

FOOS MANUF'G CO V. SPRINGFIELD ENGINE & THRESHER CO.

*Circuit Court, S. D. Ohio, W. D.*

January 3, 1891.

1. PATENTS FOR INVENTIONS—GRINDING MILL—INVENTION.

Letters patent No. 359,588, issued March 15, 1887, to James P. Winchell, for a crushing and grinding mill, consisting of the "combination with a main shaft and grinders and a moving conveyer of a plurality of intergeared crushers mounted to crush the material for the conveyer, and having protuberances which extend approximately in line with each other, one of said crushers being geared with the main shaft," are void for want of invention since all the elements of the device are old, and their combination is merely the exercise of mechanical skill.

2. SAME—INFRINGEMENT.

Said patent is not infringed by a mill in which the projections on the crushers are not in line with each other, and the crushers, instead of being geared to the main shaft, are geared to a counter-shaft which derives its motion from the main shaft by means of a belt.

In Equity. Bill for infringement of patent.

*H. A. Toulmin* and *Wood & Boyd*, for complainant.

*Bowman & Bowman*, for defendant.

SAGE, J. The complainant is the assignee of James F. Winchell, to whom the patent in suit, No. 359,588, was issued for a crushing and grinding mill, March 15, 1887. The mill consists of three devices: First, and immediately under the hopper, are two crushing cylinders, mounted horizontally, in suitable bearings, side by side, each having crushing protuberances. These cylinders are near enough to each other to cause their crushing protuberances, in the language of the specification, "to stand in line with each other, or to lap each other, or to not quite reach each other." The shafts of the crushers are provided with pinions, which mesh with each other, and are preferably of the same diameter, while the shaft of one of the crushers is provided, in addition, with a gear-wheel, whereby rotary motion is imparted to both, each rotating towards the other. The material, to be first broken or crushed and then reduced to a granular or finer state, whether it be corn-cobs, roots, bark, bones, or any like substance, passes from the hopper through the crushers to the conveyer, which is immediately below. This consists of a roller or cylinder, constructed with a suitable spiral wing, flange, or worm; the cylinder being mounted horizontally on the main shaft of the machine. On the bottom of the conveying chamber are longitudinal ribs, acting in conjunction with the spiral wing or flange of the conveyer to further crush the material while being conveyed to the grinding disks, which constitute the third device. As shown in the drawings, these

disks are placed vertically at the side of and adjoining the conveyer, one being stationary, the other revolving on the main shaft; but any kind of final grinder is within the specification and claims. The suit is upon the first claim, which is as follows:

“In a mill, the combination, with a main shaft and grinders and a moving conveyer, of a plurality of intergearing crushers, mounted to crush the material for the conveyer, and having protuberances which extend approximately in line with each other, one of the said crushers being geared with the main shaft.”

The usual defenses are set up in the answer, but those specially relied on are: *First*. That each element of the complainant's claim is old, and that together they do not constitute a combination, but a mere aggregation. *Second*. That no invention is displayed in the complainant's device. *Third*. Anticipation. *Fourth*. That, even if the patentee's claim is valid, the defendant does not infringe.

These defenses will be considered in their order. Cylinders, with crushing protuberances rotating towards each other, are shown and described in the following letters patent, put in evidence by the defendant:

June 26, 1839, to Baldwin, for improvements in mill for grinding and crushing corn. This is referred to in the specification as an improvement in machinery for crushing and grinding corn and cob for stock, and corn and other grains for stock and family use, and it is called the “corn and cob crusher.” The crushing rolls in the Baldwin mill are fluted, and seem, as Stated by the defendant's expert, “to be constructed for the purpose of acting on corn in the ear, and small grains or cereals, and not for the purpose of reducing bark, bones, and such other refractory substances.” The complainant's expert testifies that these crushers would never dispose of an ear of corn, and that the mill was for fine grain only. He is, in the opinion of the court, correct in this view.

October 14, 1851, to Newlove, for improvement in grinding mills. This is described in the specification as an improvement in the corn-cracker and grinder, or the machine for shelling, cracking, and grinding Corn in the ear. Here, too, is a plurality of intergearing crushing rolls. The protuberances are described in the specification as teeth.

October 12, 1852, to Nicholls. This patent shows a machine for crushing and grinding cobs and other substances. The crushers are at the upper part of the mill. One of the cylinders contains Crushing protuberances which are described as teeth, passing into annular grooves in the other cylinder, and it is specified that the sides of said grooves may be either smooth or corrugated.

