

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKAYUKI KIJIMA
and
MASATAKA IDE

Appeal No. 2003-0047
Application No. 09/350,335¹

HEARD: June 11, 2003

Before FLEMING, DIXON 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 2, 5, 9, 10, 12 and 13-17. Claims 1, 3, 4, 6-8, and 11 are withdrawn from consideration as being drawn to non-elected species.

We reverse.

¹ Application for patent filed July 09, 1999, which claims the foreign filing priority benefit under 35 U.S.C. § 119 of the Japanese Application No. 195942/1998, filed July 10, 1998.

BACKGROUND

Appellants' invention is directed to an imaging apparatus implementing a two-dimensional array of photo-diodes for converting the incident light into charges accumulated in each diode. A plurality of vertical shift registers receive charges accumulated in the diodes and a horizontal shift register receives shifted charges from the vertical shift registers (specification, page 1). Due to the response time that the shutter takes to start and complete the task of closing, charges continue to accumulate in the diodes and enter the vertical registers even after a charge sweep-out has been completed and cause superimposition of extra image in the form of a smear (specification, pages 6 &7). According to Appellants, more frequent sweep-out also reduces the life of the battery and therefore, its frequency should be adjusted according to the operating condition of the imaging apparatus (specification, page 11).

Representative independent claim 2 is reproduced below:

2. An imaging apparatus having an imaging element for accumulating signal charge corresponding to an incident scene light flux in a photo-electric converting element section comprising:

a sweep-out means for sweeping out unnecessary charge in the imaging element;

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an operating condition judging means for judging an operating condition of the imaging apparatus;

a control means for controlling a change in frequency of the sweep-out of unnecessary charge by the sweep-out means on the basis of an output of the operating condition judging means; and

said change in frequency being a reduction in the frequency when the operating condition judging means determines that the operating condition requires energy during a sweep-out operation.

The Examiner relies on the following references in rejecting the claims:

Kondo et al (Kondo) 5,168,364 Dec. 1, 1992

Appellants' admitted prior art, page 1 of the specification and Figure 15 (admitted prior art).

Claims 2, 5, 9, 10 and 13-15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kondo.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kondo.

Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kondo and the admitted prior art.

We make reference to the answer (Paper No. 17, mailed April 23, 2002) for the Examiner's reasoning, and to the appeal brief (Paper No. 16, filed February 12, 2002) and the reply brief (Paper No. 18, filed June 24, 2002) for Appellants' arguments thereagainst.

OPINION

With respect to the 35 U.S.C. § 102 rejection of the claims, Appellants point out that the claims are directed to conserving battery energy required during a sweep-out operation and differ from the prior art that relates to anti-blooming (brief, page 14; reply brief, page 2). Appellants further point to Figures 10 and 11 of Kondo and assert that although a sweep-out operation is performed after the shutter aperture has reached the desired opening, there is no mention of a Judging means for judging the occurrence of another camera function (brief, page 22; reply brief, page 9). Further Referring to figure 12, Appellants point out that Kondo provides no teaching or suggestion for altering the frequency of sweep-out pulses responsive to the need for battery energy by another function (brief, page 23; reply brief, page 10). Additionally, Appellants argue that the two techniques disclosed by Kondo provide either for frequency of anti-blooming pulses being a function of the amount of light or for discharging the picture elements prior to operation of the flash without changing the frequency of these pulses (brief, page 25).

In response to Appellants' arguments, the Examiner equates the means for closing the shutter in Kondo with the claimed "operation condition judging means" and asserts that the change

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to a lower frequency when the shutter begins to close is the same as the claimed change in frequency when the operating condition judging means determines the need for energy during a sweep-out operation (answer, page 5). The Examiner further characterizes the system controller 17 of Kondo for providing clock signals as the claimed operating condition judging means and argues that energy is inherently not used when the shutter is inoperative, but is needed for activating the shutter to its closed position (answer, pages 5 & 6).

A rejection for anticipation under section 102 requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. See Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

After reviewing Kondo, we agree with Appellants' assertion that the claimed reduction in the sweep-out frequency when the operating judging means determines that the operating condition requires energy, are absent in the reference. Kondo relates to the operation of an anti-blooming gate in an image sensing

apparatus (abstract). The frequency of the clock signal applied to the anti-blooming gate, as relied on by the Examiner, is increased from f_1 to f_0 when the shutter reaches a desired aperture and the flash device is used causing an increase in the amount of incident light (col. 7, lines 56-68). As depicted in Figure 6, the increase in signal frequency occurs during the middle part of the shutter operation and when the flash device is operating in order to remove excessive charges generated during the fully open aperture and the flash operation (col. 8, lines 17-32). Therefore, instead of the claimed operating judging means for determining the operating condition of the imaging apparatus and lowering the sweep-out signal frequency, Kondo provides for a system controller which changes the frequency of anti-blooming to a higher level when the flash device is being operated.

We further find Appellants' arguments distinguishing the claimed operating judging means over Kondo's control system for applying the anti-blooming gate signal, to be persuasive. As discussed above, what the Examiner characterizes in Kondo as the change of the frequency being a reduction in response to the shutter closure (answer, page 5), is actually an increase in the frequency when the flash device is operating and the amount of

incident light increases. In fact, after operating the flash device, Kondo reduces the frequency of the signal applied to the anti-blooming gate from f_0 back to f_1 which is the same frequency used during the opening of the shutter and prior to activating the flash device. In that regard, Kondo changes the frequency of the anti-blooming gate signal only according to the amount of the incident light and not based on the energy needs that are determined by an operating condition judging means. Thus, Kondo does not anticipate claim 2, nor the other independent claims which recite a decrease in the frequency when other parts of the imaging device is being operated. Accordingly, the 35 U.S.C. § 102 rejection of claims 2, 5, 9, 10 and 13-15 over Kondo cannot be sustained.

Turning to the 35 U.S.C. § 103 rejection of claims 12², 16 and 17 we note that claim 12 recites a control means for setting a lower sweep-out frequency during an access operation of the recording means, whereas claims 16 and 17 require shift registers for holding charges. The Examiner, in asserting that the frequency remains low even during the access operation of the recoding means or the commonly known uses of shift registers, has

² Claim 12 should be rejected under 35 U.S.C. § 112, second paragraph, as the term "the sweep out means" lack proper antecedent basis. Appellants should provide the necessary amendments to the claim in order to remedy the lack of antecedent basis.

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not provided additional evidence to overcome the deficiencies of Kondo as discussed above with respect to the rejection of claims 2, 5, 9, 10 and 13-15, and therefore, has failed to establish a prima facie case of obviousness. Accordingly, we do not sustain the 35 U.S.C. § 103 rejection of claim 12 over Kondo nor of claims 16 and 17 over Kondo and the admitted prior art.

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CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 2, 5, 9, 10 and 13-15 under 35 U.S.C. § 102 and rejecting claims 12, 16 and 17 under 35 U.S.C. § 103 is reversed.

REVERSED

MICHAEL R. FLEMING)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
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