

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHIRO OKUNO

Appeal No. 95-0506
Application 07/838,727¹

ON BRIEF

MAILED

SEP 18 1996

PAT.&T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

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

DECISION ON APPEAL

This is an appeal from the final rejection of claims 24 to 49, all the claims remaining in the application, of which claims 24, 33, 37 and 46 are independent claims, and are reproduced in the appendix hereto.

Claims 24 to 36 are drawn to a transferring apparatus, and claims 37 to 49 to a transferring method, both of which are for transferring a pattern onto an article.

¹ Application for patent filed March 13, 1992.

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The prior art applied in the final rejection is:

Bond	3,818,823	Jun. 25, 1974
Okada et al. (Okada)	4,098,184	Jul. 04, 1978
Davis	4,288,275	Sep. 08, 1981
Ishikawa et al. (Ishikawa)	4,944,822	Jul. 31, 1990

The claims stand finally rejected under 35 U.S.C § 103
as follows:

1. Claims 24 to 27, 29 to 32, 37 to 40 and 42 to 49,
unpatentable over Bond in view of Okada and Davis;
2. Claims 28, 33 to 36 and 41, unpatentable over Bond
in view of Okada, Davis and Ishikawa.

The rejections and arguments relevant thereto are fully
set forth in appellant's brief, the examiner's answer, and the
reply brief, and it is unnecessary to repeat them here.

First considering the rejection of claim 24, the
question of patentability essentially turns on whether it would
have been obvious to one of ordinary skill in the art to modify
the Bond apparatus (as modified in view of Okada) so that the
transferring member would be "movably mounted...for longitudinal
movement relative to each of said flexible sheet and said base,"
as claimed. As evidence of obviousness, the examiner cited
Davis, which discloses a system in which an article 66 and a
transferring member 64, each fed from a supply reel to a wind-up
reel, are pressed into contact at station 61 by a pressure roll

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63 having a resilient outer surface of, for example, silicone rubber. Appellant argues that the application of Davis as proposed by the examiner would not have been obvious because in Davis the article and transferring member are continuously moved during the transfer process, whereas in Bond and Okada the article and transferring member are not longitudinally moved while the pattern is being transferred. The examiner, on the other hand, asserts that in incorporating the teachings of Davis into the Bond/Okada apparatus, one of ordinary skill would have recognized that the substrate (article) and transfer material would necessarily be fed intermittently.

After fully considering the record in view of the arguments of appellant and the examiner, we conclude that claim 24 would not have been obvious over the prior art applied. Although this is a close question, we consider that the continuous-feed type apparatus of Davis would not have suggested itself for use in the "batch" or "discrete" type apparatus of Bond and Okada. Moreover, we note that in the Bond apparatus, as modified by Okada, there would still be a seal (i.e., Bond's seal 52) provided at the edge of the frame, in order for the suction to be effective. If the apparatus of Bond were modified in view of Davis, the transferring member would have to be interposed between this seal and the base member, which would compromise the

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effectiveness of the seal and thus further militate against application of the teaching of Davis to the Bond apparatus. In sum, we believe that the suggestion to combine Davis with Bond/Okada is derived not from the knowledge in the prior art, but from appellant's own disclosure, and therefore is based on impermissible hindsight. In re Deminski, 796 F.2d 436, 443, 230 USPQ 313, 316 (Fed. Cir 1986).

Accordingly, the rejection of claim 24 will not be sustained. Likewise, we will not sustain the rejection of claims 25 to 32, dependent on claim 24, nor of claims 37 to 45, which also include "movably mounting" the transferring member such that it "can be moved longitudinally relative to each of said flexible sheet and said base."

We now turn to claim 33, which omits the recitation of claim 24 that the transferring member is movably mounted for longitudinal movement, and adds the limitation:

wherein said spacing between said flexible sheet and said transferring member is substantially free of any obstruction to movement of said flexible sheet toward said transferring member, such that said means constituted by said driving member and said fluid supply member is operable to move said flexible sheet into contact with said transferring member in an unimpeded manner.

We note initially that we find no antecedent basis for this limitation in the specification. 37 CFR § 1.75(d)(1).

