

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROGER A. ORF and PHILIP I. STRAUB

Appeal 2007-3208
Application 10/964,038
Technology Center 3600

Decided: November 27, 2007

Before: TERRY J. OWENS, JENNIFER D. BAHR and
STEVEN D.A. McCARTHY, *Administrative Patent Judges.*

McCARTHY, *Administrative Patent Judge.*

1 DECISION ON APPEAL

2

3 STATEMENT OF THE CASE

4 The Appellants appeal under 35 U.S.C. § 134 (2002) from the final
5 rejection of claims 1-12 and 14-23. We have jurisdiction under 35 U.S.C.
6 § 6(b) (2002).

1 The Appellants' invention relates to methods for configuring avionic
2 equipment including electronic devices, control dials, flight displays and
3 software/firmware which present information to pilots before and during
4 flight. (Specification 2 and 6). Typically, when a pilot takes command of an
5 aircraft, the pilot manually enters information relating to the flight (such as
6 the flight plan) and information relating to the pilot's preferences with
7 regard to the avionics equipment (such as the preferred units associated with
8 displayed flight settings or options including instrument readings). Entering
9 each such item of information by hand can be time consuming, tedious and
10 undesirable for the pilot. (Specification 2).

11 The invention addresses this problem by associating "profile data"
12 with a unique identifier for use by a specific pilot. When the pilot takes
13 command of the aircraft, the profile data associated with the pilot's identifier
14 is "used to configure one or more display fields, flight plans, map settings,
15 navigation fields, communication transceiver spacing, date/time setup,
16 displayed units of measure, timers, alarms, and/or other communication,
17 navigation, or surveillance settings associated with avionic equipment."
18 (Specification 3).

19 Independent claim 1 is illustrative of the Appellants' claims and reads
20 as follows:

21 1. A method of configuring profile data
22 in avionic equipment, comprising:
23 receiving an identifier associated with the
24 profile data;
25 automatically using the identifier to acquire
26 the profile data; and
27 configuring the avionic equipment to present
28 the profile data, which displays
29 preferences associated with a pilot,

1 wherein the avionic equipment is
2 configured by displaying avionic
3 information in desired screen field
4 locations as defined in the profile
5 data.

6 8. A method of retrieving profile data to
7 configure avionic equipment, comprising:
8 receiving a request to retrieve the profile
9 data to configure the avionic
10 equipment with preferences
11 associated with a pilot;
12 locating the profile data;
13 retrieving the profile data; and
14 configuring the avionic equipment with the
15 retrieved profile data, wherein the
16 avionic equipment is configured by
17 displaying avionic information in
18 desired screen field locations with
19 desired units as defined in
20 the profile data.

21 16. A method to configure avionic
22 equipment, comprising:
23 inputting, by a pilot, an identifier for profile
24 data, wherein the profile data is
25 associated with preferences of the
26 pilot;
27 automatically acquiring and loading the
28 profile data into avionic equipment of
29 an aircraft; and
30 presenting the preferences on one or more
31 displays associated with the aircraft,
32 wherein presenting the preferences
33 includes configuring one or more
34 display fields of the avionic
35 equipment.
36

1 Claims 1-7, 16-21 and 23 have been rejected under 35 U.S.C. § 103(a)
2 as being unpatentable over Obradovich (U.S. Patent Application Publication
3 No. 2005/0080528) in view of Richard (U.S. Patent Application Publication
4 No. 2002/0111715) and Smith (U.S. Patent No. 6,466,235). Claims 8-12,
5 14, 15 and 22 have been rejected under 35 U.S.C. § 103(a) as being
6 unpatentable over Obradovich in view of Richard, Smith and Barnard (U.S.
7 Patent No. 6,456,938).

8 We reverse.

9

10 ISSUE

11 The sole issue in this appeal is whether the Examiner erred in
12 contending that configuring avionic equipment by displaying avionic
13 information in desired screen field locations as defined in acquired profile
14 data or associated preferences would have been obvious.

