

Case No. 306. AMERICAN MIDLINGS PURIFIER CO. v. ATLANTIC MILLING CO.
SAME v. CHRISTIAN.

[5 Dill. 127;¹ 4 Ban. & A. 148; 15 O. G. 467.]

Circuit Court, D. Minnesota, E. D. Missouri.

March, 1879.

COCHRANE REISSUED PATENT—NEW PROCESS FLOUR—PURIFICATION OF
MIDLINGS—EXPANSION OF CLAIM IN REISSUED PATENT.

The Cochrane reissued patent, sustained in *Cochrane v. Deener*, 94 U. S. 780, for the manufacture of new process flour by the purification of “middlings” by screening and blowing, was held void because no such process was described, suggested, or claimed in the original patent.

[In equity. Bill by the American Middlings Purifier Company against the Atlantic Milling Company, and another bill against John A. Christian & Co. for infringing plaintiff’s patents Nos. 37,317, 37,318, and 37,321. On application a preliminary injunction was refused in the Atlantic Milling Case, (Case No. 305,) and also in the Christian Case, provided the defendants would give bonds, etc. (Id. 307.) The cases came on for final hearing, and were argued together. Bills dismissed.]

On the 6th day of January, 1863, letters patent, numbered 37,317, were granted by the United States to William F. Cochrane for “a new and useful method of bolting flour.” The claims in this patent were as follows: “1st. Bolting the meal over a series of reels covered with cloths of increasing fineness, in combination with a blast, substantially in the manner described. 2d. Running the offal through the entire series of reels, substantially in the manner described, for the purpose of making the flour bolt more freely. 3d. Rebolting the ‘white middlings’ flour after regrinding and mixing them with offal, substantially in the manner described. 4th. Conducting the flour made upon each reel into a separate compartment, substantially in the manner described, for the purpose of making a variety of grades, or of mixing them in any proportion desired, as set forth.”

On the 24th day of April, 1874, the above mentioned patent was reissued, numbered 5,841, for “a new and useful improvement

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in the art of manufacturing flour.” The claim in the reissued patent was as follows: “What I claim as my invention, and desire to secure by letters patent, as an improvement in the art of manufacturing flour, is the hereinbefore-described process for manufacturing flour from the meal of ground wheat, by first taking out the superfine flour, and then taking out the pulverulent impurities by subjection to the combined operations of screening and blowing, and afterwards regrinding and rebolting the purified middlings.”

The complainant is the assignee of the reissued patent. The reissued patent was sustained by the supreme court, in *Cochrane v. Deener*, 94 U. S. 780. A motion was made in the supreme court to vacate that decree, because it was procured by collusion. The charge was not sustained, but in denying the motion the supreme court said: “Under the circumstances, we think that third parties, who had no opportunity of being heard, and whose interests as opposed to the Cochrane patents are very important, should not be concluded from having a further hearing upon it whenever a future case may be presented for our consideration.” [95 U. S. 355.] The defendants in their respective answers deny the validity of the reissued patent on various grounds, the more important of which are that such reissue is not for the same invention as that described and claimed in the original patent, and that the invention had been anticipated by others, and described in various publications and patents prior to 1863; and the defendants also deny the alleged infringement. Voluminous proofs were taken, accompanied with many diagrams, models, and exhibits.

By consent of parties, the arguments were heard by the circuit judge and Judges Treat and Nelson.

Rodney Mason, Charles F. Blake, C. H. Krum, and others, for complainant.

George Harding, Gordon E. Cole, F. N. Judson, and others, for defendants.

Before DILLON, Circuit Judge, and TREAT, and NELSON, District Judges.

DILLON, Circuit Judge. The reissued patent is a process patent for an alleged new and useful improvement in the art of manufacturing flour. “The claim therein,” as construed by the complainant, “is for the use of five consecutive steps performed in the art of manufacturing flour, in a definite order, viz.: “1st, Grinding the wheat into meal; 2d, Taking out the superfine flour; 3d, Taking out the pulverulent impurities by the combined operation of screening and blowing so as to purify the middlings, which are then, 4th, Reground, and then, 5th, Rebolted.”

