invention, and it is not suggested in the specification as new. It is said that appellant's coop, by reason of its being stayed by hoop iron or metallic pieces, better withstands transportation; but that is mere improvement in manufacture. The only feature which is not obviously mere mechanical improvement in the construction of what was well known in making crates, coops, and cages is appellant's method of weaving the wicker bottoms, and forming the sides and ends by bending up the bottom strips and securing them; and, as the appellees do not use this feature, there is no infringement. The court below so held, and its decree is affirmed.

READ HOLLIDAY & SONS, Limited, v. SCHULZE-BERGE et al.

(Circuit Court, S. D. New York. July 1, 1896.)

1. PATENTS-CHEMICAL COMPOUNDS-TESTS OF IDENTITY.

In a patent for a chemical product, where the tests of identity prescribed by the patent have been previously adjudged sufficient to identify the product, proof that defendant's compound answers to these tests makes out a prima facie case of infringement; and defendants must be *held* to infringe, unless they show that they used different starting materials.

2. SAME-EQUIVALENT INGREDIENTS.

The discoverer or inventor of a compound is protected against equivalent ingredients known at the date of the patent. And if a new ingredient is such as would have been known to or employed by the ordinary skilled practical chemist, or is such as would naturally have been developed in the growth of the art, and the substitution thereof involves no alteration or new operation or result, it is covered by the patent, provided the specifications and claims are broad enough. But if the development of the new ingredient required the exercise of inventive faculty, and if its introduction causes some novelty in function or result, it is not an equivalent. Matheson v. Campbell, 69 Fed. 597, distinguished.

S. SAME.

A patent for a compound may cover a discovered, described, existing element, at the date of the patent, though it had not yet been isolated as a chemical individual.

4. SAME-"ACID MAGENTA."

The Holliday patent, No. 250,247, for a coloring compound, construed, and *held* infringed as to the first claim, which is for "the sulpho-conjugated compound of rosaniline," possessing the properties specified, as a new article of manufacture.

This was a suit in equity by Read Holliday & Sons, Limited, against Paul Schulze-Berge, Victor Koechl, and August Movius, for alleged infringement of a patent.

Dickerson & Brown, for complainant. Goepel & Raegener, for defendants.

TOWNSEND, District Judge. The patent in suit, No. 250,247, as to which infringement is alleged, was granted November 29, 1881, to John Holliday, and duly assigned to complainant. The claim in controversy is the first, which is as follows: "The sulphoconjugated compound of rosaniline, possessing the properties specified, as a new article of manufacture." The patent was considered by Judge Blatchford, on motion for a preliminary injunction, in Holliday v. Pickhardt, 12 Fed. 147, and on final hearing by Judge

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Wallace, who sustained the validity of the patent after protracted litigation and thorough examination. 29 Fed. 853. In view of these facts, it is unnecessary to discuss the defense of invalidity, not set up in the answer, but claimed in the brief and argument of defendants' counsel. The new evidence introduced on this hearing does not affect the validity of the patent in suit. That it may limit the scope of the patent is immaterial, in view of the conclusions reached. The following statements have been agreed to by counsel:

"It is agreed that the Holliday patent includes those homologues—as, for instance, C_{19} , C_{20} , or C_{21} —which were known at the date of the Holliday patent. It is agreed that the body C_{22} is such homologue, and, if known at the date of the Holliday patent, would have been included therein. It is agreed that the Epting patent process is the process of Holliday applied to the rosaniline known as C_{22} , without any change in said process or in the result."

It was found by Judge Wallace on the former hearing that the claim in suit "is a valid claim for the real invention of Holliday"; that "it can be recognized aside from the description of the process for making it," and "the product can be identified by the characteristics specified" in the patent. Defendants' body, so far as appears from said characteristics, and by certain other tests used in the art, is an exact technical equivalent of the patented body. Defendants' body is commercially known as "New Acid Magenta," and is sold as the equivalent of the complainant's acid magenta. These facts show at least a prima facie case of infringement. Matheson v. Campbell, 69 Fed. 597, and cases cited. "It was not shown by the complainants that the defendants' coloring matter was made by the process described in the patent, nor was any evidence to the contrary produced by the defendants. The proofs show satisfactorily, however, that the defendants' coloring matter possesses the peculiar characteristics of the patented article. Sufficient appears to establish the chemical identity of the defendants' coloring matter with the complainants' by the evidence of the results produced by each in experimental tests. As these results were new until Caro's process was employed, a sufficient prima facie case is shown upon the question of infringement." Pickhardt v. Packard, 22 Fed. 530, 532.

