

Case No. 17,592.

WHITNEY v. MOWRY.

[2 Bond, 45; 3 Fish. Pat. Cas. 157.]¹

Circuit Court, S. D. Ohio.

Feb., 1867.

PATENTS—PRESUMPTIONS—EFFECT OF EXTENSION—CONSTRUCTION OF SPECIFICATIONS—INFRINGEMENT—METHOD OF MAKING CAR WHEELS.

1. The original presumptions of novelty and utility arising from the grant of a patent are strengthened by its extension.

[Cited in *Cook v. Ernest*, Case No. 3,155.]

2. Asa Whitney was the first person to apply a process of slow cooling, analogous to annealing, in the manufacture of chilled cast-iron wheels, thereby preventing inherent strains from unequal contraction.

3. This invention was not anticipated by the ordinary process of annealing metals as applied to wheels, other than car wheels.

4. The application of annealing to the art of manufacturing car wheels was new and patentable.

5. The phrase, “a point a little below that at which fusion commences,” in Whitney’s patent, gives a maximum of temperature, and does not imply that a lower temperature was not inconsistent with his invention.

6. “A little below fusion” does not mean “incipient fusion,” or iron in a “semi-plastic state,” but a point so far below fusion as to prevent the destruction of the chill.

7. A specification is addressed to workmen skilled in the art to which the invention relates, and something may properly be left to their judgment and discretion.

8. The process described in the patent of A. L. Mowry, dated May 7, 1861, of annealing car wheels, in pits, by charcoal interlaid between the wheels, is substantially the same as that patented to Asa Whitney.

9. Neither Whitney nor Mowry claim the apparatus. The invention of Whitney consists in the process, and this is infringed by Mowry.

10. Where charcoal was placed in a pit, into which a red-hot wheel was lowered, igniting the charcoal, and afterward charcoal and wheels were introduced alternately, *held*, that the wheels were placed in a “previously heated furnace” within the meaning of Whitney’s patent.

11. The inventor of an improvement is not entitled to use the original invention.

12. An appeal, and the bond given in pursuance thereof, do not vacate or suspend an order of injunction.

[Cited in *Brown v. Deere*, 6 Fed. 490; *Consolidated Roller-Mill Co. v. Coombs*, 39 Fed. 805.]

[Cited in *Tyler v. Superior Court of Sonoma Co. (Cal.)* 13 Pac. 857.]

This was a suit in equity, brought to restrain the infringement of letters patent “for an improvement in the process of manufacturing cast-iron railroad wheels,” granted to Asa Whitney, April 25, 1848, and extended April 25, 1862, for seven years. The facts, and material portion of Whitney’s specifications, sufficiently appear in the opinion of the court.

The disclaimers and claim of the patent were as follows: “I do not claim to be the inventor of annealing castings made of iron or other metal, when done an the ordinary

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way; nor do I claim to be the inventor of any particular form or kind of furnace in which to perform the process; but what I do claim as my invention, and desire to secure by letters patent, is the process of prolonging the time of cooling, in connection with annealing railroad wheels, in the manner above described; that is to say, the taking them from the molds in which they are cast before they have become so much cooled as to produce such inherent strain on any part as to impair its ultimate strength, and immediately after being thus taken from the molds, depositing them in a previously heated furnace or chamber, so constructed, of such materials, and subject to such control, that the temperature of all parts of the wheels deposited therein may be raised to the same point (say a little below that at which fusion commences), when they are allowed to cool so fast, and no faster than is necessary for every part of each wheel to cool and shrink simultaneously together, and no one part before another.”

Henry Baldwin, Jr., and S. S. Fisher, for complainant.

Bartley & Burnett and Collier & Heath, for defendant.

