The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte SENTHIL G. ARUL

Appeal No. 2005-0276
Application No. 09/736,941

ON BRIEF

Before HAIRSTON, FRANKFORT, and MCQUADE, Administrative Patent Judge.
MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Senthil G. Arul appeals from the final rejection of claims 1 through 10, all of the claims pending in the application.[1]

[1] The record contains an amendment filed pursuant to 37 CFR § 1.116 on December 15, 2003, but does not indicate whether it was ever considered by the examiner. Normally, we would remand the application to the examiner to resolve this discrepancy; however, in this case we have proceeded to consider the appeal on its merits since the amendment merely proposes an obvious correction to the dependency of claim 7 and does not affect the issues presented for review. This matter should be resolved upon the return of the application to the technology center.

THE INVENTION

The invention relates to "portable electronic devices, including hand-held remote control units, and the like, and, in particular, to such a device having a power storage/supply utilizing a super or ultra-capacit[or]" (specification, page 1).

Representative claim 1 reads as follows:

1. A device for wirelessly controlling an appliance comprising:
a hand-held enclosure having a plurality of operator controls supported thereon;
a wireless control signal generator;
electronic circuitry interconnecting the operator controls to [the] wireless control signal generator, the circuitry causing the generator to transmit a wireless signal in response to the operator controls so as to affect the operation of the appliance;
a source of electrical energy within the enclosure to power the circuitry, the source of electrical energy consisting essentially of a supercapacitor or ultracapacitor; and
an input to receive externally applied energy to recharge the supercapacitor or ultracapacitor.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Croy et al. (Croy)	6,040,829	Mar. 21, 2000
Tiemann et al. (Tiemann)	6,291,900	Sep. 18, 2001

THE REJECTION

Claims 1 through 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Croy in view of Tiemann.

Attention is directed to the main and reply briefs (Paper Nos. 8 and 10) and the answer (Paper No. 9) for the respective positions of the appellant and the examiner regarding the merits of this rejection.

DISCUSSION

Croy, the examiner's primary reference, discloses a hand-held remote control unit for controlling the operation of electronic devices such as televisions and video cassette recorders (see column 3, lines 6 through 10; and column 9, lines 16 through 18). As shown in Figure 2, the remote control unit 200 includes an interface 210 for communicating with a base station 100 which itself electrically communicates with a television 140 or a video cassette recorder 142, a microcomputer 220, a memory 222, a power supply 224, a selection device 230 having an array of keys for user input and commands, a display device 240 and a speaker 250. The power supply 224 consists of batteries which can be recharged through electrical contact with charging circuits 134 in the base station 100 (see column 4, lines 4 through 8 and 47 through 62). Figure 3A shows the unit 200 "removably inserted and electrically coupled into the base station 100" (column 7, lines 25 and 26), i.e., docked

to the base station. Croy describes the remote control function of the unit as follows:

> Referring now to FIGS. 52 and 53, other menu displays illustrate the operation of the present invention for controlling a television monitor and/or a video cassette recorder (VCR). In FIG. 52, various menu items are displayed in first display area 1210 and second display area 1215. These menu items correspond to standard functions provided on conventional VCRs. Any of these functions can be selected using function keys 310 or 311 provided on remote device 200. As a result of the activation of one of these menu items, remote device 200 emits well-known infrared coded signals to invoke the selected function in the VCR. Similarly as illustrated in FIG. 53, menu items corresponding to standard functions in a conventional television set are displayed in first display area 1210 and second display area 1215. These functions may also be selected using function keys 310 or 311. In similar fashion, the remote device 200 emits IR signals to the television receiver corresponding to the selected function. In this manner, remote device 200 can be used to control a standard VCR or television set [column 19, line 53, through column 20, line 4].

It is not disputed that Croy teaches, or would have suggested, a remote control device responsive to all of the limitations in independent claim 1 except for those requiring the source of electrical energy to consist essentially of a supercapacitor or ultracapacitor. As indicated above, the source of electrical energy in Croy's remote control unit consists of rechargeable batteries. To account for this difference, the examiner looks to Tiemann.

