

PHILADELPHIA CREAMERY SUPPLY CO., Limited, v. DAVIS & RANKIN BLDG. & MANUF'G CO.

(Circuit Court, N. D. Illinois. March 8, 1897.)

PATENTS FOR INVENTIONS—INFRINGEMENT—MILK CREAMERS.

Letters patent, No. 239,569, issued April 5, 1881, to Theodore Bergner, for creaming machines, were based upon specifications providing for the removal of the skimmed milk by means of a pump, which specifications were amended three years after filing so as to cover the entire process of creaming milk mechanically by centrifugal force. *Held*, that since the only new element in the device was the method of removing the milk, such patent was not infringed by a creaming device in which no pump was used.

In Equity. Suit by the Philadelphia Creamery Supply Company, Limited, against the Davis & Rankin Building & Manufacturing Company, to restrain the alleged infringement of a patent.

Banning & Banning and Chas. H. Aldrich, for complainants.
Pierce & Fisher and Robert S. Taylor, for defendants.

GROSSCUP, District Judge. The bill is to restrain the infringement of letters patent No. 239,569, issued April 5, 1881, to Theodore Bergner, assignee of Edwin J. Houston and Elihu Thompson; and letters patent No. 192,662, issued January 29, 1884, to Theodore Bergner, assignee of Wilhelm Le Feldt and Carl G. O. Lentsch. The last-named patent having expired, since the bill was filed, by reason of a German patent, no relief is asked thereon. The relief claimed is based on the fifth, sixth, seventh, and eighth claims of the first-named patent. The patent relates to machines of the class in which the separation of the lighter and heavier constituents of liquids is effected by the action of centrifugal force, and is said to be particularly adaptable to cases in which, from the nature of the materials dealt with, centrifugal machines of the ordinary type cannot be employed; for example, in the separation of two mingled liquids of different density, as in the creaming of milk. The claims broadly cover the process of creaming milk mechanically by centrifugal force. The claims are as follows:

(5) The process of creaming milk mechanically, skimming off the cream mechanically, and removing the skimmed milk mechanically by centrifugal force. (6) The process of creaming milk mechanically, skimming off the cream mechanically, and augmenting the volume of the charge so as to remove both the cream and the skimmed milk separately by centrifugal force. (7) The process of creaming milk mechanically, skimming off the cream mechanically, and supplying fresh milk under a regulated feed, so as to drive off the cream and skimmed milk separately, while maintaining incipient and progressive separations of the supply into accretions of cream and skimmed milk. (8) The process of creaming milk, and skimming off the cream by the action of centrifugal force.

The original specifications were filed April 24, 1877, but the claims above recited were not those annexed to such specifications, but were first suggested by the patent office January 19, 1880, and were afterwards filed by the patentee July 19, 1880. It will thus be seen that an interval of nearly three years intervened between the filing of the application and specifications and the perfecting of the claims as they

now appear. It is important to bear this in mind, for that period of time was eventful in the development of the art to which this patent relates.

In the view I have taken of this case, it is unnecessary to decide whether, under the doctrine of *Locomotive Works v. Medart*, 158 U. S. 68, 15 Sup. Ct. 745, a patent for the process claimed could be maintained, such process being, by its own designation, effectuated by mechanical means. It is, of course, well known that cream and milk, though intermixed, are of different densities, and, if allowed to stand in a vessel, will, by force of gravity, separate themselves, the milk settling to the bottom, and the cream rising to the top. The present perfected cream separators are based upon the idea of substituting centrifugal force for gravity, and may be described as follows: Into a suitably supported bowl rapidly revolving is introduced the milk and cream in its state of original mixture. The effect of the centrifugal force thus applied to the full milk causes the denser material, the pure milk, to be precipitated further than is the cream, the lighter material, thus separating the incoming fluid, after its entrance into the bowl, into two bodies, taking the form in the bowl of two vertical columns, the pure milk lying next to the periphery, and the cream within the inner line of such milk column and the axis of the bowl. The exact boundary line between the milk and cream columns is, of course, indefinable, a little of each necessarily running through into the other; but for practical purposes the separation is complete. Just where, in the bowl, this line of separation will occur, undoubtedly depends upon the conditions existing, such as the rate of revolution, the quantity of the intake, and the character of the full milk. But, the conditions being alike, it may be taken for granted, I think, that the boundary line between the cream and milk columns will always appear at the same place within the bowl. Now, let an orifice be made through the bottom of the bowl, just on the cream side of the line, and another orifice upon the skimmed milk side of the line, and, theoretically, the cream would flow through the first, and the milk through the second, of these orifices, provided their respective size was exactly proportionate to the ratio of incoming milk and cream. But, of course, such a nice adjustment is, in practice, impossible. In the operative creamers these orifices are separated by an interior partition extending laterally, near the bottom of the bowl, from the cream line out into the skimmed milk zone, and nearly to the periphery. With such a partition the orifices may be large enough to permit the outflow of a greater quantity than the intake, for the tendency of centrifugal force is to overcome gravity, and thus hold the fluids in the vessels, notwithstanding the orifices, the outflow being simply the result of the forcible giving place to the inflow, and therefore likewise proportioned. With such an arrangement, too, the cream and milk will each reach its proper orifice, for the cream orifice is immediately beneath the outer circumference to which it, under the conditions, can go, while the skimmed milk, unable, under the conditions, to go nearer the axis, will have the tendency, under centrifugal force, to draw round the partition and back to the orifice immediately underneath the pure milk line. It is also apparent that, if the cream orifice is left free,

