

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LIN-SEN YUAN

Appeal No. 1997-0461
Application 08/267,683¹

ON BRIEF

Before METZ, JOHN DOUGLAS SMITH and WALTZ, Administrative Patent Judges.

METZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the

¹ Application for patent filed June 28, 1994. According to the official records of the United States Patent and Trademark Office, the application is a division of Serial Number 08/083,244, filed on June 24, 1993, and now U.S. Patent Number 5,503,506, issued on April 2, 1996.

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examiner's refusal to allow claims 23 through 31, all the claims remaining in this application.

THE INVENTION

The claimed invention is directed to lubricant and coolant compositions which are a dispersion of molybdenum disulfide powder in a liquid. According to appellant, the compositions are useful as metalworking lubricants, specifically, in high load, high stress applications such as broaching.

Claims 23, 30 and 31 are believed to be adequately representative of the appealed subject matter and are reproduced below for a more facile understanding of the appealed subject matter.

Claim 23. A lubricant and coolant, consisting essentially of:

molybdenum disulfide powder; and

a liquid in which the molybdenum disulfide powder is dispersed to form a liquid suspension.

Claim 30. A lubricant and coolant consisting essentially of molybdenum disulfide powder and a liquid in which the molybdenum disulfide powder is dispersed to form a liquid suspension, said liquid consisting essentially of water and a soap emulsion.

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Claim 31. A
lubricant and coolant consisting essentially of
molybdenum disulfide powder and a liquid in which the
molybdenum disulfide powder is dispersed to form a liquid
suspension, said liquid consisting essentially of
kerosene, chloroparaffin, and carbon tetrachloride.

OPINION

THE REFERENCES

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

Fujii et al. (Fujii '521) 5,116,521 May
26, 1992

Fujii et al. (Fujii (A1)) Published European Patent
Application
0 412 788 A1, published February 13, 1991

THE REJECTIONS

Claims 23 through 31 stand rejected under 35 U.S.C. § 103
as being unpatentable over either Fujii et al. (U.S. Patent
Number 5,116,521) or Fujii et al. (European Patent Application
0 412 788 A1)². We shall affirm these rejections with respect
to claims 23 through 27 and 30 but reverse the rejections as

² The rejection on Fujii et al. (European Patent
Application 0 412 788 A1) was entered by the examiner
in her Answer as a new ground of rejection. See Paper
Number 12.

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they apply to claims 28, 29 and 31.

Except for the separate patentability of claims 28, 29 and 31, appellant has failed to argue with any reasonable degree of specificity the patentability of any specific claim. Accordingly, the patentability of all the claims stands or falls with independent claim 23 and, except for claims 28, 29 and 31, we shall decide the patentability of all the claims based on the patentability of claim 23. In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987); In re Kroekel, 803 F.2d 705,

709, 231 USPQ 640, 642 (Fed. Cir. 1986). See also 37 C.F.R. § 1.192(c)(7) (1996).³

Claim 23 is directed to a lubricant which requires two components: (1) molybdenum disulfide powder; and, (2) a liquid in which the molybdenum disulfide powder is dispersed to form

³ We recognize, as does the examiner, that appellant has stated on page 3 of his main brief that "Claims 23-31 are to be considered as a group." However, it would constitute an exaltation of form over substance to give effect to appellant's statement above while ignoring appellant's other statement of separate arguments made in both his brief and reply brief concerning the separate patentability of claims 28, 29 and 31.

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a liquid dispersion. In claim 24, the liquid in claim 23 is defined as "consisting essentially of water and a soap emulsion." There are neither proportions nor amounts recited in claim 23 for any of the claimed components.

We agree with the examiner's conclusion that Fujii '521 describes in their examples a lubricant as claimed by appellant in claim 23. Specifically, as conceded by appellant at page 5 of his main brief, Comparative Examples 4, 6 and 8 in Fujii '521 describe lubricants consisting essentially of a sodium soap, molybdenum disulfide and water. Fujii '521 prepares the lubricants by dispersing or dissolving the components in water (column 4, lines 37 through 41). Claim 23 requires nothing more than the ingredients described in Table 2 in Fujii '521. Anticipation or lack of novelty has been held to be "the epitome of obviousness". See In re Pearson, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974).

Although Fujii (A1) claims priority benefit of the same Japanese benefit application as one of the benefit applications claimed by Fujii '521 (Japanese 204485, filed August 9, 1989) the disclosure of Fujii (A1) is not identical to the disclosure of Fujii '521. The chief difference between

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the disclosures is that Fujii (A1) describes an aqueous lubricant comprising a metallic soap, a solid lubricant, a surfactant for dispersing the soap and solid lubricant and water (page 3, lines 11 through 13). The solid lubricant may be molybdenum disulfide (page 3, lines 27 and 28). The surfactant utilized may itself be an anionic type such as a fatty acid salt (page 3, lines 39 through 41). As an optional ingredient, the lubricant may also contain a colloidal titanium pigment in an amount of from 10 to 5000 ppm to improve the lubricating and rust-preventing effects of the lubricant (page 3, line 52 through page 4, line 13).

