

NATIONAL FILTERING OIL CO. v. ARCTIC
OIL CO. ET AL.

[8 Blatchf. 416; 4 Fish. Pat. Cas. 514; Merw. Pat.
Inv. 325.]¹

Circuit Court, S. D. New York. May 4, 1871.

PATENTS—PROCESS OF PURIFYING COAL
OIL—FIRST INVENTION—EXPERIMENTS.

1. The letters patent granted to Robert A. Chesebrough, as inventor, August 22d, 1865, for an "improved process for purifying coal oil, &c.," are valid.
2. The claim of the patent is, "the use of bone-black for purifying petroleum or coal oils by filtration." The patentee commenced, in September or October, 1861, to experiment with bone-black, in filtering coal oil. He used the process, with considerable success, in filtering coal oil, in November, 1861. In the winter of 1861, or the early part of 1862, he filtered crude Pennsylvania petroleum, a light oil, through bone-black. Early in 1865 he began experimenting to filter crude West Virginia petroleum, a heavy oil, through bone-black, to obtain an oil for lubricating purposes, without distilling it. He was successful in producing such oil, and, in May, 1865, applied for his patent. Between 1861 and 1865 he made several experiments with bone-black, as well as other substances, to refine oil. One D. used bone-black to filter crude oil in May or June, 1862, and prepared and sold, in June or July, 1862, some one hundred barrels of petroleum, which was first distilled, then treated with chemicals, and then filtered through bone-black. He stopped manufacturing petroleum in July or August, 1862. He did not apply for a patent: *Held*, that Chesebrough invented the process in 1861; that D. did not invent it until 1862; that Chesebrough never abandoned his invention; and that, in law, Chesebrough was the first inventor.
3. It was impossible to tell, without experiment, whether coal oil or petroleum could be filtered through bone-black at all, much less so as to produce a useful effect, although it was known before that animal charcoal would render filthy water inodorous, and that rancid oils were deprived

of their smell and taste by filtration through such charcoal, and that bone-black was a decolorizing agent.

In equity.

George T. Curtis and Francis R. Coudert, for plaintiffs.

Frank Loomis, for defendants.

BLATCHFORD, District Judge. The suit is founded on letters patent [No. 49,502] of the United States granted to Robert A. Chesebrough, August 22d, 1865, for an "improved process for purifying coal oil, &c.," and assigned by him to the plaintiffs, who are a corporation. The specification of the patent states the invention to be, "a new and useful method of purifying coal oil and petroleum by filtration." It says: "The nature of my invention consists in the use of bone-black for purifying petroleum or coal oils by filtration, by first distilling the crude oil or petroleum in a still with a condensing worm, such as is commonly used for distilling the same. The products of distillation are benzole, illuminating oil and heavy oil, which I then filter either separately or combined, as follows: The material I use for filtering through is bone-black, made of charred bones. The filter is made of wood or iron, of any suitable form or height. The filter is filled up with the bone-black as high as may be necessary, according to the quality of the oil. The oil is run in on top of the filtering material, and allowed to filter through the perforated bottom of the filter, where it is collected. The operation is continued by feeding the oil into the top of the filter as fast as it runs through the filtering material, until the filtered oil shall begin to assume a dark color, when the operation is suspended, and the filter replenished by fresh material. The coal oil or petroleum refined by this process will be sweet in odor, of a light color, and will need no other treatment. The crude petroleum from the wells may be purified by this process without any previous distillation, either for purpose of illumination

or lubrication.” The 1216 claim is, “the use of bone-black for purifying petroleum or coal oils by filtration.”

