

1948

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### Recommended Citation

William R. Woodward, *DEFINITENESS AND PARTICULARITY IN PATENT CLAIMS*, 46 MICH. L. REV. 755 (1948).

Available at: <https://repository.law.umich.edu/mlr/vol46/iss6/3>

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## DEFINITENESS AND PARTICULARITY IN PATENT CLAIMS

*William Redin Woodward\**

TO the uninitiated the professional jargon of patents, and particularly of patent claims, is somewhat mystifying even in the most ordinary cases. The profession likes to define the elements of apparatus as "means" for this, "means" for that and "means" for the other. Words like "plurality," "predetermined" and "comminuted" find remarkably frequent use by patent attorneys. And the habit of using out-of-the-way verbiage may lead the practitioner by force of habit to pass over a simple term like "sleeping car" in favor of a more elaborate phrase like "a communal vehicle for the dormitory accommodation of nocturnal viators."<sup>1</sup> But it does not follow that such literary monstrosities appearing in the definition of the scope of a patent are an imposition on the public or an invasion of the statutory requirement that the inventor "shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery."<sup>2</sup>

Those familiar with the more important varieties of wills, deeds, leases, insurance policies, trust indentures, and corporation mortgages (not to mention statutes, regulations and even judicial opinions) will recognize that professional jargon, if properly used, may aid rather than detract from certainty of interpretation and can save a great deal of expensive effort on the part of those most concerned. But as in the case of other legal documents, the terminology of patent claims must not only be free from ambiguities which might confuse those who must deal with the legal rights they set up, but must steer clear of statutory and judicial taboos. In the latter respect the patent claim draftsman faces a problem similar to that of the lawyer who draws a will—he must consider the attitudes of courts not at the time he writes but as much as ten, fifteen or twenty years in the future. Changed conditions affecting the subject matter must likewise be taken into account: an invention grown to the stage of infringement litigation, on the outcome of which an industrial fortune depends, cuts a figure very different

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<sup>1</sup> The illustration is from a classic quip by Judge Learned Hand. See *Hookless Fastener Co. v. G. E. Prentice Mfg. Co.*, (C.C.A. 2d, 1934) 68 F. (2d) 940 at 941.

<sup>2</sup> U.S. Rev. Stat. (1878) § 4888, 35 U.S.C. (1940) § 33.

from a hopeful inventor's brain child being nursed through the technicalities of the Patent Office. The lawyer drawing a will must calculate the various legal consequences of the testator's death, whenever and however it might happen, but the will can be amended at practically any time before death, barring unusual circumstances, whereas only strictly limited proceedings are available to modify a patent that has issued.<sup>3</sup> Even during the course of Patent Office proceedings, limits are imposed upon the scope of permissible alterations.<sup>4</sup> Since so much can be frozen in patent claims so hard and for so long, courts should use discretion in finding patents invalid because of objections to the form in which claims are drawn, particularly when the claims are actually not ambiguous to the Patent Office or to any reasonably well-advised prospective litigant and when their scope is not actually broader than the scope of the invention disclosed. If the substantive issue of whether a claim is broader than the disclosed invention is buried in a judicial opinion under various objections to the form of claims, the decision is likely to cast doubt on other patents which are only superficially analogous.

The problem of the validity of patent claims, both as to form and scope, has a peculiar acuteness in American law, because of the special status that the claims have in the American patent law, a status which is approached abroad in the British Commonwealth but is not found in some important countries. In Germany, for example, the general effect of Von Lieben patent No. 249,142, in spite of the language of its

<sup>3</sup> U.S. Rev. Stat. (1878) § 4916, 35 U.S.C. (1940) § 64 provides for reissues of patents in amended form (without introduction of new subject matter) in certain cases of inadvertence, accident, or mistake, but under the doctrine of *Mahn v. Harwood*, 112 U.S. 354, 5 S. Ct. 174 (1884), as applied to the present form of U.S. Rev. Stat. (1878) § 4886, 35 U.S.C. (1940) § 31, a reissue application which would broaden the patent must, in the absence of extraordinary circumstances, be filed within a year of the issuance of the original patent, and then only subject to possible "intervening rights" of third parties under *Sontag Chain Stores Co., Ltd. v. National Nut Co.*, 310 U.S. 281, 60 S. Ct. 961 (1940). A narrowing of the claims is also possible by disclaimer under U.S. Rev. Stat. (1878) § 4917, 35 U.S.C. (1940) § 65, but while this provides a simple way to drop doubtful or invalid claims, there is some question to what extent this avenue is available for amending claims without dropping them entirely. Compare *Smith, Kline & French Laboratories v. Clark & Clark*, (C.C.A. 3d, 1946) 157 F. (2d) 725, with *Foxboro Co. v. Taylor Instrument Cos.*, (C.C.A. 2d, 1946) 157 F. (2d) 226, and *Milcor Steel Co. v. George A. Fuller Co.*, 316 U.S. 143, 62 S. Ct. 969 (1942).

<sup>4</sup> Rule 70 of the Patent Office Rules, prohibiting the introduction of new matter, and estoppels arising from the effect of Rule 109 relating to interference proceedings are examples of the limits that exist, the first arising from the import of the original application and the second from the applicant's conduct in Patent Office proceedings. The original application as filed even as to the claims, may also limit the scope of the rights the applicant can obtain abroad under the provisions of the International Convention for the Protection of Industrial Property.

claims, was held to dominate the entire vacuum tube art which began with DeForest's "audion."<sup>5</sup> This illustrates a tendency of the courts to be liberal in a few countries where the Patent Office observes high standards of limiting claims and thorough examination, even to the point of permitting the patentee to regain in court what was yielded in the Patent Office. It is to be contrasted with the strictness of courts in English-speaking countries, where the Patent Office is initially more liberal.<sup>6</sup>

In this country, the claims are regarded as definitions of the invention, rather than mere guides to its scope. There are a few decisions which treat the question of infringement merely as whether or not the defendant's accused devices or activities accomplish substantially the same result by substantially the same means as shown in the patent as a whole, irrespective of the terms of the claims. But since the entire logic of the development of the patent system has been to limit the patent owner more and more to those terms, the Bar has long been chary of attaching much weight to the possibility of any particular patent having force beyond the terms of its claims.

Because the claims of a patent are so all-important on the measure of the grant, they are the subject of energetic and often protracted contest between applicants and examiners in Patent Office proceedings. Applicants who have made complicated or widely applicable inventions may obtain hundreds of separate claims in a single patent, varying in scope and in the features of the invention included, in an effort to make sure that no foreseeable embodiment of the invention is left which is not covered by at least one claim.

## I

### HISTORY OF THE PATENT CLAIM

Although the patent claim has long been important and extensively used, its characteristically multiplied use is a relatively modern development, as compared with the age of the patent system itself. Particularly

<sup>5</sup> *Telefunken Gesellschaft für Drahtlose Telegraphie m.b.H. v. National Film-Verleih und Vertiebs A.G.*, Berlin Provincial Court (Landgericht) Dec. 31, 1929; *Telefunken Gesellschaft für Drahtlose Telegraphie m.b.H. v. C. Lorenz A.G.*, Berlin Provincial Court, May 27, 1924. The Von Lieben patent in suit was an addition to patent 236,716 and appeared to claim a specific form of device covered generally by the earlier patent. Von Lieben's United States patent corresponding to this subject-matter was No. 1,038,190, reissued as Re. 13,779.

<sup>6</sup> Still other countries, such as France, for example, do not provide for examination of patents to limit claims before issue and leave the entire question of scope open, to be determined, if at all, in litigation.

in the early period, moreover, the primary influence which shaped the use of the claim was the course of judicial decisions; for statutory changes and administrative policy tended to follow rather than to lead the course of decisions during the formative period.

In the act of 1793, the provision in section 3, corresponding to the previously quoted portion of section 4888 of the Revised Statutes, required that in setting forth the invention the description shall "distinguish the same from all other things before known," and in "the case of any machine" shall explain the "principle . . . by which it may be distinguished from other inventions."<sup>7</sup> Although this language of the act, and later the decisions of the courts, in time encouraged a good many inventors to include statements more or less in the nature of a claim as part of the patent document, for several decades a good many patents were issued without anything in the nature of a claim.

Probably the first examples of real patent claims in the modern sense were contained in the patent granted to Robert Fulton on February 9, 1811, which included several separate statements in the form of claims. The remark has accordingly been made that Fulton might more properly be credited with the invention of the "claim" than of the steamboat.<sup>8</sup> The phrase "I claim . . ." had occasionally appeared in earlier patents, but generally in connection with statements of general principle (the act of 1793 has used the word "principle"); Fulton's 1811 patent, however, set out elements of structure as the subject of the claim such, for example, as in the following passage:

"Having been the first to demonstrate the superior advantages of a water wheel or wheels, I claim as my exclusive right, the use of two wheels, one over each side of the boat to take purchase on the water; to turn such wheels forward or backwards I claim as my combinations and exclusive right the following modes of communicating power from the piston rod of the steam engine to them . . . ."

Under the act of 1793, the courts had the major responsibility in administering the patent system, since the procedure for obtaining a patent left great freedom to the applicant to describe his invention as

<sup>7</sup> 1 Stat. L. 318 at 321, 322 (1848). The clause quoted relating to machine inventions also has a parallel in U.S. Rev. Stat. (1878) § 4888. The Act of 1790, § 2, 1 Stat. L. 109 at 110 provided that the "specification shall be so particular . . . as not only to distinguish the invention or discovery from other things before known and used, but also to enable a . . . person skilled in the art . . . to make, construct or use the same. . . ."

