

CASES ABOUT LONG-FELT, UNMET NEED

Below are excerpts from pre-1982 appellate cases that analyze the question of obviousness *vel non* by focusing on evidence of long-felt, unmet need (or the lack thereof). I've separated U.S. Supreme Court cases from U.S. Court of Appeals cases. I've also divided the Court of Appeals cases into three time-frames [pre-§103 (*i.e.*, before Jan. 1, 1953), pre-*Graham* (*i.e.*, 1953-1966), and post-*Graham*], and into Second Circuit cases v. other circuits' cases. The Second Circuit warrants special note because Judge Learned Hand helped pioneer reliance on evidence of long-felt, unmet need as proof of nonobviousness. Judge Hand wrote many of the cases I excerpt here. (I also include an excerpt from one of Judge Easterbrook's opinions in the Mahurkar double-lumen catheter litigation.)

Supreme Court Cases

Smith v. Goodyear Dental Vulcanite Co., 93 U.S. 486, 494-95 (1876) (affirming validity judgment) (“We cannot resist the conviction that devising and forming such a manufacture by such a process and of such materials was invention. More was needed for it than simply mechanical judgment and good taste. Were it not so, hard rubber would doubtless have been used in the construction of artificial sets of teeth, gums, and plates long before Cummings applied for his patent. To find a material, with a mode of using it, capable of being combined with the teeth in such a manner as to be free from the admitted faults of all other known combinations, had been an object long and earnestly sought. It had been a subject for frequent discussion among dentists and in scientific journals. The properties of vulcanite were well known; but how to make use of them for artificial sets of teeth remained undiscovered, and apparently undiscoverable, until Cummings revealed the mode. But when revealed its value was soon recognized, and no one seems to have doubted that the resulting manufacture was a new and most valuable invention. The eminent dentists and experts examined in this case uniformly speak of it as such.”)

Loom Co. v. Higgins, 105 U.S. 580, 591 (1881) (reversing invalidity judgment) (“It is further argued ... that the combination set forth in the fifth claim is a mere aggregation of old devices, already well known; and therefore it is not patentable. This argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed, one which would occur to any mechanic skilled in the art. But it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skilful persons. It may have been under their very

eyes, they may almost be said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice.”)

Washburn & Moen Mfg. v. Beat 'Em All Barbed-Wire Co., 143 U.S. 275, 282-283 (1892) (reversing invalidity judgment) (“Under such circumstances courts have not been reluctant to sustain a patent to the man who has taken the final step which has turned a failure into a success. In the law of patents it is the last step that wins. It may be strange that, considering the important results obtained by Kelly in his patent, it did not occur to him to substitute a coiled wire in place of the diamond-shaped prong; but evidently it did not; and to the man to whom it did, ought not to be denied the quality of inventor. There are many instances in the reported decisions of this court where a monopoly has been sustained in favor of the last of a series of inventors, all of whom were groping to attain a certain result, which only the last one of the number seemed able to grasp.”)

Gandy v. Main Belting Co., 143 U.S. 587, 593 (1892) (reversing invalidity judgment) (“In view of the fact that previous attempts, of which there appear to have been several, to make a practical canvas belt, had been failures, and that Gandy had been experimenting with the subject for several years before he discovered that a change was necessary in the structure of the canvas itself, we do not think his improvement is a change in degree only, or such a one as would have occurred to an ordinary mechanic, and our opinion is that it does involve an exercise of the inventive faculty.”)

C. & A. Potts & Co. v. Creager, 155 U.S. 597, 608 (1895) (reversing invalidity judgment) (“The apparent simplicity of a new device often leads an inexperienced person to think that it would have occurred to any one familiar with the subject; but the decisive answer is that, with dozens and perhaps hundreds of others laboring in the same field, it had never occurred to any one before.”)

Hobbs v. Beach, 180 U.S. 383, 392 (1901) (affirming nonobviousness judgment) (“It appears from the testimony that several of these addressing machines ... which are now claimed to have inspired the Beach patent, had been upon the market for many years, and yet it never seems to have occurred to any one engaged in the manufacture of paper boxes that they could be made available for the purpose of attaching strips to the corners of such boxes. This very fact is evidence that the man who discovered the possibility of their adaptation to this new use was gifted with the prescience of an inventor.”)

Expanded Metal Co. v. Bradford, 214 U.S. 366, 381 (1909) (rejecting nonobviousness challenges to the patent in suit) (“It is suggested that Golding’s improvement, while a step forward, is nevertheless only such as a mechanic skilled in the art, with the previous inventions before him, would readily take; and that the invention is devoid of patentable novelty. It is often difficult to determine whether a given improvement is a mere mechanical advance, or the result of the exercise of the creative faculty amounting to a meritorious invention. ... It may be safely said that if those skilled in the mechanical arts are working in a given field, and have failed, after repeated efforts, to discover a certain new and useful improvement, that he who first makes the discovery has done more than make the obvious improvement which would suggest itself to a mechanic skilled in the art, and is entitled to protection as an inventor.”)

Hildreth v. Mastoras, 257 U.S. 27, 34-35 (1921) (assessing pioneering status of claimed invention) (“The history of the art shows that Dickinson took the important but long delayed and therefore not obvious step from the pulling of candy by two hands guided by a human mind and will, to the performance of the same function by machine. The ultimate effect of this step with the mechanical or patentable improvements of his device was to make candy pulling more sanitary, to reduce its cost to one-tenth of what it had been before him, and to enlarge the field of the art. He was, therefore a pioneer.”)

Paramount Publix Corp. v. American Tri-Ergon Corp., 294 U.S. 464, 474 (1935) (reinstating trial court’s obviousness judgment) (“Evidence of great utility of a method or device, it is true, may in some circumstances be accepted as evidence of invention. Where the method or device satisfies an old and recognized want, invention is to be inferred, rather than the exercise of mechanical skill. For mere skill of the art would normally have been called into action by the generally known want. [¶] But the state of the motion picture art, as it is disclosed by the present record, indicates that there was no generally recognized demand for any type of film record, for the reproduction of sound to accompany motion pictures, until after the present patent was applied for.”)

