

Case No. 14,156.

TREADWELL ET AL. V. FOX.

[3 App. Com'r Pat. 201.]

Circuit Court, District of Columbia. Sept. 14, 1859.

PATENTS—INVENTION—MECHANICAL
EQUIVALENTS.

- [1. A result or effect of a process is not patentable; but where a result consists in the greatly improved manufacture, or the development of some new and useful principle, it may become the test of invention, so that invention may be inferred from the existence of such results.]
- [2. The production of a machine which, for the first time, achieved the result of making a cylinder of dough (to be used is the manufacture of crackers) with a continuous, seamless pellicle, *held* to be a patentable invention.]
- [3. The use of rollers having transverse grooves, for the purpose of making cylinders of rolled dough, is the equivalent of rollers effecting the same purpose by means of longitudinal grooves, notwithstanding that additional machinery is connected with the latter device for the purpose of cutting the dough into the form of crackers after it passes through the rolls.]

Appeal [by F. C. Treadwell, Jr., and Henry McCollum] from the decision of the commissioner of patents refusing to grant them a patent for their invention of improvements in preparing dough for crackers, and awarding priority of invention to Joseph Fox.

MORSELL, Circuit Judge. The specification of claim on the part of Treadwell & McCollum is as follows: "We claim as new, and desire to secure by letters patent of the United States, the above-described improved method of forming skin-covered strips of dough from a sheet of previously smoothed, rolled dough by the use of a pair of matched grooved rollers, constructed and arranged with the grooves separated by portions of the plain surface in which they are cut, the plain surfaces in each roller impinging

on each other, and acting, as they roll together with equal surface motion, to gradually press 149 down the skin on each side of the sheet of dough passing between them, so that both skins gradually inclose the strip forming in the groove, and are finally firmly united together, at the sides thereof, by the impingement of the opposite plain surfaces against each other, and the strips separated, substantially as hereinbefore described.” Or thus, as to the method, they say: “Our improvement in the method of forming cylindrical strips suitable to be thereafter divided and moulded into crackers consists in a peculiar way of operating upon a sheet of smooth rolled or ‘skin-covered’ dough, by which we form it into cylindrical strips that are skin” covered, and the skin pressed down and firmly united at the sides of the strips. “We effect this by passing the sheet of smoothly and evenly rolled dough between a pair of matched, grooved rollers constructed with portions of the plain surface between each groove,” etc. Again, they say: We do not intend to confine ourselves to any fixed proportion of plain and grooved surface in the rollers we use, but will vary it as circumstances require; soft dough requiring much less pressure than hard, and therefore correspondingly less separation between the grooves. Neither shall we limit ourselves to the use of longitudinally grooved rollers, but will use transversely grooved rollers, if convenience require.”

Joseph Fox, in his specification, states: “I do not claim forming a sheet of rolled, skin-covered dough into skin-covered cylindrical strips, by passing the sheet through grooved rollers which have the grooves parallel to the axis of the rollers. Nor do I claim forming a sheet of dough into cylindrical strips by running the sheet through grooved rollers which have the grooves at right angles to the rollers and close together. “What I claim as my invention, and desire to secure by letters patent is—First, the passing a sheet

of solid, skin-covered dough through rollers which are grooved at right angles to the axis of the rollers, and so constructed and arranged as to bring the two opposite skins of the sheet of dough together, and firmly unite them around the cylindrical strips made by the rollers, substantially as herein described, for the purchase specified." Also: "Thus it is that the cylindrical pieces of dough, E, cut from rolls made by the improved grooved rollers of my machine, require only about half as much labor and time to form them into crackers as is required to form into crackers the pieces, J, cut from strips made by the grooved rollers which were used prior to the first use of the said improved grooved rollers by myself."

