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. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte NAOYUKI MURAKAMI

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Appeal No. 2000-1852
Application No. 08/924,856[1]

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ON BRIEF

_____

Before JERRY SMITH, BARRETT and SAADAT, Administrative Patent Judges.

SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-9, which are all of the claims pending in this application.

We affirm-in-part.

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[1] Application for patent filed September 5, 1997, which claims the foreign filing priority benefit under 35 U.S.C. § 119 of Japanese Application No. 8-238937, filed September 10, 1996.

BACKGROUND

Appellant's invention relates to a visually controlled robot system that uses image recognition devices. The system includes a robot that moves three-dimensionally, video cameras for taking images of the moving area of the robot and a target within the moving area (specification, page 2). After a moving area of the robot is recognized, a controller receives signals to displace the robot to the target position (id.).

Representative independent claim 1 and dependent claim 7 are reproduced below:

> 1. A visually controlled robot system comprising:
>
> a robot means for moving three-dimensionally,
>
> means for taking images of the entire moving area of the robot, the means for taking images comprising at least two video cameras placed to provide images of the entire moving area of the robot from at least two directions,
>
> a visible target existing within the moving area of the robot,
>
> a control circuit having a function to recognize beforehand the moving area of the robot and another function to store in a memory the position of the visible target taken by said means for taking images as well as an ordering signal to move the robot to said position, and
>
> a drive control means for driving the robot by said ordering signal from the memory of the control circuit.

7. The visually controlled robot system of claim 6, wherein the three video cameras are mounted on three mutually perpendicular axises.

The references relied on by the Examiner are:

Beamish et al. (Beamish)	4,825,394	Apr. 25, 1989
Christian	4,887,223	Dec. 12, 1989

Claims 1-6 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Christian.

Claims 7 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Christian and Beamish.

Rather than reiterate the viewpoints of the Examiner and Appellant, we refer to the answer (Paper No. 12, mailed November 4, 1999) for the Examiner's complete reasoning in support of the rejections, to the brief (Paper No. 11, filed August 20, 1999) and the reply brief (Paper No. 13, filed January 13, 2000) for Appellant's arguments thereagainst.

OPINION

At the outset, we note that Appellant indicates that claims 1-6 and 8 constitute one group while claims 7 and 9 stand or fall together (brief, page 4). Thus, we will consider Appellant's claims 1-9 as these two identified groups and we will treat claims 1 and 7 as the representative claims of their corresponding groups.

With regard to the rejection of claims 1-6 and 8 under 35 U.S.C. § 102, Appellant argues that Christian discloses multiple overhead cameras but fails to teach imaging of the entire moving area by at least two cameras from two different directions (brief, page 4 and reply brief, page 3). Appellant further asserts that each of Christian's multiple cameras covers only a distinct portion of the moving area of the robot (brief, pages 6 & 7 and reply brief, page 3). Appellant also asserts that Christian's "goal" position is merely a position stored in the memory of the navigation system and differs from the claimed limitation of a "visible target" (brief, page 6). Furthermore, Appellant points out that if the "visible target" is the same as the robot itself, the "ordering signal" cannot move the robot to the position of the visible target when the robot is always located at the position of the visible target (id.).

The Examiner responds to Appellant's arguments by stating that claim 1 merely requires that if the images cover the entire moving are, such coverage be provided by at least two cameras from different directions (answer, page 3). Relying on the breadth of claim 1, the Examiner asserts that Christian does teach a plurality of cameras that take images of the entire moving area of the robot (id.). The Examiner further argues that

Christian inherently includes a visible target by disclosing the presence of the robot on a factory floor and a position on the floor to which the robot is directed (answer, pages 3 & 4).

Before addressing the Examiner's rejection, it is essential that we understand the claimed subject matter and determine its scope. Claim interpretation must begin with the language of the claim itself. See Smithkline Diagnostics, Inc. v. Helena Laboratories Corp., 859 F.2d 878, 882, 8 USPQ2d 1468, 1472 (Fed. Cir. 1988). Accordingly, as required by our reviewing court, we will initially direct our attention to Appellant's claim 1 in order to determine its scope. "[T]he name of the game is the claim." In re Hiniker Co., 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims. In re Etter, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985).

