

## UNITED NICKEL CO. v. KEITH.

[Holmes, 328; 1 Ban. & A. 44; 5 O. G. 272.]<sup>1</sup>

Circuit Court, D. Massachusetts. Feb. 13, 1874.

## PATENTS—NICKEL

## PLATING—SOLUTION—INFRINGEMENT.

1. A claim for the electro-deposition of nickel by means of a solution of the double sulphate of nickel and ammonia, or a solution of the double chloride of nickel and ammonium, prepared and used in such a manner as to be free from the presence of potash, soda, alumina, lime, or nitric acid, or from any acid or alkaline reaction, is infringed by the use, in the electro-deposition of nickel, of a solution of the double sulphate of nickel and ammonia; although such solution contains a small proportion of tartrate of ammonia, and ammonia, the first of these being an inert substance in the solution, and the second being speedily eliminated by evaporation when the solution is used.
2. The patents of Isaac Adams, Jr., dated Aug. 3, 1809, and May 10, 1870, for improvements in the electro-deposition of nickel, *held*, valid.

[Approved in *United Nickel Co. v. Harris*, Case No. 14,407.  
Cited in *United Nickel Co. v. Pendleton*, 15 Fed. 740.]

[This was a bill by the United Nickel Company against N. S. Keith for an injunction to restrain the infringement of certain patents.]

James B. Robb, for complainant.

A. J. Todd, for defendant.

SHEPLEY, Circuit Judge. The defendant is charged with infringement of letters patent of the United States, granted to Isaac Adams, Jr., for "improvements in the electro-deposition of nickel," dated August 3, 1869 [No. 93,157], and May 10, 1870 [No. 102,748], both of which patents have been duly assigned to the complainant. Defendant denies the infringement, and alleges that Adams was not the original and first inventor of what is claimed as his invention in either of the patents.

The history of the state of the art of electro-plating with nickel, or what should with more propriety, in view of the progress then made in the art, be denominated the electro-deposition of nickel, prior to the discoveries of Dr. Adams, is sufficiently given in the opinion of this court in the case of *United Nickel Co. v. Authes* [Case No. 14,406], not to require repetition here otherwise than by reference to and reiteration of the views expressed in that case. Much additional evidence has been introduced in the record in this case upon the issue of novelty; yet, after a careful review of the whole evidence, both in relation to what was alleged in that case as anticipating the discoveries and inventions of Dr. Adams, and is again alleged in this record accompanied with further proof, as well as what additional and new matter is here introduced, I am confirmed in the conviction that the electro-deposition of nickel by means of the described solutions prepared and used, as described in his patents, and of such an anode as his patents describe, was unknown in any practical application of it to the useful art of electro-plating of metals prior to the discoveries of the patentee. By electroplating of metals as a useful art, I mean the uniform, continuous, and coherent deposit of one metal upon the surface of another, so as to produce a coating of the desired thickness, purity, uniformity, coherence, and permanency of adhesion, as distinguished from the mere electrolysis or electro-deposition of a metal out of a solution, whether such electro-deposition be or be not on the surface of another metal. And herein, in my view, consists the difference in the state of the art prior and subsequent to the discoveries of the patentee. Prior to his discoveries and inventions, electro-platers and electro-metallurgists well understood how desirable a result it would be to be able to plate the surface of baser metals with a coating of nickel, resembling silver in lustre and color, without its

liability to tarnish on exposure to the air. Yet while it was thus well understood, as stated by Napier, that if the practical difficulties could be overcome, “the application of nickel to the coating of other metals would be extensive, and the property of not being liable to tarnish would make it eminently useful for all general purposes,” yet, with all the research and investigation which has been so lavishly bestowed on this case, the defendant has signally failed to show that electro-plating of metals with nickel had any practical existence, as accessible or beneficial to the public, before the date of the inventions of Dr. Adams. Since that time, under the processes described in his patent, the art is so extensively practised, both in this country and Europe, that, as stated by one of the witnesses in this case, it would be less difficult to name articles used in the mechanic arts which have never been nickel-plated than those to which nickel-plating has been applied. The claims in the two patents are as follows: In the patent of August 3, 1869—

“1. The electro-deposition of nickel by means of a solution of the double sulphate of nickel and ammonia, or a solution of the double chloride of nickel and ammonium, <sup>734</sup> prepared and used in such a manner as to be free from the presence of potash, soda, alumina, lime, or nitric acid, or from any acid or alkaline reaction.

“2. The use for the anode of a depositing-cell of nickel, combined with iron to prevent the copper and arsenic which may be present from being deposited with the nickel, or from injuring the solution.

“3. The methods herein described for preparing the solution of the double sulphate of nickel and ammonia, and the double chloride of nickel and ammonia.

“4. The electro-plating of metals with a coating of compact, coherent, tenacious, flexible nickel, of sufficient thickness to protect the metal upon which

the deposit is made from the action of corrosive agents with which the article may be brought in contact.”

Also, but which is not involved in this suit—

“5. The deposition or electrotype-plates of nickel, to be removed from the surface on which the deposit is made, and used separately therefrom.”

In the patent of May 10, 1870, the claims are as follows:

“1. The combination, with nickel to be used for anodes, of a metal or metalloid electronegative to the nickel in the solution employed.

“2. A nickel anode combined with carbon, and cast in the required form.”

As the defendant has infringed the patent of May 10th, 1870, by the use of anodes in the electro-deposition of nickel, substantially like those described and claimed in that patent, and has also infringed the first claim of the patent of August 3, 1869, by the use, in the electro-deposition of nickel, of a solution of the double sulphate of nickel and ammonia, prepared and used in such a manner as to be free from the presence of potash, soda, alumina, lime, or nitric acid, or from any acid or alkaline reaction, it is not necessary to decide the questions presented on the construction of the fourth claim of the patent of August 3, 1869.

In deciding that the evidence in the record proves an infringement of the first claim of that patent by the use of the solution therein described, I do not overlook the fact that defendant's solution contained one one-thousandth part of tartrate of ammonia, and one eight-hundredth part of ammonia. The evidence in the case satisfies me that in the defendant's solution the first was an inert substance, and the second would be, and was, speedily eliminated from the solution in use, by evaporation. Decree for injunction and account.

<sup>1</sup> [Reported by Jabez S. Holmes. Esq., and by Hubert A. Banning, Esq., and Henry Arden, Esq., and here reprinted by permission.]

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