15

16 FINDINGS OF FACT

17 The record supports the following findings of fact (“FF”) by a
18 preponderance of the evidence.

19

20 1. Obradovich discloses a control and management system for
21 controlling other systems in an automobile. (Obradovich 1, ¶ 0002).
22 Obradovich’s control and management system includes a security system
23 which controls access to the automobile and the automobile’s other systems
24 and accessories. (Obradovich 6, ¶ 0079). The security system allows the
25 owner of the automobile to assign each authorized user of the vehicle a PIN
26 number along with a clearance level which specifies the systems and

1 accessories which the user is permitted to access. (Obradovich 6, ¶ 0080
2 and 7, ¶ 0083). The security system includes a radio frequency (“RF”)
3 receiver. Each authorized user is provided with an access card having an
4 electronic storage chip containing that authorized user’s PIN number.
5 (Obradovich 6-7, ¶ 0082). When an authorized user wishes to drive the
6 automobile, the authorized user presents the user’s access card to an RF
7 transmitter which reads the card and transmits the PIN number to the RF
8 receiver in the security system to verify the user’s clearance to access the
9 automobile. (Obradovich 7, ¶¶ 0085-87).

10 2. In addition to the authorized user’s PIN number, the access card
11 also may store personal preference data “contain[ing] information regarding
12 the user preferred settings of the doors, locks, windows, engine, performance
13 profiles, climate control, audio system and other vehicle functions.”
14 (Obradovich 7, ¶ 0084). This personal preference data is transmitted to the
15 RF receiver in the security system with an authorized user’s PIN number
16 when that authorized user seeks access to the automobile. Once the PIN
17 number is recognized, the control and management system stores the
18 personal preference data and uses the data to effect preferred vehicle
19 settings. (Obradovich 7, ¶ 0087).

20 3. Richard discloses on-board computer systems with graphical
21 user interfaces permitting users to access and control broad spectra of
22 systems and services in vehicles such as automobiles, boats and airplanes.
23 (Richard 1, ¶ 0015).

24 4. Smith discloses a multi-functional electronic flight display
25 which displays information such as map views and instrument functions.
26 The reference teaches that different views and instrument functions are

1 displayed in separate sections (for example, quadrants) of the display.
2 (Smith, col. 2, ll. 15-19 and col. 3, ll. 51-63). The multi-functional display is
3 reconfigurable before or during flight. A pilot may bring up new
4 information into a desired section of the display by selecting the new
5 information from a pop-up menu associated with the desired section.
6 (Smith, col. 3, l. 64 – col. 4, l. 12). Other controls permit the pilot to expand
7 or compress the sections allocated to various types of information. (e.g.,
8 Smith, col. 2, ll. 20-25 and col. 4, l. 53 – col. 5, l. 4).

9 5. Barnard discloses a personal differential GPS-based system for
10 creating and displaying maps of golf courses. (Barnard, col. 5, ll. 21-24 and
11 col. 6, ll. 29-33). During play, the system displays various distances on the
12 golf course. (e.g., Barnard, col. 31, ll. 5-13). The system includes a setup
13 feature for setting player preferences. (Barnard, col. 26, ll. 15-23). These
14 preferences include system units, that is, whether distances will be displayed
15 in English or metric units. (Barnard, col. 26, ll. 46-54).

17 PRINCIPLES OF LAW

18 A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if
19 “the differences between the subject matter sought to be patented and the
20 prior art are such that the subject matter as a whole would have been obvious
21 at the time the invention was made to a person having ordinary skill in the
22 art to which said subject matter pertains.” In *Graham v. John Deere Co.*,
23 383 U.S. 1 (1966), the Supreme Court set out factors to be considered in
24 determining whether claimed subject matter would have been obvious:

25
26 Under § 103, the scope and content of the prior art
27 are to be determined; differences between the prior

1 art and the claims at issue are to be ascertained;
2 and the level of ordinary skill in the pertinent art
3 resolved. Against this background the obviousness
4 or nonobviousness of the subject matter is
5 determined.

