UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM O. CAMP, JR.

Appeal 2008-0605
Application 10/278,511
Technology Center 3600

Decided: December 4, 2008

Before WILLIAM F. PATE, III, LINDA E. HORNER, and
ANTON W. FETTING, *Administrative Patent Judges.*

FETTING, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

William O. Camp, Jr. (Appellant) seeks review under 35 U.S.C. § 134 of a final rejection of claims 1-41, the only claims pending in the application on appeal.

We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b) (2002).

We AFFIRM.

The Appellant invented a way of determining the position of a mobile terminal. The position of the mobile terminal is estimated based on range estimates derived from digital television signals from a digital television transmitter and range estimates derived from signals from at least one other type of transmitter. (Specification 4:30 – 5:1).

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below [bracketed matter and some paragraphing added].

> 1. A method for determining the position of a mobile terminal comprising:
> estimating the position of the mobile terminal
> [1] based on range estimates
> derived from digital television signals
> received at the mobile terminal from at least one
> digital television transmitter and
> [2] based on range estimates
> derived from signals
> received at the mobile terminal from a mobile
> telecommunication network transmitter,
> [3] wherein the estimated position of the mobile terminal
> is determined based on
> [3.a] at least one range estimate derived from the
> digital television signals and
> [3.b] at least one range estimate derived from the
> signals received at the mobile terminal from a
> mobile telecommunication network transmitter.

This appeal arises from the Examiner's final Rejection, mailed March 30, 2006. The Appellant filed an Appeal Brief in support of the appeal on March 1, 2007. An Examiner's Answer to the Appeal Brief was mailed on July 12, 2007. A Reply Brief was filed on August 7, 2007.

PRIOR ART

The Examiner relies upon the following prior art:

Rother	DE 3,242,997 A1	May 24, 1984
Engelbrecht	US 5,510,801	Apr. 23, 1996
Loomis	US 5,936,572	Aug. 10, 1999
Camp	WO 99/61934	Dec. 2, 1999
Counselman	US 6,492,945 B2	Dec. 10, 2002
Oh	US 2003/0128161 A1	Jul. 10, 2003

S. Rooney et al., *Accurate Vehicular Positioning using a DAB-GSM Hybrid System*, Department of Communication Systems, IEEE 97-101 (May, 2000).

REJECTIONS

Claims 1-24 and 26-41 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Oh, Counselman, and Engelbrecht.

Claims 1-41 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Loomis, Rooney, and Rother.

ISSUES

The issues pertinent to this appeal are

- Whether the Appellant has sustained its burden of showing that the Examiner erred in rejecting claims 1-24 and 26-41 under 35 U.S.C. § 103(a) as unpatentable over Oh, Counselman, and Engelbrecht.
- Whether the Appellant has sustained its burden of showing that the Examiner erred in rejecting claims 1-41 under 35 U.S.C. § 103(a) as unpatentable over Loomis, Rooney, and Rother.

The pertinent issues turn on whether the use of television signals with other radio signals would have been predictable to one of ordinary skill in the art of automated geographic positioning.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Engelbrecht

01. Engelbrecht is directed to a position or location determination system using conventional commercial television broadcast signals (Engelbrecht 1:17-20).

02. Television broadcast stations use a signal transmission format that permits the extraction of timing information from the signals and, using the velocity of radio wave propagation, convert this timing information into distance information (Engelbrecht 1:21-25).

03. Television signals have the advantages of very high power that operate over a wide area with substantial building penetration; uniformity of format that makes extraction of timing signals low cost, and being highly stable and accurate (Engelbrecht 1:29-67).

04. Engelbrecht uses a logic circuit to select the most reliable of the different location signals for use (Engelbrecht 1:44-45).

05. Engelbrecht teaches that more than 3 stations can be used to 1) provide solutions where one or more signals may be unacceptable due to blockage, multipath, etc., and 2) provide improved accuracy because of the multiplicity of signals contributing to the solution (Engelbrecht 2:47-51).

