

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KARL J. WOOD

Appeal 2007-3035
Application 09/747,109
Technology Center 2600

Decided: February 27, 2008

Before KENNETH W. HAIRSTON, ROBERT E. NAPPI, and KARL D.
EASTHOM, *Administrative Patent Judges*.

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DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final rejection of claims 1 through 6, 9, 15, 17 and 20 through 25.

We affirm.

INVENTION

The invention is directed to a broadcast enhancement system having a first receiver with a mixer for receiving an enhancement signal, the system compatible with a television and a set-top-box having a second receiver for

receiving a television broadcast signal, the two receivers being arranged separately from each other. The mixer is configured to intercept the television broadcast signal from the set-top-box before it is passed to the television, to apply chroma keying to superimpose the enhancement signal onto the intercepted television broadcast signal and to pass the superimposed signal to the television. (Spec. 4-5, Fig. 1).

Claim 1 is representative of the claims on appeal:

A broadcast enhancement system compatible with a television and a set-top-box that has a receiver for receiving a television broadcast signal, without any adaptation required to the set-top-box or the television, said system comprising a mixer having a receiver for receiving a transmission of an enhancement signal, the two receivers being arranged separately from each other, at least one of the two signals being prepared for chroma keying, the mixer being configured to intercept the received television broadcast signal from the set-top-box before it is passed to the television, to apply chroma keying to superimpose the enhancement signal onto the intercepted television broadcast signal and to pass the superimposed signal to the television.

REFERENCES

Butler	US 2002/0007493	Jan. 17, 2002
Perlman	US 6,829,779	Dec. 7, 2004

REJECTIONS AT ISSUE

Claims 1 through 6, 9, 15, 17 and 20 through 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Butler in view of Perlman.

Throughout the opinion, we make reference to the Brief (filed September 20, 2006) and the Answer (mailed November 29, 2006) for the respective details thereof.

ISSUES

Appellant presents arguments directed to the Examiner's rejection of claims 1 through 6, 9, 15, 17 and 20 through 25 under 35 U.S.C. § 103(a) as being unpatentable over Butler in view of Perlman (Br. 4-8). Appellant groups independent claims 1, 9, 15 and 17 together (Br. 4). Appellant's arguments do not separately address the rejected dependent claims. Thus, in accordance with 37 C.F.R. § 41.37 (c) (1) (vii), we group claims 1 through 6, 9, 15, 17 and 20 through 25 together and treat independent claim 1 as the representative claim.

Appellant argues, on pages 4 and 5 of the Brief, that the Examiner's rejection of claim 1 is in error as the art cited does not teach all of the claimed limitations. Specifically, Appellant asserts that Butler does not teach “**a set-top box that has a receiver** for receiving a television broadcast signal’ and ‘**a mixer having a receiver** for receiving a transmission of an enhancement signal, **the two receivers being arranged separately from each other**’ as recited in claims 1 and 15.” (*Emphasis original*).

Appellant also argues that Perlman does not teach “a mixer ‘**configured to intercept** the received television broadcast signal **from the set-top-box** before it is passed to the television’ as recited.” (Br. 5) (*emphasis original*).

The Examiner determined that Butler discloses all the claim limitations except the set-top-box (STB); and, therefore, Butler also does not disclose “where the PC/mixer receives the television broadcast signal from the STB.” (Ans. 3). In other words, the Examiner determined that employing Perlman's set-top-box in the system of Butler would meet all of

the limitations. Because Appellant also argues that “the Office Action does not provide any suggestion or motivation **in the references themselves** to modify and/or combine the references,” (Br. 6, emphasis original), the issue presented is:

Whether the Examiner has presented a prima facie case that it would have been obvious to employ Perlman’s home entertainment set-top-box with Butler’s home entertainment system to meet all the claim limitations.

PRINCIPLES OF LAW

On appeal, Appellant bears the burden of showing that the Examiner erred. Appellant may sustain this burden by showing that, where the Examiner relies on a combination of disclosures, the Examiner failed to provide sufficient evidence to show that one having ordinary skill in the art would have done what Appellant did. *United States v. Adams*, 383 U.S. 39, 47 (1966); *In re Kahn*, 441 F.3d 977, 987-88 (Fed. Cir. 2006); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick, Co.*, 464 F.3d 1356, 1360-61 (Fed. Cir. 2006). Appellant may also show that the Examiner has failed to meet his initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If that initial burden is met, then the burden shifts to the Appellant to overcome the prima facie case with argument and/or evidence. *See Id.*

The Examiner’s articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d at 988 (Fed. Cir. 2006).