Thus, Fujii (A1) "describes", in the sense of 35 U.S.C. § 102, a lubricant as claimed in claim 23. That is, Fujii (A1) describes a lubricant consisting essentially of molybdenum disulfide powder and "a liquid in which the molybdenum disulfide powder is dispersed to form a liquid suspension." Again, we observe that "anticipation" is the ultimate evidence of obviousness.

In reaching the above conclusions, we have not overlooked appellant's argument concerning the scope of claim 23 as

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amended in Paper Number 5 to recite the language "consisting essentially of" rather than "comprising". Nevertheless, use of the terminology "consisting essentially of" has been held to exclude only those ingredients which would materially affect the basic and novel characteristics of a composition. In re Janakirama-Rao, 317 F.2d 951, 954, 137 USPQ 893, 896 (CCPA 1963). Moreover, in construing the language "consisting essentially of", it is necessary to determine whether appellant's specification reasonably supports a construction which would include other additives. In re Herz, 537 F.2d 549, 551 [1,2], 190 USPQ 461, 463 [1] (CCPA 1976). Thus, in our role as fact finders, the Board must look to appellant's disclosure to determine what ingredients, if any, are excluded by the use of the phrase "consisting essentially of".

In Janakirama-Rao at 317 F.2d 954, 137 USPQ 896, the court specifically noted that:

[t]he word "essentially" opens the claims to the inclusion of ingredients which would *not* materially affect the *basic* and *novel* characteristics of appellant's compositions as defined in the **balance** of the claim, according to the applicable law.
[emphasis on "balance" added]

Further, in discussing Herz's specification with respect to Herz's composition's novel antioxidant properties vis-à-vis

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the prior art applied against Herz's claims (Messina), the court in Herz at 537 F.2d 552 [4], 190 USPQ 463, concluded that:

Appellants' specification states that the composition can contain any of the well-known additives, including dispersants. There is no evidence that Messina's dispersants would materially affect the basic and novel characteristic of their composition, and all evidence is to the contrary. Messina's composition has the same basic and novel characteristic - increased oxidation resistance - although it has additional enhanced detergent-dispersant properties. (underlining added)

Thus, the proper focus is on the materiality of the effect any added ingredient has on what the inventors believe to be the novel characteristics of their claimed invention.

Here the "basic and novel characteristics" of the claimed invention is a composition which serves as a lubricant and coolant which are the same "basic and novel" characteristics of both Fujii et al. references. As an aqueous soap dispersion of molybdenum disulfide, the compositions of both Fujii et al. references would inherently be understood by any skilled lubricant chemist to possess both cooling properties because of their water content and lubricity properties because of the presence of both the soap and molybdenum disulfide, each possessing known lubricant properties. Thus,

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the question to be resolved is whether any of the other ingredients disclosed in either Fujii et al. reference would have been expected to materially alter the basic lubricating and cooling properties possessed by the compositions disclosed therein. From the examples in each Fujii et al. reference the answer to the above-noted question is no. It is clear from the Fujii et al. examples that the compositions still possess their lubricant and cooling properties as evidenced by the high reduction in cold plastic working obtained without seizure and galling.

We have carefully reviewed appellant's disclosure for any evidence that appellant intended to exclude from his composition any components other than those specifically claimed and we find no such evidence. At page 13, line 34 through page 14, line 2, the "lubricant/coolant" is described as one which "includes" molybdenum disulfide powder "dispersed" in a liquid. At page 14, lines 12 through 14, it is disclosed that in order to prevent precipitation of the molybdenum disulfide, the molybdenum disulfide must be "dispersed in a suitable liquid suspension." At page 14, lines 15 through 19, the "lubricant/coolant" is described as one

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which "includes a water-based suspension of molybdenum disulfide powder dispersed in a soap emulsion." On page 15, at lines 11 through 29, appellant includes what has now become conventional "boilerplate" in patent applications wherein appellant states, *inter alia*, that "numerous variations and alternative embodiments will occur to those skilled in the art, without departing from the spirit and scope of the invention."

Thus, we find nothing in appellant's disclosure which evidences he intended to exclude any ingredients from his composition other than those claimed. Rather, the term "includes" is considered to be of the same scope as the well-known open-ended term "comprises" and leaves the "lubricant/coolant" open to the presence of other components. Additionally, the "suitable liquid dispersion" could include any variety of other undisclosed ingredients so long as the ingredients "suitably" dispersed the molybdenum disulfide. Accordingly, we find no evidence in appellant's original disclosure which supports appellant's narrow interpretation of his invention as now claimed. There is certainly no basis for the proposition that the claimed compositions exclude or were

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ever intended to exclude the parts per million of titanium dioxide disclosed by Fujii '521 for their lubricant compositions.

