

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES S. HERMAN, JR.

Appeal No. 2004-0532
Application No. 09/150,277

ON BRIEF

Before OWENS, DELMENDO, and JEFFREY T. SMITH, Administrative Patent Judges.

DELMENDO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 (2003) from the examiner's final rejection of claims 1 through 6, 8, 9, 13 through 18, and 20 through 26 (final Office action mailed Oct. 10, 2002, paper 23), which are all of the claims pending in the above-identified application.¹

¹ In reply to the final Office action, the appellant submitted a 37 CFR § 1.116 (2003)(effective Feb. 5, 2001) on Feb. 29, 2003 (paper 25), proposing changes to claims 1, 13, 18, and 25. According to an advisory action mailed Feb. 26, 2003 (paper 26), this amendment has not been entered.

Appeal No. 2004-0532
Application No. 09/150,277

The subject matter on appeal relates to a method for displaying an image of a sheet material and for cutting parts from the sheet material (claims 1-6, 8, 9, 13-17), to an apparatus for cutting parts from a sheet material (claims 18 and 20 through 24), and to a method of acquiring image data from a sheet material (claims 25 and 26). Further details of this appealed subject matter are recited in representative claims 1, 13, 18, and 25, the only independent claims on appeal, reproduced below:

1. A method for displaying an image of a sheet material and for cutting parts from the sheet material comprising the steps of:

presenting a sheet material on a support surface;
providing a camera for acquiring a plurality of photographic image data frames, each frame being an image of an areal portion of the sheet material, each frame represented by a plurality of pixels in an X direction and a perpendicular Y direction;

modifying each acquired image data frame to correct distortions of the acquired image of the areal portion;

compiling the image data frames to form a composite photographic image of the areal portions of the sheet material;

displaying the composite image;
locating at least one part with respect to the composite image; and
cutting the part from the sheet material.

13. A method for displaying an image of a sheet material and for cutting parts from the sheet material comprising the steps of:

presenting a sheet material on a support surface;

Appeal No. 2004-0532
Application No. 09/150,277

providing a camera for acquiring a plurality of photographic image data frames, each frame being an image of an areal portion of the sheet material, each frame represented by a plurality of pixels in an X direction and a perpendicular Y direction;

modifying each acquired image data frame to correct for image distortions of the acquired image of the areal portion;

incorporating flaw identification data in the image data frames;

calibrating a brightness of the acquired image data frames;

compiling the image data frames to form a composite photographic image of the areal portions of the sheet material;

displaying the composite image;

identifying at least a portion of a periphery of the sheet material;

nesting a part periphery with respect to the composite image; and

cutting the part from the sheet material in accordance with said nesting.

18. An apparatus for cutting parts from a sheet material comprising:

a support surface for supporting a sheet material;

a cutting assembly coupled to the support surface for movement with respect to the support surface;

a camera for obtaining photographic image data of a sheet material on the support surface, the camera selected to obtain the image data in a plurality of frames, each frame including a plurality of pixels in an X direction and a plurality of pixels in a perpendicular Y direction; and

a process having storage means coupled to the camera and cutting assembly;

means for calibrating said image data frames;

means for combining said calibrated image data frames to obtain a composite photographic image of at least a portion of the sheet material; and

Appeal No. 2004-0532
Application No. 09/150,277

a display coupled to the processor for displaying said composite image.

25. A method of acquiring an image data from a sheet material, comprising:
presenting a sheet material on a support surface;
moving a camera with respect to the support surface to capture a plurality of photographic images of portions of the sheet material, each image including a plurality of pixels in an X direction and a plurality of pixels in a perpendicular Y direction;
modifying each said image to correct distortions therein; and
compiling said modified images to form a composite photographic image of a portion of the sheet material.

The examiner relies on the following prior art references as evidence of unpatentability:

Chaiken et al. (Chaiken)	5,333,111	Jul. 26, 1994
Borchers et al. (Borchers)	5,753,931	May 19, 1998
Gane	5,838,569	Nov. 17, 1998

Claims 1, 4, 5, 8, 18, 20 through 22, and 24 through 26 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chaiken in view of Borchers. (Examiner's answer mailed Jul. 25, 2003, paper 29, pages 4-6.) Separately, claims 2, 3, 6, 9, 13 through 17, and 23 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chaiken in view of Borchers and further in view of Gane. (Id. at 9-12.)

Appeal No. 2004-0532
Application No. 09/150,277

We reverse both rejections.