Oh

06. Oh is directed to locating a mobile device by noting times of arrival of signals that travel between the mobile device and a

plural transmitters or receivers located at known positions, and computing a location based on the noted times of arrival (Oh ¶ 0001).

07. Oh describes improving accuracy by using smart subsetting to select which of the available time measurements should be used as the basis for forming the location estimate (Oh ¶ 0032).

08. Oh ranks the signals in terms of quality according to one or more criteria and forms subsets of the signals based on those ranks (Oh ¶'s 0033-37).

09. Among the criteria that may be used to rank the time measurements are the signal to noise ratio (SNR) or carrier to interference ratio (CIR) (Oh ¶ 0034).

Counselman

10. Counselman is directed to techniques for determining position by radio, from carrier-wave phases of radio signals received from transmitters having different carrier-wave frequencies (Counselman 1:10-14).

11. Counselman describes that it is known in the art of determining position by radio, to utilize signals of opportunity, by which Counselman means signals emitted by uncooperative transmitters (Counselman 3:7-16).

12. Counselman describes its locating system as applicable to a wide variety of frequencies and types of signals, and different ones will be preferable in different situations. Counselman describes using both AM and FM-broadcast-band signals (Counselman 18:51-61). One of ordinary skill in the radio

transmission arts knew that television is and was broadcast using FM.

Loomis

13. Loomis is directed to use of two or more location determination systems, where one of these systems may use radio carrier or subcarrier waves, to determine the location of a mobile user of the systems (Loomis 1:10-14).

14. Loomis determines the location with three or more spaced apart transmitters of radiowaves operating with different radio carrier frequencies, with each radio transmitter being positioned at fixed, known locations, such as nearby radio stations (Loomis 4:39-51).

15. Loomis describes two distinct positioning systems, referred to as the indoor system and the outdoor system, each capable of operating independently from each other. The indoor and outdoor systems use different types of radio signals operating at different frequencies from each other (Loomis 4:39-5:13).

16. Loomis describes that determination of the location of a mobile user by employing signals from two or more systems offers the advantage that each of these systems can be utilized in situations where that system is most likely to provide an accurate estimate of the location (Loomis 5:23-28).

17. Loomis portrays the full FM signal spectrum and the useful portion of the signal that remains after frequency filtering (Loomis Fig. 2). Loomis describes how FM subcarrier signals can be used for all monitoring of the present location of a user, which has the advantage of simplicity: only one set of radiowaves is used for

location determination. FM signals are less subject to noise and other interference than are other signals, such as AM signals (Loomis 6:59-7:8).

18. One of ordinary skill in the radio broadcasting arts knew that the FM subcarrier signals referred to in (FF 17) were a carrier within the transmitted signal carrier. Thus, Loomis' reference to a single set of radiowaves in FF 17 referred to the constant 19 kHz radio spectrum present in all broadcast FM signals, and not to a single broadcast signal.

19. These two systems may be operated in a single hybrid integrated mode as well to improve accuracy (Loomis 4:39-46).

20. Loomis describes choosing between location estimates based on accuracy (Loomis 12:50-53).

21. Loomis describes criteria for determining relative accuracy as including signal strength (Loomis 13:5-6) and signal to noise ratio (Looms 13:64-67).

Rother

22. Rother is directed to geographic positioning with television and satellite signals (Rother:Abstract).

23. Rother describes that in order to be able to perform one way distance measurements to all transmitters whose signals are received, it is necessary with Rother's technique, that all clocks be synchronized with the system time (Rother 11:Bottom ¶).

Rooney

24. Rooney is directed to geographic positioning with digital audio broadcast signals (Rooney:Abstract).

25. Rooney uses a technique requiring synchronization among signals for its positioning technique (Rooney 97:Left col., Bottom ¶).

Facts Related To The Level Of Skill In The Art

26. Neither the Examiner nor the Appellant has addressed the level of ordinary skill in the pertinent arts of programming, geographic positioning, radio telecommunications, signal analysis, comparative communications systems analysis, and systems design. We will therefore consider the cited prior art as representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown'") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp*., 755 F.2d 158, 163 (Fed. Cir. 1985).