Tiemann pertains to manually powered devices that generate, convert and utilize electrical energy. One of the devices listed as exemplary by Tiemann is a wireless electronic remote control device (see column 3, lines 14 through 17; and column 9, lines 61 through 65). In general, these devices include a mechanism for inputting mechanical energy, a generator for converting the mechanical energy to electrical energy, in some cases an electrical energy storage device, and an electrical load depending on the type of device. The electrical energy storage device may comprise rechargeable batteries or capacitors (see column 7, line 66, through column 8, line 11). Tiemann describes one storage capacitor arrangement as follows:

> As shown in FIG. 18, an ultracapacitor circuit 900 uses an ultracapacitor 940 to supply power to electrical load 960. In this embodiment, a mechanical energy input device 910 is directly coupled to a generator 920. In one embodiment, the mechanical energy input device 910 includes a crank 912. In other embodiments, the mechanical energy input device 910 comprises, for example, a ratchet crank and a foot crank. The direct coupling allows the mechanical energy supplied to the generator 920 to directly produce a charge voltage. It should be appreciated that the charge voltage is proportional to the mechanical energy that is input to the generator from the crank 912.
>
> The generator 920 is connected to the ultracapacitor 940. . . .
>
> In operation, the generator 920 produces a charge voltage that is proportional to the mechanical energy input from the mechanical energy input device 912. . . .

> Ultracapacitor 940 is used in this disclosure to describe a class of capacitors that have several designations in the art such as super capacitor, electrochemical capacitor, and electrochemical double layer capacitor. . . . It should also be appreciated that the use of an ultracapacitor 940 provides an energy storage for a wide range of appliances and/or electronics, and the ultracapacitor 940 stores energy with less weight less bulk than a mechanical spring drive. In one embodiment, an ultracapacitor 940 provides several orders of magnitude higher storage density than mechanical spring drives [column 11, line 29, through column 12, line 45].

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

In the present case, Tiemann's teachings that rechargeable batteries and ultracapacitors/supercapacitors are art-recognized alternatives for use as electrical energy storage devices in wireless remote control devices and that the use of ultracapacitors/supercapacitors in this environment affords certain physical and operational advantages would have provided the artisan with ample motivation or suggestion to substitute an ultracapacitor or supercapacitor for the batteries in Croy's

remote control unit, thereby arriving at the subject matter recited in independent claim 1. Hence, the appellant's contention that the proposed reference combination rests on impermissible hindsight is not convincing.

Accordingly, we shall sustain the standing 35 U.S.C. § 103(a) rejection of claim 1 as being unpatentable over Croy in view of Tiemann.

We also shall sustain the standing 35 U.S.C. § 103(a) rejection of claims 6 and 8 as being unpatentable over Croy in view of Tiemann.

Claim 6 depends from claim 1 and further defines the input to receive externally applied energy as an electrical input. The combined teachings of Croy and Tiemann, and particularly Croy's disclosure of an electrical input for receiving externally applied energy to recharge the remote control unit, would have suggested this subject matter.

Claim 8 depends from claim 1 and requires that the appliance being controlled by the device, or a unit in electrical communication with the appliance, include a docking station to receive the device. The combined teachings of Croy and Tiemann, and particularly Croy's disclosure of a base station which (1) has a docking area for receiving a remote control unit and (2) is

in electrical communication with a television or video cassette recorder to be controlled, would have suggested this subject matter.

Finally, we shall sustain the standing 35 U.S.C. § 103(a) rejection of dependent claims 2 through 5, 7, 9 and 10 as being unpatentable over Croy in view of Tiemann since the appellant has not challenged such with any reasonable specificity, thereby allowing these claims to stand or fall with their respective base claims (see In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987)).

SUMMARY

The decision of the examiner to reject claims 1 through 10 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

KENNETH W. HAIRSTON Administrative Patent Judge	)
CHARLES E. FRANKFORT Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
JOHN P. MCQUADE Administrative Patent Judge	)

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