BLUMENTHAL *v.* BURRELL *ET AL.*

Circuit Court, N. D. New York. October 10, 1890.

1. PATENTS FOR INVENTIONS—NEW MANUFACTURE.

Patent No. 344,483, granted to Moritz Blumenthal, June 29, 1886, is for new manufactures,—the two chemical products, chymosin and pepsin, uncombined with each other and practically free from foreign substances. Chymosin and pepsin are ferments, the former a curdling agent, the latter a digestive agent, found in the rennets of calves and hogs, which had, on account of their curdling properties, been used in the form of a liquid in the manufacture of cheese, but the liquid contained objectionable matter, and its curdling powers varied according to the predominance of chymosin in the stomachs treated. At the time of the patent chymosin had not been produced in a pure state. *Held,* that the chymosin described in the patent was a new and patentable product.

2. SAME.

The article actually produced being merely the extract in a powder form, differing from previous extracts only in containing more of the curdling principle, and less of the useless or deleterious matter, is not a patentable product, though it contain but an insignificant proportion of pepsin and other foreign matter.

In Equity. On bill for injunction.

Briesen, Steele & Knauth, (A. v. Briesen, of counsel,) for complainant.

E. S. Jenney, for defendants.

WALLACE, J. The patent in suit (No. 344,433) granted to Moritz Blumenthal, of Prussia, June 29, 1886, is for new manufactures,—the two chemical products, chymosin and pepsin, uncombined with each other, and practically free from foreign substances. The first claim is for chymosin "uncombined with pepsin," as described; the second is for pepsin "uncombined with chymosin," as described; and the third is for "chymosin or pepsin uncombined with each other, in combination with an indifferent preservative," as described. Chymosin and pepsin are ferments found in the rennets or stomachs of calves and hogs, the former predominating in calf rennet and the latter in hog rennet; but they are unlike in their properties, chymosin being a coagulating agent, and pepsin a digestive agent. On account of its coagulating properties calf rennet has long been in extensive use for curdling milk by cheese makers in the form of a liquid obtained by cutting up the stomachs and macerating them in a salt solution containing from 5 to 10 per cent, of salt. Such a liquid contains the collected gastric juices of the stomach, including, besides chymosin and pepsin, more or less of the objectionable mucous and albuminous matters of these juices; and its curdling power varies according to the predominance of chymosin in the stomachs treated. The patentee states in his specification that before his invention neither chymosin nor pepsin had ever been obtained in an absolutely pure state, and that each, as theretofore obtained, contained a compound of both, besides mucous, albuminous, and other impurities, which impart an offensive smell and taste to the products. The questions in the case are whether the chymosin of the claim was at the time of the

alleged invention a new product in a patentable sense, and whether the defendants have infringed the claims. The pepsin claim is not in controversy;

but the complainant insists that the rennet powder made by Chris. Hansen, of Copenhagen, and sold in this country compressed in the form of tablets by the defendants, is the chymosin of the first and third claims of the patent. Inasmuch as the claims are for the product, irrespective of the processes by which it may be made, it is unnecessary to consider whether, in view of the prior state of the art, Dr. Blumenthal's process for treating rennet to produce his extract was a new discovery. If the product was new it is immaterial whether the process was new or old. As described in the specification, the product of the first claim is a constituent of rennet which separates itself out of a rennet solution from the pepsin and other rennet matters of the solution in the form of white flocculent substance, and is collected on a filter and dried. It is an amorphous, white, gelatinous substance, insipid and odorless, greatly resembling in appearance hydrate of alumina. It may be kept for years without deterioration, and is not injured by temperatures reaching as high as 35° centigrade. The product of the second claim is the chymosin of the first claim mixed with a neutral preservative, such as an alkali soluble in water or sugar. By the terms of each claim the product is uncombined with pepsin. According to the testimony in the record Dr. Blumenthal conceived the idea that the curdling ferment of rennet could be obtained isolated from all other rennet constituents, and in a dry state; and in the years 1880 to 1882 he made experiments with a view of obtaining such a product. The patent in suit, and another (No. 338,471) which was granted March 22, 1886, for the processes of making chymosin and pepsin, are the outcome of these experiments. At that time, besides the rennet prepared in the way which has been mentioned, liquid extracts of rennet, prepared by adding boracic acid to the ordinary solution, to preserve it, had been introduced to some extent among dairymen, and so had powdered rennet made by drying and pulverizing the rennets; but both the liquid and powdered rennet were prepared by processes which did not contemplate the separation of the chymosin from the pepsin, and mucous and albuminous matters. Like the ordinary liquid of rennet, they were the extracts of the collected gastric juices. Their coagulating value was variable, depending upon the comparative coagulating and foreign constituents of the rennets used, and the liquid extracts, by reason of their chemical ingredients, sometimes imparted noxious flavors to the cheese. According to Dr. Blumenthal, before his chymosin was made; no pure coagulating ferment for commercial purposes had ever been made. He testifies, and so do his expert witnesses, that he was the first to make a product isolated from foreign ingredients having the curdling principle alone, in a dry state. In the language of Dr. Bischoff, while pepsin had been separated in an approximately pure form, "chymosin was not known as an isolated substance, especially not in the form of a dry powder, and as a commercial article."