Facts Related To Secondary Considerations

27. There is no evidence on record of secondary considerations of non-obviousness for our consideration.

PRINCIPLES OF LAW

Claim Construction

During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *In re Am. Acad. of Sci. Tech Ctr*., 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Limitations appearing in the specification but not recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily).

Although a patent applicant is entitled to be his or her own lexicographer of patent claim terms, in *ex parte* prosecution it must be within limits. *In re Corr*, 347 F.2d 578, 580 (CCPA 1965). The applicant must do so by placing such definitions in the Specification with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be construed. *See also In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (although an inventor is free to define the specific terms used to describe the invention, this must be done with reasonable clarity, deliberateness, and precision; where an inventor chooses to give terms uncommon meanings, the inventor must set out any uncommon definition in some manner within the patent disclosure so as to give one of ordinary skill in the art notice of the change).

Obviousness

A claimed invention is unpatentable if the differences between it and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2000); *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1729-30 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966).

In *Graham*, the Court held that the obviousness analysis is bottomed on several basic factual inquiries: "[(1)] the scope and content of the prior

art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved." 383 U.S. at 17. *See also KSR Int'l v. Teleflex Inc*., 127 S. Ct. at 1734. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, at 1739.

"When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability." *Id*. at 1740.

"For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id.*

"Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 1742.

ANALYSIS

Claims 1-24 and 26-41 rejected under 35 U.S.C. § 103(a) as unpatentable over Oh, Counselman, and Engelbrecht.

Claims 1-5, 7, 8, 11-15, 17, 18, 21-24, 26-34, 36, 37, 40, and 41

The Appellant argues claims 1-5, 7, 8, 11-15, 17, 18, 21-24, 26-34, 36, 37, 40, and 41 as a group. The Appellant explicitly relies upon the arguments in favor of claim 1 to support independent claims 4, 14, 23, and 26-28 (Appeal Br. 8-9), and does not make any separate arguments

regarding dependent claims 2, 3, 5, 7, 8, 11-13, 15, 17, 18, 21, 22, 24, 29-34, 36, 37, 40, or 41.

Accordingly, we select claim 1 as representative of the group. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

The Examiner found that Oh describes geographic positioning of portable devices by triangulation of radio waves in general, Counselman describes the use of different radio frequencies for such geographic positioning to take advantage of whatever radio signals are available, and Engelbrecht describes using television signals for such geographic positioning to take advantage of the ubiquity and strength of such signals. The Examiner also found that one of ordinary skill would have seen that the reasons for using Counselman and Engelbrecht would apply to the triangulation technology of Oh and concluded it would have been obvious to combine their descriptions to achieve the steps in claim 1 (Answer 3-5).

The Appellant contends that neither Counselman nor Engelbrecht teaches or suggests mixing different types of radio sources as required by claim 1 (Appeal Br. 8:Bottom ¶). The Appellant argues that Counselman merely describes using signals not intended for position location and at most suggests using a particular type of broadcast signal, not a mixed selection of transmitter types (Appeal Br. 8:First full ¶). The Appellant further argues that Rooney describes the pitfalls of mixing use of signals that are not time coordinated (Appeal Br. 9:Top ¶).

Thus the issue before us is whether the combined references would have made the use of several different radio signals, at least one being digital television and another being a mobile telecommunication network

transmitter, predictable in geographic positioning. We find that this would have been predictable to one of ordinary skill from the prior art.

We begin by finding that whether Oh describes using range estimates derived from each of three or more mobile telecommunication network transmitter radio signals to estimate the position of a mobile terminal, and whether Engelbrecht describes the use of television signals to estimate the position of a mobile terminal are not in dispute. We also find that Oh and Engelbrecht describe these limitations of claim 1 (FF 01 & 06). Thus, Oh and Engelbrecht clearly describe how to estimate a position based on range estimates from three or more radio wave transmissions, where the radio wave transmissions may be television signals.

