

We observe that one of the protests upon some of the importations states as the ground for objection to the collector's classification that they are "scientific books, devoted to original scientific research," while the protest upon some of the other importations states as the ground of objection that the books are "the publication of an individual, for gratuitous private circulation." The first of these protests is not well founded. The books were not devoted to original scientific research. It may be that a book is entitled to free entry under the statute if it is one principally devoted to topics of original scientific research, although incidentally it treats other topics; but a book like the importations is not within that catalogue. That was not its primary or principal theme. The board of general appraisers and the circuit court, in their decisions, seem to have considered this protest only, and to have overlooked the other protest. The importations covered by the other protest were entitled to free entry.

The decisions of the circuit court and of the board of general appraisers are accordingly reversed.

PHILADELPHIA CREAMERY SUPPLY CO., Limited, et al. v. DAVIS & RANKIN BLDG. & MFG. CO. et al.

(Circuit Court of Appeals, Seventh Circuit. January 22, 1898.)

No. 400.

1. PATENTS — LIMITATION OF CLAIMS — CENTRIFUGAL PROCESS FOR CREAMING MILK.

In the process of creaming milk described in the Houston and Thomson patent, No. 239,659 (assigned to Theo. Bergner), the cream is thrown from the spinning vessel by centrifugal force, while the skim milk is removed from the same vessel by the action of a pump. The specification and drawings suggest no way for removing the skim milk otherwise than by the pump. If claims 5, 6, and 7 be valid at all, they must necessarily be limited to the process described in the patent, in which case appellees do not infringe.

2. SAME—ANTICIPATION.

If the eighth claim is to be distinguished from either of the others, and is to cover an intermittent process whereby the skim milk gradually fills the spinning vessel until all the cream is expelled from a given batch of milk, when the spinning of the vessel stops and the skim milk flows out by gravity, then such claim is anticipated in the prior art.

Appeal from the Circuit Court of the United States for the Northern District of Illinois.

Chas. H. Aldrich & Ephraim Banning, for appellants.

W. E. Simonds, R. S. Taylor, and Peirce & Fisher, for appellees.

George Hoadly and William Houston Kenyon also filed brief in behalf of United States Butter-Extractor Co. and others.

Before WOODS, JENKINS, and SHOWALTER, Circuit Judges.

· SHOWALTER, Circuit Judge. This appeal concerns the validity and infringement of claims 5, 6, 7, and 8 of letters patent of the United States, numbered 239,659, issued April 5, 1881, pursuant to

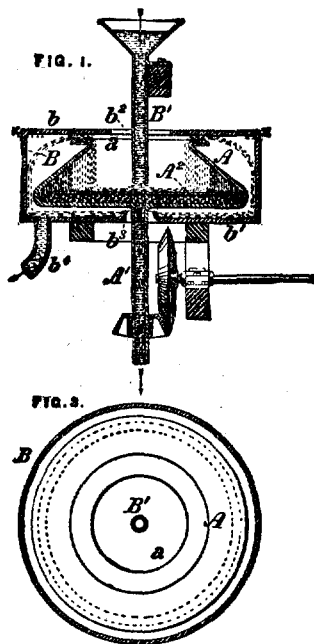
an application filed October 29, 1877, by Edward J. Houston and Elihu Thomson. The "invention relates to machines of the class in which the separation of the lighter and heavier constituents of liquids or semifluids is effected by the action of centrifugal force." The first three of the claims read, respectively:

"(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."

Two of the four diagrams of this patent are shown below, the apparatus illustrated by the other two being inoperative. Fig. 1 is a vertical central section; Fig. 3, a horizontal section, through the line x x, of Fig. 1.



The specification contains the following matter:

