

Case No. 3,831. DETMOLD V. REEVES ET AL.
[1 Fish. Pat Cas. 127; 5 Pa. Law J. Rep. 99; 4 Am. Law J. (N. S.) 186; Merw. Pat Inv.
571; 52 Jour. Fr. Inst. 270; 8 Leg. Int 146.]¹
Circuit Court, E. D. Pennsylvania. Sept, 1851.

PATENTABLE DISCOVERT—REDUCTION TO PRACTICE—SCOPE OF PATENT.

1. He who has discovered some new element or property of matter, may secure to himself the ownership of his discovery, as soon as he has been able to illustrate it practically and to demonstrate its value. His patent in such a case will be commensurate with the principle which it announces to the world, and may be as broad as the mental conception itself.
2. But the mental conception must have been susceptible of embodiment, and must have been, in fact, embodied in some mechanical device, or

some process of art. The patent must be for a thing—not for an idea merely.

3. The contract of the public is not with him who has discovered, but with him who also makes his discovery usefully known. If he has discovered much and discloses little, communicates to the world only one or more of the derivative and secondary truths of the principle he has discovered, he patents no more than he has proclaimed. He will not be allowed, afterward, when the extent of his right shall be the subject of controversy, to expand into a general expression what was before limited to a particular form, and argue that he had described the whole, by implication, from the first.

This was an application for a provisional injunction to restrain the defendants [David Reeves, R. S. Buck, S. J. Reeves, and others] from the infringement of letters patent [No. 2,558] for “a method of generating and supplying heat,” granted to Christian E. Detmold as the assignee of M. Faher Du Faur, April 16, 1842, and reissued January 23, 1845 [No. 67].

[The plaintiff claims to have invented a new process of drawing off from blast furnaces the waste combustible gases, and using them as a fuel in reverberatory or other furnaces. The defendants denied the claim, asserting that, beyond his particular apparatus for burning the gases, the assignee of the plaintiff had no right whatever, and that they (the defendants) really only used the gases in a way known and practiced long ago, even as far back as 1811.

[As the greatest number of the furnaces in the United States, numbering in all between five and six hundred, used some modification of this plan, either to heat their boilers or to heat the blast, it will be seen that at the plaintiff’s price for a license, \$2,000 for a furnace, the case involved much more than half a million of dollars.]²

Harding, Campbell, Hazlehurst & Cadwallader, for complainant.

Sheppard, Gerhard, Meredith, Williams & Mallory, for defendants.

KANE, District Judge. The complainant, Mr. Detmold, is the assignee, and as such, the patentee in this country, of an invention made by M. Faber Du Faur, and patented by him in 1840 and 1841, in Bavaria and Wurtemberg. The American patent was issued in 1842, but it was amended and reissued in 1845. It was for “a new and useful invention for generating and applying heat,” and its immediate subject is a new mode of collecting, conducting and using the combustible gases that ordinarily escape from the tunnel-head of the blast furnace. The defendants are extensively engaged in the manufacture of iron, and, it is charged, that they are availing themselves of a part of the patented invention.

The interests which are involved in the controversy are very great, and may be seriously affected by the action of the court on the present motion. The argument, therefore, has had the widest range—embracing the originality of the patented invention, its practically useful character, its identity in principle with the apparatus employed by the defendants, the right of the inventor, by his assignee, to protection under the patent laws, the regularity of the proceedings of reissue, and their legal effect, as well as the policy of postponing the

summary relief, which it is the province of equity to administer, until after an adjudication of the merits by a court of law. But, of these questions, which were argued by learned counsel on both sides with characteristic ability, there is only one, after all, which, on a careful review of the whole ground, I deem it necessary to decide.

The claim of the complainant, as it has been expounded by his counsel in the present case, is for “a new method of economizing fuel, by using the waste combustible gases of the upper portion of the blast furnace, by drawing them off below the upper level of the charge, and conducting them through convenient passages to other fireplaces or structures, there to be burned as fuel.” It does not assert an exclusive right to the use of gases from the tunnel-head, nor to the employment of pipes or tubes for conducting gases; and very properly, for both of these were long ago familiar to the arts; its essential characteristic is, that the gases are to be withdrawn “below the upper level : of the charge.”

Can such a claim be legitimately deduced from the terms of the patent before me? This is the controlling question of the cause.

The descriptive language of the specification does not designate, as the place for taking off the gases, a point “below the level of the charges”—an expression that would apply equally well to any and every such point—but one “at or near that point of the furnace where the limestone employed as a flux is completely calcined, and the reduction, or de-oxidation has not yet commenced;” and this point, it adds, “will generally be at about one-third the height of the whole furnace below the tunnel-head, or two-thirds above the bottom stone.”

It is true, that the formal claim, at the close of the instrument, speaks of drawing off the gases at one or more points below the top of the fuel; and if the expressions “fuel” and “charges” can be regarded as convertible, this would certainly countenance the exposition of the complainant’s counsel. But it does not stand alone; and it can not be interpreted fairly, without giving effect to the words that follow it, “substantially as set forth in the above specification.” There is here an important qualification of the broad language of the claim—one that limits and defines it by a reference to the description that has gone before—and when the two parts are taken together, as they must be, they do not impart the withdrawal of the

gases from below the top of the charges generally, at any and all points whatsoever, but specially—from, at, or near that point below the top of them, at which the flux has been calcined, and the deoxydation is about to begin.

The explanatory, or practical reference which is added in the specification, to a point one-third below the top of the furnace, makes this even more plain. For, the indication of a point, ascertainable by simple measurement, as the one that will in most cases conform the structural arrangement to the rule deduced from scientific principle, is almost a declaration in terms, that the patentee had in view a particular point, and did not mean to apply his claim to all points below the charges alike.