On the issue of obviousness, the Supreme Court has recently stated that “[t]he obviousness analysis cannot be confined by a formalistic

conception of the words teaching, suggestion, and motivation.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Further, the Court stated “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 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. 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. . . . [A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

Id. at 1740. “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *Id.* at 1742.

FINDINGS OF FACT

1. Referring to Figure 1, Appellant states that “[c]onnected in between the set-top-box 30 and the television apparatus 40 is a mixer system 50.” (Spec. 4: 12-13; Fig. 1).

2. Appellant describes his television system as follows:

In the above described embodiment the mixer system 50 serves simply to intercept television signals from the set-top-box, superimpose the supplementary information from source 60 and pass the combined signal to the television apparatus 40. Such a mixer system may be implemented as a further set-top-box without any adaptation required to set-top-box 30 or the television apparatus 40. In a preferred embodiment of the present invention, the mixer system

50 resembles a WebTV which could be integrated into the set-top-box 30, or alternatively it could be a PC equipped with suitable hardware. (Spec. 5: 1-9).

3. Butler discloses a PC 14 that receives a video stream and accompanying HTML files from a television broadcast source (par. 0013, 0043). The files allow users to obtain more information about certain aspects of a television program. One example disclosed is that “a user could click on Tim Allen’s Binford saw during an episode of ‘Tool Time’ to find out more information about it such as where to purchase it.” (Par. 0046). The PC displays an HTML hyperlink overlaying another “normal bit-mapped display image” video stream (par. 0036, 0043-44). Chroma keying ensures that the bit-mapped image will appear in “only those areas of the bit-mapped display image that are set to a predetermined color or chroma key value.” (Par. 0036). The display 68 can be either on a standard TV screen or a VGA monitor (par. 0038).

4. “The video stream can be in [several] formats [including] a traditional analog RF television format or a digital format originating from a satellite or a cable headend.” (Butler, par. 0050). Butler’s modem 138 receives data from a “broadcast source” or “data and supplemental content directly from an independent service provider” or from the Internet via a telephone line (par. 0041). The PC system 14 “includes a digital broadcast receiver 58, such as a satellite dish receiver, RF receiver, microwave receiver, or the like.” (Par. 0032). Receiver 58 receives video and audio digital data “in many different forms” “over a broadcast network” (par. 0032). The television receiver system 76 “receive conventional TV signals from cable television or RF broadcast television systems” (par. 0035).

Video analog or digital broadcasting is disclosed in general from cable, satellite or antenna systems (par. 0013).

5. Perlman discloses a set-top-box, otherwise referred to as an internet terminal 20, employed in several configurations (Figs. 1-5, 18) The set-top-box allows a user to display internet material on a standard television and also to view and control other consumer electronics items (i.e. television, VCR, cable set-top-box) connected together to the internet set-top-box (col. 2, ll. 16-46, col. 3, ll. 51-63; Figs. 1-5). For example, Perlman discloses a cable TV set-top-box 64 connected to the internet set-top-box via a coaxial cable to provide cable television and internet service, as well as VCR and cable channel remote control (col. 3, ll. 51-63). The cable set-top-box 64 is required to decode some or all of the channels otherwise “scrambled or otherwise encoded to discourage piracy.” (Col. 3, ll. 27-33; Fig. 5).

ANALYSIS

Appellant’s arguments have not persuaded us that the Examiner erred in determining that it would have been obvious to employ Perlman’s set-top-box in Bulter’s system in order to decode some or all of the channels “scrambled or otherwise encoded to discourage piracy.” (FF 5). Butler’s disclosure is directed to enhancing a users’ experience “beyond a standard television” (pars. 0003, 0031, 0038) with a PC system 14 (Fig. 2), by processing television signals from a variety of live broadcast audio/video sources including cable television networks and/or the Internet (pars. 0017, 0041, 0043, FF 4), or from stored video sources (i.e. “hard disk, DVD, CD, VCR, etc.” (par. 0060)). Similarly, Perlman’s disclosure is directed to a special or general computer system (col. 7, ll. 44-53) embodied as a set-top-box (col. 8, ll. 22-34, see item 20 at Fig. 5, FF 5), that interactively connects

a wide variety of consumer electronics devices together including audio/video equipment in order to facilitate remote controlled internet, cable television (secured by a cable set-top-box), VCR or other broadcast or stored video viewing on an existing standard television screen (col. 7, ll. 54-60, FF 5, Figs. 5, 18).

