

Denver Law Review

Volume 59
Issue 2 *Tenth Circuit Surveys*

Article 13

February 2021

Patents

Glenn Kirwan Beaton

Follow this and additional works at: <https://digitalcommons.du.edu/dlr>

Recommended Citation

Glenn Kirwan Beaton, Patents, 59 Denv. L.J. 359 (1982).

This Article is brought to you for free and open access by the Denver Law Review at Digital Commons @ DU. It has been accepted for inclusion in Denver Law Review by an authorized editor of Digital Commons @ DU. For more information, please contact jennifer.cox@du.edu, dig-commons@du.edu.

PATENTS

SYNERGISM: ONE YEAR LATER¹

INTRODUCTION

The federal courts of appeals still disagree on the standard to be applied in determining the nonobviousness² of combination patents. "Combination patents" is the term assigned to patented inventions that are combinations of previously known components. Non-combination patents are patented inventions that are entirely innovative. The question dividing the courts is whether the sum of the components in a combination patent must achieve a result which is variously described as "surprising,"³ "unusual,"⁴ or "greater than the sum of the several effects taken separately."⁵ This definition-defying result has come to be called "synergism."⁶

The Tenth Circuit Court of Appeals has vacillated on the synergism issue. For example, it required synergism in March 1979,⁷ and again in May 1978,⁸ but expressly rejected the synergism requirement in August 1979 in *Plastic Container Corp. v. Continental Plastics of Oklahoma, Inc.*⁹ Although it appeared that *Plastic Container* was the final word in the Tenth Circuit,¹⁰ the case merely prefaced the July 1980 opinion in *Norfin, Inc. v. IBM*,¹¹ which acknowledged the conflict among the three earlier cases but opted to "leave its resolution for a later day."¹²

The synergism conflict should be resolved soon and conclusively. Synergism should not be required in a combination patent for three reasons.

1. In last year's Tenth Circuit Survey, the synergism question was analyzed and the law of the several circuits surveyed in Note, *Synergism and Nonobviousness: The Tenth Circuit Enters the Fray*, 58 DEN. L.J. 465 (1981). This note is intended to update that note by surveying the synergism cases decided in the past year and adding the author's own reflections to the earlier exhaustive analysis.

2. The Patent Act of 1952 states:

A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103 (1976).

3. *Gettlemen Mfg., Inc. v. Lawn 'N' Sport Power Mower Sales & Serv.*, 517 F.2d 1194, 1199 (7th Cir. 1975).

4. *Huron Machine Prods., Inc. v. A. & E. Warbern, Inc.*, 615 F.2d 222 (5th Cir. 1980).

5. *St. Regis Paper Co. v. Bemis Co.*, 549 F.2d 833, 838 (7th Cir.), *cert. denied*, 434 U.S. 833 (1977) (quoting *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 61 (1969)).

6. The word "synergism" was coined in *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969). There it was defined as a combination of elements resulting in an effect "greater than the sum of the several effects taken separately." *Id.* at 61.

7. *Deere & Co. v. Hesston Corp.*, 593 F.2d 956 (10th Cir. 1979), *cert. denied*, 444 U.S. 838 (1980).

8. *True Temper Corp. v. CF&I Steel Corp.*, 601 F.2d 495 (10th Cir. 1979).

9. 607 F.2d 885 (10th Cir. 1979), *cert. denied*, 444 U.S. 1018 (1980).

10. See Note, *Synergism and Nonobviousness: The Tenth Circuit Enters the Fray*, 58 DEN. L.J. 465, 466 (1981).

11. 625 F.2d 357 (10th Cir. 1980).

12. *Id.* at 365.

First, synergism has no basis in the statutory language. Second, its application is completely subjective. Third, it is illogical to apply it to patents for mechanical inventions, which are by their nature combinations of previously known components, each performing its expected function. The genius of invention lies in the combination itself, not in persuading individual components to perform unusual stunts. This article will briefly discuss the nonobviousness standard and its relation to the synergism concept, and it will survey the synergism developments of the past year in all circuits.

