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THE DOCTRINE OF FUNCTIONALITY IN DESIGN PATENT CASES

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Although the doctrine of functionality has received much attention in its application in trademark law,¹ courts and commentators have devoted an inadequate amount of attention to the doctrine as it applies to design patents. This Article attempts such an analysis of the functionality doctrine in the design patent context by discussing the origins of the doctrine, reviewing the leading cases on the issue, and focusing on the underlying reasons for and purpose of the doctrine. This Article concludes that because courts have interpreted the doctrine in two nominally different ways, there is a danger that courts will indiscriminately apply different standards when determining whether a design is functional or nonfunctional. To avoid the unpredictability inherent in such a practice, this Article advocates a clarification of the current standard for determining functionality in the design patent context based on consideration of the purpose for which the doctrine of functionality exists—to reward those who create new and nonobvious designs without hindering competition in the unprotected function.

I. ORIGINS OF THE DOCTRINE OF FUNCTIONALITY IN DESIGN PATENT CASES

A. Statutory Beginning

The term “functionality” is not used in the patent statute with respect to designs.² Nevertheless, courts have read into the statute the requirement that designs be nonfunctional as the converse of the statutory requirement of ornamentality.³ At one time, some courts required that to be ornamental, a design “must be the product of aesthetic skill and artistic conception.”⁴

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3. See In re Carletti, 328 F.2d 1020, 1022 (C.C.P.A. 1964) (stating that if a configuration is functional, it is not ornamental). Some courts have adopted a contrary view by applying functionality and ornamentality as distinct concepts. See Barofsky v. General Elec. Corp., 396 F.2d 340, 342 (9th Cir. 1968), cert. denied, 393 U.S. 1031 (1969).
4. Bliss v. Gotham Indus., Inc., 316 F.2d 848, 850 (9th Cir. 1963) (quoting Blisscraft of Hollywood v United Plastics Co., 294 F.2d 694 (2d Cir. 1961)); see also Applied Arts Corp. v. Grand Rapids Metalcraft Corp., 67 F.2d 428, 430 (6th Cir. 1933) (noting that the design patent statute was created to protect the “decorative arts” and not merely configurations made necessary by function).
The Court of Customs and Patent Appeals (CCPA), however, rejected this view long ago.\(^5\)

In any discussion or application of the doctrine of functionality, it is important to maintain a distinction between the design at issue and the underlying article of manufacture.\(^6\) This distinction is vital because most, if not all, articles upon which patented designs are placed, or articles which themselves comprise the patented designs, are those which perform some utilitarian function.\(^7\) This Article attempts to preserve this distinction in its doctrinal analysis.\(^8\)

### B. Judicial Development of the Doctrine

Rather than trace the historical development of functionality from its first use to the present, the approach taken herein will be first to examine recent decisions of the United States Court of Appeals for the Federal Circuit which discuss the doctrine, and then to review in reverse chronological order the decisions of the CCPA and other federal courts.

#### 1. Interpretations by the Federal Circuit

Presently, there is some confusion whether the functionality standard should be couched in terms of designs which are primarily functional or solely functional. One of the most recent Federal Circuit cases to address the functionality of designs is *Avia Group International, Inc. v. L.A. Gear California, Inc.*\(^9\) In *Avia*, the Federal Circuit reiterated its prior statement in *Power Controls Corp. v. Hybrinetics, Inc.*\(^10\) and *Lee v. Dayton-Hudson Corp.*,\(^11\) that "if a patented design is 'primarily functional,' rather than primarily ornamental, the patent is invalid."\(^12\) The *Avia* court did not discuss

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5. See *In re Koehring*, 37 F.2d 421, 422 (C.C.P.A. 1930) ("[T]he beauty and ornamentation requisite in design patents is not confined to such as may be found in the 'aesthetic or fine arts.'").


7. The following is a list of cases in which design patents were upheld by the United States Court of Appeals for the Federal Circuit and its predecessor courts (the U.S. Court of Customs and Patent Appeals and the U.S. Court of Claims) despite the utilitarian nature of the article of manufacture: *Avia Group Int'l, Inc. v. L.A. Gear Cal., Inc.*, 853 F.2d 1557 (Fed. Cir. 1988) (shoes); *In re Sung Nam Cho*, 813 F.2d 378 (Fed. Cir. 1987) (bottle cap); *Pacific Furniture Mfg. Co. v. Preview Furniture Corp.*, 800 F.2d 1111 (Fed. Cir. 1986) (chairs); *In re Zahn*, 617 F.2d 261 (C.C.P.A. 1980) (drill bit shank); *In re Swett*, 451 F.2d 631 (C.C.P.A. 1971) (food storage bowls); *In re Koehring*, 37 F.2d 421 (C.C.P.A. 1930) (cement mixer).

