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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte J. SCOTT PETTY, CHRISTOPHER FERGUSON,
JOSEPH R. ADAMSKI and JOSEPH E. MUSIL

Appeal No. 1997-0417
Application 08/265,548[1]

ON BRIEF

Before THOMAS, GROSS, and FRAHM, Administrative Patent Judges.

FRAHM, Administrative Patent Judge.

DECISION ON APPEAL

---

[1] Application for patent filed June 24, 1994. According to appellants, this application is a continuation of Application 08/029,854 filed March 11, 1993, now U.S. Patent No. 5,357,441, issued October 18, 1994.

Appellants have appealed to the Board from the examiner's final rejection of claims 18 to 26, which constitute all of the pending claims in the application before us.

BACKGROUND

The subject matter on appeal is directed to an improved industrial process system and method for controlling the flow of different materials on corresponding conveyors where the materials are combined and then heated, and wherein moisture content of the materials is detected by sensors and employed by the system in order to control the rate of flow of the individual materials (see Brief, pages 2 to 3; specification, pages 1 and 8 to 11). As stated by appellants at pages 1 to 2 of the specification, such an industrial system and process is most useful in making asphalt paving compositions where gravel, rocks, and sand are combined into a virgin aggregate and then mixed with liquid asphalt under heat to form "hot mix." Appellants have recognized that it is useful to frequently detect moisture content at plural stations corresponding to each of the elements in the mixture (e.g., gravel, rock, sand) and to use this information to control the flow rate of the individual elements (see specification, page 3). In this manner, volatile changes in moisture content can be more accurately and quickly detected, and the process can be corrected (i.e., via control of burner firing rate or material flow rate) in response. In addition, operator time in obtaining moisture content from samples can be reduced, sampling rate can be increased, and flow of the virgin aggregate will not have to be interrupted (see specification, pages 3 to 4).

Representative independent claim 18 is reproduced below:

18. An industrial process system adapted for controlling the flow of a plurality of different materials on respective conveyors wherein the materials are transported to a region to form a composition of predetermined proportions of said materials by weight without moisture, said system comprising:

a plurality of sensor stations each disposed above a respective one of said conveyors, each of said sensor stations comprising means for producing an electrical signal representing the real time moisture content of the respective one of materials in response to measurement of light at two different wavelengths from said respective one of materials;

means responsive to said electrical signals for generating a like plurality of flow signals each corresponding to the flow rate of a respective one of said materials that compensates for moisture in said respective material to produce said predetermined proportion of materials by weight without moisture; and

means responsive to said flow rate signals for controlling said conveyors.

The following reference is relied on by the examiner:

Adamski et al. (Adamski)	5,220,168	Jun. 15, 1993

Claims 18 to 26 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Adamski alone.

Rather than repeat the positions of appellants and the examiner, reference is made to the Brief and the Answer for the respective details thereof.

OPINION

In reaching our conclusion on the issues raised in this appeal, we have carefully considered appellants' specification and claims, the applied patent, and the respective viewpoints of appellants and

the examiner. As a consequence of our review, we are in general agreement with appellants (Brief, pages 4 to 7) that the claims on appeal would not have been obvious to one of ordinary skill in the art at the time the invention was made in light of the collective teachings of Adamski. We find that the examiner has failed to make out a prima facie case of obviousness.

For the reasons which follow, we will not sustain the decision of the examiner rejecting claims 18 to 26 under 35 U.S.C. § 103.

At the outset, we note that representative claim 18 on appeal clearly requires "controlling the flow of a plurality of different materials on respective conveyors," "a plurality of sensor stations" corresponding to each individual material and its conveyor, and means "for controlling said conveyors" using a "plurality of flow signals each corresponding to the flow rate of a respective one of said materials that compensates for moisture" produced by the sensor stations (see claim 18 on appeal).

