to a man skilled in the art, "a composition before it was granulated, as it came from the mixer, and capable of being made into granulated linoleum." One of the respondent's witnesses (a man of considerable practical experience) referred, in giving his testimony, to the composition from which plain linoleum is made as "plain linoleum composition," thus distinguishing and designating the sort of composition he had in mind with reference to the particular product to the making of which that composition is adapted; and in other and similar industries this manner of classifying and denominating different kinds or conditions of unfinished material seems to be well known. It is quite significant, too, that the composition which both the plaintiffs and the defendant actually use is not granulated, but is a solid and compact mass.

The conclusion that has been reached as to the meaning of the term "granulated linoleum composition," which is contained in the first claim, but not in the third, disposes of the only serious difficulty involved in the question of infringement. The charge has, as to both claims, been fully maintained. The patent is for a process,—for "a series of acts performed upon the subject-matter to be transformed and reduced to a different state or thing." The respondent performs the same series of acts in substantially the same manner, and upon the same subject-matter, with the same result; and the variations it has introduced could not be regarded as material, without narrowing the scope of the patent by unreasonable construction, and denying to its owners any protection which would be commensurate with the character and true extent of the patentee's conception and achievement. Decree for complainants.

FALK MFG. CO. v. MISSOURI R. CO. et al.

(Circuit Court, E. D. Missouri, E. D. January 10, 1899.)

1. PATENTS—INVENTION—APPLICATION OF OLD METHODS TO NEW USE.
   The application of a well-known method to a new use in an art analogous to that to which it had been applied does not involve patentable invention.
2. SAME—PROCESS—IMPROVEMENT IN RAIL JOINTS.
   Patent No. 545,040, for an improvement in rail joints and methods of forming the same, relates to a process for welding or uniting abutting rail ends so as to make a continuous smooth track, using well-known methods, which belongs to the domain of mechanical skill, and not to that of invention. It was also anticipated by the English patents to Stephenson in 1831 and to Norris in 1851.

This is a suit in equity by the Falk Manufacturing Company against the Missouri Railroad Company, Edwards Whitaker, the American Improved Rail-Joint Company, and Emmett M. Frey for the infringement of a patent.

Seddon & Blair, Barton & Brown, and Frederic H. Betts, for complainant.

Bond, Adams, Pickard & Jackson and Boyle, Priest & Lehmann, for defendants.

Before SANBORN, Circuit Judge, and ADAMS, District Judge.

ADAMS, District Judge. This is a suit to restrain the alleged infringement by defendants of letters patent of the United States No. 545,040, dated August 20, 1895, for an improvement in rail joints and methods of forming the same. Complainant's title to the patent is not denied, and, while the defendants Missouri Railroad Company and Edwards Whitaker deny infringement, the same is practically admitted by the other defendant, the American Improved Rail-Joint Company, provided complainant's patent is valid. Its validity is assailed on two grounds: First, that it involved no patentable novelty; and, second, that it was anticipated. Each of the five claims of the patent, although varying somewhat in phraseology, relates to a process for welding or firmly uniting abutting rail ends so as to make a continuous smooth track for the operation of car wheels. Although the usual amplitude of statement, considered necessary for securing a right to every conceivable variety or modification of the main object, is found in the claims, it is believed that four principal acts or operations embody all the essential processes of the patent, namely: (1) Cleaning the surfaces of the rails for a short distance from the ends to be joined; (2) heating the cleaned rail ends; (3) forming and adjusting a mold upon and around the rail ends; (4) pouring molten metal into this mold, and letting it remain there until it solidifies. It is true that different methods of heating the rail ends are suggested, such as heating the mold before it is placed in position, and allowing it to impart its heat to the inclosed ends; or, after it is placed in position, to pour, and continue pouring, the molten metal into and through the mold until its contact with the mold itself and the rail ends inclosed therein has brought them to a sufficient degree of heat, then to stop the outflow or waste, and fill the mold so as to completely cover and envelop the base flanges, the web, running flanges, and joints, and let it so stand until it sets. But, whatever method is resorted to, has but one end and purpose, and that is to so heat the rail ends as to expel all moisture and prevent the effect of a chill upon the cast. The result of the four operations above mentioned, as claimed by the patent, is to unite the body of metal which surrounds the rail ends securely to the surfaces of the rail ends by the fusion of the metal; in other words, according to the specification of the patent and the argument of counsel, the method and process patented results in a molecular fusion of the rail ends themselves, and also with the intermediate and surrounding casting, so as to form a perfect and enduring union, and do away with the joints of the rail ends, and of their attending discomforts and annoyances.

