HOLLIDAY AND OTHERS *V.* PICKHARDT AND OTHERS.

Circuit Court, S. D. New York. January 29, 1887.

1. PATENTS FOR INVENTIONS—SULPHONATED ROSANILINE—LETTERS PATENT NO. 250,847.

In letters patent No. 250,247, dated November 29, 1881, issued to John Holliday for a sulphonated compound of rosaniline, the process claim only advises the treatment of the anhydrous chloride of rosaniline with fuming sulphuric acid, gauging from 69 to 70 degs. Beaume, and does not make the employment of these specific kinds of rosaniline and fuming sulphuric acid essential to the process, and the claim must therefore be construed as embracing the conversion of the rosaniline by means of fuming sulphuric acid, without respect to the anhydrous condition of the rosaniline, or the peculiar strength of the fuming acid; and, in view of the state of the art of sulphonating dyestuffs, such claim is void for want of novelty.

2. SAME—LETTERS PATENT NOS. 250,247 AND 250,201—INTERFERENCE.

Held (1) that John Holliday was the prior inventor of the process by which the tri-sulpho compound of rosaniline is produced; (2) that the first claims (for the products) of letters patent No. 250,247, dated November 29, 1881, issued to John Holliday, and No. 250,201, of the same date, issued to Heinrich Caro, are interfering claims; (2) that the second claims (for the process) are not interfering claims; (4) that the first claim of the Caro patent is void as against the first claim of the Holliday patent; and (5) that the second claim of the Caro patent is invalid, because Holliday was the prior inventor of the process.

3. SAME—ACIDS—REFERENCE TO BEAUME'S HYDROMETER SCALE—SUFFICIENCY.

A reference in letters patent to the Beaume hydrometer scale, for the purpose of determining the, density of acids, alkalies, and many other liquids, is sufficiently accurate as a gauge of their strength.

4. SAME—ESTOPPEL—INTERFERENCE—PRIORITY OF INVENTION—WANT OF NOVELTY.

Where two applications are made for letters patent for the same process, and interference is declared by the primary examiner, and one of the claimants declared to be the prior inventor, but notwithstanding letters patent issue to each claimant, in a suit by the claimant who was declared to be the prior inventor to vacate the patent granted to the other claimant, the defendant is not, by attempting to defeat the plaintiff's application for letters patent on the ground that he was the prior inventor, estopped from assailing the validity of the patent for want of novelty.

In Equity.

E. N. Dickerson and *E. N. Dickerson, Jr.*, for plaintiffs.

B. F. Thurston, Livingston Gifford, and *J. Van Santvoord,* for defendants.

WALLACE, J. This suit is brought to restrain infringement of letters patent No. 250,247, dated November 29, 1881, issued to John Holliday, assignor, etc., and also to vacate letters patent No. 250,201, of the same date, now owned by the defendants, issued to Heinrich Caro, assignor, etc. Both patents claim a chemical product as a new article of manufacture, and the process by which it is produced. The product claimed in each is a coloring matter having specified properties or characteristics, and the process claimed in each relates to the conversion of rosaniline into a sulpho-acid, which is capable of being used in an acid-dye bath, and, when so used, will retain the original rosaniline or magenta color.

The application for the Holliday patent was filed in the patent-office, December 24, 1877, and the application for the Caro patent was filed March 28, 1878. Interference between the two applications was declared July 2, 1878, and, after the taking of proofs, priority was awarded, by the primary examiner, to Holliday, February 11, 1881. Subsequent proceedings took place in the patent-office to ascertain, among other things, whether the specimen product filed by Holliday at the time of his application was the dye-stuff in controversy, and whether such dye-stuff could be produced by following the process of the Holliday application; and a decision resulted in favor of Holliday. An appeal was taken from the decision of the primary examiner, by Caro, but this was withdrawn before the decision of the appeal to the commissioner of patents. No material amendment was subsequently made in the Caro application; and the action of the patent-office in issuing a patent to each applicant is denounced by the plaintiffs as unwarranted, and is justified by the defendants upon the hypothesis that the applications were, in fact, for different inventions.

The proofs sustain the findings of the patent-office that Holliday was the prior inventor of the process and product of his patent. They also sustain the decision of the patent-office that a dye-stuff having the properties specified in the Holliday patent can be produced by following the description of the process in the patent.