and the size of the skimmed milk orifice reduced, so as not to take off all the skimmed milk taken in, the surplus will flow out through the cream orifice under force of the intake; thus decreasing the richness of that fluid. It is said that the skimmed milk orifices of the separators in actual operation are thus regulated in order that the richness of the cream may be increased or diminished at pleasure.

I have described the present cream separators. Prior to 1877, though, no such separators were in use; no separator of any kind acting continuously was in use. If the specifications and claims of the patent under consideration had pointed out a device such as now exists, the validity of such claim would, probably, be unimpeachable. But while Houston & Thompson set forth at that time a device giving to the world a continuous separator, it was not the separator now in use, and differed from it in a feature so essential that it cannot be overlooked. The employment of centrifugal force as a substitute for gravity in the separation of solids from liquids, and of liquids of different density from each other, clearly antedated the patent under consideration. The French patent known as the "Fives-Lille" is, perhaps, the best illustration, as it was the most advanced apparatus, of the preceding art. Theoretically, it foreshadowed the present cream separator. There is no proof that, practically, it ever continuously separated fluids of different density, principally because no practical way of delivering fluids separately from the revolving bowl had been devised; but experimentation and thought, in this and in other like contemporaneous devices and suggestions, were in the right direction. They had already demonstrated the practicability of employing centrifugal force as a substitute for gravity. After the filing of the Houston & Thompson application and specifications, but before the suggestions of their present claims, there came, both into this country and into Europe, a larger interest in the subject of cream separators. De Laval, Le Feldt, and Lentsch, Burmeister & Wain, and Nielsen-Petersen, and many others, were engaged in working out the problem. The discussion in the trade journals, especially those of Germany, was wide and intelligent. Glimpses, at least, of the finally perfected cream separators were appearing. Of course, the thought of the world on this subject did not clarify at once. Though the physical laws were well known, it took several years to adapt them to the desired use, for the exact adjustments, though simple, and now apparently obvious, were still unhit upon. The point of difficulty was the separate delivery of the cream and milk from the revolving bowls. This difficulty was overcome in the three years between the time of the Houston & Thompson application and the filing of their present claims, and was overcome, as I think, principally through the disclosures of the Le Feldt and Lentsch and Nielsen-Petersen devices.

The progress of the art, then, may be summarized as follows: At the date of the Houston & Thompson application, the use of centrifugal force to separate liquids of different density was well known, and had been theoretically incorporated in previous publications, apparatus, and patents; but none of these conceptions were

ever yet in practical use. The problem remaining unsolved was how to draw off, through separate channels, without interrupting the revolutions of the bowl, the several substances thus separated. Its solution was one of great interest, for it involved the separate drawing off of liquids when held apart from each other by a force which, if interrupted for an instant, would defeat all the plans. Houston & Thompson, in their application and specifications, pointed out that this could be done by the use of a pump applied to the orifice through which the denser ingredients were expected to pass out. Between the time of that application and specifications and the perfecting of the present Houston & Thompson claims, other men, notably Le Feldt and Lentsch and Nielsen-Petersen, pointed out that such delivery of the separate ingredients without interruption could be effected by the proper location and adjustment of the orifices, and their separation from each other by a proper partition; thus omitting the necessity of a pump.