LEAVITT, District Judge. The bill alleges an infringement, by the defendant, of the complainant's patent for improvements in the manufacture of railroad car wheels, originally granted to him on April 25, 1848, and extended for seven years from April 25, 1862. The answer of the defendant, as first filed, denies the novelty of the complainant's patented invention, and also denies the infringement charged in the bill. He admits that he has been, and now is, extensively engaged in the manufacture of car wheels at Cincinnati, but avers that the wheels are annealed and prepared for use by a different process from that described and claimed in the complainant's patent, and in accordance with the claims and specification of a patent granted to him, dated May 7, 1861. By an amendment to the answer, allowed by the court during the hearing, the defendant sets up as a further ground of defense, the want of utility in the improvements patented to the complainant. The issues then made by the pleadings are, therefore: First, the novelty of the complainant's invention; second, its utility; and, third, its infringement by the defendant. These issues will be considered in the order stated. But before proceeding to their consideration, it may be pertinent to remark, that from the great mass of the evidence adduced by the parties, it will be impossible, without an unwarrantable expansion of this opinion, to refer in detail to all the facts on which the conclusions of the court are based. I have carefully

considered the evidence, as also the extended and able arguments of the counsel, and will, with as much brevity as possible, state the results.

1. First, as to the novelty of the invention patented to the claimant. The allegations of the answer, assailing the novelty of the invention, are: "That, in so far as the complainant, in his said letters patent, claims to be the inventor of reheating car wheels after their removal from the molds, or of a continuing process of removing them, while at a red heat from the molds, and, without allowing them to cool, placing them, in that state, in a previously heated furnace or chamber, and there reheating them to a high temperature, and then allowing them to cool gradually; such claim is beyond the invention of complainant, and his said letters patent are void, for the reason that the same process was known and used long prior to such alleged invention by the complainant." The defendant then specifies more than twenty persons to whom the complainant's process was known, and by them used, in different places in the United States, prior to the date of his patent. He also refers to twenty or more works or printed publications in this country and in Great Britain, in which it is averred the complainant's process is described.

Before advancing further in considering the question of novelty, it will be necessary to state at least the outlines of the complainant's process, as set forth in his specification and claim. In the patent, the invention is designated as "a new and useful improvement in the process of manufacturing cast-iron railroad wheels." In his specification, the complainant calls it "a new and useful improvement in the process of manufacturing cast-iron railroad wheels." And he says: "My improvement consists in taking railroad wheels from the molds in which they are ordinarily cast, as soon after being cast as they are sufficiently cool to be strong enough to move with safety, or before they have become so much cooled as to produce any considerable inherent strain between the thin and thick parts, and putting them, in this state, into a furnace or chamber that has been previously heated to a temperature as high as that of the wheels when taken from the molds. As soon as they are deposited in this furnace or chamber, the opening through which they have been passed is closed, and the temperature of the furnace or chamber and its contents gradually raised to a point a little below that at which fusion commences, when all the avenues to and from the interior are closed, and the whole mass left to cool no faster than the heat it contains permeates through, and radiates from, the exterior surface of the materials of which it is composed. By this process all parts of each wheel are raised to the same temperature, and the heat they contain can only pass through the medium of the confined atmosphere that intervenes between them and the walls of the furnace or chamber; consequently the thinnest and thickest parts cool simultaneously together, which relieves them from all inherent strain whatever, when cold." After referring to the drawings descriptive of the furnace, the patentee adds: "To heat this furnace I have used anthracite coal, it requiring less than one-fourth of a ton to anneal two tons of wheels." He also provides

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for other kinds of fuel for heating the furnace, but declares that by whatever means the heat is produced, the furnace or chamber must be so constructed as that the operator can control the quantity and intensity of the heat used “by admitting more or less of it into the chamber, and excluding it entirely.” After stating the advantage of annealing car wheels by this process, as adding to their strength and durability, and as being more economical than any other known process, he disclaims the annealing of castings in the ordinary way, and also says he does not “claim to be the inventor of any particular form or kind of furnace in which to perform the process.” And he adds: “But what I do claim as my invention, and desire to secure by letters patent, is the process of prolonging the time of cooling, in connection with annealing railroad wheels in the manner above described—that is to say, the taking them from the molds in which they are cast, before they have become so much cooled as to produce such inherent strain on any part as to impair its ultimate strength, and immediately after being thus taken from the molds depositing them in a previously heated furnace or chamber, so constructed, of such materials, and subject to such control, that the temperature of all the parts of the wheels deposited therein may be raised to the same point (say a little below that at which fusion commences), when they are allowed to cool so fast, and no faster than is necessary for every part of each wheel to cool and shrink simultaneously together, and no one part before another.” Such is substantially the specification and claim of the complainant, stated in such full, clear, and exact terms as that an intelligent mechanic in that department, according to the testimony of a well-qualified expert in that case, could readily follow the process described.

