

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JULIAN WALLIS, KEVIN P. HALL, STEPHEN NEWMAN
and DIAN E. STEVENSON

Appeal No. 94-3359
Application 07/941,566¹

ON BRIEF

Before METZ, WEIFFENBACH and OWENS, **Administrative Patent Judges.**

METZ, **Administrative Patent Judge.**

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the
examiner's refusal to allow claims 1 through 12. Claims 13
through 17 stand withdrawn from consideration as claims directed
to the previously non-elected invention pursuant to a requirement
for restriction made by the examiner in Paper Number 5 (April 12,

¹ Application for patent filed September 8, 1992.

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1993). Accordingly, claims 13 through 17 form no issue in this appeal.

At the eleventh hour in this appeal, namely in his answer at pages 6, 7 and 11, the examiner for the first time in the prosecution of this application, informs appellants and this Board that certain rejections, both formal and substantive, as to certain claims (claims 5 and 8) are now being withdrawn from consideration. In part, the basis for the examiner's withdrawal is said to be the requirement for restriction/election of species as set forth in the office action mailed on September 7, 1993.

However, careful review of this record makes it plain that, notwithstanding the so-called restriction requirement set forth in the office action mailed September 7, 1993 (the final rejection - Paper Number 10), the examiner has, consistently throughout the prosecution, rejected each of claims 1 through 12 on both formal and substantive grounds. Indeed, in the final rejection the examiner rejected claims 1 through 12 under 35 USC 101; 35 USC 112, first paragraph; 35 USC 102; and, 35 USC 103. It is from said final rejection which applicants noted their appeal and it is the very rejections set forth in the final rejection to which appellants have addressed their arguments in favor of patentability. Moreover, the examiner has expressly agreed with appellants' statement of the status of the claims on

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appeal as set forth on page 2 of appellants' brief (see page 1 of the examiner's answer).

Most significantly, however, there is no adequate written explanation in the record of the nature of the requirement for election of species other than the phrase "Mr. Mark A. Litman orally elects a polymer represented by formula V with Z being -OH on January 26, 1993 being acknowledged." See Paper Number 5, page 2.² Indeed, at page 2 of Paper Number 5, there is set forth a requirement for restriction between three groups of claims and a requirement for applicants to elect "the invention to be examined" followed by the statement that:

Other issues have not and will not be considered before the above restriction is properly made and resolved.

In paper number 7, applicants elected the invention of Group I (claims 1 through 12) without traverse. Thereafter, except for the examiner's repeated reference to an election made on January 26, 1993 (page 5 of Paper Number 8; page 3 of Paper Number 10), there is no further explanation in the record of the nature of the election of species.

Additionally, the proper procedure to follow when an election of species is required and applicants' elected species

² The polymer represented by formula V is set forth in dependent claim 5.

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is not found in the prior art, is to search thereafter a reasonable number of non-elected species representative of the generic invention. Suffice it to say that the examiner has both failed to adequately set forth in writing, on the record, the nature of the requirement for an election of species and has failed to follow the proper procedures for examination after requiring an election of species.

We have not been assisted by appellants' complete silence on the record on this issue. Specifically, although appellants were entitled to respond to such new points of argument as were raised in the various prior office actions and the examiner's answer, here, appellants chose not to respond to the examiner's answer in any fashion. Thus, we could take appellants' silence on the issues of restriction/election of species and which claims are properly before us as a concession that the examiner's position is correct. Such a position would result, however, in the piecemeal administration of justice.

This is not to the say that an examiner is not free to change his or her mind and withdraw the rejection of a particular claim or claims from which an appeal has been taken. However, whenever the examiner determines a previously made rejection to be unsound or no longer relevant, the record should be clear and set forth the reasons why the rejection is no longer considered

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appropriate. See MPEP §1208.02. It is certainly not appropriate to include a claim in the examiner's statement of the rejection, as in the heading on page 7 of the examiner's answer, and then make a statement completely at odds with the statement of the rejection as on page 7 wherein the examiner concludes "claim 8 containing formula VII being non-elected has not been considered and searched." This statement is at odds with the record, the prosecution of the claims and the statement of the rejections before us.