The primary question in the case is whether the product claim of the Caro patent is for the same new article of manufacture embraced in the product claim of the Holliday patent, and whether the process claim in each patent is for the same invention. The material parts of the Holliday patent are as follows:

"The coloring matter which I operate upon is known commercially as 'rosaniline,' 'fuchsine,' 'magenta,' or 'aniline red' these being classed as aniline reds. It is well known that, owing to the character of rosaniline, the coloring matter thereof cannot be employed, either alone, or mixed with other coloring matters, where the process of dyeing or printing requires the employment of an acid or acid mordant. I have discovered that the aniline reds, before referred to, may be converted into new coloring matters, still retaining the

same color, possessing acid properties, and thus be rendered capable of being employed in the presence of acids or acid mordants. I submit the before-mentioned

rosaniline, separately or conjointly, to the action of sulphuric acid in such a manner as to convert it into a sulpho-conjugated rosaniline, the same being a new article possessing properties different from any rosaniline ever produced before my invention. In order to make the desired conversion, I use about ten pounds of rosaniline, or its salts, (by preference anhydrous chloride of rosaniline,) and dissolve it in about fifty pounds of fuming sulphuric acid. I operate, either at the ordinary or at a moderate temperature, until the conversion into the new coloring matter or compound is complete. The desired result may be ascertained by testing a portion of the mixture, and, when the coloring-matter contained therein is found to be soluble in caustic alkali, the operation may be considered at an end. * * * I have found that in making combinations such as described it is well to employ fuming sulphuric acid, gauging from 69 to 70 degrees Beaume.

"I claim as my invention (1) the sulpho-conjugated compound of rosaniline, possessing the properties specified, as a new article of manufacture; (2) the method herein specified of manufacturing the within-described sulpho-conjugated compound of rosaniline, substantially as set forth."

The material parts of the Caro patent are as follows:

"This invention relates to a dye-stuff or red coloring matter, which is obtained by acting upon fuchsine with crystalizable sulphuric acid, commonly called 'anhydrous sulphuric acid,' by which is formed a tri-sulpho compound of rosaniline. The dye-stuff called 'fuchsine' is also known under the names of 'roseine,' 'magenta,' and 'ruby.' In carrying out my invention, I take ten kilograms of fuchsine, which has been dried at 110 degrees centigrade, and add thereto, little by little, forty kilograms of crystalizable sulphuric acid, commonly called 'anhydrous sulphuric acid,' under constant agitation, while the temperature of the mixture must not be allowed to sink below 120 degrees centigrade, nor to rise above 170 degrees centigrade. A sample of the mass is supersaturated, from time to time, with an alkali, such as soda lye, and, if a clear yellowish solution is produced without a precipitate, the conversion is completed. The thick fluid mass which is obtained by this conversion is easily soluble in water, and, after it has been dissolved, it is treated with milk of lime. * * *

"The characteristics of the new dye-stuff or coloring matter prepared from fuchsine, in the manner above described, are as follows: *First,* by a surplus of alkali, its aqueous solution is changed from a fuchsine red to a light yellow; *second,* the dyeing on wool is done in a boiling dye-bath, with the addition of mineral acids, or with acid mordants, such as are commonly used in dyeing or printing; *third,* it produces on wool nearly the same shades of color which are produced with ordinary fuchsine, from which it is derived; *fourth,* the color obtained on wool is only changed with great difficulty by strong acids; *fifth,* this product is the compound whose name, in strict chemical language, is 'tri-sulpho acid of rosaniline.'

"What I claim as new, and desire to secure by letters patent, is, (1) as a new article of manufacture, the dye-stuff or red coloring matter having the characteristics above set forth; (2) the within-described process for producing a new dye-stuff or red coloring matter, by the action of crystallizable sulphuric acid, commonly called 'anhydrous sulphuric acid,' on 'fuchsine,' substantially in the manner set forth."

The testimony of the experts for the plaintiffs, to the effect that, although the descriptions of the process differ in the respective patents somewhat, those skilled in the art cannot fail to recognize their essential identity, and that both processes will produce a trisulpho acid of rosaniline, is accepted as established by the proofs; and the proofs demonstrate,

beyond a fair doubt, that this is so, unless an hypercritical and irrational meaning is applied to the descriptive terms of the process of the Holliday patent, and the process is practiced in accordance with such an interpretation.

