UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WALTER H. WADDELL and
ROBERT R. POULTER

Appeal 2008-3389
Application 10/466,178
Technology Center 1700

Decided: September 19, 2008

Before THOMAS A. WALTZ, PETER F. KRATZ, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-5, 7, 8, 10, 13-17, 20, 22, and 25-27. We have jurisdiction pursuant to 35 U.S.C. § 6.

We AFFIRM.

BACKGROUND

Appellants' claimed invention is directed to a tire tread having an outer surface formed from an elastomeric composition. Claims 1 and 13 are illustrative and reproduced below:

> 1. A tire tread comprising an outermost surface formed from an elastomeric composition comprising from 50 to 85 phr natural rubber; from 10 to 35 phr of a copolymer of a C_4 to C_7 isoolefin and a para-alkylstyrene; and from 5 to 35 phr of polybutadiene.
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> 13. A tire tread comprising a traction surface formed from a cured elastomeric composition comprising from 50 to 80 phr natural rubber; from 10 to 35 phr of a copolymer of a C_4 to C_7 isoolefin and a para-alkylstyrene; and from 10 to 30 phr of polybutadiene.

The Examiner relies on the following prior art references as evidence in rejecting the appealed claims:

Young	5,063,268	Nov. 5, 1991
Matsuo	5,512,626	Apr. 30, 1996

Claims 1-5, 7, 8, 10, 13-17, 20, 22, and 25-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Young in view of Matsuo.

Appellants separately argue claims 1 and 13 only (Br. 6-13). Accordingly, we address Appellants' arguments with regard to claims 1 and 13 only. Claims 2-5, 7, 8, and 10 stand or fall with claim 1, and claims 14-17, 20, 22, and 25-27 stand or fall with claim 13.

ISSUE

Have Appellants identified reversible error in the Examiner's obviousness rejection of claims 1 and 13 over the combined teachings of Young and Matsuo?

PRINCIPLES OF LAW

In considering whether an applicants' claimed invention is obvious or not, we are instructed that "Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007).

KSR reaffirms the analytical framework set out in *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1 (1966), which states that an objective obviousness analysis includes: (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; and (3) resolving the level of ordinary skill in the pertinent art. *KSR*, 127 S. Ct. at 1734. Secondary considerations such as commercial success, long felt but unsolved needs, or failure of others "'might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.'" *Id.* (*quoting Graham*, 383 U.S. at 17-18).

When claimed ranges overlap or lie inside ranges disclosed by the prior art for every component in a claim, a prima facie case of obviousness is established. *See In re Geisler,* 116 F.3d 1465, 1469-70 (Fed. Cir. 1997). Indeed, the law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. These cases have consistently held that the Appellants must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).

OPINION

Applying the preceding legal principles to the factual findings of the record in this appeal, we determine that Appellants have not shown that the evidence fails to support the Examiner's conclusion of obviousness. We have thoroughly reviewed each of Appellants' arguments and evidence for patentability. We are in full agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections under 35 U.S.C. § 103(a) for essentially those reasons expressed in the Answer and those set out herein.

Appellants do not dispute the Examiner's determination that Young discloses the copolymer component claimed in amounts which encompass the claimed range of claims 1 and 13 (Ans. 4). Specifically, Appellants admit that the tire tread composition described in Young contains 6-55 phr (parts per hundred parts of rubber) of the claimed copolymer versus 10-35 phr of the copolymer as recited in each of claims 1 and 13 (see Br. 8) [1]. It is also undisputed that Young teaches that the copolymer is used in a rubber composition wherein "[t]he **preferred** rubbers are natural rubber, styrene-butadiene rubber, polybutadiene rubber, **and mixtures thereof**" (Young,

[1] While the Examiner calculates the copolymer phr to be 3.75 to 37.5 phr (Ans. 4), we shall assume that Appellants' calculation is more accurate since the Examiner did not take into account the minimum amount of rubber (25 wt%) with minimum amount of the isoolefin/para-alkylstyrene copolymer (3 wt%) (e.g., the Examiner apparently based these calculations using the maximum amount of rubber and isoolefin/para-alkylstyrene copolymer (80 wt % (50 + 30) as the denominator).