From all the above, and from the examiner's express statement at page 7 of his answer, we conclude only that the examiner has withdrawn claim 5 from the rejection under 35 USC 102(b) or, alternatively, under 35 USC 103, from the disclosure of Scullard alone or Scullard considered with IBM, Hofman, Henzel and Schuler. Accordingly, the rejection of claim 5 on the above-noted grounds forms no issue in this appeal.

THE INVENTION

Appellants' claimed invention is broadly directed to a black and white photographic element comprising a silver halide emulsion layer and which element has in said emulsion layer or in a layer adjacent thereto a substantially non-diffusing polymeric developer compound having a particular formula. The non-diffusing polymeric developer compound is able to remain within

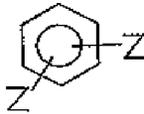
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the emulsion layer of the photographic element because the bulk of the polymeric moiety renders the developer substantially insoluble in aqueous alkali, a common activator solution for silver halide emulsions.

Claim 1, the broadest independent claim before us for our consideration, is considered to be adequately representative of the appealed subject matter and reads as follows:

1. A black and white photographic element comprising as a photosensitive medium a layer of a silver halide emulsion characterised in that the photosensitive medium comprises in the same layer or in an adjacent layer thereto a developer comprising a substantially non-diffusing polymeric compound having a molecular weight of at least 1000 having as a component part of its structure a plurality of units having a nucleus of general formula (I):

(I)



wherein;

each Z independently is a member selected from the group consisting of -OH and a group which leaves an -OH residue when contacted with an alkali. (pH 10) at temperatures of 50°C.

The references of record which are being relied on by the examiner as evidence of lack of novelty and obviousness are:

Schuler	3,186,970	June 1, 1965
Scullard	3,772,014	November 13, 1973
Hofman et al. (Hofman)	3,847,618	November 12, 1974
Henzel et al. (Henzel)	4,927,744	May 22, 1990

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British Patent (IBM) 1,318,213 May 23, 1973³

The appealed claims stand rejected as being unpatentable:

(1) - Under 35 USC 101 as lacking utility (claims 1 through 12).

(2) - Under 35 USC 112, first paragraph, as being based on a disclosure which fails to disclose how to make certain compounds within the scope of the claims (claims 1 through 12).

(3) - Under 35 USC 102(b), as lacking novelty based on the disclosure of Scullard (claims 1 through 4 and 6 through 12).

(4) - Under 35 USC 103, over Scullard, alone, or, alternatively, over Scullard in view of IBM, Hofman, Henzel and Schuler (claims 1 through 4 and 6 through 12).

We reverse the rejections under 35 USC 101 and 35 USC 112, first paragraph. We affirm the rejection of claims 1 through 4, 7 and 9 through 12 under 35 USC 102. We affirm the rejection of claims 1 through 4, 7 and 9 through 12 under 35 USC 103. We reverse the rejection of claims 6(3) and 8 under 35 USC

³ The examiner incorrectly denominates this reference as a "British Patent Application" in his answer at page 3. European Patent Application 0,353,629 is the counterpart to and claims prior benefit of U.S. Application Serial Number 229,372 which ultimately issued as the Henzel reference relied on by the examiner. Thus, the examiner has not separately relied on European Application Serial Number 0,353,629 and we shall treat all reference to said application as a reference to British Patent 1,318,213.

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102. We reverse the rejection of claim 8 under 35 USC 103.

OPINION

Under the heading "GROUPING OF CLAIMS" at page 6 of their supplemental brief on appeal, appellants state that with respect to the rejection of the claims under 35 USC 102(b) and 35 USC 103: "claims 1-4, 7, and 10-11 shall be grouped together as depending from claim 1 for patentability"; "claims 5 and 6 shall be grouped together as depending upon claim 5 for patentability"; and, "claims 8, 9, and 12 shall stand separately, each claim depending upon its own limitations for patentability under these rejections." We shall decide the propriety of the rejections from which an appeal has been taken based on the patentability of the claims as urged under the "GROUPING OF CLAIMS" heading and to the extent the particularly grouped claims have been argued with adequate specificity.

