

**Case No. 5,587.** GOODYEAR ET AL. V. WAIT.

[5 Blatchf. 408; 3 Fish. Pat. Cas. 242.]<sup>1</sup>

Circuit Court, S. D. New York.

Sept. 18, 1867.

PATENTS—HARD INDIA RUBBER—PATENTABILITY OF BOTH PRODUCT AND PROCESS—CLEARNESS OF DESCRIPTION.

1. The original letters patent granted to Nelson Goodyear, May 6th, 1851, for his invention in connection with what is known as “hard India rubber,” was a patent for the process and not for the product.
2. The reissued patents granted May 18th, 1858, on the surrender of such original patent, are both of them valid, although one is for the process and the other for the product
3. Those patents are not open to the objection that they do not describe the invention in such full, clear and exact terms, as to enable any one of ordinary skill in the art to make the hard rubber without experiment or further invention; nor to the objection that, so far as respects the application of the compound to dental purposes, it has been dedicated to the public.

[Cited in *Fassett v. Ewart Manuf'g Co.*, 58 Fed. 364.]

This was a bill in equity, filed [by Henry B. Goodyear and others] to restrain the defendant [Thomas G. Wait] from infringing letters patent [No. 8.075] for an “improvement in the manufacture of India rubber,” granted to Nelson Goodyear, May 6, 1851, reissued in two divisions numbered 556 and 557, May 18, 1858, and extended for seven years from May 6, 1865, to Henry B. Goodyear, administrator of Nelson Goodyear, deceased. The defendant was charged with infringing the patent in the manufacture and sale of plates for artificial teeth, substantially as in the case of *Goodyear v. Hills* [Case No. 5,571a].

Charles P. Blake, Charles M. Keller, and Edwin W. Stoughton, for complainants.

S. D. Law and George T. Curtis, for defendant.

NELSON, Circuit Justice. The bill is filed in this case to restrain the defendant from an infringement of the invention of Nelson Goodyear in the manufacture of hard rubber or vulcanite. The patent is for an improvement in the process of Charles Goodyear in preparing India rubber. (See his patent, reissued in December, 1849, on the surrender of the one bearing date in June, 1844). The improvement consists in thoroughly mixing the rubber with sulphur, in the proportion of from four ounces to a pound of sulphur to a pound of rubber, and then subjecting the same to a high degree of heat, as in the vulcanizing process of the said Charles Goodyear, until the compound shall have acquired the required hard and tough property found in ivory, bone, tortoise-shell, and horn, and the spring-like property

under flexure, found in whalebone. The degree of heat suggested is not less than from 260° to 275° of Fahrenheit's scale, in a steam or other heater, for about six hours or more, that is, until the compound substance has obtained the required degree of hardness. The first patent to Nelson Goodyear was issued May 6th, 1831. It was surrendered and reissued May 18th, 1858, for a defective specification. On the surrender, two patents were issued, one for the process, and the other for the product or new manufacture.

The defendant is charged with having been engaged in making, using, and selling a large amount of such hard rubber as is described in the patents, for dental purposes, that is, in the manufacture of plates for artificial teeth, and in the sale of the same, made partly with and from the rubber aforesaid.

The first objection taken to the patents is, that they are void for want of authority in the commissioner to issue them. It rests mainly on the ground, that both the process and the product, which were described in the original patent, both being new, constituted but one invention, and that the claim for either, in a patent, would protect the exclusive right to both. The argument is certainly ingenious, and, in connection with the decision of Judge Grier in the case of *Goodyear v. Central R. Co.* [Case No. 5,563], is entitled to consideration. It was there held, at the circuit, that the new process of Charles Goodyear in vulcanizing India rubber, embraced the new product, and that the claim for the former protected the latter; and it is insisted, on the part of the learned counsel, that the rule applies e converso, that the claim for the product will cover and protect the process, and that, as the claim in the original patent was for the product, which covered and embraced within it the process, there could be no necessity for the surrender and reissue of the two patents. I think the counsel mistaken in supposing that the original patent claimed the product or substance. It was "for combining India rubber and sulphur, &c., for making a hard and flexible substance, &c, substantially as herein set forth—a claim, I am strongly inclined to think, for a process instead of the product. But this does not affect the force of the argument, which is, that either claim excludes the other.

But the answer to this view seems to me conclusive. It must be admitted, as a general proposition, that a new process, producing a useful result or product, is patentable; and further, that a new composition of matter or substance which is useful is also patentable. Indeed, it is conceded that the rule is not applicable to the case of a new process producing an old and useful result. There, the process must be claimed, for the result or product, being old, cannot be. But it is insisted that it is otherwise if the product be new. I doubt the soundness of the distinction, and must hold that the inventor is entitled to the allowance of both claims, in either aspect.

As it respects the decision in the case of *Goodyear v. Central R. Co.* [supra] I have reason to know that Judge Grier felt considerable embarrassment in making it, from which he would have been relieved if there had been a claim for the product or substance.