Altoona Publix Theatres v. American Tri-Ergon Corp., 294 U.S. 477, 488 (1935) (reversing nonobviousness judgment) (“[T]he record fails to show that there was any long felt or generally recognized want in the motion picture industry for the device defined by the flywheel claims, or that the use of sound motion pictures was delayed by the inability of those skilled in the art to add a flywheel to the apparatus in order to give the desired uniformity of motion to linear phonograms. ... When the need arose for a mechanism suitable to move film

records with such speed constancy as to reproduce the sound successfully, it was forthcoming. Only the skill of the art was required to adapt the flywheel device to familiar types of mechanism to secure the desired result.”)

Goodyear Tire & Rubber Co. v. Ray-O-Vac Co., 321 U.S. 275, 279 (1944) (affirming nonobviousness judgment) (“During a period of half a century, in which the use of flash light batteries increased enormously, and the manufacturers of flash light cells were conscious of the defects in them, no one devised a method of curing such defects. Once the method was discovered it commended itself to the public as evidenced by marked commercial success. These factors were entitled to weight in determining whether the improvement amounted to invention and should, in a close case, tip the scales in favor of patentability.”)

Universal Oil Prods. Co. v. Globe Oil & Refining Co., 322 U.S. 471, 486-87 (1944) (affirming trial court’s obviousness judgment) (“Retrospective simplicity is often a misleading test of invention where it appears that the patentee’s conception in fact solved a recognized problem that had baffled the contemporary art; but in this case Egloff advanced his improvement shortly after Dubbs disclosed the underlying process and before Dubbs’ system had had wide commercial use; hence contemporary workers had no occasion to deal with whatever engineering problems might have been involved. We have, therefore, a conception which is on its face too obvious to constitute patentable invention, and which was advanced shortly after any need of it arose. We think the district court was right in finding the Egloff patent invalid.”)

Circuit Court Cases

Pre-§103

2d Circuit

Opinions by Judge Learned Hand

Auto Pneumatic Action Co. v. Kindler & Collins, 247 F. 323, 327-28 (2d Cir. 1917) (L. Hand, J.) (affirming nonobviousness judgment) (“As is common in such cases, the final solution appears to be very close to several of the earlier answers; but we think that the long interval during which the need existed, and the success which the final step at once secured, justifies us in refusing to substitute our own ideas of a prior obviousness. We are well aware of the risk of assuming that the mere success of an invention determines its patentability; but, when it follows a long history of failure, we think it puts upon one who challenges its originality a duty of showing that the success arose from advertising, exploitation, or the removal of external commercial conditions, which had nothing to do with the difficulties of inven-

tion.”)

Kirsch Mfg. v. Gould Mersereau Co., 6 F.2d 793, 794 (2d Cir. 1925) (L. Hand, J.) (affirming obviousness judgment) (“An invention is a new display of ingenuity beyond the compass of the routinier, and in the end that is all that can be said about it. Courts cannot avoid the duty of divining as best they can what the day to day capacity of the ordinary artisan will produce. This they attempt by looking at the history of the art, the occasion for the invention, its success, its independent repetition at about the same time, and the state of the underlying art, which was a condition upon its appearance at all. Yet, when all is said, there will remain cases when we can only fall back upon such good sense as we may have, and in these we cannot help exposing the inventor to the hazard inherent in hypostatizing such modifications in the existing arts as are within the limited imagination of the journeyman. There comes a point when the question must be resolved by a subjective opinion as to what seems an easy step and what does not. We must try to correct our standard by such objective references as we can, but in the end the judgment will appear, and no doubt be, to a large extent personal, and in that sense arbitrary.”)

H.C. White Co. v. E. Converse & Son Co., 20 F.2d 311, 313 (2d Cir. 1927) (L. Hand, J.) (reversing obviousness judgment) (“Children have not changed, and would have liked as well to push about astride a little tricycle 200 years ago as today. The means have been also always at hand. The end and the means having therefore been for long available, this inventor merely thought to unite them by a fortunate insight which had theretofore escaped the imagination of others. We see in this an invention just because, being so simple, it had not occurred to any one before. The fact that the changes were so slight is quite irrelevant, so long as they were essential to the purpose, as they were.”)

Dubilier Condenser Corp. v. New York Coil Co., 20 F.2d 723, 724-25 (2d Cir. 1927) (L. Hand, J.) (reversing anticipation judgment and remanding for trial) (“In all inventions the safest test is the condition of the art before and after the putative invention appears. At least that is an immeasurably safer test, when available, than any a priori conclusions as to what is or is not an obvious step. To the last we should not resort, except in cases of absolute necessity.”)

E.I. du Pont De Nemours & Co. v. Glidden Co., 67 F.2d 392, 397 (2d Cir. 1933) (L. Hand, J.) (reversing obviousness judgment) (“If Flaherty did no more than disabuse the art of a misconception, it is evidence of originality; most of us persist in what we are accustomed to be-

lieve. Though all he did was to carry forward the existing knowledge that lower viscosity would result in greater coverage, other competent persons had tried to use that knowledge; the stimulus to success was great, and the art had been either strangely inert, if the combination was obvious, or else obsessed with a belief that low viscosity was impracticable. The result was a new and unexpected product, recognized as such, and used to much advantage. We know of no rigid doctrine, divorced from those practical considerations which rightly or wrongly are basic in the patent law, that forbids to such an advance the name of invention.”)

Hookless Fastener Co. v. G.E. Prentice Mfg., 68 F.2d 940, 941 (2d Cir. 1934) (affirming nonobviousness judgment) (“In all such cases where the mere idea of combining old elements is the whole of the invention, we have often said that we look rather to the history of the art than to our own divinations of what was easy and apparent. That it was desirable and desired to lock these fasteners appears from Aronson alone. It was not indeed much of a ‘problem,’ but it had been tried, and it was not satisfactorily answered for eleven years. Perhaps during that time such locks were not in much demand; we cannot say; they were certainly in some demand. Perhaps the success of the cam fastener is due only to its reversible action, which is attributable to the defendant’s own lock; again we cannot say; it seems most unlikely. But it does appear that from Whitney dates the most feasible means of doing what people had been trying to do for some time. That seems to us enough to answer any doubts we might otherwise have.”)