I. THE NONOBVIOUSNESS STANDARD

After decades of increasing judicial hostility to patents¹³ and increasing inconsistency in the standard employed in measuring patentability, Congress enacted section 103 of the Patent Act of 1952,¹⁴ the nonobviousness test. An invention fails the nonobviousness test of patentability "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art"¹⁵

The Supreme Court, in the leading case of *Graham v. John Deere Co.*,¹⁶ interpreted section 103 to require three specific determinations: 1) the scope and content of the prior art; 2) the differences between the prior art and the claims at issue; and 3) the ability of those skilled in the art.¹⁷ These three factors determine whether the invention would have been obvious to one skilled in the art under section 103.

Prior to the enactment of section 103, courts required "invention"¹⁸—a rather nebulous concept—in addition to the then existing statutory requirements of novelty and usefulness. Judicial hostility to patents prior to *Graham* found expression in the ever-constricting concept of invention. Although *Graham* provided a systematic approach to the nonobviousness question, courts quickly split as to whether the *Graham* approach replaced, or merely supplemented, the invention standard.¹⁹ For non-combination patents, the *Graham* approach became the sole test of nonobviousness.²⁰ For combination patents, however, in addition to the *Graham* test, some courts embodied the old standard of "invention" in the new term "synergism."²¹

Those courts requiring synergism rely upon the Supreme Court opin-

13. See *Cuno Eng'r Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 91 (1941) (requiring a "flash of genius" for patentability). Later came *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147 (1950) (requiring that "the whole in some way exceeds the sum of its parts").

14. 35 U.S.C. § 103 (1976).

15. *Id.*

16. 383 U.S. 1 (1966).

17. *Id.* at 17.

18. See *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 266 (1850).

19. See generally Note, *After Black Rock: New Tests of Patentability—The Old Tests of Invention*, 39 GEO. WASH. L. REV. 123 (1970).

20. See, e.g., *Norwood v. Ehrenreich Photo-Optical Indus., Inc.*, 529 F.2d 3 (9th Cir. 1975); *Popiel Bros. v. Schick Elec., Inc.*, 494 F.2d 162 (7th Cir. 1974).

21. See, e.g., *ITT v. Raychem Corp.*, 538 F.2d 453 (1st Cir.), cert. denied, 429 U.S. 886 (1976); *Hewlett-Packard Co. v. Tell-Design, Inc.*, 460 F.2d 625 (9th Cir. 1972).

ions of *Anderson's-Black Rock Inc. v. Pavement Salvage Co.*²² and *Sakraida v. Ag Pro, Inc.*²³ Both cases suggested that combination patents should be scrutinized more carefully than non-combination patents.²⁴ Neither, however, held that synergism is required of combination patents.

II. REVIEW OF THE CIRCUITS: MORE CONFUSION

A. *The Tenth Circuit*

The Tenth Circuit Court of Appeals decided only four patent cases between June 1980 and May 1981.²⁵ In two of those cases, the court in dictum discussed the standard for combination patents. In *Escoa Fintube Corp. v. Tranter, Inc.*,²⁶ Judge Doyle, citing *Plastic Container Corp. v. Continental Plastics of Oklahoma, Inc.*,²⁷ stated that "[t]he issue is whether the subject matter as a whole, the particular use or result of the assembly of old elements, would have been obvious to one with ordinary skill in the art at the time the discovery was made."²⁸ The court rejected synergism and looked instead to the obviousness of the combination.

Judge Barrett, in the court's opinion in *Norfin, Inc. v. IBM*,²⁹ written two months before *Escoa*, regarded the synergism question as still unsettled in the Tenth Circuit despite the *Plastic Container* decision. He acknowledged a conflict between *Plastic Container* and the earlier cases requiring synergism but decided to "leave its resolution for a later day."³⁰ The court held that the patent was valid under either standard.

B. *Other Circuits*

Two recent cases, *ITT v. Raychem Corp.*³¹ and *Rosen v. Lawson-Hemphill, Inc.*,³² are inconclusive as to whether the First Circuit requires synergism. *ITT*, citing *Sakraida* and *Black Rock* for the position that a combination must result "in an effect greater than the sum of several effects taken separately,"³³ uses synergism terminology. But *Rosen*, decided only six months later, applied a strict *Graham* analysis without even mentioning *Black Rock*.³⁴ The First Circuit has not faced the synergism question since *Rosen*.