<sup>8</sup> Lutz, "Evolution of Claims Of U.S. Patents," 20 J. PAT. OFF. SOC. 134, 377, 457, at 137 (1938).

broadly or as narrowly as he saw fit. The courts, in declaring the law, soon laid stress on the statutory requirement that the inventor distinguish his invention "from all other things before known." In *Isaacs v. Cooper*<sup>9</sup> and in the second case of *Evans v. Eaton*,<sup>10</sup> patents were held invalid for not meeting this requirement, a result foreshadowed by instructions to juries<sup>11</sup> in a number of earlier cases, among which the following charge by Mr. Justice Story in *Lowell v. Lewis*<sup>12</sup> is illuminating:

"... A patent is grantable only for a new and useful invention; and, unless it be distinctly stated, in what that invention specifically consists, it is impossible to say, whether it ought to be patented or not; and it is equally difficult to know, whether the public infringe upon or violate the exclusive right secured by the patent. The patentee is clearly not entitled to include in his patent the exclusive use of any machinery already known; and if he does, his patent will be broader than his invention, and consequently void. If, therefore, the description in the patent mixes up the old and the new, and does not distinctly ascertain for which, in particular, the patent is claimed, it must be void; since if it covers the whole, it covers too much, and if not intended to cover the whole, it is impossible for the court to say, what, in particular, is covered as a new invention. The language of the patent act itself is decisive on this point."<sup>13</sup>

As the result of such pronouncements, the practice of appending statements of claim at the end of the description of the subject matter of the invention became general, so that when the act of 1836<sup>14</sup> superseded the 1793 enactment and provided (in section 6) that the inventor, in addition to describing his invention, and, in the case of a machine, explaining the principle, "shall particularly specify and point out the part, improvement, or combination, which he claims as his own discovery," the new enactment was understood as merely codifying the

<sup>9</sup> (C.C. Pa. 1821) Fed. Cas. No. 7096.

<sup>10</sup> 7 Wheat. (20 U.S.) 356 (1822). For historical background see Federico, "The Patent Trials of Oliver Evans," 27 J. PAT. OFF. SOC. 586, 657 (1945).

<sup>11</sup> During this period patent cases were usually tried at law and the wide discretion left to the jury prevented the establishment of a clear rule on such matters as the permissible breadth of claims. It was not until many decades later that the growing equity powers of the courts and the complications of presenting technical questions to a jury led to the trial of practically all patent cases in equity. Patent infringement cases are still occasionally tried by jury.

<sup>12</sup> (C.C. Mass. 1817) Fed. Cas. No. 8568.

<sup>13</sup> Id. at p. 1020.

<sup>14</sup> 5 Stat. L. 117.

existing law as developed by the courts.<sup>15</sup> Similarly, when in 1870<sup>16</sup> this provision was amended to read "and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery" (the present wording), the change was regarded as simply adding an emphasis in the statute which had already been made by judicial decision.

## II

### THE QUESTION OF INFRINGEMENT

Although the standards set by the courts in applying the statutory requirement that the inventor distinguish in his patent between his contribution and pre-existing knowledge resulted in statements of claim being included in all patents, the courts for a long time did not regard the particular formulations chosen by the inventor to express his claim and distinguish his invention from the prior art as the definitive measure of the scope of the patent. Rather, the whole patent document, including the claims as a guide, was to be viewed to ascertain the scope and nature of the invention and to determine whether the invention was embodied in the defendant's practices or devices, sometimes even with some reference to devices or apparatus made by the patent owner in exploitation of his grant.<sup>17</sup> Whether the two groups of devices accomplished "substantially the same result," by "substantially the same means" was held to be the primary test of infringement.<sup>18</sup>

But as early as 1831<sup>19</sup> the notion began to be expressed that the claims of a patent might bind the patentee against assertion of a broader scope for the patent on the question of infringement. Such a doctrine was applied by the Supreme Court to affirm dismissal on the ground of lack of infringement in *Brooks v. Fiske* in 1853.<sup>20</sup> The majority opinion stated:

"The claim, or summing up, however, is not to be taken alone, but in connection with the specification and drawings; the whole

<sup>15</sup> Lutz, "Evolution of Claims of U.S. Patents," 20 J. PAT. OFF. SOC. 134 at 143 (1938).

<sup>16</sup> 16 Stat. L. 198 at 201, § 26, U.S. Rev. Stat. (1878) § 4888.

<sup>17</sup> *Fuller v. Yentzer*, 94 U.S. 288 (1876); see *Wyeth v. Stone*, (C.C. Mass. 1840) Fed. Cas. No. 18,107 (Story, J.).

<sup>18</sup> E.g., *Machine Co. v. Murphy*, 97 U.S. 120 (1877), where the claim in question was hardly a sufficient guide by modern standards, being merely in terms of the result. See also the statement in *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537 at 568, 18 S. Ct. 707 (1898) (four justices dissenting).

<sup>19</sup> *Whitney v. Emmett*, (C.C. Pa. 1830) Fed. Cas. No. 17,585 (Baldwin, J.).

<sup>20</sup> 15 How. (56 U.S.) 212 (1853).

instrument is to be construed together. But we are to look at the others only for the purpose of enabling us correctly to interpret the claim.”<sup>21</sup>

A minority of the Court disagreed, stating the view:

“The written specifications, including the drawings constitute a part of the patent, and must be construed as the claim of the plaintiff.”<sup>22</sup>

Hence, although the majority found that “the defendant . . . has made a new and independent invention, and does not use the arrangement, or mode of combination of the plaintiff,”<sup>23</sup> the dissenting justices thought that the defendant’s machine infringed the Woodworth patent because it “seems to be the same in principle as that of Woodworth’s, and produces the same result.”<sup>24</sup>

*Brooks v. Fiske* did not, however, directly result in patents being always limited to the scope defined by the language of the claims. At the same term of the court a different majority speaking through Mr. Justice Curtis took the view that a claim for “making the body of a car for transportation of coal, etc., in the form of a frustum of a cone . . .” with “the lower part . . . reduced as to pass down within the truck frame, and between the axles” was infringed by a car of similar construction with a body in the form of a frustum of a hexagonal pyramid instead of a frustum of a cone, and reversed the judgment below and ordered a new trial.<sup>25</sup> According to the majority opinion, “the patentee, having described his invention and claimed it in that form which most perfectly embodies it, is, in contemplation of law, deemed to claim every form in which his invention may be copied, unless he manifests an intention to disclaim some of those forms.” Mr. Justice Campbell, however, speaking for the minority of four justices, including Chief Justice Taney, argued that the plaintiff must have advisedly confined his claim to the use of the conical form for some reason or other, and posed the question: “Can he abandon the ground of his patent, and ask

<sup>21</sup> *Id.* at 215.

<sup>22</sup> *Id.* at 223.

<sup>23</sup> *Id.* at 222.

<sup>24</sup> *Id.* at 231.

<sup>25</sup> *Winans v. Denmead*, 15 How. (56 U.S.) 330 at 331 (1853). The trial judge had charged the jury that the patent was limited to a conical (round) shape. Compare Mr. Justice Grier’s enforcement of Goodyear’s first reissue patent in *Goodyear v. Central R. Co. of N.J.*, (C.C. N.J. 1853) Fed. Cas. No. 5563, although the claim was in terms for a process and the defendant had merely used the product of such a process. Such a result would not be reached today. (Goodyear subsequently played safe and reissued the patent again.)

now for the exclusive use of all cars which, by experiment, shall be found to yield the advantages which he anticipated for conical cars only?"

In 1876 the Supreme Court, speaking through Mr. Justice Clifford, lent its authority to the view that "where the invention is embodied in a machine, the question of infringement is best determined by a comparison of the machine or apparatus constructed or used by the respondent with the mechanism described in the specification of complainant's patent."<sup>26</sup> But the next year Mr. Justice Bradley, who had dissented in the case just mentioned, wrote the majority opinion in *Keystone Bridge Co. v. Phoenix Iron Co.*,<sup>27</sup> holding the question of infringement determined by the terms of the claims. "If the patentees have not claimed the whole of their invention, and the omission has been the result of inadvertence," he observed, "they should have sought to correct the error by a surrender of their patent and an application for a reissue. They cannot expect the courts to wade through the history of the art, and spell out what they might have claimed, but have not claimed." After pointing out that in the Patent Office the claim "is, or is supposed to be, examined, scrutinized, limited, and made to conform to what he is entitled to," Mr. Justice Bradley added: "As patents are procured *ex parte*, the public is not bound by them, but the patentees are. And the latter cannot show that their invention is broader than the terms of their claim; or if broader, they must be held to have surrendered the surplus to the public."<sup>28</sup>

The suggestion of reissue proceedings to remove the effect of an unnecessarily narrow phrase inadvertently included in the claim is not available today more than a year after the original grant without a highly convincing showing of exceptional circumstances.<sup>29</sup> Perhaps for this reason the doctrine of *Keystone Bridge Co. v. Phoenix Iron Co.* has not been so consistently applied as to exclude all application of the principle of *Winans v. Denmead*. The latter case is still regarded as entitling the courts to treat as infringements devices not within the literal meaning of patent claims, but within a "range of equivalents"

<sup>26</sup> *Fuller v. Yentzer*, 94 U.S. 289 at 293 (1876); cf. *Machine Co. v. Murphy*, 97 U.S. 120 (1877); and also *Mitchell v. Tilghman*, 19 Wall. (86 U.S.) 287 (1873), where the defendant's device was covered by a patent and Mr. Justice Clifford preferred to compare the two patents as the best way to determine whether the subject matter of one infringed the earlier, a procedure which could be proper only when the defendant's patent is strictly followed by the alleged infringing devices.

<sup>27</sup> 95 U.S. 274 (1877).

