

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES M. ANDERSON, CHARLES A. DUELL,
HENRY M. HUND JR. and DIANE M. HENRY

Appeal No. 98-0516
Application No. 08/400,328¹

ON BRIEF

Before MEISTER, ABRAMS and GONZALES, *Administrative Patent Judges*.

ABRAMS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 2-7, 10-13, 15-20, 22 and 29, which

¹ Application for patent filed March 7, 1995.

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constitute all of the claims remaining of record in the application.

The appellants' invention is directed to a refuse collection vehicle. The subject matter before us on appeal is illustrated by reference to claims 1, 15 and 29 which, along with the other claims on appeal, have been reproduced in an appendix to the Revised Appeal Brief.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Edelhoff et al. (Edelhoff '767) 1987	4,715,767	Dec. 29,
Nielson et al. (Nielson) 12, 1989	4,866,641	Sep.
Tonsor et al. (Tonsor) 1993	5,188,502	Feb. 23,
Bayne et al. (Bayne) 1994	5,333,984	Aug. 2,
Georg 1995	5,474,413	Dec. 12,
European Patent (Edelhoff) ² 1992	496 302 A1	Jul. 29,

THE REJECTIONS

² PTO translation enclosed.

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Claim 10 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite in that it fails to particularly point out and distinctly claim the subject matter which the appellants regard as the invention.³

Claim 29 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Edelhoff.

Claims 2, 5-7, 11, 15, 18-20 and 29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Edelhoff in view of Tonsor.

Claims 3, 4, 16 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Edelhoff in view of Tonsor and Nielson.

Claim 12 stands rejected under 35 U.S.C. § 103 as being unpatentable over Edelhoff in view of Tonsor and Edelhoff '767.

Claims 13 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Edelhoff in view of Tonsor and Bayne.

³ A rejection under 35 U.S.C. § 103 was entered against claim 10 in the first office action (Paper No. 14), but it does not appear in the final rejection (Paper No. 17) or in the Answer.

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The rejections are explained in the Paper No. 17 (the final rejection).

The arguments of the appellants in opposition to the positions taken by the examiner are set forth in the Revised Brief and the Reply Brief.

OPINION

In reaching our decision on the issues raised in this appeal, we have carefully assessed the claims, the prior art applied against the claims, and the respective views of the examiner and the appellants as set forth in the Answer and the Briefs. The determinations we have made and the reasoning behind them are set forth below.

The Rejection Under 35 U.S.C. § 112, Second Paragraph

Although some changes have been made to the claims in response to the examiner's rejection on the grounds of indefiniteness, as we understand the situation one problem of a non-typographical nature remains uncorrected. That is the presence in claim 10 of the phrase "said body compartments," which has no proper antecedent basis. While the appellants have offered to amend the claim to rectify this problem

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(Revised Brief, page 1), the fact is that it still exists, and therefore we are constrained to sustain this rejection.

The Rejection Under 35 U.S.C. § 102(b)

Claim 29 stands rejected as being anticipated by Edelhoff. It is axiomatic that anticipation is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention. See, for example, *In re Paulsen*, 30 F.3d 1475, 1480-1481, 31 USPQ2d 1671, 1675 (Fed. Cir. 1994).

Claim 29 is directed to a refuse collection vehicle that comprises a cab, a body, and a front end loader having an arm and arm rotating means and a fork and fork rotating means. The claim further requires that there be means for controlling and coordinating operations of the arm rotating means and the fork rotating means to move a portable container supported on the fork "along a plurality of preselectable paths of travel above the cab" between a portable container loading position and a portable container dumping position. As explained on pages 13-17 of the appellants' specification, the purpose of

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this feature of the invention is to allow the operator of the vehicle to select the path that the container will travel based upon such factors as the maximum permissible height to which the container can be raised and the shape and size of the container. The examiner admits that Edelhoff does not explicitly disclose a plurality of preselectable paths of travel of the container, but takes the position that

this is merely a statement of intended use for [*sic*] which the control means of Edelhoff clearly has the capability of performing, particularly since no limitations regarding what the paths of travel consist of have been set forth (Final Rejection, page 4).

We do not agree. It is clear to us that the recitation setting forth the control means is not a statement of intended use, but is structure recited in means-plus-function form and constitutes a limitation that must be disclosed or taught by Edelhoff in order for the reference to be anticipatory. Since it is not, the reference fails to anticipate the subject matter of claim 29 and this rejection cannot be sustained.

