

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

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Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte THOMAS B. LYKENS

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Appeal No. 96-1555  
Application 08/229,619<sup>1</sup>

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HEARD: June 7, 1999

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Before HAIRSTON, BARRETT, and FRAHM, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

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<sup>1</sup> Application for patent filed April 19, 1994, entitled "System For Creating Video Generated Decorative Images," which is a continuation of Application 08/005,327, filed January 15, 1993, now abandoned.

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This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-8 and 11-37.

We affirm-in-part.

#### BACKGROUND

The invention is directed to a kaleidoscopic display using images electronically generated by a display means having a display surface, such as a computer monitor. An array of mirrors is positioned adjacent the display surface with the mirrors presenting the shape of a triangle having a base adjacent the display surface and two equal-length edges to provide a pyramid shape as shown in Appellant's figures 4 and 7. The invention produces the illusion of a regular, kaleidoscopic polyhedron created in the reflective space of the triangular pyramid.

Claim 1 is reproduced below.

1. A viewing apparatus for creating images comprising:  
display means for producing an electronically generated primary image on a display surface in response to image signals;  
means coupled with said display means for providing image signals thereto; and  
an array of mirrors positioned adjacent said display surface  
and adjacent one another for reflecting said primary

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image from said display surface and for reflecting images from one another to produce reflected images in order to create a segmented, kaleidoscopic composite image having image segments including said reflected images;

each of said mirrors presenting the shape of a triangle having a base adjacent said display surface and two, equal-length edges, adjacent ones of said mirrors presenting an image axis at the juncture thereof, said image axis presenting an angle of less than 90° relative to said display surface, each of said mirrors presenting an interior base angle of less than 90° relative to said display surface.

The Examiner relies on the following prior art:

|                      |           |                 |
|----------------------|-----------|-----------------|
| Coates               | 1,090,278 | March 17, 1914  |
| Akins                | 4,475,126 | October 2,      |
| 1984                 |           |                 |
| Baird et al. (Baird) | 4,952,004 | August 28, 1990 |

Claims 1-8, 11-17, 20-29, and 32-37 stand rejected under 35 U.S.C. § 103 as being unpatentable over Akins and Coates.

Claims 18, 19, 30, and 31 stand rejected under 35 U.S.C. § 103 as being unpatentable over Akins, Coates, and Baird.

We refer to the Final Rejection (Paper No. 10) and the Examiner's Answer (Paper No. 16) (pages referred to as "EA\_\_") for a statement of the Examiner's position and to the Brief (Paper No. 14) (pages referred to as "Br\_\_") for Appellant's arguments thereagainst.

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OPINION

Rejection of claims 20-32, 34, and 37 sustained pro forma

Claims 1-8 and 11-37 are appealed (Br1). Appellant states (Br1): "Of the claims on appeal, this brief is filed in support of claims 1-8, 11, 15, 17-19, 33, and 35-36." Since independent claim 20, and its dependent claims 21-32 and 34, and independent claim 37 are not addressed in the Brief, and do not share the limitations about triangular mirrors having an image axis and interior base angle less than 90E as argued with respect to claims 1 and 36, we sustain the rejection of these claims pro forma. See 37 CFR § 1.192(c)(8)(iv) (1995) (arguments must specify the errors in the rejection). Dependent claims 12-14 and 16 are not addressed in the Brief; however, these claims depend indirectly from claim 1, which is argued in the Brief, and they will be considered to stand or fall together with claim 1.

Obviousness

Claims 1-8, 11-19, 35, and 36

Appellant argues with respect to claim 1 that neither Akins nor Coates discloses an arrangement of triangular

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mirrors so that the image axis at the juncture between mirrors presents "an angle of less than 90° relative to said display surface," and so that each of the mirrors presents "an interior base angle of less than 90° relative to said display surface." Claim 36 is directed to the subcombination mirror array without the display means and contains similar mirror limitations to claim 1 except that it uses the word "the" instead of "said."

We agree that Akins has very little relevance to the subject matter of claims 1 and 36 except that it uses a display means to provide the image. Akins's mirrors are trapezoidal, not triangular as claimed. The mirrors cannot be triangular to produce the spherical illusion. The mirrors diverge outwardly from the display surface and, so, do not have mirror junction image axes or mirror surfaces at less than 90° relative to said display surface as claimed.