THE PRIOR ART

Schuler discloses a process for preparing useful, polymeric non-diffusing reducing agents for photographic emulsions (column 2, lines 57 through 59). The compounds useful as said reducing agents are polyhydroxyaryl partial acetals of polyvinyl alcohol polymers and copolymers (column 1, lines 14 through 38). The process entails converting the pendant hydroxy groups of the aldehyde of the desired polyhydroxyaryl substituent

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to an acyl derivative which prevents the hydroxyl groups from entering side reactions during acetal formation (column 1, lines 47 through 56). The acyl moieties serve as protecting groups which may be removed by alkaline alcoholysis (column 2, lines 18 through 21). The polymers prepared by the process are polyvinyl alcohol polymers with random units of dihydroxy aromatic acetals as substituents (column 2, lines 22 through 25).

Scullard discloses that polymers having pendant resorcinol (1,3-dihydroxy benzene) groups attached thereto may be used in photographic elements and photographic processes to provide improved image qualities and which polymers are non-diffusing (column 1, lines 43 through 53). By non-diffusing, Scullard intends that for all practical purposes, the polymer does not migrate or wander through the organic colloid layers which comprise the photographic elements in which the polymers are used (column 5, lines 4 through 10). The polymers containing said pendant resorcinol groups may be incorporated into multilayer photographic elements (column 1, lines 54 through 65). The resorcinol-containing polymers may be incorporated into the photographic elements by any well-known prior art technique and in any concentration, depending on the intended use (column 4, lines 25 through 31). The resorcinol-containing polymers may be located in any layer of a photographic element (column 4, lines

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39 through 41), and are useful in any photographic element where it is desired to immobilize an unwanted reaction product or contaminant (column 5, lines 17 through 20). The resorcinol-containing polymers may be used in black-and-white or color photographic elements (column 5, lines 20 through 22). Scullard discloses and claims photographic elements comprising a silver halide emulsion layer and at least one layer thereon containing a polymer having pendant resorcinol groups attached to the polymer (column 7, lines 52 through 60; claim 1, column 11; claim 10, column 12).

Hofman discloses a method of producing high contrast images by exposure and development of a silver halide emulsion layer on a support material which incorporates hydroquinone as a developing agent and wherein developing is effected by treatment with an alkaline development activator (column 2, lines 28 through 36). The hydroquinone developing agent should be in the same layer as the silver halide or in a layer in contact with the silver halide (column 3, lines 33 through 43). Use of one or more silver halide developing agents is disclosed as conventional (column 1, lines 59 through 61).

Henzel discloses photographic elements comprising a support having thereon at least one silver halide emulsion layer and a layer comprising a binder and a solid particle dispersion

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of a hydroquinone derivative (column 1, line 65 through column 2, line 2). The particle size of the solid particles range from 0.01 microns to about 10 microns (column 8, lines 39 through 42). The photographic elements may be black-and-white or color (column 9, line 7 through column 11, line 10).

IBM discloses photographic elements comprising a support having at least one silver halide emulsion layer coated thereon and which further contains a novolak resin therein (page 2, lines 9 through 30). The resin is prepared by the reaction of hydroquinone with formaldehyde (page 2, lines 21 through 25). Preferred molecular weights for the novolak resin are from 300 to 600 but greater or lesser molecular weights may be used (page 2, lines 53 through 57). The novolak resins act as non-diffusing developers and image strengtheners (page 2, lines 58 through 61). Novolak resins having greater molecular weights tend not to diffuse in the silver halide gelatin emulsion which is an especially desirable property (page 3, lines 65 through 78). Novolak resins prepared from catechol are comparable in performance to the hydroquinone novolak resins (page 3, lines 93 through 106).