The Rejections Under 35 U.S.C. § 103

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill

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in the art. See *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1052 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988). We consider first the rejection of independent claim 2 as being unpatentable over the combined teachings of Edelhoff and Tonsor. One objective of the appellants' invention is to provide a residential front loading refuse collection vehicle that includes a liftable container in which the height to which the container is lifted is minimized in order to allow the vehicle to be safely

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utilized in areas where there are obstructions above such as trees (specification, page 3). This is manifested in claim 2 by the requirement that there be a control circuit that receives a signal indicating the actual position of the arm that lifts the container-holding fork, a translation circuit that matches this position to a corresponding desired fork position, and

an output for outputting a fork position control signal to said rotating mechanism indicating said desired fork position, to minimize an overall maximum height that the portable container achieves while being lifted and rotated while insuring that the portable container is sufficiently rotated to effectuate emptying of its contents into the body (emphasis added).

The examiner has admitted this is not taught by Edelhoff, although the Edelhoff forks are fitted with position-indicating monitors. According to the examiner, however, it would have been obvious to modify the Edelhoff system so that it meets the terms of claim 2 in view of the teachings of Tonsor. We do not agree.

At the outset, it should be noted that Edelhoff is not at all concerned with keeping to a minimum the height to which the container is lifted. The focus of the Edelhoff invention

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is to keep the container "in a level position as long as possible" as it is being raised over the vehicle cab to the dumping position "so that no trash can fall from the trash receptacle prematurely" (translation, page 3). The trash receptacle swivels only in the final part of its lifting path (translation, page 5). Edelhoff discloses a control system in which the lifting arms and the forks carried thereby each are equipped with position sensors. However, this system operates without explicit concern for the problem to which the appellants' invention is directed and, from our perspective, without inherently minimizing the height in the claimed manner.

Tonsor is directed to a multi-purpose industrial vehicle that can be equipped with a pair of lift arms alternatively outfittable with several implements, of which a bucket and a pair of lifting forks are illustrated. Briefly stated, Tonsor provides a control system that can be matched to the implement. For example, when the bucket is installed, the control system positions the bucket with respect to the arms in a first relationship when the bucket is being utilized to push earth or the like along the ground, and a second

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relationship when the filled bucket is lifted, so that the material inside doesn't fall out during transport. When lifting forks are installed on the arms, the control system can be set to maintain the forks level at any height, so that the load is not dropped. See columns 1-4. While Tonsor does disclose a control system in which the orientation of the implement (forks, in the language of the appellants' claims) are controlled in response to the position of the arms that hold them with respect to the vehicle, this reference also evidences no concern for limiting the height to which an implement is lifted, and does not inherently do so.

The mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). We fail to perceive any teaching, suggestion or incentive which would have led one of ordinary skill in the art to modify the Edelhoff machine in the manner proposed by the examiner. It is our view that, at best, the teachings of Tonsor would have suggested that the Edelhoff control system

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be operated in essentially the same manner as is already disclosed, that is, maintaining the container in such a position as to insure that the contents are not prematurely unloaded, without regard for limiting the height to which it is lifted. Furthermore, it is our opinion that to modify the Edelhoff machine so that it operated in accordance with the requirements of claim 2 would, in fact, subvert the objectives of the Edelhoff invention by focusing the control system on minimizing the height to which the container was lifted rather than maintaining it level as long as possible. This would operate as a disincentive for one of ordinary skill in the art to make the examiner's proposed modifications.

For the above reasons, the combined teachings of Edelhoff and Tonsor fail to establish a *prima facie* case of obviousness with regard to the subject matter of claim 2 or, it follows, of claims 5-7 and 11, which depend therefrom. Moreover, since the teachings of additional references Nielson, cited against claims 3 and 4, Edelhoff '767, cited against claim 12, and Bayne, cited against claim 13, fail to alleviate the shortcomings set forth above with regard to the combination of

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Edelhoff and Tonsor, we also will not sustain the rejection of these dependent claims.