The Examiner recognizes that "Akins does not disclose reflective triangle shape[d] members having angles of less than 90 [degrees] with respect to the display surface . . ."  
(EA3). The Examiner relies on Coates and reasons (EA3-4; similar reasoning is found in the Final Rejection, pages 3-4):

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Since [the] kaleidoscope of Coates has a triangular base and a viewing screen through a side of the kaleidoscope, it would have been obvious to one of ordinary skill in the art to orient the sides of the kaleidoscope of Coates to present a three sided shape having an angle less than 90 [degrees] with respect to [the] base, divisible into 360 an odd or even number of times with respect to each other. It also would have been obvious to use one way mirrors as taught by Akins for any of the sides of [the] kaleidoscope of Coates to create different kaleidoscopic images since it has been held that rearranging the mirrors (shapes and angles of mirrors) with respect to each other or the display surface involves only routine skill in the art and the claimed difference merely amounts to selection of expedients known to the artisan of ordinary skill as design choices.

We agree with Appellant's arguments (Br11-12) that nothing in Coates suggests, expressly or implicitly, the modifications proposed by the Examiner. The prism in Coates is intended to present a planar image for viewing designs and does not hint at modifying the prism to provide a three-dimensional image. The sides of the prism, which form the mirror surfaces, and the junctions between the sides are perpendicular to the base as they must be to provide a planar image. Nothing in Coates suggests: (1) modifying the shape of the sides to be triangular with a base and two equal-length sides; (2) making the angle of the image axis at the junction of the sides less than 90E with respect to the base surface; or (3) inclining the sides at less than 90E with respect to

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the base surface.

The Examiner's reliance on "routine skill in the art" is mere conclusion and is not supported by any factual evidence of what knowledge was within the level of ordinary skill in the art. See In re Kaplan, 789 F.2d 1574, 1580, 229 USPQ 678, 683 (Fed. Cir. 1986) ("Even if obviousness of the variation is predicated on the level of skill in the art, prior art evidence is needed to show what that level of skill was.").

The Examiner's reliance on the concept of "design choice" to fill in the missing teachings of the references is not persuasive. "Design choice" has been used where the differences appear to be a matter of choice by the designer in doing something one way rather than another and solve no stated problem and do not result in a different function or give unexpected results. See In re Chu, 66 F.3d 292, 298-99, 36 USPQ2d 1089, 1094-95 (Fed. Cir. 1995). Reliance on design choice is discouraged as a substitute for factual evidence and sound obviousness reasoning. Since the specific physical shape and arrangement of mirrors provides a different function and result in this case, and since the Examiner has not shown (but has merely concluded) that the selection of mirror shape

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and angles relative to the base are design expedients known to those having ordinary skill in the art, design choice is not persuasive.

The Examiner further states (EA5):

Coates in column [sic, page] 2 teaches that by making various changes in the details of construction many different designs may be created. Furthermore, [the] kaleidoscope of Coates has a triangular base and a viewing screen with an angle less than 90° with respect to the base. Therefore it would have been obvious to one of ordinary skill to change angles between mirrors or [the] angle between each mirror and [the] base to create different kaleidoscope images.

Coates's teaching that various changes can be made in the details of construction is not a teaching or suggestion of the specific limitations of claims 1 and 36. Modifying Coates to make the side faces 10 and 11 at an angle with respect to the base would make the prism unsuitable for its intended purpose of viewing planar designs. That the viewing surface 14 is at an angle does not suggest that the side faces 10 and 11 could be at an angle with respect to the base. The surface 14 does not play a part in creating the image, but is required because the device is formed by a solid transparent prism rather than mirrors; if Coates were made with flat mirrors, only mirrors for the side faces 10 and 11 would be required.

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For the reasons stated above, we conclude that the Examiner has failed to establish a prima facie case of obviousness. The rejection of claims 1-8, 11-19, 35, and 36 is reversed.

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Claim 33

Claim 33 depends from claim 20 and recites that the angle between mirrors is "divisible into 360 an odd number of times to form an image with an odd number of image segments."

Appellant argues that Akins and Coates teach that the angles between the mirrors must be divisible into 360 an even number of times and do not teach an odd number of times (Br13). We agree.

The Examiner apparently relies on "routine skill in the art," "design choice," and the general teaching in Coates that various changes can be made in the details of construction. These reasons are not persuasive for the reasons discussed in connection with claims 1-8, 11-19, 35, and 36. The Examiner has failed to establish a prima facie case of obviousness. The rejection of claim 33 is reversed.

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CONCLUSION

The rejection of claims 20-32, 34, and 37 is sustained.

The rejection of claims 1-8, 11-19, 33, 35, and 36 is  
reversed.

AFFIRMED-IN-PART

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|-----------------------------|---|-----------------|
| KENNETH W. HAIRSTON         | ) |                 |
| Administrative Patent Judge | ) |                 |
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|                             | ) | BOARD OF PATENT |
| LEE E. BARRETT              | ) | APPEALS         |
| Administrative Patent Judge | ) | AND             |
|                             | ) | INTERFERENCES   |
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| ERIC FRAHM                  | ) |                 |
| Administrative Patent Judge | ) |                 |

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