THE REJECTIONS UNDER 35 USC 101 AND 112

Although the examiner's statement of the rejections under 35 USC 101 and 35 USC 112, first paragraph, are not models

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of clarity, we understand the examiner's position with respect to the rejections founded on both 35 USC 101 and 35 USC 112 to be based on the scope of the molecular weight for the "substantially non-diffusing polymeric" developers embraced by the claims. The examiner opines that the language "an average molecular weight of at least 1×10^3 " has no upper limit and therefore embraces "polymers or copolymers having millions or hundred millions to an infinite molecular weight" (page 3 of the answer). The examiner then concludes that a polymer as claimed but possessing "a molecular weight of 10 millions or more would be a rock hard solid which would lose its reactivity of an individual hydroquinone as a well known silver halide reducing or black-and-white developing agent in the photographic art." (page 3 of the answer).

The examiner's separate rejection under 35 USC 112, first paragraph, is founded on the examiner's theory that appellants have failed to disclose how to obtain (make) polymeric developing compounds within the language of the claims and having "high molecular weight of 100, 1000, 10,000 millions or infinite amount as broadly claimed." (page 4 of the answer). Additionally, the examiner considers that the language that "Z" is "the group consisting of -OH and a group which leaves an -OH residue when contacted with an alkali (pH \geq 10) at a temperature of $\leq 50^\circ\text{C}$ " is

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not enabled by appellants' disclosure because the term "`alkali' has been considered as an element such as lithium, sodium or potassium as broadly claimed and as originally disclosed in the claims." (page 5 of the answer).

The question of whether or not a claimed invention lacks utility is a question of fact. Raytheon Co. v. Roper Corp., 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983). A deficiency under 35 USC 101 also creates a deficiency under 35 112, first paragraph. However, the alleged deficiency under 35 USC 101 must be accompanied by the factual showing necessary to establish a *prima facie* case for lack of utility. Here the examiner has simply speculated as to whether or not certain polymers bearing the claimed pendant dihydroxy phenyl group would have been expected to have the utility which appellants assert they possess. There is certainly no evidence which establishes that polymers having a molecular weight of "millions or hundred millions" and bearing the claimed dihydroxy phenyl moieties do not have the utility which appellants state they possess. Moreover, assuming the claims do embrace some inoperative embodiments, it is not the function of the claims to specifically exclude all possible inoperative substances or ineffective amounts and proportions. In re Dinh-Nguyen, 492 F.2d 856, 858-859, 181 USPQ 46, 48 (CCPA 1974). Accordingly, we reverse the

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rejection under 35 USC 101.

In rejecting the claims under 35 USC 112, first paragraph, it was the examiner's burden to establish lack of enablement by compelling reasoning or objective evidence. In re Strahilevitz, 668 F.2d 1229, 212 USPQ 561 (CCPA 1982); In re Armbruster, 512 F.2d 676, 185 USPQ 152 (CCPA 1975). Here, the examiner has neither established by compelling reasoning nor by presentation of evidence that a person of ordinary skill in this art would have been unable to practice the claimed invention without resort to "undue" experimentation. Rather, the examiner has merely made an assertion, unsupported by any facts in this record, that certain polymers within the claims and having certain molecular weights would not function as described by appellants.

We recognize that the enablement requirement of the first paragraph of 35 USC 112 requires that there be some reasonable correlation between the scope of the claims and the scope of enablement described in the specification. In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). However, it has been consistently held that the first paragraph of 35 USC 112 requires nothing more than objective enablement. In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971).

In meeting the enablement requirement, an application

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need not teach, and preferably omits, that which is well-known in the art. Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986). How such a teaching is set forth, whether by the use of illustrative examples or by broad descriptive terminology, is of no importance since a specification which teaches how to make and use the invention in terms which correspond in scope to the claims must be taken as complying with the first paragraph of 35 USC 112 unless there is reason to doubt the objective truth of the statements relied upon therein for enabling support. Marzocchi at 439 F.2d 223, 169 USPQ 369.

We hold the examiner has failed to discharge his initial burden of making out a *prima facie* case of lack of enablement. Glaring by its absence in the record is any evidence supporting the examiner's theories for why appellants' claims are not enabled by their disclosure. In the absence of any evidence and in light of the voluminous prior art of record, we are not persuaded that anything more than routine experimentation would have been required for the skilled routineer to select, make and use appropriate polymers within the subject matter claimed by appellants.