As to the separate patents, I agree that both claims might properly have been embraced in one patent. But this question is one that is very much left, and reasonably so, to the good sense and discretion of the commissioner. It is often a nice one, and occasions frequent embarrassment to the department, as I know from conversations with some of the most eminent men who have filled the place. My conclusion on this point is, that the original patent was properly surrendered, in order to amend the claim, and that its reissue in two patents was unobjectionable.

The next objection is, that the patents do not describe the invention in such full, clear and exact terms, as to enable any one of ordinary skill in the art, to make the hard rubber without experiment or further invention. This is partly a question of law, and partly one of fact

First, as to the question of law. It must be remembered, that the invention in question is an improvement in the process of preparing India rubber, described in the patent of Charles Goodyear, which had been issued as early as 1844—a process well known to those skilled in the art at the time of the issuing of the original patent to Nelson Goodyear in 1851, and of the two reissues in 1858. The main difference between Charles Goodyear's patent and these consists in the different proportions of the mixture of rubber and sulphur. This new mixture by Nelson Goodyear, when vulcanized, produced a new substance, not only distinct from that of Charles, but applicable to entirely different and distinct uses and purposes. Now, the description must be read in the light derived from the knowledge that existed of the Charles Goodyear patent, his process, and the practical use of the same. In Charles Goodyear's patent the least amount of sulphur mixed with the India rubber that would be sufficient to produce vulcanization, was regarded as the best proportion. Hence, the quantity did not usually exceed one ounce of sulphur to a pound of rubber. This produced what may be called the "soft vulcanized rubber," when compared with the invention in question, and best answered the uses and purposes to which it was applied by its inventor. Nelson Goodyear increased the proportion of sulphur, and produced his new substance, and, after referring to Charles Goodyear's invention, and the improvement desired, to wit, producing the article of hard rubber, declares the improvement to consist "in thoroughly mixing India rubber, or other vulcanizable gum, with sulphur, whether with or without auxiliary ingredients, in the proportion of about from four ounces to a pound of sulphur to a pound of the gum, and then subjecting

the same to a high degree of artificial heat, as in the vulcanizing process of Charles Goodyear, until the compound shall have acquired the required hard and tough property," &c., The range of heat given in the Charles Goodyear patent is from 212° to 350°, but, for the best effect, approaching as near as may be to 270°. The range given by Nelson Goodyear, in another part of his patent, is not less than 260° or 275° of Fahrenheit. He also states, that much latitude may be taken in the proportional quantity of sulphur, but that a proportion much less than four ounces to a pound of rubber would fail to produce the new substance.

This question is not a new one in court It was very fully considered in the case, on the same patents, of *Goodyear v. New York Gutta Percha & India Rubber Vulcanite Co.* [Case No. 5,580], decided in October, 1862, and it was there held, that the description in the patents, both as respects the proportions of sulphur and rubber and the degree of heat to which the compound was to be subjected in order to produce the new substance, was sufficiently full and certain within the requirements of the patent law. The same question had been decided in the same way previously, in the cases pending on the Charles Goodyear patent of 1849. I do not intend to go over the argument again that led me to the conclusion then arrived at; but I will add, that the proofs in the present case, in my judgment, confirm the correctness of the former decisions. As already stated, the proportions of the mixture are about from four ounces to a pound of sulphur to a pound of rubber, which I understand as meaning, that any proportion of sulphur between four ounces and a pound to a pound of rubber, properly mixed and subjected to the required heat will produce the substance. "What uncertainty is there in this, or what necessity of experiment on the part of a person of ordinary skill in the art, to make the compound? The inventive faculty is exhausted in the directions given to make the article. All the work that remains to be done is that by the hands of the skilful workman. I agree, that if it could be shown that the mixture, as described, when properly reduced to practice, failed to produce the article, the patent could not be upheld. But that is a different question from the one here presented, namely, whether the description is sufficiently clear and certain.

I have said that the proofs in this case tend to confirm what was my conclusion on this point when the patents were formerly before me. It appears, that the proportions of the ingredients composing the compound put on the market, by the proprietors of these patents, for dental purposes, were twelve parts in weight of rubber, and six of sulphur, with nine of vermilion, as coloring matter. Thousands of pounds per annum of this compound, have been sold to dentists throughout the United States, and it was and is regarded by them as the best article in the market, and has been in almost universal use since its application to dentistry. It is the article that has been used by some three thousand licensees, as well as by the infringers, perhaps a still greater number. One of the leading witnesses for the defendant thinks the best proportion to be sixteen ounces of rubber, eight and a half of

sulphur, and seven of vermilion, nearly the proportions used by the plaintiffs. Another, Mr. Starr, a dentist of twenty-four years standing, and familiar With the use of hard rubber for dental purposes, from its first application, thinks a quarter of a pound to a pound of rubber, with nine ounces of vermilion, the best This adopts the minimum of sulphur given in the patent. Another, Mr. Wildman, a professor in a college of dental surgery, thinks that the proportions of forty-eight parts of rubber and twenty-four of sulphur, with thirty-six of vermilion (which reduced would be six parts of sulphur, twelve of rubber, and nine of vermilion) are best This agrees with the plaintiff's article in common use. In every instance, the proportions are within the limit given by the patentee.