Before referring to the evidence offered as impeaching the novelty of the complainant’s patented invention, it is proper to remark, that the evidence to sustain such a claim must be strong and conclusive, to justify a judgment setting aside the patent as void for want of novelty. The presumption of law is with the complainant upon this issue, arising not only from the grant of the original patent, but from its extension for seven years after its expiration. The statute authorizing the extension of a patent is too well known to require special reference or citation. It is sufficient to say that it imposes on the head of the patent office the duty of a critical revision of the grounds on which the original patent was granted. He must be satisfied, not only that the invention was new, but that it had proved of great practical utility to the public, and that the patentee had used proper diligence in bringing the invention into public use, and had not been

sufficiently remunerated, as the conditions on which alone the patent can be extended. And the statute requires notice of the application for the extension, so that all persons opposing it may have the opportunity of making their objections. A patent which successfully undergoes this scrutiny, without any modification of the original claim and specification, has very strong presumptive claims to validity, as being both new and useful. Another fact strengthening this presumption is, that the complainant, for eighteen years before the commencement of this suit, had practically and successfully practiced his patented method of annealing car wheels, during which time, as the proof shows, nearly five hundred thousand car wheels were manufactured and sold at his foundry in Philadelphia. But how does the issue of novelty stand upon the evidence? The complainant's patent bears date in April, 1848, but it appears that his application for a patent dates back to August 2, 1847, which is to be viewed as the date of his invention. All the witnesses agree, that prior to that time, no car wheel, made of cast iron, was known having the required qualities of durability and strength. The art of casting in chills as it is called—that is, casting in a mold, the outer circumference of which was iron instead of sand—was previously known and practiced. This produced a hardened surface of the periphery of the wheel; but in casting, the thick and thin parts of the wheel contracted unequally, and the result was an inherent strain between the periphery or tread of the wheel, and its inner parts, that greatly impaired the strength and durability of the wheel. Prior to the date of the complainant's invention, several devices had been resorted to, and patented, designed to remove the injurious effects of this inherent strain. The first remedy for this difficulty was to cast the hub in sections, dividing it into four parts. After the wheel had cooled, and the process of contraction ended, the spaces between the divided parts of the hub were filled with some fused metal, and the hub thus made solid. But this method involved a waste of time, and was too expensive for practical use. It was found, too, that the wheel was sometimes distorted, so as to be useless. It appears that the next device for avoiding the inherent strain was to make the plate, or thin part of the wheel, of a curved form, so that in cooling, the curve in the plate would be straightened. There were also patents for other plans, embodying changes in the shape of the wheels to overcome the effects of unequal contraction in cooling, and thus avoiding the inherent strain. But none of these inventors seem to have conceived the idea of making a practical car wheel with straight plates, so annealed and cooled as to leave it strong and durable, and uninjured by the unequal contraction of its parts. It is safe to say, that up to the date of the complainant's invention, the process of prolonging the time of cooling the wheel, in the mode described and claimed by him, and thus overcoming the difficulties of the prior methods, was unknown. Several intelligent witnesses sustain this conclusion in a manner that frees it from all doubt.

I have not deemed it necessary to advert to the publications referred to in the defendant's answer as anticipating the complainant's invention. They prove, undoubtedly, that

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the process of annealing metals has been long known, and that various plans and modes of accomplishing it have been described by scientific writers. But the evidence is clear, that casting railroad ear wheels is a distinct branch of the art of casting, and that none of the printed works referred to, describe or apply to that art. One witness examined as an expert, and apparently well acquainted with mechanical science, testifies that in none of those works is the complainant's process of making car wheels alluded to or described. There is some reference to annealing wheels, other than car wheels, but none to any wheel cast with a chill, and therefore it has no application to the process described by, and patented to, the complainant.