6
7 *Id.*, 383 U.S. at 17.

8 An Examiner cannot establish a prima facie case that a claim is
9 obvious “merely by demonstrating that each of its elements was,
10 independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 127
11 S.Ct. 1727, 1741 (2007). Since not every combination of prior art teachings
12 which happens to show each of the elements recited in a claim will suffice to
13 establish a prima facie case for obviousness, the Examiner must provide
14 reasons why the teachings of a particular combination suffice. That is, in
15 order to establish a prima facie case that claimed subject matter is obvious,
16 the Examiner must articulate reasons consistent with the level of ordinary
17 skill in the art at the time of the invention why (in the words of 35 U.S.C.
18 § 103(a)) “the differences between the subject matter sought to be patented
19 and the prior art are such that the subject matter as a whole would have been
20 obvious at the time the invention was made to a person having ordinary skill
21 in the art to which said subject matter pertains.”

22 The Examiner must derive these reasons from what was within the
23 common knowledge or common sense of those skilled in the art at the time
24 of the invention and not from the applicant’s specification. *See Graham*,
25 383 U.S. at 36 (warning against “the temptation to read into the prior art the
26 teachings of the invention at issue”). On the other hand, the reasons need not
27 be stated explicitly in a prior art reference. *KSR*, 127 S.Ct. at 1741 (“[T]he
28 analysis need not seek out precise teachings directed to the specific subject

1 matter of the challenged claim . . .”). The Examiner may look to
2 “interrelated teachings of multiple patents; the effects of demands known to
3 the design community or present in the marketplace; and the background
4 knowledge possessed by a person of ordinary skill in the art, all in order to
5 determine whether there was an apparent reason to combine the known
6 elements in the fashion” recited in the claim. *Id.* at 1740-41.

7

8 ANALYSIS

9 The first two steps in determining whether the Examiner has
10 established a *prima facie* case for obviousness are to determine the scope
11 and content of the prior art; and to ascertain the differences between the
12 prior art and the claims at issue. The prior art of record includes the
13 teachings of Obradovich, Richard, Smith and Barnard. In order to ascertain
14 the differences between this prior art and representative claim 1, the scope of
15 claim 1 must be determined.

16 “During examination, ‘claims . . . are to be given their broadest
17 reasonable interpretation consistent with the specification, and . . . claim
18 language should be read in light of the specification as it would be
19 interpreted by one of ordinary skill in the art.’” *In re American Acad. Of*
20 *Science Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re*
21 *Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)). Given its broadest reasonable
22 interpretation, claim 1 is limited to “[a] method of configuring profile data in
23 avionic equipment, comprising . . . automatically using the identifier *to*
24 *acquire the profile data*. . . wherein the avionic equipment is configured by
25 displaying avionic information *in desired screen field locations as defined in*
26 *the profile data*. [Emphasis added.] That is, claim 1 is limited to a method

1 which configures avionic equipment by displaying avionic information in
2 desired screen field locations as defined in acquired profile data. (*See*
3 Amendment, Mar. 14, 2006 at 8). Independent claim 8 is likewise limited to
4 a method which configures avionic equipment by displaying avionic
5 information in desired screen field locations as defined in acquired profile
6 data. Independent claim 16 is worded differently but contains essentially the
7 same limitation. Specifically, claim 16 is directed to a method to configure
8 avionic equipment by presenting preferences, associated with acquired
9 profile data, wherein presenting the preferences includes configuring one or
10 more display fields of the avionic equipment. We construe the language
11 “presenting the preferences includes configuring one or more display fields
12 of the avionic equipment” as requiring that the one or more display fields of
13 the avionic equipment are configured as defined by the preferences, which is
14 associated with the profile data.

15 The Examiner concedes that, “[a]lthough Obradovich discloses the
16 preference data comprising configuration data for performance profiles,
17 climate control, and other vehicle functions, Obradovich does not explicitly
18 disclose the preference data displaying vehicle information in desired screen
19 field locations.” (Ans. 4). Likewise, the Examiner has not pointed to any
20 teaching within Richard or Barnard concerning methods which configure
21 avionic equipment by displaying avionic information in desired screen field
22 locations as defined in acquired profile data, or associated preferences.

