

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte EIICHI AKUTSU, HIROH SOGA,  
and SHIGEHITO ANDO

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Appeal No. 1998-2142  
Application No. 08/125,189

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HEARD: November 14, 2000

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Before BARRETT, FLEMING, and BARRY, Administrative Patent Judges.

BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the rejection of claims 3-10, 12, 13, and 15-33. We reverse.

BACKGROUND

The invention at issue in this appeal relates to thermal fixing. Thermal fixing is employed in copying machines, printers, and facsimile machines. A heating roller is

conventionally used for thermal fixing. Such a device comprises a hollow metal roller coated with a fluorine-based resin or silicon rubber. A heater lamp is disposed in the hollow of the roller. A current is supplied to the lamp such that radiative heat therefrom is absorbed by the internal wall of the roller, thereby heating the entire roller to a temperature required for fixing. When a recording medium, e.g., paper, having an unfixed toner image is passed between the heating roller and a pressure roller, the toner image is fixed to the medium by heat and pressure.

Unfortunately, the conventional heating roller suffers several problems. The high heat capacity of the heating roller lengthens the time needed to heat the roller to the required temperature. Heating the entire metal roller to and maintaining the required temperature consumes much power. Furthermore, the large amount of generated heat and leakage thereof raises the temperature inside the heating roller. In addition, the difficulty of accurately controlling the temperature when fixing reduces the quality of the resultant image.

The appellants' localized heating device comprises a laminate structure of a heat insulating substrate, a heating region made by sandwiching a heating layer between a pattern electrode layer and a conductive layer, and a low surface energy layer. The appellants' localized heating apparatus includes their localized heating device. More specifically, a power supply selectively supplies a current to part of the pattern electrode layer, and the corresponding portion of the heating layer selectively generates heat. Supplying current to only the part to which pressure is applied limits the heat required and speeds the heating. Furthermore, the temperature of the heated layer can be reduced almost to the ambient temperature in a short time.

Claim 3, which is representative for our purposes, follows:

3. A localized heating device, comprising a laminate structure made by laminating a heating region formed by sandwiching a heating layer directly between a pattern electrode layer and a conductive layer on a heat insulating substrate and laminating a low surface energy layer on the heating region.

The references relied on in rejecting the claims follow:

Nakajima et al. (Nakajima) 1983	4,395,109	July 26,
Kogure et al. (Kogure) 1989	4,813,372	Mar. 21,
Satomura 1986	5,628,183	Dec. 9,
Yamamoto et al. (Yamamoto) 1993	5,182,606	Jan. 26,

filed Oct. 5, 1991.

Claims 3-6, 8-10, 12, 13, 15, 16 and 18-33 stand rejected under 35 U.S.C. § 103(a) as obvious over Nakajima in view of Satomura. Claim 7 stands rejected under § 103(a) as obvious over Nakajima in view of Satomura further in view of Yamamoto. Claim 17 stands rejected under § 103(a) as obvious over Nakajima in view of Satomura further in view of Kogure. Rather than repeat the arguments of the appellants or examiner in toto, we refer the reader to the briefs and answer for the respective details thereof.

#### OPINION

In deciding this appeal, we considered the subject matter on appeal and the rejection advanced by the examiner.

Furthermore, we duly considered the arguments and evidence of the appellants and examiner. After considering the totality of the record, we are persuaded that the examiner erred in rejecting claims 3-10, 12, 13, and 15-33. Accordingly, we reverse.

We begin by noting the following principles from In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).... "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

With these principles and finding in mind, we consider the examiner's rejection and appellants' argument.

The examiner alleges, "it would be [sic] obvious to one having ordinary skill in the art ... to provide one of the conductive layers 150 or 152 of Nakajima et al with a line-shaped pattern electrode so that a more uniform temperature distribution in the circumferential direction of the roller is achieved, as suggested by Satomura ...." (Examiner's Answer at 8.) The appellants argue, "[i]n such a combination, the current supplied to one of the electrodes 5A or 5B would flow

between the electrodes 5B and 5A, and current would not flow through the Nakajima heating layer ...." (Appeal Br. at 21.)