<sup>28</sup> *Id.* at 278-279.

<sup>29</sup> *Mahn v. Harwood*, 112 U.S. 354, 5 S.Ct. 174 (1854).

of the elements of the claims, the proper range to be determined by the courts in accordance with the nature and importance of the invention.<sup>80</sup> It is hard to reconcile such a view with the undoubted authority of *Keystone Bridge Co. v. Phoenix Iron Co.*, reaffirmed in *McClain v. Ortmyer*.<sup>81</sup> It can be done if one treats the so-called "doctrine of equivalents" merely as a form of relief against the almost inevitable inadvertences involved in the formulation of patent claims. The relief must be applied only when the case is clear enough to establish strong equities in favor of the plaintiff and little or none in favor of the defendant, or when the point is a mere technicality or so obvious for realistic appraisal that reissue proceedings would not be necessary for full protection of the public and would be an unnecessary burden to impose on the patentee.

In *Westinghouse v. Boyden Power Brake Co.*,<sup>82</sup> a five to four decision rendered in 1898, the Supreme Court restated the proposition that the terms of the claims were not the final measure of infringement. It cited cases to the effect that "a charge of infringement is sometimes made out, though the letter of the claims be avoided" and added that, conversely, even if the defendant's device is within the letter of the claims, yet if the defendant "has so far changed the principles of the device that the claims of patent, literally construed, have ceased to represent his actual invention, he is as little subject to be adjudged an infringer as one who has violated the letter of a statute has to be convicted, when he has done nothing in conflict with its spirit and intent."<sup>83</sup> That decision, if it is to be consistent with the development of practice and law with respect to patent claims, must mean that although a claim is generally invalid if it covers any significant class of devices which do not embody the invention, yet when such excessive breadth could hardly have been appreciated when the claim was granted and in cases in which the controlling principle is clear in spite of the literal import of the claim, the alternative course of a declaration of invalidity, followed by reissue proceedings and then possibly new litigation, will be made unnecessary and the end-result reached in the original litigation. But since no stringent time limitation stands in the way of obtaining a narrowing reissue, the doctrine of *Westinghouse v.*

<sup>80</sup> *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 at 207, 14 S.Ct. 310 (1894); *Minnesota Min. & Mfg. Co. v. International Plastic Corp.*, (C.C.A. 7th, 1947) 159 F. (2d) 554; cf. *Western Electric Co. v. LaRue*, 139 U.S. 601, 11 S.Ct. 670 (1891).

<sup>81</sup> 141 U.S. 419, 12 S. Ct. 76 (1891).

<sup>82</sup> 170 U.S. 537, 18 S.Ct. 707 (1898); see particularly p. 568.

<sup>83</sup> *Id.* at 568.

*Boyd* was chiefly one of convenience rather than of necessity, and if it has any force today, it probably has an even narrower scope than that of the converse "doctrine of equivalents." As to the latter, moreover, if the question were open (which it probably is not), it might be advanced that a relaxed application or even a modification of the rule of *Mahn v. Harwood*,<sup>34</sup> relating to the validity of broadened reissues sought more than a year after the issuance of the original patent, might be more in the public interest than the persistence of the doctrine of equivalents and the uncertainties it lends to the scope of patents.<sup>35</sup>

As a natural result of the general establishment of the claims of a patent as the primary measure of the scope of the patent grant,<sup>36</sup> a great deal of effort was devoted by inventors and their attorneys in formulating claims, and the practice grew of presenting a profusion of claims of varying form and scope. When in 1866 a program was adopted for printing all specifications, including those of patents issued since 1836, the plan provided for putting the separate clauses of the claiming part into separate numbered paragraphs, to conform with the practice that had in the meanwhile become general. As early as 1869, in the second regularly reported Patent Office decision, the commissioner reversed a holding of the examiners-in-chief rejecting a claim on the ground that it was embraced in another claim. The commissioner observed: "It is permissible, under proper restrictions, for parties to put their claims in different forms to prevent misconstruction of them by the public or by the courts."<sup>37</sup> Since the practice has grown in modern times to such proportions that hundreds of claims are sometimes presented in a single application, the Patent Office has imposed some limits where the multiplicity of claims appeared to be clearly unreasonable,<sup>38</sup> but the courts have generally recognized the

<sup>34</sup> 112 U.S. 354, 5 S.Ct. 174 (1884). In addition it would be desirable to relax the requirement of showing "inadvertence, accident or mistake," which has frequently been interpreted strictly. Such relaxation would also serve to liberalize the reissue practice in cases where the patentee wishes to reduce the scope or improve the form of his claims.

<sup>35</sup> Some of the decisions using the expression "range of equivalents" use the notion of equivalence as a standard of claim interpretation rather than as a technique for considering the question of infringement beyond the terms of the claims. E.g., *Cimiotti Unhairing Co. v. American Fur Refining Co.*, 198 U.S. 399, 25 S.Ct. 697 (1905). To that extent the doctrine involves little uncertainty, but it may then be characterized as excessive verbosity.

<sup>36</sup> A recent affirmation of this doctrine is in *Milcor Steel Co. v. George A. Fuller Co.*, 316 U.S. 143, 62 S.Ct. 969 (1942).

<sup>37</sup> Ex parte Perry and Lay, 1869 C.D. 3.

<sup>38</sup> Ex parte McCullough, 1927 C.D. 12; Ex parte Kharasch, 19 U.S.P.Q. 185 (1933); In re Savage, (C.C.P.A. 1940) 110 F. (2d) 680.

need for many claims in view of the extent to which the patentee is bound by their terms.<sup>39</sup> Besides being multiplied to cover various possible future situations, the claims of patents have become highly technical in many respects as the result of special doctrines relating to the proper form and scope of claims that have been developed by the courts and the Patent Office from time to time. Some of these must be considered in order to make it clear why the attempts of inventors to meet the statutory requirement of particularly pointing out and distinctly claiming the invention have quite excusably tended to use language that, both in quality and quantity, is difficult for him who runs to read.

### III

#### PERMISSIBLE BREADTH AND FORMS OF CLAIMS

It is obvious that if a patent claim is so broad that its terms cover devices or practices in the "prior art,"<sup>40</sup> the claim is invalid except for the possibility that the court may find from considering the entire patent document and the circumstances of its preparation and issuance, that a more limited interpretation of the claims may be fairly inferred in spite of the excessively broad words chosen for the claims.<sup>41</sup> The courts have not limited their definition of patent claims "broader than the invention" to claims which fail to distinguish sufficiently from the prior art, however, but have sought to erect a variety of legal rules as obstacles to presumptuous claims. Possibly the most important and appropriate of these standards is the principle that one is not entitled to patent a "result" merely because he has been the first to obtain it. Thus, as pointed out by Mr. Justice Story sitting as a trial judge in 1840, the man who invented the first method of cutting ice on ponds by means of power machinery was not entitled to cover by his patent all cutting of ice by power.<sup>42</sup> But the broad principle does not extend

<sup>39</sup> *In re Wood*, (C.C.P.A. 1946) 155 F. (2d) 547, reviewing authorities; *Parke-Davis Co. v. Mulford Co.*, (C.C. N.Y. 1911) 189 F. 95 (L. Hand, J.).

<sup>40</sup> This is a technical term that refers to the various kinds of prior publications, public use, etc., which may make the subject matter unpatentable under the terms of U.S. Rev. Stat. (1878) § 4886. Thus prior publication either before the subject matter was invented by the applicant, or even thereafter if published more than a year before the filing of the patent application, will bar the grant of a patent or invalidate the patent if granted.

<sup>41</sup> *Phoenix Caster Co. v. Spiegel*, 133 U.S. 360, 10 S.Ct. 409 (1890); *Thompson v. Westinghouse Elec. & Mfg. Co.*, (C.C.A. 2d, 1940) 116 F. (2d) 422.

<sup>42</sup> *Wyeth v. Stone*, (C.C. Mass. 1840) Fed. Cas. No. 18,107. The ultimate decision was rendered on other grounds. See also *Stone v. Sprague*, (C.C. R.I. 1840) Fed. Cas. No. 13,487, where Judge Story said, "A man might just as well claim a

so far as to prevent patent claims on a composition of matter (even a chemical compound, contrary to practice in many European countries) irrespective of the method of preparation, as well as many other types of claims which might appear to be "mere results" to the uninitiated. The explanation is not merely that patents on compositions of matter are specifically declared patentable by the terms of section 4886 of the Revised Statutes.<sup>43</sup> The underlying principle is that a "result" or "goal" is not patentable when the selection of the goal in itself involves no originality.

But there are cases in which the inventive step is one which may be regarded as the selection of a goal, in which case a claim properly limited to the inventive contribution might be valid although it would appear at first sight to cover a "result." In the case of the ice-cutting machinery, however, it was clear to the art before the invention that the cutting of ice by machinery was desirable, and that result was not patentable merely because invention was needed to provide the first really practical way of obtaining the result. There are some indications, however, that patent claims covering a process, an arrangement of apparatus or a composition of matter more or less in terms of the result may be proper when the claims cover only a particular result which required invention for its conception, and not a general goal which others knew to be desirable, although they did not know how it could be practically attained. Such a claim must not merely state the result, however, but must point out at least in general form the process steps, the structure of the article or apparatus, or the ingredients of the composition, in which the invention is embodied, in order to meet the standards of the statute and decisions. Examples of apparatus claims upheld although broad in form with only rather general structural limitations are to be found in *Hildreth v. Mastoras*<sup>44</sup> and *Continental Paper Bag Co. v. Eastern Paper Bag Co.*<sup>45</sup>

That the line of division on these propositions is far from distinct is shown by the comparison between the cases just cited and *O'Reilly v.*

title to all possible or practicable modes of communicating motion from a steam-engine to a steamboat, although he had invented but one mode. . . ." (P. 162.)