Ruben Condenser Co. v. Aerovox Corp., 77 F.2d 266, 268 (2d Cir. 1935) (L. Hand, J.) (reversing judgment of nonobviousness) (“While it is always the safest course to test a putative invention by what went before and what came after, it is easy to be misled. Nothing is less reliable than uncritically to accept its welcome by the art, even though it displace what went before. If the machine or composition appears shortly after some obstacle to its creation, technical or economic, has been removed, we should scrutinize its success jealously; if at about the same time others begin the same experiments in the same or nearby fields, or if these come to fruition soon after the patentee’s, the same is true. Such a race does not indicate invention. We should ask how old was the need; for how long could known materials and processes have filled it; how long others had unsuccessfully tried for an answer. If these conditions are fulfilled, success is a reliable touchstone; but success in the circumstances at bar proves nothing. The patent is invalid.”)

Buono v. Yankee Maid Dress Corp., 77 F.2d 274, 276 (2d Cir. 1935) (L. Hand, J.) (affirming nonobviousness judgment) (“The result when it came was greatly to increase production

over that of the Lewis machine, doubling it, as we have said. It does not seem to us that we can properly say that such a change was a mere routine development of skilled workmen. There had always been a substantial prize for him who could so much speed up the work and the art had not called out the winner for a generation, though many were at work on the blind-stitch machines, and skip-stitching had been a desideratum.”)

Hazeltine Corp. v. Abrams, 79 F.2d 329, 332 (2d Cir. 1935) (L. Hand, J.) (affirming invalidity judgment) (“[W]e may concede that when an invention would have been welcome for a long time after all obstacles to its appearance had been satisfied, or that when the period is short, if a number of others have tried and failed, it makes more probable the conclusion that the change demanded more than common ability. But neither alternative is true here. Wheeler stands upon Affel; and he cannot point to a number of later efforts, or to the lapse of much time before his own work.”)

Textile Machine Works v. Louis Hirsch Textile Machines, Inc., 87 F.2d 702, 704 (2d Cir. 1937) (L. Hand, J.) (reversing nonobviousness judgment) (“The plaintiff does not indeed rest so much upon these structural differences as upon the conceptual novelty of the combination, confirmed by a great vogue once it appeared. ... Its argument follows familiar lines. If it was so easy to combine the earlier elements, why did the art wait so long? The need was not new; no technical obstacles had stood in the way; success was sure to bring substantial gains. The combination should have appeared much earlier, if it lay open to ordinary talent. We have ourselves often reasoned so, for the history of an art before and after the putative invention appears, is the best test when it is available. But it is a dangerous test to apply, and will lead one astray unless jealously watched. Here for example there were only five years at most between the appearance of Nusbaum and Schletter’s filing date; that is not a long period, and there is no evidence that people had meanwhile turned their minds to the matter, such as is found at times in intervening unsuccessful patents.”)

Nagy v. L. Mundet & Son, Inc., 101 F.2d 82, 82-83 (2d Cir. 1939) (L. Hand, J.) (affirming obviousness judgment) (“It is not safe to assume, because a single manufacturer for a few years has not discovered an improvement, that it was beyond the powers of rather commonplace talent; like most people he may have been content to let things stand, if his business was otherwise satisfactory; and that may be true, even when he accepts the change after it is brought to his notice. The case is much stronger for an invention when it appears at the end of a period of active competition among several manufacturers; though even then four years is not a very long time upon which to base any inference. In the case at bar we have

no account of the art as a whole which tells us under what conditions McManus worked, or what was the pressure of competition upon him to cut down his wage account. But we are entitled to assume that, if once it occurred to him, or anyone else who used his machine, that it was important to get rid of the girl at the inspection belt, it could not have taken much inventiveness to do so by bringing the belt within the observation of the operative who tended the assembly wheel. Left as we are to speculation, we agree with the judge that the advance does not justify a monopoly.”)

United States Hat Machinery Corp. v. Boesch Mfg., 108 F.2d 417, 419 (2d Cir. 1939) (L. Hand, J.) (reversing invalidity judgment) (“[T]he patent in suit has the conventional earmarks of validity. The art had gone for many years without automatic ‘crozing,’ during all of which the need for it had existed; there had been at least one effort which was of another type and did not—then at any rate—go into use; the invention, when made, was a successful answer and has been widely used.”)

Condenser Corp. v. Micamold Radio Corp., 145 F.2d 878, 879 (2d Cir. 1944) (reversing nonobviousness judgment) (“It is true that we have again and again said that in deciding the issue of invention we would look to the history of the art, and we understand that the Supreme Court still countenances that approach; but it can lead one astray unless it is carefully hedged about. The lapse of time between one invention and another of itself tells very little. The patent law assumes that whatever is disclosed in public records, here or in other countries, must be taken as part of the inheritance of the art, regardless of the art’s actual acquaintance with it: i.e., regardless of whether it ever went into use, or in fact enriched the common store; indeed, were it not so, patent monopolies would scarcely be tolerated at all. But, since that is the law, lapse of time alone is no test of the difficulty of taking a last step, until it appears that the art in fact knew the earlier steps, already taken. The delay may have been due to the difficulty of taking these, and whatever the benefit which the inventor who takes a last step has in fact conferred, he will be credited only with the ingenuity necessary to pass beyond the earlier, though unknown, ones. In the case at bar, it does not appear that the Siemens disclosure was ever exploited, or became known to the art in any other way; and it would be a gratuitous assumption that manufacturers, having learned from Siemens how to make condensers automatically, and how to secure an overlap of the paper strips at the ends by manually cutting the foil earlier than the paper, had been obliged to wait twenty years for the notion alone that it would be desirable to gear the cutter in phase with the ‘arbor.’”)

Western States Mach. Co. v. S.S. Hepworth Co., 147 F.2d 345, 347 (2d Cir. 1945) (L. Hand, J.) (“As we have often repeated, in judging what requires uncommon ingenuity, the best standard is what common ingenuity has failed for long to contrive under the same incentive.”)

Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937, 939 (2d Cir. 1946) (L. Hand, J.) (affirming obviousness judgment) (“In appraising an inventor’s contribution to the art, as we have often said, the most reliable test is to look at the situation before and after it appears. ... Courts, made up of laymen as they must be, are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar; and, so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention. Among these will figure the length of time the art, though needing the invention, went without it: the number of those who sought to meet the need, and the period over which their efforts were spread: how many, if any, came upon it at about the same time, whether before or after: and—perhaps most important of all—the extent to which it superseded what had gone before. We have repeatedly declared that in our judgment this approach is more reliable than prior conclusions drawn from vaporous, and almost inevitably self-dependent, general propositions.”)

Clark v. Wright Aeronautical Corp., 162 F.2d 960, 966 (2d Cir. 1947) (L. Hand, J.) (affirming obviousness judgment) (“In dealing with the issue of invention, we have tried, so far as possible, to rely upon objective factors in preference to our a priori judgment, drawn from what seems to our untutored experience to be within the range of a person skilled in the art. Instead of trying ourselves to mirror his capacities, we look to the length of time during which the incentive existed to contrive the invention, to the number of unsuccessful efforts that were made in that period, to the density—so to speak—of those efforts at about the time when the invention was made, to whether success came independently to several inventors at about the same time, and to the extent to which after the invention appeared, it supplanted what had gone before. These usually are hard questions to answer; but when they can be answered, they form a substantial basis for inference. The test is always whether exceptional ingenuity was necessary to make the new combination out of the old elements; and the rationale is that what has for long escaped the quest of competent experimenters in the field, spurred on by hope of gain, and has been able to push out earlier contrivances, demanded talent out of the common. Even though in the case at bar we were to concede that the finally successful damper did contain those elements which Sarazin first brought

together, it would not follow that he deserved a patent, for he coupled them with another element which undid their combined value. Nobody can say that, if the art had realized that friction must be ruthlessly outlawed, it would have taken unusual powers to make Chenard, for example, into an effective damper; certainly it was far nearer to Chilton structurally than either of the patents in suit. It is true that courts have repeatedly said that success is not a reliable test of invention, and nothing can be truer, when taken without scrutiny and out of its setting; but failure is an almost infallible test of non-invention, and for all practical purposes Sarazin's disclosures were failures, and indeed confessed failures." (footnote omitted)

Landis Mach. Co. v. Parker-Kalon Corp., 190 F.2d 543, 546 (2d Cir. 1951) (L. Hand, J.) (reversing nonobviousness judgment) ("The issue is always how far beyond commonplace contriving was the foresight necessary to think out the combination. Usually, though not always, it is practically impossible to decide that issue by a mere inspection of the patented disclosure against the background of the prior art. Moreover, it scarcely needs more than the statement of the question to disclose the fatuity of asking judges, undisciplined in the craft and untutored in its inarticulate presuppositions, to say how far the innovation is beyond the powers of merely competent craftsmen. For that reason we have over and over again resorted to the history of what went before, the duration of the period during which the invention was needed but failed to appear and its acceptance when it did. These circumstances have seemed to us, not indeed an absolute determinant of invention, for there is none; but at least the best, and indeed almost always the only, rational approach to a solution.")

2d Cir. Opinions not by Judge Learned Hand

Singer Mfg. v. Schenck, 77 F. 841, 844 (2d Cir. 1897) (affirming nonobviousness judgment) ("In view of the prior state of the art thus exhibited, it seems now to have been a very simple thing to do what was done by the patentees. ... But the record in this case affords extrinsic evidence of a most convincing kind that what was done by the patentees was not an obvious thing, and that the change of organization was not one which the skilled mechanics of the particular art could have suggested and introduced without the exercise of inventive faculty. This evidence is supplied, not only by the many patents for improvements, which fell short of producing the simple, compact, less expensive, and more efficient bearings of the patent, but by the sterility, during 20 years, of the great army of mechanics employed by the various sewing-machine manufacturers. The complainant itself, from 1865 to 1879, used the overhung stud, and for several years of that period its machines contained cross braces

readily adaptable to the office of the patented brace. It employed a vast number of skilled workmen. Yet to none of them did the suggestion occur which is embodied in the new organization of the patentees. The simple change made by the patentees has proved so valuable that the complainant has adopted it. No one can examine the bearings of the patent, even cursorily, and compare them with those previously in use, without recognizing the meritorious improvements which they embody. We agree with the court below that these improvements were invention, and not merely the exercise of mechanical skill and adaptation.”)

Brunswick-Balke-Collender Co. v. Thum, 111 F. 904, 905-06 (2d Cir. 1901) (reversing invalidity judgment) (“But in this case, as in the *Singer* Case, the evidence shows conclusively, and, indeed, without contradiction, that this very demand for an arrester of the returning [bowling] ball was before skilled mechanics for many years, and yet no one before Reisky hit upon the device which now seems so obvious. The defects of the old system were serious. ... The evidence shows that this condition of affairs had lasted for a long time; the old style of runway persisted for 40 years. During this period there was a constant demand for an improvement which would remedy the difficulty, and to that demand the skilled mechanics who put up bowling alleys responded. Various devices were contrived So many of these devices are shown that it is apparent that the skilled mechanics were for years trying to find some way properly to retard the ball, and the proof conclusively shows that all of them were unsatisfactory. Not one of them secured retardation by a change of grade of the trough itself, until the patentee disclosed his simple method, which has so commended itself that now, within three years after the issuance of the patent, 90 per cent. of the existing bowling alleys have the new style, or Reisky, returnways. In the face of this evidence, we cannot hold that his improvement is devoid of patentable invention.”)

George Frost Co. v. Cohn, 119 F. 505, 507-08 (2d Cir. 1902) (affirming nonobviousness judgment) (“That its selection was not an obvious thing is persuasively and cogently shown by the fact that during many years numerous inventors were trying to remedy the defects in the old device, and it did not occur to them how simply and satisfactorily this could be done by making the button of rubber or some other elastic or yielding material. Its employment in the device of the patent was a new use, and imparted to the device a remarkable efficiency, as compared with that of the best type of former devices. ... Whether the feature of novelty is the employment of a new material, or a change of adaptation in other respects, the inquiry always is whether what was done involved the exercise of inventive faculty as distinguished from the ordinary skill of the calling. When the substitution has accomplished a

result which those skilled in the art had long and vainly sought to effect, the evidence that it involved something beyond the skill of the calling is so persuasive that it generally resolves the inquiry in favor of patentable novelty.”)

