258,295, granted May 23, 1882, to Augustus M. Halstead, I see no reason to modify the views expressed at the hearing on the motion for a preliminary injunction. Said claims are as follows:

"6. In an egg-holding tray, the combination, with the wires or cross bars, of a web of muslin or similar material on which the eggs rest, and which is movable, so as to turn the eggs, substantially as set forth.

"(7.) The combination, in an egg holding and turning tray, of cross wires or bars, a web, and a roller upon which the web may be wound, substantially as set forth."

The specification and drawings are limited to a construction in which the eggs lie between cross wires and are supported by a netting. Where the web covered by the claims in suit is employed, it is described and shown as passing around the netting and below the cross wires. Rollers on which the eggs rest are disclaimed. In the defendant's device there is no netting; the web passes around and above the rollers; the eggs are supported by the rollers, and the web is used to turn the eggs. The defendant's construction, therefore, does not infringe said claim. The prior art shows several constructions embodying the principles involved in the operation of defendant's device. Let a decree be entered for an injunction and an accounting upon the third claim of patent No. 368,249.

PITTSBURGH REDUCTION CO. v. COWLES ELECTRIC SMELTING & ALUMINUM CO.

(Circuit Court, N. D. Ohio, E. D. November 9, 1894.)

1. EQUITY—REHEARING—NEW EVIDENCE.
   A rehearing will not be granted to allow the introduction of evidence which, by due diligence, could have been introduced at the original hearing, on the ground that the party and his counsel were misled as to the real issue by the arguments of the opposing counsel.
2. PATENTS—ANTICIPATION—ALUMINUM BY ELECTROLYSIS.
   The Hall process of making aluminum by electrolysis, after dissolution of alumina in fused cryolite (letters patent No. 400,766), is patentable, even if the solubility of alumina in fused cryolite was previously well known, alumina having never previously been disrupted by electrolysis into its constituent parts. 55 Fed. 301, affirmed.
3. SAME.
   Discovery of the fact that fused cryolite would freely dissolve alumina, which was essential to Hall's process, was not anticipated by the discovery of De Ville that cryolite would dissolve or flux alumina to a slight extent, he having compared its power to dissolve alumina to that of fluoride of sodium and fluor spar, the former of which would, and the latter was supposed to, dissolve about 1 per cent. of alumina, though fluor spar has since been discovered to dissolve about 25 per cent. of alumina. 55 Fed. 301, affirmed.

On rehearing. Denied.

For former opinion, see 55 Fed. 301.

W. Bakewell & Sons and George H. Christy, for complainant.

M. D. Leggett and Loren Prentiss, for defendant.

Before TAFT, Circuit Judge.

TAFT, Circuit Judge. This is a bill to enjoin the infringement of a patent for a process of making aluminum by electrolysis, and to re-

cover damages. The case has been heard on its merits, and a decree rendered sustaining the patent, finding that the defendant has infringed it, and referring to a special master the question of damages. The opinion of the court is reported in 55 Fed. 301. A motion is now made by the defendant to reopen the case, for leave to introduce new evidence, and for a rehearing. The opinion on the merits was filed on January 20, 1893, and a decree entered in accordance therewith shortly afterwards. Defendant then took an appeal to the circuit court of appeals, under the seventh section of the court of appeals act, providing for an appeal from an interlocutory order granting an injunction. When the appeal was called in the circuit court of appeals in June, 1893, it was dismissed by the appellant. The master then proceeded with the hearing of evidence on the question of damages. Pending this hearing, both the counsel for the defendant company who had argued the case on the merits in this court died. Thereafter the present counsel for the defendant offered evidence before the master, which the master correctly ruled to be irrelevant on the issue of damages, and only relevant with respect to the merits of the controversy already decided by the court. Counsel for the defendant, by agreement with opposing counsel, brought the question of the admissibility of this evidence before the court, and the action of the master was sustained. On June 21, 1894, the motion for rehearing now to be decided was filed in the words following:

"And now comes the defendant, and files this, his amended motion for a rehearing in this case; and, for grounds for granting the same, the defendant states as follows, namely: (1) That, upon the original hearing of this cause upon the questions as to character and validity of the patent in suit, it was claimed and represented by the complainant that there was an important difference between the solution of the alumina in the fused cryolite bath under the patent in suit and the fusion of alumina with cryolite as a flux in electric smelting, and that the patent in suit was for the solution of alumina in the fused cryolite bath, and not for the fusion of alumina with cryolite as a flux in electric smelting, which representation and claim the defendant believed to be true, and was thereby led into the trying of the case on its part upon that basis, and to rely upon its right, in case it should become necessary, to set up the process of electric smelting with the use of cryolite as a flux under electric smelting patents belonging to the defendant, as a standard of the comparison as to the cost of so manufacturing aluminum, as compared with the process under the patent in suit. That, upon the hearing in damages, the complainant objected to the introduction of evidence as to such comparative cost of manufacturing aluminum, upon the ground that the use of cryolite as a flux in electric smelting was the same as the solution in a fused cryolite bath under the patent in suit, and that all such testimony was thereupon stricken out by the court, and all further testimony on the subject was disallowed; that, by the means above set forth, the defendant was entirely deprived of the benefit of such testimony in any way. In law and justice, he is now entitled to the use of the same upon the questions as to the validity or scope of the patent in suit, and the infringement of the same by the defendant. (2) That the court erred in finding and holding that the testimony in the cause showed that alumina was not dissolved in the cryolite bath of the soluble anode process to any appreciable amount, and also in finding and holding that the defendant operated said soluble anode process improperly and unfairly in respect to the soluble anodes being partly above and partly within the bath, and holding that the same should have been entirely immersed in the fused bath; whereas, in truth and in fact, it is the uniform custom in using anodes, whether soluble or otherwise, to place them

partly in and partly above the bath, as shown in the drawings attached to the Hall and Bradley patents; and whereas, also, in fact, the alumina is or may be dissolved in ample amounts in said soluble anode process in such fused bath of cryolite,—all of which the defendant can fully establish as clear and positive facts, and will do so, if allowed the opportunity, and that the defendant will also fully prove that as much alumina will be and is dissolved in such fused bath in such soluble anode process whether anodes are entirely immersed as when used in the manner which the defendant used them. The defendant asks that, upon the granting of such rehearing, the parties may be allowed to introduce all such further testimony as may be relevant in such rehearing, and that the defendant may have leave to amend its answer accordingly."

The ground of the first paragraph of the motion, as elucidated in the oral presentation of it, is peculiar. It is, in effect, that complainant's counsel by their argument misled the defendant and its counsel into taking a wrong view as to the issue of the cause; and now, having discovered the real issue to be something other than it was supposed to be, defendant wishes to adduce more evidence and make further argument on the new issue heretofore successfully obscured and concealed from the defendant, its counsel, and the court by the ingenuity of complainant's counsel. Defendant's present counsel expressly disclaims the slightest intention to impeach the good faith or professional skill of defendant's former counsel, but merely contends that in this case the arguments on behalf of complainant were so persistently sophistical and calculated to mislead that a serious mistake was made by the solicitors for defendant. The ground for the second paragraph of the motion is, in effect, that the court made an error in holding that the De Ville process for making aluminum by electrolysis was not an anticipation of the complainant's process, which error it is proposed to show more fully by subsequent experiments made by the defendant, and now offered in evidence.

The rules which govern the court in granting a rehearing in a cause like this, after a full hearing and decree on the merits, are well settled. In Baker v. Whiting, 1 Story, 218, Fed. Cas. No. 786, Mr. Justice Story, in a full discussion of the subject, holds that a rehearing for the purpose of admitting new evidence can only be granted when it would be granted on a bill of review after final decree. In Purcell v. Miner, 4 Wall. 519, the supreme court quote and follow Lord Chancellor Bacon's rule with reference to a bill of review:

"No bill of review shall be admitted except it contain either error in law appearing in the body of the decree, without further examination of matters in fact, or some new matter which hath arisen any time after the decree, and not on any new proof which might have been used in the decree so made. Nevertheless, upon new proof that is come to light after the decree was made, which could not possibly have been used at the time when the decree passed, a bill or review may be granted by the special license of the court, and not otherwise."