The examiner's separate rejection of the claims under 35 USC 112, first paragraph, as being non-enabled is reversed.

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The examiner's interpretation of the phrase "a group which leaves an -OH residue when contacted with an alkali" as meaning contacting with "an element such as lithium, sodium or potassium" is simply not a reasonable interpretation of the claims in view of the state of the art. See for example column 2, lines 18 through 21 of Schuler wherein it is disclosed in part that:

The acyl protecting groups are preferably removed by alkaline alcoholysis in an inert atmosphere...

Moreover, at page 7 of appellants' disclosure it is disclosed that:

Z preferably represents a group which is cleavable to OH on contact with an alkali solution, generally having a pH of at least 10, at temperatures of up to about 50E.

To suggest that appellants recommend by the above disclosure adding elemental sodium, lithium or potassium to water is unreasonable and unpersuasive. Elemental sodium, for example, decomposes water on contact generating hydrogen and sodium hydroxide, and, therefore, must be stored under a solvent, such as mineral oil, which excludes moisture and oxygen. More importantly, the term "alkali" has been used to denominate solutions having pH's greater than 7.0. Indeed, "alkali" is defined in "The Condensed Chemical Dictionary", 10th Edition, at page 31 as:

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Any substance which in water solution is bitter, more or less irritating or caustic to the skin, turns litmus blue, and has a pH value greater than 7.0. See also base; pH; alkali metal.

Accordingly, we find the examiner's interpretation of the limitation in question to be unreasonable in view appellants' disclosure, the state of the art and general principles of chemistry.

THE PRIOR ART REJECTIONS

We shall affirm the examiner's rejection of claims 1 through 4, 7 and 9 through 12 under 35 USC 102(b) as being anticipated by Scullard. Notwithstanding appellants' argument that the resorcinol-containing polymers of Scullard are described at column 2, lines 4 through 9 as not being silver halide developing compositions, appellants' claims include the compounds described by Scullard.

In appellants' claim 1, the hydroxy substituents, "Z", attached to the benzene moiety are floating substituents. That is, the hydroxy substituents in appellants' claims may be attached at any of the five available positions, including the 1- and 3-positions. Accordingly, appellants claims embrace polymers having attached thereto the 1,3-dihydroxy benzene (resorcinol) moieties described by Scullard. Appellants drafted their claims to include 1,3-substituted benzene (resorcinol) moieties and the

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words used by appellants in their claims to describe their polymeric compounds' ultimate utility (developers) does not negate the fact that appellants' claimed 1,3-substituted units must necessarily have the same properties as the identical units disclosed in the prior art. We note that appellants do not assert that their claims do not embrace 1,3-substituted moieties on the polymer or that they did not intend to claim polymers bearing 1,3-substituted moieties on the polymeric backbone. Indeed, claims 5 and 6(5), which claim the 1,2-, and 1,4-dihydroxysubstituted species are considered to be evidence that appellants intended to broadly claim their compounds, including the 1,3-dihydroxy substituted species.

The compounds disclosed by Scullard may be incorporated in photographic elements, including black-and-white elements (column 4, lines 25 through 31 and column 5, lines 20 through 22). The resorcinol-containing polymers are described as non-diffusing (column 1, lines 49 through 52). It is hornbook patent law that an anticipatory reference does not require any statement for a particular utility let alone the utility claimed by applicants so long as what is being claimed is described in the reference relied on and the reference relied on describes how to make the subject matter described or it would have been known by a person of ordinary skill how to make the subject matter

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described. In re Malagari, 499 F.2d 1297, 1302, 182 USPQ 549, 553 (CCPA 1974); In re Moore, 444 F.2d 572, 579, 170 USPQ 260, 267 (CCPA 1971); In re Hafner, 410 F.2d 1403, 1405, 161 USPQ 783, 785 (CCPA 1969); In re Hack, 245 F.2d 246, 248, 114 USPQ 161, 162 (CCPA 1957); Ex parte Kitamura, 9 USPQ2d 1787, 1788 Footnote [2] (BPAI 1988). All that is necessary for anticipation is a reference published or patented more than one year prior to the date of the application for patent in the United States and which reference describes the invention claimed by appellants. Scullard is such a reference.