The real value of the invention described and claimed in the reissued patent consists in the purification of the middlings by screening and blowing, thus freeing them from pulverulent impurities, and thereby fitting them to be reground into flour of a superior quality. The mode described in the patent and accompanying model and drawings for effecting the purification of the middlings is by the agency of revolving bolts acting upon the meal or “chop” as sieves or screens, assisted in their operation by blasts of air introduced

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within them. The claim of the complainant is that wherever, in the manufacture of flour, the wheat is ground by the first operation of the stones into meal, so that superfine flour is by the next step of the process taken therefrom, any purification of the middlings in residual mass (of which the valuable constituent is the middlings) by the combined operation of screening and blowing, intermediately, for the purpose of regrinding and rebolting, whether such purifying is within the flour reels or upon vibratory screens outside of reels, is an infringement of the Cochrane patent.

Flour made from purified middlings is now, and since about the year 1871 or 1872 has been, well known throughout the country as “new process flour.” In what consists the essential value of this “new process?” The answer is, purified middlings—that is, the making of a first grade, and even the best grade, of flour out of middlings—from which it had generally been considered by the millers of this country (although more intelligent or advanced ideas prevailed in France, and perhaps elsewhere in Europe) impossible to produce, or, at all events, impracticable profitably to produce, flour of the first quality.

A fundamental question in the cause, underlying all others, is: Did Mr. Cochrane, in his original patent, granted January 6th, 1863, contemplate or provide for the purification of middlings by the combined action of the screen and blast? If he did not, the reissue, which must be for the same invention as the original patent, and which makes the basis of its claim such purification of the middlings, is void.

In the light of arguments of great ability and thoroughness, extending over a period of fifteen days, and illustrated at every step by exhibits, diagrams, and models, the judges who sat at the hearing have deliberately considered the question above stated, and have reached a unanimous conclusion upon it. It becomes my duty to announce the judgment of the court. I shall content myself with stating it, without displaying in detail the reasons, or elaborating the grounds upon which it rests.

The description of the invention in the original patent as a “method of bolting flour;” the progressively finer meshes in the three bolting reels therein described; the absence of any “returns;” the statement therein that the agency of the blast is to “assist the bolting;” the cupola, or dome, on the

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model, provided with screens, which could have no other effect than to arrest the impurities, or the most of them, and return them directly to the flour; the enforced circuit of air, containing any impurities that might escape the screens in the cupola, and returning the air, under the conditions specified, laden with such impurities, directly into the reels; the absence of any statement in the patent of a purpose to purify middlings; the absence of any claim for purifying middlings; the statement that air is used “to aid bolting,” and the obvious consideration that, if air was used to purify middlings, it could not fail to have occurred to so ingenious a mind as Mr. Cochrane’s that this could be most easily and most effectually applied as it is now almost universally applied—outside of the reels or bolts, and not within them; the failure to provide for blasts of air in the “separator,” or in a separator; the low grinding which his process evidently contemplated, as evidenced by the successively finer meshes; the fact now established, that the manufacture of middlings flour is not practiced without more or less high grinding, or higher grinding than was ordinarily used in this country—the foregoing considerations, in connection with the extrinsic testimony as to what was done under the patent, all concur to satisfy us that the idea of Mr. Cochrane was the use of the blast in the reels as an aid in the mere process of bolting, with the view of obtaining an increased quantity of choice flour, and not for the production of purified middlings.

The reissued patent having been expanded to embrace a claim for purifying middlings, when no such process was described, suggested, or claimed in the original patent, it is void. If this conclusion is sound, it is not necessary to consider the questions of anticipation or infringement, upon some of which, if compelled to decide them, we might not agree. The result is that the bills must be dismissed, and decrees will be entered accordingly. All concur.

NELSON, District Judge. I concur in the opinion of the circuit judge. The actual invention of Cochrane has been enlarged by the addition of new matter in the reissue, so that, when the two patents are compared, the expansion is apparent. The new patent is not for the same invention secured and embraced in the original letters patent.

TREAT, District Judge. I concur in the opinion just delivered by the circuit judge. The reissued patent, No. 5,841, is not for the same invention as patent No. 37,317, and is consequently void. In addition to the summary of reasons just announced for the conclusion reached, it seems advisable to state that the original patent was merely for an improved method of bolting in the manner described, whereby an increased quantity of choice flour could be obtained from the ordinary process of milling, without any reference to purified middlings, by combined blowing and screening in an intermediate or any other stage of the operations.

