

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte INGMAR VESTERLUND, GEORG KUGLER,
MARRUS DECHSLE and PETET KAHL

Appeal No. 2003-1303
Application No. 09/351,166

HEARD: October 8, 2003

Before ABRAMS, STAAB, and BAHR, Administrative Patent Judges.
STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is decision on an appeal from the examiner's final rejection of claims 1-12, all the claims currently pending in the application.

Appellants' invention pertains to a method and apparatus for drilling holes in a shell of a paper machine cylinder. An understanding of the invention can be derived

from a reading of independent claims 1, 6 and 10, which appear in Appendix A to appellants' main brief.¹

The references relied upon by the examiner in the final rejection are:

Hakala et al. (Hakala)	5,090,846	Feb. 25, 1992
Parviainen et al. (Parviainen)	5,927,909	Jul. 27, 1999

Claims 1-12 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 1-3, 5, 6, 8 and 9 stand further rejected under 35 U.S.C. § 102(b) as being anticipated by Hakala.

Claims 4, 7 and 10-12 stand further rejected under 35 U.S.C. § 103(a) as being unpatentable over Hakala in view of Parviainen.

Reference is made to appellants' main and reply briefs (Paper Nos. 21 and 24) and to the examiner's answer (Paper No. 23) for the respective positions of appellants and the examiner regarding the merits of these rejections.

The 35 U.S.C. § 112, second paragraph, rejection

The examiner lists four reasons for rejecting the claims under 35 U.S.C. § 112, second paragraph. First, it is not clear to the examiner what the word "structures" refers

¹While the term "the at least one support member of the drilling apparatus" in claim 2 lack a proper antecedent, we understand this term as referring back to "the at least one support member" of claim 1. Although this informality does not obscure the metes and bounds of claims 1 and 2, it nonetheless is deserving of correction upon return of this application to the Technology Center.

to in the terminology “eliminating influences of mechanical play due to structures of the adjacent cylinder prior to drilling” appearing in claim 1, and the similar terminology appearing in the other independent claims on appeal. Second, it is not clear to the examiner how “*the at least one support member*” (emphasis added) can be coupled to the cylinder to be drilled as called for in claim 2, and also coupled to the adjacent cylinder as set forth in claim 1 from which claim 2 depends. Third, it is not clear to the examiner how the support member can be pressed against the surface of the cylinder to be drilled, as required by claim 3 and several other claims. Fourth, it is not clear to the examiner what is meant by the term “radially movable” in claims 6 and 8.

The test for compliance with the second paragraph of § 112 is “whether the claim language, when read by a person of ordinary skill in the art in light of the specification, describes the subject matter with sufficient precision that the bounds of the claimed subject matter are distinct.” *In re Merat*, 519 F.2d 1390, 1396, 186 USPQ 471, 476 (CCPA 1975). In other words, does a claim reasonably apprise those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994).

Concerning the examiner’s first reason for rejecting the claims under 35 U.S.C. § 112, second paragraph, we note the following statement appearing in appellants’ specification in the paragraph spanning pages 9 and 10:

Framework 2 can be provided with support members 29, e.g., pneumatic cylinders, which, prior to the machining operation, can be

driven against the surface of cylinders s2 to be machined so as to eliminate any possible play in the manner discussed above. In particular, it is noted that *the effect of any instability in the bearings of cylinder s1 and the support structures thereof, which act as a mounting base for drilling apparatus 1 can thus be minimized*, whereby the drilling operation becomes very stable and, thus, more accurate. [Emphasis added.]

Based on this disclosure, a person of ordinary skill in the art would recognize that the “structures” mentioned in the independent claims may comprise, among other things, the bearings of the adjacent cylinder and the supporting structures (e.g., the bearing mounts) thereof. Accordingly, the examiner’s first reason for rejecting the claims as being indefinite is not well founded.

As to the examiner’s second and third reasons for rejecting the claims under 35 U.S.C. § 112, second paragraph, it appears that the examiner is reading the terminology “the at least one support member of the drilling apparatus” of claims 2-4 on a single one of the disclosed support members 4 and 29; however, we do not consider the claim terminology to be so limited. From our perspective, a person of ordinary skill in the art would appreciate that “the at least one support member” terminology of claims 2-4 broadly encompasses both elements 4 and 29.² Thus, the examiner’s second and third reasons for rejecting the claims as being indefinite also are not well founded.