col. 7, ll. 30-33; emphasis provided).[2] We therefore find that Young describes that the elastomeric composition may comprise 45 to 94 phr natural rubber (versus the claimed 50 to 85 phr natural rubber of claim 1, 50 to 80 of claim 13), or 45-94 phr polybutadiene (versus the claimed 5-35 phr of claim 1, 10 to 30 of claim 13), **or any mixture thereof** (e.g., 50 phr natural rubber, 10 phr polybutadiene). **(***See also* Br. 8).

Based on the above findings, in particular the teaching of "mixtures thereof" of the three preferred rubbers (col. 7, ll. 30-33), we determine that Young alone describes broad ranges that overlap the ranges for the natural rubber and polybutadiene components of the composition as claimed.[3] As discussed above, the range of the copolymer component described in Young completely encompasses the range of the copolymer component claimed.

Moreover, the Appellants do not dispute the Examiner's findings that Matsuo teaches tire tread compositions of natural rubber, blended with polybutadiene rubber in amounts not more than 30 wt%, "which would meet the range of natural rubber and polybutadiene as claimed" (Ans. 4). Rather, Appellants contend that Matsuo teaches away since the composition described therein is for the base layer of a tire tread, not the "outermost surface", or "traction surface", as respectively claimed in claims 1 and 13 (Br. 8-10).

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[2]Appellants admit that Young is generic as to rubber blends in the context of the present invention (Br. 7).

[3] We also note that the open ended claim language "comprising" of each of claim 1 and claim 13 permits other rubbers and/or other components to be included (e.g., when using the lowest value of each component range). *See Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327 (Fed. Cir. 1999).

Appellants also contend that it would not have been obvious to one of ordinary skill in the art at the time of the invention to modify Young so as to employ the claimed proportions of natural rubber and polybutadiene along with the copolymer, and that both Young and Matsuo teach away from the invention (e.g., Br. 3, 8-9). This is allegedly so because there is no teaching or suggestion of such proportions in any of the examples of Young, or Young with Matsuo (*id.*). Finally, Appellants allege that they have demonstrated unexpected results for the claimed composition since one would have expected adverse impacts on the wear and traction characteristics using high amounts of natural rubber, whereas improved traction and abrasion resistance properties were obtained, using the copolymer and polybutadiene in specific proportions (Br. 14). We do not find any of these arguments persuasive of error for the reasons discussed herein.

In general, a claimed range of values which is either encompassed by or overlaps a range disclosed in a prior art reference is considered prima facie obvious. *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003). *See Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1168 (Fed. Cir. 2006) ("normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages").

We therefore have no doubt that one of ordinary skill in the art would have readily arrived at the use of a tire tread composition as claimed, upon routine experimentation given the level of skill of one of ordinary skill in the art and the teachings of Young alone. *See also In re Aller*, 220 F.2d 454, 456 (CCPA 1955)("[W]here the general conditions of a claim are disclosed

in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”).

Further, one of ordinary skill in the art is also a person of ordinary creativity, not an automaton. *KSR,* 127 S. Ct. at 1742. One of ordinary skill in the art would have been led to employ workable or optimum amounts of ingredients through routine experimentation to obtain the desired compositions suggested by Young. These teachings of Young also would have given the artisan a reasonable expectation that the amounts of each component claimed would have been effective in the claimed ranges. *See Pfizer, Inc. v. Apotex Inc*, 480 F.3d 1348, 1364 (Fed. Cir. 2007)(the expectation of success need only be reasonable, not absolute).

In addition, we note that the findings of the Examiner with respect to the additional teachings of Matsuo concerning the known tire tread composition of natural rubber and polybutadiene bolsters this obviousness assessment of the Examiner. In this regard, we further agree with the Examiner’s position that Matsuo together with Young would have further suggested to one of ordinary skill in the art the obviousness of employing more natural rubber than polybutadiene in Young’s tire tread composition, irregardless of Matsuo’s teaching of its natural rubber/polybutadiene composition for use as the base portion of a tire tread (Ans. 4-5). It is well settled that it is not necessary for a finding of obviousness that all the features of one reference be bodily incorporated into the invention of another reference. *In re Griver*, 354 F.2d 377, 381(CCPA 1966); *In re Billingsley*, 279 F.2d 689, 691 (CCPA 1960).