The original contract of Cochrane, in 1860, with Warder & Barnett, shows that his purpose was, by low grinding, to produce a superior grade of flour in larger quantities

than heretofore known. He agreed to make “the most superior grade of flour in the United States out of four bushels and twelve pounds of choice wheat for each barrel of flour,” which result could not be accomplished except by low grinding, if at all. His scheme or plan did not contemplate a large amount of middlings, and could not have done so, for the lower the grinding the less the quantity, and, as a general rule, the poorer the quality, of the middlings.

At the time said contract was made, Cochrane had an interest in the Cogswell & McKiernan patent, the devices of which he evidently designed to utilize. His experiments at Lagonda, and subsequently at the first Barnett mill, also show that his purpose was to produce a large amount of such choice flour by low grinding from the least possible, or a comparatively small, quantity of wheat.

The early experiments were directed to that end, and hence the satisfaction evinced when the required amount of flour was produced approximately from the designated amount of wheat. When, however, it was ascertained that no grade of good middlings flour could be thus made, the resort was had to higher grinding, of which, as to the result, Warder & Barnett complained as being onequarter too much.

They prove by their correspondence at the time, just as the original patent shows, that the inventor supposed that by his process and devices for bolting he could accomplish his purpose by using the ordinary process of milling. This is evident, not only from the correspondence at the time, but from the mechanical inventions to which he referred, and also from the special stress placed on meshes of increasing fineness. In that correspondence there was a constant boast of the new mode of bolting, whereby the meshes were to be kept cool, and free from clogging, etc., and also of the device for returning the current of air through the cupola back into the reels, whence it had just escaped through the perforated pipes, meshes, etc. In one of the letters it was confidently claimed that the difficulties as to low grinding, even of spring wheat, could be overcome by Cochrane’s contrivances—that grinding of even that class of wheat could not be so low as to prevent “cleaning up.” It was low grinding, then, whereby the large quantity of choice flour was to be made, that the inventor had in view. This was to be effected, not by an “intermediate” stage of purification between the production of superfine flour and the regrinding of middlings, but by the use of

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meshes of increasing fineness in the flour bolts, assisted by blasts of air. Those blasts of air were to spend their force within the first three reels; for no blasts were to be used in the separator before regrinding. The necessary effect of using successively finer meshes instead of successively coarser, was to prevent the escape through the meshes of a larger quantity of impurities, and, consequently, of making the flour thus screened clearer and better. The impurities thus prevented from passing through the screens into the flour would necessarily be retained in the reels, and pass off with the tailings, consisting of middlings, shipstuff, etc. It is not to be supposed that meshes of increasing fineness could operate in any other way. Hence the Cochrane process was not to purify the middlings, or increase their quantity or quality, but merely by his "improved method of bolting" to obtain a larger amount of choice flour from the specified quantity of wheat.

In his original patent, No. 37,317, he formulated four claims, not one of which was for purifying middlings, but two were specially directed to his mode of "bolting." He especially stated that the flour screened through each of his first three reels could be kept separate or mixed, as the miller might desire, without a hint that the siftings of the third reel would consist of dirty flour, or pulverulent impurities, not fit to be used, or which it was sought to remove, either from the flour thus sifted through the third reel or from the middlings within that reel, which were to pass off with the tailings.

The devices specified in the original patent are very significant on this point. They provided for the introduction of a blast of air through perforated pipes into each reel, as stated, for the purpose of keeping the meshes open, cooling, etc., without mentioning any effect to be produced towards removing pulverulent impurities, or even naming such impurities. Indeed, if that effect had been contemplated, the invention would not have provided a cupola with two screens and brushes to arrest the escape of whatever was blown or wafted into the cupola, and to cause that wafted matter to be thrown back or discharged directly into the first flour chest. If that wafted matter, whether flour, dust, or pulverulent impurities, was to be thus returned and mixed with the siftings of the first reel, it is evident that the invention had no reference to the removal and separation of such matter from the flour. The devices involved necessarily a contrivance for the escape of the air forced into the reels—for an enforced current of the kind must have an outlet, otherwise disastrous results would follow, or the blasts cease to be operative. The screens in the cupola, and the brushes, for the purpose of returning the arrested particles into the reelchest, indicate plainly enough that there was no thought of causing pulverulent impurities to escape through the cupola. This is made still more apparent from the fact that whatever escaped through the cupola was, in the normal operation of the connecting tubes, to be blown back into the very reels from which it had been just expelled. It was only in exceptional states of the weather that the valve in the tube was to be opened, but at all other times there was to be a return of the current escaping from the cupola into

the reels, carrying with said current whatever it contained. If, then, the purpose was to expel impurities, why such well-arranged devices to force them back into the contents of the reels?