Now comes the question: Does the fact that Houston & Thompson made the first practical centrifugal separator, in which, however, a pump was employed to deliver the ingredients from the bowl, entitle them to a process broad enough to include separators in which no pump is employed? It must be constantly borne in mind that the fundamental conception of all these separators is the division of the varying ingredients into vertical columns within the bowl by virtue of centrifugal force. Also, that that was well known before the Houston & Thompson application. At the time of that application the only problem before them, and before the world, was how to deliver the separate ingredients, through separate channels, from the bowl. The Houston-Thompson plan is pointed out in the following paragraph from their specifications: "The denser ingredients or constituents pass under the deflecting plate, A², into the tubular shaft, A¹, from which they are removed from time to time, as required, by a pump." I find nothing in this description, nor in any word in the letters patent, indicating that this pump could be dispensed with. Houston & Thompson had a plan to solve the problem, but that plan involved the pumping off of the milk; thus leaving the cream orifice, under the cream line, free to carry off the cream displaced. I am not sure that a creamer employing the pump would successfully operate. As a matter of fact, the pump was never used in practice. But, assuming that such a process were successful, it seems to me that in the respect pointed out it would be substantially different from a process in which there was no pump suction. Of course, if Houston & Thompson were the first to have pointed out the use of centrifugal force for this purpose, the presence of the pump in one separator and its absence in another would seem of smaller consequence. But, bearing in mind that all this, except the method of delivery from the bowl, already belonged to the world at large, and that the comparison must, therefore, be confined to the method of such delivery, the difference at once is seen to be significant. It is just the difference between a method that by nice adjustment of parts works automatically and a method necessitating the use of an added force,

namely, suction. Neither is the present method of delivery from the bowl a mere improvement upon the pump. It completely cuts out the pump in its shorter circuit to the desired end.

It will thus be seen that I do not regard the pump as a mere incident or adjunct of the Houston & Thompson device. In my judgment, it is the gist of their invention,—almost the entire sum of what they added to the previous art and knowledge. Keeping that in mind, it seems to me that the present cream separator solves the particular problem of separate delivery from the bowl along lines entirely different from the action of a pump, and therefore entirely different from the process to which alone Houston & Thompson can lay any claim. A decree may be prepared which will meet the views of this opinion.

EDDY et al. v. NORTHERN S. S. CO.

NORTHERN S. S. CO. v. EDDY et al.

(District Court, E. D. Michigan. January 5, 1897.)

1. CHARTER OF LAKE STEAMERS—CONSTRUCTION OF CHARTER—CLOSE OF NAVIGATION.

By charter dated October 16, 1894, the charterers agreed to pay \$2,700 for every east-bound cargo, from the head of Lake Superior to Buffalo, which the steamer "might be able to carry between the date above specified to the close of navigation for the season of 1894." There being nothing to show that this freight was exceptional, *held*, that the charter contemplated that the owners should furnish west-bound cargo; that the charter was to terminate at the time fixed by custom for the close of navigation, viz. November 30th; and that, having arrived at Buffalo on the last trip November 24th, so that she could not possibly unload and load another cargo before the 27th, the steamer was under no obligation to attempt another trip.

2. SAME—CLOSING OF LAKE NAVIGATION—USAGE—MARINE INSURANCE.

The fact that, of late years, policies of marine insurance for vessels on the Great Lakes, have been made to expire on December 5th instead of November 30th, as formerly, has not impaired the recognized usage whereby navigation is considered as closed on the latter date.

3. PAROL EVIDENCE—MARITIME USAGE—CLOSE OF LAKE NAVIGATION.

Parol evidence of a usage whereby lake navigation is considered as closing November 30th each year is admissible to show the termination on that date of a charter which requires the vessel to carry as many cargoes as she can between the date of the charter and the "close of navigation for the season."

This was a libel in rem by Charles A. Eddy and others against the Northern Steamship Company, alleged to be due under a charter party. The respondent filed a cross bill to recover damages for alleged breach of the charter party by the libelants.

John C. Shaw and H. D. Goulder, for libelants and respondents in cross libel.

Norris Morey, for respondent and cross libelant.

SWAN, District Judge. The original libel in this cause was filed to recover the sum of \$2,700 and interest, claimed to be due the libel-