See, also, City of Omaha v. Redick, 63 Fed. 1–6.

It is not claimed by counsel for the defendant that the new evidence sought to be put in is evidence which could not have been brought before the court by due diligence at the original hearing. By the rule quoted, therefore, the motion fails to present a case for

the action of the court. It is expressly held by Mr. Justice Story in Baker v. Whiting, supra, that the error of judgment or mistake of law by counsel as to the pertinency or force of evidence furnishes no ground for a rehearing. This rule has been followed in a number of cases. Among them may be noted decisions by Judge Woodruff in Ruggles v. Eddy, 11 Blatchf. 524, Fed. Cas. No. 12,118, and by Mr. Justice Blatchford in De Florez v. Raynolds, 16 Blatchf. 397, Fed. Cas. No. 3,743. See, also, Beach, Mod. Eq. Pr. § 835, and cases cited. A rehearing is never granted to present cumulative evidence, or for the reiteration of old arguments. Dunham v. Winans, 2 Paige, 24; Pfanschmidt v. Mercantile Co., 32 Fed. 667; Beach, Mod. Eq. Jur. § 836, and cases cited. It results from the foregoing principles that, on the face of the motion, no case is made for a rehearing. In order that no injustice may be done to the defendant, however, the court has examined fully all the evidence submitted, and read with care the arguments of counsel, and is clearly of the opinion that, even if all the evidence proposed now to be submitted to the court had been before the court at the time of the original hearing, the same result would have been reached.

A full description of Hall's process is given in the opinion of the court already filed. To state it shortly, the double fluoride of sodium and aluminum is placed in a crucible lined with carbon, and heated to a state of fusion. The poles of an electric dynamo are connected with this bath. The negative pole connects with the carbon lining of the crucible, and makes that the cathode, while the positive pole is connected with a piece of carbon suspended over, and extending down into, the fused mass forming the anode. Alumina—that is, the oxide of aluminum—is added to the double fluoride after fusion, and freely dissolves in it. An electric current of from four to six or seven volts is passed through the mass, causing the electrolysis or chemical disruption of the alumina into its constituents,—oxygen and the metal aluminum. The oxygen gathers at the anode, while the aluminum is deposited on the carbon lining of the crucible of the cathode, and is dipped out of the bath. The claim of the patent which was held to be infringed was as follows:

"As an improvement in the art of manufacturing aluminum, the hereindescribed process, which consists in dissolving alumina in a fused bath, composed of the fluorides of aluminum and sodium, and then passing an electric current by means of a carbonaceous anode through the fused mass, substantially as set forth."

In this patent, Hall expressly disclaims any intention to make a claim for the apparatus. He seeks a monopoly only for the process. He maintains that his process was novel in two respects: First. In that he dissolved alumina in the fused double fluoride of sodium and aluminum as freely as sugar dissolves in water; that, until he discovered that alumina would thus freely dissolve in this bath, it had never been known. And, secondly, that no one had ever before succeeded in disrupting the constituent elements of alumina by an electric current. The defendant in the original hearing attempted to show by quotations from the works of a French chemist named De Ville that it was well known as far back as 1859 (27