Again, the “cant” ventilator of Cogswell & McKiernan, and their air blasts through zinc jackets, had been used at Lagonda and in the Barnett mill before the original patent, No. 37,317, issued, and simultaneously with that patent Cochrane had procured for his “cant” ventilator his patent No. 37,321; yet in the specifications and claims of No. 37,317 he omitted, and it must have been *ex industria*, all reference to his No. 37,321, and substituted therefor his cupola, with screens and brushes. When he had ascertained, in 1874, that his devices, as referred to in the original patent, would not purify middlings, nor essentially aid in so doing, he interjected into his specifications for a reissue the rejected device No. 37,321. The testimony sufficiently explains why, from his experimenting at Lagonda and in the first Barnett mill, he discarded the “cant” ventilation, independent of its anticipation by Cogswell & McKiernan. The devices by which the improved method of bolting was to be carried on, so far as air was concerned, looked to an enforced current, or blast, operating from within the reels outward, and not by induced currents operating from without, through the screens, inward or upward, as in flat and vibrating sieves.

Whatever construction may be properly put on the words “combined operations of screening and blowing,” it is obvious that the original invention contemplated a blast of air from within the reels, whereby its force should be directed not only through the meal as it was whirled around inside the reels, but also against the meshes of the reels, tending to force through whatever was small enough to pass. If the flour dust was thus forced through and wafted into the cupola, while the heavier particles—small enough to pass—fell by their greater specific gravity into the conveyers, the extremely comminuted particles of the integuments of the wheat berry, or of its cell-walls, would, like the flour dust, pass into the cupola by force of the blast, there to be arrested and brushed back into the flour, or returned through the tube into the reels, to be again and again whirled in and out in a continuous round.

The many changes made by Cochrane, and Warder & Barnett, after the original patent

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issued, and also after the reissued patent was granted, in order to adjust the devices referred to in No. 37,317 to an induced current or suction, indicate very clearly that the idea or thought of a process for purifying middlings in an “intermediate” or any other stage of the manufacture, by the combined operations of blowing and screening, was not originally in the mind of the inventor. The testimony is clear that when the Cochrane device or machine was rearranged and altered so as to work by suction, the perforated pipes performed no function. The manner of inducing or drawing the air into the reel-chests by suction, and the operation of the reel-screens when suction was used, were the reverse of combined blowing and screening. It cannot be fairly said, in the light of facts and circumstances now in evidence, that those reverse modes of operating were substantially the same, or immaterial changes as to form or modes of accomplishing what the patent covered. Even after the reissue, No. 5,841, Cochrane and Warder & Barnett had to resort to important changes as to the modes of introducing air into their reel-chests; they abandoned the device of a cupola with screens and brushes, introduced practically a new tube and valve, left their perforated pipes functionless, and changed blasts into suctions, or enforced into induced currents. In brief, the essential changes in Cochrane’s devices, as described in No. 37,317, which he was compelled to make in order that a beneficial result might follow, so far as purifying middlings went, demonstrate that a process for purifying middlings and making therefrom a high grade of flour, superior to superfine, was not thought of by him in or before 1863.

But where can there be detected in No. 37,317 a suggestion either of a mode of purifying middlings by the combined operations of blowing and screening, or of an “intermediate” stage therefor between the production of superfine flour and the regrinding of the middlings? Where is or was such an “intermediate” stage? It is contended that the screenings by the first reel were superfine flour, or, if not, perhaps the screenings also of a part or whole of the second reel, and, consequently, the combined operations of blowing and screening in the third reel purified the middlings at that stage which was intermediate the production of superfine flour and the regrinding of the middlings. But we have endeavored to show that the screenings of the third reel were flour, which could be mixed with the flour from the first two reels, and that the patent so states. If, then, by meshes of increasing fineness, the middlings discharged at the tail of the third reel were less free from impurities than they would be if coarser meshes were used, the process of purification could not occur by the use of that reel, nor at that stage of the operations. There is suggested in the original patent neither the idea of purifying the middlings at the intermediate stage mentioned, nor the use of the combined operations of screening and blowing for that specific purpose. It cannot be said that the mention of “white middlings” embodies such a conception, so that the reissue, without expansion, could cover the purification of middlings in the manner and at the stage claimed, for the term “white middlings” was well

known to the art of milling long before, and also to the commercial world. The manner in which “white middlings” are referred to in the patent shows that the term was used as one well known, and not as a new or special product of any superior value.