Claims 3-10, 12, 13, 15-17, and 18-27 specify in pertinent part the following limitations: "a heating region formed by sandwiching a heating layer directly between a pattern electrode layer and a conductive layer ...." Similarly, claims 28-33 specify in pertinent part the following limitations: "a heating region formed by sandwiching a heating layer directly between a conductive layer and a pattern electrode layer ...." Accordingly, claims 3-10, 12, 13, and 15-33 require sandwiching a heating layer directly between a pattern electrode layer and a conductive layer.

The examiner fails to show a suggestion of the limitations in the prior art. "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. v. SGS Importers Int'l, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), cert. denied, 519 U.S. 822 (1996)(citing W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540,

1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)). "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious."  
In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (citing In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991)). "[T]he question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, 974 F.2d 1309, 1311-12, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992) (quoting Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)).

Here, Nakajima teaches a "resistance heater layer (110)." Col. 11, l. 6. "As shown in FIGS. 13 and 14, on the outer and inner circumferential surfaces of the resistance heater layer (110) are provided conductive layers (150), (152) made of copper so as to permit current to pass through the resistance

heater layer (110)." Id. at ll. 23-27. "Both end portions of the outer circumference of each conductive layer (150) or (152) are exposed to outside and there are provided a pair of power supply sections (156) having sliding terminals (154) kept respectively in sliding contact with the conductive layers (150), (152). Accordingly, when current is passed through the layer (110) from the power supply sections (156), the resistance heater layer (110) generates heat from their respective whole body." Id. at ll. 27-35. The examiner admits that Nakajima fails to teach "the use of a pattern electrode layer for one of the conductive layers ...." (Examiner's Answer at 3.)

Observing that Satomura shows "form[ing] a line-shaped pattern electrode on the heat resistance layer 4 of [a] fixing roller" (id. at 7), the examiner proposes replacing either conductive layer 150 or 152 of Nakajima with such a line-shaped pattern electrode. (Id. at 8.) Such a replacement, however, would have rendered Nakajima's heating region

inoperable for its intended purpose. In Satomura's line-shaped pattern electrode, "[c]onductors **5A** and **5B** are alternately printed at predetermined intervals on the inner side of layer **4**." Col. 4, ll. 30-32. "The conductors **5A** and **5B** form electrodes ...." Id. at l. 50. If conductors 5A and 5B of Satomura were substituted for either conductive layer 150 or 152 of Nakajima, current supplied to the substituted conductors 5A or 5B would flow therebetween. No current would pass through Nakajima's resistance heater layer 110

to generate heat. Consequently, Nakajima teaches away from the examiner's proposed combination.

Relying on Yamamoto only to "show[] that it is well known ... to form a heat insulating substrate or heat resistive resin 24 in the shape or form of an endless belt" (Examiner's Answer at 9) and on Kogure only to "disclose[] that it is notoriously old and well known in the prior art to provide the fixing roller with a temperature sensing means 30 (Fig. 5) to control the power supply 31 (Fig. 5) to the fixing roller ..." (id. at 10), the examiner fails to allege, let alone show, that either reference cures the deficiency of Nakajima and Satomura. Because the examiner's proposed combination would have rendered Nakajima's resistance heater layer inoperable for its intended purpose, we are not persuaded that teachings from the prior art would have suggested the limitations of "a heating region formed by sandwiching a heating layer directly between a pattern electrode layer and a conductive layer" or "a heating region formed by sandwiching a heating layer directly between a conductive layer and a pattern electrode layer ...." Therefore, we reverse the rejection of claims 3-

6, 8-10, 12, 13, 15, 16 and 18-33 as obvious over Nakajima in view of Satomura; the rejection of claim 7 as obvious over Nakajima in view of Satomura further in view of Yamamoto; and the rejection of claim 17 as obvious over Nakajima in view of Satomura further in view of Kogure.

#### CONCLUSION

In summary, the rejection of claims 3-6, 8-10, 12, 13, 15, 16 and 18-33 under 35 U.S.C. § 103(a) as obvious over Nakajima in view of Satomura is reversed. The rejection of claim 7 under § 103(a) as obvious over Nakajima in view of Satomura further in view of Yamamoto is also reversed. In addition, the rejection of claim 17 under § 103(a) as obvious over Nakajima in view of Satomura further in view of Kogure is reversed.

REVERSED

LEE E. BARRETT	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
MICHAEL R. FLEMING	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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LANCE LEONARD BARRY	)	
Administrative Patent Judge	)	

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