

terial covered by the patented compound. The state of the art, the value of the invention, and the language of the specification do not require such a limited and restricted construction.

It may fairly be contended that the fine sand used as the granular element of the appellant's filtering compound is the equivalent of the baked porcelain earth, ground or reduced to powder. Nor is there such wide difference in the proportions of pipe or other suitable clay and the granular material employed as to constitute any substantial difference in the filtering compound made by each of the parties.

The two filtering compounds are almost identical in appearance. To the naked eye there is no difference. The ex parte testimony and the fair construction of the patent raised a fair presumption of infringement, for the purpose of awarding a preliminary injunction. The appellant has no established business to be interrupted or injured, while the appellees are in a position to be seriously, if not irreparably, injured, if appellant is not restrained until the rights of the parties can be fully and finally adjudicated.

On the case presented we are of the opinion that appellees have exhibited such probable right, and probable danger to that right, as entitled them to the interposition of the injunctive powers of the lower court for its protection pendente lite, and further, that, upon the consideration of the balance of inconvenience or injury to one party or the other, the legal discretion of the circuit court in awarding the injunction was not improperly or improvidently exercised. Our conclusion upon the whole case, as now presented, is that the order appealed from is not erroneous, and that said appeal should be dismissed at appellant's cost.

The cause so far as brought to this court by the appeal will be remanded to the circuit court for the southern district of Ohio, western division, with the direction to reinstate its injunction, which appellant improperly superseded.

BLUMENTHAL v. BURRELL et al.

(Circuit Court of Appeals, Second Circuit. December 6, 1892.)

Nos. 13 and 14.

PATENTS FOR INVENTIONS—INFRINGEMENT—NEW PRODUCT—"CHYMOsin."

Letters patent No. 344,433, issued June 29, 1886, to Moritz Blumenthal, covers in claim 1 the new product "chymosin, uncombined with pepsin." This product is obtained by the patentee according to a "process" patent, No. 338,471, issued to him March 23, 1886, from the rennets of hogs and calves, by a process of maceration in a warm salt solution, a subsequent precipitation of impurities by acidulation, and causing a separation and floating of the chymosin by further acidulation and continued agitation in a warm supersaturated solution of salt. *Held* that, assuming the product patent to be valid, it is not infringed by chymosin containing a considerable percentage of pepsin and other impurities, and produced according to the process of Chr. Hansen, of Copenhagen, which consists in soaking the rennets in acidulated water three several times, mixing the solutions together, filtering them, and then precipitating the chymosin by adding 15 per cent. of salt.

Appeal from the Circuit Court of the United States for the Northern District of New York. Affirmed.

Arthur v. Briesen, for appellant.

W. S. Jenney, for appellees.

Before SHIPMAN and LACOMBE, Circuit Judges.

SHIPMAN, Circuit Judge. The complainant brought, in the circuit court for the northern district of New York, two suits in equity to restrain the defendants from the alleged respective infringement of two letters patent to Moritz Blumenthal,—one being No. 338,471, dated March 23, 1886, for an improved process in the manufacture of the nonorganized ferments chymosin and pepsin; and the second being No. 344,433, dated June 29, 1886, for the new product which resulted from the patented or any other suitable process. The circuit court dismissed each bill upon the ground of noninfringement. See 43 Fed. Rep. 667. From these decrees the complainants appealed.

The opinion of the circuit judge states the following facts in regard to the two chemical products:

"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 five to ten per cent. of salt. Such a liquid contains the collected gastric juices of the stomachs, 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 object of the invention was stated by the patentee in the specification of the process patent to be "the production of these zymotic agents or products in a pure form; that is to say, pepsin uncombined with chymosin, and pepsin, chymosin, and pancreatin, free from any foreign substances or constituents. These pure products are nearly odorless and tasteless. They are perfectly soluble in water, and form tasteless and odorless and clear or limpid solutions that do not readily decompose. They may be preserved for a long time, either in a fluid or dry state, without deterioration, and under varying climatic influences, without impairing their properties. Even at temperatures as high as 35 deg. centigrade they may be kept in good condition for a long time. If desired, a neutral preservative, such as an alkali soluble in water, may be mixed therewith, or sugar, as will hereinafter appear."

