

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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

Appeal No. 97-2904
Application 08/565,457¹

ON BRIEF

Before CALVERT, Administrative Patent Judge, and McCANDLISH,
Senior Administrative Patent Judge, and CRAWFORD,
Administrative Patent Judges.

McCANDLISH, Senior Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1, 2, 4 through 9 and 11 through 14. No other claims are pending in the application.

¹ Application for patent filed November 30, 1995.

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Appellant's invention relates to a sheet-advancing apparatus (claims 1, 2 and 4 through 7) and to a printing machine (claims 8, 9 and 11 through 14). Claims 1 and 8, which are the only independent claims on appeal, both call for a transport (70), a controller (95) and means (100-103) for sensing a sheet advancing on the transport.

According to the independent claims, the transport has two modes of operation. In the first mode of operation, a sheet is releasably secured to the transport, and in the second mode of operation, the frictional force between the sheet and the transport is reduced to permit relative movement between the sheet and the transport. The independent claims both recite that the controller is responsive to the sensing means to switch the transport between the two modes of operation. Appealed claim 8 is more limited than appealed claim 1 in that it recites that the transport advances the sheet to a transfer station (J) where the sheet receives a visible image from a recording medium (10). According to appellant's specification, the purpose of permitting relative movement between the sheet and the transport in the second

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mode of operation is to allow the sheet to be moved into alignment with a registration edge.

A copy of the appealed claims is appended to appellant's brief.

In rejecting the appealed claims, the examiner relies upon the following references:

Dragstedt 1982	4,362,380	Dec. 7,
Ikeda ² (Japanese Kokai Patent)	2-221043	Sep. 4, 1990
Horikawa ³ (Japanese Kokai Patent)	4-85234	Mar. 18, 1992

The grounds of rejection are as follows:

² A translation of this reference is attached. According to this translation, Ikeda is listed as the inventor's first name, but since both the examiner and appellant have referred to this reference as Ikeda, we too shall refer to it as Ikeda.

³ A translation of this reference is also attached.

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1. Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Horikawa.

2. Claims 2 and 4 through 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dragstedt in view of Horikawa.

3. Claim 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of Horikawa and Ikeda.

4. Claims 9 and 11 through 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of Dragstedt, Horikawa and Ikeda.

Reference is made to the examiner's answer for details of these rejections.

Considering first the § 102(b) rejection of claim 1, it

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is well established patent law that for a reference to be properly anticipatory, each and every element of the rejected claim must be found either expressly described or under the principles of inherency in the applied reference. See RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). It follows that the absence from the reference of any element of the claim negates anticipation of that claim by the reference. Kloster Speedsteel AB v. Crucible, Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

In the present case, Horikawa discloses a sheet-advancing apparatus having a transport 92, a controller 123 and means in the form of at least one sensor 127 for sensing a sheet advancing on the transport. Like appellant's disclosed transport, Horikawa's transport comprises a perforated transport belt 96 extending over at least one suction chamber 108 which is connected through a solenoid operated valve 134 to a vacuum pump 130. Similar to appellant's apparatus, Horikawa's controller is responsive to sensor 127 to open and

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close valve 134 to thereby switch the transport between two modes of operation. In one mode of operation, valve 134 is open to provide a high negative pressure for retaining the sheet against the conveyor belt. In the other mode of operation, in which the sensor senses a pressure change caused by transportation of the sheet, the controller closes valve 134 to reduce the negative pressure in chamber 108.

The examiner concedes that Horikawa does not expressly disclose that the reduced negative pressure in the second operating mode is small enough to permit relative movement between the sheet and the transport. He nevertheless maintains on page 4 of the answer that such a reduction in the negative pressure will inherently permit relative movement between the sheet and the transport as recited in claim 1.

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent feature necessarily flows from the teachings of the applied reference. See Ex parte Levy, 17 USPQ2d 1461, 1464

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(BPAI 1990) and cases cited therein.

In the present case, the examiner has taken the position that the reduced negative pressure in Horikawa's suction chamber in the second operating mode described supra will inherently reduce the frictional force between the sheet and the perforated transport belt to permit relative movement between the sheet and the belt. While a reduction in negative pressure in the suction chamber is likely to result in a reduction of the frictional force between the sheet and the transport belt, the examiner has made no factual showing or advanced no technical reasoning to establish that the frictional force necessarily will be reduced to a sufficient extent to allow relative movement between the sheet and the transport belt. Certainly, Horikawa does not express any desirability of permitting such a relative movement in the second operating mode of the transport system. The possibility or even the probability that such a condition will occur is not enough. As stated in In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981), inherency may not be established by possibilities or probabilities.

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For the foregoing reasons, we cannot sustain the § 102(b) rejection of claim 1.

Turning now to the § 103 rejection of dependent claims 2 and 4 through 7, the patentability of which appellants has argued as a group, there is no dispute that Dragstedt discloses a photocopying machine having a vacuum type sheet transport system 32 for advancing a sheet, particularly a document to be copied, into engagement with a registration member 34. There also is no dispute that Dragstedt's transport system comprises side-by-side perforated belts 70 and 72 extending along a pair of suction chambers 82 and 84 for gripping and advancing the sheet. Chamber 84 is directly connected to a vacuum pump 90 or blower, as it is called, to apply a relatively low vacuum in chamber 84. Chamber 82, on the other hand, is connected to vacuum pump 90 through solenoid actuated valves 102 and 116 which are under the control of a controller 136 to switch the transport system between two operating modes.