We have included claims 9 through 12 in our affirmance of the rejection under 35 USC 102(b) even though appellants have stated they consider claims 9 and 12 to stand or fall separately. Nonetheless, each of claims 9 through 12 depend directly on claim 1. Appellants' sole argument for the patentability of claims 9 and 12 is found at pages 14 and 15 of their brief wherein appellants state:

The patentability of claims 8, 9, and 12 under this rejection are independently based on upon the same argument represented immediately above for claims 5 and 6. Each of these claims recites a particular repeating polymeric unit. That unit is not shown by Scullard.

We note, however, that claims 9 and 12 require the same repeating polymeric unit as claim 1 and which polymeric unit is shown by

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Scullard.

The examiner has expressly withdrawn the rejection of claim 5 under both 35 USC 102 and 35 USC 103 from consideration at page 7 of his answer. Claim 6 depends, alternatively, from either claim 3 or claim 5. To the extent claim 6 depends on claim 5, that claim, claim 6(5), is considered to be withdrawn by the examiner from both the rejection under 35 USC 102 and 35 USC 103. Claim 3, however, depends on claim 2 which depends on claim 1. Thus, claim 6(3) claims an element according to claim 3 and wherein the groups represented by "Z" are in the ortho- or para-positions. That is, the polymer does not bear a group with a resorcinol (1,3-dihydroxy benzene) moiety affixed thereto. Scullard, as we have stated above in our analysis under 35 USC 102, is directed to polymers with pendant resorcinol groups attached thereto and useful as in photographic elements as non-diffusing components thereof. Therefore, the rejection of claim 6(3) under 35 USC 102 is reversed.

Claim 8 ultimately depends on claim 1 and describes a particular polymeric unit not described by Scullard. Accordingly, claim 8 is not anticipated by Scullard and the examiner's rejection of that claim is also reversed.

Alternatively, the examiner has rejected the same claims as he rejected under 35 USC 102(b) but under 35 USC 103

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over the same reference, Scullard, alone or, taken with any of IBM, Hoffman, Henzel and Schuler. Because we have affirmed the rejection of claims 1 through 4, 7 and 9 through 12 under 35 USC 102 as being anticipated by Scullard and because anticipation is the epitome of obviousness, we shall summarily affirm the rejection under 35 USC 103 as it applies to claims 1 through 4, 7 and 9 through 12 and only separately address the alternative rejection of claim 8 under 35 USC 103.

The examiner has not directed our attention to what disclosure in Scullard would have motivated the person of ordinary skill in the art to have made the Scullard compounds but with the polymeric backbone required by claim 8. Neither has the examiner directed our attention to that portion of any of the secondary references relied on as evidence that the person of ordinary skill in the art would have been motivated from the secondary references to modify Scullard and, thus, obtain appellants' invention as described in claim 8. Indeed, the examiner's only specific discussion of the requirements of claim 8 may be found at page 11 of his answer in discussing the rejection under 35 USC 102(b) wherein he states:

Claim 8 relates to a non elected species which has not been considered and searched. See the Office action mailed on May 28, 1993.

Suffice it to say that examiner has failed to make out a *prima*

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facie case of obviousness with respect to the subject matter described by claim 8. Accordingly, we reverse the examiner's rejection of claim 8 under 35 USC 103.

REJECTION UNDER 37 CFR § 1.196(b)

Pursuant to our authority under 37 CFR 1.196(b) we enter the following rejection of appellants' claims 1 through 12 under 35 USC 103, as the subject matter claimed therein by appellants would have been *prima facie* obvious to a person of ordinary skill in the art at the time appellants' invention was made.

The references of record which are being relied on to reject appellants' claims are:

Minsk et al. (Minsk) U.S. Patent 2,710,801 6/14/55
British Patent Number 1,318,213 5/23/73 (IBM)

As part of our responsibility to make factual findings with respect to the scope and content of the prior art and in order to determine the level of ordinary skill in the relevant art⁴, we have considered the state of the art as represented by appellants in their specification and at page 4 of their brief as

⁴ Graham v. Deere, 86 S.Ct. 684, 694, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

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a starting point in our evaluation of whether or not a *prima facie* case of obviousness is established by the prior art, as is our burden.