8. The word "functionality" is used herein in its de jure sense unless the text specifically indicates otherwise.

9. 853 F.2d 1557 (Fed. Cir. 1988).

10. 806 F.2d 234 (Fed. Cir. 1986).

11. 838 F.2d 1186 (Fed. Cir. 1988).

12. 853 F.2d at 1563.
a solely functional standard as it did implicitly in the Federal Circuit's earlier opinions in Power Controls and Lee. In both cases, the Federal Circuit supported its primarily functional language by quoting liberally from CCPA cases espousing a solely functional standard. The court's citation to these authorities has created confusion over which of the two slightly different standards courts should apply in design patent cases.

In both Lee and Power Controls, the Federal Circuit quoted the observation first made in In re Carleton that "[m]any well-constructed articles of manufacture whose configurations are dictated solely by function are pleasing to look upon. . . . But it has long been settled that when a configuration is a result of functional considerations only, the resulting design is not patentable. . . ." Similarly, the Federal Circuit quoted language from the CCPA's opinion in In re Garbo, where the court held that a "design must have an unobvious appearance distinct from that dictated solely by functional considerations" in order to be protected by a design patent.

Thus arises the solely/primarily dichotomy. The choice between the primarily and solely standard is significant because under the former, an element-by-element analysis must be undertaken to determine if a majority of the design elements are functional or ornamental. Under the latter standard, however, design patent protection will be denied only if the overall design is essentially devoid of ornamental character. Presumably, therefore, it will be easier for an alleged infringer to satisfy his burden of proving invalidity under a primarily functional standard.

The Federal Circuit's use of the primarily functional standard has evolved without explanation of the distinction between it and its predecessor—the solely functional standard. Moreover, the Federal Circuit seems unable to remain consistent with its own interpretations of the scope and application of the doctrine. This inconsistency is exemplified by the Federal Circuit's majority opinion, and Judge Newman's dissent, in In re Sung Nam Cho.

In Cho, the Federal Circuit, in its brief footnote reference to the functionality doctrine, remarked simply that "[w]hether Cho's [bottle cap] design is dictated by functional considerations is not an issue in this appeal." Interestingly, the court used neither the solely nor primarily

13. The controlling CCPA decisions quoted by the Federal Circuit were In re Garbo, 287 F.2d 192 (C.C.P.A. 1961) and In re Carleton, 328 F.2d 1020 (C.C.P.A. 1964). See Lee, 838 F.2d at 1188 (quoting Garbo, 287 F.2d at 193-94 and Carleton, 328 F.2d at 1022); Power Controls, 806 F.2d at 238 (quoting Carleton, 328 F.2d at 1022).
15. Id. at 1022 (emphasis added), quoted in Lee, 838 F.2d at 1188 and Power Controls, 806 F.2d at 238.
17. Id. at 194 (emphasis added), quoted in Lee, 838 F.2d at 1188.
18. 813 F.2d 378 (Fed. Cir. 1987).
19. Id. at 382 n.*. The majority reached this conclusion because the Patent and Trademark
The solely functional language used by Judge Newman in Cho, decided fourteen months after Power Controls with no intervening Federal Circuit opinion on functionality, does not comport with the primarily functional language she used subsequently in writing the majority opinion in Lee. This seemingly interchangeable use of terms may thus indicate the absence of a substantive distinction between the two standards. At least one federal court has reached just such a conclusion. Nonetheless, because the Federal Circuit has adopted the decisions of the CCPA as binding precedent, and because the language of such decisions differs from the language in recent Federal Circuit decisions, the CCPA opinions on functionality should be analyzed to resolve any inconsistency that may exist.