The patent for a process contains two claims,—one for the process by which pure chymosin is separated from other agents or materials; and the second for the process, as carried forward, by which pepsin is precipitated,—each product being separately obtained free from the other and from mucous or other impurities. The patent for the product has three claims; the first for the described chymosin "uncombined with pepsin," the second for the described pepsin "uncombined with chymosin," and the third for "chymosin or pepsin uncombined with each other, in combination with an indifferent preservative," as described.

The defendants are charged with making in part and with selling tablets containing pure chymosin uncombined with pepsin, in violation of the first and third claims of No. 344,433, and which are alleged to be made in accordance with the process described in each claim of No. 338,471. The tablets are made by compressing rennet powders, which are made in the laboratories of Chr. Hansen in Copenhagen. Chymosin is a substance which was known before the date of the patents, and which had long been used to curdle milk in the manufacture of cheese. It was the active agent in the liquid extracts of rennet and dried rennet, which were used for curdling purposes. The processes by which those preparations were made were not founded upon the idea of a separation of chymosin from pepsin, or of a thorough removal of mucous or albuminous material. Blumenthal was the first who made, except as a laboratory experiment, the article of chymosin in a pure state, and separated from noxious substances or other chemical agents. His patent for a product is not for chymosin, but for chymosin separated from pepsin, and uncombined with foreign substances. Such an article was new, and, if actually produced in the condition of purity which the patent describes, was patentable. If it was simply a superior rennet extract, containing less pepsin and combined with a smaller portion of organic substance than had been obtained or striven for in the previous extracts, the product would not have a patentable character. The Wood Paper Patent, 23 Wall. 566. The evidence, as was stated by the circuit court, "indicates that it (the Blumenthal) is a rennet powder, containing but an insignificant proportion of pepsin to chymosin, and but little mucous or albuminous matter." It is thereupon contended that the article, not being entirely uncombined with pepsin, is not new in a patentable sense. We do not suppose that the language of the patent demands an absolutely chemically pure article, but an article practically free from pepsin. But whether the result of the Blumenthal process, when applied to calf rennets of the proper age, and properly carried out upon a scale of sufficient magnitude, produces a powder which was not merely an improved, but an absolutely new, article, having its own distinctive nature, it is not necessary to decide, for, in our opinion, upon the assumption of the validity of the patent for a new product, the complainant is overborne upon the question of infringement.

The theory of the complainant in regard to infringement was that the analysis of the defendants' tablets showed that they contained chymosin practically uncombined with pepsin, and in combination with common salt, and that, therefore, the analysis entitled the expert to conclude that the products of Blumenthal and Hansen were manufactured according to the patented process, no other process for obtaining such a product commercially being known. The Blumenthal powder cannot be identified except as the result of the patented process, and an analysis of the powder of another manufacturer does not disclose that it was made by that process, except upon the theory and prima facie proof that no other existing process could make it. The defendants satisfactorily proved that the pow-

ders which they compressed into tablets were made in general accordance with the process described by Schaffer in 1872, for the production of pepsin from pigs' rennets. By the Blumenthal process, calves' rennets are cut in pieces and "macerated" for about 24 hours in a solution of salt containing about 5 per cent. of salt. The solution, when filtered, is then acidulated, whereby the mucous matter is precipitated. The filtered solution is again acidulated, and pulverized salt is added, until a precipitate of the latter is formed. This "supersaturated" solution is kept at a warm temperature for two or three days, under constant agitation, when it is allowed to rest for a day or two at an increased temperature. A separation then takes place "in the form of a white, flocculent substance, which floats on or in the solution," which is collected, washed, dried, and is the chymosin separated from other products or impurities. The Hansen process is to soak the calves' rennets three times in acidulated water,—once for 36 hours, then for 12 hours, then by a shorter washing process,—when the three extracts are mixed together. The extract is filtered, to remove the insoluble impurities. Fifteen per cent. of salt is then added to the filtered extract and dissolved, which precipitates the rennet ferment. The mass is left at rest, when the liquid is drawn away, and the precipitate is strained, pressed, and dried.