The defendants sued are the Arctic Oil Company, a corporation, E. H. Woodward, Roswell Haskell and Cornelius V. Deforest. The infringement charged in the bill is the manufacture and sale of lubricating oil made from petroleum oil by filtering the oil in the crude state through bone-black. The answer, which is that of the Arctic Oil Company alone, admits that that company has manufactured lubricating oil from petroleum and other oils by filtering the oil in its crude state through bone-black, but alleges that Chesebrough was not the original and first inventor of what is covered by his patent. It sets up prior knowledge of the invention by Cornelius V. Deforest, William T. Deforest, Cornelius I. Van Wyck, the Arctic Oil Company, J. H. Carrington, James L. Ely, and one Sylvester; that Chesebrough purchased from said William T. Deforest, such oil so made by said Cornelius V. Deforest by filtration through bone-black, for several years before Chesebrough applied for his patent; that Chesebrough obtained from said William T. Deforest the fact that said Cornelius V. Deforest used bone-black, made of charred bones, for purifying petroleum and coal oils; that Chesebrough had full knowledge of the use by said Cornelius V. Deforest of bone-black for purifying coal oil and petroleum at the time he applied for his patent; that the only effect produced upon coal oil or petroleum by filtration through bone-black, as described in the patent, is to decolorize it and remove foreign impurities from it, without regard to its gravity and whether it has been previously subjected to distillation or not; and that the property of bone-black to decolorize and remove foreign impurities from oils and other liquids was, before the invention of Chesebrough, described in certain public works—Blair’s Chemistry, Thompson’s Cyclopedia of Chemistry, Knight’s English

Encyclopedia, Chambers' Encyclopedia and Muspratt's Chemistry.

This case was brought to hearing in 1868, before Mr. Justice Nelson, on pleadings and proofs. He delivered an opinion, in October, 1868, arriving at the conclusion that there must be a decree for the defendants, on the ground that the patentee had been anticipated in the invention by Cornelius V. Deforest. Before any decree was entered, and in November, 1868, a motion was made by the plaintiffs that the case be re-opened and they be permitted to introduce further testimony, and that then the case be reheard. The motion was founded on affidavits of Chesebrough and others. The motion was granted, with leave to either party to introduce further testimony, the testimony theretofore taken in the cause to stand.

In his opinion, Judge Nelson says: "The only material question on the proofs, is, whether or not the patentee is the first and original inventor of this process or improvement; and this turns upon another, namely, whether he invented it before 1862. That the process was successfully used by Cornelius T. Deforest in the early part of that year, is not to be doubted, upon the evidence. At this time some three or four hundred barrels of oil were thus purified, some eighty barrels of which were sold to this patentee. The business was not profitable at the time, and was discontinued. The manufacture of this article, by the same process as described in the patent, is proved by Cornelius V. Deforest, the proprietor, Abraham Turner, Alexander McDonald, and Isaac Turner, workmen, and William T. Deforest, at the period above mentioned. It is claimed, however, that the patentee made the discovery prior to this time, and as early as 1861. The proof stands alone on his own testimony, though, if it is not mistaken, and is founded in fact, it could have been corroborated by other witnesses. Indeed, the circumstance that no other

persons have been produced to establish the discovery at this early day, and some five years before his application for the patent, casts some suspicion upon his testimony; and besides which, he took out a patent dated June 27th, 1865, for an improved process of purifying, filtering and deodorizing petroleum, by the use of a combination of bone-dust, pulverized oyster shells and cotton cloth. The explanation given is not very satisfactory—that he took out this patent for bone-dust combined with oyster shells, thinking, at the time, that bone-dust was bone-black. The patentee says, that his principal experiments were in the fall of 1861, and the spring of 1865; that, in the fall of 1861, he had a number of filters made, which he took to Pittsburg, Pennsylvania, with a quantity of bone-black; that he there exhibited the process to several gentlemen with whom he was connected in business; and that he was fully persuaded of its value, but his friends objected to it on account of the expense of the process. William T. Deforest was examined as a witness, called to give rebuttal testimony to the complainant's evidence in reply. Some part of this testimony, I think, is exceptionable, in the order in which it was given. But a part of it is proper, as an explanation of the testimony of William H. Chesebrough, a witness in reply to the evidence in defence. This witness (William T. Deforest) had not been examined in the case, nor is he a party to the suit; yet his conversations with the patentee are freely given in evidence, as material, in the reply. It was competent, therefore, to call him to explain or contradict this evidence. It was the first opportunity the defendants had to give the explanation. He states a conversation he had with the patentee in February or March, 1865, and which, if true, shows that, at this time, the patentee had not perfected his improvement, but, on the contrary, had failed to make a marketable 1217 article. The witness was almost daily with him in communications on the subject, explaining

how the purification, by the use of bone-black, could be effected, and how Cornelius V. Deforest had accomplished it and the process. William H. Chesebrough had stated that this witness was in the habit of coming into the business establishment of his brother, and had detailed several conversations between them. I think, also, that there is evidence tending to show that the patentee got his first ideas of this improvement from Cornelius V. Deforest. Upon the whole, I am satisfied that Cornelius V. Deforest preceded the patentee in this improvement, and must decree for the defendants.”