American Graphophone Co. v. Universal Talking Mach. Mfg., 151 F. 595, 598-99 (2d Cir. 1907) (reversing obviousness judgment) (“[W]e conclude, in the light of the prior art, that the changes from Young to Jones involved invention, because, inter alia, Jones was practical, Young was impractical; Young was before the public for six years before any ‘skilled artisan’ succeeded ‘in adjusting the various elements so that a flat sound record of the type in question could be produced,’ and no one prior to Jones saw that it could be adapted to a practical disk record with lateral undulations; there were inherent objections to the practical production of varying depth records, which Jones found did not exist when the known or suggested processes were applied to laterally undulating grooves of even depth.”)

General Elec. Co. v. Paramet Chem. Co., 82 F.2d 280, 282 (2d Cir. 1936) (affirming obviousness judgment) (“Changed conditions in the varnish and paint trade did awaken a new interest in the alkyd resins as film forming materials. It is shown by these contemporaneous responses to a need that any skilled chemist, familiar with the natural-resin drying-oil blends of varnish, would have no difficulty when commercial operations called therefor, in ascertaining that synthetic resin could be combined with the ordinary drying oils to form the equivalent of the old combinations. It was not this patentee who turned the art to the use of an air drying glycerol phthalate resin.”)

Electric Machinery Mfg. v. General Elec. Co., 88 F.2d 11, 14-15 (2d Cir. 1937) (affirming nonobviousness judgment) (“Several practically undisputed facts cannot be ignored in arriving at a just conclusion as to whether what Hibbard did was invention. They are that before Hibbard’s disclosure the industry was waiting for a reliable automatic system of control which would make the advantages of synchronous motors available in a wide field to which they could not be adapted while needing such skilled manual control as has been alluded to; and that when Hibbard did provide the needed automatic control it was seized upon eagerly and went into widespread use. No doubt there were other contributing causes for the increased use of such motors, but fairness must compel them to take second place and give the lion’s share of the credit for the opening up of new fields of synchronous motor use, which such motors quickly occupied, to the automatic control system that did away with difficult and delicate manual operation of switches. Such results under such circumstances are indicative of invention.”)

Minton Mfg. v. Continental Briar Pipe Co., 93 F.2d 271, 272 (2d Cir. 1937) (reversing nonobviousness judgment) (“No doubt it is an improvement over Demuth’s paper-wrapped cartridge, but it is an improvement which was obvious as soon as moisture proof and transparent cellulosic material became available. Cellophane was the first material of this character and Minton recognized its utility for his purpose at once. Moisture proof cellophane was introduced by the DuPont Company about 1931 and was widely advertised for wrapping purposes, although not for the specific purpose of pipe cartridges. Within a year Minton applied for his patent. Thus the case presents the not infrequent situation where very shortly after there appeared an independently developed new material which would meet an old need, it was applied to that need. The defects in the Demuth cartridge were obvious—swelling with moisture, it had a tendency to clog and foul the pipe—and it was equally obvious that if one could find a suitable moisture proof wrapper these defects would be overcome. When such a substance did appear, we cannot think that it took inspiration ranking as invention to select it for this purpose.”)

Other Circuits

Davis v. Parkman, 71 F. 961, 964 (1st Cir. 1895) (affirming validity judgment) (“In view of the fact that the turning up or curving of footrests, and of the like parts of the most common things, is so universal in all the ordinary departments of life, it seems hardly conceivable that there is anything in the application of it to a row-boat which could make it patentable. Yet there are the facts that various crude and unsatisfactory expedients had been used by many persons for the purpose of accomplishing what Davis accomplished by the simple expedient of turning up the footboard, that this occurred to none of them, and that after it had been suggested by him it came into general use.”)

Trane Co. v. Nash Eng’g Co., 25 F.2d 267 (1st Cir. 1928) (affirming nonobviousness judgment) (citations omitted) (“This is strong evidence, from market overt, of the value of this combination; it met a long-felt want. As pointed out by Judge Morton, the defendant and its predecessors had long been in the heating business and none of their engineers had ever solved the problem. Jennings substantially changed the art of vacuum steam heating.”)

Lincoln Stores, Inc. v. Nashua Mfg., 157 F.2d 154, 163 (1st Cir. 1946) (affirming nonobviousness judgment) (“The defendant charges that Amory’s combination was simple, obvious to anyone skilled in the art. That on retrospect the device appears simple or obvious does not necessarily establish a lack of invention. It is indeed significant in this respect that the

workers in the art had labored long and extensively to produce the blanket first produced by Amory.”) (citation omitted)

American Caramel Co. v. Thomas Mills & Bro., 149 F. 743, 746 (3d Cir. 1906) (reversing obviousness judgment) (“At least three different and distinct attempts, by as many parties, were made, as we have seen, to produce a candy-cutting machine of this character, none of which was altogether satisfactory; one, however, being regarded as of sufficient merit to receive a patent. On account of the imperfect work turned out by the best of them, Hershey set about to see whether he could not get up something which would answer. To this end he conducted extended experiments, with not a little outlay of money, before he got what he thought would do, the result of which was a marked success; the production of the factory being increased from three to five fold, and considerable labor at the same time dispensed with.”)

Elliott & Co. v. Youngstown Car Mfg., 181 F. 345, 349 (3d Cir. 1910) (reversing nonobviousness judgment) (“The fact that so many persons caught the idea goes rather to prove that it was simple and obvious, and not that it required inventive genius to conceive. It is not like the case where the art is waiting for the device, and inventors striving unsuccessfully to produce it, under which circumstances invention may well be held to appear.”)

