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Action: Notice: Request for comments

Title: “Request for Comments on the Study of the Changes Needed To Implement a Unity of Invention Standard in the United States”

**COMMENTS IN RESPONSE TO THE REQUEST FOR COMMENTS ON THE STUDY OF
THE CHANGES NEEDED TO IMPLEMENT A UNITY OF INVENTION STANDARD IN
THE UNITED STATES**

Commissioner for Patents
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Sir:

This is in response to the Federal Register Notice: Vol. 68, No. 97, Tuesday, May 20, 2003; pp. 27536 – 27539, entitled “Request for Comments on the Study of the Changes Needed To Implement a Unity of Invention Standard in the United States”, particularly addressing Issue 10: “Do you have other solutions to offer which are not addressed in this notice?”

I. Position for Comment

This Comment sets forth the position that aspects of the PCT Unity of Invention Rule 13.2 should be adopted for subject matter encompassed by chemical structures, expressed in a Markush-type format. Adoption of aspects of that Rule, as discussed herein, would also provide for the implementation of guidelines established by case law regarding Restriction Practice, for chemical structures expressed in a Markush-type format. In addition, this Comment addresses part (3) of Issue 9 in the Federal Register/Vol. 68, No.97 / Tuesday, May 20, 2003/Notices.

The USPTO should modify current Restriction Practice rules and procedures to adopt aspects of Unity of Invention practice without making any statutory changes. This Comment will address the manner in which such modifications are to take place and the manner that rule changes should be made to the current Restriction Practice, specifically regarding chemical structures expressed in a Markush-type format. The Comment proffers the following as proposed solutions: (a) 35 U.S.C. §121 will not need modification, (b) 37 C.F.R., in particular 37 C.F.R. §1.141, which is consistent with 35 U.S.C. §121, needs to be modified by adding elements of case law, such as those from *In re Harnisch*, 206 U.S.P.Q. 300, 631 F.2d 716; and (c) the MPEP requires modification of §803 and §803.02, but not MPEP §1850.

The USPTO should also modify current Restriction Practice procedures for searching Markush-type claims consistent with the case law of *In re Harnisch*, 35 U.S.C. §121 and the PCT Rule 13.2 Unity of Invention standards, as explained in MPEP §1850.

II. Introduction to Modification of Current Restriction Practice Rules and Procedures

Currently, Restriction Practice in application is not uniform throughout different areas within patent practice. In particular and as this Comment will illustrate, it is Markush Practice where inherent inconsistencies underlie, ultimately necessitating adoption of aspects of the PCT Rule 13.2 Unity of Invention standard as discussed herein. However, such an adoption must concurrently promote the USPTO consideration of the “. . . public interest that no [restriction] requirements be made which might result in the issuance of two patents for the same invention.”¹ In furtherance of that interest, the uniform application of Restriction laws must be applied throughout patent practice. Therefore, it is essential that the USPTO implement change for Markush Restriction Practice rules and procedures, as applied pursuant to PCT Rule 13.2 of Unity of Invention.

III. Current Restriction Practice Law in the United States and the PCT International Standard are Consistent with Each Other.

A. There Are Two Sources for Current Restriction Practice Law in the United States.

Restriction is a generic term that includes the practice of requiring an election between distinct inventions², including those inventions that involve Markush-type claims.³ There are two independent sources from which current U.S. patent practitioners refer to for guidance on Restriction Practice, (a) 35 U.S.C. §121 and (b) the C.C.P.A. case *In re Harnisch*, 206 U.S.P.Q. 300, 631 F.2d

¹ See MPEP §803.01.

² See MPEP §802.02.

³ See MPEP §803 “Guidelines”.

716 (hereinafter “*Harnisch*”) and related cases (hereinafter collectively “*Harnisch cases*”⁴). However, Restriction Practice as currently applied in chemical patent prosecution regarding Markush-type claims is not aligned with the requirements of 35 U.S.C. §121 or the *Harnisch cases*.