The Appellant's argument is then that the claim to using a television and non-television signal among those selected is an unobvious species among the genus of using radio wave signals for position estimation. Since only signals emanating from known positions are useful for such positioning (FF 06), implying the antennas are at fixed known positions, there are necessarily only a limited number of such signals available for positioning at any given location. This itself would imply that one of ordinary skill would understand the genus of all such available signals to be limited and therefore would see all of the individual species of combinations of available signals as useful for such positioning.

> When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a

> combination was obvious to try might show that it was obvious under § 103.

KSR, 127 S. Ct. at 1742.

This, in fact, is what Counselman describes. Counselman is directed to techniques for determining position by radio, from carrier-wave phases of radio signals received from transmitters having different carrier-wave frequencies (FF 10). Counselman describes that it is known in the art of determining position by radio, to utilize signals of opportunity, by which Counselman means signals emitted by uncooperative transmitters (FF 11). Counselman describes a positioning technique that is applicable to a wide variety of frequencies and types of signals, using both AM and FM-broadcast-band signals (FF 12). One of ordinary skill in the radio transmission arts knew that television is and was broadcast with FM (FF 12). Thus Engelbrecht's television signals would have been within the scope of Counselman's description.

We cannot find anything in Counselman that supports the Appellant's argument that Counselman describes only using similar types of signals. Counselman's reference to using available signals of opportunity emitted from uncooperative transmitters would have suggested to one of ordinary skill that signals from any antennas at known locations were to be used. The more signals used, the greater the accuracy.

Similarly, Counselman's use of uncooperative signals is sufficient evidence that one of ordinary skill would have known that signals that were not time coordinated could be used for positioning. Thus, Appellant's reliance on Rooney, a reference not within the scope of this rejection, and

that relies on a specific technique that, unlike Counselman, happens to require synchronization, is misplaced.

Since Engelbrecht describes the advantages of television signals for geographic positioning, and digital television was a known embodiment of television signals at the time of the invention, Counselman's description of taking advantage of whatever signals are available would necessarily have led to incorporating digital television signals in those areas where such signals were present. Similarly, in locations within range of telecommunication networks, such signals would have also been sufficiently strong to present a signal of opportunity.

Claims 6, 16, and 35

Claims 6, 16, and 35 further require identifying a plurality of received signals having a best signal quality among the received signals, at least one of the plurality of received signals being a digital television signal; and measuring a time of flight for only the identified plurality of received signals.

The Examiner found that this limitation was met by Oh's use of signals having best quality (Answer 9). The Appellant contends that these limitations are not disclosed by the applied references.

We agree with the Examiner that Oh's use of signals having best quality would have at least made the limitations of these claims predictable. Oh describes improving accuracy by using smart subsetting to select which of the available time measurements should be used as the basis for forming the location estimate (FF 07). Oh ranks the signals in terms of quality according to one or more criteria and forms subsets of the signals based on those ranks (FF 08). Therefore, Oh explicitly identifies a plurality of

received signals having a best signal quality among the received signals, and we found *supra* that Engelbrecht and Counselman suggested that a digital television signal would be predictably among those signals in many instances.

Among the criteria that may be used to rank the time measurements are signal to noise ratio (SNR) or carrier to interference ratio (CIR) (FF 09). These criteria are determined from the signal itself and do not require computing the time of flight. One of ordinary skill would have inferred from these criteria, that having ranked signals according to such criteria, computing statistics such as time of flight for low ranked signals would have been pointless. "[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR.* 127 S. Ct. at 1741.

Thus, one of ordinary skill, knowing that unnecessary computations are unnecessarily expensive, would have known that when using these as criteria, measuring a time of flight would be needed for only those received signals identified by Oh's ranking.

Claims 9, 10, 19, 20, 38, and 39

Claims 9, 10, 19, 20, 38, and 39 further require receiving at least one third type of signal, different from a digital television signal and the second type of signal, at the mobile terminal and estimating the position of the mobile terminal using the range values derived from each of the signals.

