clear that bearing in mind the time, method and limited object of such tests, and his tests may be taken as fairly illustrative of the viewpoint of claimant's experts, they throw no helpful light on the question before us of whether this product, when subjected to conditions incident to ordinary culinary use was decomposed.

Finding, therefore, that this food product was decomposed and the act providing that for the purposes of the act an article shall be deemed adulterated "if it consists in whole or in part of a filthy, decomposed or putrid animal substance", it follows that this product falls within the statutory definition on the ground of decomposition, and it therefore becomes unnecessary for the purposes of this case to pass on the question whether the product, by reason of the addition of sugar, was also to be deemed adulterated. The decree of the court below is therefore reversed with directions to enter a decree in condemnation in favor of the government.

W. M. HAYS,
Acting Secretary of Agriculture.

WASHINGTON, D. C., *May 18, 1912.*

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