Infringement is denied for the following reasons: First, defendants' body, called C_{22} , was neither described nor isolated as a chemical individual until after the date of the patent in suit; second, certain tests, not specified in the patent, show different results when applied to the two bodies. But Judge Wallace has found that these tests of this patent are sufficient to identify the patented product. The application of these tests to the defendants' body is sufficient to show what the supreme court, in the Badische Case, 4 Sup. Ct. 462, calls "the identity, in the sense of the patent law, between them." The defendants must therefore be held to infringe, at least unless they can show that the bodies were produced from different starting materials.

The first question is whether defendants' product is C²², or only a mere mixture. The alleged infringing product, commercially known as "New Acid Magenta," is produced from triamido triortho tolyl carbinol, which is known as C_{22} , or the fourth body of the following series of rosanilines, namely: "C1, para rosaniline; C2, methyl para rosaniline; C2, dimethyl para rosaniline; and C2, trimethyl para rosaniline." These bodies will hereafter be referred to as C1, C2, C2, and C2, respectively. The complainant claims that defendants' color is not C2, but is a mixture of probably C2, C2, and C22. I shall assume that it is C22.

The next question is whether defendants' product, C22, is identical with, or the equivalent of, the patented products, which include C19, C20, and C21. By the stipulation already referred to, it is agreed that it is a homologue of the patented products, and would have been included in the patent if known at the date thereof. The briefs of counsel are largely devoted to a discussion of the doctrine of unknown equivalents. Counsel for defendants contend that the claim for the patented product does not cover a body having substantially the same qualities, but produced from a subsequently discovered starting material. Whatever questions may arise in other cases, there does not seem to be any difficulty in the application of the law to the facts of this case. That a patentee must clearly conceive and accurately state his invention or discovery, and that he cannot claim a monopoly of the whole art, nor by speculation include unknown elements within the limitations of his claim, is well settled. The primary or secondary character of the patent determines the scope of such claim, and the range of equivalents. The Incandescent Lamp Patent, 159 U.S. 465, 16 Sup. Ct. 75; American Sulphite Pulp Co. v. Howland Falls Pulp Co., 70 Fed. 988; Edison Electric Light Co. v. Boston Incandescent Lamp Co., 62 Fed. 397. In the case at bar, Holliday discovered a process of converting rosanilines into bodies capable of dyeing in an acid bath in admixture with other colors, and patented the product. The defendants use the same process, and obtain the same product from a body belonging to the same class,-a homologue of complainant's bodies. If the doctrine of unknown equivalents is to be applied, the patentee cannot embrace this body among the rosanilines of his patent unless it was either so commercially known as to be included under said term, or so chemically known that no experiment was necessary to discover its equivalency. But the admissions of defendants' experts, Woltereck, Homolka, Laubenheimer, and Chandler, shows that C22 was known and used before the date of the patent in suit. The French patent of Coupier, of 1866, and his published researches, give processes for producing it; and the C22 produced by following the Coupier process was the same as that of defendants. Furthermore, a French patent, No. 71,114, granted to John Holliday in 1866, indicates that he was familiar with the properties and actions of this whole class of rosaniline colors. The utmost which defendants can claim, in view of this testimony, is that, while C22 was known, it had not been isolated as a chemical individual. It is admitted that the substitution of C22 for the other rosanilines does not involve any alteration or inventive skill.

Various questions concerning the doctrine of unknown equivalents have been forcibly pressed upon the attention of this court in this case and in Matheson v. Campbell, supra. It seems to be the duty of the court to state its views on this subject. That the discoverer is protected against equivalent ingredients known at the date of his patent is settled. Gill v. Wells, 22 Wall. 1; American Sulphite Pulp Co. v. Howland Falls Pulp Co., supra; Edison Electric Light Co. v. Boston Incandescent Lamp Co., supra. Subject to this rule, there is some conflict of authority as to whether the first discoverer is protected against subsequently known equivalents. Most of the earlier cases hold that he is not. The later cases hold otherwise, or state the rule with qualifications. In Walk. Pat. (3d Ed.) § 354, the author has collected the cases, and states the rule as follows:

"Whether a device, in order to be equivalent of another, must have been known at the time of the invention of the machine which contains the latter, is a question which was elaborately investigated and discussed in sections 354 to 358 of the former editions of this book, because it then appeared to be not only very important, but also unsettled. But the weight of reason was always much on the side of the negative of that question, and the weight of authority has now accumulated so preponderatingly upon the same side that the question may now be held to be settled in the negative. It is therefore safe to define an equivalent as a thing which performs the same function, and performs that function in substantially the same manner, as the thing of which it is alleged to be an equivalent."