Next, we note that the examiner admits (Answer, pages 3 and 4) that Adamski "do[es] not disclose plural conveyors and/or sensor stations" as claimed by appellant[s][sic]. The examiner also admits (Answer, page 4) that in Adamski "no flow rate signals are said to be generated to control the flow of material on the conveyor for moisture compensation." We, along with appellants, agree with this characterization of Adamski. In addition, we note that Adamski also fails to control a material flow rate using flow rate signals, but instead uses moisture content data to control a burner firing rate. Thus,

the issue on appeal before us is two-fold: whether or not it would have been obvious to the artisan to have used plural sensor stations where each station corresponds to the individual mixture materials, and whether or not it would have been obvious to the artisan to have used the detected moisture content data to control material flow rates as opposed to a burner firing rate. We find that one of ordinary skill in art, having only the applied reference to Adamski before him/her, would not have found it obvious to employ plural sensor stations and corresponding conveyors to generate material flow rate signals for use in controlling material flow rate. Thus, we cannot find that the claimed invention would have been obvious to one of ordinary skill in the art in light of the teachings and suggestions of Adamski and in light of the reasonable inferences, logical deductions, and common knowledge known to the artisan at the time the invention was made.

The examiner asserts in the Answer (pages 3 and 4) that it would have been obvious to provide plural sensor stations "in order to expand and increase product output because it is understood and well known in the art that the demand for more product requires that the supply be increased to meet the demand" (Answer, page 3), and "because the product being produced by Adamski includes more than a single material" (Answer, page 6). The examiner also asserts in the Answer (page 4) that it would have been obvious to vary material flow rate as opposed to burner firing rate in order to control the material's moisture content "because the time the material spends on the conveyor will be directly proportional to the amount of moisture the material holds while being conveyed." We cannot agree

with this reasoning and find that both of these assumptions about what would have been obvious involve the use of impermissible hindsight.

While judgements on obviousness are in a sense necessarily a reconstruction based upon hindsight reasoning, so long as they take into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and do not include knowledge gleaned only from the applicants' disclosure, such reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971). We find that the reasoning of the obviousness rejection in the rejection took into account knowledge gleaned only from appellants' disclosure. Specifically, one would have to look to appellants' disclosure for direction to use plural sensors stations corresponding to plural conveyors and to generate and respond to corresponding flow rate signals for controlling individual material flow rate. As stated by appellants at page 11 of their specification, using plural sensor stations and conveyors allows the moisture content of virgin aggregate to be known more accurately since the individual component materials (e.g., gravel, rock, and sand) are known. To modify Adamski to achieve appellants' claimed invention would have involved the application of knowledge and motivation not clearly present in the applied prior art. See In re Sheckler, 438 F.2d 999, 1001, 168 USPQ 716, 717 (CCPA 1971).

While the examiner asserts that controlling flow rate using flow rate signals would have been within the level of skill of the ordinary artisan, the applied prior art fails to show such. The problem of

controlling material flow on plural conveyors in response to detected moisture content and plural flow rate signals was not recognized in the prior art. We agree with appellants (Brief, pages 4 to 6) that Adamski only teaches that detected moisture content be used to control the firing rate of the burner. We conclude that there would have been no motivation to modify Adamski to achieve the subject matter of claims 18 to 26 on appeal.

Our close review of the Adamski reference reveals that only one conveyor 12 and sensor station 10 is disclosed (see Figure 1 and the accompanying text). We find no reasonable teaching or suggestion in Adamski which would lead the artisan to use multiple sensor stations and conveyors to produce plural flow rate signals in order to control moisture content. It should be noted that the mere fact that the prior art may be modified in the manner as suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). Here, the examiner has demonstrated no such suggestion stemming from the prior art.

Appellants argue (Brief, page 6) that "there is nothing to motivate one skilled in the art to modify Adamski to arrive at the presently claimed invention." We agree, and find that such features are neither taught nor would have been suggested by Adamski alone. The examiner has not set forth sufficient reference teachings or suggestions for the modifications to Adamski. Accordingly, we find that the examiner has failed to make a prima facie case that Adamski would have taught or suggested

the industrial process system having plural sensor stations as claimed in representative claim 18 on appeal.

For the foregoing reasons, the rejection of claims 18 to 26 under 35 U.S.C. § 103 as being unpatentable over Adamski cannot be sustained.

CONCLUSION

The decision of the examiner rejecting claims 18 to 26 under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS)
Administrative Patent Judge)

	)	
	)	
	)	BOARD OF PATENT
ANITA GROSS	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
	)	
ERIC FRAHM	)	
Administrative Patent Judge	)	

EF/ki

William R. Clark
Raytheon Company
141 Spring Street
Lexington, MA 02173