<sup>43</sup> Other patentable subject matter includes, according to U.S. Rev. Stat. (1878) § 4886, arts, machines, manufactures and certain types of plants.

<sup>44</sup> 257 U.S. 27, 42 S.Ct. 20 (1921). The claim in suit read: "A candy-pulling machine comprising a plurality of oppositely-disposed candy hooks or supports, a candy-puller, and means for producing specified relative in-and-out motion of these parts for the purpose set forth." *Id.* at 32.

<sup>45</sup> 210 U.S. 405, 28 S.Ct. 748 (1908), discussed *infra*, p. 783.

*Morse*.<sup>46</sup> In *O'Reilly v. Morse* the Supreme Court affirmed an injunction against infringement<sup>47</sup> of the Morse reissue patent No. 11740 on a recording telegraph, but reversed by a split vote on the award of costs<sup>48</sup> on the ground that the eighth claim<sup>49</sup> of the reissue patent was invalid. The decision on this point, although still regarded as a leading case on the question of the permissible breadth of claim, must be understood in the setting of the other cases and it is further to be noted that even though the result of the decision on Morse's eighth claim is representative of the watchfulness of the courts against presumptuous claims, the reasons given by Chief Justice Taney for the ruling do not adequately explain the decision since they tend to prove too much. Thus the argument that the upholding of a broad claim "shuts the door against inventions of other persons" is contrary to the experience that improvement inventions continue to be made and patented in arts dominated by basic patents, and the activity is by no means confined to those associated with the owners of the basic patents. Moreover, the propriety of an earlier invention covering by patent the right to use later invented improved forms was specifically declared in the act of 1793<sup>50</sup> and has been clearly recognized under the present

<sup>46</sup> 15 How. (56 U.S.) 62 (1853).

<sup>47</sup> The decision on infringement was reached without discussing the claims in the opinion, by a comparison of the defendant's device with the Morse apparatus.

<sup>48</sup> Under the provisions of the Act of 1837, § 9, 5 Stat. L. 191 at 194, relating to disclaimers. [Cf. U.S. Rev. Stat. (1878) § 4917, 35 U.S.C. (1940) § 65].

<sup>49</sup> "Eighth. I do not propose to limit myself to the specific machinery, or parts of machinery, described in the foregoing specifications and claims; the essence of my invention being the use of the motive-power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, letters, or signs, at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer." [15 How. (56 U.S.) 62 at 85 (1853)]. It is to be noted that this claim did not cover all electromagnetic signaling, not even that using a telegraph sounder, being limited to arrangements for marking or printing intelligible characters. But even as so limited the claim might be regarded as including some of the prior art, such as it was, within their scope, and in so far as the decision rests on that ground the decision involves only principles well understood even in 1853.

Claims directed to "the use of . . ." are regarded as particularly objectionable, partly as the result of this decision. But cf. the acid comment in 1 STRINGHAM, PATENT CLAIMS 293 (1939). So far as the rule is that the claim must show that the invention lies in a statutory class (art, machine, manufacture, composition of matter or plant) there can be no questioning it. *Gillman v. Sterns*, (C.C.A. 2d, 1940) 114 F. (2d) 28; *Old Town Ribbon & Carbon Co. v. Columbia R. & C. Mfg. Co.*, (C.C.A. 2d, 1947) 159 F. (2d) 379.

<sup>50</sup> 1 Stat. L. 318 at 321, § 2: "Provided . . . That any person who shall have discovered an improvement in the principle of any machine, or in the process of any composition of matter, which shall have been patented, and shall have obtained a patent for such improvement, he shall not be at liberty to make, use or vend the original discovery, nor shall the first inventor be at liberty to use the improvement. . . ."

statutes.<sup>51</sup> Likewise the suggestion in the opinion that the broad claim before the court was inconsistent with Morse's own application for patents on subsequent improvements within the scope of the claim, and the statement that otherwise the improvements might extend the monopoly, involve a misconception of the nature of improvement patents. That uncritical view has had little influence on courts and counsel, although it is still voiced.<sup>52</sup>

The decision in *O'Reilly v. Morse* had a considerable effect on the form of patent claims. It inhibited the claiming of inventions relating to mechanical or electrical apparatus in terms of the principle or mode of operation, and encouraged instead the assertion of claims in terms of a combination of elements of apparatus "adapted" or "arranged" to function or operate according to the principles in question (each of the elements so combined might by itself be old). The substance was not so much altered as the form was made technical and circumlocutious.<sup>53</sup> Mr. Justice Grier had, in his dissent in *O'Reilly v. Morse*, pointed out that the strictures of the British cases requiring limitation of patents to physical structures rather than to methods of operation were not necessarily applicable to the American law, since our statutes provided for patents on an "art" (method, process) as well as on "machines."<sup>54</sup> Yet such was the trend that he announced in *Corning v. Burden*,<sup>55</sup> speaking for the court at the very same term, a doctrine sharply limiting the patentability of a process as an "art" within the terms of the statute, observing:

<sup>51</sup> *Cantrell v. Wallick*, 117 U.S. 689, 6 S.Ct. 970 (1886); *Morley Sewing Machine Co. v. Lancaster*, 129 U.S. 263, 9 S.Ct. 299 (1889); *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 50 S.Ct. 9 (1929); *Matthews v. Koolvent Metal Awning Co.*, (C.C.A. 5th, 1947) 158 F. (2d) 37. See Lutz, "Evolution of Claims of U.S. Patents," 20 J. PAT. OFF. SOC. 134 at 338 (1938).

<sup>52</sup> E.g., HAMILTON, PATENTS AND FREE ENTERPRISE, T.N.E.C. Monograph No. 31, pp. 90, 100, 162 (1941). See comment on these statements, FOLK, PATENTS AND INDUSTRIAL PROGRESS 83 (1942). One may wonder if the laconic dissents in *Transparent-Wrap Mach. Corp. v. Stokes & Smith Co.*, 329 U.S. 637 at 648, 67 S.Ct. 6 (1947), may not derive in part from this elusive heresy.

<sup>53</sup> Cf. the remark: ". . . Most 'functional' statements appear to be transformable into 'structural' statements by the sufficiently outlandish subjectification of predicates." Kent, "General Semantics and the Patent System," 27 J. PAT. OFF. SOC. 37 at 43 (1945).

<sup>54</sup> U.S. Rev. Stat. (1878) § 4886, 35 U.S.C. (1940) § 31. Manufactures and compositions of matter were also included and, since 1930, certain types of plants also. 46 Stat. L. 376.

<sup>55</sup> 15 How. (56 U.S.) 252 at 267-268 (1853). The patent was construed as for a machine, resolving doubts in favor of validity, "*ut magis valeat quam pereat*," and the judgment below was reversed. Probably the most extreme case on the point covered by the quotation was *Risdon Locomotive Works v. Medart*, 158 U.S. 68, 15 S.Ct. 745 (1895).

“. . . where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations are called processes. . . . It is when the term process is used to represent the means or method of producing a result that it is patentable and it will include all methods and means *which are not effected by mechanisms or mechanical combinations.*”<sup>56</sup>

The distinction between the powers of nature and the function of apparatus has become less significant after the approval of process claims involving use of machinery in *Cochrane v. Deener*<sup>57</sup> and *Expanded Metal Co. v. Bradford*<sup>58</sup> and the approval of method as well as apparatus claims in *The Telephone Cases*.<sup>59</sup> In the meantime, while apparatus claims were thought less subject to the strictures of *O'Reilly v. Morse* than method claims, the device of claiming mechanical and electrical inventions in terms of combinations of elements began to grow into an elaborate and technical practice. This development explains at least in part the horrendous diction of many modern patent claims. Thus, if an invention concerns a new mode of operation of old elements, or a new arrangement and relation of old elements, claims to cover the full scope of the invention in the form of combination of apparatus elements are likely to be either multifarious or rather oddly general in terminology, using terms such as “means,” “adapted,” and “whereby.”

A modern application of what has now come to be regarded as the doctrine of *O'Reilly v. Morse*, enforcing what is in effect the principle declared by Justice Story in *Wyeth v. Stone*<sup>60</sup> against claims in terms of a result broader than the invention, is the decision in *Holland Furniture Co. v. Perkins Glue Co.*<sup>61</sup> The patent in that case described what was found to be the first successful preparation of cassava carbohydrate (starch) to obtain the qualities of animal glue (chiefly the combination of low water absorptivity and a suitable consistency) which had theretofore made animal glue preferable to cassava glues for the purpose of the woodworking trades. The only method shown in the

<sup>56</sup> Id. at 267, 268.

<sup>57</sup> 94 U.S. 780 (1877). See also the discussion of *O'Reilly v. Morse* in *Tilghman v. Procter*, 102 U.S. 707 at 725 et seq. (1880), which involved a process of a chiefly chemical nature.

<sup>58</sup> 214 U.S. 366, 29 S. Ct. 652 (1909).

<sup>59</sup> 126 U.S. 1, 8 S.Ct. 778 (1887), particularly in connection with claim 5 of patent No. 174,465.

<sup>60</sup> (C.C. Mass. 1840) Fed. Cas. No. 18,107.

<sup>61</sup> 277 U.S. 245, 48 S.Ct. 474 (1928).

patent for practicing the invention involved treating the starch by a digestive process until its "degeneration" should have proceeded to such a point as to cause the material to respond in a certain way to certain specified tests. Thereafter the glue would be prepared from that material by an additional treatment (another type of "digestion").