A comparison of the original and reissued patents, and an examination of Cochrane’s contract with Warder & Barnett in 1860, also of the correspondence of the latter and of the testimony concerning low and high grinding in connection with Cochrane’s invention, will show that the purpose was as stated, viz., by the ordinary process of milling, through his method of bolting, to increase the yield of choice flour. He soon learned that higher grinding, or what Professor Horsford’s report terms “half-high milling,” was necessary to the production of the best quality of flour, or of that superior grade which he contracted to make. Instead of accomplishing the promised result by low grinding from four bushels and twelve pounds of wheat, higher grinding was soon resorted to, requiring five bushels and twenty pounds of wheat per barrel. He complained to his millers, it is said, that they persisted in grinding too low, although that mode of grinding was necessary to make the required yield, and insisted that they should grind higher. It was well known in the art that high grinding made a better quality but less quantity of good flour, but Cochrane thought he could increase the quantity of choice flour by his process. Warder & Barnett, it seems, following, it may be, the suggestion of Cochrane, began the use of high grinding at an early day, and stated to their correspondents that certain shipments made were from grinding “high,” yet, in one of their letters, they then boasted that by the new method even spring wheat could not be ground “too low” to prevent its being “cleared up.” The ordinary process of milling, in connection with which Cochrane’s method of bolting was to be employed, must have been, if not low grinding, certainly not the high grinding used in defendant’s mill; for the value of his method looked to the greater yield of choice flour.

The reissue says: “It is this intermediate treatment (between the separation of the superfine flour and the completion of the middlings flour by regrinding and rebolting) for the separation and removal of the pulverulent impurities which distinguishes my improvement in the art from all before known modes of manufacture.” In the original patent there is not only no such claim, but

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nothing is said about the removal of pulverulent or any other impurities, or any such intermediate treatment. A brief use of air in an expanded portion of one reel at Lagonda, operating as a separator, was soon abandoned in the course of the early experimenting, and, hence, in the original patent no use of air in the separator was mentioned.

The proof is that, in the modern or present mode of purifying middlings, the purification occurs in connection with what answers to Cochrane's separator; and in that connection a current of air is now employed, while Cochrane did not call for any blast of air at that stage of the process, and previous to regrinding. His plan or process was not to use blasts of air in connection with the separator, but to rely on the ordinary process of screening, without the use of air blasts or currents. The reissue attempts to expand the original invention to cover, therefore, in connection with the separator, what he did not originally claim or suggest, in order that he might appropriate to himself what had been since discovered or used outside of his invention.

As the conclusion is reached that the reissued patent is void, it is unnecessary to consider whether the process claimed was anticipated in any of the various publications, or by any of the persons or processes as set up by defendants. The questions concerning "high milling," the French and economical processes as used in Europe, the connection of the Cabanes and other patents with such processes, and also of Gove's method and machine, would, if fully considered, involve a very elaborate investigation of details, and require, for a clear presentation of their analysis, resort to numerous drawings and models.

If the reissue had been held valid, an embarrassing and delicate question would have arisen concerning the alleged infringement by the defendant. In the case of *Cochrane v. Deener*, [94 U. S. 780,] the United States supreme court decided that the Welsh patent was an infringement of Cochrane's. That court had before it not only the process patent of Cochrane, but also his patents for machines; and to what extent this court, under the circumstances, should venture to enter upon the subject a new—if an investigation as to that point were needed—might be doubtful. But, if an appeal is taken, that court will have before it in this suit the large amount of new evidence introduced, in the light of which it can determine for itself whether it will review its former opinion or not. Were it necessary for a decision on that point to be now made, and were it open for our consideration, we might possibly reach a different conclusion. Decree accordingly.

NOTE, [from original report.] Questions growing out of this patent, see *American Middlings Purifier Co. v. Atlantic Milling Co.*, [Case No. 305;] *Same v. Christian*, [Id. 307.]

¹ [Reported by Hon. John F. Dillon, Circuit Judge, and here reprinted by permission.]