The first source of law, 35 U.S.C. §121⁵, provides the legal standard for patent examiners and practitioners alike, to determine the number of inventions within a given patent application. That standard requires that there be more than one “*independent and distinct*” invention claimed in a single application to allow proper issuance of a restriction requirement.⁶

While 35 U.S.C. §121 does not provide specific guidance for the patent examiner and practitioner regarding how Markush⁷ claimed subject matter is to be handled in prosecution, however a judicially created doctrine of “Markush practice”⁸ has been established through case law, and for chemical patent practice, is focused primarily upon the principles acknowledged in the *Harnish cases*. The *Harnisch cases* provide guidance for the bases⁹ upon which an improper Markush group would support Restriction Requirement, i.e., lack of Unity of Invention. Specifically, the *Harnisch cases* provide (a) an approach to evaluate a Markush groups by stating, “*to determine the propriety of a Markush grouping the compounds must be considered as wholes and not broken down into elements or other components.*” and provides (b) requisite elements to satisfy the Unity of Invention standard; i.e., that individual compounds encompassed by a Markush structure must share a “*single structural similarity*” and a “*common utility*”. That case law that should be recognized and procedurally

⁴ The *Harnisch cases* collectively include: *In re Harnisch*, 206 U.S.P.Q. 300; *Ex parte Holt and Randell*, 214 U.S.P.Q. 381; *In re Haas*, 198 U.S.P.Q. 334 (Haas II); *In re Weber, Soder, and Boksay*, 198 U.S.P.Q. 328; *Ex parte Brouard Leroy, and Stiot*, 201 U.S.P.Q. 538; *In re Jones*, 74 U.S.P.Q. 149; and *Ex parte Dahlen and Zwilmeyer*, 42 U.S.P.Q. 208.

⁵ See 35 U.S.C. §121 states “If two or more independent and distinct inventions are claimed in one application, the Director may require the application to be restricted to one of the inventions. If the other invention is made the subject of a divisional application which complies with the requirements of section 120 of this title it shall be entitled to the benefit of the filing date of the original application. A patent issuing on an application with respect to which a requirement for restriction under this section has been made, or on an application filed as a result of such a requirement, shall not be used as a reference either in the Patent and Trademark Office or in the courts against a divisional application or against the original application or any patent issued on either of them, if the divisional application is filed before the issuance of the patent on the other application. If a divisional application is directed solely to subject matter described and claimed in the original application as filed, the Director may dispense with signing and execution by the inventor. The validity of a patent shall not be questioned for failure of the Director to require the application to be restricted to one invention.”

⁶ “A Markush-type claim is directed to “independent and distinct inventions,” if two or more of its members are so unrelated and diverse that a prior art reference anticipating the claim with respect to one of the members would not render the claim obvious under 35 U.S.C. 103 with respect to the other member(s). *In re Weber, Soder, and Boksay*, 198 U.S.P.Q. 328 at 332. However, when a Markush grouping does not contain “independent and distinct” inventions, “the substances grouped have a ‘community of chemical or physical characteristics’ which justify their inclusion in a common group, and that such inclusion is not repugnant to principles of scientific classification, within the meaning of such decisions as *Ex parte Burke*, supra, and *In re Swenson et al.*, supra.”). *In re Jones*, 74 U.S.P.Q. 149 at 151.

⁷ “In summary, there is no ‘doctrine’ to be considered but only a body of case law, emanating from both ‘higher’ and ‘lower’ authority, not altogether consistent, the latest decisions tending to carry the most weight as precedent.” *In re Harnisch*, 206 U.S.P.Q. 300 at 302.

⁸ See supra text accompanying note 4.

⁹ See *In re Haas*, 198 U.S.P.Q. 334 (Haas II) (holding that 35 U.S.C. §121 does not provide a basis for rejection of a claim)(quoting *In re Harnisch* at 302).

practiced by the USPTO for compliancy to the statutory mandate of 35 U.S.C. §121. Without accord between the statute and case law, the appropriate application of laws regarding Restriction Practice in the United States will not be correctly effectuated regarding Markush-type claims.