The defendant did not use the process described in the patent: it did not subject its cassava carbohydrate material to preliminary digestion and claimed that the material it used, which was a selected carbohydrate having in its natural state a low water absorptivity, would not qualify under the tests defining the digested starch of the patent. The plaintiff argued that the defendant's product was substantially the same as that of the invention and that the patent was entitled to cover such a product independently of the method of manufacture because Perkins, by his invention, had been the first to obtain such a product. The principal claim in suit was designed to assert this contention, reading as follows:

"28. A glue comprising cassava carbohydrate rendered semi-fluid by digestion and having substantially the properties of animal glue."<sup>62</sup>

The primary objection to the quoted claim was not that the expression "having substantially the properties of animal glue" was vague and indefinite in its meaning, as it might at first sight appear, for it was clear from the specifications and well understood in the art what particular qualities of animal glue were meant by the phrase. The basic objection was that in this phrase of the claim lay the entire distinction from the prior art, and since the phrase defined the composition invented entirely in terms of desirable qualities which in themselves did not constitute the invention, the claim was broader than the invention. The claim was too broad because it covered adhesive compositions which owed nothing to the invention, and for the manufacture of which the patent taught practically nothing. This case was not one of those in which the inventor, having described a new product and what seemed to him the best way of making it, in his patent explains the principle of the invention sufficiently to enable those skilled in the art to deduce various other forms of the invention which will yield its advantages. In this case, the Court noted, the patent contained no guide to any forms of the invention not obtained by starting with Perkins' preliminary digestion of the cassava carbohy-

<sup>62</sup> Id. at 250.

drate. Any vague hints that other methods of preparation might exist, being merely suggestions for extensive experiments, could not form a substantial part of the invention disclosed. The vagueness that the Court condemned lay not in the terms of the claims, which defined characteristics which the trade and the Court seemed to understand quite well, but in the lack of support in any part of the patent for the assertion of the claim that all the products so defined were necessarily the invention of Perkins, patentable to him simply because he had first prepared a class of compositions having the obviously desirable properties specified.

The relation of this decision to *O'Reilly v. Morse* appears from the following passage in the opinion of Mr. Justice Stone, who spoke for a unanimous Court:

“Respondent argues that this principle, applicable to machine patents, is inapplicable to a patent for the composition of matter which is always the result of a process and concededly is patentable as such, but the attempt to broaden product claims by describing the product exclusively in terms of its use or function is subject to the same vice as is the attempt to describe a patentable device or machine in terms of function. As a description of the invention it is insufficient and if allowed would extend the monopoly beyond the invention. . . .”<sup>63</sup>

A case which presented a true instance of objectionable indefiniteness of the claim, rather than primarily the question of whether the claim was broader than the invention, was *General Electric Co. v. Wabash Appliance Corp.*,<sup>64</sup> in which a typical claim was for

“A filament for electric incandescent lamps or other devices, composed substantially of tungsten and made up mainly of a number of comparatively large grains of such size and contour as to prevent substantial sagging and offsetting during a normal or commercially useful life for such a lamp or device.”<sup>65</sup>

The Court found that such a claim gave no adequate indication of what was within its terms and what was beyond them, and that the claim therefore did not “particularly point out and distinctly claim the improvement part or combination” which the inventor claims as his invention or discovery, as required by section 4888 of the Revised Statutes.<sup>66</sup>

<sup>63</sup> Id. at 257, 258.

<sup>64</sup> 304 U.S. 364, 58 S.Ct. 899 (1938).

<sup>65</sup> Id. at 368.

<sup>66</sup> 35 U.S.C. (1940) § 33.

There is a similarity between *General Electric Co. v. Wabash* and *Holland Furniture Co. v. Perkins* in that in each the patentee fell into difficulty by stating his claim in terms of an ultimately desired objective. But, in the former case, the statement of the structure in terms of result was incapable of providing a reasonably certain test to determine what was within or without the terms, whereas in the latter case the definition of the composition of matter in terms of desirable properties was probably certain enough for the purpose of establishing a line of division between things included and things excluded (at least so the question seems to have been treated) but it was evident that some of the things included could not properly be claimed in the patent since they were beyond the scope of the invention disclosed.

Both the aspect of indefiniteness and that of undue breadth were involved in claims for a product in terms of ultimately desired properties which came before the Court in *United Carbon Co. v. Binney & Smith Co.*<sup>87</sup> It is to be noted that this patent was subsequently reissued with more detailed claims and upheld in that form against the same defendant,<sup>88</sup> with the result that the various manufacturers in the trade have now taken royalty-bearing licenses under the reissued patent.

The general question of the patentability of an invention involving an unexpected result without novel technique in attaining it was involved in *Funk Brothers Seed Co. v. Kalo Inoculant Co.*<sup>89</sup> It appeared in that case that prior to the invention in question it had been commonly supposed that an effective mixture of bacterial inoculants for increasing nitrogen fixation by leguminous plants could not be obtained because the several species of bacteria, specific for this purpose to the different types of plants, would inhibit each other in their activity. Apparently the only original contribution upon which the patent was based was the teaching that the above-mentioned mutual inhibition of the different species of bacteria, though a serious problem, did not

<sup>87</sup> 317 U.S. 228, 63 S.Ct. 165 (1942). The claims in this case were much more in terms of physical characteristics of the product (carbon black in pellet form) rather than the purpose for which the characteristics were desired, so that the claims resembled those in *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245, 48 S.Ct. 474 (1928) rather than those in *General Electric Co. v. Wabash*, 304 U.S. 364, 58 S.Ct. 899 (1938), but the decision stressed primarily the objection of indefiniteness, which was more critically involved in the *Wabash* case.

<sup>88</sup> *United Carbon Co. v. Carbon Black Research Foundation*, (D.C. Md. 1945) 59 F. Supp. 384.

<sup>89</sup> 76 U.S.P.Q. 280, 68 S.Ct. 440 (1948), reversing *Kalo Inoculant Co. v. Funk Bros. Seed Co.*, (C.C.A. 7th, 1947) 161 F. (2d) 981.

always take place, and that by a process of trial and error certain strains of bacteria could eventually be found which would not be mutually inhibitive. Beyond that teaching, the patent taught the art only to apply well-known experimental techniques to select the desired bacterial strains by the same straightforward process of trial and error used by the patentee in first accomplishing the new result, although the previous success by the patentee naturally reduced the business risk of those who might thereafter wish to repeat the performance. The patent disclosed no way of determining whether a mixture of bacterial strains of this general type was the product of the invention other than by testing to determine whether mutual inhibition of activity took place. The claims were for the non-inhibitory inoculant mixtures.

The majority of the Supreme Court, in holding the patent invalid and reversing the decision of the circuit court of appeals, disposed of the problem by reference to the recognized doctrine that one who discovers a principle or law of nature may not obtain a patent directed broadly to the application of such principle or law. Answering the contention that the claims were not directed to a mere principle, but to a new substance prepared in accordance with a newly discovered scientific fact, the Court, speaking through Mr. Justice Douglas, said:

“ . . . A product must be more than new and useful to be patented; it must also satisfy the requirements of invention or discovery. . . . The application of this newly-discovered natural principle to the problem of packaging of inoculants may well have been an important commercial advance. But once nature’s secret of the non-inhibitive quality of certain strains of the species of *Rhizobium* was discovered, the state of the art made the production of an inoculant a simple step. Even though it may have been the product of skill, it certainly was not the product of invention.”<sup>70</sup>

Mr. Justice Frankfurter evidently recognized the sweeping character of the view above quoted and the threat thereby involved to many meritorious inventions, for in his concurring opinion he outlined a narrower and more compelling ground for the decision of the Court, saying:

“ . . . The strains by which Bond secured compatibility are not identified and are identifiable only by their compatibility.”<sup>71</sup>

<sup>70</sup> 68 S.Ct. 440 at 442.

<sup>71</sup> *Id.* at 443.

This adverts to the fact that not only the claims, but the whole patent identified the claimed product only by the result.<sup>72</sup> Explaining the defect of the patent further Mr. Justice Frankfurter continued:

"Unless I misconceive the record, Bond makes no claim that Funk Brothers used the same combination of strains that he had found mutually compatible. He appears to claim that since he was the originator of the idea that there might be mutually compatible strains and had practically demonstrated that some such strains exist, everyone else is forbidden to use a combination of strains whether they are or are not identical with the combinations that Bond selected and packaged together. It was this claim that, as I understand it, the District Court found not to be patentable, but which, if valid, had been infringed.

". . . The Circuit Court of Appeals seems to me to have proceeded on the assumption that only 'a particular composite culture' was devised and patented by Bond, and then applies it [the claim] to 'any composite culture' arrived at by deletion of mutually inhibiting strains. . . .

"The consequences of such a conclusion call for its rejection. Its acceptance would require, for instance in the field of alloys, that if one discovered a particular mixture of metals, which when alloyed had some particular desirable properties, he could patent not merely this particular mixture but the idea of alloying metals for this purpose, and thus exclude everyone else from contriving some other combination of metals which, when alloyed, had the same desirable properties."<sup>73</sup>

That the views thus nicely expressed in the precise logic of Mr. Justice Frankfurter were not foreign to the feelings of the majority of the Court, and that the difference is rather one of some minds preferring a lance and others a lancet (and respectively viewing the effort as jousting or surgery<sup>74</sup>), is indicated by the following passage from

<sup>72</sup> Justices Burton and Jackson went further in disagreeing with the reasoning of the majority and dissented, stating, *inter alia*, that "an inventor should not be denied a patent upon an otherwise patentable discovery merely because the nature of the discovery defies description in conventional terms." 68 S.Ct. 440 at 445 (1948).

<sup>73</sup> *Id.* at 443.