Without enlarging on the question of the novelty of this invention, I have no hesitancy in the conclusion that the evidence is entirely satisfactory to prove that the process of prolonging the cooling of car wheels, and thus avoiding inherent strains, is due to the thought and inventive talent of the complainant. And I can not, perhaps, more appropriately close my remarks on this point than by quoting what was said in relation to it by my learned brother, Mr. Justice Swayne, who sat with me on the hearing of the application for an injunction, at the last April term of this court. His remarks on that occasion show a very intelligent apprehension of the subject, and are very pertinent to the question now under consideration. The learned judge, speaking for the court, said: "Our impression is, that the patent may be sustained on the ground of a discovery. Annealing is undoubtedly an old invention, but as applied to car wheels, may be valid as a discovery applied to car wheels. It strikes us, as the case is presented, we may fairly hold, and are bound to hold, that the patentee and complainant did discover a mode of overcoming this difficulty (the inherent strain of the wheels) by his process. That result is a meritorious one, and we should be inclined, at the final hearing, as we are now, to give such a construction to this patent as will sustain his claim to that invention, and give him the fruits of his discovery. There is no proof that he was not the inventor or discoverer of that art, and the application of that art." Such were the views of the learned judge, upon the case as presented on the application for the injunction. I may add, that the evidence on

the final hearing, instead of detracting from the correctness of these views on the question of the novelty of complainant's invention, as covered by his patent, has strengthened and confirmed them. Several reliable witnesses, familiar with the progress of making ear wheels from their first introduction in this country, agree in their testimony, that, up to the time of this invention, no successful method of making them had been discovered; and that the complainant's process of prolonged cooling was the first known which overcame the defects in all wheels previously made. In the language of one witness: "It enabled a better wheel to be produced at a less cost than had been the case before his invention." And again: "There was a general confidence felt in regard to their strength as well as durability, which never had been the case regarding other wheels."

2. But, as before noticed, the complainant's patent is assailed, as being void for want of utility in the invention as described in his specification. The argument urged, as sustaining this ground of defense, is, that the claim for the discovery of the prolonged cooling of the wheels, after their removal from the mold, and their deposit in the pit or furnace, is that the temperature of all parts of the Wheels "may be raised to the same point (say a little below that at which fusion commences)" and that the effect of this high degree of heat is, either to destroy wholly the chill of the tread, or so to impair it, that the wheel will be practically of no value. This point is most strenuously insisted on by the counsel for the defendant; and if sustained by a fair construction of the patent, and the evidence as to the result of the application of the complainant's process of annealing car wheels, will be fatal to his claim in this suit. The want of utility in a patented invention is a valid objection to the patent; but it is well settled that courts will not inquire astutely into the degree or measure of its utility, and unless it appears that the invention is wholly worthless or frivolous, the patent will be sustained. It may also be pertinent to remark, on this question, that the presumption of utility arising from the grant of the original patent, its extension by the commissioner of patents, and the long and successful use of the patented process, as in the case of novelty, requires clear and explicit proof of its inutility to justify a judgment declaring the patent void.

With these preliminary remarks, I will state briefly my views upon the point under consideration. It involves, obviously, a mixed question of construction and of fact. And it is proper, first, to settle what is the fair import and extent of the complainant's claim as to reheating the wheels, when placed in the furnace or chamber. In the description of his process he provides, after requiring the wheels to be thus placed, that the temperature of the furnace or chamber, and its contents, be gradually raised to a point a little below that at which fusion commences." These words are substantially repeated in the claim, in a parenthesis, in this form: ("say a little below that—the point—at which fusion commences.")

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It must be conceded that this claim, as to the degree of heat to which the wheels are to be subjected, is not stated with the precision and definiteness that is desirable. But it is a settled rule in the construction of patents, that the specification is to be liberally construed; and effect, if possible, is to be given to the claims of the patentee, so as to give him all the benefits of his invention. If, with a fraudulent purpose of concealing the invention, or any material part of it, he omits, or erroneously describes any essential element, the patent is absolutely void. But there is no claim, or pretense, that the complainant had any such purpose, in describing his process. And there is no reason to doubt, that, in referring to a degree of heat a little below the point of fusion, he indicated the degree which, in the hands of an operator of skill and judgment, would effect, practically and successfully, the object of his invention. He avoids the point of incipient or actual fusion, but requires the heat to be a little below that point. This expression clearly imports some latitude of discretion in the operator. It clearly does not require that the temperature of the wheels shall be raised to the precise point above which fusion would commence. It must be presumed that the inventor knew, that if the wheels were heated to incipient fusion, or to the degree immediately below, they would be so soft as not to retain their shape or symmetry in their position in the chamber or furnace, and that thus their utility would be destroyed. It is not supposable that the inventor intended what would destroy the very object he had in view, namely, to make a wheel in* which the chill of the periphery should be preserved, and the inherent strain, from unequal contraction, avoided. I am clear that the patent may be regarded as claiming, by the fair import of the words, "a little below the point of fusion," such a degree of heat as is necessary to effectuate the intention of the inventor. His object was to guard against the point of fusion, and, also, against a temperature so low that an inherent strain would be produced between the thin and the thick parts of the wheel. He says, expressly, they must not be allowed to cool, after removal from the mold, to a degree which will cause this strain. That it was not in the mind, or according to the purpose of the patentee, that the temperature of the wheels should be limited to the exact point, just below where fusion begins, is inferable from a claim in the body of the specification, providing that the degree of heat must be left somewhat to the judgment of the operator.