May 29, 1855, to Wilson, for improvements in corn crusher and grinder. This patent shows two crushing rolls provided with V-shaped teeth, intended to serve for preparing the corn for the grinding operation. This mill is intended for grinding corn only.

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February 1, 1859, to Hope, for improvements in mill for grinding grain. The specification described a portable mill for cutting; crushing, and grinding corn on the cob, grinding all kinds of grain into meal and

flour, and grinding roots, herbs, bark, spices, plaster, oyster-shells, etc. It is provided with horizontal, hollow, cast-iron cylinders, rotating towards each other, "with teeth running the whole length of the cylinder, two and one-half or three inches long, A-shaped, one inch thick at their base, and running to a sharp edge," with a downward inclination on one cylinder and an upward inclination on the other. The specification states that these cylinders are so arranged as to be detached when the mill is not needed as a corn and cob crusher and cutter.

May 5, 1855, to Beall, for grinding mill, intended specially for grinding oil cake. This also shows horizontal crushing rolls with protuberances or projections, the projections of one roller opposing interstices of the other. As shown in the drawings, there are two pairs of crushing rolls, the projections on one being larger than those on the other, but it is set forth that one set of crushers will generally be found sufficient.

Crushing rolls appear in other letters patent in evidence, but the above are those mentioned in argument. The others need not be specially referred to, The gearing of the crushing cylinders, with the main shaft and with each other, is shown in the Baldwin patent, the Newlove patent, the Nicholls patent, and the Beall patent. It is insisted for the complainant that none of the patents offered by the defendant show the peculiar protuberances of the complainant's patent. It is contended that they are all: nibblers or grinders; that complainant's initial breakers are the only breakers in the art which grasp, draw in, bite off, and break into large lumps or pieces. On the other hand, counsel for defendant contend that the proper construction of complainant's patent, the claim being broadly for "a plurality of intergearing crushers, mounted to crush the meal for the conveyer, and for protuberances which extend approximately in line with each other," includes crushing rollers with any kind of protuberances, whether disks, ribs, teeth, or any other kind of crushing protuberances, all which are within the meaning of the claim, and therefore, if prior, they anticipate, as they would, if subsequent, infringe, and they cite in support of their contention *Roemer v. Bernheim*, 132 U. S. 103, 10 Sup. Ct. Rep. 12. The words "approximately in line," they say, do not help the claim, for all the letters patent above referred to show crushing protuberances in line, or lapping or nearly meeting, and in the Hope patent the cylinders are made adjustable, and that the argument of counsel for the complainant, based upon the peculiar construction, shape, or effect of the protuberances shown in the complainant's patent, is therefore, in view of the broad claim of the patent, not well founded; also that if complainant intended to rely upon the special construction shown in the drawings of his patent, the claim should have been limited accordingly. Conveyers, also, they say, are old, as appears from letters patent to Wirth, September 17, 1887; to Ames, June 23, 1878; to Pardee, October 20, 1880; and to Gillen, October 28, 1884,—and that as a crusher and conveyer the second grinding device shown in the

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complainant's patent appears in letters patent to Raymond, September 7, 1886, and to Harnish, August 22, 1871.

The grinding head, which is the third device in the complainant's mill, is shown in the Harnish patent and the Raymond patent, above referred to, also in the Ames patent, April, 1884; But it is urged that the combination is new, and produces new and useful results, and therefore that it is patentable, as was held by the supreme court in *Hailes v. Van Warmer*, 20 Wall. 353, although all the constituents of the combination were known and in use before the combination was made. But it was also held in that case that "the results must be a product of the combination, and not a mere aggregate of several results, each the complete product of one of the combined elements. Combined results are not necessarily a novel result obtained in a new and improved manner. Merely bringing old devices into juxtaposition, and there allowing each to work out its own effect, without the production of something novel, is not an invention." To the same effect is *Pickering v. McCullough*, 104 U. S. 318, where the strong and clear statement of Justice MATTHEWS, so often quoted, is to be found, and is strongly in point. Here, as in that case, it is not only true that all the elements of the combination, as construed by counsel for defendant, are old, but also that each operates only in the old way, and no one of them contributes to the combined result any new feature. The operation of the complainant's mill is, to be sure, continuous and progressive, from the beginning to the end, but the crushers operate precisely as they would if detached from the combination, and when they have completed their part of the work of reduction the product falls to the conveyer in exactly the condition in which it would be delivered if transferred by basket or otherwise from detached crushers. The work of the conveyer is in like manner separate and distinct, and so is that of the grinding disks. "No one of them adds to the combination anything more than its separate, independent effect; no one of them gives any additional efficiency to the others, or changes in any way the mode or result of its action." The complainant's mill is neither "a new machine, of a distinct character and function," nor does it "produce a result due to the joint and co-operating action of all the elements, and which is not the mere adding together of separate contributions." It is therefore "only a mechanical juxtaposition, and not a vital union." See, also, *Royer v. Roth*, 132 U. S. 201, 10 Sup. Ct. Rep. 58, and *Heating Co. v. Burtis*, 121 U. S. 286, 7 Sup. Ct. Rep. 1034.