Since both Butler and Perlman disclose connecting broadcast cable television sources to a computer to enhance viewing, and Perlman discloses the widely known technique of using a set-top-box to decode cable television signals,¹ “a person of ordinary skill in the art would [have] recognize[d] that it would [have] improve[d] similar devices in the same way,” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. at 1740. That is, Perlman’s technique of employing a set-top-box to decode encoded cable television signals for security enhancement and piracy avoidance, as the Examiner determined (Ans. 4), would have been recognized by one of skill in the art likewise to have improved Butler’s cable television inputs connected to a similar system in the same way. Appellant advances no argument that such a technique would have been beyond the skill of an ordinary artisan. Accordingly, we determine that the “improvement is [no] more than the predictable use of prior art elements according to their established functions.” *Id.*

Having determined the obviousness of using a cable set-top-box in Butler’s system, we turn next to Appellant’s arguments that employing the box as proposed by the Examiner fails to meet some of the claim limitations.

¹ We note that Butler also discloses separate external decoder devices to extract closed caption data for combining the data with television signals (par. 0016).

We determine that Appellant's argued limitations are met when Perlman's set-top-box is connected to any of several video broadcast input ports in Butler's system.

That is, for example, connecting Perlman's set-top-box to the broadcast video receiver 58 port, the television receiver 76, or to the modem 138 at Figure 2 of Butler renders “**a set-top-box that has a receiver** for receiving a television broadcast signal[,]’... ‘**a mixer having a receiver** for receiving a transmission of an enhancement signal, **the two receivers being arranged separately from each other**” (Br. 4-5) (*emphasis* original), and “a mixer ‘**configured to intercept** the received television broadcast signal **from the set-top-box** before it is passed to the television’ as recited” (Br. 5) (*emphasis* original).

Appellant's arguments that Butler or Perlman fails to disclose the claim limitations delineated in the previous paragraph amount to attacks on each reference separately. Appellant does not assert that the combination does not meet the argued limitations. Appellant's arguments are that Butler does not meet the argued missing claim limitations, and that Perlman does not meet the argued limitations (Br. 4-5). One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981). The test of obviousness is what the combined teachings would have suggested to those of ordinary skill in the art. *Id.* at 425. Notwithstanding the lack of argument as to how the combination fails to meet the limitations, we identify each of the argued limitations in the combined teachings.

As to Appellant's argument that Perlman's set-top-box lacks a receiver,² we concur with the Examiner's finding that Perlman's set-top-box requires a receiver (Ans. 3-4) in order to decode a signal (see FF 4); i.e., a signal must be received in the box in order to be decoded by the box. Moreover, the Examiner's assertion that Perlman's set-top-box has a receiver (Ans. 3-4), combined with the fact that Appellant's disclosed set-top-box requires no adaptation (FF 1) such that it is "owned by the typical man" (Spec. 2: 7-10), and also "decodes" signals (Spec. 4: 11), shifted the burden to Appellant to prove that Perlman's set-top-box does not have a receiver. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977). Appellant sets forth neither evidence nor argument sufficient to meet the burden.

As to Appellant's argument that Butler fails to disclose a mixer having a receiver for receiving an enhancement signal, we find that Butler's system 14, including processor 52 and video subsystem 66 (Fig. 2), constitutes a mixer having receivers 58, 76, or 138 that receive "the video stream and accompanying supplemental from the broadcast source." (Par. 0054). The term "supplemental" refers to "hyperlink overlays" (i.e., enhancement signals) such that "the video stream is rendered in the transparent areas of the hyperlink overlays." (Par. 0056). Hence, Butler's PC 14 "mixes" a hyperlink data file (i.e., the claimed enhancement signal which is prepared for chroma keying)³ with a video stream (the claimed television broadcast signal), similar to Appellant's disclosed PC system

² It is not clear to us if Appellant argues that only the elements highlighted in bold script are not taught by the references or that all of the elements recited are not taught by the references. Nonetheless, we address the limitation of the television broadcast signal below.

³ Appellant does not dispute that Butler discloses chroma keying.

which mixes the two claimed signals (FF 2). (See also FF 3, pars. 0015, 0019, 0028, 0044-55, 0060-61).⁴

As to Appellant's argument asserting the references do not teach the limitation of separate receivers, we determine that the two disclosed receivers - Butler's mixer 14 (having any of the receivers 58, 76, or 138) and Perlman's set-top-box (having a receiver) - are separate, even though connected, where Appellant's two receivers (i.e., set-top-box and PC mixer) are similarly described as connected (FF 1).⁵ Moreover, as noted above (n.