Yablick v. Protecto Safety Appliance Corp., 21 F.2d 885, 886- (3d Cir. 1927) (reversing obviousness judgment) (“The record shows that no one, prior to the invention of the patentees, commercially and successfully used in a gas mask canister an absorbent for ammonia except an acid which by chemical union with the ammonia would hold it as a fixed salt. Sulphuric acid was generally used as an absorbent prior to the discovery of the patentees. Not a prior patent or publication has been cited that discloses the use of copper sulphate as an absorbent of ammonia gas was used in a canister as a constituent and important part of a gas mask. Sulphuric acid for some time prior to the patent was used on pumice in gas masks, but the acids combined with the metal of the canister and the reaction heated the air and produced fumes which were injurious to the wearer of the mask. ... Did the solution rise to invention or was it merely the result which any one skilled in the art would have reached? That of the scores of experts in the army, who were skilled in the art, and who were trying to solve this problem, the patentees alone did it, is a persuasive answer.”)

Farmers' Mfg. v. Spruks Mfg., 127 F. 691, 694 (4th Cir. 1904) (reversing obviousness judgment) (“The need of a ventilated barrel for the shipment of vegetables had been greatly felt

along the whole South Atlantic Coast by those engaged in truck farming, and, previous to East's invention, secondhand flour barrels, with holes chopped by hand, were commonly used for this purpose. These were found to be inconvenient, expensive, and sometimes unsanitary[.] ... It is difficult to draw the line between mechanical skill and patentable invention, and now that East has succeeded in producing a barrel of great commercial use, out of simple and inexpensive material, by what seems to be but a trivial modification of previously known devices, it is easy to say that any mechanic skilled in the art, having before him the previous invention of Roberts, could readily have accomplished the same object by ordinary mechanical skill, but the fact remains that, notwithstanding the great demand and imperative need of the very thing that East produced, no other mechanic or barrel maker had ever produced such a barrel previous to East's patent. Simple as the device is, others failed to see it, or to estimate its value, or to bring it to the public notice.”)

United States Industrial Chem. Co. v. Theroz Co., 25 F.2d 387, 390-91 (4th Cir. 1928) (affirming nonobviousness judgment) (“It is said the injection of the water in the manner prescribed by the Schaub patents, or as is done by defendants, is an obvious and simple matter, and does not entitle Schaub to a patent. It may appear obvious and simple now that Schaub has taught the world how to do it; but the question is, Was it simple or obvious before it was done? Thousands of dollars had been spent and countless experiments had been performed in fruitless endeavors to accomplish the result which Schaub accomplished; and if the method which he adopted was simple and obvious, it seems that the defendants would have adopted it, instead of continuing to manufacture the admittedly inferior soap product, and instead of buying a patent involving the use of the dangerous and expensive ether-evaporation process. The answer, of course, is that the process of the Schaub patents was not obvious[.]”)

Frick Co. v. Lindsay, 27 F.2d 59, 61 (4th Cir. 1928) (reversing noninfringement judgment) (“Although the construction of this device seems not to have involved any high order of invention, we think that the patent granted therefor is valid. The patentee undoubtedly solved a troublesome problem connected with the manufacture of ice; and, although the device appears very simple, now that former difficulties have been analyzed and a means devised for solving them, we must not lose sight of the fact that it not only involved change, but also met a real need, as is attested by its extensive use and commercial success.”)

Remington Rand Business Serv. v. Acme Card Sys., 71 F.2d 628, 632 (4th Cir. 1934) (affirming nonobviousness judgment) (“This history is persuasive, for Rand, who is well described

as a 'man skilled in the art,' failed to obtain the excellent results which Powell achieved. We have no difficulty in approving the conclusion of the District Judge that Powell's discovery amounted to invention. The decisions of the Supreme Court and of the several circuits are replete with illustrations of similar situations in which it has been held that one who in the practical application of an art has found that which eluded the search of other skilled men is entitled to the grant of a patent.")

Watson v. Heil, 192 F.2d 982, 985 (4th Cir. 1951) (reversing invalidity judgment) ("When it is shown that a mechanical problem has persisted for some time, and men of ordinary skill in the art have failed to meet it when it is to their interest to do so, there is at least some ground for the conclusion that it was beyond their capacity. Such a circumstance has not infrequently been held sufficient to carry a discovery across the inventive line.")

Alis-Chalmers Mfg. v. Columbus Elec. & Power Co., 19 F.2d 860, 863 (5th Cir. 1927) (reversing noninfringement judgment) ("For several years before the patent in suit was applied for the disadvantages of using the old types of casing in the increasingly large constructions called for in the rapid development of water powers were apparent; but those engaged in the development continued to use the old smooth-surface casings until the patented type of casing was disclosed and by use was proved to be efficient and economical. ... The patented type of casing was accepted and adopted extensively for water power installations of such magnitude and importance that it fairly may be inferred that the selection of the casing to be used was generally made by persons fully competent to select casings on their merits; and it also may be inferred that one or more of the many skilled persons engaged in the work of water power development would have brought about the use of a casing similar to the patented one before the patent was applied for, if either the familiar stovepipe elbow or the curved part of a penstock was enough to suggest to a mechanic of ordinary intelligence the feasibility and advantages of such a change from the types of casing formerly in use as was disclosed by the patent.")

Mantle Lamp Co. v. George H. Bowman Co., 53 F.2d 441, 444 (6th Cir. 1931) (reversing obviousness judgment) ("We thus find that in accomplishing this combination of old elements to make a new market article, there had been not only the delay of thirty or more years since the old patents now said sufficiently to teach the combination (though during most of this period there was no foreseen public demand for a thing of this kind), but there had been, after the demand was known, two or three years of effort by Blair's competitors to satisfy it by using their best skill in various combinations other than his, and we see that

eventually one of them dropped out and the other two were compelled to use Blair's system of bond support for the pendent inner container. Seldom is there a record of failure by other things and success by the patented means, more helpful than this is, upon the issue of invention.")

Trabon Eng'g Corp. v. Dirkes, 136 F.2d 24, 27 (6th Cir. 1943) (reversing invalidity judgment) ("The problem involved in lubricating many bearings from a single source of oil pressure was long recognized. It is clear upon the record that Vincent and others had addressed themselves to its solution. They failed to impress the industry. The invention here considered has produced a practical device for accomplishing a long desired purpose. Its commercial success, while not as dramatic as more revolutionary inventions, quite sufficiently points to public recognition and substantial advancement of the lubrication art.")