According to the process of the Holliday patent, the material to be treated is rosaniline or it salts, by preference anhydrous chloride of rosaniline; and this material is to be dissolved in fuming sulphuric acid, preferably gauging from 69 to 70 degs. Beaume, in the proportion of 10 pounds of rosaniline to 50 pounds of sulphuric acid. If the description denotes that the rosaniline to be employed is to be in fact anhydrous, or practically so, and that the fuming sulphuric acid to be employed is to be of such a degree of strength as may be ascertained with practical precision by the reference to the degrees Beaume, it is conceded, substantially, by the, expert witnesses for the defendant, that the process is in essentials the process of the Caro patent, and will produce the coloring matter specified in the claim of that patent. As is stated in the original application for the Caro patent, the proportions of the ingredients used, and the temperatures of the operation, admit of a wide range, and depend in a great measure upon the degree of concentration of the acid employed. The final treatment of the sulpho-acid, in accordance with the processes of the patents, which consists in reducing it to the condition of a lime soda or potash salt, and diluting it with a foreign material, for convenience for commercial purposes, is not of the essence of the invention, and does not require consideration. The acid solution of the sulpho compound can be used directly in the dye bath, either alone, or mixed with other colors which will dye in an acid bath.

It seems entirely clear that the rosaniline preferably to be employed is, according to the specification, to be practically anhydrous, when used in the process of conversion. There is no commercial article known as "anhydrous chloride of rosaniline." The language is addressed to those who understand that crystalline substances, like rosaniline, absorb moisture, and must be dried to a proper degree before the residuum will become anhydrous. The term used has no meaning, unless it implies that the rosaniline is to be subjected to the ordinary treatment required to render the article an anhydrous chloride. And it is significant that, when the experts for the defendants undertook to follow the process of the patent to ascertain whether "Holliday's process would produce the tri-sulpho acid of rosaniline, they first dried the requisite quantity of fuchsine until it became anhydrous.

It is also plain that, according to the specification of the Holliday patent, the fuming sulphuric acid preferably to be employed is to be of a strength which those skilled in the art can readily determine by the reference to the degrees Beaume, with sufficient accuracy for the practical purposes of the process.

Sulphuric acid, to fume, must contain sulphur tri-oxyde in admixture with the monohydrate, and the tri-oxyde is found only in a sulphuric acid of a strength indicated by a

specific gravity of 1.835, or above. The strength of fuming sulphuric acid is usually gauged by the weight

or specific gravity of the liquid, and by this test varies, according to the proofs, from about 1.85 to 1.97. One variety of the commercial article was known at the date of Holliday's invention as Nordhausen acid; and this was the article purchased, on different occasions, of dealers, by the experts for the defendants, for the purpose of following the specification of the Holliday patent, and it had a specific gravity of 1.89. The reference to the degrees Beaume is intended to designate the density of the fuming acid according to the Beaume hydrometer scale. Although the original Beaume scale has long been obsolete, reference to that scale, as one for determining the density of acids, alkalies, and many other liquids, are not only common, but are generally employed, in patents and industrial publications; and various tables, based upon the Beaume scale, notably those of Mr. Pemberton and Mr. Elliott, translating the degrees Beaume into corresponding values of specific gravity, are found in the works of especial authority in this country. According to the estimates approved in the "United States Dispensatory," the specific gravity value of 69 degrees Beaume ranges from 1.9031, the lowest, to 1.921, the highest; and the specific gravity value for 70 degrees Beaume, from 1.9291, the lowest, to 1.946, the highest. In view of these facts, which are substantiated by the proofs, the reference to the degrees Beaume denotes, not with precision, but with reasonable accuracy, that the sulphuric acid preferably to be employed is to be of a strength ranging from 1.9 to about 1.95 specific gravity; and the very elaborate arguments made by the experts for the defendants, based upon the facts they adduce, to show that the hydrometer test, according to the degrees Beaume, is not scientific or exact, as a gauge of the strength of acids, and that the reference in the specification has no definite meaning, have no merit but ingenuity.

The first claim of each patent being for a coloring matter having specified characteristics, these claims interfere, whether the sulphonated compound of Rosaniline of the Holliday patent is a tri-sulpho acid, or a tetra-sulpho acid. Each dyes in an acid bath, and produces the same shade of color as the original fuchsine, and thus enables the dyer to apply to fabrics in an acid bath the exact shade of color which had been previously obtained by the use of fuchsine in neutral or alkaline baths, and accomplish what was never before done. If, in the process of the Holliday patent, fuming sulphuric acid of a strength less than 1.89 specific gravity is used, the proofs indicate that the product will be a mono or di-sulpho acid, although evidence is produced for the plaintiffs to show that an acid having a specific gravity of 1.88 is of sufficient strength to produce the tri-sulpho acid. Such a product does not have the properties which are required to identify the new article of the claims of the patent. It does not dye the original fuchsine color, but tinges that color with a purplish shade.