In the first mode of operation, the controller 136

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operates valve 116 to connect chamber 82 to pump 90 to thereby establish a high vacuum level in chamber 82 for lifting the sheet from a platen 12 and for securely retaining it against belts 70 and 72. In the second mode of operation, which occurs as the sheet approaches the registration member 34, controller 136 operates valve 136 in the reverse fashion to disconnect chamber 82 from pump 90 and to restore atmospheric pressure to chamber 82. The lower vacuum level in chamber 84 is sufficient to retain the sheet against belts 70 and 72 to allow the sheet to strike registration member 34 without damaging the sheet.

Appellant argues that Dragstedt is deficient for the following reasons:

This patent does not teach that the sheet slips on the belt when it engages the registration member. This patent also does not teach means for sensing the sheet advancing on the transport and a controller responsive to the sensing means for switching the transport between modes of operation. Furthermore, there is no teaching contained in this patent that the frictional force between the sheet and the transport is reduced to permit relative movement between the sheet and the transport. At most, this reference teaches

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that the normal force due to the vacuum is changed as the sheet advances with the belt from the first plenum to the second plenum. This patent does not teach that it is desirable to have relative movement between the sheet and the transport in one mode of operation and no relative movement between the sheet and transport in another mode of operation. [brief, page 11.]

Contrary to appellant's arguments as quoted supra, Dragstedt expressly teaches in column 6, lines 39-44, that when the sheet strikes and is held against registration member 34 in the second operating mode (in which the sheet is retained against belts 70 and 72 only by the relatively low vacuum level in chamber 84), slippage of the sheet relative to belts 70 and 72 will occur because "belts 70, 72 preferably continue to move after the leading edge of the sheet strikes member 34 . . ." Because Dragstedt expressly allows such slippage, it follows that the frictional force between the sheet and the transport belts will be reduced in the second operating mode.

As for appellant's argument regarding the sensing means as quoted supra, Dragstedt implicitly discloses the provision

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of sensing means for sensing the advancement of the sheet in view of the description in column 6, lines 19-25, where it is stated that the controller 136 provides the programmed operating sequence "in response to machine operator inputs and to sensing of various functions" as is known in the art. In any event, Horikawa suggests the common practice of utilizing sensors to sense the advancement of a sheet for supplying inputs to a controller in a reproducing machine.

For the forgoing reasons, we are satisfied that the subject matter of claim 2 would have been obvious in view of the combined teachings of Dragstedt and Horikawa, if not anticipated by Dragstedt alone. We will therefore sustain the § 103 rejection of claim 2. We will also sustain the § 103 rejection of claims 4 through 7 since these claims have not been argued separately of claim 2. See In re Nielson, 816 F.2d 1567, 1571, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987) and In re Burckel, 592 F.2d 1175, 1178-79, 201 USPQ 67, 70 (CCPA 1979).

We cannot, however, sustain the § 103 rejection of claims 8, 9 and 11 through 14. Unlike claims 1, 2 and 4

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through 7, claim 8 is limited to a printing machine in which the sheet, which is advanced by the transport, is the sheet which receives the image at a transfer station. We find no suggestion in the teachings of Ikeda and Horikawa of utilizing Horikawa's transport system in Ikeda's copier for advancing the copy sheet to the transfer station. Furthermore, even if these references were combined in the manner proposed by the examiner, the result would not arrive at the invention defined in claim 8 because, as previously noted, Horikawa does not expressly or inherently disclose the feature of permitting relative movement between the sheet and the transport in one of the modes of operation. Dragstedt, which is relied on in the rejection of claims 9 and 11 through 14, but not in the rejection of claim 8, does not rectify this shortcoming because Dragstedt discloses the utilization of the transport system for advancing the original document from which the image is copied, not the copy sheet which receives the transferred image.

Under the provisions of 37 CFR § 1.196(b), the

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following new ground of rejection is entered against claim 1:

Claim 1 is rejected under 35 U.S.C. § 103 as being unpatentable over Dragstedt in view of Horikawa and the prior art discussed in the paragraph bridging pages 2 and 3 of appellant's specification. Based on our foregoing analysis of the Dragstedt patent, which we adopt here in our new rejection, Dragstedt discloses a sheet-advancing apparatus comprising a transport as defined in the first clause of claim 1. This reference also discloses a controller in the form of unit 136 which is responsive to inputs to switch the transport between its two modes of operation as discussed supra.

Although Dragstedt lacks an express teaching of employing sensors to sense the sheet advancing on the transport, this reference implicitly discloses a sensing means as claimed for the reasons stated above.

In any event, as noted supra, Horikawa suggests the common practice of utilizing sensors to sense the advancement of a sheet for supplying inputs to a controller in a reproducing machine. This teaching of Horikawa is reinforced

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by the prior art described in the paragraph bridging pages 2 and 3 of appellant's specification where it is noted that sensors are employed to detect an advancing sheet in an electrophotographic printing machine. Thus, even if it is assumed arguendo that Dragstedt lacks a disclosure of appellant's claimed sensing means, the teachings of Horikawa taken alone or together with the prior art described on pages 2 and 3 of appellant's specification would have made it obvious to employ a sensing means for sensing an advancing sheet as a convenient and economical way of supplying the necessary inputs to the controller for switching the transport between its two modes of operation.

In summary, (1) the examiner's decision rejecting claim 1 under § 102(b) is reversed, (2) the examiner's decision rejecting claims 2, 4 through 9 and 11 through 14 under § 103 is affirmed with respect to claims 2 and 4 through 7, but is reversed with respect to claims 8, 9 and 11 through 14, and (3) a new ground of rejection has been introduced against claim 1 pursuant to the provisions of 37 CFR § 1.196(b).

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In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63,122 (Oct. 21, 1997)).

37 CFR § 1.196(b) provides, "A new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37

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CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should the appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner

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and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for reconsideration thereof.

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

37 CFR § 1.196(b)

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