Case No. 5,580.

GOODYEAR v. NEW YORK GUTTA PERCHA, ETC., CO.

{2 Fish. Pat. Cas. 312.}[1]

Circuit Court, S. D. New York. Oct., 1862.

PATENTS—INDIA RUBBER—QUALITIES OF ARTICLE STATED IN DESCRIPTION—WHETHER INVENTOR BOUND THEREBY.

1. The novelty of the reissued letters patent, Nos. 556 and 557, granted to Henry B. Goodyear, administrator of Nelson Goodyear, deceased, May 18, 1838, for improvements in the manufacture of India rubber, examined and sustained.

2. The process described in letters patent granted to Austin G. Day November 9, 1838, is an infringement of reissues Nos. 556 and 557, granted to Henry B. Goodyear.

3. A patentee is not bound by the qualities imparted to the article in his description; but, by the qualities of the article, as derived from the product of the process or compound patented.

This was a bill in equity filed {by Henry B. Goodyear and Conrad Poppenhusen} to restrain the defendants {the New York Gutta Percha & India Rubber Vulcanite Company and others} from infringing letters patent {No. 8,075} for an "improvement in the manufacture of India rubber," granted to Henry B. Goodyear, administrator of Nelson Goodyear, deceased, May 6, 1831, and surrendered and reissued May 18, 1838, in two divisions, numbered 536 and 537 respectively.

The claim of the original patent was as follows: "What I do claim, etc., is the combining of India rubber and sulphur, either with or without shellac, for making a hard and inflexible substance hitherto unknown, substantially as herein set forth. And I also claim the combining of India rubber, sulphur, and magnesia or lime, or a carbonate or a sulphate of magnesia or of lime, either with or without shellac, for making a hard and inflexible substance hitherto unknown, substantially as herein set forth."

The disclaimer and claim of reissue 536 was as follows: "It is well known that it has been proposed to produce a hard substance from caoutchouc by passing it through highly-heated liquid sulphur; but this has not been attended with practical success. I do not wish to be understood, however, as making claim broadly to the union of caoutchouc and sulphur in the proportions named, however these substances may be united and treated. But what I do

claim as the invention of the said Nelson Goodyear, and desire to secure by letters patent, is the combining of sulphur and India rubber, or other vulcanizable gum, in proportions substantially as specified, when the same is subjected to a high degree of heat, substantially as specified, according to the vulcanizing process of Charles Goodyear, for the purpose of producing a substance or manufacture possessing the properties or qualities substantially as described; and this I claim whether the said compound of sulphur and gum be, or be not, mixed with other ingredients, as set forth."

The disclaimer and claim of reissue 557 was as follows: "I do not wish to be understood as making claim broadly to a manufacture or substance produced by the admixture of caoutchouc and sulphur; nor as making claim broadly to a manufacture or substance by subjecting the compound of caoutchouc and sulphur, whether with or without other substances, to a high degree of heat, as, prior to the invention of Nelson Goodyear, caoutchouc and sulphur had been compounded, and such compound alone, as well as other ingredients, had been subjected to a high degree of heat, but not to produce the manufacture or substance having the character peculiar to the said manufacture or substance invented by the said Nelson Goodyear. What is claimed, etc., is the new manufacture or substance, herein above described, and possessing the substantial properties herein described, and composed of India rubber, or other vulcanizable gum, and sulphur, in the proportions substantially as described, and when incorporated, subjected to a high, degree of heat, as set forth, and this I claim, whether other ingredients be, or be not, used in the preparation of the said manufacture, as herein described."

Charles Goodyear had invented and patented, in 1844, a process for vulcanizing India rubber, which consisted in mixing sulphur and rubber in proportions varying from one to three and one-fifth ounces of sulphur to a pound of rubber and with or without carbonate of lead, and subjecting the compound, for some time, to a heat of from 212° to 350° F., depending on the thickness of the composition. This produced the ordinary flexible vulcanized rubber of commerce. Nelson Goodyear discovered that by increasing the proportion of sulphur from four to sixteen ounces of sulphur to a pound of rubber, and exposing the compound to the degree of heat named by Charles, he produced a hard substance now known as "vulcanite," "like ebony or ivory, susceptible of polish and with an elasticity similar in kind to that of tempered steel." When free sulphur only was used, in combination with the rubber, the patentee says that the proportion of each should be nearly equal; but, by adding magnesia, or lime, or the carbonates or sulphates thereof, or gum shellac, resin, oxides or salts of lead or zinc, or similar substances, he declares that the quantity of sulphur might be reduced to four ounces when combined with a pound of rubber.

