

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was not written for publication and is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ATSUO KONDO AND TAKAO KURODA

Appeal No. 2002-0376
Application No. 09/072,137

ON BRIEF

Before JERRY SMITH, DIXON, and BARRY, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-12,
which are all of the claims pending in this application.

We REVERSE.

Appellants' invention relates to an integrated circuit device, arrangement/wiring method thereof, arrangement/wiring apparatus thereof, and recoding medium. The invention uses a compaction process which operates to reduce the minimum chip area necessary to accommodate the components and routing lines of the device. The compaction process uses a standard density value to determine when the compaction process is complete. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. An arrangement/wiring method of an integrated circuit device for arranging cells each containing at least one element and wiring signal lines which connect the cells in the integrated circuit device, said arrangement/wiring method comprising the steps of:

performing a compaction process so as to reduce a chip area of said integrated circuit device in which the cells have been arranged and the signal lines have been wired while fulfilling design rules;

obtaining a standard value of element density which is previously stored in a storage means and indicates a number of elements per unit area, and comparing said standard value with said element density of said integrated circuit device to which the compaction process has been executed; and

repeating the compaction process when said element density is smaller than said standard value, and terminating the compaction process when said element density is larger than said standard value.

The prior art of record relied upon by the examiner in rejecting the appealed claims is as follows:

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Lee	5,363,313	Nov. 08, 1994
Edwards et al. (Edwards)	5,625,568	Apr. 29, 1997
Kamdar	5,636,132	Jun. 03, 1997
Boyle et al. (Boyle)	5,682,322	Oct. 28, 1997
Kawakami	5,729,469	Mar.17, 1998
Greidinger et al. (Greidinger)	5,856,927	Jan. 05, 1999

Claims 1 ,7 , 9, and 12 stand rejected under 35 U.S.C. § 102 as being anticipated by Lee. Claims 1-12 stand rejected under 35 U.S.C. § 102 as being anticipated by Boyle or Kamdar or Edwards. Claims 1 ,7, 9, and 12 stand rejected under 35 U.S.C. § 102 as being anticipated by Kawakami or Greidinger. Claims 2-6, 8, 10, and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over (Lee or Kawakami or Greidinger) in view of the taking of Official Notice.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 14, mailed May 24, 2001) for the examiner's reasoning in support of the rejections, and to appellants' brief (Paper No. 13, filed Mar. 9, 2001) and reply brief (Paper No. 15, filed Jul. 24, 2001) for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the

respective positions articulated by appellants and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 102

Appellants argue that the examiner has unduly burdened appellants by applying essentially the same art. We make no findings relative to the number of rejections made by the examiner since this is a procedural matter beyond our scope of review.

Appellants argue none of the applied prior art is as relevant to the claimed invention as the admitted prior art in the background of the invention. (See brief at pages 6-7.) We agree with appellants. Appellants argue that the present invention uses a predetermined standard density as an objective threshold to determine when the compaction process is complete. Appellants argue that the objective standard density is determined prior to performing the compaction process and is compared to the actual density of the integrated circuit device during the compaction process for determining when to stop the compaction process. (See brief at page 7.) Appellants contrast this with the use of a density gradient which compares the actual density to the prior density as a measure of the rate of change of the density and appellants maintain that they were the artisans that discovered the problem with using the density gradient. (See brief at pages 7-8.) Appellants argue that the examiner has relied upon prior art

teachings of compaction generally and added his opinion that the present invention is not patentable. (See brief at page 8.) We agree with appellants that the examiner has merely provided a laundry listing of citations without any relevant discussion of how those portions of references meet the recited limitations. Appellants argue that the examiner has not set forth how each and every limitation of the claimed invention is allegedly shown by the prior art. (See brief at page 9.) We agree with appellants and find that the examiner's lengthy discussion in the response to the arguments section again does not address how each and every limitation of the claimed invention is allegedly shown by the prior art. (See answer at pages 6-15.) We find that the examiner's contortions of the recited claim limitations simplifies and changes the invention as claimed by appellants. As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Here, the examiner has not addressed the claim, but the examiner's iterative analysis of the claim to distill it down to a modified claim as set forth on page 11 of the answer.

Appellants argue that none of the applied references disclose the specific claim limitations. (See brief at page 10.) We agree with appellants. We have reviewed the prior art applied by the examiner paying special attention to the cited portions, and we

find no teaching of the use of a standard value of an element density which was previously stored and comparison of the standard value with the element density to either repeat the compaction or terminate the compaction process as recited in the language of independent claim 1. Therefore, we will not sustain the rejection of independent claim 1 over Lee, Boyle, Kamdar, Edwards, Kawakami or Greidinger. Nor can we sustain the rejection of dependent claims 2-6 over Boyle, Kamdar or Edwards. Independent claims 7 and 9 contain similar limitations not taught by any of the applied references. Therefore, we will not sustain the rejection of independent claims 7 and 9 over Lee, Boyle, Kamdar, Edwards, Kawakami or Greidinger and their dependent claims 8, 10, and 11 over Boyle, Kamdar or Edwards.

With respect to independent claim 12, appellants argue that Lee does not teach the use of a predetermined standard value as recited in the claim. (See brief at page 18.) We agree with appellants. We have reviewed the prior art applied by the examiner paying special attention to the cited portions, and we find no teaching of the use of a standard value of an element density which was used to adjust the element density to be close to or larger than a predetermined standard value. In the examiner's response to the arguments section of the answer, the examiner generally restates the

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citations for the statement of the rejection and adds minor discussion that the standard value of density associated with compaction is determined by design constraints and design rules. While we agree that a standard value would be so based, the prior art applied by the examiner and the specific portions thereof cited in the statement of the rejection do not teach the use thereof as the control criterion for a compaction process. Therefore, we cannot sustain the rejection of independent claim 12 over Lee, Boyle, Kamdar, Edwards, Kawakami or Greidinger.

35 U.S.C. § 103

With respect to dependent claims 2-6, 8, 10 and 11, we find that the examiner's reliance upon Official Notice of various details of the claimed invention does not remedy the deficiency in the base references, nor has the examiner relied upon any suggestion or motivation in the base teachings to suggest the use of a standard value of element density as a control criterion in a compaction process. Therefore, we cannot sustain the rejection of dependent claims 2-6, 8, 10 and 11 under 35 USC § 103 over Lee, Kawakami or Greidinger in view of Official Notice.

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CONCLUSION

To summarize, the decision of the examiner to reject claims 1-12 under 35 U.S.C. §§ 102 and 103 is reversed.

REVERSED

JERRY SMITH)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
JOSEPH L. DIXON)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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)	
LANCE LEONARD BARRY)	
Administrative Patent Judge)	

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