Appellant's claim 1 requires that the means for taking images comprise "at least two video cameras placed to provide images of the entire moving area ... from at least two directions." Appellant would have us read "at least two video cameras placed to provide images of the entire moving area" as

limited to "two cameras each placed to provide an image of the entire area." We decline to attribute such limited meaning to claim 1 since, as pointed out by the Examiner, the claim does not preclude at least two cameras which are placed to provide images that together cover the entire moving area.

As a general principle, a rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994), citing In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

After reviewing Christian, we find that the Examiner presents sufficient evidentiary support to establish a prima facie case of anticipation. In Figure 9, Christian shows a plurality of cameras, each having a field of view corresponding to a portion of the moving area of the robot. In particular, Christian shows cameras 1 and 2 providing images of two fields of view that together cover the entire moving area of the robot from two parallel but different directions extending perpendicularly downward from the location of each camera (col. 12, lines 35-47). Therefore, we do not agree with Appellant that Christian's multiple overhead cameras do not provide images of the entire moving area as the claim does not require that each single image cover the entire moving area.

Christian also discloses a method for navigating multiple robots using both a stored position and an identified location of a robot to which another robot is ordered to move (col. 32, line 52 through col. 33, line 24). Thus, the Examiner has properly corresponded the identified location of the first robot as the position of a visible target within the moving area to which another robot is navigated after the first robot moves away from its particular identified location. We remain unpersuaded by Appellant's argument that the claimed "visible target" differs

from the position of a first robot to which Christian navigates another robot. In fact, in navigating multiple robots, Christian determines the position of a visible target by identifying the present or absence of a robot in that position using means for taking images and providing the identified position as the destination for another robot.

In view of the analysis above, we find that the examiner has met the burden of providing a prima facie case of anticipation as Christian teaches a plurality of cameras that provide images of the entire moving area of the robot from two directions as well as the visible target in the moving area, as recited in Appellant's independent claim 1. Accordingly, we affirm the rejection of claims 1-6 and 8 under 35 U.S.C. § 102 over Christian.

Turning now to the rejection of claims 7 and 9 under 35 U.S.C. § 103 over Christian and Beamish, Appellant asserts that Christian's use of one overhead camera for each section provides no incentive for using the multiple camera views of Beamish (brief, page 7). Although Appellant recognizes the Examiner's evaluation of Beamish related to increasing "accuracy and efficiency in image processing and analysis" (answer, page 4), Appellant argues that no reason exists to expect any

improvement to Christian's system by adding more cameras (brief, pages 7 & 8).

After reviewing the disclosure of Beamish, we find that the Examiner has incorrectly corresponded the claimed limitation of "the three video cameras are mounted on three mutually perpendicular axises" to the movement of each camera about two perpendicular axes in Beamish. Although the reference is directed to a three-dimensional measurement and control system using multiple cameras, the only disclosure of two perpendicular axes relates to the axes about which each camera is capable of moving (col. 2, lines 28-34). There is, in fact, nothing in Beamish that directs us to the relative position of the cameras and their mountings on three mutually perpendicular axises. In our view, the Examiner's conclusion that the multiple cameras of Beamish which move about two perpendicular axes correspond to the claimed cameras "mounted on three mutually perpendicular axises" is not supported by the prior art disclosure. In order for us to agree with the Examiner's position, we would need to improperly resort to speculation or unfounded assumptions to supply deficiencies in the factual basis of the rejection. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968), reh'g denied, 390 U.S. 1000 (1968).

Assuming, arguendo, that it would have been obvious to utilize the multiple camera view of Beamish in Christian's system for navigating a robot, as held by the Examiner, the combination of references would still not disclose the mounting of three video cameras on three mutually perpendicular axises. In that regard, Beamish only supplies what appears to be multiple views by multiple cameras which are capable of movement about two perpendicular axis. Accordingly, as the Examiner has failed to establish a prima facie case of obviousness, the 35 U.S.C. § 103 rejection of claims 7 and 9 cannot be sustained.

CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 1-6 and 8 under 35 U.S.C. § 102 is affirmed. The decision of the Examiner rejecting claims 7 and 9 under 35 U.S.C. § 103 is reversed.

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

AFFIRMED-IN-PART

JERRY SMITH Administrative Patent Judge	)	
LEE E. BARRETT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
MAHSHID D. SAADAT Administrative Patent Judge	)	

MDS/vsh

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Application No. 08/924,856

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