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Although the examiner rejected claim 33 as unpatentable over Bond in view of Okada, Davis and Ishikawa, we consider the Ishikawa reference to be superfluous, and it is not clear for what purpose Davis was cited. Nevertheless, we conclude that the claim is unpatentable over the combination of Bond and Okada. There seems to be little argument that it would have been obvious to utilize Bond's dome 22 with a flexible membrane thereacross and a spaced transferring member, as disclosed by Okada at 3, 7 respectively. However, we understand appellant's position to be that such structure would not be "free of any obstructions" as recited in the above-quoted limitation, because Okada's restrictive frame 6 obstructs movement of flexible sheet 3 toward transferring member 7.

We do not consider that the limitation in question distinguishes over the combination of Bond in view of Okada for a number of reasons. In the first place, as the examiner points out on page 11 of the answer, "it is the Bond apparatus that is being modified" and "Bond, of course, does not include such a restrictive member" (original emphasis). If the Bond apparatus were modified by utilizing a spaced flexible sheet and transferring member in dome (frame) 22, as taught by Okada, Okada's restrictive frame 6 would be unnecessary because Bond's suction holes 46 would perform its function, by pulling down the

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flexible sheet into contact with the sides of the article (Okada Fig. 4 and col. 4, line 64 to col. 5, line 9).

Secondly, even if the modified apparatus of Bond were to include Okada's restrictive frame 6, we do not consider that the claim would distinguish thereover because there would be no obstructions "to movement of said flexible sheet toward said transferring member," as broadly claimed. This limitation is met by Okada, because, in the area within the restrictive frame 6, the flexible sheet 3 is free to move toward the transferring member 7; the claim language does not specify the extent of the area within which the space is "substantially free of any obstructions."

Finally, even if the claims were interpreted as requiring a substantially obstruction-free space over the entire space between Okada's sheet 3 and member 7, such requirement would have been obvious in any event because the size of the opening 6₁ of Okada's restrictive frame 6 depends upon the size of the flat portion of the convex surface of object 15 (col. 3, lines 53 to 56). If the size of this flat portion were only slightly smaller than the size of the opening in body 1 across which sheet 3 and member 7 extend, then according to Okada's disclosure the frame 6, being "slightly larger in size" than the object's flat portion, would be either eliminated or have an

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opening 6, which would be so large that the space would be "substantially free of any obstructions," as claimed.

We will therefore sustain the rejection of claim 33. Claims 34 and 36 are grouped with claim 33 (brief, p.5) and fall therewith.

Claim 35 reads:

35. A transferring apparatus as recited in claim 34, wherein

said driving member comprises a means for causing said supporting frame to seat against said base such that an enclosed evacuation chamber is formed between said transferring member and said support surface of said base.

Appellant asserts that this claim is separately patentable because there is no suggestion in the prior art to provide both a sheet pressurizing chamber and an evacuation chamber. However, Bond discloses two such chambers: a pressurizing chamber at 54 and an evacuation chamber between sheet 56, member 64 and base 16. With Bond modified in view of Okada² to position sheet 56 and member 64 within dome 22, the evacuation chamber would be formed between member 64 (Okada's member 7), the side walls of Bond's dome 22 (including seal 52) and the base 16. The limitations of claim 35 are therefore met

² We recognize that the references applied against this claim include Davis, but, as discussed previously, we do not consider that modification of the Bond/Okada apparatus would have been obvious in view of Davis.

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by the combination of Bond and Okada, and its rejection will be sustained.

Method claim 46 is similar to claim 33 in that it recites:

maintaining said spacing between said flexible sheet and said transferring member substantially free of any obstructions to movement of said flexible sheet toward said transferring member, such that upon operating said driving member and said fluid supply member said flexible sheet is moved into contact with said transferring member in an unimpeded manner.

We conclude that this claim is unpatentable on the same grounds as claim 33.³

The rejection of claim 46, and of claims 47 and 49 grouped therewith, will be sustained.

The rejection of claim 48 will be sustained for the same reasons as claim 35.

Conclusion

The examiner's decision to reject claims 24 to 32 and 37 to 45 is reversed, and to reject claims 33 to 36 and 46 to 49 is affirmed.