The two processes are not alike. Blumenthal places reliance for a thorough separation of the curdling ferment upon a supersaturated solution of salt,—that is, by adding such an amount of salt to the solution that part of it would remain undissolved; and he also takes especial precautions to separate the mucous matter. From the fact that inconsiderable attention is paid in the Hansen process to a complete separation of the organic substances from the resulting product, it would naturally be expected that a greater amount of such substances would be combined with the chymosin. This appears, from the analysis of the complainant's competent expert, to be the case. He says:

"The difference in the composition between rennetine exhibits of Dr. Moritz Blumenthal and Hansen's rennet tablet exhibit is the following: The first-mentioned differs from the second in 0.37 per cent. of moisture, in which the second-mentioned exhibit is richer. It differs further in 7.01 per cent. of ash, in which Blumenthal's exhibit is richer; in 6.64 per cent. of organic substance containing the chymosin in favor of Hansen's exhibit. While the curdling power of the first-mentioned exhibit, expressed in seconds, is 34½, that of the Hansen exhibit is 32 seconds. This relation of time, translated into parts for the same time, (40 minutes,) gives for Blumenthal's exhibit 69,565 parts, and for Hansen's exhibit 75,000 parts. The digestive power of the first-mentioned exhibit differs from that power in the second exhibit to the amount of 0.03054 grammes."

And he furthermore says:

"There is fully four times as much of organic substance in Chr. Hansen's rennet tablets than there is in Dr. Moritz Blumenthal's rennetine. The difference in the digestive and coagulative power of these two samples is not of such a nature—not so great—as to suppose that the surplus of organic substance in Hansen's tablets over that of Blumenthal's should be made up entirely of pepsin and chymosin, or of either of these alone. Figures indicate rather that this surplus of organic substance is due to foreign organic substance, not pepsin or chymosin,—perhaps mucous and albuminous matter,—resulting from a less thorough purification than the patent adheres to for preparing the pure substances chymosin and pepsin; that, therefore, Blumenthal's rennetine contains in its smaller amount

of organic substance relatively more of the active principle chymosin than Hansen's powder, with a larger bulk of organic substance. While, therefore, Blumenthal seems to purify more thoroughly, Hansen, who seems not to do so, retains, perhaps, along with the undesirable bulk of foreign organic substance, absolutely a little more chymosin."

This testimony, coupled with the clear proof of the Hansen method of manufacture, is adequate to show that the defendants' tablets are not the pure chymosin which is described in the Blumenthal patent for a new article of manufacture. They do not contain a greatly excessive amount of pepsin or of organic matter, but the difference is sufficiently marked to show that the claims of the patent No. 344,433 have not been infringed. The two important facts in the case are that the defendants' article was not made by the patented process, and that the cruder and less careful process of Hansen produces a correspondingly less pure result than that of Blumenthal, though it is probably sufficiently complete to accomplish beneficially its office in the manufacture of cheese.

The decrees of the circuit court are affirmed.

SAUNDERS et al. v. ALLEN.

(Circuit Court, S. D. New York. November 29, 1892.)

1. PATENTS FOR INVENTIONS—INVENTION—PIPE CUTTERS.

Claim 2 of reissued letters patent No. 10,121, issued January 31, 1882, to Andrew Saunders, for a pipe cutter, consisting of a stock, rotary cutters, antifriction rollers, arm, and feeding screw, is void for want of invention; for rotary cutters were well-known substitutes for knife cutters, and every element in the combination had theretofore been patented in the same place, as is shown by the following patents: No. 52,715, to William S. Haworth, January 20, 1866; No. 65,066, to Theodore S. Foster, May 28, 1867; No. 67,530, to Henry Getty, August 6, 1867.

2. SAME—ANTICIPATION—PLEADING.

In a suit for infringement, the defense of anticipation is not sufficiently set out by an answer which merely avers that the invention had been fully described and publicly made known in several patents, among them those of two persons named, stating the names and dates, without directly averring that the invention had been before patented; for an invention might be publicly made known by a patent, and not be patented.

3. SAME—WAIVER.

But where, under such an answer, the patents referred to by it have been received in evidence without objection, and without subsequent motion to suppress, the right to object thereto is waived.

In Equity. Suit by Alexander Saunders and others against James P. Allen for infringement of a patent. Bill dismissed.

James A. Whitney, for plaintiffs.
Sherman H. Hubbard, for defendant.

WHEELER, District Judge. This suit is brought upon patent No. 10,021, dated January 31, 1882, for a pipe cutter, consisting of a stock with a jaw at one end, carrying two antifriction rollers to hold the pipe against a rotary cutter in an arm pivoted to the stock, and forced into, as it is moved around, the pipe, by a screw through the stock lengthwise, working against the arm. The second claim alleged to be infringed is for a combination of the stock, cutter, rollers,