2. Interpretations by the CCPA

*In re Carletti* is the most significant CCPA opinion on the issue of functionality and has been cited liberally by the Federal Circuit. The functionality issue in Carletti was straightforward because the design in question related to a gasket for the threaded bung hole of a fifty-five gallon drum. The gasket had been manufactured, and thus presumably designed, to exact government specifications. In its opinion, the court cited to one of its earlier decisions, for the proposition that "it has long been settled that when a configuration is the result of functional..."
considerations only, the resulting design is not patentable as an ornamental design."26 One of the cases cited, In re Garbo,27 utilized the solely functional language and was later quoted in Lee.28

In Garbo, the court was faced with the issue of obviousness in regard to a driving simulator. In discussing the relationship between obviousness and functionality, the court noted that "a design may embody functional features and still be patentable."29 The court, however, made clear that in order to be protected, "the design must have an unobvious appearance distinct from that dictated solely by functional considerations."30 Thus, in both Garbo and Carletti, the CCPA utilized the same solely functional standard.

A number of federal appellate decisions were also cited in Carletti. In one such case, Hueter v. Compco Corp.,31 the Seventh Circuit stated that "[t]he courts have many times held that a purely functional design or one dictated by mechanical or functional requirements is not patentable,"32 and cited in support an earlier Seventh Circuit decision which noted that "[i]t has been held that a design patent cannot properly be obtained on the shape of a device which necessarily results from its mechanical parts."33 The court held that the design of the device in question was the result of functional rather than design requirements because the "shape and configuration failed to exhibit creative artistry and show[ed] nothing suggesting the exercise of invention."34

The Hueter court also cited Smith v. Dental Products Co.,35 in which the Seventh Circuit considered the infringement of a design patent on the configuration of an ampule. The Smith court reasoned that "it has been held that a purely functional design is not patentable" and that "[t]he ampule being functional, it is difficult to perceive how its mere configuration could be other than functional."36 The CCPA in Carletti also cited Connecticut Paper Products Inc. v. New York Paper Co.,37 which affirmed a trial court holding that the patentee's design patent on a paper cup dispenser was invalid. In so holding, the Fourth Circuit acknowledged the existence of "a long line of cases" supporting the proposition that "[w]here the configuration of a design is made imperative by the elements which it combines and by the utilitarian purposes of the device, so that the design itself is

26. Carletti, 328 F.2d at 1022.
28. 838 F.2d at 1188.
29. 287 F.2d at 193.
30. Id. at 194 (emphasis added).
31. 179 F.2d 416 (7th Cir. 1950).
32. Id. at 417 (citations omitted).
34. 179 F.2d at 417-18.
35. 140 F.2d 140 (7th Cir.), cert. denied, 322 U.S. 743 (1944).
36. Id. at 153 (citations omitted).
37. 127 F.2d 423 (4th Cir. 1942).
nothing more than a necessary response to the purpose of the article designed, no patentable design results.\textsuperscript{38}

The central theme of all of these cases is that the design in question must be more than simply a sum of various functional components. This theme arises from the purpose for which design patent laws exist—to promote the decorative arts. Nevertheless, the decoration need not rise to the level of a work of art; instead, the decoration, either in the overall shape of the article of manufacture, or as applied to its surface, must be present as a result of a conscious decision on the part of the designer to create a particular appearance.\textsuperscript{39}

C. Fundamental Basis for the Doctrine of Functionality

The doctrine of functionality serves a primary purpose of distinguishing the two types of patents available for articles of manufacture—utility and design patents.\textsuperscript{40} Since utility patents protect functional features of products, and design patents protect ornamental features, one should not be able to prevent others from making, using, or selling functional features of a product with a design patent without having satisfied the requirements for obtaining a utility patent. The application of the functionality doctrine, in keeping with its purpose of maintaining a line of demarcation between utility and design patents, suggests an analysis of why the design in question has its particular appearance.

If the resulting design is necessitated or dictated by the function to be achieved, the function embodied by the design might be protected by a utility patent, but the design certainly will not be protectable by a design patent. This follows from the purpose the inventor is trying to fulfill, which is to obtain a desired function. When this is the case, the resulting design follows as a matter of course. Conversely, if the inventor begins with a goal of obtaining a particular function, and then continues his inventive efforts to create a striking appearance, he should be rewarded with a design patent for his novel, ornamental, and nonobvious design, and a utility patent for his novel, useful, nonobvious and functional article of manufacture. Under this rationale, the doctrine of functionality serves as a tool to assess the motivations of the inventor.