"To carry out our invention, we provide a separating vessel, A, which is swelled outward towards its base, in form substantially of either a frustum of a cone or segment of a sphere; and it is secured firmly upon a tubular vertical axis or shaft, A¹, to which rapid rotation is imparted by gearing or belts in the ordinary manner. The periphery or body of the vessel, A, is solid or imperforate throughout; and the vessel is provided with a central opening or mouth, a, at top, and a central opening in its bottom, corresponding in di-

ameter with the bore of the shaft, A¹. A horizontal deflecting plate, A², is secured within the vessel, A, a short distance above its bottom, the diameter of said plate being such that the whole width of the annular space between its periphery and the body of the vessel may be about equal to the distance between the plate and the bottom of the vessel. A tight cylindrical case, B, concentrically incloses the separating vessel, A, said case being closed at its ends by a cap, b, and bottom plate, b¹, respectively, and being either secured to a fixed support or rotating with the vessel, as may be preferred. In the instance of a fixed case, as shown in Figs. 1 and 3, a central opening, b², is formed in the cap, b, the diameter of which opening must be less than that of the mouth, a, of the separating vessel, so as to prevent the escape of liquid; and a smaller central opening, surrounded by an upturned flange or rim, b³, is formed in the bottom plate, b¹, for the free passage of the shaft, A¹. A discharge tube, b⁴, is connected to any convenient portion of the bottom plate, b¹, and serves to lead off the lighter separated ingredients. The liquid to be treated is fed to the separating vessel through a central supply tube, B¹, passing through the opening, b², in the cap, b, of the case and through the mouth, a, of the separating vessel, and terminating a short distance above the deflecting plate, A². * * * In the operation of our improvements, the liquid to be treated is fed to the separating vessel, A, in a continuous stream, graduated in quantity, as required, through the supply tube, B¹, and is received upon the deflecting plate, A², the interposition of which prevents its passage directly to the opening of the lower tubular shaft. Under the influence of the centrifugal force developed by the rapid rotation of the vessel, A, the denser ingredients or constituents of the supplied liquid accumulate at and towards the greatest diameter of the vessel, A, as shown by the heavy dots in the drawings; while the lighter ingredients or constituents, arranging themselves nearer the axis of rotation, as shown by the light dots, are discharged around the mouth, a, of the vessel into the case, B, from which they are withdrawn into a suitable receptacle through the discharge tube, b⁴. * * * 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. We thus provide a separator having a single source of supply and two distinct discharges, and susceptible of continuous operation, without interference of the supplied liquid with the separated products. * * * It will be obvious that, in the operation of our invention, stoppages of the apparatus for the insertion and removal of material, as in ordinary centrifugal machines, are unnecessary, and the operation of separation may be continuously carried on until any desired quantity of liquid has been treated. Our improvements * * * are 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 densities, one from the other, as in creaming milk."

Assuming that milk is fed into such a machine as is shown in Fig. 1, to be separated into cream and skim milk, then if the vertical line of division downward from the letter A, between the spaces marked, respectively, by shaded and lighter dotted lines, be extended through the plate, A², to the base of the spinning vessel, A, the space in the spinning vessel to the right of such vertical line will indicate the section of the zone of skim milk, while the space in lighter lines to the left of said vertical line will show the section of the zone of cream pouring out at the top over the edge of the spinning vessel, and resting at the bottom on plate, A². It is possible, on the one hand, that the pressure of the cream zone against the skim milk might force the latter underneath the plate, A², beyond the line here indicated; but, on the other hand, this tendency would be counteracted by the greater density of that portion of the skim milk which passes below the plate, A², as compared with that portion

which remains above said plate. These considerations, however, do not affect the case. The pump, it will be noticed, must be continuously used to detach the skim milk under the plate, A^2 , from the zone where the centrifugal force holds it while the cream is thrown over the upper edge of the spinning vessel. If such means of removal be not used, the skim milk will mingle again with the cream, and a volume of the mingled fluid equal to the quantity of milk coming into the vessel will be ejected over the mouth, a , of the spinning vessel. In other words, the continuous use of the pump to get the proper percentage of the skim milk out of the vessel is necessary or functional in continuously separating the cream, and causing it to be thrown out at the apex, a , of the vessel, A . While the pump is in operation, the cream is separated from the milk by centrifugal force, and thrown from the containing vessel by centrifugal force. The skim milk, however, is not removed from the vessel by centrifugal force, but by the external air pressure from above, when the air has been withdrawn from the space under the plate, A^2 ; that is to say, by the pump.