The Examiner found that Counselman suggested multiple different sources, which implied that a third different source would have been

predictable (Answer 9). The Appellant contends that this limitation is not described by the applied references.

We agree the Examiner that Counselman's suggested multiple different sources implied that a third different source would have been predictable. Again, Counselman advises using a wide variety of frequencies and types of signals, and that different ones will be preferable in different situations. Counselman also describes using both AM and FM-broadcast-band signals. Since a minimum of three signals are needed to locate a receiver, Counselman at least suggested using three different types of signals.

We note that the Appellant also argued that claim 25 is patentable over the applied references (Appeal Br. 10), but claim 25 is not within the scope of this rejection, and so this argument is moot.

The Appellant has not sustained its burden of showing that the Examiner erred in rejecting claims 1-24 and 26-41 under 35 U.S.C. § 103(a) as unpatentable over Oh, Counselman, and Engelbrecht.

Claims 1-41 rejected under 35 U.S.C. § 103(a) as unpatentable over Loomis, Rooney, and Rother.

Claims 1-5, 7, 8, 11-15, 17, 18, 21-24, 26-34, 36, 37, 40, and 41

The Appellant argues claims 1-5, 7, 8, 11-15, 17, 18, 21-24, 26-34, 36, 37, 40, and 41 as a group. The Appellant explicitly relies upon the arguments in favor of claim 1 to support independent claims 4, 14, 23, and 26-28 (Appeal Br. 12:Top ¶), and does not make any separate arguments regarding dependent claims 2, 3, 5, 7, 8, 11-13, 15, 17, 18, 21, 22, 24, 29-34, 36, 37, 40, or 41.

Accordingly, we select claim 1 as representative of the group.

The Examiner found that Loomis describes geographic positioning of portable devices by triangulation of radio waves in general and the use of different types of signals, Rother describes using television signals for such geographic positioning, and Rooney describes using digital signals for geographic positioning. The Examiner also found that one of ordinary skill would have seen that the reasons for applying Rooney's digital signals to Rother's television signals as improving accuracy as taught by Rooney, and Rother would apply to the triangulation technology of Loomis and concluded it would have been obvious to combine their descriptions to achieve the steps in claim 1 (Answer 5-7).

The Appellant contends that there would have been no motivation to combine Rooney with Loomis because the problem of providing a sufficient number of range estimates is solved by Loomis alone and that Rooney's problem of indoor versus outdoor signals is unrelated to Loomis (Appeal Br. 11:First full ¶). The Appellant further argues that the failure of Loomis to list cellular signals as among the potential source of signals teaches away from the claim (Appeal Br. 11:Second full ¶).

Thus the issue before us is whether one of ordinary skill would have combined the applied references in the manner claimed. We find that such a combination would have been predictable to one of ordinary skill from the prior art.

We begin by finding that whether Loomis describes using range estimates derived from each of three or more mobile telecommunication network transmitter radio signals using multiple types of signals to estimate the position of a mobile terminal, and whether Rother describes the use of television signals to estimate the position of a mobile terminal are not in

dispute. We also find that Loomis and Rother describe these limitations of claim 1 (FF 14 & 22). Thus, Loomis and Rother clearly describe how to estimate a position based on range estimates from three or more radio wave transmissions of multiple types, where the radio wave transmissions may be television signals.

The Appellant's argument is then that one of ordinary skill would not have applied the digital television signals implied by the combination of Rooney and Rother to Loomis. As we found *supra*, the nature of the problem itself would imply that one of ordinary skill would understand the genus of all signals available for positioning to be limited and therefore would see all of the individual species of combinations of available signals as useful for such positioning. This alone would suggest applying digital television signals to Loomis where they are available. But Loomis' teaching to use of multiple sets of different types of signals, such as FM and satellite, to improve accuracy would have suggested other such hybrid location systems, such as the television and satellite signal system of Rother. Since all that is necessary for operation of Loomis' system is that the transmitters operate with different radio carrier frequencies, with each radio transmitter being positioned at fixed, known locations, clearly any radio signal, including television signals, are usable. Thus, we find that the improved accuracy of using digital television signals, where available, would have provided sufficient motivation for one of ordinary skill to apply Rother and Rooney to Loomis.