The aspect of the case is, in my judgment, entirely changed by the new proofs taken. It is to be noted, that the patent is for purifying, by filtration through bone-black, either petroleum or coal oil. Coal oil is an artificial oil, made by distilling cannel coal. Petroleum is a natural oil, obtained from the earth, by boring wells. The patent is for so purifying the oil either before it is subjected to distillation, or after it is subjected to distillation. By subjecting it to distillation, there are produced, as the products of such distillation, benzole, illuminating oil and heavy oil. These may then be filtered, either separately or combined, through bone-black.

The proofs show, that the patentee commenced, in September or October, 1861, to experiment with bone-black in filtering oil. The oil he then used was coal oil. By the 9th of November, 1861, he was so far satisfied of the value of the method of refining such oil by filtering it through bone-black, that he procured to be made a series of three tin filters, which fitted successively inside of each other, bone-black being used as a filterer in the upper two filters. These filters he took, with some bone-black, to Pittsburgh, Pennsylvania. At that place, between the 9th and 16th of November, 1861, he used the filters for filtering through bone-black coal oil which had been subjected

to distillation. He exhibited the apparatus, and the process of filtering, and the material subjected to filtering, and the filtering material, and the product, to several persons who testify to the facts as witnesses. The oil, after such filtration, was sweet in odor and of a light straw color, while, before such filtration, it was darker in color and of an unpleasant odor. But the persons to whom the patentee exhibited this mode of refining in Pittsburg, were desirous of producing a purely white oil, and, although the oil then produced by the patentee and shown to them was much improved in color, yet, as it was of a light straw color and not perfectly white, they thought the process would not answer their purpose.

Petroleum was first introduced into market at New York, where the patentee was engaged in business, and conducted his experiments, in 1861, although it did not come generally into use until 1862. After he had filtered coal oil through bone-black, and in the winter of 1861 or the early part of 1862, he filtered petroleum through bone-black. Prior to the spring of 1865 the petroleum he used was the Pennsylvania petroleum. Crude Pennsylvania petroleum is a light oil. In the early spring of 1865 the patentee commenced experimenting on the crude West Virginia oil, which is a heavy, greasy oil, with a view to obtaining an oil suitable for lubricating purposes, by some process other than subjecting the oil to distillation and then treating it with chemicals. He discovered, in those experiments, that, by filtering the crude West Virginia oil through bone-black, without first subjecting it to distillation, it was refined and purified, without any injury to its lubricating qualities, which qualities were seriously impaired by subjecting it to the high heat required in distillation. By May, 1865, he was so satisfied of the value of his process of filtering in respect to the West Virginia oil, that he applied for his patent, which was issued in the following August,

a patent having been issued to him in England, for the same invention, July 31st, 1865. His principal experiments with bone-black were made in the fall of 1861 and in the spring of 1865, although he made several experiments with it in the interim, besides using, during such interim, a variety of chemical substances to produce the result of refining the oil.

In regard to the use of bone-black by Cornelius V. Deforest to filter oil, there is no satisfactory evidence that he used it before the very end of May or the beginning of June, 1862. Commencing then, he experimented on a small scale in filtering crude oil through bone-black. He also subjected to the process of distillation a considerable quantity of petroleum, and afterwards treated it with chemicals, and afterwards filtered it through bone-black. He prepared in this way from seventy-five to one hundred barrels of petroleum, and sold them in the market, as illuminating oil, in June, and perhaps July, 1862. He stopped altogether manufacturing petroleum in July or August, 1862. Some seventy-five barrels of the oil so refined were sold, through William T. Deforest, to the patentee, in June, 1862, but the oil carried with it no evidence as to how it was refined, and there is no pretence that the patentee was in any manner informed as to the process by which it had been refined. Cornelius V. Deforest obtained no patent for his invention, and made no attempt to obtain one.

I am satisfied, that, as a question of fact, the patentee invented the process in 1861, and Cornelius V. Deforest did not invent it until 1862. The patentee never abandoned his invention. In taking out his patent of June, 1865, for filtering oil through a combination of bone dust, pulverized oyster shells, and cotton cloth, he meant by bone dust bone-black, as is abundantly shown now by the evidence. He never used bone dust—that is, bones ground to powder without having been 1218 previously burned or charred—but he always

used the ground product of charred bones; and it is proved that, in common speech, at the time, that article, when ground fine, was called bone dust, to distinguish it from the coarser bone-black.