B. The Legal Provisions of 35 U.S.C. §121 and the Harnisch Cases are in Accord With Each Other.

The legal provisions of 35 U.S.C. §121 and the *Harnisch Cases* are in accord with each other. 35 U.S.C. §121 requires examination of a claim to determine not only whether the inventions are separately “*independent*”, or separately “*distinct*”, but also whether the inventions are both “*independent and distinct*”. This standard requires viewing more than one aspect of the invention, i.e., viewing the invention as a whole, to determine if a restriction requirement is necessary. *Harnisch* supports this same standard explicitly, wherein it states that the “. . . *compounds must be considered as wholes. . .*” to determine the propriety of a Markush group and whether a restriction requirement is necessary.

For example, one of the *Harnisch* cases prohibits the Examiner from dissecting “the molecule into core and pendant substituents and then concludes that variable cores inherently constitute an improper Markush group.” *Ex parte Holt and Randell*, 214 U.S.P.Q. 381, 386. That is, an Examiner cannot dissect an Applicants’ compounds to arrive at a contrived core and conclude that the variations in that core constitute an improper Markush group, therefore permitting a restriction requirement between the structures of the group so defined. An examiner must consider the compounds of the Markush grouping as a “*whole*”. Thus, the explicit phrase from the *Harnisch cases* is consistent with the approach to viewing compounds as *wholes*¹⁰ (i.e. “independent and distinct”) pursuant to 35 U.S.C. §121.

IV. Adoption of Aspects of PCT Rule 13.2 Would Not Contravene Current U.S. Restriction Laws.

PCT Rule 13.2 Unity of Invention, which is the equivalent to International Restriction Practice standard, would not contravene 35 U.S.C. §121 and the *Harnisch cases*.¹¹ PCT Rule 13.2

¹⁰ With a particular focus upon Markush-type claims, support for the concept that restriction principles require an analysis of the claim as a “*whole*” can be found in *In re Harnisch*, 206 U.S.P.Q. 300; *Ex parte Holt and Randell*, 214 U.S.P.Q. 381; *Ex parte Brouard, Leroy, and Stiot*, 201 U.S.P.Q. 538; and *Ex parte Dahlen and Zwilgmeyer*, 42 U.S.P.Q. 208.

¹¹ PCT Rule 13.2, *Circumstances in Which the Requirement of Unity of Invention is to be Considered Fulfilled*, states: “Where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression ‘special technical features’ shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.”

must be understood clearly for what it statutorily mandates, and what it does not. PCT Rule 13.2 requires that the claims of an invention be examined and dissected for “*special technical features*” within the claims of the invention “*as a whole*.” Those “special technical features” are those elements of the invention, put together in combination with one another, to make a contribution to what is already known in the art--something known as useful, novel and non-obvious under U.S. practice.

That is, each of the claimed inventions must be considered “*as a whole*” when asking whether the standard for restriction has been satisfied. Such language is consistent with both the analysis of the claimed invention as a “*whole*” (i.e. “independent and distinct”) under 35 U.S.C. §121, and with the determination of the propriety of a Markush grouping considered “*as a whole*” under the mandate of the *Harnisch cases*. Thus, if the USPTO adopted aspects of PCT Rule 13.2, particularly Unity of Invention as the applicable standard for Restriction Practice, it would not contravene the “*independent and distinct*” language, of 35 U.S.C. §121, and the language, “*considering the compounds as wholes*”, from the *Harnisch cases*. Each of the currently practiced United States restriction laws directly supports the explicit language utilized in PCT Rule 13.2, “*as a whole*”.