<sup>74</sup> The comparison, though critical, is not meant invidiously. A case may be made for jurisprudence by a criss-cross of vivid and incisive decisions, leaving reconciliation of different approaches for future treatment as the cases come up (and for law review comment in the meanwhile), rather than by an intricate, delicate and sometimes barely comprehensible network of distinctions and statements carefully qualified to allow even for remote precedents and future contingencies. To some extent the former method, being less laborious as well as readily appreciated, is inevitable as well as useful, but to

the majority opinion, which almost immediately follows the portion previously quoted:

“There is no invention here unless the discovery that certain strains of the several species of these bacteria are non-inhibitive and may thus be safely mixed is invention. But we cannot so hold without allowing a patent to issue on one of the ancient secrets of nature now disclosed.”<sup>75</sup>

The question of the proper form of patent claims was treated in some of its broadest aspects by the Supreme Court recently in the opinion in *Halliburton Oil Well Cementing Co. v. Walker*.<sup>76</sup> This case was a suit for infringement of Walker's patent No. 2,156,519 and came up on certiorari to the Circuit Court of Appeals for the Ninth Circuit, which had affirmed a judgment holding this patent valid and infringed by Halliburton.

The patent was avowedly for an improvement of a device previously disclosed in Lehr and Wyatt patent No. 2,047,974, which device was an apparatus for finding the depth of the liquid level, or of other obstructions, in an oil well, by means of a pressure impulse suddenly released from a pressure chamber and communicated to the well, and thereafter reflected inside the well and picked up by a sensitive receiver at the top of the well. The receiver was arranged to record variations of pressure on a moving paper of film, and the larger variations resulting from reflections of the pressure impulse in the well would leave a distinguishable trace on the record. The depth of the liquid level in the well could be estimated from the time interval between the original impulse and the reception of the reflection of that impulse from the liquid surface, the time interval being obtained from the scale of the record, but the determination was subject to uncertainties resulting from the variation of the velocity of travel of the impulse wave in the well.

Although Lehr and Wyatt gave a formula for taking account of the effect of temperature and pressure on the velocity of travel of the impulse wave, that did not enable the user of the apparatus to take sufficient account of variations of the velocity of travel of the impulse wave in the various parts of the well, resulting in a degree of uncertainty which impaired the usefulness of the apparatus. Walker's

the extent that judicial time and rare personalities are available for the more elegant procedure, that discipline is to be encouraged and its best products highly prized.

<sup>75</sup> 76 U.S.P.Q. 280, 68 S.Ct. 440 at 442.

<sup>76</sup> 329 U.S. 1, 67 S.Ct. 6 (1946).

patent was directed to an improvement of the apparatus to avoid that uncertainty. Walker's invention was predicated upon the appreciation that the regularly spaced collars joining the lengths of tubing inside the well would provide a reliable scale factor if the reflections from these small constrictions of the annular space between the tubing and well wall could be clearly obtained on the echo record as scale marks; to which he added the valuable teaching that although these small reflections were so slight as to be indistinguishable in Lehr and Wyatt's results among the random noise variations to which echo-sounding devices are subject, no matter how much all these variations might be amplified together, yet the echoes from the evenly spaced tubing collars, faint as they were, would arrive in regular time sequence, with the result that a tuned system could be interposed to respond selectively to these echoes and increase their relative magnitude on the final record. The concept was brilliant and novel: although various arrangements for echo-sounding were known, there was not the remotest suggestion in the prior art that the echoes from the tubing collars in a well would be useful if made distinguishable and there was no finding that even if the echoes received by the Lehr and Wyatt device were amplified, as suggested in a general way in the Lehr and Wyatt patent, the echoes from the tubing collars would then be distinguishable from background noise with any practical certainty.

Walker described in his patent a simple and direct embodiment of his invention in an oil well sounding apparatus. He provided an adjustable length of pipe ahead of his receiver which he directed to be adjusted so as to resonate at the frequency of arrival of the echoes of the tubing collars, or at one of the harmonics of that frequency (he preferred the third harmonic, using a pipe approximately one-third the length of the pipes between tubing collars in the well). In his patent he did not describe alternative embodiments of the invention not using an acoustic resonator for providing the desired selective magnification of the tubing collar echoes, but his claims were not all limited to embodiments of the invention using an acoustic resonator, as will be seen from the text of claim 1:

"1. In an apparatus for determining the location of an obstruction in a well having therein a string of assembled tubing sections interconnected with each other by coupling collars, means communicating with said well for creating a pressure impulse in said well, echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for measuring lapse of time between the creation of

the impulse and the arrival at said receiving means of the echo from said obstruction, and means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other.”<sup>77</sup>

The defendant, Halliburton Oil Well Cementing Company used a sounding apparatus in which an electrical filter designed to respond selectively to the frequency of the echoes from tubing collars was embodied in the receiver and performed the function of accentuating these echoes obtained in Walker’s device by the provision of the acoustic resonator. The lower courts found this electrical filter to be equivalent in purpose and manner of operation with the acoustic resonator described by Walker, and, as used in the echo-sounding arrangement, fully within the scope of the invention described and claimed by Walker.<sup>78</sup> The court of appeals, moreover, was in a position to find its conclusions confirmed by the attitude of the Patent Office, for it noted:

“Apart from expert testimony, the finding of equivalency appears to have support in statements of the the Patent Office Examiner made during the course of repeated rejection of an application of Walker’s for an electrical impulse receiving and tuning device. The Examiner referred to No. 2,156,519, which had already issued, saying ‘The Walker patent discloses means for tuning mechanically to the selected echo, but it is obvious that electrical tuning could be used instead in a system comprising an electrical receiving circuit. . . .’ The equivalence of electrical tuning and mechanical tuning for selective reception was thought to be so generally recognized that citation of an illustrative reference was not considered necessary.”<sup>79</sup>

Against the contention that the claim was too broad on the “exact point of novelty,” the court of appeals distinguished *Holland Furniture Co. v. Perkins* by observing<sup>80</sup> that the invention claimed by Walker was not a resonator (acoustic resonators, as well as electrical filters of equivalent performance, were in fact known before this invention, so far as concerned such devices *per se* and in other combina-

<sup>77</sup> Id. at 9, note 7.

<sup>78</sup> *Halliburton Oil Well Cementing Co. v. Walker*, (C.C.A. 9th, 1944) 146 F. (2d) 817, rehearing (C.C.A. 9th, 1945) 149 F. (2d) 896.

<sup>79</sup> Id. at 821.

<sup>80</sup> See particularly the concurring opinion of Denman, C.J. upon rehearing, (C.C.A. 9th, 1945) 149 F. (2d) 896.

tions) but rather a combination of elements, each of which might by itself be old. The claim was for a combination of three devices respectively chosen from a class of devices defined by a clause in the claim introduced by the term "means." The Court could have cited *Morley Sewing Machine Co. v. Lancaster*<sup>81</sup> in support of the validity of this type of claim.

The Supreme Court, upon rehearing after having affirmed by an equally divided Court,<sup>82</sup> reversed the judgment, finding the claims objectionable under the doctrine of *Holland Furniture Co. v. Perkins* and *General Electric Co. v. Wabash*, Mr. Justice Black speaking for the Court, while Mr. Justice Frankfurter concurred and Mr. Justice Burton dissented without opinion. The Court treated the decision below as not requiring the same standards of description for combination claims as are required for product claims.<sup>83</sup> The court of appeals had evidently not intended to relax the statutory standards for combination patents, but had merely meant to maintain the established view that elements old in the art need not be referred to in patent claims in the same detail as novel elements and new construction.<sup>84</sup> The Supreme Court opinion, however, leads to the important point that when an old combination of elements is replaced by a novel combination, also of old elements, which differs from the former by the presence of an additional element which is new to the environment although old by itself, the latter is the distinguishing feature of the combination for the purposes of the patent, and the terms in which it is defined are accordingly more critically considered than the rest in connection with the statutory standard.<sup>85</sup>

But, as the Court viewed the claim, it was nevertheless analogous

<sup>81</sup> Note 43, supra. Accord: *Davis Sewing Machine Co. v. New Departure Mfg. Co.*, (C.C.A. 6th, 1914) 217 F. 775.

<sup>82</sup> 326 U.S. 696, 66 S.Ct. 482 (1946). Certiorari was granted Oct. 15, 1945 after denial the previous week. 326 U.S. 740, 705, 66 S.Ct. 52, 90, 482 (1946).

<sup>83</sup> "We are not persuaded that the public . . . should lose the protection of this statute [U.S. Rev. Stat. (1878). § 4888] merely because the patented device is a combination of old elements." 329 U.S. 1 at 9, 67 S.Ct. 6 (1946).

<sup>84</sup> Perhaps Justice Frankfurter had this point in mind when he concurred with reservations "as to considerations that may be peculiar to combination patents in satisfying that requirement [U.S. Rev. Stat. (1878) § 4888]." 329 U.S. 1 at 14, 67 S.Ct. 6 (1946).