In formulating a legal test by which to make an assessment of the inventor's motives, the CCPA and other courts have established the solely functional standard. This test looks to the motivations of the inventor to see if his only goal was to obtain a desired functional article. If the inventor had a functional article in mind, and upon reaching that goal he made an effort to enhance that article by changing its shape or surface ornamentation, he

\textsuperscript{38} Id. at 429 (quoting I Walker on Patents § 138, at 434 (Deller ed. 1929)).
\textsuperscript{39} See supra notes 4-5 and accompanying text.
\textsuperscript{40} Plant patents are available under 35 U.S.C. § 161 (1988), but of course, they do not involve articles of manufacture.
crossed the solely functional dividing line and may be entitled to a design patent. Alternatively, if the inventor had an initial intent to blend both form (appearance) and function (as is the real world situation with most industrial designers), then the resulting article was not likely dictated solely by functional considerations and should therefore be afforded design patent protection.

II. JUDICIAL APPLICATION OF THE DOCTRINE OF FUNCTIONALITY STANDARD

The cases decided by the CCPA which enunciate a solely functional standard for determining the viability of a design patent are binding precedent upon the Federal Circuit. Therefore, if the Federal Circuit intends to abandon the solely functional standard, it should do so by clearly articulating the rationale for its deviation or by en banc reversal of established law. It appears, from the Federal Circuit's decisions in Power Controls and Lee, however, that it intends to remain loyal to the solely functional standard set forth in Carletti. Thus, it is likely that the Power Controls court's use of the term "primarily" rather than "solely" was simply a careless choice of language or a choice which was not intended to change substantively existing law.

Although the particular phrasing of the standard to be used in applying the doctrine of functionality is far from clear, the practical application of the doctrine by the courts is less uncertain. Several courts have reached a determination on the issue of functionality by looking to the existence of alternative design choices for the underlying article of manufacture. A recent instance of this analysis occurred in American Antenna Corp. v. Wilson Antenna, Inc. In opposing the patentee's motion for a preliminary injunction, the alleged infringer claimed that a design patent for a mobile antenna was primarily functional and thus invalid. The district court concluded that the evidence demonstrated that several other antennas on the market possessed functional capabilities similar to the two antennas at issue but were dissimilar in ornamental appearance. The court found the patented antenna "was designed primarily for the purpose of visual

41. See supra note 22.
42. See Kingsdown Medical Consultants, Ltd. v. Hollister, Inc., 863 F.2d 867, 876 n.16 (Fed. Cir. 1988).
43. The Federal Circuit in Power Controls did not have the issue of functionality squarely before it. Rather, the issue was whether the patentee had proven a sufficient likelihood of success on the merits to support a preliminary injunction. The Federal Circuit, without ruling on the ultimate issue of whether the design was de jure functional, held that the appellant had presented sufficient evidence to defeat the patentee's showing of probable success on the merits, and thus, vacated portions of the lower court's preliminary injunction. Power Controls Corp. v. Hybrinetics, Inc., 806 F.2d 234, 240 (Fed. Cir. 1986).
45. Id. at 927.
identification and not to accommodate functional considerations.  
Accordingly, the court concluded there was a strong likelihood that the challenger would not be able to prove the invalidity of the design patent.  

Similarly, in *Avia Group International, Inc. v. L.A. Gear California, Inc.*, the Federal Circuit acknowledged the propriety of assessing functionality by determining whether alternative designs are available.  
The court affirmed the lower court's determination that the two design patents at issue were not invalid because every function arguably attributable to a particular component of the patented design "could be and has been achieved by different components."  

Several other courts have also adopted this method to determine whether a patented design is functional.  

Although the standard for determining whether a design is patentable requires that the design be viewed as a whole, the Federal Circuit has stated that "[i]n determining whether a design is primarily functional, the purposes of the particular elements of the design necessarily must be considered."  
Thus, in determining whether a design is functional, the Federal Circuit's decision in *Power Controls* requires a court to look to the individual elements which create the design and determine whether these elements are functional.  
Yet, it makes little sense to test whether a particular product, or the elements of that product, perform some function, since virtually all articles which are the subject of design patents, and their component parts, demonstrate some functional attributes.  
That is the nature of industrial design—to blend form and function.  
Thus, an objective test must evolve which courts can readily apply to determine if a patented design is de jure functional, since the presence of de facto functionality is almost always a given.  