If the construction of the claim contended for by counsel for the defendant is correct, the considerations above would seem to be sufficient to dispose of this cause. But let us look at it in the light in which it is viewed by complainant's counsel. Attention has already been directed to the efficiency of the protuberances or initial breakers of the complainant's patent, as compared with the nibbling or grinding devices shown in the prior patents. Counsel insist that none of them show the preliminary breaking by the initial crushers, and the secondary and final breaking by the crushing conveyer, which delivers the broken material to the disks, where alone the grinding takes place. They say that "it is the peculiarly constructed intergearing crushers, doing the work by the

crushing protuberances of the two members, which constitutes what we think is an invention *per se*, not found in the prior art so elaborately spread out in the case." Specifying, they refer to Baldwin's patent as showing two cylinders running in opposite directions, each having a series of saw teeth, between which corn is closely split up; that there are grinders working against a concave grinding bed, and that initial and secondary crushing, as shown in complainant's mill, are wanting. The Newlove patent, they say, represents a grinding mill geared on to a hopper, and two sets of grinding disks, each armed with teeth so as to draw material in to be reduced between the disks, which project past each other, so that their faces are opposite, and thereby in rotation crush corn into small fragments. And right here they call attention to the distinction between that patent and the complainant's, indicated by the reference in the complainant's patent to the crushing protuberances being "approximately in line," which, they urge, is to prevent the crushing into small fragments. They point out also that the combination of the primary and secondary agents does not exist in the Newlove patent, which was intended to do a very fine crushing at the outset. Similar criticisms are made in regard to the Nicholls patent, excepting that it has a series of disks on one cylinder, with smooth edges, between which is run a series, of teeth attached to the other cylinder. The Hope patent is referred to as showing cylinders having grinding teeth, which intergear or lap past each other so as to rapidly reduce to a fine state ears of corn, and then pass them to a secondary grinding cylinder working against a concave, reducing the ground material to meal, and passing it out over a spout. The Nicholls patent is not referred to. As to the Beal patent it is contended that it does not represent the crushing protuberances of the complainant's patent, but shows two sets of diamond-shaped disks on parallel cylinders, with intergearing sets of teeth, between the four edges of which the grinding is performed, and that this is a fine reducer instead of a very coarse crusher.

The contention for the complainant is, in short, that the patent should be construed, taken in connection with the specification and drawings, to be for the special construction therein and thereby described and shown.

The true construction is not so broad as claimed for the defendant, nor so narrow as claimed for the complainant. The broad construction discards everything but the letter of the claim itself. That is in conflict with the well-established rule that a patent should be construed in a liberal spirit to sustain the just claims of the inventor, and that "liberality rather than strictness should prevail where the fate of the patent is involved, and the question to be decided is whether the inventor shall hold or lose the fruits of his genius and his labors." Also, that patents for inventions "are, if practicable, to be so interpreted as to uphold, and not to destroy, the right of the inventor." Accordingly, the phrase "substantially as described," or its equivalent, is always implied in claims wherein it is not

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expressed. The claim in the complainant's patent is therefore to be read in the light of and qualified