So far, then, as the motion for an injunction asserts, as its basis, that the defendants are using a device which has been specifically described and claimed in the patent, it can not be sustained, since it is conceded that the defendants do not take out the gases “at or near the point at which the calcination is perfected, while the deoxydation has not yet begun,” nor at or “about one-third of the height of the tunnel,” measured from the top. But the question still remains, whether the defendants are not violating the patent substantially; deriving from it information essentially connected with its subject-matter; and only so far varying their structure in form and proportion as to elude its terms.

There is no doubt, that he who has discovered some new element or property of matter, may secure to himself the ownership of his discovery, so soon as he has been able to illustrate it practically, and to demonstrate its value. His patent, in such a case, will be commensurate with the principles, which it announces to the world, and may be as broad as the mental conception itself. But, then, the mental conception must have been susceptible of embodiment, and must have been, in fact, embodied in some mechanical device, or some process of art. The abstract must have been resolved “into the concrete. The patent must be for a thing—not for an idea merely.

This limitation, it may be said, denies to some of the more important products of mind what it concedes to others of lower grade. But it is not the less true on that account Men may be enriched, or made happy, by physical, as well as by moral or political truths, which, nevertheless, go without reward for their authors. He who devised the art of multiplication could not restrain others from using it after him without paying him for a license. The miner who first found out that the deeper veins were the richer in metal, could not compel his neighbor to continue digging near the surface.

The more comprehensive truths of all philosophy, whatever specific name we give to them, can not be specially appropriated by any one. They are almost elements of our being. We have not reasoned them out, perhaps, and may be even unconscious of their action; yet they are about us, and within us, entering into and influencing our habitual thoughts, and pursuits, and modes of life-contributing to our safety and happiness. And they belong to us as effectively as any of the gifts of Heaven. If we could search the laws

of nature, they would be, like water and the air, the common property of man-kind; and those theories of the learned which we dignify with this title, partake, just so far as they are true, of the same universally diffused ownership. It is their application to practical use which brings them within the domain of individuals; and it is the novelty of such an application that constitutes it the proper subject of a patent

But the contract of the public is not with him who has discovered, but with him who also makes his discovery usefully known. If he has discovered much and discloses little—if there has been revealed to him one of the arcana of nature, and he communicates to the world only one or more of its derivative and secondary truths, he patents no more than he has proclaimed. He will not be allowed afterward, when the extent of his right shall be the subject of controversy, either by expanding into a general expression what was limited before in a particular form, or, by tracing out for us the line that leads back from consequences to remote causes, to initiate us, inferentially, into the radical mystery of his invention, and then argue that he had described it by implication from the first, and so claimed ownership of it in his patent.

If, as it has been contended with great apparent force, M. Faber Du Faur was really the discoverer of the true theory of the blast furnace, so as to determine from it the point at which the carbonic oxyd, having performed its chemical function, might be withdrawn without sensible injury; if he knew that the gases, when taken from openings near the boshes, were capable of more intense combustion, but that their withdrawal so low down impoverished the action of the furnace and that when used at the tunnel-head, after they had performed successively the offices of deoxydating the mineral, calcining the flux, and vaporizing the water of the charges, they were less available as fuel, in consequence of the increased impurity—and, if knowing this, he had taught the iron-master how to choose the best place for withdrawing the gases, having reference to the dimensions of his furnace, and the different sorts of fuel and mineral and fluid employed in it, and with reference, also, perhaps, to the purpose to which the flame of the gases was to be applied, after they had been withdrawn—no one can doubt that he would have conferred a signal benefit upon the arts of the world. And if he had, besides this, devised some form of structure, some material arrangement by which his discovery might

be applied to use, I “would be most reluctant to say that his patent, properly drawn out, should be limited to the mere mechanical illustration, and could not cover effectually the whole ground of his discovery.

But M. Du Faur, and his assignee, Mr. Detmold, have not done this. They have announced no principle of science, no natural law. They indicate to us the place at which the gases should be taken out, first by a reference to a scientific problem, which they leave unsolved, and next, by a proximate reference to a mechanical measurement. There is not, so far as my inquiries have gone, anything less definitely settled among the skillful in these matters, than the point at which the calcination of the flux is completed, and the deoxydation of the material begins. Some deny altogether that any one point can ever satisfy both of the conditions; for they assert that the reduction always begins before the calcination is perfected; and all concur that the point, if there be one, must vary with the form and proportions of the furnace, the chemical elements of the ore, the flux, and the fuel, and that it is, moreover, affected sensibly by atmospheric changes.

The indication is too vague, therefore, and, under the varying circumstances to which it must be applied in practice, too erroneous also, to vindicate for the patented discovery the broader or general character.

The other indication, which refers to a proportionate distance from the tunnel-head, one-third, or thereabouts, is merely specific.

The interpretation, therefore, which I am constrained to give to that part of Mr. Detmold’s patent, which is involved in the present discussion, limits his claim to the formal arrangement, without any assertion of right to any dominant principle. The defendants have, perhaps, derived instruction from his descriptions, and may even, to some extent, have modeled their furnace, with its appendages, upon a theory which he suggested. But it does not appear to me that they are infringing or have infringed his patent.

The motion for injunction must be dismissed.

¹ [Reported by Samuel S. Fisher, Esq., and here reprinted by permission. Merw. Pat. Inv. 571, contains only a partial report.]

² [From 5 Pa. Law. Rep. 99.]