The Second Circuit, in an opinion by Judge Miller, sitting by designation from the Court of Customs and Patent Appeals, rejected synergism in

22. 396 U.S. 57 (1969).

23. 425 U.S. 273 (1976).

24. *Id.* at 281; 396 U.S. at 61-62.

25. *Central Soya Co., Inc. v. Geo. A. Hormel & Co.*, 645 F.2d 847 (10th Cir. 1981); *Ausherman v. Stump*, 643 F.2d 715 (10th Cir. 1981); *Escoa Fintube Corp. v. Tranter, Inc.*, 631 F.2d 682 (10th Cir. 1980); *Norfin, Inc. v. IBM*, 625 F.2d 357 (10th Cir. 1980).

26. 631 F.2d 682 (10th Cir. 1980).

27. 607 F.2d 885 (10th Cir. 1979), *cert. denied*, 444 U.S. 1018 (1980).

28. 631 F.2d at 696.

29. 625 F.2d 357 (10th Cir. 1980).

30. *Id.* at 365.

31. 538 F.2d 453 (1st Cir. 1976).

32. 549 F.2d 205 (1st Cir. 1976).

33. 538 F.2d at 457.

34. 549 F.2d at 209.

*Champion Spark Plug Co. v. Gyromat Corp.*³⁵ The district courts of the Second Circuit have not followed the *Champion* case. For example, in *Brennan v. Mr. Hanger, Inc.*,³⁶ the district court confronted the synergism question and concluded that, though synergism may lack "either [a] statutory or logical basis,"³⁷ the court was bound by prior cases to apply the synergism test. The court upheld the patent, which was for a wardrobe hanger, saying that the invention "seems as close to 'synergism' as anyone will ever get with a mechanical device."³⁸

The district court in *Leinoff v. Valerie Furs Ltd.*³⁹ permitted the synergism test to wholly pre-empt the *Graham* nonobviousness test. The court stated that "[w]ith respect to combination patents, the *Graham* criteria are further augmented by the requirement that the result of the combination must be synergistic"⁴⁰ The court noted, however, that the synergism test is not to "override" the guidelines of section 103 of the Patent Act of 1952 and *Graham*.⁴¹ The court envisioned a two-step test for determining the nonobviousness of combination patents: 1) do the elements of the combination satisfy the section 103 and *Graham* guidelines? 2) if not, is the result of the combination synergistic?⁴² Therefore, even if the elements fail the *Graham* test, the invention is patentable if synergistic, which in fact was the holding of the case.

Under the *Leinoff* approach, however, the first step of the two-step test is superfluous for two reasons, thereby making synergism the sole test. First, the case held that the invention was patentable if the second step—the synergism test—were satisfied, even if the first step—the *Graham* test—were not. One may infer that even if the *Graham* test were satisfied, the synergism test must also be satisfied.⁴³ The test in *Leinoff*, therefore, is not a two-step test that is met if either step is satisfied; nor is it a two-step test that is met only if both steps are satisfied. It is a test that is met only if the second step is satisfied, regardless of the outcome of the first step.

The second reason that the application of the *Graham* test is superfluous under the *Leinoff* approach is that the *Leinoff* court erred in applying section 103 and *Graham* to the individual elements of the invention, rather than to the invention as a whole. Courts that draw a distinction between combination and non-combination inventions define a combination patent as one comprising old, or obvious, elements. Since old elements are by definition obvious under *Graham*, the patent will always fail the first step of the two-step test. Such an approach makes the first step in the analysis totally unnecessary.

35. 603 F.2d 361 (2d Cir. 1979).

36. 479 F. Supp. 1215 (S.D.N.Y. 1979).

37. *Id.* at 1225.

38. *Id.*

39. 501 F. Supp. 720 (S.D.N.Y. 1980).

40. *Id.* at 724.

41. *Id.* at 725.

42. *Id.*

43. The Court declared that for combination patents "the *Graham* criteria are further augmented" by the synergism requirement. No court that has adopted the synergism approach has held that synergism is not required if the *Graham* test is met.

Ironically, had the court correctly applied the *Graham* guidelines to the entire invention rather than to its individual elements, the synergism question—that is, whether the result was unanticipated—would have been incorporated into the first step. As a result, the second step—synergism—would have been properly superflous.