As to the examiner’s fourth reason for rejecting the claims under 35 U.S.C. § 112, second paragraph, both claims 6 and 8 call for the feed frame to be *radially*

²Consistent with this interpretation, appellants’ specification (e.g., page 7, lines 2-3 and 21-23) uses the term “support member” in describing elements 4 and 29.

movable along the stationary framework *relative to the shell* of the paper machine cylinder. Based on this express language, a person of ordinary skill would have no trouble in understanding that the direction of movement of the feed frame called for in these claims is with reference to the radial direction of the shell of the cylinder to be drilled.

Judging from some of the examiner's remarks in explaining this rejection, it appears that the examiner's concern is at least partially with the breadth of the claim language appellants have employed. However, this alone is not a proper basis for rejecting claims under § 112, second paragraph. This is so because the breadth of a claim is not to be equated with indefiniteness. *In re Miller*, 441 F.2d 689, 693, 169 USPQ 597, 600 (CCPA 1971).

In light of the above, we shall not sustain the examiner's rejection of claims 1-12 under 35 U.S.C. § 112, second paragraph.

The 35 U.S.C. § 102(b) rejection

The dispositive issue with respect to this rejection is whether Hakala discloses, either expressly or under the principles of inherency, a drilling method that includes the step of independent method claim 1 of

substantially eliminating influences of mechanical play due to structures of the adjacent cylinder prior to drilling, comprising coupling at least one support member to the adjacent cylinder *to exert tangential forces on the adjacent cylinder, whereby the mechanical play is substantially eliminated* [emphasis added,]

and a drilling apparatus that includes a device, as called for in claims 6 and 8,

for eliminating influences of mechanical play due to structures of said adjacent cylinder comprising support members adapted to exert tangential forced on said adjacent cylinder [emphasis added.]

It is the examiner's position that Hakala's drilling apparatus exerts at least some tangential force on the adjacent cylinder s2 "due to such as the gravity forces of the support member (21), and the cutting forces on the tools (17)" (answer, page 5).

Appellants respond (main brief, pages 10-13) that Hakala discloses an apparatus for drilling holes that operates between two opposed cylinders whose center axes are aligned with, or arranged parallel to, drill bits 17 of the drilling apparatus, such that the drill bits 17 and drill guide 19 of Hakala move radially to drill radial holes into the mantle of cylinder s1. Thus, appellants submit that there is no basis for concluding that Hakala's apparatus would exert a tangential force on the adjacent cylinder s2 during the drilling operation, and that there is no express disclosure in Hakala of support members arranged to exert a tangential force on adjacent cylinder s2 for this purpose. As to the examiner's assertion that tangential gravitational forces are applied to cylinder s2 of Hakala by the weight of the drilling apparatus, appellants argue (main brief, pages 14-15) that while Hakala's drilling apparatus may exert a tangential force on cylinder s2 due to its weight, independent claims 1, 6 and 8 do not simply call for a tangential force to be exerted on the adjacent cylinder, but also that said tangential force is such that

the influence of mechanical play is substantially eliminated as a result thereof, which result is not taught by Hakala.

Based on our reading of the disclosure of Hakala (e.g., col. 1, lines 30-36; col. 2, lines 49-60), appellants' explanation as to how the drilling apparatus of Hakala operates is reasonable. Moreover, the examiner has not disputed appellants' position that the drilling forces in Hakala would essentially be directed in the radial direction of the cylinders. On the record before us, the examiner has proffered no technical or scientific reasoning whatsoever as to why the drilling operation of Hakala would result in a tangential force being exerted on cylinder s2. Further, while we appreciate that Hakala's drilling apparatus may exert a tangential force on cylinder s2 due to its weight, we are in agreement with appellants that this alone would not be sufficient to meet the terms of independent claims 1, 6 and 8, which, as pointed out by appellants, in effect require the tangential force to be such that it substantially eliminates the influence of mechanical play due to the supporting structures of the adjacent cylinder. Simply put, Hakala does not disclose, either expressly or under the principles of inherency, any tangential force being exerted on adjacent cylinder s2 to substantially eliminate the influence of mechanical play due of the support structures of the adjacent cylinder, as claimed in independent claims 1, 6 and 8.