Claims 1 through 12 are rejected under 35 USC 103 as the subject matter claimed therein would have been *prima facie* obvious to a person of ordinary skill in the art at the time appellants' invention was made from the combined disclosures of Minsk and IBM considered with certain admissions in appellants' specification.

Minsk discloses a method for preventing the formation of color fog or stain in photographic emulsions (column 1, lines 15 through 17). Color fog or stain in photographic silver halide emulsions is formed when the developers, reducing agents which convert the silver halide components to elemental silver, react in their oxidized form with color-forming components by coupling therewith in places in the photographic element where no silver image is produced (column 1, lines 31 through 39). It is also well-known that the color dyes should be formed only where the silver halide is reduced to metallic silver by the developers, thereby oxidizing the developer to a form which couples with the color-forming agent. Once oxidized, the developer reacts (couples) immediately with the color former whether a photographic image is present or not (column 1, lines 39 through

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44). Minsk resolves the aforementioned problems by providing suitable, non-diffusing reducing agents (developers) in silver halide emulsion layers containing color couplers. The developers are non-diffusing, polymeric compounds having recurring units containing two or more hydroxyl units (column 1, line 69 through column 3, line 66). The non-diffusing stain or fog inhibitors may be incorporated directly in gelatin emulsions (column 5, lines 64 through 71).

IBM discloses photosensitive compositions containing silver halide and gelatin (page 1, lines 14 through 18). The photosensitive compositions also contain a thermoplastic novolak polymer prepared by reaction of formaldehyde and a phenolic monomeric silver halide developing agent (page 2, lines 9 through 18). A preferred novolak is prepared from formaldehyde and p-dihydroxybenzene (hydroquinone). Preferred novolaks have a molecular weight of from 300 to 600 although greater or lesser molecular weights may be useful (page 2, line 53 through 57). When added to silver halide emulsions, the novolak was found to impart both the properties of a non-diffusing developer and an image strengthener (page 2, lines 58 through 61).

Appellants' broadest claim, claim 1, is directed to a "black and white" photographic element comprising as the photosensitive medium a silver halide emulsion layer having in

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the same layer or in an adjacent layer a developer which is non-diffusing and which developer bears a plurality of units which are dihydroxy substituted benzenes (catechol, resorcinol or hydroquinone). The dihydroxy substituted benzene moieties on the non-diffusing developer may be pendant groups attached to a polymeric backbone (claims 1 through 6 and 9 through 12) or the dihydroxy substituted benzene moieties may be repeating units which actually form part of the polymeric backbone of the non-diffusing polymeric developer (claims 7 and 8).

In their specification and at page 4 of their brief, appellants discuss the various prior art solutions to the problem of preventing the developer from migrating from the emulsion layer where it is placed. The prior art resolved this problem by: using so-called "ballasted" reducing agents; rendering the "photographically useful" group non-diffusing by crosslinking; and, by incorporating the developer in the emulsion layer in the form of a non-diffusing resin, for example. In discussing the method whereby polymers bearing units having two or more hydroxy substituents are incorporated into the emulsion layer, appellants cite and discuss the Minsk reference cited above for the recognized use of "ballasted" developers in silver halide emulsions but apparently conclude because Minsk is directed to silver halide emulsions containing color couplers a person of

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ordinary skill in the art would not have been motivated to use the Minsk compounds as "a primary developer for black and white silver halide photographic materials." We disagree.

There is no doubt but that Minsk discloses the very same compounds, used as silver halide developers in the Minsk invention, as appellants claim here as useful for developing silver halide emulsions. That is, Minsk discloses non-diffusing developers for incorporation in color photographic silver halide emulsion layers. For the developer of claim 5 and claim 6(5), see column 3, lines 29 through 35. For the developer of claims 7 and 8, see column 3, lines 55 through 65.