<sup>85</sup> Such is clearly the import of *Heidbrink v. McKesson*, (C.C.A. 6th, 1923) 290 F. 665. In that case the court carefully measured the extent of the inventor's contribution against the scope of the claims, and in holding the latter invalid was careful not to condemn the generality of the language except for the lack of a commensurately broad invention. The court said (p. 668): "We do not mean to say that a claim which in a very general way calls for means is necessarily functional and bad—quite the contrary. . . ."

in form to that upheld in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*,<sup>86</sup> where it was found that all of the elements of the combination claimed were known to the art in similar arrangements except the element defined as:

“ . . . operating means for the forming plate adapted to cause the said plate to oscillate about its rear edge upon the surface of the cylinder during the rotary movement of said cylinder . . . .”<sup>87</sup>

That was held to cover properly not only the construction shown in the patent but also a rather different arrangement of mechanical parts which the Court found to have an equivalent function. In *Halliburton v. Walker* Mr. Justice Black distinguished the *Paper Bag* case with the remark: “In that case, however, the claims structurally described the physical and operating relationship of all the crucial parts of the novel combination.”<sup>88</sup> This, then, must now be the commandment upon which hang the law and the prophets so far as section 4888 of the Revised Statutes is concerned. In view of the fact that the Court did not directly controvert the lower courts’ conclusion that the invention was of such scope as to comprehend electrical as well as mechanical equivalents of Walker’s acoustic resonator in his combination of apparatus, the decision leaves a question as to whether any language capable of defining the full scope of that invention could meet the approval of a court following this decision.<sup>89</sup>

Mr. Justice Black’s suggestion that Walker should have relied on claims describing his apparatus in the specific form devised by him

<sup>86</sup> 210 U.S. 405, 28 S.Ct. 748 (1908).

<sup>87</sup> *Id.* at 417.

<sup>88</sup> 329 U.S. 1 at 13, 67 S.Ct. 6 (1946). The suggestion should be taken together with the following criticism of Walker’s claim (*id.* at 9): “But no one of the claims on which this judgment rests has even suggested the physical structure of the acoustical resonator. No one of these claims describes the physical relation of the Walker addition to the old Lehr and Wyatt machine. No one of these claims describes the manner in which the Walker addition will operate together with the old Lehr and Wyatt machine so as to make the ‘new’ unitary apparatus perform its designed function. Thus the claims failed adequately to depict the structure, mode, and operation of the parts in combination.” The latter statement has been analyzed in detail by Dunham, “Drafting Patent Claims,” *J. PAT. OFF. SOC.* 318 at 327 (1947).

<sup>89</sup> Many, if not most, practitioners would have regarded Walker’s claim, quoted *supra*, pp. 776-777, as a fair and definite expression of the scope of the invention as found by the lower courts, and, even more so, claim 15, which received similar treatment in this case. Walker’s invention involved the interposition of a frequency-selective device, not the design of an acoustic resonator. The latter could have been provided by any intelligent engineer after it had been revealed to him that a frequency-selective device was desirable in this arrangement (which in the previous form operated entirely on an aperiodic principle). On the other hand, the standards of expression of the profession may benefit from the stimulus to find clearer forms of claims, which the decision in *Halliburton v. Walker* has provided.

—including the acoustic type of resonator—and that courts might then apply the “doctrine of equivalents” to hold devices having electrical equivalents of the acoustic resonator as infringements of such limited claims,<sup>90</sup> would appear to contribute little to the definiteness and particularity of claims. Definiteness would be more apparent than real if claims required to be narrow are to be generally applied with a liberal doctrine of equivalents extending in effect beyond the terms of the claims. The art might prefer, as a guide to what is within the patent, a “means for . . .” clause literally broader, but in effect more limited in its application by the strict import of its terms; and perhaps the statute would be better satisfied by claims which attempt to indicate distinctly the actual scope of the monopoly as it may be enforced and permit little or no stretching to “equivalents” outside their terms, rather than by claims apparently limited to one specific form of the invention described in detail, in the name of which the inventor is entitled to cover other undefined “equivalents.” Patentees should be encouraged to define the range of equivalence to the extent that that is possible, with the understanding that they are thereby excluding other arrangements as possible equivalents.

One may wonder to what extent the decision of the Supreme Court was influenced by an undercurrent of disagreement with the findings of the lower courts. The Court accepted the findings to the extent necessary to support the conclusion that the specific form of apparatus described by Walker (having an acoustic resonator) involved patentable invention, and avoided upsetting the lower court’s finding that the electrical filter was an equivalent of the acoustic resonator in the sense of the patent law, preferring to dispose of the case without passing on the range of equivalents that might be accorded to claims in proper form. It is interesting, however, to contrast the attitudes implicit in the following statements, taken respectively from the opinion of the circuit court of appeals and that of the Supreme Court:

“Walker made a very substantial improvement over Lehr and Wyatt . . . While Lehr and Wyatt suggest an amplifier, they neither suggest nor claim any device which would enable the operator to tune up certain desirable echoes while tuning out undesirable ones.”<sup>91</sup>

<sup>90</sup> 329 U.S. 1 at 13, 67 S.Ct. 6 (1946). It is to be doubted that this remark was intended to presage wider future application of the “doctrine of equivalents.” In its present state that doctrine gives little assurance to patentees of coverage beyond the terms of the claims, in view of *Keystone Bridge Co. v. Phoenix Iron Co.*, 95 U.S. 274 (1877), and *McClain v. Ortmyer*, 141 U.S. 419, 125 S.Ct. 76 (1891).

<sup>91</sup> (C.C.A. 2d, 1944) 146 F. (2d) 817 at 819.

“Lehr and Wyatt had provided amplification for their waves. Sufficient amplification and exaggeration of *all* the different waves which Lehr and Wyatt recorded on their machine would have made it easy to distinguish the tubing catcher and regular shoulder waves from all others. For, even without this amplification, the echo waves from the tubing collars could by proper magnification have been recorded and accurately counted, had Lehr and Wyatt recognized their importance in computing the velocity.”<sup>92</sup>

The latter passage is open to threefold criticism: (1) It confuses the proposal of amplifying all the waves equally, which would not improve the “signal-to-noise ratio,” with selective amplification, which would amplify the selected signal. (2) It overlooks the fact that if it were possible to observe reliably and count accurately the tubing collar echoes by amplifying in the receiver without using Walker’s sound filter or its electrical or mechanical equivalent, such an arrangement would not be within the claims and would be open to the public even if these claims were upheld. (3) Any conclusion predicated on what might have been the case “had Lehr and Wyatt recognized” the importance of the tubing collar echoes means no more than the deduction that if Lehr and Wyatt had conceived that much of Walker’s invention and published the suggestion in their patent, the invention would not have been patentable to Walker. Certainly it would not have been broadly patentable, and possibly it would not have been patentable at all, for once the desirability of amplifying selectively the tubing collar echoes and the regular periodic character of these echoes were fully appreciated, it was probably but a matter of ordinary good engineering to arrange an acoustic resonator to provide the selective amplification at the frequency of the echoes.

The Supreme Court also said the art was “crowded,” but if the closest references were the Lehr and Wyatt patent and another patent cited by the court which showed an acoustic resonator for use in sound ranging of artillery (quite a different type of arrangement),<sup>93</sup> it is hard to deduce from such “crowding” that others prior to Walker would, without the exercise of invention on their part, have had in the back of their minds the broader aspects of Walker’s improvement to which the claims in suit referred. If such a deduction was involved in the Court’s reasoning, the Bar should prepare to see prior art refer-

<sup>92</sup> 329 U.S. 1 at 11, 67 S.Ct. 6 (1946).

<sup>93</sup> Tucker patent No. 1,351,356. If this had been any anticipation of Walker’s invention at all, it would have anticipated the specific form of the invention shown in detail by Walker as fully as the more general type of organization claimed in the broader claims.

ences given liberal benefit of engineering speculation (of course founded on the testimony of qualified expert witnesses, but perhaps still in the class of "the best butter" if the testimony is essentially speculative<sup>94</sup>) in determining their effect as anticipation of inventions subsequently patented by others. Even if this involves no more than a change "in degree" from the familiar way of dealing with prior art references in adjudicating a patent, the question is of major importance.

Mr. Justice Black seems to express a preference for leaving the question of the boundaries of the broader aspects of this type of invention to the determination of the courts through the application of the "doctrine of equivalents" beyond the precise terms of narrow claims limited to the forms of the invention specifically disclosed, rather than going on the basis of the definition of the broader aspects in the invention worked out by the inventor's attorney and the Patent Office Examiner and embodied in the broader claims (subject to the usual reconsideration, but applying the same principles as the Patent Office applies, in the light of whatever new facts or references come out in the infringement suit). In arriving at that view he stated that in applying the doctrine of equivalents the rule is that nothing is an equivalent if

(1) it performs a substantially different function;

(2) it was not known at the date of Walker's patent as a proper substitute for the resonator; or

(3) it had been actually invented after the date of the patent.

This point concerns, not the defendant's arrangement which involved a type of equivalency known as a general proposition at the time of Walker's invention, but the possibility that "in this age of technological devices there may be many other devices beyond our present information or indeed our imagination which will perform that function and yet fit these claims."<sup>95</sup> But although the proposition is fully supported by *Gill v. Wells*<sup>96</sup> and *Fuller v. Yentzer*,<sup>97</sup> cited by the court, the second and third branches of the proposition are inconsistent<sup>98</sup> with

<sup>94</sup> Cf. *Eames v. Andrews*, 122 U.S. 40, 7 S.Ct. 1073 (1887); *Dewey & Almy Chemical Co. v. Mimex Co., Inc.*, (C.C.A. 2d, 1942) 124 F. (2d) 986 at 989 (per L. Hand, J.); *Williams Iron Works v. Hughes Tool Co.*, (C.C.A. 10th, 1940) 109 F. (2d) 500 at 506, 510; *Wisconsin Alumni Research Foundation v. George A. Breon & Co., Inc.*, (C.C.A. 8th, 1936) 85 F. (2d) 166.

<sup>95</sup> 329 U.S. 1 at 12, 67 S.Ct. 6 (1946).

<sup>96</sup> 22 Wall. (89 U.S.) 1 (1874).

<sup>97</sup> 94 U.S. 289 (1877).