Having referred to two plans for the construction of the chamber or furnace, either of which, he says, may be adopted, he adds this clause: "In either case, however, the furnace or chamber must be made of such form and have such appendages connected with it as to enable the operator to control the quantity and intensity of the heat used, by admitting more or less of it into the chamber, or of excluding it entirely." This seems to imply that a range of degrees of heat was contemplated by the patentee, the highest of which should be a little below where fusion commences, and the lowest above the point where the wheels would be liable to cool to such a degree as to produce an inherent strain. And this was clearly to be judged of, and controlled by, the operator. Upon the whole, as a question of construction, I can not find any sufficient basis for the conclusion that this patent must be held as a nullity, because the patentee has designated the point a little below where fusion begins, as the temperature to which the wheels are to be raised, after being placed in the furnace. So narrow a construction of a patent, which has been extensively and successfully used for eighteen years, can not be sustained. If it were conceded, that the effect of the heat, if raised to the point stated, would be to impair the chill of the wheel, or even to destroy it, I should hesitate to pronounce the patent invalid, in the face of the fact that operatives, who have manufactured wheels under this patent, for years, were almost invariably successful in producing car wheels of the most approved and practical character.

It is hardly necessary to refer to the numerous authorities in which it has been held, that in constructing machines, or carrying into effect a process, under patents, something must be left to the judgment and discretion of the mechanic, or operative, to whom the work is committed. The patentee, in his specification, addresses himself to those who are supposed to be familiar with the invention covered by the patent. And if the patentee has conformed to the requirement of the statute, by describing his invention "in such full, clear, and exact" terms as that one skilled in the branch to which it pertains, can construct it, if a machine, or carry it successfully into effect, if a process, his patent is sustainable.

It is hardly necessary to refer, at length, to the evidence offered by the defendant, to prove that car wheels, annealed strictly according to the process claimed and described in the complainant's specification, would be so far deprived of their chill as to render them useless. There are several witnesses, who state it as their opinion, that, if the wheels are raised to a temperature, when placed in the furnace, a little below the point of fusion, the chill would be impaired or wholly destroyed. These opinions, however, are based on mere speculation, and are not the result of actual experiments in annealing ear wheels. Some of these witnesses have evidently misunderstood the claims of this patent. One seems to suppose it requires the wheels to be heated to "incipient fusion," and another speaks of them as in a "semiplastic" state. Both are evidently mistaken as to the calls of the patent in this regard. One witness, Renwick—a very learned expert, called by the

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complainant gives it as his opinion, on his cross-examination, that it the wheels, when placed in the furnace, were subjected to a long continued heat, a little below the point of fusion, the effect would be seriously to impair the chill. But the patent does not contemplate that they shall remain for any length of time at this high heat. On the contrary, it is distinctly stated in the specification, that as soon "as all parts of the wheel are raised to the same temperature, all the avenues to and from the interior are closed, and the whole mass left to cool, no faster than the heat it contains permeates through, and radiates from, the exterior surface of the materials of which it (the furnace) is composed." From the heat required in the furnace when the wheels are placed in it, it is obvious that but a short space of time will be required to produce this equability of temperature; and this being effected, the process of cooling immediately commences.

It is by no means clear, from the evidence, that if the claim of the patent, requiring the wheels to be heated to a point a little below where fusion commences, is construed with the strictness claimed by the defendant's counsel, that the effect would be to destroy the chill, and thus impair the utility of the wheel. Several witnesses, familiar with this process from the date of complainant's patent, testify that in his extensive foundry wheels have been made and annealed in exact accordance with the patent, and without any change or modification. If this is the fact, it negatives, conclusively, the inference that the patented process, whatever construction is given to the claim, is injurious to, or destructive of, the chill of the wheel.