G. D. Sargeant, C. M. Keller, and E. W. Stoughton, for complainants.

L. Abbett, W. J. A. Fuller, and T. A. Jenckes, for defendants.

NELSON, Circuit Justice. The bill in this case was filed upon two reissued patents granted to the complainant as administrator of Nelson Goodyear, deceased, the original discoverer of new and useful improvements in the manufacture of India rubber. The original patent to him bears date May 6, 1851. The reissued patents May 18, 1858. This invention relates to an improvement in the process of preparing India rubber and other vulcanized gums described in the previous well-known patent of Charles Goodyear, and by which improved process a new substance is produced, distinct in character from that produced by the invention of Charles Goodyear, and used for wholly different purposes. It is generally known as the "hard rubber compound." The two reissued patents claim—the one the process of manufacturing the hard rubber compound—the other the product. There was some doubt if the claim in the original patent embraced both these improvements, though fully described in the specification.

The utility of this improvement is not questioned. It has been before the courts incidentally heretofore, and was the subject of observation. In the case of Poppenhusen v. Falke [Case No. 11,280], decided in October term, 1861, on what is known as the "Tin Foil Patent," Judge Shipman, in delivering the opinion of the court, observed: "That in the year 1851, Nelson Goodyear patented the peculiar substance known as the 'hard' compound of India rubber. He produced this remarkable material by combining sulphur with the native rubber in certain proportions, and subjecting the compound to a high degree of heat. The material produced by the combination, when operated on by the proper degree of heat, proved to be of great value, and well adapted to a great variety of uses. It is free from the disagreeable odor, impenetrable to ordinary fluids, hard like ebony or ivory, susceptible of polish, and with an elasticity similar in kind to that of tempered steel. For many purposes of utility and ornament, its value is proved by its extensive use in the community."

The only serious question arising out of the facts in this case is, as to the originality of the invention by Nelson Goodyear. This has been strenuously contested by the learned counsel for the defendants, and requires some notice. The proofs show that Goodyear began his experiments with a view to the improvement, as early as the year 1847, and that he had nearly completed them as

early as the summer of 1849. In December of that year, he filed a caveat in the patent office, containing a description of the invention, and which embraces substantially all the information required at this day to manufacture the article. This, as we have seen, was followed up by a patent dated May 6, 1851, the application bearing date December, 1850.

The defense of want of novelty in Goodyear is placed mainly upon two grounds: 1st. The patent of Austin G. Day, dated November 9, 1858, and 2d. Patent to Charles Hancock, England, enrolled July 11, 1846. There are other criticisms in the proofs, and referred to in the argument of counsel, bearing upon this question, but we regard them as too unimportant to require any particular notice.

We have said that the patent of Austin G. Day has been relied on to show want of originality in Goodyear. Perhaps this is not quite an exact statement of the ground taken by the defense under that patent.

The defendants claim that they carry on their manufacture of the compound under this patent, and set up that the process is different from that of Goodyear. The process of Goodyear is found in the caveat of December, 1849, the patent of May, 1851, and in the reissues of May, 1858. In the caveat he says: "My invention or discovery consists in the production, by means of a composition of India rubber and sulphur subjected to intense heat, of a new and useful substance hitherto unknown, resembling in hardness bone or horn, but more extensively applicable, and less costly in use, than either of those substances." "The main and indispensable ingredients of the composition are India rubber, or caoutchouc, and sulphur; of these I take certain proportions, say equal parts by weight of each, and mix them thoroughly in any convenient manner. These proportions," he observes, "may, however, be considerably varied without changing materially the product." Again he observes: "No precise rule of proportions can be given, or definite limits assigned when sulphur alone is combined with rubber"—"that a much less quantity of sulphur than four ounces to a pound of rubber would be insufficient in any case."

In his patent of May, 1851, he observes: "Further experiments made by me since the filing of the caveat, have confirmed the entire success of my invention." And then after describing the process—first, compounding India rubber and sulphur, and second, combining with them other ingredients—he states: "The proportions specified in both these compounds may be considerably varied without materially changing the result, but in no case will a much less quantity of sulphur than four ounces to every pound of caoutchouc be sufficient, in which respect particularly my compounds differ very essentially from every other composition of India rubber in use; as in all other rubber compositions the least quantity of sulphur that will suffice to cure the article is aimed at." The description in the reissued patents is more full and in greater detail, but substantially the same—the difference consists in separating the claim and the issuing a patent for each.

Now, Austin G. Day's patent is dated November 9, 1858, nine years after the filing of Goodyear's caveat, and seven after his patent, and in his specification he says: "I took up the hard rubber manufacture at the time of the issue of the Nelson Goodyear patent of 1851, having a single object in view, namely, the manufacture of a hard elastic compound in which I used with success both rubber and gutta percha."

Again he says: "My invention consists in a special mode of making hard but highly elastic gum compound, by a process differing in length of time, in the degree of heat, and in the proportion of the ingredients, and in the mode of equalizing the temperature from that described by Nelson Goodyear."