years before Hall made his discovery) that cryolite, which is a common form of the double fluoride of sodium and aluminum, found in Greenland, would dissolve alumina. Quotations from other authors who followed De Ville were also relied on for the same purpose. These quotations are set forth in the opinion of the court referred to, and are there commented on. De Ville described in his work a process for making aluminum by electrolysis. One of the alternative methods suggested by him was a fused bath of cryolite, with an anode of compacted alumina and carbon. The current disrupted the fluoride of aluminum in the cryolite, sending the aluminum to the cathode and the fluorine gas, its other constituent, to the anode, where it united with the aluminum of the alumina in the anode to make fluoride of aluminum, and regenerated the bath. The oxygen of the alumina, thus released, united with the carbon to form carbonic acid gas. In this way, aluminum was continually deposited at the anode, and the fluoride of aluminum in the bath was kept constant. It was held by this court—First. That the quotations from De Ville and subsequent authors did not show that cryolite would dissolve any more than a very small per cent. of its own volume and weight of alumina. And, secondly, that the De Ville process for making aluminum by electrolysis was wholly different from the Hall process (the one in suit), in that the Hall process electrolyzed alumina, while the De Ville process electrolyzed cryolite; that in the Hall process alumina was freely dissolved, without the electric current, while in the De Ville process the alumina was solid and hard, until it was subjected to the electrical chemical treatment above described; that the former was a success, while the latter was an entire failure, as a practical mode of making aluminum. There were many other questions in the case than the two above stated, but these are the points upon which it is sought to introduce new evidence and to make a new argument. The evidence which the defendant now seeks to bring to the court's attention consists of certain patents issued to the Cowles Brothers and to Bradley for the reduction of refractory metallic ores by electric currents of great intensity, of quotations from books on chemistry to show that cryolite was known to the art for many years before Hall's alleged discovery as a suitable flux for the reduction of alumina, and of subsequent experiments with the De Ville electrolytic process. Cowles' patents describe an electric furnace into which he introduces the aluminum compound mixed with small granular particles of carbon. An intense electric current is passed through the furnace, and is carried by the granulated carbon. A degree of heat is thereby produced which is intended to smelt the aluminum compound, and to permit an alloy with some other metal, as copper. The Bradley invention contemplates the introduction of the refractory ore into a furnace in which are a movable carbon anode and a cathode. These are placed so near together at the beginning of the operation that, when the current is applied, an electric arc is formed between them. The arc generates enough heat to melt the ore near the anode and cathode, and this melted portion of the ore thereafter carries the current, and gradually effects the

melting of the entire mass of ore in the furnace. As soon as any part of the ore is melted, electrolysis is intended to take place. The gist of the invention is the use of the electric current, first to fuse the refractory ore, and subsequently to electrolyze it, and disrupt it into its constituent parts. A fuller description of the Cowles and Bradley patents is contained in the opinion of this court in Lowry v. Aluminum Co., 56 Fed. 488. The Cowles patents, here relied on, were in evidence at the original hearing. The Bradley patents were not introduced in evidence, though well known to defendant and its counsel. The present claim of the defendants is that, as cryolite was a well-known flux for alumina, it was mere mechanical skill, and involved no discovery or invention, to use alumina in the Cowles and Bradley furnace (which were patented some years before the patent in suit), with cryolite as a flux; that the use of cryolite as a flux for alumina in the Cowles or Bradley furnaces must result in the electrolysis of the alumina, and the deposit of the aluminum at the cathode, and would be the patent process claimed by complainant. It is pressed upon the court by the present counsel for the defendant that the use of cryolite as a flux is the same as its use as a dissolvent for alumina, and that the mistake made by the former counsel for the defendant and by the court was in supposing that the use of a flux in the smelting operation was different from the use of the same material as a fused dissolvent. No such distinction, even if it is maintainable, was conceded by the former counsel for the defendant, or taken by the court. In a very elaborate argument by defendant's counsel at the original hearing, great stress was laid by them on De Ville's use of cryolite in his chemical process for the manufacture of aluminum to free the globules of the metal from a film of alumina which prevented the union of the globules into a button, and which was formed by the attraction of the aluminum and the oxygen, in the moisture developed in the process, for each other. This was, speaking strictly and technically, the use of cryolite as a flux with which to attract and draw to itself the obstructing alumina. It was treated by all the counsel in the case and by the court as showing that, to the extent to which it removed the alumina from the globules of aluminum, the cryolite was a dissolvent of the alumina. But it was held by the court that the experiment only showed that the cryolite would dissolve a small per cent. of its own volume and quantity of alumina, and gave no indication that alumina would dissolve as freely as sugar in water in fused cryolite or any other double fluoride of sodium and aluminum. It may be conceded, therefore, for the purpose of this argument, that, if cryolite had been shown to be a free flux for alumina in the reduction of aluminum, it would not be a new discovery to melt aluminum in fused cryolite. The decision of the court rested on the degree of the fusibility of alumina in cryolite, which De Ville's description of his process and that of those who follow him show to be a very small per cent., and did not suggest the very large per cent. of fusibility which Hall discovered, and which his process requires. It is utterly immaterial, therefore, whether the cryolite be called a "flux" or a "dissolvent" of the

alumina, because, in either case, the extent to which De Ville's experiments showed that it could dissolve or flux alumina was very small. As stated in the original opinion in this case:

"If cryolite only dissolved one per cent. of its weight in alumina, Hall's process would never have been heard of. The difference between what Hall discovered and what was known before him in this regard is the difference between complete knowledge on a subject and so little as to be wholly useless and not to suggest further inquiry. It is impossible, if De Ville had any knowledge that alumina could be dissolved in cryolite, as Hall found, that he should not have made a note of it, for all the experts agree that he observed most carefully, and noted exactly all that he observed."

But it is said that the court reached its conclusion as to the small per cent. of alumina which De Ville found cryolite would dissolve by inferring from De Ville's writings and those of subsequent chemists that cryolite would dissolve about as much alumina as the fluoride of calcium (commonly called "fluor spar"), and by assuming that fluor spar would not dissolve more than 1 per cent. of alumina. It was in evidence at the hearing by one of defendant's experts that fluor spar would not dissolve more than 1 per cent. or 1½ per cent. of alumina. Evidence is now sought to be adduced to show that, by actual experiment, fluor spar will dissolve 25 per cent. in its own weight of alumina. The person making the experiment was not submitted to cross-examination, and yet from his own statement it appears that the result was only obtained after the application of a very high degree of heat, and was a surprise to the operator in whose first experiment but 4½ per cent. was dissolved. The statement of defendant's expert in the evidence at the hearing showed what was then known concerning the solubility of alumina in fluor spar. The matter was only important in the construction of De Ville's language, and as, in the art, it was supposed that fluor spar dissolved but a small per cent. of alumina, even down to the time when defendant's witness testified, it is entirely irrelevant and immaterial what subsequent experiments have developed. Another standard of comparison suggested by De Ville's description of his experiment was the solubility of alumina in fluoride of sodium, which he used often for the same purpose as the cryolite. That will dissolve even less than 1 per cent., as defendant's witness testified; and it is not now proposed to show this to be a mistake. The evidence which has been introduced by the defendant consists of the deposition of another expert and further quotations from De Ville's works and from subsequent chemists. Everything which has been shown is carried back to the process for making aluminum by chemical reactions discovered by De Ville, and which was the only practical process until Hall's process by electrolysis was discovered to the world. The evidence is simply cumulative, and does not at all change the conclusion of the court with reference to its effect. Neither the Bradley nor the Cowles patents contain the slightest suggestion that cryolite should be used as a flux for the refractory alumina, and no evidence is sought to be introduced that any one ever actually used cryolite in furnaces for that purpose. The question presented by the defendant, therefore, is exactly the same as that which the court originally passed upon, and which was

fully argued to the court by able, industrious, and faithful counsel, on elaborate briefs and evidence, and was fully considered by the court. There was no mistake of counsel; there is no issue which was obscured by the arguments of complainant's counsel; and this is only an attempt to introduce evidence of a cumulative character to the same point decided against the defendant, with no showing that such cumulative evidence was not within the control of the defendants, or could not have been produced by reasonable diligence. The fact is that the strongest quotation, upon which the expert called by the defendant relies, is that which is quoted in full in the opinion of the court already delivered. It is said that the court made an error in supposing that the globules of aluminum produced by De Ville's chemical process, which refused to unite because of a film of alumina on their surface, were washed off by the cryolite which De Ville introduced into the process for the purpose of facilitating union of the metal globules. The expression "washed off" may not have been the most fortunate one. The court did not suppose that the cryolite was introduced into the process after the globules had been formed, because De Ville expressly states that the cryolite was put into the original mixture. But De Ville says that the action of the cryolite was to remove and dissolve the film of alumina which formed on the surface of the globules of the aluminum as soon as they were exposed to the moisture; and, in the sense of dissolving off of the surface of the globules this thin, slight, and imperceptible film of alumina, the action of the cryolite may properly be described as washing off the alumina. It is to be observed that in De Ville's process no alumina was used at all; that its presence in the process, and its obstruction to a union of the metal particles, were matters of conjecture by De Ville, supported, it is true, by his finding a slight amount of alumina in the slag or refuse after the metal was removed. There was but a trace of alumina in this slag, and yet, in order to accomplish De Ville's purpose of dissolving the alumina, he found it necessary to introduce five parts of cryolite to ten parts of fluoride of aluminum and two parts of sodium. This shows conclusively that the amount of alumina which the cryolite dissolved in this experiment was a very small percentage of the cryolite used. It should be remarked, moreover, that the Hall process would still be a patentable process, and the only one known for practically making aluminum by electrolysis, even if it had been well known that alumina would freely dissolve in fused cryolite; for it was conclusively shown by the evidence that never before Hall did it, had alumina been disrupted by electrolysis into its constituent parts. It therefore follows, even if the conclusion already reached is not well founded as to the effect of the evidence touching the solubility of alumina in fused cryolite, that Hall's patent would still be a valid one.

