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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAMELA R. LIPSON and PAWAN SINHA

Appeal 2016-000684
Application 13/110,198
Technology Center 2100

Before DEBRA K. STEPHENS, WILLIAM M. FINK, and AARON W. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants[1] appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 12–20, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

THE INVENTION

The application is directed to a "[m]ethod and systems for search and retrieval of images with an image processing system." (Abstract.) Claim 12, reproduced below, is exemplary:

> 12. A system for conducting search and retrieval of images, the system comprising:
>
> an input system configured to provide a selection of two or more images;
>
> an image database configured to provide a plurality of target images;
>
> an output system; and
>
> an image processing system coupled with the input system, the image database, and the output system, the image processing system configured to:
>
> process the two or more images to produce a subset of information to use in the search query;[2]
>
> receive the plurality of target images from the image database;

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[1] Appellants identify "Imagen, Inc., who is the licensee of this technology and Massachusetts Institute of Technology (MIT), the assignee of the above-identified application" as the real parties in interest. (App. Br. 3.)

[2] Appellants identify paragraphs 10 and 133 as supporting this limitation. (*See* App. Br. 5.) Those portions, however, do not provide the support.

> compare the subset of information against the plurality of target images to determine a subset of the plurality of target images; and
>
> provide an indication of the subset to the output system.

THE REFERENCES AND THE REJECTION

Claims 12–20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Michael et al. (US 5,912,984; June 15, 1999) and Jain et al. (US 5,911,139; June 8, 1999). (*See* Final Act. 2–5.)

ANALYSIS

The issue before us is whether the combination of Michael and Jain teaches, suggests, or otherwise renders obvious "process the two or more images to produce a subset of information to use in the search query" and "compare the subset of information against the plurality of target images to determine a subset of the plurality of target images," as recited in claim 12.

Appellants argue the rejection is in error because "[n]one of the cited art teaches or suggests comparing the subset of information produced from TWO OR MORE IMAGES in a search query to determine a subset of a plurality of target images." (App. Br. 7, stylistic emphasis omitted.)

The Examiner responds that "Appellant's recited claim limitation does not require the use of two images in a single query" but "[r]ather, the limitation of 'process the two or more images <u>to produce</u> a subset of information <u>to use</u> in the search query' only requires that information produced from two or more images be subsequently used in a search query." (Ans. 3–4.) The Examiner further "notes that [Michael's] plurality of

portions/tiles of an image would read upon the claimed feature of a plurality of images selected." (*Id.* at 4.)

As an initial matter, the claim does not recite performing a "search query." Rather, the recited "search query" not only lacks an antecedent basis, but also is not used in any step or element recited.

The Examiner is correct that the claimed comparison uses the subset of information, not the images themselves. The cited portions of Michael describe a system for inspecting solder stencils and printed circuit boards, where "[i]nspecting a given stencil and a given board may involve multiple images depending on the image size, the stencil and board size and the number of sites on a stencil and board that the user wants to inspect." (Michael 6:8–11.) The reference explains that "it is most expedient to 'tile' the stencil and PCB into a plurality of sites so that only images of relevant portions of the stencil and PCB are captured during stencil and board inspection in a given cycle." (*Id.* at 6:17–21.) The Examiner relies on Michael for teaching "[i]nspecting a stencil may involve multiple images depending on the image size and stencil size and the number of sites on a stencil that the user wishes to inspect, thus acquisition of construction of stencil pre-image data is effected for each site on a stencil that is to be inspected." (Michael, 7:58–62; Final Act. 3.) We agree that Michael teaches processing the two or more images (the multiple images) to produce a subset of information (stencil pre-image data). It follows that Appellants have not persuaded us that Michael fails to teach processing the two or more images (the multiple images of a stencil) to produce a subset of information (the stencil pre-image data).

Michael's inspection system compares before and after PCB stenciling images in order to identify imperfections. (*See* Ans. 3.) For example, the pre-stenciling and post-stenciling images of the stencil are registered and then one is subtracted from the other, yielding a difference image that indicates blockage by positive values and smearing by negative values. (*See* Michael 8:45–55; *see id.* at 10:44–65 (describing inspection of the board).)

Appellants contend Michael only uses a single image/sub-image/tile in its comparisons and thus, combining the teachings of Michael with the teachings of Jain would not result in a subset of information from multiple images being used in a search query. (*Id.*) However, the Examiner did not rely on Michael as teaching the comparison. Instead, the Examiner finds Jain teaches "comparing the subset of information against the plurality of target images to determine a subset of the plurality of target images." (Final Act. 3.) Jain teaches visual queries such as comparing a property or attribute of an image to find images with similar properties, comparing images to find visually similar images, and refinement or systematic browsing to refine the previous comparisons. (Jain 4:21–40.) Thus, we are not persuaded Jain fails to teach "comparing [a] subset of information against a plurality of target images to determine a subset of the plurality of target images."

The Examiner concludes that an ordinarily skilled artisan would have combined the teachings and suggestions of Michael and Jain because both are directed to comparing images to identify similarities and differences. We, however, find that the Examiner has not sufficiently articulated a reason to perform Jain's comparison as part of Michael's system because Michael is not seeking to find a post-stenciling image to match a pre-stenciling image;

instead, Michael is trying to find the differences between the two known images in order to identify flaws. We therefore do not agree with the Examiner's conclusion that "it would have been obvious . . . to improve the prior art of Michael with that of Jain for the predictable result of a system wherein PCB stencils may be searched for utilizing a search query which extracts a subset of images from an image database." (Ans. 4.)

We thus conclude that the Examiner has not established a prima facie case of unpatentability and, therefore, decline to sustain the rejection of claims 12–20.[3]

DECISION

The rejection of claims 12–20 is reversed.

REVERSED

[3] Because this issue is dispositive, we do not reach Appellants' other arguments.