The first question to be considered is whether this process involves patentable novelty. In our opinion, without entering into any detailed analysis of the evidence bearing on the state of the art, consisting generally of publications, technical works, mechanical operations, individual experiences, common knowledge, and divers patents,—all of which have been carefully considered,—the efforts of the patentee, as disclosed by this patent, belong to the

domain of mechanical skill, and not to the domain of invention. The proof shows, and common knowledge confirms, that the process of casting upon steel or iron is an old one; that the steps in the process set out in the claims of the patent are each and all of them old, and have been for a long time familiar to, and practiced by, foundry men. The cleaning and heating of the rail ends to prepare them for perfect fusion with the cast; the making of the mold, whether of sand or iron; the heating of the mold, and preparing it for the reception of the cast; the pouring into it of the molten metal, and so filling it that all the parts are involved, and made one with the cast; and, finally, allowing this heated, molten mass to stand long enough to solidify before removal of the mold,—are, each and all of them, steps well known to foundry men and artisans in iron, steel, and metals, long before the application for the patent in suit was made. But it is argued that, although the same operations have been employed in divers branches of mechanical industry, they had never been successfully applied to welding or fusing rail ends so as to make a practically continuous rail for the operation of cars. The facts of the case seem to justify this contention of counsel, but it is not apparent to us how, or in what manner, the particular method of the patent, in itself, has any tendency to overcome the difficulties which confronted the artisans, and which prevented the practical application of the process to railroad tracks. The reason assigned in argument for the difficulty involved is that the varying temperature to which railroad tracks were subject had caused such contraction of the rail ends as to pull apart the joints, or cause their breakage, in the line, when exposed to cold, and such expansion of them as to cause a buckling or contrary effect when exposed to heat or warmer temperature. The contention of complainant's counsel is that the process of their patent, though old, when applied to street-railroad tracks, has produced a result which is new and beneficial, in this: that there is such a perfect fusion of the ends of the rails that the laws of contraction and expansion do not seriously affect them. In our opinion, this result does not follow from anything involved in the elements or combination of elements of the patented method, or anything involved in the operation or effect of such elements, in and of themselves. On the contrary, it is an old and familiar method, applied to a condition which is brought about by the needs of the recent changes and improvements in street-railway propulsion. The heavier cars first brought into practical use by the introduction of electric power for their propulsion, a short time before complainant's patent was applied for, required very heavy and massive rails. These rails, in order not to interfere with other consistent public uses of the streets, were required to be so sunk into the ground and fortified by retaining walls of stone or cement, that only the upper surface of the head and running flange are exposed. Under such conditions the natural laws of expansion and contraction have less scope for operation. The earth and inclosing substantial support subject the deep sunken rail in a much less degree than exposed rails to the effects of changes in temperature. As a result, the main obstacle to the effective fusion of