⁴ Butler generally refers to the receiver 14 as receiving both the video and supplemental video streams (i.e. broadcast signal and the enhancement signal) (par. 0054). We interpret this in conjunction with Butler's disclosed wide variety of broadcast sources for each receiver (FF 4) as a teaching that each receiver can receive the intended or desired television audio/video program and supplemental (HTML video and control data) signals. Further, processing, receiving, and transmitting the supplemental HTML data at times different than the intended broadcast video data, such as "during the night to user equipment, for use the following day" (par. 0061) indicates that any of the video data, either the intended broadcast video data, or the supplemental (HTML) overlaying data, can be received at the same or different ports at the same or different times (par. 0061). For example, Butler states that the "video stream can be in a [wide] variety of formats, such as a traditional analog RF television format or a digital format originating from a satellite or a cable headend." (Par. 0050). Butler also states that the supplemental overlay data files and the video stream can be transmitted with "the built-in capabilities of the digital transmission media or using the vertical blanking interval of a traditional analog television signal." (Par. 0053). Other sources for the video stream include stored sources such as VCR, DVD, and hard disk (pars. 0040, 0060). Thus, we find that both the video stream and the supplemental video stream (i.e. overlay files and timing and control data) from a television broadcast source can be received by any of the receiver ports 58, 76, or 138 in Butler's mixer 14, and can be stored for later processing (see par. 0061).

⁵ We note that independent claims 9 and 17 do not have the limitation of "the two receivers being arranged separately."

1), Butler also discloses a separate decoder which we also determine to constitute a second separate receiver for reasons noted here and above.

We also do not find persuasive Appellant's argument that Butler's system does not intercept the television broadcast signal from the "set-top-box" "before it is passed to the television" as claimed. That is, in the Examiner's proposed *combination*, a digital or analog television broadcast signal with an enhancement signal entering Perlman's set-top-box receiver and then Butler's mixer system 14 having receivers 58 (digital), 76 (analog), or 138 (digital or analog) is processed (i.e., intercepted) in the portion 52/62 of the mixer system 14, "before it is passed to the television" monitor 68 (see Fig. 1, Fig. 5, par. 0054). As the Examiner finds, Butler's monitor includes "a standard television" screen (par. 0038). Appellant does not challenge the Examiner's determination that Butler's standard television monitor (*see* Ans. 3, *citing* Butler at paragraph 0038) meets the claim.⁶ Therefore, we determine that Butler's mixer 14 meets the argued limitation of "a mixer '**configured to intercept** the received television broadcast signal **from the set-top-box** before it is passed to the television.'" (Br. 5) (*emphasis* original).

Hence, the scenario described above in which the television and enhancement signals come from the same broadcast source reveals why Appellant's statement that Butler discloses that both signals are sent by the same source (Br. 5) does not distinguish the claims. Moreover, Butler's teaching is not so limited. For example, one predictable scenario

⁶ Butler also discloses that PC 14 is useful for "displaying broadcast television and accompanying digital data content" (par. 0031) or "television data having superior quality" (par. 0038).

contemplated under Perlman's and Butler's teachings involves connecting Perlman's cable television set-top-box to either Butler's analog television port 76 (with or without the television) or digital receiver port 58 in order to decode television program signals from a cable television or other broadcast television source. Butler teaches obtaining an enhancement (HTML data file) signal from any one of the other receiver ports 58 or 138, and then storing it on a hard disk to overcome transmission delay problems and enable processing with the currently transmitted broadcast television program material (pars. 0052, 0061, see also n. 4). Under this scenario, the video stream from the port at 76 is sent to the processor 52 where it is processed (i.e. intercepted) and mixed with the stored HTML overlay enhancement signal and then passed to the television at the monitor location 68 (see Butler, par. 0038).

CONCLUSION

Appellant fails to meet the burden of asserting error in the rejection of representative claim 1 and, therefore, we sustain the Examiner's rejection of claims 1 through 6, 9, 15, 17 and 20 through 25 under 35 U.S.C. § 103(a). *See United States v. Adams*, 383 U.S. at 47; *In re Kahn*, 441 F.3d at 987-88; *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick, Co.*, 464 F.3d at 1360-61. Based on the arguments made in the Brief, we have no basis for questioning the unchallenged findings of the Examiner. Appellant has not sustained his burden on appeal of showing that the Examiner erred in rejecting the claims on appeal as being unpatentable under 35 U.S.C. § 103(a).

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ORDER

The decision of the Examiner is affirmed.

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).

AFFIRMED

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