The specification of the Holliday patent advises the treatment of the anhydrous chloride of rosaniline with fuming sulphuric acid, gauging from 69 to 70 degs. Beaume, but

does not make the employment of these specific kinds of rosaniline and fuming sulphuric acid essential to

the process. It describes the ingredients and the process in terms sufficiently full, clear, and exact to enable those skilled in the art to which the invention appertains to make and compound a coloring matter which will possess the characteristics specified in the first claim. But the specification authorizes a claim for the process of sulphonating rosaniline with fuming sulphuric acid in given proportions, without regard to the anhydrous condition of the rosaniline or the density of the sulphuric acid employed, and the terms of the process claim are commensurate with such a process. The process claim must therefore be construed as embracing the conversion of the rosaniline by means of fuming sulphuric acid, without respect to the anhydrous condition of the rosaniline, or the peculiar strength of the fuming acid.

Thus construed, the process claim is void for want of novelty. The art of sulphonating dye-stuffs by combining them with the elements of sulphuric acid, and converting them into sulpho-acids, is very old. The proofs show that prior to the date of the invention of Holliday it was well known in the art that, owing to the character of unsulphonated indigo, the coloring matter thereof could not be employed, either alone or mixed with other coloring matters, where the process of dyeing or printing required the employment of an acid or acid mordant; and that the indigo, by being sulphonated, could be converted into new coloring matter, possessing acid properties, and retaining substantially its original color when used in an acid bath. The proofs also show that the process for sulphonating indigo was substantially the same as the process of the Holliday patent, disregarding the reference to the degrees Beaume; and the treatment of the rosaniline to render it anhydrous. The treatment of the indigo subsequent to that part of the process which produced the acid solution was different, but probably not substantially so, and that part of the process, as has been already stated, is not of the essence of the Holliday invention.

It is unnecessary to consider the sulphonation of aniline blue by Nicholson, in 1862, or the other cognate instances of the sulphonation of coloring matters. Enough has been shown to indicate that Holliday was not entitled to make a broad claim for a process of sulphonation which had been applied before the date of his invention to other coloring matters, to convert them into sulpho-acids. The use of these processes with rosaniline would have produced a sulpho conjugated compound, which might have been a mono or di-sulpho acid, or an unchanged rosaniline, mixed with traces of the tri-sulpho acid, but would not have produced a coloring matter which would retain the original fuchsine shade and quality, when used in an acid bath. His real invention consisted in discovering and adopting such modifications of the old process of sulphonation as would produce something more than a mere mono or di-sulpho acid of rosaniline.

It is unfortunate that the claim cannot be limited without violence to its language, and without disregarding well-settled rules of construction, to one for the efficient process

which is described as preferably to be employed. But a method or feature which is mentioned only by way of

recommendation, in describing an invention, must generally be considered as a subordinate or secondary, and not an essential, part of the invention, and, in the absence of apt language in the claim, it cannot be read into the claim, even to limit the claim to the real invention of the patentee.

It is obvious, from an examination of the file-wrapper, that, during the pendency of the application in the patent-office, Holliday did not regard the employment of acid of the density indicated by the degrees Beaume as essential. He intended to patent both the process in which the acid of high density is used and that in which an acid of a lower density is used. In his letter to the commissioner of patents of the date of May 11, 1878, he admitted that the process of his treatment had been applied to Nicholson blues, and he insisted that his process was novel, because he applied it to rose colors, and, when applied to rose colors, they would possess new properties. The language of the claim is appropriate to include any process which, when applied to rosaniline, will produce a sulpho-acid, and cannot be limited to the narrower process which produces the peculiar sulpho-acid which is the new article of manufacture of the second claim.

It has been urged that the defendants are estopped from contesting the validity of the claims of the patent in consequence of their action in the patent-office, and cannot recede from the position they then took, that the subject-matter was patentable, and that they were entitled to a patent because of priority of invention by Caro. If the plaintiffs had been misled, or induced to take action or incur expense, in consequence of representations or conduct on the part of the defendants which authorized them to suppose that they would obtain a valid patent if they succeeded upon the issue of priority, the doctrine of estoppel might be invoked. But the case would be an exceptional one where a party who has prevailed upon one issue or defense in a litigation is estopped from setting up a different defense in a subsequent suit brought by his adversary. Such a case might exist where the defense in the second suit is so inconsistent with that asserted in the first that both could not be true, or where the defense in the first suit was of a character to induce the plaintiff to change his ground of action, and bring a second suit. An interesting example of the latter class is found in the case of *Philadelphia, W. & B. R. Co.* v. *Howard,* 13 How. 307, where the defendant, having defeated the plaintiff in a prior action by asserting and maintaining that a paper in its possession was sealed with the corporate seal of the defendant, was not permitted, in a second action brought against it by the plaintiff, to defeat the action by proof that the seal was not affixed by the authority of the corporation. But it is not true, as a general proposition, that a party, by putting forward one defense in a litigation, is precluded from asserting another against his adversary in a subsequent suit between them; nor can the general proposition be maintained that a contest in the patent-office upon the question of priority of invention will forever foreclose the defeated