This brings us to the second ground of the motion; namely, that the court erred in the view which it took of De Ville's process of making aluminum by electrolysis. The argument on this head is a mere restatement of the old arguments made on the original hearing, and deserves no further notice. The difference between the

De Ville process and the Hall process for electrolyzing aluminum is made as plain as the court can make it in the opinion filed on the merits, and nothing that has been said on the argument of this motion in the slightest degree shakes the court's views on that point. The experiments reported do not make the case different in any respect.

The motion for a rehearing is denied.

OFFICE SPECIALTY MANUF'G CO. v. COOKE & COBB CO.

(Circuit Court, S. D. New York. September 28, 1894.)

This was a suit in equity by the Office Specialty Manufacturing Company against the Cooke & Cobb Company for the infringement of letters patent No. 217,909, granted to F. W. Smith and J. S. Shannon, July 29, 1879, for a paper holder; letters patent No. 312,086, granted to William H. Clague, February 10, 1885, for a paper file; and letters patent No. 331,259, granted to J. S. Shannon, November 24, 1885, for an index for paper files. Heard on motion for a preliminary injunction.

Frederick R. Church, for complainant.
W. C. Donn, for defendant.

LACOMBE, Circuit Judge. As to patents Nos. 312,086 and 331,259, there have been no prior adjudications sustaining them. It is true that very many letter files embodying the devices described in them have been sold, but such letter files appear also to have contained other devices as well. In view of the small cost of the articles, and the multitude of other varieties of letter files on the market, the mere fact that there have been extensive sales is very unsatisfactory evidence of a public acquiescence in the validity of the patents. Patent No. 217,909 appears to have been twice sustained by Judge Blodgett (Shannon v. Printing Co., 9 Fed. 205; Schlicht & Field Co. v. Chicago Sewing Mach. Co., 36 Fed. 585); but there was before him neither the "English file" nor the Dixon patent, which are introduced here. Neither of these, it is true, is an anticipation; but, when examined in connection with the other patents which were before Judge Blodgett, they make the question of patentable invention, to say the least, a doubtful one, and a preliminary injunction, therefore, should be denied.

N. K. FAIRBANK CO. v. CENTRAL LARD CO.

(Circuit Court, S. D. New York. October, 1894.)

1. TRADE-MARK—DESCRIPTIVE NAME—"COTTOLENE."
   The word "Cottolene," designating a substitute for lard composed of cotton-seed oil and the product of beef fat, is not so descriptive of the substance and quality of its component parts that it cannot be used as a trade-mark.
2. SAME—INFRINGEMENT.
   The use of the word "Cottoleo" on the tierces and tubs containing a compound of cotton-seed oil and the product of beef fat is an infringement of the trade-mark "Cottolene" previously registered for the sale of the same substance, and used in marking tierces and tubs.
3. SAME.
   It is no defense to a suit for infringement of the trade-mark "Cottolene" by the use of the word "Cottoleo" that defendant sold under his own name, and made no attempt, other than by use of the word "Cottoleo," to sell his goods as if manufactured by plaintiff.