

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHIGERU OKITA, YASUO UTSUMI
and AKIHIRO KIUCHI

Appeal No. 1998-0123
Application No. 08/251,575

HEARD: April 11, 2001

Before KIMLIN, KRATZ and JEFFREY T. SMITH, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-5, all the claims in the present application. Claim 1 is illustrative:

1. A rolling bearing comprising components of an inner race, an outer race and a plurality of rolling elements, at least one of the components being made from an alloy steel

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nitrogen gradient is the rate of change in the concentration of nitrogen in the depth direction of the surface.

Appealed claim 2 stands rejected under 35 U.S.C. § 112, fourth paragraph. Claims 1-5 stand rejected under 35 U.S.C. § 103 as being unpatentable over either Furumura or JP '257.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. In so doing, we will sustain neither of the examiner's rejections for essentially those reasons expressed by appellants.

Regarding the rejection under § 112, fourth paragraph, we concur with appellants' reasoning espoused at pages 19 and 20 of the Brief. In our view, claim 2 further defines the grinding allowance portion remaining after the carbonitriding and hardening steps recited in claim 1.

We now turn to the examiner's rejection under § 103. The examiner points out that both references disclose rolling bearings having a surface comprising carbon and nitrogen in amounts which overlap the recited ranges, and the examiner also cites Furumura's disclosure that the solid solution of carbon and nitrogen is uniformly formed at the surface. As a result, even though neither reference discloses the claimed

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nitrogen gradient, the examiner reasons that the rolling bearings of the references are sufficiently substantially similar to the claimed rolling bearing to shift to appellants the burden of establishing that the claimed product is patentably distinct from the rolling bearings of the cited references. As further support for the examiner's position, the examiner states that "[i]t is known in the art that the hardness due to carbonitriding is related to the diffused N concentration" (page 6 of Answer). Hence, since Furumura discloses that there is little if any difference in hardness between the surface portion and core portion of the bearing, it follows that there is little if any nitrogen gradient throughout the surface portion.

It is well settled that when a claimed product reasonably appears to be substantially the same as a product disclosed by the prior art, the burden is on the applicant to prove that the prior art product does not necessarily or inherently possess characteristics attributed to the claimed product. In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). However, it is also fundamental that the

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examiner bears the initial burden of presenting objective evidence to support the conclusion that the claimed and prior art products are substantially the same. In the present case, appellants have substantively challenged the examiner's finding that hardness due to carbonitriding is related to the diffused nitrogen concentration. Appellants submit at page 10 of the Brief that "[t]here is no objective evidence in the record of this alleged relationship between N gradient and)HRC" and "[t]here is no evidence in the record that hardness variation depends only on N concentration and *nothing else*" (page 11 of Brief). Also, appellants illustrate Figure D at page 13 of the Brief for demonstrating that "it is difficult to discern any relationship between nitrogen content and hardness, for those few examples in *Furumura* which actually contain nitrogen" (page 13 of Brief).

In addition, there is no evidence that the rolling bearings of the cited references are prepared in the same manner disclosed in appellants' specification, such that a reasonable conclusion can be drawn that substantially the same processes of preparation produce substantially the same rolling bearing. Appellants disclose the following process

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for producing the claimed rolling bearing at page 6 of the specification:

To produce the rolling bearing of the present invention, the carbonitriding treatment is advantageously performed by either one of the following schemes: it is performed at a temperature in excess of 900EC; or it is first performed at a temperature not exceeding 900EC and then replaced by a diffusion treatment; or it is first performed at a temperature not exceeding 900EC and then at a temperature in excess of 900EC.

This is in contrast with performing the carbonitriding at temperatures in the range of about 650-900EC, which appellants refer to as the "common treatment temperatures," which results in a more-than-necessary large amount of nitrogen "in the grinding allowance portion after carbonitriding and hardening heat treatments" (see paragraph bridging pages 11 and 12 of specification). The examiner has not pointed to any disclosure in the cited references for the preparation process disclosed in appellants' specification, and we find none therein.

Consequently, we find that the examiner has failed to establish a prima facie case of inherency which places upon appellants the burden of demonstrating that the rolling

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bearings of the cited references do not contain the claimed nitrogen gradient in the surface portion.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is reversed.

REVERSED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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PETER F. KRATZ)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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JEFFREY T. SMITH)	
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