Neither have we overlooked appellant's further argument that his claim language specifically excludes titanium dioxide. In the first instance, this argument is mooted by our finding that the references "describe" the subject matter of claim 23. Nonetheless, there is evidence in the record which also addresses the question of whether or not it would have been obvious to exclude the titanium dioxide from Fujii '521 along with its attendant function. For example, in Published UK Patent Application GB 2 002 812 A cited by appellant during the prosecution of his application, aqueous soap-based lubricants for cold metalworking are disclosed to be improved in lubricity properties by the inclusion of inorganic pigments. Thus, because titanium dioxide is a well-known pigment its further inclusion in the Fujii '521 composition would have been expected to further enhance the composition's lubricity while its removal would be expected to be evidenced by a concomitant decrease in lubricity.

Finally, we shall address appellant's argument that the

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claimed compositions are intended to be used in a process employing higher pressure and temperatures than encountered in the process disclosed by the Fujii et al. references. In the first instance, as correctly noted by the examiner, the subject matter claimed is not a process but a composition. By analogy, the composition of aspirin remains the same whether used in a method for treating headaches or when used as a prophylactic against stroke.

Further, there is absolutely no evidence in this record comparing the temperatures and pressures in the prior art processes with the temperatures and pressures in appellant's disclosed broaching process. Whether, for example, in a process of broaching a soft metal such as brass or aluminum appellant reaches the temperatures and pressures reached by Fujii et al. when cold working titanium, for example, is complete conjecture by appellant. Accordingly, we give appellant's arguments concerning the differences in the processes the weight of mere attorney argument. We find absolutely no merit to appellant's tangential argument at page 7 of his main brief that the Fujii et al. references are "entirely nonanalogous to the present lubricant/coolant

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composition."

CLAIMS 28, 29 AND 31

Claims 28, 29 and 31 are directed to a molybdenum disulfide dispersion where the molybdenum disulfide is dispersed in a liquid consisting essentially of kerosene, chloroparaffin and carbon tetrachloride. Neither Fujii et al. reference on which the examiner has relied discloses or suggests any non-aqueous liquid let alone a combination of kerosene, chloroparaffin and carbon tetrachloride. Appellant has expressly argued this fact in both his brief and reply brief as a basis for reversing the examiner's stated position. The examiner has offered no substantive response to appellant's argument but has merely observed that, with respect to the rejection over Fujii '521, appellant's brief declares that claims 23 through 31 stand together as a group.

Nevertheless, the rejection over Fujii (A1) was first proffered in the Answer as a new ground of rejection under 35 U.S.C. § 103 over all the appealed claims. We find no application of the disclosure in Fujii (A1) as it would apply to the subject matter claimed in claims 28, 29 and 31. In rejecting an applicant's claims, it is by now well-settled

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that the examiner bears the initial burden of making out a *prima facie* case of obviousness. This the examiner has not done with respect to claims 28, 29 and 31 and we know of no reason why it would have been obvious to substitute for the aqueous soap liquid carrier of the prior art references an entirely non-aqueous liquid as claimed in claims 28, 29 and 31. Accordingly, on this record, the stated rejection of claims 28, 29 and 31 is reversed.

OTHER ISSUES

We observe that claims 28, 29 and 31 are directed to "lubricant/coolant" compositions consisting essentially of a molybdenum disulfide dispersion in a liquid which consists essentially of kerosene, chloroparaffin and carbon tetrachloride. According to appellant's disclosure at page 15, lines 8 through 10, carbon tetrachloride comprises from 3 to 5 percent of the "lubricant/coolant".

We take official notice of the following facts. Carbon tetrachloride is toxic by ingestion, inhalation and skin absorption. The narcotic tolerance of carbon tetrachloride is 5 ppm in air. Carbon tetrachloride decomposes to phosgene and hydrochloric acid at high temperatures and is a known

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carcinogen. Thus, it would appear that using the "lubricant/coolant" of claims 28, 29 and 31 in a metal broaching operation which achieves high temperatures and pressures would require special care, handling and equipment. We observe that there is no disclosure in appellant's specification on how to safely use appellant's claimed composition in a metal broaching operation. Accordingly, the examiner and appellant should consider whether appellant's disclosure satisfies the requirements of 35 U.S.C. § 112, first paragraph, on how to use the claimed invention.

SUMMARY

The decision of the examiner rejecting claims 23 through 27 and 30 is **affirmed**. The decision of the examiner rejecting claims 28, 29 and 31 is **reversed**.

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

AFFIRMED-IN-PART

ANDREW H. METZ)
Administrative Patent Judge)
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