But if the views stated on the point under consideration are erroneous, there is another ground on which the claim of defendant's counsel, that the patent is void for inutility, must be overruled. It is apparent, from the specification, that the preservation of the chill of the wheel, by the process of annealing described, is not the only object deemed important and sought to be attained by the patentee. The prevention of any inherent strain is claimed as a part of the invention. And the witnesses who express the opinion that the high heat required for the wheels must impair or destroy the chill, say that the inherent strain would be prevented. The result would be, upon their theory, that while the tread of the wheel would be too soft for durable service, it would not be worthless, and would have, at least, the merit of being free

from any inherent strain. The wheel would not be as valuable as it would be, upon the supposition that the periphery was so far hardened by the chill as to make it more durable and useful, but the removal of the strain would impart to it a degree of utility sufficient to sustain the patent.

But it is not necessary further to pursue this branch of the case. I am clear in the conclusion, that neither upon the law nor the facts is the defense of the want of utility in this invention so made out as to require the judgment of the court that the patent is void on that ground.

3. The remaining issue to be disposed of is, whether the defendant has infringed the exclusive right of the complainant under his patent. The infringement is denied in the answer, and the onus of proving it is thrown on the complainant. The answer avers that the defendant has not manufactured or sold car wheels, "which have been subjected to the treatment or process described or specified in said letters patent of the complainant, or to any process or treatment substantially or practically similar in its nature or its effects." The defendant also avers, in his answer, that he was the first and original inventor of certain improvements in annealing car wheels, for which he obtained letters patent, dated May 7, 1861, and he avers, "that he has manufactured and annealed car wheels according to the process described in his said letters patent, and not otherwise." It may be well to notice here that neither the complainant nor the defendant claims, as a part of his invention, the form or structure of the furnace or pit in which the wheels are annealed. The complainant says in his specification: "Nor do I claim to be the inventor of any particular form or kind of furnace in which to perform the process." The defendant says: "I do not claim as my invention, or any pan thereof, the pits, flues, or currents of air for the purpose herein described."

The question of infringement is, therefore, limited to the inquiry whether there is a substantial identity between the processes of annealing car wheels, as patented to, and useful by, the parties respectively under their patents. The process of the complainant, as embodied in his patent, has been noticed before and need not be repeated here. The defendant, in his claim, says: "What I claim as new, and desire to secure by letters patent, is: The employment of charcoal, or other equivalent combustible substance, interlaid between the wheels, in a pit, in combination with an aperture d, for regulating the supply of air to the same, to prolong the combustion of the fuel, and retain the heat for the purpose herein described." In the second paragraph of his specification, he describes the character of his invention substantially as embodied in his claim just quoted, but with more particularity. He there says: "The purpose of the charcoal interlaid with the wheels is to heat the wheels in the pit to a proper temperature, prolonging the heat, and permitting them to cool gradually in a given time;" elsewhere stated to be about seventy-two hours. In another place, he states: "The operation of my invention is as follows: A layer of char-

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coal having been placed on the perforated bottom c, of the annealing pit, the wheels, as they are turned out of the molds, red-hot, are placed in the pit, with a layer of charcoal between each wheel; a layer of charcoal being laid on the uppermost wheel, and on this perforated metal plate is placed; the charcoal becoming now ignited by the hot wheels, the cover of the pit is then laid on, and the damper opened so as to admit just sufficient air to effect the combustion of the contained charcoal." In further explaining his process, the defendant says: "It is well understood that chilled car wheels require to be cooled by a process which will permit the different parts to adjust themselves to each other, and accommodate the unequal contraction which results from the process of chilling." A comparison of the claims and specifications of these patents shows clearly that both had the same object in view, namely, annealing ear wheels by a proper increase of heat after they were placed in the pit or furnace, and providing for their gradual and prolonged cooling, so that when cooled the tread, or periphery, should be of suitable hardness, and the strength of the wheels not impaired by the strain resulting from the unequal contraction of the parts. The issue in this case, on the question of infringement, seems, therefore, to be reduced to this inquiry, whether these patentees accomplish, by the annealing processes which they describe and claim, the same result by substantially the same means. The law applicable to identity is so well settled and understood that it is useless to extend this opinion by the formal citation of authorities. It is a conceded principle that a patent for a mechanical structure, or a process to effect a specific purpose, does not embrace every possible means of effecting the same result. The true inquiry is, whether the machine or process charged to be an invasion of an exclusive right of a patentee embodies the idea or conception of the original inventor, and accomplishes it by substantially the same means. A patentee is protected from the use of all plans or devices, which, however seemingly different from the patented invention, are the same in principle and operation.