The decision of the commissioner rejecting the claim of the appellants is dated 10th January, 1859, immediately following the report of the examiner in these words: "The foregoing report is confirmed. A patent is allowed to the applicant on his claim, as restricted to the last amendment offered by him (Joseph Fox); and a patent is also granted to Treadwell & McCollum on their specification and claim, having been amended as suggested in the report." That is, the granting of a patent to Fox in the restricted manner which he proposes to accept it in his last amendment, to wit: "The passing of a sheet of rolled skin-covered dough through rollers which are grooved at right angles to the axis of the rollers,"—disclaiming at the same time the use of the longitudinally grooved rollers; and to Treadwell & McCollum, also, a patent on the amendment of the specification by striking out the paragraph immediately preceding the claim, to wit: "Neither shall we limit ourselves to the use of longitudinally grooved rollers, but will use transversely grooved rolls if circumstances require," and amending the claim by inserting the word "longitudinally" between the words "pair of" and "grooves."

The report is long, and such parts will be recited as shall be thought necessary in considering the issue between the parties. It states: "The point at issue between parties to be the use of grooved rollers, having a flat interval between the grooves, in the manufacture of cylindrical strips of skin-covered dough. That is, having been found highly advantageous, in the manufacture of crackers, that the pellicle which forms on the outside of dough, when worked by hand, should be also formed by machinery, each of the parties claim to have accomplished this, at least to a certain extent, by the use of grooved rollers as a part of their machinery." "They each claim that they were the first to use rollers thus constructed in the manufacture of crackers, and a part of the machinery necessary therefor." Again, in the connection of stating what was old in the machinery, and the claims of the parties rejected, as to that, he says: "To make a cylindrical strip of dough, therefore, is not new,—is not an invention of the present day: but it might be new to make it by machinery, and not by hand. On investigating the subject, this was found to be the case," etc. Again: "It appears that no one, before the parties in this case, had succeeded in making these cylinders of dough with a continuous seamless pellicle." Clearly, then, it is the machinery that is new and patent able, as applied to the art of cracker making, and not the broad right to make cylinder strips of "skin-covered dough" by rollers of any form or position of grooves.

It appears, from the testimony submitted in this case, that both the parties, about the same time, began to experiment on the use of grooved rollers in the manufacture of crackers. Samuel Kirkpatrick testifies that he saw rollers with sharp edges between the grooves used by Fox in August, 1852; but they were found not to answer the purpose desired, were taken to a machine shop, where the edges of the grooves

were turned 150 down, and again tried, but not successful. In July, 1853, this witness saw them in successful operation; and in the fall, or succeeding winter of that year this mode of making was introduced into his baking establishment. The testimony of Ira Yager, Joseph Field, William Bunnell, Cornelius McCister-and others, introduced on the part of Fox, all sustain the testimony of Kirkpatrick in all its material parts, and show, clearly, that Fox commenced his experiments in the latter part of 1852, and brought them to successful issue, so far, at least, as this point under consideration is concerned in 1853.

On the part of Treadwell & McCollum, the testimony of both Shuyler and Birtwhistle shows that they were experimenting with the grooves and rollers for the same purpose in September, 1852, and the continuation of these experiments is proven not only by the other witnesses, Ford, Rockwell, McGray, and Robertson, but by the caveats filed in this office. The testimony shows, therefore, that each party in the case commenced his or their experiments near the same time. There does not appear, in this, that either knew or had any intimation of the doings of the other. Both appear to be practical bakers, and it is alike creditable to both that, seeing the importance of bringing machinery to bear upon and accomplish what had only been previously accomplished by manual labor, they both devoted their time and genius to its accomplishment. But, although both were engaged in the same laudable purpose, and exhibited the same zeal in carrying it out, it does not appear that they both resorted to the same means. Such a thing might, however, have been possible, and if the testimony had shown it to be so, the question of priority would have been one whose decision would have involved much anxiety, from the importance of the case, and the evident approximation of the time in which the parties were engaged in the experiments. At this point we are

to look at the means they made use of, or, in other words, the machinery which they severally devised for the accomplishment of their purpose.