V. Evaluation of Interpretations of Current United States Restriction Laws

A dissection of applicable laws, rules, and interpretations therefrom regarding Restriction Practice will now follow to determine what changes would be beneficially implemented under current USPTO rules and procedures. As an overview, (a) 35 U.S.C. §121 will not need modification, (b) 37 C.F.R. §1.141, although consistent with 35 U.S.C. §121, requires some modification to specifically add the *Harnisch* elements thereto, and (c) the MPEP requires modification of §803 and §803.02, but not MPEP §1850.

A. Although Rule 37 C.F.R. §1.141 is Consistent with 35 U.S.C. §121; 37 C.F.R. Still Requires Modification.

Although Rule 37 C.F.R. §1.141 is consistent with 35 U.S.C. §121, 37 C.F.R., in particular 37 C.F.R. would still benefit from being modified to incorporate the elements of the Unity of Invention standard therein. Implementing the elements from PCT Rule 13.2 into 37 C.F.R. will achieve this modification.

The USPTO's interpretation of 35 U.S.C. §121, in Rule 37 C.F.R. §1.141¹², is consistent with, and exactly tracks language found in 35 U.S.C. §121. That is, 37 C.F.R. §1.141 directly tracks the language from 35 U.S.C. §121 to view the claim as a “*whole*” by casting the legal standard as “*independent and distinct*”¹³. As discussed above, both approaches, though worded differently, do not attempt to divide an invention, or in a case with Markush-type claims, divide the Markush claim groups, when considering the propriety of a restriction requirement. Rather, the Examiner is directed to examine and analyze the invention for what it represents in its entirety, i.e., viewing more than the individual elements of the invention as a basis for restriction.

However, it is important to note that 37 C.F.R., in particular 37 C.F.R. § 1.141 does not explicitly recite the elements to be considered, as delineated in the *Harnisch cases*. Therefore, 37 C.F.R. should be amended to reflect those elements. That is, 37 C.F.R. §1.141 must “fill the gap” to address the two necessary elements dictated by the *Harnisch cases* (“*single structural similarity*” and a “*common utility*”). Adopting aspects of the Unity of Invention standard (i.e. the elements in particular) from PCT Rule 13.2 will achieve this. Indeed, the two *Harnisch* elements, that emanate from the *Harnisch* language “*considering the compounds as wholes*”, (as well as the standard set out in 35 U.S.C. §121), are in accord with the Unity of Invention elements¹⁴ as discussed below.¹⁵

Thus, at the very least, 37 C.F.R. and in particular 37 C.F.R. §1.141, including parallel interpretations on Markush-type claims as described in the Manual of Patent Examining Procedures (MPEP), should be aligned with the current laws on Restriction Practice. This codification is necessary in 37 C.F.R. to clarify it within the criteria of 35 U.S.C. §121, and obviate misinterpretations in the MPEP. Therefore, the USPTO should seek clarification in the area of Markush practice by promulgating a new rule to recite the criteria for restriction established by the *Harnisch cases* by implementing the elements gleaned from PCT Rule 13.2 into 37 C.F.R., which would already be aligned with current MPEP §1850.¹⁶

¹² See 37 C.F.R. §1.141, *Different Inventions in One National Application*, (a) states in part: “(a) Two or more independent and distinct inventions may not be claimed in one national application, except that more than one species of an invention, not to exceed a reasonable number, may be specifically claimed in different claims in one national application, provided the application also includes an allowable claim generic to all the claimed species and all the claims to species in excess of one are written in dependent form (§1.75) or otherwise include all the limitations of the generic claim. (b) . . .”

¹³ Note that the standard “*independent or distinct*” creates an entirely different standard, as discussed in Section IV(B)(1) of this comment.

¹⁴ The Unity of Invention criteria as fleshed out, from PCT Rule 13.2, in MPEP §1850 are: “. . .(A) All alternatives have a common property or activity; and (B)(1) A common structure is present, i.e., a significant structural element is shared by all of the alternatives; or (C)(2) In cases where the common structure cannot be the unifying criteria, all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains. . .”

¹⁵ In Section V. C.