I am also satisfied, on the present evidence, that there was no communication made by William T. Deforest, or any other person, to the patentee, as to the use of bone-black by Cornelius V. Deforest or William T. Deforest, or any other person, for refining coal oil or petroleum, or as to the capacity or value of the use of bone-black for such purpose, until after the patentee had obtained the patent now sued on; and, therefore, that the patentee did not get his first ideas of the improvement from Cornelius V. Deforest or any other person.

Certain well settled principles of law are applicable to the foregoing state of facts. In *Adams v. Edwards* [Case No. 53], Judge Woodbury said: "The law means, by invention, not maturity. It must be the idea struck out, the brilliant thought obtained, the great improvement in embryo. He must have that; but, if he has that, he may be years improving it—maturing it. It may require half a life. But, in that time, he must have devoted himself to it as much as circumstances would allow. But the period when he strikes out the plan which he afterwards patents, that is the time of the invention, that is the time when the discovery occurs." Again, in *Colt v. Massachusetts Arms Co.* [Id. 3,030], the same judge said: "The date of the invention is the date of the discovery of the principle involved, and the attempt to embody that in some machine—not the date of the perfecting of the instrument" In *Cox v. Griggs* [Id. 3,302], Judge Drummond says: "It is the right and privilege of a party, when an idea enters his mind in the essential form of invention—inasmuch as most inventions are the result of experiment, trial and effort, and few of them are worked out by mere will—to perfect, by experiment and reasonable diligence, his

original idea, so as not to be deprived of the fruits of his skill and labor by a prior patent, if he is the first inventor.” In *White v. Allen* [Id. 17,535], Judge Clifford says, that he who invents first has the prior right, if, as is prescribed in section 15 of the patent act [of 1836 (5 Stat. 123)], he is using reasonable diligence in adapting and perfecting the same, within the meaning of that provision. See, also, *Sayles v. Hapgood* [Id. 12,420].

In view of these principles, the patentee was the first inventor of this improvement. He never abandoned the prosecution of the idea which he developed in practice in the fall of 1861, before Cornelius V. Deforest did anything in the premises—that filtering coal oil through bone-black would refine it. He followed this up by operating in the same way on petroleum, but, as he testifies, exclusively, until the spring of 1865, on the Pennsylvania petroleum, and trying to refine that for illuminating purposes. The great value of the use of bone-black for refining oil did not disclose itself till the West Virginia petroleum came to market early in 1865. Between 1861 and 1865, he was trying other substances in addition to bone-black to refine oil, not certain that it was worth while to patent the invention, or that he had perfected it sufficiently to warrant a patent. That this was the case, and that he had not abandoned his invention, is shown by the fact that, when the heavy, greasy West Virginia petroleum came into notice as a good lubricating oil, but one needing to be refined, he recurred at once to his idea of refining petroleum by filtering it through bone-black, and applied the process to this West Virginia oil in its crude state, and with complete success. He then immediately applied for his patent, covering, as he had a right to do, from the use he had made of the process, the employment of it in refining, not only the products resulting from the application of the process

of distillation to coal oil and petroleum, but also crude petroleum from the wells, which had not been subjected to any previous distillation, and this whether the result to be obtained was aft oil for illumination or an oil for lubrication.

I do not think the various publications adduced by the defendants anticipate the invention on the point of novelty. It is true that they state that animal charcoal, prepared from the bones of animals, will render filthy water Inodorous; that rancid oils are deprived of their smell and taste by repeated filtration through a stratum of such charcoal; that bone-black will render colorless water charged with almost any vegetable or animal solution; that bone-black is used as a decoloring agent in various chemical purposes; and that the yellowish tint of oil of olives may be removed by mixing with it animal charcoal, and the oleine be obtained colorless by subsequent filtration. But, notwithstanding all this, it was impossible to tell without experiment whether coal oil or petroleum could be filtered through bone-black at all, much less so as produce a useful effect. The patent is, therefore, valid, and there must be a decree for the plaintiffs for a perpetual injunction and an account of profits, with costs.

¹ [Reported by Hon. Samuel Blatchford, District Judge, and by Samuel S. Fisher, Esq., and here compiled and reprinted by permission. Merw. Pat. Inv. 325, contains only a partial report.]

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