At the onset we find Fox using rollers grooved transversely to the axis of the rolls. At first he made these grooves with a sharp cutting edge between them, but he immediately, in the same month,—August, 1852,—found they would not do, and had them sent to the machine shop, where these sharp edges were turned down, and a plain surface made between each groove of the rollers. Although this alteration did not accomplish the purpose, he still seems sanguine of success, and told one of the witnesses he would attain it by having the space between the grooves wider. In the summer of the following year he accomplishes his object, and in the fall or winter succeeding, introduced it, and, it appears, has ever since been using it successfully in his bakery. It is well to note here that, after finding the transversely grooved rollers with cutting edges unsuccessful, he adopted the idea of interposing a flat surface between the grooves, and made no change in the idea until he finally rendered it practically successful. Treadwell, on the contrary, commenced his experiments by making the grooves of his rollers longitudinal, or parallel with the line of the axis; and, somewhat like Fox, he made the intervals between the grooves nearly sharp, or with cutting edge (see his caveat). This latter feature he seems also to have found objectionable, and, abandoning it, interposed a flatter space, or, rather, left a large portion of the periphery of the rollers between the grooves.

Neither Treadwell nor Fox appear at first to have appreciated the importance of having the broad, flat surface between the grooves which they subsequently found necessary. Treadwell & McCollum, the latter having become the partner of Treadwell in the manufacturing of these machines, appear to have adhered to the longitudinal grooves in their rollers

until about 1855 or 1856, when they made them, or some of them, with transverse grooves, like those of Fox. It appears, then, that Fox was the first to make the rollers with transverse grooves having a flat surface interposed, and that Treadwell & McCollum were the first to make the rollers with longitudinal grooves and intervening flat spaces; that Fox has adhered without material change to the form which he originally found successful; and that Treadwell & McCollum have adopted both forms, the longitudinal and the transverse with the intervening space, but that they did not make or adopt the latter until long after—two or three years—Fox had reduced his to practical and successful operation. Treadwell & McCollum claim the above-described improved method of forming skin-covered strips from a sheet of previously smoothed, rolled dough by passing it between a pair of rollers arranged and constructed substantially as hereinbefore described, with the grooves separated by portions of the plane surface of the rollers, and in the specification they describe and in the drawings show these grooves to be longitudinal or in a line parallel to the axis of the rollers, and if they had confined themselves to this form it would not have been necessary to declare this interference. But, just before setting forth their claim, and after having given a description of their device, they say: “We do not intend to confine ourselves to any fixed proportion of plane and grooved surfaces in the rollers we use, but will vary it as circumstances require. Neither shall we limit ourselves to the use of longitudinally grooved rollers, but will use transversely grooved rolls if convenience require.” This indicates that they consider the two forms of grooves, longitudinal and transverse, as equivalents. If we admit this, then the question is reduced simply to the priority of invention; and we are thrown back to decide it upon very uncertain data but, such as it is, it

gives 151 the advantage to the claim of Fox. He further proceeds:

“But we cannot concede that the two devices are the same, substantially. There are circumstances under which devices of a certain kind, generally considered as equivalents of each other, cease to be so. In all the ordinary mechanical arrangements, a spring is considered as the equivalent of a lever, and properly so where the one can be substituted for the other, without altering materially the other parts of the machine. A common pocket watch is always moved by a mainspring. If a lever could be substituted for it, it would doubtless require other modifications in the general arrangement of the instrument, and, if new, would be entitled to a patent. Now, in the case before us, the patent asked for is not for this or that kind of grooves in a roller, but for an improved cracker machine, one of the essential elements of which improvement is this or that form of rollers. Treadwell & McCollum’s application shows a machine beginning and ending with the conversion of a sheet of dough into cylindrical strips. To do this it is evident they might use either longitudinal or transverse grooves. In their machine, therefore, they are equivalent, and if they had shown in the” testimony that they had invented the particular form of rollers, that they now claim, before Fox, then upon the strength of that equivalency they might have made a strong case against him. But, if we look at Fox’s machine, we see at once that the equivalency does not exist in it. He does not begin and end with merely converting the sheet of dough into cylindrical strips. By additional machinery he cuts these strips, as they pass through the rolls, into disks, afterwards to be flattened out into the cracker form. The arrangement of his cutting apparatus, which, it must not be forgotten, constitutes a part of the improved machine for which he asks a patent, is such that he must use transversely

grooved rollers. He could not use longitudinal grooves at all without an entire change in the other arrangements of the machine; in fact, without making a new machine. It is evident, therefore, that the equivalency of the two forms of grooves which exists in the machines of Treadwell & McCollum does not exist in that of Fox. Therefore, admitting Fox's priority of invention of the transverse rolls, they are not the equivalents, in his machine, of the longitudinal rolls as seen in Treadwell & McCollum's machine, and, therefore, cannot be set up against them for the use of the longitudinal grooves, etc."