The apparent conflict in the decisions arises from the distinction between the application of the doctrine of equivalents to primary and to secondary invention, and from the difference between the old and the new rules as to what constitutes invention. In the light of the later decisions on this subject, I think the law must be that where the new ingredient is such as would have been known to or employed by the ordinary skilled practical chemist, or is such as would naturally have been developed in the growth of the art, and the substitution thereof involves no alteration or new operation or result, it is covered by the patent, provided the specifications and claims are sufficiently broad to include it. If, on the other hand, the development of the new ingredient required the exercise of the creative or inventive faculty, and certainly if its introduction causes some novelty in function or result, it would not be an equivalent. The conclusions reached by Judge Robinson support these views. Rob. Pat. p. 351, § 257, note. In the case at bar the defendants' body is a mere substitute. C22 is the next succeeding homologue of C19, C20, C21. It existed in the arts; was referred to in the literature; the patented process of Coupier was capable of producing it. The defense is supported solely by the fact that the description of the body, with all its properties, and the process of preparing it in a chemically pure state, was not known until the year succeeding the grant of the patent in suit. The defendants have discovered nothing. They have taken the C₂₂, existing prior to the patent, but first isolated and described by Rosenstiel and Gerber in 1882, subjected it to the process described in the patent, and obtained the patented product. Whatever may be the scope of the doctrine of unknown equivalents, it should have no application to this case. Counsel for defendants lay stress upon certain statements in the opinion of this court in Matheson v. Campbell, as supporting this claim. But there the facts were very dif-The patent contained a general formula, covering at least ferent. a hundred different bodies. It was shown that very many of these bodies would not produce the patented product. The patent also contained a special description of the newly-discovered process to obtain the patented product. Counsel for complainant, having sought to expand the claim so as to appropriate the bodies of the general formula, the court held that could not be done, and that the patent must be limited to the bodies of the special process. Here the body C²², if known, would be properly included in the claim. It does not appear that, at the date of the patent, experiment or discovery was necessary in order to determine its reactions. In the Matheson Case the questions were whether the whole patent was invalid by reason of the uncertain general formula, and whether the claim was limited to the special example. Here the question involved is whether a patentee may protect, or an infringer appropriate, a discovered. described, existing element, not isolated at the date of the patent. Let a decree be entered for an injunction and an accounting.

BRAMBLE et al. v. CULMER et al.

(Circuit Court of Appeals, Fourth Circuit. February 2, 1897.)

No. 186.

- 1. PILOTS-OWNERS AND CHARTERERS-RESPONSIBILITY FOR NEGLIGENCE, ETC.
- A pilot is so far the agent of the vessel that whoever is responsible for her navigation is responsible for his acts or omissions in the line of his duty; and unless there is some express contract, or some facts warranting implications or understandings contrary to uniform usage, the pilot must be considered the servant of the owner.
- \$. Shipping-Charters-Demise of Vessel.

When, by a charter, the shipowner undertakes to act as a carrier of goods, and appoints the master and crew, the responsibility for her safe navigation rests on him; but when the ship is completely transferred for a period of time, and the owner has nothing to do with the appointment of officers and crew, then the charterer becomes responsible for her navigation.

8. SAME-FURNISHING PILOT.

When the charterers are to pay a lump sum to the owners, and defray port and pilotage charges, and the owners select and pay the master and crew, the mere fact that the charterers, at a port where no compulsory pilotage laws are in force, furnish a pilot, whose services are accepted by the master, does not make them responsible for the loss of the vessel through his incompetence or negligence.

Appeal from the District Court of the United States for the District of Maryland.

This was a libel in personam by Barzillia Bramble and Henry W. Elliott, owners of the schooner William Farren, and Calvin A. Murphy, her master, against James W. Culmer and Thomas B. Schall, to recover for the loss of said schooner, while under charter to the defendants. The district court dismissed the libel on the merits, and the libelants have appealed.

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