We are likewise unpersuaded by Appellants’ “teaching away” arguments. Certainly, skill in the art is presumed and we find that one of

ordinary skill in the art would have found it obvious to weigh the advantages and disadvantages of using various amounts of natural rubber and polybutadiene rubber in combination with the copolymer claimed, given the combined teachings of Young and Matsuo.

Further, it has also been held that disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure. *See, e.g., In re Susi*, 440 F.2d 442, 446 n.3 (CCPA 1971). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. *See Merck & Co v. Biocraft Labs*., 874 F.2d 804, 807 (Fed. Cir. 1989)("the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered"). We find that even though the specific examples of a tire tread composition in Young each contain 10 or 20 phr rubber, Young also describes a broader range as discussed above. As previously discussed, Matsuo's base tire tread composition of natural rubber and polybutadiene further bolsters the obviousness conclusion of the Examiner.

For the foregoing reasons and those stated in the Answer, we agree with the Examiner's findings in support of obviousness for claims 1 and 13 based on Young and Matsuo.

Unexpected Results

Having determined that prima facie obviousness has been established, we must begin our consideration anew and consider any evidence of obviousness against any evidence of non-obviousness (such as the data in Appellants' Specification). *See In re Oetiker*, 977 F. 2d 1443, 1445 (Fed. Cir. 1992). When the difference between a claimed invention and the prior

art is a claimed range, as here, the applicant must show that the range is critical through unexpected results. *See In re Woodruff*, 919 F.2d at 1578. The burden rests with Appellants to establish that the results are unexpected, based on comparisons with the closest prior art, and commensurate in scope with the claimed subject matter. *See, e.g., In re Kulling,* 897 F. 2d 1147, 1149 (Fed. Cir. 1990). We determine that Appellants have not met this burden. In particular, Appellants have not fairly demonstrated that the claimed composition achieves any unexpected result or criticality for the claimed ranges relative to the prior art compositions. Appellants have not explained any direct comparison of their alleged inventive Specification Examples 7-12 with the two examples in the closest prior art Young (Young, col. 10, Table 1, formulations C and D).

Also, Appellants have not established unexpected results for a composition commensurate in scope with the subject matter sought to be patented. *See In re Dill,* 604 F.2d 1356, 1361 (CCPA 1979). For example only, Appellants have not satisfactorily explained why the evidence provided by alleged inventive Specification Examples 7-12 which all use a terpolymer including a brominated para-methylstyrene (referred to as BIMS, *see* Spec. 11-3; Spec. 17, Table 1) is sufficient. Neither claim 1 nor claim 13 is limited to such a copolymer.

Further, all the examples include particularly specified additional components, none of which are required by appealed claims 1 and 13.

Hence, it can hardly be said that the exemplified inventive examples establish results that would be expected to be obtained across the entire breadth of the claimed composition. In addition, Appellants have not satisfactorily explained how a comparison thereof with the two examples

according to Young (formulations C and D) represents a fair comparison with the closest prior art given the scope of the claimed subject matter and the number of variables involved.

Based on the totality of the record, including due consideration of Appellants' evidence and arguments, we determine that the preponderance of evidence weighs most heavily in favor of an obviousness determination. Accordingly, we affirm the Examiner's obviousness rejection of claims 1 and 13 (as well as the claims not separately argued) over Young and Matsuo.

It follows that we sustain the ground of rejection presented in this appeal for the reasons stated in the Answer and above.

CONCLUSION

The decision of the Examiner to reject claims 1-5, 7, 8, 10, 13-17, 20, 22, and 25-27 under 35 U.S.C. § 103(a) as being unpatentable over the Young in view of Matsuo is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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