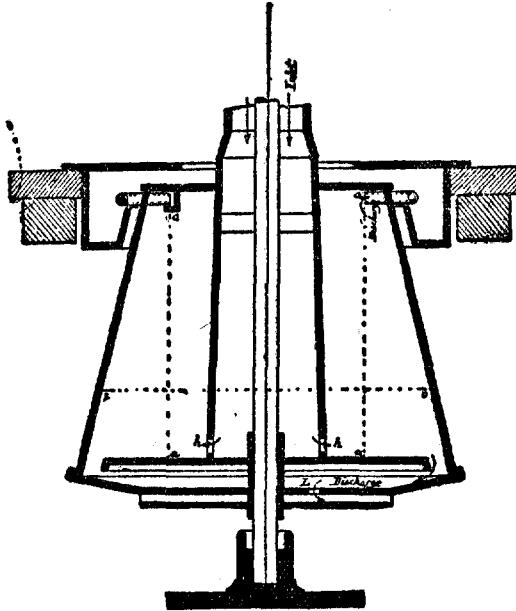
If the inclosing cylinder, B , of Fig. 1, had been attached to shaft, A^1 , so that it also would spin with the vessel, A , and if the opening between the upper edge of the mouth, a , and the plate, b , had been hooded and so adjusted in size as to let out by the centrifugal force only the skim milk, the cream might have been ejected also by centrifugal force through the opening, b^2 , and over the interior edge of the plate, b , into some compartment prepared to receive it. Or, if the hollow shaft, A^1 , had been enlarged into a cylinder whose interior diameter extended slightly beyond the vertical line above herein mentioned as separating a section of the skim milk zone from the cream zone, then, possibly, the skim milk zone might have been kept uniform in volume by the expulsion of the increment of skim milk over the edge of said cylinder. Or, again, if a circular opening of proper dimensions concentric with the shaft, A^1 , had been made in the bottom of the vessel, A , underneath the plate, A^2 , and coincident with the line of division between the cream zone and the skim milk zone, and the exterior vessel, B , had been made with a suitable compartment connecting with said circular opening, the skim milk might have been ejected by centrifugal force out of the vessel, A , into such compartment while the cream was also being ejected at the apex, a . In any one of these supposed cases the cream would have been separated from the skim milk by centrifugal force, the cream would have been removed by centrifugal force, the skim milk would have been removed by centrifugal force, and the process would have been continuous under a regulated feed of full milk.

While the application for the patent in suit was pending in the patent office, a subsequent application for another patent showed a separator which acted on the principles outlined in the last paragraph above. The invention of this second application need not be here described further than that the spinning vessel contained openings properly placed with reference to the two zones, and properly sized and hooded to keep separate the cream from the skim milk,

the overflow of the one liquid being ejected at the one opening, and that of the other at the other, the apparatus while in operation having a continuous and regulated feed of full milk. To this second application were appended the claims marked 5, 6, and 7, above herein quoted. On the suggestion of the patent office, said claims were also appended to the patent in suit; and afterwards, upon interference proceedings, they were awarded to Houston and Thomson, as being covered by the invention of the patent in suit which was prior in time. With this action of the patent office we are not in accord. The skim milk could not be removed from the Houston and Thomson vessel, A, by centrifugal force. Their specification does not show even by implication or suggestion any possible modification of the vessel, A, whereby this could have been done. The pump is necessary to the continuous separation as planned by them. Their process may have been valid and patentable, but it was not the process of the patent from which the three claims were taken, and which is now used by these appellees. If we put upon the claims a construction which will make them applicable to the process shown by the patent in suit, then appellees do not infringe. Appellants can have no monopoly of the art in general of separating the cream and skim milk from a continuously increasing batch of full milk. Their monopoly is limited by the process to which the milk was to be subjected, as disclosed in their patent.

The ninth claim of the patent in suit, which claim is not here in controversy, reads as follows: "The process of creaming milk by centrifugal force, and feeding in skimmed milk, new milk, or milk and water, to drive off the cream." The eighth claim of the patent, which is in controversy here, reads as follows: "The process of creaming milk and skimming off the cream by the action of centrifugal force." These two claims were also taken from another contemporaneous application, which disclosed a spinning bowl wherein, after a given batch of milk had been separated into cream and skim milk, the feed was changed to skim milk or water until all the cream had been ejected over the upper rim, when the machine stopped. Now, if the words of the eighth claim can be made to identify this intermittent process as distinguished from the continuous process proposed in the specification of the patent in suit, or from the continuous process as previously outlined in this opinion, then, as we understand the record, appellees do not infringe. They do not practice the intermittent process. Moreover, the intermittent process was in the prior art, not as specifically applicable to milk, but to any mixture of two liquids of different densities. If the pump be not used, then the heavier component of any liquid mixture fed into the vessel, A, will separate itself from the lighter, and, if the feed be kept up, the lighter will eventually all be thrown out at the top. If the spinning of the vessel, A, be then stopped, the denser liquid will flow out by gravity through the hollow shaft, A¹. But this process is not proposed or suggested in the specification. It is found quite as distinctly in the prior art as in the patent in suit. Neither Gellé nor Cadiat names the creaming of milk as a separation to be attained by his apparatus. Each had specifically in view