The Third Circuit Court of Appeals, in *Sims v. Mack Truck Corp.*,⁴⁴ refused to decide whether synergism was required. The patent was declared invalid when the court found the design was “no more striking an improvement than those [designs] found to be inadequate for a combination patent in *Sakraida* or in *Black Rock*.”⁴⁵

Later, in *American Sterilizer Co. v. Sybron Corp.*,⁴⁶ the court employed a strict *Graham* analysis, making no mention of *Sakraida* or *Black Rock*. Still later, a Third Circuit district court, in *Toro Co. v. Textron, Inc.*,⁴⁷ cited *Sims* and *Sakraida* to support its declaration of patent invalidity.⁴⁸ The *Toro* court reasoned that the patented design was a mere combination that must therefore be closely scrutinized for obviousness.⁴⁹ The *Toro* court, like the *American Sterilizer* and *Sims* courts before it, did not decide whether synergism was required. Like *Sims*, however, *Toro* closely scrutinized a combination patent.

The Fourth Circuit has not addressed the synergism question since the Supreme Court’s *Sakraida* decision.

The Fifth Circuit has not discussed synergism since *John Zink Co. v. National Airoil Burner Co.*,⁵⁰ where it expressly required “a synergistic result.”⁵¹

The Sixth Circuit in *Smith v. Acme General Corp.*⁵² concluded that “definitional deficiencies, theoretical flaws and judicial application of synergism have contributed to muddy the patent waters.”⁵³ But the court was unwilling to abandon completely the synergism approach. Instead, it concluded that synergism is symbolic of a more stringent standard of patentability for combinations.⁵⁴ Because a combination design is more likely to be obvious than a non-combination design, the combination must be more carefully examined under the *Graham* guidelines.

The conclusion of the *Smith* court with respect to synergism and combination patents is similar to the position of this note. A so-called combination patent is a patent for a less sophisticated invention; it is therefore more likely to be invalid for obviousness. The test for “synergism,” under the Sixth Circuit’s approach, is simply a shorthand expression for carefully ensuring that the relatively unsophisticated “combination” patent was nonobvious under the *Graham* guidelines. The Sixth Circuit’s analysis will nonetheless remain

44. 608 F.2d 87 (3d Cir. 1979).

45. *Id.* at 93.

46. 614 F.2d 890 (3d Cir. 1980).

47. 499 F. Supp. 241 (D. Del. 1980).

48. *Id.* at 245.

49. *Id.*

50. 613 F.2d 547 (5th Cir. 1980).

51. *Id.* at 551.

52. 614 F.2d 1086 (6th Cir. 1980).

53. *Id.* at 1095.

54. *Id.*

confusing until the court drops the synergism and combination patent terminology.

Judge Swygert's piercing analysis in his 1979 opinion in *Republic Industries, Inc. v. Schlage Lock Co.*⁵⁵ rejected the synergism approach in the Seventh Circuit and shook the approach's credibility in other circuits.⁵⁶ The Seventh Circuit has not since addressed the synergism question but it is unlikely to stray from the *Republic* precedent.

The Eighth Circuit apparently requires synergism. In *Reinke Manufacturing Co. v. Sidney Manufacturing Corp.*⁵⁷ and *Sing v. Culture Products, Inc.*,⁵⁸ the courts, without specifically using the word synergism, spoke in language associated with the synergism test.⁵⁹

In *Palmer v. Orthokinetics, Inc.*,⁶⁰ the Ninth Circuit, citing *Republic*, held that nonobviousness was to be determined exclusively by section 103 and the *Graham* guidelines. In so doing, it reversed its position in several earlier cases.⁶¹ The *Palmer* court was nonetheless unwilling to reject outright the synergism approach. In a curious footnote to its argument that all structural inventions involve combinations of old elements, the court said that "[w]e recognize that in assessing the patentability of combination patents, a 'more severe' test is applied to determine whether the whole in some way exceeds the sum of its parts to produce unusual or surprising circumstances."⁶² The footnote seems to require synergism while the text rejects it. The Ninth Circuit has not grappled with synergism in the past year, but *Palmer* leaves the impression that it is moving away from the synergism requirement.