This is a question of fact to be decided by the testimony, and to that I will briefly refer remarking that the only points really in controversy are: (1) Whether the defendant provides for reheating the wheels when removed from the molds to the furnace or pit; (2) whether he claims the process of prolonged cooling as a part of his invention; and (3) whether his method of heating the furnace or pit is substantially the same as that described by the complainant. On these points I need not again refer to the claims of the two patents, as they have been already cited. The

reheating of the wheels in the pit, and the prolonged cooling after being heated to the proper temperature, are clearly claimed by the defendant in his specifications as elements of his process. The complainant heats the furnace, previously to the wheels being placed in it, by the combustion of anthracite coal or other suitable material; the defendant reheats by placing charcoal at the bottom of the pit, to be instantly ignited by the first red-hot wheel deposited, and then placing a layer of charcoal on each successive wheel, thus producing what one witness calls an "incandescent mass" in the furnace, and heating the whole to a high temperature. It was well and pertinently remarked by Judge Swayne, on the hearing of the application for an injunction in this case, after a critical comparison of both patents in reference to the specification of the defendant, that there were "very numerous analogies, though the collocation was a little different." And there seems to be no reason to doubt the correctness of the learned judge's conclusion.

It has been noticed in a previous part of this opinion that one of the defendant's counsel strenuously insisted, in his argument, that there was a palpable difference in the practical operation of the processes claimed by these parties in this: that if the specification of the complainant's patent is strictly followed, a wheel is produced with its chill so far impaired or destroyed as to render it useless; and that, therefore, the defendant's process is dissimilar, as its result is a perfect and practical wheel. This point is disposed of by the construction given to the complainant's patent, to the effect that he does not require or provide for a reheating of the wheel to an extent which destroys its usefulness.

On the question of the identity of the two processes a number of witnesses have testified on both sides. I have examined their evidence with care, but can not, without an unreasonable extension of this opinion, refer specially to it, or analyze the views and statements of the different witnesses. There is, undoubtedly, some conflict in the evidence on this point; but, in my judgment, that which sustains the substantial identity of the process of the complainant and the defendant greatly preponderates. The defendant's witnesses say they are different, because the complainant provides that the furnace or chamber, in which the wheels are placed after being taken from the molds, is previously heated to a high temperature, while, by the defendant's process, the furnace or chamber is not heated when the first wheel is deposited, and becomes gradually heated as each wheel is placed in position. Some express the opinion, from what is a clear misapprehension of the description of the defendant's process, that there is no reheating of the wheels after being removed from the molds. Others, again, think there is no claim by the defendant for the prolonged cooling of the wheels, as provided for in complainant's specification. And others say the heat of the wheel, by defendant's a process, is not the same in all its parts; that the hub and rim of the wheel lose heat, while the temperature of the plate only is raised in the furnace or chamber. There are also, perhaps, some other points of disagreement stated by some of the witnesses to which I have not adverted. But all the