¹⁶ As discussed in detail in Section V. C. below.

B. The MPEP Contains Misinterpretations of Rule 37 C.F.R. §1.141 that the USPTO should Remove by the Adoption of Aspects of Unity of Invention from PCT Rule 13.2.

Adoption of aspects of PCT Rule 13.2 (i.e. considering claimed inventions as a “whole” and utilizing the Unity of Invention elements presented in MPEP §1850) to current USPTO rules and procedures will rectify incorrect interpretations and applications of Markush Practice principles as presently recited in the MPEP. In particular, both the interpretations of MPEP §803 and MPEP §803.02 directly contravene the current law of 35 U.S.C. §121 and the *Harnisch cases*. Both interpretations also directly contravene the USPTO’s own interpretation of the underlying approach to PCT Markush Restriction Practice, as interpreted and explained in MPEP §1850. Thus, adoption of the Unity of Invention aspects of PCT Rule 13.2 will assist patent practitioners and examiners alike to understand the correct approach to Markush-type claims in Restriction Practice.

1. MPEP 803 Contravenes Current U.S. Statutory and Case Law

MPEP §803 language permits restriction only if the claimed inventions are able to support separate patents and they are either “*independent or distinct*”.¹⁷ Not only does this interpretation (a) create confusion because it directly contravenes the language of both 35 U.S.C. §121 and 37 C.F.R. §1.141; but it also (b) adds an additional requirement over that required by both 35 U.S.C. §121 and 37 C.F.R. §1.141.

The MPEP §803 language, “independent *or* distinct”, creates confusion because it is directly inapposite to and contravenes both the statutory language of 35 U.S.C. §121 and rule 37 C.F.R. §1.141; each of those standards read as “independent *and* distinct”.

The change from “and” to “or” creates an entirely different standard within which the patent practitioner should operate for restriction purposes. The connector “and” dictates that one should consider all of the features of the invention together, or variables together, when examining a Markush-type claim; whereas, the connector “or” dictates that a patent examiner can dissect a molecule, e.g., deriving a contrived core only to conclude that the variations on the core constitute an improper Markush group. Such action taken by an Examiner is contrary to *Ex parte Holt and Randell*, 214 U.S.P.Q. 381, wherein the PTO Board of Appeals stated that there is no known basis for

¹⁷ See MPEP §803, Restriction-When Proper states: “Under the statute an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent (MPEP §806.04 - §806.04(i)) or distinct (MPEP §806.05 - §806.05(i)). If the search and examination can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions. CRITERIA FOR RESTRICTION BETWEEN PATENTABLY DISTINCT INVENTIONS There are two criteria for proper requirement for restriction between patentably distinct inventions: (A) The inventions must be independent (see MPEP §802.01, §806.04, §808.01) or distinct as claimed (see MPEP §806.05 - §806.05(i)); and (B) There must be a serious burden on the examiner if restriction is required (see MPEP §803.02, §806.04(a) – §806.04 (i), §808.01(a), and §808.02).”

an Improper Markush Rejection where “[t]he Examiner dissects the molecule into core and pendant substituents and then concludes that variable cores inherently constitute an improper Markush group.” *Id.* at 386. This is supported by *Harnisch* language to analyze a Markush grouping “*as a whole*”, not as separately dissected parts of an invention, or separately dissected sections of claims when analyzing Markush-type claims. Thus, enacting aspects of the International Unity Invention standard (considering claimed inventions as a “*whole*” and utilizing the Unity of Invention elements presented in MPEP §1850) of PCT Rule 13.2, would result in reflecting the correct U.S. law on Restriction Practice under 35 U.S.C. §121 and the *Harnisch cases*.

It is also noted that MPEP §803 requires that for a proper restriction between patentably distinct inventions requires that “there must be a serious burden on the examiner if restriction is required.” That point is discussed in detail below in Section VI., *Strategy for Searching Markush-type Claims should be adopted by the USPTO*.