III. RECOMMENDED STANDARD FOR THE APPLICATION OF THE DOCTRINE OF FUNCTIONALITY  
As discussed earlier, the Federal Circuit's motivations for utilizing a standard for functionality phrased in primarily functional language in the face of precedent delineating a solely functional standard are not clear.  
Each approach, however, appears to embrace the invariable goal of maintaining the distinction between utility and design patents.  
With this ulti-
mate goal in mind, the authors propose that any confusion generated by the use of these two adverbs in describing the test for functionality may be avoided by eliminating those adverbs entirely from a functionality test.\textsuperscript{52} Under this approach, the functionality standard would focus only on the underlying rationale for the doctrine, which consists of two primary considerations.\textsuperscript{53}

First, if a particular design has been dictated by function, then there has been no inventive act from a design standpoint. In such a case, when the function can only be achieved by a particular design, no design patent protection should be granted because the purpose underlying patent law is to provide inventors with the incentive to expend the efforts necessary to create new and original works. Design patent protection should be available for designs only when an effort has been made to create a novel and nonobvious design.

Second, the effect on competition in the functional aspects of the article caused by granting design patent protection should be assessed. This consideration is important for the public policy reason that competitors should not be prevented from copying a design dictated by function when the function is unprotected by a utility patent.\textsuperscript{54} Thus, if a particular design is not dictated by function, then it is not essential for competitors to incorporate that particular design into their articles of manufacture in order to compete effectively regarding the unprotected function. Stated differently, if the function of the article can be achieved by different designs, then the ability of competitors to manufacture or sell articles having the same function would not be hindered by granting and enforcing design patent protection on particular designs having that function.\textsuperscript{55}

Both of the foregoing considerations are taken into account by a test for design patent functionality which relies on the availability of alternative designs. If the same or similar function can be achieved by different designs, it is an indication that the particular design in question was not dictated by function. Presumably, therefore, the inventor expended creative effort to conceive the particular, protected design to embody that function. Other designs which perform the same or similar function are available for competitors to choose from. No exclusive right has been granted on the function by granting a patent on the design.

As discussed previously, the relevance and significance of the availabil-

\textsuperscript{52} The Federal Circuit's predecessor similarly refrained from selecting modifiers to the term “functionality” in a decision relating to trade dress. \textit{See In re Morton-Norwich Prods., Inc.}, 671 F.2d 1332, 1343 n.4 (C.C.P.A. 1982).

\textsuperscript{53} \textit{I.D. CHISUM, PATENTS $1.04(2).} at 1-194.1 to -195 (1990).

\textsuperscript{54} Of course, utility and design patents can be obtained on the same article. However, in such cases, the separate statutory requirements for each type of patent must be met. \textit{See Carman Indus., Inc. v. Wahl}, 724 F.2d 932, 938-39 (Fed. Cir. 1983); \textit{In re Finch}, 535 F.2d 70, 71 (C.C.P.A. 1976).

\textsuperscript{55} This need-to-compete rationale has been applied in the area of trade dress. \textit{See In re Morton-Norwich Prods., Inc.}, 671 F.2d 1332 (C.C.P.A. 1982).
ity of alternative designs to a determination of functionality has been recognized in several design patent cases. This concept was recently endorsed by the Federal Circuit and embraces a test which may be readily and objectively utilized by the trier of fact.

IV. CONCLUSION

Although courts have held that ornamentality and functionality are separate concepts, the CCPA has joined the two concepts together. There is, however, confusion concerning the standard to be applied in determining functionality. Although the Federal Circuit has articulated the primarily functional standard in several recent design patent cases without elaboration, it has relied simultaneously on CCPA decisions which adopt a solely functional standard.

The discussion and foregoing analysis illustrates the need for a standard that evaluates the effect of the design on competition in the functional features of the product. If the function of an article of manufacture does not dictate the design, then it follows that alternative design possibilities would exist for incorporation of such function. Since the design would thus be unnecessary to allow competition in the functional aspects of the underlying article of manufacture, the design would properly be protected under the design patent laws. Therefore, a test which focuses on the availability of alternative designs for embodying the same or similar function should be the consistent rule of law followed by the Federal Circuit, and thus all other federal courts, in any determination of functionality in design patent cases.

56. See supra notes 44-49 and accompanying text.
57. See Avia Group Int'l, Inc. v. L.A. Gear Cal., Inc., 853 F.2d 1557 (Fed. Cir. 1988).