rail ends theretofore found to exist in exposed rails, like those usually employed in steam locomotion and ordinary tramways, is largely overcome, and the old method of welding the rail ends is rendered available. If the patentee had invented some practical method of overcoming the tendency of the rails to expand and contract, according to changes in temperature, he would have invented something new and useful, but he is not entitled to a monopoly of such supposed invention merely because the well-known old process of his patent fell into a use made available by the adaptation of new conditions to new needs, with which the patentee had no concern. If we are to give the patentee the credit of having in view at the time of his invention the new conditions connected with street-railway traction, rendered necessary by the introduction of the larger and heavier cars introduced with the electric system of propulsion (which is a very liberal interpretation to be placed upon his claims, and probably not warranted), even then his patent would be nothing but the application of a well-known method to a new use in an art analogous to that to which the old method had been applied, and as such does not involve patentable invention. Smith v. Nichols, 21 Wall. 112; Roberts v. Ryer, 91 U. S. 150; Manufacturing Co. v. Cary, 147 U. S. 623, 13 Sup. Ct. 472, and cases there cited.

Again, in our opinion, the complainant's patent is clearly anticipated by other patents pleaded by the defendants in their answer. The Norris English patent of 1851 shows the rail sections united so as to form a continuous rail; shows also a divided mold, adapted to be placed around the abutting ends of two rail sections; shows also the process of pouring in the molten metal so as to surround the ends of the rail sections. While Norris, in his specifications, speaks of forming a chair for the support of bars at joints, he also speaks of casting iron or other suitable metals onto the bars of railways, so as to join two of such bars together. He says his improvements relate, "firstly, to a method of joining together * * * the bars of railways," etc. He speaks of casting the iron or other suitable metal into the space usually occupied by the tightening key or wedge. He also speaks of pouring molten iron or other suitable metal into the mold, and thus to effect "a perfect union of the two"; and, finally, when formulating his claims, he says: "I claim, firstly, joining * * * the bars or other metallic portions of railways * * * by pouring molten iron or other suitable metal onto or about such parts." It is thus seen that Norris had in mind substantially the same object as the patentee in this suit had, and his method of accomplishing it is manifestly substantially the same. But it is said that he nowhere describes or claims the steps of cleaning rail ends or heating them before the final act of casting. We agree with counsel for defendants that these steps were so well known to the founder's art, both in practice and prior patents, long before the Norris patent, as to be necessarily read into it. It is also said that Norris nowhere claims that fusion or molecular union, as distinguished from pressure or shrinkage, will result from the employment of his process. If the term "fusion" is not actually employed, the act of fusion, in our opinion, is necessarily taught in the Norris patent. He says in the specifications: "In cases

where it is necessary to provide for an expansion or contraction of the parts to which my improvement is applied, I adopt the following or other method of interposing a stratum between the new casting and those parts intended to be joined or supported: Upon a coarse canvas or other suitable fabric I spread a coating of loam and lime, or any such substance, a piece of which is placed in contact with the rails or other parts, so as to cover the entire surface intended to be cast upon." This direction, in our opinion, is consistent only with the theory that the "perfect union" or "firmly united" or "securely united together parts" to which he refers in preceding portions of his specifications contemplate the actual fusion or molecular union of the parts. Shrinkage or pressure of the parts, or the usual process of gripping, would clearly not have been prevented by the interposition of the coated membrane described by Norris. This prepared stratum, as he calls it, by reason of the infusible character of the loam and lime employed, was intended to prevent the otherwise perfect union which would be formed by his process; in other words, to make a break or joint, when the conditions surrounding the use were such as rendered it necessary to prevent perfect union or fusion, and thus make provision for expansion or contraction.