2. MPEP 803.02 Contravenes Current U.S. Restriction Laws

MPEP §803.02¹⁸ defines Unity of Invention to exist broadly where “*compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility.*” Emphasis added. Thus, the MPEP actually provides three elements to be considered in its “unity of invention” analysis, i.e., the three elements that Markush claimed structure must (a) share a *common utility*, (b) share a *substantial structural feature*, and (c) have *that utility as disclosed arise from and be essential to* that substantial feature. That third element in MPEP §803.02 that the Markush claimed structure must “*have that utility as disclosed as arising from and being essential to* that substantial feature” amounts to the contravened dissection of the compound in to its parts, and parceling of the activity of the compound thereto. MPEP §803.02 is contravened by the requirement of 35 U.S.C. §121 that the invention should be considered as a whole, and requirements in the *Harnisch cases*, that the compounds of a Markush grouping as a whole share a “*single structural similarity*” and exhibit a “*common utility*”.

¹⁸ See MPEP §803.02, Restriction—Markush Claims, PRACTICE RE MARKUSH-TYPE CLAIMS states in part: “Since the decisions in *In re Weber*, 580 F. 2d 455, 198 USPQ 328 (CCPA 1978) and *In re Haas*, 580 F.2d 461, 198 USPQ 334 (CCPA 1978), it is improper for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. *In re Harnis[c]h*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ.2d 1059 (Bd. Pat. App. & Int. 1984). Broadly, unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility.”

C. MPEP §1850 is Already in Accord with the Aspects of Unity of Invention from PCT Rule 13.2.

It must be finally noted that MPEP §1850¹⁹ is already in accord with the Unity of Invention aspects that this Comment proposes to adopt. That is, “Markush practice[,] wherein a single claim defines alternatives (chemical or non-chemical) is governed by PCT Rule 13.2.”²⁰

Unlike MPEP §§ 803 and 803.02, Markush practice under MPEP §1850 properly fleshes out the requirements of Unity of Invention pursuant to both *In re Harnisch* and PCT Rule 13.2. Markush Practice under MPEP §1850 is akin to the *Harnisch* elements because it does not require an additional third element wherein a “*substantial structural feature*” must arise from the “*shared common utility*”, like MPEP §803.02 requires. MPEP §1850 requires only two elements that parallel the shared “*common utility*” and a shared “*single structural similarity*” of both *Harnisch* and PCT Rule 13.2.

Thus, to enact the International standards of Unity Invention from PCT Rule 13.2 would require no change to MPEP §1850, but would support the procedure in place as it currently reads, and which would also be consistent with the existing U.S. Restriction Laws of 35 U.S.C. §121 and the *Harnisch* cases.

In conclusion for this section of the Comment, the following solutions have been proposed to the USPTO for consideration: (a) that 35 U.S.C. §121 will not need modification, (b) that 37 C.F.R., in particular 37 C.F.R. §1.141, although consistent with 35 U.S.C. §121, would need to be modified to add the elements of the *Harnisch cases*, and (c) that the MPEP requires modification of §803 and §803.02, but not MPEP §1850.

VI. A New Strategy for Searching Markush-type Claims Should be adopted by the USPTO.

The applicable standard to apply to cases under consideration for a Restriction requirement should not be evaluated based upon the “serious burden on the examiner if restriction is required,” as suggested by MPEP §803²¹. Rather, the standard should align with the holdings in the *Harnisch cases*. The two cases that the USPTO should recognize regarding Restriction Practice of Markush-type claims are *Ex parte Dahlen and Zwilgmeyer*, 42 U.S.P.Q. 208, and *Ex parte Brouard et al.*, 201

¹⁹ See MPEP §1850, D. Markush Practice, states: “The situation involving the so-called Markush practice wherein a single claim defines alternative (chemical or non-chemical) is also governed by PCT Rule 13.2. In this special situation, the requirement of a technical interrelationship and the same or corresponding special technical features as defined in PCT Rule 13.2, shall be considered to be met when the alternatives are of a similar nature. When the Markush grouping is for alternatives of chemical compounds, they shall be regarded as being of a similar nature where the following criteria are fulfilled: (A) All alternatives have a common property or activity; and (B)(1) A common structure is present, i.e., a significant structural element is shared by all of the alternatives; or (C)(2) In cases where the common structure cannot be the unifying criteria, all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains.”