³ It is noted that the examiner did not include Ishikawa in the rejection of claim 46, but, as with claim 33, we consider it to be superfluous.

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

AFFIRMED-IN-PART



IAN A. CALVERT)
Administrative Patent Judge)



NEAL E. ABRAMS)
Administrative Patent Judge)



LAWRENCE J. STAAB)
Administrative Patent Judge)

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APPENDIX

24. A transferring apparatus for transferring a pattern onto an article, comprising:

a base for supporting the article;

a supporting frame having an open end and a closed end, said open end facing said base;

a flexible sheet mounted to said supporting frame to cover said open end thereof and form a substantially enclosed sheet pressurizing chamber between said flexible sheet and said supporting frame;

means for heating said flexible sheet;

a transferring member movably mounted between said base and said flexible sheet, with spacing between said transferring member and each of said flexible sheet and said base, for longitudinal movement relative to each of said flexible sheet and said base;

a driving member for moving one of said supporting frame and said base toward and away from the other of said supporting frame and said base;

a fluid supply member for supplying fluid into said sheet pressurizing chamber to press said flexible sheet toward said base; and

wherein said driving member and said fluid supply member together constitute a means for pressing said transferring member against the article supported on said base.

33. A transferring apparatus for transferring a pattern onto an article, comprising:

a base for supporting the article;

a supporting frame having an open end and a closed end, said open end facing said base;

a flexible sheet mounted to said supporting frame to cover said open end thereof and form a substantially enclosed sheet pressurizing chamber between said flexible sheet and said supporting frame;

means for heating said flexible sheet;

a transferring member mounted between said base and said flexible sheet with spacing between said transferring member and each of said flexible sheet and said base;

a driving member for moving one of said supporting frame and said base toward and away from the other of said supporting frame and said base;

a fluid supply member for supplying fluid into said sheet pressurizing chamber to press said flexible sheet toward said base;

wherein said driving member and said fluid supply member together constitute a means for pressing said transferring member against the article supported on said base; and

wherein said spacing between said flexible sheet and said transferring member is substantially free of any obstructions to movement of said flexible sheet toward said transferring member, such that said means constituted by said

driving member and said fluid supply member is operable to move said flexible sheet into contact with said transferring member in an unimpeded manner.

37. A transferring method for transferring a pattern onto an article, comprising:

placing the article on a support surface of a base;

providing a supporting frame having an open end and a closed end, such that said open end faces said base;

mounting a flexible sheet to said supporting frame to cover said open end thereof and form a substantially enclosed sheet pressurizing chamber between said flexible sheet and said supporting frame;

heating said flexible sheet;

movably mounting a transferring member between said base and said flexible sheet, with spacing between said transferring member and each of said flexible sheet and said base, such that the transferring member can be moved longitudinally relative to each of said flexible sheet and said base;

operating a driving member to move one of said supporting frame and said base toward and away from the other of said supporting frame and said base;

operating a fluid supply member to supply fluid into said sheet pressurizing chamber to press said flexible sheet toward said base; and

wherein said step of operating said driving member and said step of operating said fluid supply member together cause said transferring member to be pressed against the article supported on said base.

46. A transferring method for transferring a pattern onto an article, comprising:

placing the article on a support surface of a base;

providing a supporting frame having an open end and a closed end, such that said open end faces said base;

mounting a flexible sheet to said supporting frame to cover said open end thereof and form a substantially enclosed sheet pressurizing chamber between said flexible sheet and said supporting frame;

heating said flexible sheet;

mounting a transferring member between said base and said flexible sheet with spacing between said transferring member and each of said flexible sheet and said base;

operating a driving member to move one of said supporting frame and said base toward and away from the other of said supporting frame and said base;

operating a fluid supply member to supply fluid into said sheet pressurizing chamber to press said flexible sheet toward said base, wherein said step of operating said driving member and said step of operating said fluid supply member

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together cause said transferring member to be pressed against the article supported on said base; and

maintaining said spacing between said flexible sheet and said transferring member substantially free of any obstructions to movement of said flexible sheet toward said transferring member, such that upon operating said driving member and said fluid supply member said flexible sheet is moved into contact with said transferring member in an unimpeded manner.