Peerless Equip. Co. v. W.H. Miner, Inc., 93 F.2d 98, 104 (7th Cir. 1937) (affirming nonobviousness judgment) ("Whatever may be said as to the ability of those skilled in the art to readily grasp Johnson's concept from past disclosures in any art, the fact remains that after many years of experimentation no one suggested it prior to Johnson's disclosure in the draft gear field. It comes to us with the approval of the Patent Office, with the presumption of validity which that approval bears. This conclusion is supported by the findings and conclusions of the District Court, together with a commercial success which can not be ignored. Of course, commercial success alone will not sustain a patent, but in this case it does not stand alone as proof of validity.")

Hughes Tool Co. v. International Supply Co., 47 F.2d 490, 492 (10th Cir. 1931) (reversing invalidity judgment) ("The unit construction of the parts saved to drillers much valuable time and consequent financial loss. For years the need of the improvement was a problem for study in appellant's factory, and skilled mechanics long failed to reach a solution; but it was finally solved by Godbold and Fletcher. The new cutters have been well patronized and they substantially increased the sales of plaintiff.")

Steiner Sales Co. v. Schwartz Sales Co., 98 F.2d 999, 1003 (10th Cir. 1938) (reversing obviousness judgment) ("[O]thers skilled and working in the art at the same time as G.A. Steiner failed to conceive the means adopted by him to protect the clean from the soiled toweling. The fact that others skilled in the art in quest for a solution of the problem failed and that G.A. Steiner first conceived the combination of elements, arrangement and mode of operation embodied in the patent in suit is persuasive evidence that he exercised inventive genius

and not mere mechanical skill.”)

In re Fawick, 56 F.2d 873, 874 (CCPA 1932) (reversing obviousness rejection) (“At the time appellant filed his original application, February, 1923, the automotive industry was comparatively young, and it is not far-fetched to say that intensive effort was being made at that time, and prior thereto, to improve the mechanical features of motor vehicles, including transmissions. The desirability of the results accomplished by appellant—a quiet running drive, and the elimination of noise and wear without the loss of power—must, necessarily, have been present in the minds of those skilled in that particular art. Nevertheless, four years elapsed after the issuance of the patents of record before any one thought of solving the problem by constructing the transmission defined in the appealed claims. It would seem, therefore, that if appellant’s combination was obvious to those of ordinary mechanical skill, it would have occurred to someone at an earlier date.”)

Wach v. Coe, 77 F.2d 113, 114-16 (D.C. Ct. App. 1935) (reversing obviousness rejection) (“It thus appears that the best marine engineers in the world, with unlimited means at their command, failed to solve the problem, the solution of which the tribunals of the Patent Office and the court below have ruled to be obvious to any one skilled in the art. ... For almost 25 years, as we have seen, patents have been granted in this art on devices that proved to be practically worthless, and yet appellant has been refused a patent on his successful device because the Patent Office has found that, by taking this and that from the unsuccessful patents, the result achieved by appellant could have been accomplished. ... What has been ruled to be obvious was not obvious to the highly skilled marine engineers who attempted to solve the problem. Appellant succeeded where they failed, and his success in the circumstances should be recognized by the granting of a patent.”)

Carbide & Carbon Chems. Corp. v. Coe, 102 F.2d 236, 241 (D.C. Ct. App. 1938) (reversing obviousness rejection) (“Since a vinyl resin film had never, prior to Frazier, been successfully used against metal [to make a food wrapper] except when prepared in the presence of a poison, tetraethyl lead, as a catalyst, it at least cannot be said to the clear that Frazier’s substitution was obvious. And if obviousness is doubtful, the doubt may be resolved by the satisfaction of a need which the art, long knowing, has failed to satisfy.”)

Thornton v. Coe, 102 F.2d 247, 252 (D.C. Ct. App. 1938) (reversing obviousness rejection) (“It appears that the problem of spreading of the heads of warper beams confronted the textile industry for at least eight years after the issuance of the patent to Peterson, before

Thornton solved it with the adjustable disc; and it appears that Thornton's improvement was a distinct success. This is highly persuasive of invention.")

Levin v. Coe, 132 F.2d 589, 596 (D.C. Ct. App. 1942) (reversing obviousness rejection) ("[S]atisfaction by a method or device of an old and recognized want is highly persuasive of invention. The basis of that doctrine is that otherwise the mere skill of the art would normally have been called into action by the known want. The doctrine is authenticated by leading cases too numerous to mention.")

Pre-Graham

2d Circuit

Opinions by Judge Learned Hand

Lyon v. Bausch & Lomb Optical Co., 224 F.2d 530, 535 (2d Cir. 1955) (L. Hand, J.) (affirming nonobviousness judgment) ("The most competent workers in the field had at least ten years been seeking a hardy, tenacious coating to prevent reflection; there had been a number of attempts, none satisfactory; meanwhile nothing in the implementary arts had been lacking to put the advance into operation; when it appeared, it supplanted the existing practice and occupied substantially the whole field. We do not see how any combination of evidence could more completely demonstrate that, simple as it was, the change had not been 'obvious * * * to a person having ordinary skill in the art' - § 103.")

Reiner v. I. Leon Co., 285 F.2d 501, 503-04 (2d Cir. 1960) (L. Hand, J.) (reversing obviousness judgment) ("The test laid down [in § 103] is indeed misty enough. It directs us to surmise what was the range of ingenuity of a person 'having ordinary skill' in an 'art' with which we are totally unfamiliar; and we do not see how such a standard can be applied at all except by recourse to the earlier work in the art, and to the general history of the means available at the time. To judge on our own that this or that new assemblage of old factors was, or was not, 'obvious' is to substitute our ignorance for the acquaintance with the subject of those who were familiar with it. There are indeed some sign posts: e.g. how long did the need exist; how many tried to find the way; how long did the surrounding and accessory arts disclose the means; how immediately was the invention recognized as an answer by those who used the new variant? In the case at bar the answers to these questions all favor the conclusion that it demanded more intuition than was possessed by the 'ordinary' workers in the field. The needs were known, but the purpose to fulfill them with that minimum of material and labor disclosed in the patent had not appeared; and economy of production is as valid a basis for invention as foresight in the disclosure of new means. In the case at bar the

saving of material as compared to anything that had preceded, was very great indeed; the existing devices at once yielded to Reiner's disclosure; his was an answer to the 'long-felt want.'")