the clarification of a liquid by separating a portion made denser by impurities from a remainder which is clarified. But the process in the case of each was the separation by centrifugal force of a denser from a lighter liquid. A form of centrifugal separator as proposed by Cadiat is here shown.



The mixed liquid is fed into the machine through the upper inlet, as marked by the arrows. Passing through the openings *h* under the influence of centrifugal force while the vessel is spinning, the liquid will arrange itself around a hollow cylinder, a vertical central section of which is indicated by the dotted lines *a a, a a*. The lighter liquid will pass out at the two upper openings. After the lighter liquid has all been discharged, the feeding of the machine is stopped, and it gradually ceases spinning, when the heavier liquid runs out at the lower discharge, *L*. The specification of the patent in suit concedes, as in the prior art, machines in which the separation of the lighter and heavier constituents of liquids or semifluids is effected by the action of centrifugal force. The separation of two liquids of different specific gravities by centrifugal force and the ejection of the lighter from the spinning vessel, was no longer in the realm of invention when Houston and Thomson devised their apparatus. To get the increment of heavier liquid continuously out of the spinning vessel while the operation went on was still a problem. Houston and Thomson did this by air pressure from above, due to the withdrawal, by a pump, of the air underneath the plate, *A*². The inventor whose process has been followed by these appellees cut an opening of suitable dimensions, properly hooded and

located, through the wall of the spinning vessel, and suffered the excess of skim milk to be thrown out by centrifugal force.

If we limit the fifth, sixth, and seventh claims to the process described in the specification of the patent in suit, then these appellees do not infringe. We are unable to give to the eighth claim any meaning which will distinguish it from either of the others, and at the same time from the process of centrifugal separation as practiced in the prior art; that is to say, if the eighth claim is to cover the intermittent process above explained, that process is as clearly apparent in the prior art as in the patent in suit. The decree is affirmed.

TIMONEY v. BUCK.

(Circuit Court of Appeals, Second Circuit. January 7, 1898.)

No. 34.

1. PATENTS—VALIDITY AND CONSTRUCTION—BRICK-MOLD SANDING MACHINE.

The Buck patent, No. 499,206, for improvements in brick-mold sanding machines, was not anticipated by a prior patent to the same inventor, and its first claim discloses patentable novelty. 78 Fed. 487, affirmed.

2. SAME—AGREEMENT TO ASSIGN.

An agreement to assign future patents in consideration of the assignee's paying the expense of taking them out, is abandoned, as to a particular patent subsequently allowed, by his refusal, after investigation, to pay such expenses on the ground that the patent will be worthless; and after a subsequent assignment of the patent to another he is estopped from claiming any interest therein. 78 Fed. 487, affirmed.

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

This was a suit in equity by Frances C. Buck against Frank Timoney for alleged infringement of patent No. 499,206, granted June 13, 1893, to James A. Buck, for improvements in brick-mold sanding machines. The circuit court, after a hearing on the merits, entered a decree for complainant for an injunction and an accounting on the first claim of the patent. See 78 Fed. 487, where a full statement of the facts will be found in the opinion of the circuit court. The defendant has appealed.

Walter E. Ward, for appellant.

Geo. A. Mosher, for appellee.

Before WALLACE, LACOMBE, and SHIPMAN, Circuit Judges.

PER CURIAM. We agree with the court below that the patent in suit is not anticipated by the patent to Buck, that the combination of the first claim is not destitute of patentable novelty, and that the claim is infringed by the defendant's machine. These issues are fully discussed in the opinion of Judge Coxe, who decided the case in the circuit court, and it seems unnecessary to add anything to the views expressed by him.

The defense founded upon the equitable title of the Newtons to the patent is without merit. It rests upon an agreement between