The District of Columbia Circuit has implied in dictum that synergism is required.⁶³ The disputed patent was held invalid, however, on the basis of the *Graham* test alone.⁶⁴

55. 592 F.2d 963 (7th Cir. 1979).

56. The Tenth Circuit cited *Republic* when it rejected synergism in *Plastic Container Corp. v. Continental Plastics of Okla., Inc.*, 607 F.2d 885, 905 (10th Cir. 1979), *cert. denied*, 444 U.S. 1018 (1980). The Second Circuit, though its position on synergism is uncertain, has seen logic in the *Republic* reasoning. *Champion Spark Plug Co. v. Gyromat Corp.*, 603 F.2d 361, 371 (2d Cir. 1978), *cert. denied*, 445 U.S. 916 (1980). See *Brennan v. Mr. Hanger, Inc.*, 479 F. Supp. 1215, 1225 (S.D.N.Y. 1979).

57. 594 F.2d 644 (8th Cir. 1979).

58. 469 F. Supp. 1249 (E.D. Mo. 1979).

59. The *Reinke* court said that "we will not only consider whether it was *obvious* that by putting together the various elements used the result would be the effect achieved [W]e will also consider whether the effect is a new effect, or simply each of the items performing its expected function." 594 F.2d at 648 (emphasis in original). The *Sing* court cited *Reinke* and held the patent valid because "[p]laintiff combined known elements in such a manner as to achieve a result which was clearly 'greater than the sum of the several effects taken separately'." 469 F. Supp. at 1256.

60. 611 F.2d 316 (9th Cir. 1980).

61. See, e.g., *Satco, Inc. v. Transequip, Inc.*, 594 F.2d 1318 (9th Cir.), *cert. denied*, 444 U.S. 865 (1979); *Deere & Co. v. Sperry Rand Corp.*, 513 F.2d 1131 (9th Cir.), *cert. denied*, 423 U.S. 914 (1975).

62. 611 F.2d at 323 n.15.

63. *Robintech, Inc. v. Chemidus Wavin, Ltd.*, 628 F.2d 142, 144-45 (D.C. Cir. 1980).

64. *Id.* at 144.

CONCLUSION

The analytical defect of the synergism requirement is that it initially demands distinguishing between combination and non-combination patents. All inventions are ultimately combinations of previously known elements; the difference among inventions is only in how far the combination must be unravelled before it is reduced to such elements. To term one invention a combination and another a non-combination implies that the two are different in kind. The only difference, however, is in degree. Along a scale measuring sophistication of inventions, at some point a level is reached where the interaction of the invention's components exceeds the understanding of a non-technically trained judge. At that point, the judge announces that the invention is not just a combination, it is an innovation.

There is nonetheless a similarity between the nonobviousness standard of section 103 and *Graham*, on the one hand, and the synergism standard on the other. Both depend on the sophistication of the invention. A sophisticated combination will likely be dubbed a non-combination patent and be found to be nonobvious as well. Conversely, an unsophisticated combination will be dubbed a combination patent—which is usually a way of saying that the patent holder loses—and will be found to be obvious. In this sense the synergism test is redundant to the nonobviousness test.

It should be emphasized that sophistication is a relative term. The fault of the synergism test is that it measures an invention's sophistication relative to the judge's technical training rather than relative to the state of the art and the ability of those skilled in the art. Whether an invention is found to be a combination or a non-combination depends to a large extent on the technical expertise of the judge. If the judge possesses sufficient proficiency in technical matters to understand the workings of the components, the invention is proclaimed a combination. Whether the invention is nonobvious, however, depends on the answer to specific factual determinations, namely, the state of the prior art, the advance that the invention represents over the prior art, and the ability of those skilled in the art. Satisfaction of the synergism requirement, therefore, is determined not by whether the invention was obvious to one skilled in the art, but whether the invention, obvious or not, can be understood by a lay judge. By shifting the focus from the industry to the judge, the requirement of synergism introduces a new and unjustified subjective standard.

Courts should recognize that all inventions are combinations of previously known elements. The next step is to recognize that differentiating between the patented combination and prior combinations is simply another way of measuring obviousness. The pitfall to be avoided is the measuring of sophistication, or obviousness, or inventiveness, by the judges' own standards rather than by the standards of the industry. The synergism approach is just such a pitfall.

Glenn Kirwan Beaton