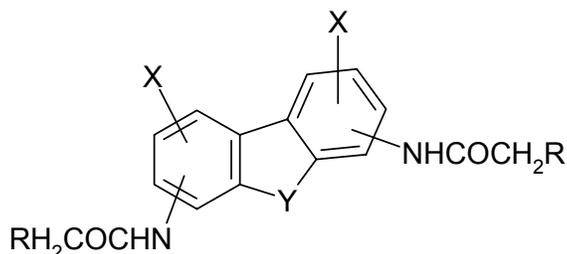
²⁰ *Id.*

²¹ See *supra* text accompanying note 17.

U.S.P.Q. 538. These two cases support the law of *In re Harnisch*, 35 U.S.C. §121 and the PCT Rule 13.2 Unity of Invention, as presented in MPEP §1850.²²

The USPTO should adopt a new standard because the criteria for restriction per MPEP §803.01 regarding the “serious burden on the examiner” does not apply to searching strategies that are currently available for searches on Markush-type claims today. That is, the USPTO’s routine application of the Classification System is no longer applicable relative to how examiners conduct their searches. The Classification System is arcane and outdated for Markush-type claim searching because, the Classification System is not appropriate for considering an invention as a whole, as it only examines fragments of a claimed Markush compound. Furthermore, modernized systems such as STN, Merged Markush System (MMS), both are types of substructure searches, and Derwent Fragmentation Code can and are regularly available to achieve more efficient and tapered searches over what the Classification System allows when examining Markush-type claims.

These modernized search engines fully support maintaining a key structural element of a Markush-type claim, while allowing for structural diversity of substituents from the core of a molecule, and further variations on that core. For example, in *Ex parte Dahlen and Zwilgmeyer*, the PTO Board of Appeals did not object to a compound of formula



Wherein Y was defined as a bivalent bridge radical which was further defined in Markush format as $-\text{CH}_2-$, $-\text{CO}-$, $-\text{C}=\text{C}-$, $-\text{CH}_2\text{CH}_2-$, $-\text{NH}-$, $-\text{N-alkyl}-$, $-\text{O}-$, $-\text{S}-$, $-\text{N}=\text{N}-$, $-\text{N}=\text{O}$, $-\text{SO}_2-$ and $-\text{COCO}-$.

Particularly noteworthy was that such a Markush grouping was acceptable even though the various Y variable would have resulted in patentably distinct and independent compounds according to the Examiner’s analysis in that case. Thus *Ex parte Dahlen and Zwilgmeyer* would directly contravene any examiner’s assertion that patentably distinct and independent compounds are arrived at by changing a Markush group variable in a ring.

Further, the fact that different fields of search are involved does not establish that a Markush group is improper under *Ex parte Brouard et al.* The PTO Board of Appeals stated, that “the fact that [six] different fields of search are involved does not establish that the Markush group is improper.” Contrary to the dictates of *Ex parte Brouard, Leroy, and Stiot*, any examiner that supports an Improper Markush grouping rejection on the sole basis that each of the groups of compounds, as

²² See *supra*. Sections I. Through V.

defined by an examiner, happen to involve different fields of search, would be completely incorrect under the modern principles of established law.

Thus, the USPTO should adopt a new strategy for searching Markush-type claims by changing the current standard of “serious burden on the examiner if restriction is required,” to align with the holdings from the *Harnisch cases*, in particular, *Ex parte Dahlen and Zwiilmeyer*, 42 U.S.P.Q. 208, and *Ex parte Brouard et al.*, 201 U.S.P.Q. 538.

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