For these reasons, we shall not sustain the examiner's rejection of claims 1-3, 5, 6, 8 and 9 as being anticipated by Hakala.

The 35 U.S.C. § 103(a) rejection

The examiner concedes that Hakala does not disclose or suggest a support device coupled to the drilling apparatus that is adapted to press against the cylinder to be drilled, whereby tangential forces are exerted on the adjacent cylinder by the drilling apparatus, as called for in independent claims 10 and 12, and the similar limitations appearing in claims 4 and 7. The examiner turns to Parviainen for a teaching of this feature.

Parviainen is directed to a device for drilling holes in a shell of a paper machine, and more particularly, to an improvement over machines for drilling holes of the type disclosed in Hakala (col. 1, line 28 through col. 2, line 27). In Parviainen the drilling device is supported between a pair of adjacent cylinders 10 and above a third cylinder 11 to be drilled, and is guided along the length of the cylinder to be drilled by means of wheels 23A-23B on the ends of telescoping support arms that directly contact the adjacent cylinders and/or cylinder to be drilled (col. 3, lines 4-20). Thus, in Parviainen the drilling device does not require separate guides such as the guides 12a, 12b used in Hakala for guiding the drilling device along the length of the cylinder to be drilled. According to Parviainen, this mounting arrangement reduces the amount of time required to mount the drilling device on the supporting cylinders (col. 2, line 60-67).

According to the examiner, it would have been obvious to one of ordinary skill in

the art in view of Parviainen's teachings to modify Hakala's drilling apparatus to comprise

a support device coupled to the drilling apparatus, which is adapted to press against the cylinder to be drilled, whereby tangential forces are exerted on the adjacent cylinder by the drilling arrangement . . . in order to increase the usability for the Hakala's et al.'s device for drilling on the cylinders disposed at offset positions. [Answer, page 7.]

For the reasons that follow, we do not agree. First, it is debatable whether Parviainen's drill supporting structures (elements 21A, 23A, 27, etc.) exert a tangential force on the adjacent cylinders 10, as required by the claims. In this regard, the examiner's statement (answer, page 10) that Parviainen's support structure is oriented to have a drilling direction *parallel* to the tangential direction of the adjacent cylinder does not suffice because a force parallel to a tangential direction is not the same as a tangential force exerted on that cylinder.³ Second, the examiner's nebulous motivation for the proposed modification ("to increase the usability for the Hakala's et al.'s device for drilling on the cylinders disposed at offset positions") does not appear to be founded on any clear teaching in either of the applied references and strikes us as being based on hindsight. Third, it is not clear precisely how the examiner proposes to modify Hakala in view of Parviainen's teachings. Fourth, based on Parviainen's express teaching (col. 1, line 28, through col. 2, line 27) that the drill support arrangement

³For example, a radial force directed through the center of a cylinder is parallel to a tangent line of the cylinder, but certainly is not a tangential force exerted on that cylinder.

thereof is intended to be an improvement over the type of drill support arrangement disclosed in Hakala, we think one of ordinary skill in the art would view the drill support arrangements of Hakala and Parviainen as being alternative solutions for supporting a shell drilling device rather than support arrangements whose constituent parts could be mixed and matched to create a new hybrid drill support arrangement.

In light of the foregoing, we shall not sustain the examiner's rejection of claims 4, 7 and 10-12 as being unpatentable over Hakala in view of Parviainen.

Conclusion

Each of the standing rejections is reversed.

The decision of the examiner finally rejecting the appealed claims is reversed.

REVERSED

NEAL E. ABRAMS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
LAWRENCE J. STAAB)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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JENNIFER D. BAHR)	
Administrative Patent Judge)	

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GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

TEAM 5 LEGAL TECH

APPEAL NO. 2003-1303 - JUDGE STAAB
APPLICATION NO. 09/351,166

APJ Staab

APJ Bahr

APJ Abrams

DECISION: **Reversed**

PREPARED: Oct 26, 2004

OB/HD

PALM

ACTS 2

DISK (FOIA)

REPORT

GAU: 3722