To this decision the appellants filed twenty-seven reasons of appeal. As they cover the whole grounds on which the objections are raised, they will be substantially noticed, as far as deemed material, in the opinion which will be given. The report, in answer to the reasons of appeal, is, in principle, substantially the same as contained in the report of the examiner, with a reference to the evidence in the case. This was the case laid before me by the commissioner, together with all the original papers and evidence therein. After due notice having been given to all the parties concerned, in interest, of the time and place appointed for the hearing of said appeal, the parties appeared accordingly, and filed their respective arguments in writing, and the case was submitted.

The first question to be considered is as to the novelty of the invention, or, in other words, whether the thing claimed as an invention in this case is anything more than a double use, and not a substantive invention. The matter in issue between the parties, as before stated, as appearing by their specifications, is an improved method of forming skin-covered strips of dough from a sheet of previously smoothed dough, constructed and arranged with the grooves separated by portions of the plain surface in which they are cut, etc. In the argument, to support the position of

double use, it is contended, as to the result: "That it is admitted by the appellee, in his specification, that formerly, in making sponge and butter crackers, strips of dough were rolled by hand or machinery until a smooth skin was produced on every part, so that when such cylindrical slips were cut into pieces of suitable length, and flattened endwise, or rubbed down into the form of crackers, an unbroken skin was formed around the whole periphery of the crackers which it is essential that they should have." With respect to the machine: That it appears by the report of the examiner thus: "Nor was it new to construct rollers having a portion of the face or periphery of the rollers left between the grooves." Also, by Fox's amended specification, January 9, 1858: "In the rolling of sheets of clay and other elastic plastic substances into cylindrical strips, there is no such advantage to be gained by using rollers with broad bearings between the grooves as that to which I achieve by employing such rollers in forming smooth, skin-covered, elastic cracker dough into cylindrical strips with perfect skins." Besides, neither party claims to have invented the rollers. I submit, therefore, that the alleged invention or novelty does not exist in the machine. That the substance acted on, cracker dough, was old, needs no authority to support it. As to the specific form and condition of this substance operated on, as described by Fox on the second page of his specification in this language: "Now, by running broken cracker dough between smooth rollers, a beautiful, smooth skin or surface is produced on each side of the sheet," it was old and well known to cracker bakers prior to the alleged invention in controversy. To prove which the depositions of McGray and John Robertson were referred to. Various authorities are referred to as supporting the foregoing doctrine. I have examined the authorities pro and con, on this subject, and find that there is in them so much

refinement 152 as to make it difficult to know what are the settled distinctions between what is and what is not an “analogous use.” It is true that it is a settled principle of patent law that a result or effect of a process is not patentable, but it is equally true that, where a result is in the greatly improved manufacture, or development of some new and useful principle, it may become the test of invention, and from which invention may be inferred, or where the result is substantially different from what had been effected before. In this case an important improvement in the manufacture of crackers by machinery has been attained by the operation of a peculiar arrangement of the parts of an old machine. In the language of the commissioner: “No one, before the parties in this case, had succeeded in making the cylinder of dough with a continuous, seamless pellicle.” This improvement, I think, must be considered a new invention, and patentable as a new method or device in the improvement of an old manufacture, and the objection is therefore overruled and the commissioner’s report upon this point affirmed.