It seems to be supposed by many of the experts on the part of the defendant, that because the patentee has given a margin in the proportion of sulphur, it requires invention—experiments, as they call it—to find the exact proportion, although he instructs them to take any proportions within the limit mentioned, and, for aught that appears to the contrary, in the evidence, any such proportion would make the article. Most of the experts agree that the proportions may be varied, and yet a good article be produced, which shows, that if an exact and fixed proportion were given, and the inventor was\* to be confined to it the patent would not be worth the paper on which it is written. The same observations are true as it respects the range of heat; and, in addition, the degree or prolongation of heat will oftentimes depend upon the thickness or bulk of the compound, and, perhaps, the amount of sulphur. But all this difficulty an intelligent workman will soon overcome, in the manufacture of the article. The heat is to be applied until the compound has acquired the requisite hardness. But I do not intend to pursue this point of the case, as I regard it concluded by the two decisions already referred to, so far as this court is concerned. As it respects the vermilion, or other coloring matter, the kind and quantity depend on the taste of the party using the compound. No definite rule could be given. The mixture does not vary the substantial uses of the article.

The next objection to the patents is, that, so far as respects the application of this compound to dental purposes, it has been dedicated to the public. I shall not enter upon the legal" question which was so fully and ably discussed on the argument—whether or not such a dedication could be made—as

upon a careful perusal of all the proofs in the case, I am satisfied that no such dedication, in point of fact, can be maintained.

The subject of the application of the compound of hard rubber to dental purposes engaged the attention of the proprietors as early as 1854–'55, and afterwards, in 1857–'55, the application to those purposes had become so far perfected that agencies were established, for the vulcanization of dental plates, in the city of New York, and elsewhere, and public notice was given of the same to the profession. Infringements were immediately commenced, and, among the first, by the firm of L. E. Christopher & Co. A suit was brought against that firm, for an infringement, by the American Hard Rubber Company, which then had acquired this interest in the patent; and circulars were issued to the dentists, notifying them of the infringement. The defendants sold out to E. A. L. Roberts, and left the city of New York, where they had resided. A suit was then commenced against Roberts, and, in October, 1859, an injunction was obtained against him. Other suits were also brought against infringers, who were enjoined. This company, besides issuing numerous circulars, proposing to vulcanize for dentists cases of teeth, issued a quarterly publication, called "The Vulcanite," which was commenced in May, 1860, and ended in May, 1862. The numbers of each quarter varied from as high as six thousand to as low as two thousand. These numbers were sent free to all the dentists in the United States whose addresses could be procured, and to all the dental depots, surgical instrument manufacturers, and dental colleges. I have the number for May, 1862, before me. Among other things, it contains a list of the names of the agents of the company, located in different parts of the country, with notice that the agents will furnish the compound to licensees only; and also a list, covering some five pages, closely printed, of licensees, residing in most of the states of the Union. The company also put into the market the compound, at various dental depots in many parts of the country, especially in the principal cities, which was made in sheets and put up in paper boxes, each box containing one pound, on the cover of which was a label, and which, among other things, stated, that "this gum is furnished to our agents, and others, on the express condition that it shall be sold only to our licensees." The company further, at the same time, employed traveling agents, who visited the dentists at their homes, for the purposes of selling rights under the patent, and who succeeded in selling some three thousand. It is proper, also, to remark, that nearly all of the compound used by dentists in the city of New York, and elsewhere, was purchased by them from the depots of the company, in boxes having this label upon them. The defendant, who was a witness in his own behalf, admits that he purchased his compound in boxes, at S. S. White's depot, and that it was put up by the American Hard Rubber Company, and contained the label above mentioned. This was one of the company's depots. He admits, also, that there was a restriction on the sale of the compound, but says that he could always procure it, though not a licensee. He further admits, that, in 1864,

he was called on to take out a license; that he replied that there was great dissatisfaction, among the dentists, at the way the company had managed, and that the licensees were not protected; and that he offered to take out a license if the company would protect him, and prevent infringers from using the compound at the next door. He admits, also, that he saw the circulars issued by the company, warning against infringements; that he saw several numbers of the publication called "The Vulcanite;" that they were left at his office; and that he saw in them articles on the subject of vulcanizing dental plates. He also recollects the suit against Roberts, and one against To land, a dentist, in 1861.

I could extend this opinion much further, in referring to proofs all tending to show great and extraordinary exertions, on the part of the proprietors of this branch of the patent, to get the article into common use, and to prevent piracies, by means of litigation, and otherwise; but I regard the examination that has already taken place as quite satisfactory to show that no dedication or abandonment of their right has been established, and especially, none as respects the present defendant. His own testimony is abundantly sufficient to repel the conclusion as to himself. There must be a decree for the plaintiffs, and a reference, with a permanent injunction.

[For other cases involving this patent, see note to [Goodyear v. Mullee, Case No. 5,577.](#)]

<sup>1</sup> [Reported by Hon. Samuel Blatchford, District Judge, and by Samuel S. Fisher, Esq., and here compiled and reprinted by permission. The syllabus and opinion are from 5 Blatchf. 468, and the statement is from 3 Fish. Pat Cas. 242.]