He then claims, 1st. "The running the heat for vulcanizing flexible and elastic hard gum compounds through the high range of temperature, and the comparatively great length of time, substantially as set forth, that is to say, commencing the heat at about 275 deg., and carrying the same to 300 deg. and upward, substantially as described." 2d. "The making as described, the flexible and elastic hard gum composition of two parts, by weight of rubber or other vulcanizable gum, and one part sulphur, when such composition is preparatory to running of the heat, as described in these specifications."

Now, as to the degree of heat to be applied in the manufacturing of this hard compound, Nelson Goodyear, in his patent of May, 1851, refers to the patent of Charles Goodyear of 1844, reissued 1849, which gives a range from 212 deg. to 350 deg., depending on the thickness of the composition, and adds: "In most cases the heat will be required to be raised as high as 260 deg. or 275 deg., and the time of exposure of heat will range from three to six hours, or longer." The caveat stated the range between 250 deg. to 300 deg., depending upon size of compound.

It is quite apparent, from this reference to the several patents, that there is nothing on the subject of the degree of heat in manufacturing the hard compound described in the Austin patent, but what is found in that of Nelson Goodyear. Then as to the proportions of India rubber and sulphur, Austin adopts two parts rubber and one sulphur. Goodyear, in his patent of 1851, states that the best proportions will be about equal parts; that the proportions may be considerably varied without materially changing the result; but that in no case should it be less than four ounces of sulphur to a pound of rubber. The caveat contained the same substantially.

We perceive no ground for the claim to any improvement by Austin in this branch of the

case. Much was said on this argument, and also, by witnesses on the part of the defendants, in respect to the qualities imparted to the hard compound by the patentees in the descriptions. Goodyear, in his patent of 1851, claims the "combining of India rubber and sulphur, etc., for making a bard and inflexible substance, hitherto unknown, substantially as described." In his caveat he describes it as a hard and stiff substance, resembling, in some respects, horn, or bone, and adapted to similar or more extensive uses.

Austin, in his patent, describes the article as "a flexible and elastic bard gum composition." Now, it is apparent, from our previous examination of the patents of the respective parties, that this is simply a dispute about terms or words. The proofs also establish the same. An article of the same description of the hard rubber compound, and of the same qualities, was manufactured under the Goodyear patent from the time it was granted, as is made under the Austin patent; and we may add, made under the former patent in Goodyear's factory, by Austin himself, who was in the service of the establishment. The idea of the learned counsel for the defendants seems to be that the patentee is bound, by the qualities imparted to the article, rather than by the qualities of the article, as derived from the product of the compound patented. It would be a waste of time to attempt the refutation of so plain an error.

The main ground to establish the defense of the want of novelty in Goodyear's is the English patent of Hancock, July 11, 1846. It is quite apparent, on an inspection of this patent, that the patentee had not carried his experiments so far as to have produced the hard rubber compound of Goodyear, nor, as is obvious, had he any distinct or practical knowledge of it. His combination or composition to produce the article is found in the third paragraph of the patent, which is a combination of India rubber or gutta percha, "with orpiments, liver of sulphur, or other sulphuret having like chemical properties;" and he gives one general ride of proportion of orpiment or other sulphuret to be used, not to exceed twenty-five per cent., as applicable to the compound of all the products, whether soft or hard.

But what is more decisive is this: he observes that "in making any of these compounds, a portion of sulphur may be used in place of an equal portion of orpiment or sulphuret; but I consider the use of sulphur to be objectionable, because of the offensive smell which it imparts to the article, and of the tendency which sulphur has to effloresce or exude from the surface." No such consequence results from the compound of Goodyear. On the contrary, as already stated, "it is free from any disagreeable odor, impenetrable to ordinary fluids, like ebony or ivory, susceptible of polish, and with an elasticity similar in kind to tempered steel."

This view is confirmed by a reference to the later patent of Hancock, enrolled August 10, 1847. In this he refers to his previous one, and observes that in the specification there he had recommended that sulphureting of gutta percha should be effected by means of

sulphurets, such as orpiment or liver of sulphur, in preference to sulphur itself, etc. "I have since, however, ascertained that if a very minute portion of sulphur be used along with sulphuret, a better result is obtained from a combination of the two than from either substance alone." It is clear that even in 1847, after the experiments of Goodyear had begun, this patentee had not obtained any distinct idea of the American hard rubber compound. Without pursuing the case further, we are satisfied that the defense falls, and that the complainants are entitled to the decree.

{For other cases involving this patent, see note to Goodyear v. Mullee, Case No. 5,577.}

[1] {Reported by Samuel S. Fisher, Esq., and here reprinted by permission.}