23 The third step in determining whether the Examiner has established a
24 *prima facie* case for obviousness is to resolve the level of ordinary skill in
25 the art. The record fails to demonstrate that the level of ordinary skill in the

1 art at the time of the invention was sufficient to bridge the differences
2 between the prior art and the claimed invention.

3 The Examiner contends, essentially, that this is a case where a known
4 technique is used to improve a similar device in the same way. More
5 specifically, Smith discloses the use of multiple pop-up menus to configure
6 the screen fields of a multi-functional avionic display. (FF 4). Obradovich
7 discloses the use of preference data to pre-configure settings for vehicle
8 functions. In addition, Obradovich teaches the desirability of simplifying
9 the controls in a vehicle so that the user is not “distracted by the large
10 number of knobs, switches and buttons used in the prior art, which are
11 dispersed throughout the vehicle.” (Obradovich 1, ¶¶ 11-12). The
12 Examiner contends that one skilled in the art would have had reason to
13 modify Obradovich’s “preference data” to define screen field locations in an
14 avionic display so as to simplify the control of the display by reducing the
15 need to manually configure the locations of information using the multiple
16 pop-up menus. (Ans. 22; *see also* Ans. 16-17 and 24).

17 The record does not support this contention. The personal preference
18 data stored with an authorized user’s PIN number on one of Obradovich’s
19 access cards “contains information regarding the user preferred settings of
20 the doors, locks, windows, engine, performance profiles, climate control,
21 audio system and other vehicle functions.” (FF 2). At most, the combined
22 teachings of Obradovich and Smith imply that the prior art encompassed
23 configuring vehicle systems using acquired profile data defining those
24 settings which Smith refers to as “instrument functions.”

25 The combined teachings of Obradovich and Smith fail to provide a
26 reason why the configuration of avionic equipment by displaying avionic

1 information in desired screen field locations as defined in acquired profile
2 data or associated preferences would have been obvious from the use of
3 acquired profile data to pre-configure the settings of instrument functions.
4 Obradovich's teaching concerns the desirability of simplifying the controls
5 of a vehicle related specifically to the centralization of the control of system
6 functions in a master interface (Obradovich 1, ¶¶ 11-12), a feature already
7 possessed by Smith's display; nothing in the teachings of Obradovich and
8 Smith suggests an appreciation among those skilled in the art that modifying
9 preference data of the type described by Obradovich to define screen field
10 location for displaying avionic information would simplify the control of the
11 avionic equipment as a whole or the display in particular. Nothing in the
12 teachings of Richard and Barnard overcomes this deficiency.

13 On the record before us, an element of each of independent claims 1,
14 8, and 16 was not within the level of ordinary skill in the art. Accordingly,
15 the Appellant has demonstrated the Examiner erred in rejecting independent
16 claims 1, 8, and 16, as well as claims 2-7, 9-12, 14, 15, and 17-23 depending
17 therefrom, under 35 U.S.C. § 103(a).

18

19 CONCLUSION OF LAW

20 On the record before us, the Appellants have shown that the claims
21 are limited to a method which configures avionic equipment by displaying
22 avionic information in desired screen field locations as defined in acquired
23 profile data. By demonstrating, on the record before us, that this element
24 was missing from the prior art, the Appellants have shown that the Examiner

Appeal 2007-3208
Application 10/964,038

1 erred in rejecting the appealed claims as unpatentable over Obradovich in
2 view of Richard and Smith and Obradovich in view of Richard, Smith, and
3 Barnard.

4

5 DECISION

6 The Examiner's rejections of claims 1-12 and 14-23 are reversed.

7 No time period for taking any subsequent action in connection with
8 this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.
9 § 1.136(a)(1)(iv) (2007).

10

11 REVERSED

12

13

14 vsh

15

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