Independent claim 15 also stands rejected on the basis of Edelhoff and Tonsor. The language of this claim differs significantly from that of claim 2, in that rather than reciting the output as providing a fork position control signal to "minimize an overall maximum height" that the portable container achieves, as in claim 2, claim 15 states that the fork position control signal output is to "control the maximum height" that the portable container achieves. The claim thus does not include the "minimize" height limitation which is a major focus of the appellants' arguments regarding the patentability of their invention over the teachings of the applied prior art. We observe that this phraseology is not present in the specification or the original claims; it was added by amendment in Paper No. 15. The appellants have not pointed out how this language patentably defines over the combined teachings of the two applied references which, from our perspective, leaves the rejection of claim 15 uncontroverted on the record. Be that as it may, however, it appears to us that the control system disclosed by Edelhoff

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meets this limitation of claim 15, for it "controls" the maximum height of the container being lifted in that it causes the container to cease elevating at a certain point in the lifting cycle, which would constitute the "maximum" height, and that is all that is required by this language of the claim. It is our further view that all of the other structure recited in claim 15 appears to be disclosed or taught by Edelhoff, including the claimed control system (see pages 5 and 6 of the Edelhoff translation), with Tonsor being confirmatory of the fact that such a control arrangement was known in the art at the time of the appellants' invention. This leads us to conclude that the combined teachings of Edelhoff and Tonsor establish a *prima facie* case of obviousness with regard to the subject matter of this claim, and the rejection of claim 15 therefore is sustained. Since the appellants have chosen to group dependent claims 18-21 with claim 15, the rejection of these claims also is sustained. The same is true for claim 22 which, although rejected on the basis of Edelhoff, Tonsor and Bayne, was grouped with claim 15.

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Claim 16 adds to claim 15 the requirement that the translating circuit (which as recited in claim 15 matches the desired fork position with the stored arm position) includes a memory device for storing a look-up table which relates a plurality of stored arm positions to a corresponding plurality of fork positions. As explained on pages 3 and 5 of the Edelhoff translation, manual and mechanical means are undesirable to control the relationship between the forks and the arms as the arms are raised and therefore, as set forth on page 6, Edelhoff utilizes a central computer unit that responds to signals to calculate the proper path for the container. However, the reference is silent as to the details of the system required by claim 16, merely stating that the path is "based on a program passed forward and correspondingly over known control devices" (translation, page 6). Nielson discloses a control system for a hydraulic excavator in which look-up tables are utilized to correlate a stored arm position matching the actual arm position into a desired bucket position, the result being an output to control the mechanism that places the bucket in the desired position. While it is true that the implements with which these look-up tables are

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utilized differ from those of Edelhoff, one of ordinary skill in the art would have been motivated by Nielson to utilize look-up tables in the Edelhoff system as the means for determining where the forks should be positioned, suggestion being found in the explicit teachings of Nielson (see Abstract and columns 4, 5, 12 and 13). It therefore is our view that the teachings of these three references establish a *prima facie* case of obviousness with regard to the subject matter of claim 16, and we will sustain the rejection of claim 16 and of claim 17, which has been grouped therewith.

Finally, claim 29 also stands rejected as being unpatentable over Edelhoff in view of Tonsor. Among the requirements of claim 29 is control means for controlling and coordinating operations of the arm and fork controlling means "along a plurality of preselectable paths of travel above the cab." As we stated above with regard to the Section 102 rejection of this claim, we do not agree with the examiner that the quoted phrase constitutes an intended use, and Edelhoff does not teach such a feature. While Tonsor discloses a control system that contains multiple programs to

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operate different implements through a number of operations, the examiner has not provided, and we fail to perceive, any reason why one of ordinary skill in the art would have been motivated by either of these references to modify the Edelhoff system in such a manner as to meet the terms of the claim, that is, to provide a plurality of preselected paths for the Edelhoff device, for such would appear to serve no purpose. A *prima facie* case of obviousness thus is not established by these references with regard to claim 29, and we will not sustain the rejection.

SUMMARY

The rejection of claim 10 under 35 U.S.C. § 112, second paragraph, is sustained.

The rejection of claim 29 under 35 U.S.C. § 102(b) is not sustained.

The rejections of claims 2-7, 11-13 and 29 under 35 U.S.C. § 103 are not sustained.

The rejection of claims 15-20 and 22 under 35 U.S.C. § 103 is sustained.

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The decision of the examiner is affirmed-in-part.

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

JAMES M. MEISTER)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
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JOHN F. GONZALES)	
Administrative Patent Judge)	

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Robert B. Kennedy
Kennedy & Kennedy
1000 Abernathy Road
Suite 1250
Atlanta, GA 30328