Again, the Stephenson patent of 1831, in our opinion, also teaches the art of molding cast upon joints of iron or steel, and by the employment of the process substantially as described by the patent in suit. This Stephenson patent in terms calls for the steps of cleaning and heating, claimed by the patentee in this case. It also calls for the surrounding mold, and the pouring of molten metal into it, and says the result of the process is to cause a "firm union, or to cause it [the wrought iron] to unite firmly to the cast iron," or, as expressed in another part of the specification, "to cause the cast iron to unite and adhere firmly to the wrought iron." In our opinion, this patent also teaches fused union, within the terms employed in the complainant's patent in suit. At any rate, the process and all the steps of the methods of Norris and Stephenson are substantially the same as that of the patentee of the patent in suit, and, if his process will produce fusion or molecular union between the casting and the iron or steel cast upon under certain external conditions, there is no reason perceptible to us why the same process, involving the same steps, would not have accomplished the same result under like conditions prior to the date of the patent in suit. It seems to us that any practical mechanic familiar with the founder's business cannot read these two English patents, to say nothing of several others in the case, almost equally suggestive, without seeing the applicability of the process there taught to any and all the uses contemplated by complainant's patent. We therefore hold that complainant's invention was anticipated at least by the Norris and Stephenson patents, above alluded to. It results that the complainant's bill must be dismissed.

SANBORN, Circuit Judge, concurs.

LOVELL v. JOHNSON.

(Circuit Court of Appeals, First Circuit. December 27, 1898.)

No. 233.

PATENTS—CONSTRUCTION—BREECH-PIECE FOR GUNS.

The Eutebrouk patent, No. 230,409, for an improvement in breech-loading firearms, consisting of a breech-piece for a single-barreled gun, slotted in two directions,—vertically and horizontally,—whereby the hammer and top snap may be placed in line, is valid, when limited, as it is by the proceedings in the patent office, and the language of the specification and claim, to the functions of the two slots; but such patent is not infringed by guns which do not contain the horizontal slot as described in the claim.

Appeal from the Circuit Court of the United States for the District of Massachusetts.

This was a suit in equity by Benjamin S. Lovell against Mary Elizabeth Johnson for infringement of a patent. From a decree dismissing the bill (82 Fed. 206), the complainant appeals.

James E. Maynadier, for appellant.

Causten Browne and Alex. P. Browne, for appellee.

Before COLT, Circuit Judge, and WEBB and ALDRICH, District Judges.

COLT, Circuit Judge. This is an appeal from the circuit court dismissing the bill. The suit was brought for infringement of letters patent No. 230,409, granted July 27, 1880, to Charles H. Eutebrouk, for an improvement in breech-loading firearms. The specification says:

"My invention consists of a novel construction of the breech-piece of a single-barreled gun; my object being to make a single-barreled breech-loading gun, with a central hammer and top snap in the same line, which is simple, cheap, and very compact in its construction. * * * In the drawings, A is the breech-piece. This breech-piece is slotted from top to bottom, to receive a central hammer, B, and is also slotted across this central slot, to receive the locking-bolt, C, and its connecting arm, c^2. The locking-bolt, C, by which the barrel is locked in place, slides in this slot in the breech-piece, A, and is moved forward and back by the tumbler, c, which is actuated by the finger-lever, c^1. The bolt, C, it will be seen, is in front of the central slot in the breech-piece, A, and the tumbler, c, at the rear, with the hammer, B, between them. To admit of this compact arrangement, I make the bolt, C, with a side-arm, c^2, which extends back of the hammer, and connects the bolt, C, and tumbler, c. This arm is shown as a separate piece from the bolt, C, and is best made so for convenience in putting both in place. There is nothing novel in these operative parts per se, and I have merely transferred them from double-barreled guns, and arranged them, as described, so as to fit in and work within the slotted breech-piece that I have provided; the novelty of my device being in the structure of the breech-piece. A breech-piece for a single-barreled gun has never heretofore been so contrived as to accommodate a central hammer and top snap, the difficulty being to get the hammer and top snap in line. * * * What I claim as my invention is the breech-piece, A, of a single-barreled gun, slotted in two directions, as described,—that is to say, horizontally and vertically,—the vertical slot being in the center, whereby the hammer and top snap may be placed in line, and still the operating parts accommodated, all as set forth."

The patent, as finally allowed, is for a breech-piece slotted in two directions, horizontally and vertically; the vertical slot being in the center.