

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIROKAZU SAITO
and
SUGIHIKO TADA

Appeal No. 1999-0554
Application No. 08/657,903

ON BRIEF

Before KIMLIN, WALTZ and DELMENDO, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 6, 7 and 9. Claim 8, the other claim remaining in the present application, has been allowed by the examiner (see page 1 of Answer). Claim 6 is illustrative:

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6. An apparatus for measuring a silver or halogen ion concentration, comprising:

a heat insulated bath containing a salt solution;

a reference electrode which is disposed in the heat insulated bath[;]

a salt bridge having one end connected to an end portion of said reference electrode;

a receptacle containing gelatin aqueous solution containing silver halide crystals, a second end of said salt bridge contacting said gelatin aqueous solution;

an indicator electrode, only one end portion of said indicator electrode being immersed into the gelatin aqueous solution containing silver halide crystals; and

a potentiometer which is electrically connected with said reference electrode and another end portion of said indicator electrode via a silver wire.

The examiner relies upon the following references as evidence of obviousness:

Marks	2,370,871	Mar. 6, 1945
Sands	2,584,816	Feb. 5, 1952
Ingruber	2,846,386	Aug. 5, 1958
Oliver	3,031,304	Apr. 24, 1962
Light	3,806,439	Apr. 23, 1974
Grubb	3,833,495	Sep. 3, 1974

James L. Lingane, Electroanalytical Chemistry 362-63 (2d ed., Interscience Publishers, Inc., New York 1958)

Appellants' claimed invention is directed to an apparatus for measuring the silver or halogen ion concentration in a gelatin aqueous solution containing silver halide crystals.

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The apparatus comprises a reference electrode which is disposed in an insulated bath containing a salt solution, and an indicator electrode that has one end immersed in the gelatin aqueous solution containing the silver halide crystals. One end of the reference electrode is connected to a salt bridge whereas the second end of the salt bridge contacts the gelatin aqueous solution.

Appealed claims 6 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Oliver in view of Ingruber. Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Oliver in view of Ingruber, Light, Lingane or Grubb. Claims 6 and 9 also stand rejected under 35 U.S.C. § 103 as being unpatentable over Oliver in view of Ingruber and Marks or Sands, while claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Oliver in view of Ingruber and Marks or Sands and Lingane or Grubb.

We have thoroughly reviewed the respective positions advanced by the examiner and appellants. In so doing, we find that the examiner has not established a prima facie case of obviousness for the claimed subject matter. Accordingly, we will not sustain the examiner's rejections.

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Contrary to a position espoused by the examiner, Oliver, the primary reference, fails to teach or suggest the claimed reference electrode being disposed in the salt solution. As emphasized by appellants, and recognized by the examiner, Oliver specifically discloses that both electrodes are "immersed into the gelatin solution" (column 3, lines 58-61). While the examiner reasons that "Oliver merely states in passing that his reference electrode is immersed into the gelatin solution" (page 8 of Answer, second full paragraph), the fact remains that Oliver provides no teaching or suggestion other than situating both the reference and indicator electrodes in the gelatin solution.

Like appellants, we do not agree with the examiner that Marks or Sands would have motivated one of ordinary skill in the art to modify the placement of Oliver's electrodes. While the examiner cites Marks and Sands for their disclosures of reference electrodes located outside of the process solution to which it is connected by a salt bridge, neither reference is directed to the environment of appellants' and Oliver's apparatus, namely, measuring the silver or halogen ion concentration in a gelatin aqueous solution. Marks is

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directed to detecting the chlorine content of an aqueous liquid by detecting the sum of hypochlorous and chloramine chlorine, whereas Sands involves a system for maintaining a constant potential between a plating solution and a plating electrode. Neither Sands nor Marks teaches, nor has the examiner established, that, as a general proposition, one of ordinary skill in the art would have understood that, as a viable option, the reference electrode of a salt bridge system can be situated in either the process solution or a separate, insulated bath. In our view, it is incumbent upon the examiner to demonstrate that such a general principle was known in the art in order to reasonably conclude that the proposed modification of Oliver would have been obvious to one of ordinary skill in the art.

The additional references applied by the examiner do not remedy the deficiency of the collective teachings of Oliver, Sands and Marks discussed above. However, we note that while appellants separately argue claim 7, which recites a microporous ceramic used in a portion of the salt bridge which makes contact with the gelatin aqueous solution, Marks

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discloses a porous plug 75 at the end of the salt bridge which makes contact with the process solution.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is reversed.

REVERSED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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THOMAS A. WALTZ)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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ROMULO H. DELMENDO)	
Administrative Patent Judge)	

ECK:clm

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