Norman v. Lawrence, 285 F.2d 505, 506 (2d Cir. 1960) (L. Hand, J.) (affirming nonobviousness judgment) ("In spite of the fact that this combination was of the simplest sort, made of two elements that had for many years been used in the industry, no one had thought of combining them. Hence it is argued, as it always is when an invention consists of a combination of old elements, that there can be no 'invention' in mere 'aggregation.' In the case at bar the judge has found that 'the commercial success was phenomenal, and again there is no reason to hold that this finding was 'clearly erroneous.' The appeal therefore presents the question that so often arises as to patents: what shall be the test or standard of invention? ... It is true that courts have again and again evinced repugnance to recognizing as patentable a trivial readjustment of existing elements into a new combination, apparently insisting that monopolies should be limited to new assemblages of old elements that are important and imposing. That disposition will no doubt continue; it is hard to attach value to a trifling modification of a gadget that has arisen on the surface of a stream of novelties because it has found immediate favor. We can only reply that, while the standard remains what it is, we can see no escape from measuring invention in cases where all the elements of the new combination had been long available, (1) by whether the need had long existed and been desired, and (2) whether, when it was eventually contrived, it was widely exploited as a substitute for what had gone before.")

Other Circuits

Bewal, Inc. v. Minnesota Mining & Mfg., 292 F.2d 159, 164-65 (10th Cir. 1961) (affirming nonobviousness judgment) ("While it is true that Jewett and Case brought together known processes which, viewed in retrospect, appeared to be very simple, yet the methods attempted in the prior art did not lead to a metal presensitized plate even though a need and a ready market therefor had long existed. It was not until after the plaintiff's plate had been marketed that the invention became obvious even to the leaders in the industry who had attempted to find an answer to the demands.")

McCullough Tool Co. v. Well Surveys, Inc., 343 F.2d 381, 399 (10th Cir. 1965) (affirming nonobviousness judgment) ("If those skilled in the art are working in a given field and have failed after repeated efforts to discover a particular new and useful improvement, the person who first makes the discovery does more than make the obvious improvement which would

suggest itself to a mechanic skilled in the art, and is entitled to protection as an inventor. ... The record indicates that numerous efforts were made to discover the new and useful improvement embodied in the Pringle Patent and that the Pringle device produced a log correlating porosity with depth which was far superior to any other on the market at that time. This result, we believe, constitutes more than the exercise of mere mechanical skill.”)

Post-Graham

2d Circuit

Timely Prods. Corp. v. Arron, 523 F.2d 288, 294 (2d Cir. 1975) (affirming obviousness judgment) (“We can conceive of no better way to determine whether an invention would have been obvious to persons of ordinary skill in the art at the time than to see what such persons actually did or failed to do when they were confronted with the problem in the course of their work. If the evidence shows that a number of skilled technicians actually attempted, over a substantial period, to solve the specific problem which the invention overcame and failed to do so, notwithstanding the availability of all the necessary materials, it is difficult to see how a court could conclude that the invention was ‘obvious’ to such persons at the time.”)

U.S. Philips Corp. v. National Micronetics Inc., 550 F.2d 716, 723 (2d Cir. 1977) (affirming nonobviousness judgment) (“The existence of an important problem in the art which has remained unsolved for a long period, despite continued efforts and a series of refinements of the art, until a new combination of concepts produces a solution, is evidence that the combination was not obvious.”)

Shackelton v. J. Kaufman Iron Works, Inc., 689 F.2d 334, 340-41 (2d Cir. 1982) (reversing obviousness rejection) (“Not only do we find the record to be barren of evidence that substantiates a claim that appellant’s combination is not patentable because of its obviousness, but other evidence—the longstanding need for an innovation like appellant’s invention, the attempt and failure of others to satisfy that need, and the outstanding commercial success of the device once marketed—strongly suggests that the combination created by Shackelton and his associates was not a combination obvious to others working in the same field. Each of these factors may guide a court to a finding of nonobviousness. ... It is plain that appellant’s device answered a long-felt need that others skilled in the art had failed to fulfill, and so it seems beyond question that appellant’s invention was not an obvious one.”)

Other Circuits

Reeves Instrument Corp. v. Beckman Instruments, Inc., 444 F.2d 263, 272 (9th Cir. 1971) (affirming nonobviousness judgment) (“Substantial efforts by others in the art which fail to accomplish the result achieved by the patented invention are persuasive indications of nonobviousness.”)

A.E. Staley Mfg. v. Harvest Brand, Inc., 452 F.2d 735, 737-38 (10th Cir. 1971) (reversing obviousness judgment) (“The trial court made detailed findings to the effect that each and all of the ingredients employed by Staley in its patented block were well known to a man of ordinary skill in the art. The Court did not, however, make any findings dictated by the great weight of the evidence in the record reflecting the failures and drawbacks of the prior art in accomplishing the novel result achieved through the Staley patent. ... Staley admits that all of the elements are old and known in the art. However, Staley argues that as it overcame all of the problems and went against the teachings of the prior art to develop the patented block, it qualifies for a patent. We agree.”)

In re Mahurkar Double Lumen Hemodialysis Catheter Patent Litigation, 831 F. Supp. 1354, 1378 (N.D. Ill. 1993) (Easterbrook, J., sitting by designation), *aff'd*, 71 F.3d 1573 (Fed. Cir. 1995): “The existence of an enduring, unmet need is strong evidence that the invention is novel, not obvious, and not anticipated. If people are clamoring for a solution, and the best minds do not find it for years, that is practical evidence—the kind that can't be bought from a hired expert, the kind that does not depend on fallible memories or doubtful inference—of the state of knowledge.”