applicant for a patent from assailing the validity of the patent upon other grounds. In the present

case there is no foundation for an estoppel, because both parties were fully aware of the prior state of the art before the interference was declared. The plaintiffs could not, therefore, have been misled or prejudiced by the conduct of the defendants in attempting to defeat their application for a patent upon the ground that Caro was a prior inventor.

The first claim of the Holliday patent is not limited to one for the new compound or article of manufacture produced by the process of the second claim. It is a valid claim for the real invention of Holliday. In the language of the court in *Cochrane* v. *Badische Co.*, 111 U. S. 294, 4 Sup. Ct. Rep. 455:

"Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process."

This claim fulfills that condition. The product can be identified by the characteristics specified. It dyes by the addition of acid to the bath, and retains the original fuchsine color. The description of the process informs those skilled in the art how to make the product without making any experiments of their own, because it points out the best means for producing the desired result. *Tilghman* v. *Proctor,* 102 U. S. 707. The patent does not fall within the category of those in which the claim is limited by its terms to a product produced by a specified process, (*Pickhardt* v. *Packard,* 23 Blatchf. 24, 22 Fed. Rep. 530; *Smith* v. *Dental Vulcanite Co.,* 93 U. S. 486;) nor of those in which the article is old, but is made by a new process, or made by machinery, instead of by hand, (*Wooster* v. *Calhoun,* 11 Blatchf. 215; *Rubber Co.* v. *Goodyear,* 9 Wall. 788.)

Although the specification of each patent describes the same process, the description in the Caro patent is more specific, and has the effect to confine the claim of that patent to a process which will produce the tri-sulpho acid, as distinguished from a mono or di-sulpho acid. It requires the fuchsine to be dried at a given temperature, and requires the treatment with crystallizable sulphuric acid, commonly called anhydrous sulphuric acid, maintaining a given temperature during the operation. Exactly what degree of density of the sulphuric acid is indicated by the term "crystallizable sulphuric acid," commonly called "anhydrous sulphuric acid," as used in the Caro patent, is not clear. In his English patent, Caro treats the term "anhydrous sulphuric acid" as synonymous with "fuming sulphuric acid." In the original application for the present patent he states that, if anhydrous sulphuric acid is used, the reaction of fuchsine takes place in a short time, and without requiring any external heat; but, if fuming sulphuric acid is used, the reaction requires more time and external application. Thus it is evident that he considers them as equivalents in a process in which proportions and temperatures admit of a wide range, and depend upon the degree of concentration of the acid. But the specification requires a much higher temperature to be maintained during the operation than is required by the Holliday specification, and there is no reason to doubt that the process described

is substantially identical with that of the Holliday patent, when fuming acid of the density of 69 to 70 degs. Beaume is used, and an ordinary or moderate temperature is maintained. In other words, if, in the process of the Holliday patent, the use of fuming acid of the density of 69 to 70 degs. Beaume were essential, instead of optional, the second claim of each patent would be for the same process.

These views lead to the conclusions (1) that Holliday was the prior inventor of the process by which the tri-sulpho compound of rosaniline is produced; (2) that the first claims of the patents are interfering claims; (3) that the second claims are not interfering claims; (4) that the first claim of the defendants' patent, is void as against the first claim of the plaintiffs' patent; and (5) that the second claim of the defendants' patent is invalid because Holliday was the prior inventor of the process.

If the action were not brought to restrain infringement, but only for the purpose of declaring the patent of the defendants void as against the patent of the plaintiffs, it is not entirely clear whether the defense of want of novelty as to either claim of the plaintiffs' patent would be pertinent to the issue. Such a defense was allowed in *Foster* v. *Lindsay,* 3 Dill. 126, where the point was considered, and the court made a decree declaring both patents void, upon the consideration that a court of equity should not grant relief to a plaintiff who has no equity, and the statute authorizes the court to adjudge either of the patents void, in whole or in part. But in the present case it is unnecessary to decide the question.

The first claim of the Holliday patent being valid, the plaintiffs are entitled to a decree annulling the interfering claim of the Caro patent, with costs. Upon filing a disclaimer respecting the second claim, they will be entitled to an injunction against infringement of the first claim, and an accounting.

A decree is ordered accordingly.