We further find that the absence of an explicit reference to cellular signals in Loomis does not reduce the availability of such signals in actual practice at the time of the invention. Such signals would have emanated

from cellular antennas with known fixed locations, which is the essential requirement in Loomis.

We finally note that the Appellant argued, after the Examiner's Answer, that Loomis teaches away from using other sources by referring to using one set of radiowaves (Reply Br. 3:First full ¶). However, this portion of Loomis describes how FM subcarrier signals can be used for all monitoring of the present location of a user, which has the advantage of simplicity: only one set of radiowaves is used for location determination (FF 17). One of ordinary skill in the radio broadcasting arts knew that the FM subcarrier signals referred to in Loomis were a carrier within the transmitted signal carrier. Thus, Loomis' reference to a single set of radiowaves refers to the constant 19 kHz radio spectrum present in all broadcast FM signals, and not to a single broadcast signal (FF 18). Therefore, this was not a teaching away from using multiple broadcast signals.

Claims 6, 16, and 35

The Appellants argued claims 6, 16, and 35 as a group. As such, we select claim 6 as the representative claim. (App. Br. 12). The requirements of claim 6 is discussed, *supra*. The Examiner found that this limitation was met by Loomis' use of signals having best quality (Answer 11). The Appellant contends that these limitations are not disclosed by the applied references.

We agree with the Examiner that Loomis' use of signals having best quality would have at least made the limitations of these claims predictable. Loomis describes improving accuracy by choosing between location estimates based on accuracy (FF 20). Loomis ranks the signals in terms of

quality according to criteria such as signal strength and signal to noise ration (FF 21). Therefore, Loomis explicitly identifies a plurality of received signals having a best signal quality among the received signals, and we found *supra* that Rooney and Rother suggested that a digital television signal would be predictably among those signals in many instances for improved accuracy.

The signal to noise ratio or signal strength are characteristics of the signal itself and do not require computing the time of flight. One of ordinary skill would have inferred from these criteria, that having ranked signals according to such criteria, computing statistics such as time of flight for low ranked signals would have been pointless. Thus, one of ordinary skill, knowing that unnecessary computations are unnecessarily expensive, would have known that when using these as criteria, measuring a time of flight would be needed for only those received signals identified by Loomis' ranking.

Claims 9, 10, 19, 20, 38, and 39

The requirements of these claims are discussed, *supra*. The Examiner found that Loomis described using two or more systems (Answer 11). The Appellant contends that this limitation is not described by the applied references.

We agree with the Examiner that Loomis' suggested two or more different systems for improved accuracy (FF 16) implied that a third different source would have been predictable.

Claim 25

Claim 25 further requires synchronizing clocks among base stations and with the digital television transmitter.

The Examiner found that Rother described this limitation (Answer 11). The Appellant contends that this limitation is not described by the applied references.

We agree with the Examiner that Rother described that all of its clocks were to be synchronized, which would have included base stations and television transmitters (FF 23).

The Appellant has not sustained its burden of showing that the Examiner erred in rejecting claims 1-41 under 35 U.S.C. § 103(a) as unpatentable over Loomis, Rooney, and Rother.

CONCLUSIONS OF LAW

The Appellant has not sustained its burden of showing that the Examiner erred in rejecting claims 1-41 under 35 U.S.C. § 103(a) as unpatentable over the prior art.

On this record, the Appellant is not entitled to a patent containing claims 1-41.

DECISION

To summarize, our decision is as follows:

- The rejection of claims 1-24 and 26-41 under 35 U.S.C. § 103(a) as unpatentable over Oh, Counselman, and Engelbrecht is sustained.
- The rejection of claims 1-41 under 35 U.S.C. § 103(a) as unpatentable over Loomis, Rooney, and Rother is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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MYERS BIGEL SIBLEY & SAJOVEC, P.A.
P.O. BOX 37428
RALEIGH, NC 27627