by the specification and drawings. But, so reading, it does not altogether sustain the proposition of counsel for the complainant, that the patent is to be limited to the precise construction on which the strength of their argument largely depends. For example, they refer to the expression in the claim "approximately in line," relating to the protuberances of the crushing cylinders, as indicating that they are to be so placed in order to prevent the crushing into small fragments. But in this connection they omit or overlook the statement in the specification, explanatory of "approximately in line," that the crushers "are placed sufficiently near to each other as to cause the protuberances to stand either in line, or to lap, or to not quite reach each other," as well as the general statement that the invention relates to improvements in crushing and grinding mills for reducing not only corn-cobs, but also "roots, bark, bones, and the like substances," for some at least, of which, it would be necessary to give to "approximately in line" a much more flexible construction than comports with their view. Then, too, if their construction of "approximately in line" be correct, they would encounter the difficulty arising from the fact that in the specification of the Hope patent the crushers are expressly made adjustable, whence it follows that no claim of novelty resting upon the position of the crushing protuberances with relation to each other can be sustained. The state of the case, then, is this: Every constituent of the combination is old. The initial crusher is old, the adjustment of the crushing cylinder is old, and the use of projections or teeth to catch and draw in the material to be crushed is old. The only thing new is the shape of the protuberances. Without this the so-called "combination" would be nothing but an aggregation. Is this new feature, then, a contrivance of skill, or is it an invention? The conception of passing ears of corn through crushing cylinders as the first process preparatory to grinding was old. It was embodied in the Baldwin, mill, the Wilson mill, and in the Hope mill. Granting, for the sake of the argument, that all these were inferior in operation to complainant's mill, the only thing that Winchell, the patentee under whom the complainant claims, had to do was to so improve upon those and other devices in evidence as to construct a mill that would economically and rapidly reduce corn and cob together to the condition of fine meal. He succeeded, and now the question is whether his improvement "is the creative work of that inventive faculty which it is the purpose of the constitution and the patent laws to encourage and reward," or something entirely within the reach of mechanical skill. In cases where the conception or discovery is new, that is has not been reduced to practice, the question between invention and skill is least difficult, for some great inventions have been simple and of easy construction. Therefore if, in such a case, it be apparent that the embodiment is clearly within the reach of ordinary skill to one whose mind is directed to the conception, that circumstance will not defeat the patent, because the conception and the embodiment together constitute the invention. But when the conception or discovery is old, and the only problem is how to improve or perfect an imperfect and unsatisfactory

embodiment so as to better accomplish the result sought by the inventor, or even to accomplish a new result never thought of by him, the occasion is peculiarly one for the employment of skill; and the handicraft of the art, experimental and practical, must be exhausted before there can be invention. In other words, the improvement must be the embodiment of some inventive conception or discovery, and not merely a more excellent construction within the limits of the old conception or discovery. Now, let us apply these views to the complainant's patent. What the patentee had to do was to provide the crushing cylinders with projections or protuberances which would grasp ears of corn and subject them to the crushing process. At the hearing, counsel for complainant laid a common wooden lead pencil between the crushing cylinders of one of the prior mills, and then rotated the cylinders. The pencil was rolled over and over, but it was not caught by the projections, nor broken. They were not so placed as to touch it. Suppose that had been an ear of corn, and the thing to be done was to draw it in between the cylinders, and break and crush it: how long would it have taken a skilled artisan, exercising only the craft of his calling, to devise projections or protuberances that would accomplish that result? It would seem scarcely longer than to read this paragraph. At all events, it is clear that it would be within easy reach of his skill, for the teeth with which the cylinder of the old threshing machine of 35 or 40 years ago, and the concave within which it revolved, were armed, would furnish all the suggestion needed. Yet that is the only thing that can save the patent in suit. My conclusion is that the patent should not have been granted.

But if this conclusion be erroneous, and complainant's patent be valid within the narrow limits claimed by counsel, to-wit, that "it is the peculiarly constructed intergearing crushers, doing the work by the crushing protuberances of the two members, which constitute what we think is an invention *per se*, not found in the prior art," the defendant does not infringe. It is to be remembered that to sustain the claim the words "approximately in line" must be so construed as to prevent crushing into small fragments. The application for the patent, after having been repeatedly rejected by the examiner, was granted by the board of examiners in chief, as appears from the file wrapper in evidence, upon the holding that "approximately in line" meant substantially in line with each other, and that such feature was novel, and was the cause of the superiority of complainant's crushers. The projections on the defendant's crushers are not at all in line with each other, nor are the crushers themselves of the peculiar construction shown in the complainant's mill. As is testified by defendant's expert witness, the means for driving the crushing cylinders, or breakers, in the defendant's machine differ from those set forth in the complainant's patent. Instead of being geared to the main shaft, one of the upper breakers is geared to a counter-shaft, which is supplied with a pulley, and derives its motion from the main shaft through the medium of a belt, which passes over said pulley on the counter-shaft, and a

suitable pulley on the main shaft, this construction being more nearly represented in the Leavitt 1879 patent

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than in any of the patents referred to. I find, therefore, that the defendant's mill does not have "intergearing crushers," having protuberances which "extend approximately in line with each other," and I find that the said mill does not have one of said crushers geared with the main shaft, "as described in the complainant's patent, and specified in the first claim there of." From every point of view the equity of this cause is with the defendant. The bill will be dismissed, with costs.