The only difference between the subject matter claimed by appellants and the invention described by Minsk is that appellants claim a silver halide emulsion photographic element for use in black and white photography. Nonetheless, the fundamental chemistry involved in the development of photographic images by silver halide emulsion technology is the same for black and white photography and color photography - the developer reduces silver halide to elemental silver leaving a latent image and the developer, thus, becomes oxidized.

We are satisfied that a person of ordinary skill in the art knowing from the Minsk disclosure that developers may be anchored in the emulsion layer where they are placed by using

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polymeric non-diffusing developers and knowing from Minsk that the problem of stray fog or stain will be abated by the use of said polymeric non-diffusing developers would have understood that anchoring the developers in the emulsion layer of a black and white photographic element would maintain the developer in the emulsion layer where it is placed. Thus, developers so-anchored would be prevented from being washed away by alkaline activator solution. That the reason provided by Minsk for using polymeric non-diffusing developers is different than appellants' reason for using the same polymeric non-diffusing developers does not negate the *prima facie* case of obviousness.

To the extent that Minsk does not disclose the molecular weight for the polymer recited in appellants' claim 10, we note that IBM clearly indicates that higher molecular weight non-diffusing developers tend not to diffuse from the emulsion layer compared with lower molecular weight developers. Thus, the skilled artisan would have been motivated to use higher rather than lower molecular weight polymers. Moreover, appellants have repeatedly directed our attention to the Minsk patent in their specification as prior art which would enable the person of ordinary skill in the art to make and use the polymeric compounds claimed by appellants in their invention. See, for example, appellants specification at: page 4 line 37 through page 5 line

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15; page 10, lines 31 and 32; and, page 10, line 33 through page 11, line 2.

Therefore, it is apparent that appellants' claimed developers are, *per se*, well-known compounds in the silver halide emulsion art and, accordingly, the use of developers having the claimed molecular weight would have been *prima facie* obvious. Moreover, the limitations in claim 10 as to particle size and in claim 11 as to the amount of developer used are directed to what we consider to be so-called "result effective" variables, the optimization of which have been held to be entirely within the purview of routine experimentation and selection by the ordinary routineer in this art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The use of auxiliary developers in a silver halide emulsion as required by claim 12 is a notoriously well-known expedient in this art as conceded by appellants in their specification at page 16, lines 2 through 9 and page 17, lines 1 and 2.

Claim 9 is rejected under 35 USC 112, second and fourth paragraphs. Claim 9 is a dependent claim which depends on claim 1. As a dependent claim it must, therefore, "set forth and then specify a further limitation of the subject matter claimed" in the independent claim from which it depends. Claim 9 recites that the phenyl ring recited in claim 1 may have on the ring "one

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or more" other substituents selected from a group of recited substituents. However, while claim 1 is a "comprising" claim and is, thus, open to the inclusion of other ingredients, the compound of formula I in claim 1 does not recite any substituents except for the two "floating" hydroxyl units. The remaining available positions in the compound depicted by claim 1 must be occupied by hydrogens. Accordingly, the limitation in claim 9 is understood by us not to further limit the dihydroxy substituted benzenes claimed but is a claim to an entirely different compound or class of compounds than claimed in claim 1. Thus, claim 9 fails to further limit the subject matter of claim 1 and by, definition raises an unreasonable degree of certainty with respect to the scope of what appellants intend to claim in claim 9 in contravention of the requirements of 35 USC 112, second paragraph.

The decision of the examiner rejecting claims 1 through 12 under 35 USC 101 and 35 USC 112, first paragraph is REVERSED. The decision of the examiner rejecting claims 1 through 4, 7 and 9 through 12 under 35 USC 102 and 35 USC 103 is AFFIRMED. The rejection of claims 6(3) and 8 under 35 USC 102 and 35 USC 103 is REVERSED. We have entered new grounds of rejection.

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In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides, "A new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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Should the appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for reconsideration thereof.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART (196B)

ANDREW H. METZ)	
Administrative Patent Judge))	
)	
)	
CAMERON WEIFFENBACH)	BOARD OF PATENT
Administrative Patent Judge))	APPEALS AND
)	INTERFERENCES
)	
)	
TERRY J. OWENS)	
Administrative Patent Judge))	
)	

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