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evidence of this character seems to be fully met by the views and opinions of the experts who testify for the complainant. They are believed to be entirely truthful and reliable, and certainly evince a high degree of intelligence with reference to the subjects to which their attention is directed. One witness says: "In my opinion, the process of annealing car wheels, set forth in said Mowry's patent, is, in substance, a variation or modification of the process described in the said patent of the complainant; the process in said patent (Mowry's) embodying, in substance, the whole of the process described in said patent of the complainant, and the variations, consisting in the use of a particular fuel (charcoal) and of a furnace specially adapted to the employment of such fuel, for the purpose of increasing the temperature of the wheel." He then states at length his reasons for this conclusion, saying, at the close of his statement: "Although these differences constitute a variation in the mode of practicing the process, they do not so change it, in my opinion, as to make it substantially different from the process described in said complainant's patent." Another witness says: "I regard said apparatus of Mowry, in principle, mode of operation, and construction, as substantially identical with that patented to Whitney. I think that the processes are the same." This witness also states that the only difference between the two is in the mode of heating the wheels after being placed in the chamber or furnace, and that this is only a formal difference. A witness, who appears to have had much experience in making car wheels, and to be well acquainted with the business, speaking of the processes of the complainant and defendant, says: "I believe them to be substantially the same in principle, mode of operation, and effect produced." Another witness testifies that "the process described by the defendant is identical, in operation and results, with that patented to the complainant; both taking red-hot wheels before they are injured by contraction in cooling, putting them in a furnace, chamber, or pit, then raising the temperature of the wheels to a uniform degree throughout, and then permitting them to cool slowly, that when cold, no strain is left upon them by unequal shrinking." The complainant, as a witness, swears: "The only difference, in my opinion, between my process and that of Mr. Mowry is that incident to the different fuels used by each; the effect is the same in both cases."

The evidence seems to be very conclusive that the two processes are substantially identical, and that the variations in the mode of using them are merely formal, and do not imply a difference in principle. The conception embodied in the invention of the complainant is most clearly reproduced in the patent of the defendant. And if it were true, as contended by the defendant's counsel, that his process produces a more perfect and valuable wheel than that of the complainant, it would not protect him from liability for an infringement, if he adopts, substantially, the essential elements of the original invention. If he was the inventor of an improvement, new and useful, it was properly the subject of a patent, but would not authorize him to appropriate, as his own, the invention of the complainant.

The law on this subject is well settled by numerous adjudications of the courts of the United States. Without quoting at length the decisions of these courts on this point, I will merely refer to the cases in which the principle is involved. *Winans v. Denmead*, 15 How. [56 U. S.] 342; *Goodyear v. Railroad* [Case No. 5,563]; *Goodyear v. Day* [Id. 5,566]; *McCormick v. Seymour* [Id. 8,726]; *Sickels v. Borden* [Id. 12,832]; *Tilghman v. Mitchell* [Id. 14,043].

It is my conclusion that the issues of novelty, utility, and infringement are all with the complainant, and that a decree must be entered in his favor.

Decree for perpetual injunction and account.

After the entry of the decree, the defendant moved to set the same aside, and to modify it, so as to allow defendant to continue his manufacture, under proper security, until the coming in of the master's report. It was contended, on behalf of defendant, that when the report was confirmed and final decree entered, the appeal bond would operate as a supersedeas to the order of injunction; and as the defendant might then go on unchecked, he ought not to be enjoined absolutely, pending the investigation before the master. *Barnard v. Gibson*, 7 How. [48 U. S.] 650. The complainant insisted that the appeal bond did not supersede the injunction; that the supersedeas did not extend beyond the money judgment and costs (*Merced Min. Co. v. Fremont*, 7 Cal. 130; *Hart v. Mayor of Albany*, 3 Paige, 381); and that the merits of the case having been fully heard, and the equity having been found with the complainant, he was entitled to his injunction as soon as the issues of the validity of the patent and the infringement by the defendant were passed upon by the court.

LEAVITT, District Judge. After a careful consideration of the question, and after conference with SWAYNE, Circuit Justice, I am satisfied that the law and practice have very well settled that the appeal, and bond given in pursuance thereof, do not vacate or suspend the order of injunction; they affect only the collection of the amount adjudged as damages and costs. I can not, therefore, see that the proposed modification of the decree would result in anything beneficial to the defendant. I have no doubt of the power of the court, in a proper case, to interpose and modify the order by suspending the oper-

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ation of the injunction. If a reasonable doubt existed in the mind of the court as to its decision upon the merits; or if there were any reason to suppose that the injunction had been indiscreetly granted, it would be quite proper to make such a modification. But in the present case I have no such doubt; my mind is quite clear that the defendant does infringe this patent, and that the patent is valid. I do not think, therefore, that under the circumstances of this case the motion ought to be granted.

Motion overruled.

{See Cases Nos. 17,593 and 17,594.}

¹ [Reported by Lewis H. Bond, Esq., and by Samuel S. Fisher, Esq., and here reprinted by permission.]