The only evidence offered by the defendants to controvert the testimony of Dr. Blumenthal and the other expert witnesses for the complainant, or to show that the product described and claimed in the patent was not a

new article, consists of various publications relating to the subject of rennet and its extracts. Of those the only ones of the slighest value as anticipating references are those which describe Deschamps' process, Hammarsten's process, Scheffer's process, and Soxhlet's process. Deschamps, in treating of "laab" prepared from calf's stomach, speaks of it as containing "a peculiar matter, which the author calls 'chymosin,'" and gives a process by which a precipitate is obtained, insoluble in water unless the water is acidulated, which "curdles milk, though not with the power of the original laab." Hammarsten describes the curdling ferment by the term "lab," and points out that it is very difficult to get a liquid free from pepsin containing lab, while, on the contrary, it is tolerably easy to get a liquid free from lab, but rich in pepsin; and gives a process of obtaining a liquid free from pepsin in which "a not inconsiderable amount of the lab" remains. Scheffer describes a process for treating hog rennet to obtain pepsin, and does not offer a hint about the production of chymosin. Soxhlet gives a process for obtaining from a rennet extract a precipitate which consists not of pure ferment, but mainly of mucous, which carries with it the bulk of the ferment, and which "may be utilized to prepare very concentrated rennet extracts for experimental purposes." All these references may be disposed of by the observation that so far as can be collected from them the attempt to extract the pure curdling principle of rennet had not passed the region of laboratory experiment, and the thought of extracting it in the form of a dry ferment capable of commerical use had not originated. It is obvious that such a product as the patent describes will contain a known and uniform amount of the active curdling principle, free from all the useless or noxious constituents of rennet. As distinguished from the old rennet extracts, whether liquid or powdered, containing more or less of pepsin and other constituents, such a product would be not merely descriptively new but substantially new.

The evidence for the complainant to support the charge of infringement consists of a comparison by chemical analysis of the Hansen rennet powder sold by the defendants with the article known as "Dr. Blumenthal's Rennetine." The analysis of the Blumenthal rennetine does not show that it is chymosin uncombined with pepsin, or that it has any of the novel characteristics of the chymosin of the patent. The evidence indicates that it is a rennet powder containing but an insignificant proportion of pepsin to chymosin, and but little mucous and albuminous matter. Possibly and probably it is a purer and better rennet extract than had been made for commercial use before the alleged invention of Dr. Blumenthal. But, if the product produced by his process is nothing more than an old extract of rennet in the form of a powder, differing from those previously known only in having more of the curdling principle and less of the useless or deleterious matter, it is not the subject of a valid patent. A patent for a product destitute of properties or characteristics by which it can be identified and distinguished from an old product, and which

rests merely upon the difference in the degree of excellence between the two, and not in kind, cannot be sustained.

Smith v. *Nichols*, 21 Wall. 112; *Wood Paper Patent*, 23 Wall. 566; *Wooster* v. *Calhoun*, 11 Blatchf. 215; *Excelsior Needle Co.* v. *Union Needle Co.*, 23 Blatchf. 147, 152, 32 Fed. Rep. 221; *Hatch* v. *Moffitt*, 15 Fed. Rep. 252.

The testimony of complainant's expert denotes that Hansen's rennet powder is richer in pepsin, and contains more of the mucous and albuminous matters, than Blumenthal's rennetine. According to the testimony; introduced by the defendants the Hansen product is made by treating calves' rennets according to the process practiced by Scheffer in treating hogs' stomachs to obtain pepsin, described in the publication which has been referred to. Their theory is that, when his process is employed in the treatment of hogs' stomachs, a product is obtained which is strong in pepsin, and weak in chymosin, and when that process is employed to treat calves' stomachs, the product is an extract strong in chymosin and weak in pepsin. In any view of the case the charge of infringement is not established. The bill is therefore dismissed.