Chaiken describes a method for aligning a garment segment pattern at a selected location in a marker with a geometric design in a sheet of fabric. (Column 2, lines 31-36.) Specifically, Chaiken teaches that "the method includes the steps of receiving marker signals corresponding to the garment segment patterns and a reference signal corresponding to a reference location in the marker to be registered with the fabric design and receiving the video sub-system signals, including signals corresponding to the fabric sheet." (Column 2, lines 42-48.) According to Chaiken (column 2, line 48 to column 3, line 6), the method further includes:

generating signals indicative of the fabric design from the fabric sheet signals; measuring a location of the fabric design on the fabric sheet in accordance with image processor signals; comparing the fabric design location with the reference location and generating signals to adjust the garment segment pattern locations in the marker to remove any difference in position between the measured fabric design location and the marker reference location in accordance with the steps of creating a first subarray of pixel signal values configured from the marker signals approximately centered on the reference location; creating a second subarray of pixel signal values from the fabric sheet image array approximately centered on the fabric sheet image array center; determining a first aggregate pixel value error from a sum of pixel value errors found by a comparison between corresponding first and second array values;

Appeal No. 2004-0532
Application No. 09/150,277

creating a third subarray of the fabric sheet image array pixel signal values indexed a select amount from said fabric sheet image array center; determining a second aggregate pixel value error from a sum of pixel value errors found by a comparison between corresponding first and third array values and identifying as a match that subarray whose comparison with said first array yielded the lessor [sic] of the first and second aggregate pixel value errors.

Regarding appealed claims 1, 18, 25, and 26, the examiner states (answer at 6-7) that Chaiken does not disclose:

modifying each acquired image data frames to correct distortions of the acquired image of the areal portion;

compiling the image data frames to form a photographic image of the areal portions of the sheet material;

displaying the composite image;

means for combining said calibrated image data to obtain a composite photographic image of at least a portion of the sheet material; and

a display coupled to the processor for displaying said composite image;

compiling said modified images to form a composite photographic image of a portion of the sheet material.

Nevertheless, it is the examiner's basic position that one of ordinary skill in the art would have been led to combine the teachings of Chaiken with those of Borchers so as to arrive at the invention recited in the appealed claims. (Id. at 7-9.)

We cannot agree with the examiner's analysis and conclusion. As pointed out by the appellant (appeal brief filed

Appeal No. 2004-0532
Application No. 09/150,277

Apr. 9, 2003, paper 27, page 7), Borchers teaches a method of capturing information regarding the surface shape of an object, such as the underside of a human foot or other extremity.

(Column 1, lines 12-14.) Specifically, Borchers teaches (column 1, lines 56-63):

It is one object of the present invention to provide an apparatus and method for measuring surface contours which can accommodate for optic nonlinearities by projecting a plurality of laser lines across an object surface, receiving a reflection of the projected lines from the surface, determining curvature deformations in the reflected lines with reference to calibration data, and calculating a surface projection based on the determined curvature deformations.

While Borchers does teach combining two data matrices (column 10, line 58 to column 11, line 12), the examiner does not provide any evidence or reasoning on why one of ordinary skill in the art would have been led to combine the teachings of the two references. That is, the examiner does not identify the requisite motivation, teaching, or suggestion in the prior art to adequately establish that, prima facie, one of ordinary skill in the art would have been led to apply the concepts disclosed in Borchers, which is directed to a method for determining the surface contours of an object such as the underside of a human foot, to the teachings of Chaiken, which is directed to a method

Appeal No. 2004-0532
Application No. 09/150,277

for aligning garment segment patterns in a fabric sheet having designs such as stripes and plaids. In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("The best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("The Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); In re Warner, 397 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967) ("Where the invention sought to be patented resides in a combination of old elements, the proper inquiry is whether bringing them together was obvious and not, whether one of ordinary skill, having the invention before him, would find it obvious through hindsight to construct the invention from elements of the prior art.").

For this reason, we cannot uphold this ground of rejection.

As to the separate rejection of appealed claims 2, 3, 6, 9, 13 through 17, and 23, the examiner relies on Gane for reasons unrelated to the basic deficiency in the combination of Chaiken

Appeal No. 2004-0532
Application No. 09/150,277

and Borchers discussed above. (Answer at 11-12.) Accordingly, we cannot affirm this rejection for the same reasons discussed above.

In summary, we reverse the examiner's rejections under 35 U.S.C. § 103(a) of: (i) appealed claims 1, 4, 5, 8, 18, 20 through 22, and 24 through 26 as unpatentable over Chaiken in view of Borchers; and (ii) appealed claims 2, 3, 6, 9, 13 through 17, and 23 as unpatentable over Chaiken in view of Borchers and further in view of Gane.

The decision of the examiner is reversed.

Issues for Further Consideration

Prior to an allowance, the appellant and the examiner should analyze whether the appealed claims, in particular claims 25 and 26, are patentable over the combined teachings of the admitted prior art (specification, page 1, line 28 to page 2, line 3) and Borchers.

In addition, the appellant and the examiner should analyze whether 35 U.S.C. § 112, ¶6, applies to claim 18. If so, the appellant and the examiner should determine the identities of the corresponding structures or equivalents defined by the recited means-plus-function language and then analyze whether

Appeal No. 2004-0532
Application No. 09/150,277

the claimed apparatus encompasses the apparatus described in
Chaiken.

REVERSED

Terry J. Owens)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
Romulo H. Delmendo)	
Administrative Patent Judge)	APPEALS AND
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Appeal No. 2004-0532
Application No. 09/150,277

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