The next part of the case to be considered is as to priority. It is apparent that each of the parties had this improvement in view,—the one in April, 1852, and the other in August, 1852. Fox was experimenting with rollers with sharp edges between the grooves, which were found not to answer, and which were taken to the machine shop, where the edges of the grooves were turned down, and again tried, but not successfully; but in July, 1853, the witness saw them in successful operation, and in the fall or succeeding winter of that year this mode of making was introduced into his baking establishment. Other witnesses, corroborating him, show that Fox commenced his experiments in the latter part of 1852, and brought them to successful issue, so far, at least, as the point now under consideration is concerned, in 1853. This is according

to the statement of the evidence by the commissioner. The commissioner has stated, also, what he conceived the proof on the part of Treadwell & McCollum; but as they have objected to the accuracy thereof, I will endeavor to state it as it appears from the papers in the cause. They both state, alike, that the caveat filed by them was the commencement of their discoveries, and that, according to what is shown thereby, their plan was by making the grooves of their rollers longitudinal or parallel with the line of the axis. But it is contended by them that Treadwell & McCollum never tried or used rollers with sharp cutting edges between the grooves for the purpose as stated by the commissioner. And so, with respect to the surfaces between the grooves, they suppose the fact misstated, and that the fact is proved to be that rollers made and used by Treadwell & McCollum had intervening surfaces or bearings of an eighth of an inch wide in 1852; so proved to be in the months of September or October and November,—one of them producing a diagram, Exhibit A, which represented a pair of smooth rollers to roll the dough and a pair of longitudinally grooved rollers to form the strips, as a representation of the machine, and swearing that it represents the grooves and bearings, and that they were one-eighth of an inch bearing. I have compared the original depositions with the above statement, and find that it is substantially correct. Thus it appears that the thing claimed by the appellants, and forming the issue between the parties in this case, was both begun and consummated before the appellee's; and the commissioner, in his report, says that they might have had a patent accordingly, by striking out, as part of their claim, the paragraph immediately preceding the claim, to wit, "Neither shall we limit ourselves to the use of longitudinally grooved rollers, but will use transversely grooved rollers of convenience require," and amending the claim by inserting the word

“longitudinally” between the words “pair of” and “grooved.” The commissioner also says: “This indicates that they consider the two forms of grooves, longitudinal and transverse, as equivalent;” but that he could not concede this. He further says: “In the machine they are equivalent, and if they had shown in the testimony that they had invented the particular form of rollers that they now claim before Fox, then upon the strength of that equivalency they might have made a strong case against him, and also because the arrangement of Fox’s cutting apparatus which, it must not be forgotten, constitutes a part of the improved machine for which he asks a patent, is such that he must use transversely grooved rollers, he could not use longitudinal grooves at all without an entire change in the other arrangements of the machine; in fact, without making a new machine.” With all due respect, it appears to me that this cutting apparatus of Fox’s forms no part of the issue in this case, but if it did, as the transverse roller is used for the same purpose, performs the same duty or is applicable to the same object, the change introduced by Fox will not be sufficient to render it less a mechanical equivalent as to the appellants. See Curt. Pat § 224. If the change introduced by the defendant constitutes an equivalent in reference to the device of the patentee, and besides being such an equivalent it accomplishes some other advantage beyond the effect or purpose accomplished by the patentee, it will still be an infringement as it respects what is covered by a patent, although the further advantage may be a patentable subject as an improvement upon the former invention. Over and above all, it is old.

Upon the whole. I think that the appellants must be considered the prior inventors, and entitled to a patent for their invention, as prayed. 153 I, James S. Morsell, an assistant judge of the circuit court of the District of Columbia, do certify the honorable commissioner

of patents that, according to previous notice given to the parties in this case of the day and place of trial of the aforesaid appeal, they respectively appeared before me by their attorneys; and the decision and report by the commissioner, with the reasons of appeal, and all the original papers, with the evidence, having been laid before me by said commissioner, said attorneys filed their respective arguments in writing thereon; and upon full consideration thereof, I am of opinion, and do so adjudge and determine, that the said decision so far as it respects the ground of analogous use, is correct, and is hereby affirmed, and so far as it respects the priority of invention between the parties, and the refusal to grant a patent to the appellants, it is erroneous, and the same is hereby reversed and annulled, and a patent is hereby directed to be issued to said appellants for their invention as prayed.

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