<sup>98</sup> *Gill v. Wells* has been cited by the Supreme Court heretofore only twice on this point: *Imhaeuser v. Buerk*, 101 U.S. 647 (1879); *Electric Signal Co. v. Hall Railway Signal Co.*, 114 U.S. 87 at 98, 5 S.Ct. 1069 (1885). The former opinion was by Mr. Justice Clifford who had written the opinion in *Gill v. Wells*. Electric

later cases, such as *Cantrell v. Wallick*<sup>99</sup> and *Morley Sewing Machine Co. v. Lancaster*,<sup>100</sup> which clearly establish the propriety of claims covering forms of the invention using subsequently discovered and patented improvements instead of the originally suggested form of some of the elements.

In *Continental Paper Bag Co. v. Eastern Paper Bag Co.*,<sup>101</sup> the defendant's subsequently developed alternative form involved the substitution of an alternative structure for the very element of the patented combination which was held to contribute novelty to the combination. Before a claim is held invalid because future improvements will owe tribute to it, it should be established on competent evidence that such improvements would not stand on the shoulders of the invention, but on independent ground (in which case there would be more than an ordinary improvement). It may be seriously questioned whether any future developments of that character would come within the claims in suit in *Halliburton v. Walker*, unless one takes a much narrower view of the nature of the invention than the lower courts took. In this connection, again, it would seem that the chief difference between the opinions of the court of appeals and of the Supreme Court is that the former thought the invention was as broad as the claims, and that the Supreme Court did not.

A curious aspect of the opinion in *Halliburton v. Walker* is that Mr. Justice Black stated that ". . . petitioner's application to this Court for certiorari urged, among other grounds, that the claims held valid failed to make the 'full, clear, concise and exact' description of the alleged invention required by Rev. Stat. 4888. . . ." <sup>102</sup> Yet the nearest corresponding statement in the petition is the allegation that the lower court erred in holding that the claims in suit ". . . defined the alleged improvement thereof with sufficient distinctness and clarity to comply with R.S. Sec. 4888 requiring a patentee to 'particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.'" <sup>103</sup>

*Signal Co. v. Hall Signal Co.* also cites *Fuller v. Yentzer*, 94 U.S. 289 (1877), in which the opinion was also by Mr. Justice Clifford, who left the bench in 1881. By the time Robinson's treatise appeared in 1890, this doctrine appears to have fallen into discredit. Cf. 1 ROBINSON, PATENTS, §§ 256-257 (1890). This matter was discussed in detail by Mr. Dean S. Edmonds, of the New York Bar, in a lecture before the New York Patent Law Association in 1947.

<sup>99</sup> 117 U.S. 689, 6 S.Ct. 970 (1886).

<sup>100</sup> 129 U.S. 263, 9 S.Ct. 299 (1889).

<sup>101</sup> 210 U.S. 405, 28 S.Ct. 748 (1908).

<sup>102</sup> 329 U.S. 1, 67 S.Ct. 6 (1946).

<sup>103</sup> *Id.* at 2.

Mr. Justice Black referred to the portion of section 4888 of the Revised Statutes which has generally been regarded as referring to the specification and drawings of the patent, while the petition adverted to the portion of section 4888 of the Revised Statutes which more particularly refers to the claims. In the act of 1790, long before the claims had become essential elements of patents, the twin tasks of teaching the public how to practice the invention and informing it concerning how the invention differs from prior devices (hence advising it of the scope of the monopoly) were both mentioned but yoked in a single requirement.<sup>104</sup> But ever since then the corresponding provision of law has contained two distinct requirements. One now demands a full, clear, concise and exact disclosure to enable the public to practice the invention and obtain the technological benefit from it. The second now requires that the inventor "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery."<sup>105</sup>

Probably Mr. Justice Black was influenced by the use of the words "describe" and "description" with reference to the claims in the above-quoted portion of the opinion in *Holland Furniture Co. v. Perkins*.<sup>106</sup> But that the Court in that case should have preferred the term "describe" to express the necessity of accurate and distinct relation between the claim and the subject matter it purports particularly to point out or distinctly to claim, is hardly basis for supposing that the Court there intended to maintain that in each claim the inventor must provide

". . . a written description . . . in such full, clear, concise, and exact terms as to enable any person skilled in the art or science

<sup>104</sup> Note 7, supra.

<sup>105</sup> The latter has been traced through the various statutory enactments in the first part of this article. Note also the following statement from CURTIS, PATENTS, 3d ed., § 227 (1867) (p. 256 in 4th ed., 1873):

"The claim is not intended to be any description of the means by which the invention is to be performed, but is introduced for the security of the patentee, that he may not be supposed to claim more than he can support as an invention. It is introduced lest in describing and ascertaining the nature of his invention, and by what means the same is to be performed (particularly in the case of a patent for an improvement), the patentee should have inadvertently described something which is not new, in order to render his description of the improvement intelligible. The claim is *not intended to aid the description, but to ascertain the extent of what is claimed as new*. It is not to be looked to as the means of making a machine according to the patentee's improvements."

Instances of confusion on this point in the lower courts are collected and quaintly commented on by STRINGHAM, PATENT CLAIMS 79-80 (1939).

<sup>106</sup> Page 771, supra. The passage from *Gill v. Wells*, 22 Wall. (89 U.S.) 1 at 25-26 (1874), quoted by Mr. Justice Black, 329 U.S. 7 at 10, 11, 67 S.Ct. 6 (1946), has a similar tendency to confuse the two portions of the statute by inference rather than by direct statement.

to which it [the invention] appertains, or with which it is most nearly connected, to make, construct, compound, and use the same. . . .”<sup>107</sup>

If there were any doubt on this point, it should be resolved by the subsequent opinion in *General Electric Co. v. Wabash*, in which the Court clearly expressed the traditional analysis of the statute.<sup>108</sup>

The distinction between *Halliburton v. Walker* and the *Paper Bag* case provided the ground of decision in the recent case of *Minnesota Mining & Manufacturing Co. v. International Plastic Corp.*<sup>109</sup> There the Circuit Court of Appeals for the Seventh Circuit said:

“In the Walker case, the specification of the patent disclosed only one means for accomplishing the objective of the patentee, while the claim covered all means by which his purpose could be accomplished.”<sup>110</sup>

Then, after quoting Mr. Justice Black’s reference to the *Paper Bag* case,<sup>111</sup> the court ruled that the claims in issue were strictly analogous to the claims in the *Paper Bag* case and not similar to the Walker claims. The claims in issue covered an adhesive tape with a non-fibrous base (for example, cellophane) in which the novel element of structure was claimed in the phrase “the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of the adhesive.”<sup>112</sup>

The defense in that case urged that the invention must be limited to the form more particularly described in the patent in which a primer coat was provided between the backing and the adhesive, in order that the latter would adhere more firmly to the side of the backing bearing the primer, than to the reverse side. It maintained that defendant’s adhesive tape, which used a repellent on the reverse side to cause the adhesive to adhere less to that side than to the other, was not of a construction equivalent to the form of construction embodying a primer coat such as that described in the patent. Interestingly enough, the court not only enforced the broad claims which included the ac-

<sup>107</sup> U.S. Rev. Stat. (1878) § 4888. This is the passage referred to in *Halliburton v. Walker*.

<sup>108</sup> 304 U.S. 364 at 368-369, 58 S.Ct. 899 (1938).

<sup>109</sup> (C.C.A. 7th, 1947) 159 F. (2d) 554.

<sup>110</sup> Id. at 558.

<sup>111</sup> Quoted p. 779, *supra*.

<sup>112</sup> Id. at 556, note 1.

cused construction within their terms, but also applied the technique inferentially preferred by the Supreme Court in *Halliburton v. Walker* of enforcing claims strictly descriptive of the particular form of the invention shown in the patent, to cover "equivalent" forms not strictly within the terms of such claims. Thus claim 10, which included as an element "an interposed transparent primer coating unified both to said surface [of the backing] and to said adhesive coating" was held infringed by the above-mentioned construction of the defendant's tape because "in each case . . . the . . . structure . . . produces substantially the same result in substantially the same way by substantially the same means."<sup>113</sup>

If consistent application of the "doctrine of equivalents" beyond the terms of claims strictly descriptive of particular forms of the invention shown in detail in the patent could be relied on, the protracted prosecution of claims describing the broader aspects of inventions in Patent Office proceedings could be dispensed with and few claims could do the work of many, much as they did years ago. But such a policy could hardly be regarded as engendered by the terms of section 4888 of the Revised Statutes, which requires that the inventor particularly point out and distinctly claim what he regards as his invention (that is, that he define the scope of the monopoly claimed).

At any rate, whatever its exact meaning, the decision in *Halliburton v. Walker* will probably stimulate inventors to disclose in their patents as many equivalents as they can think of. A similar situation already exists in the chemical field where the courts have been reluctant to recognize equivalencies except in very well-established instances.<sup>114</sup> Allusions to a long list of equivalents do not unduly lengthen most chemical patents, but in the mechanical and electrical fields, where drawings are extensively required, the result may make many patents into small or even large textbooks. (Some are practically that already because the standard of complete disclosure in American patent law is already the highest in the world.) And even if all equivalents are disclosed, the preparation of a generic claim (in the absence of which the Patent Office might require a division into separate patents) to meet the standards of *Halliburton v. Walker* may offer substantial difficulty, although the continued authority of the *Paper Bag* decision will offer some help, or at least hope, in that regard.

<sup>113</sup> (C.C.A. 7th, 1947) 159 F. (2d) 554 at 556, note 1 and 557.

<sup>114</sup> Ex parte Kattwinkel, (Pat. Off. Bd. App. 1931) 12 U.S.P.Q. 11, is a Patent Office decision tersely distinguishing the extent of disclosure necessary to support broad claims according to whether ordinary physical properties or chemical properties (of a synthetic material used in a composite brake band structure) are involved.