

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PARROT S.A. and PARROT, INC.,
Petitioner,

v.

DRONE TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2014-00732
Patent 8,106,748 B2

Before HOWARD B. BLANKENSHIP, MATTHEW R. CLEMENTS, and
CHRISTOPHER M. KAISER, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. BACKGROUND

Parrot S.A. and Parrot, Inc. (collectively, “Petitioner”) filed a petition requesting an *inter partes* review of claims 1–12 of U.S. Patent No. 8,106,748 B2 (Ex. 1001, “the ’748 patent”) under 35 U.S.C. §§ 311–319. Paper 1 (“Petition” or “Pet.”). The Board instituted an *inter partes* review of

claims 1–12 on asserted grounds of unpatentability for obviousness. Paper 8 (“Dec. on Inst.”).

Subsequent to institution, Patent Owner Drone Technologies, Inc. filed a patent owner response (Paper 15, “PO Resp.”). Petitioner filed a reply to the Patent Owner Response (Paper 18, “Pet. Reply”).

Oral hearing was held on July 1, 2015.¹

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has *not* shown by a preponderance of the evidence that claims 1–12 of the ’748 patent are unpatentable.

A. Related Proceedings

According to Petitioner, the ’748 patent is involved in the following lawsuit: *Drone Technologies, Inc. v. Parrot S.A.*, No. 2:05-mc-02025 (W.D. Pa.). Pet. 4.

B. The ’748 Patent

The ’748 patent relates to a remote control system in which a remote control apparatus transmits a target motion signal to a remote-controlled motion apparatus. Ex. 1001, Abstract.

Figure 5 of the ’748 patent is reproduced below.

¹ The record includes a transcript of the oral hearing. Paper 26 (“Tr.”).

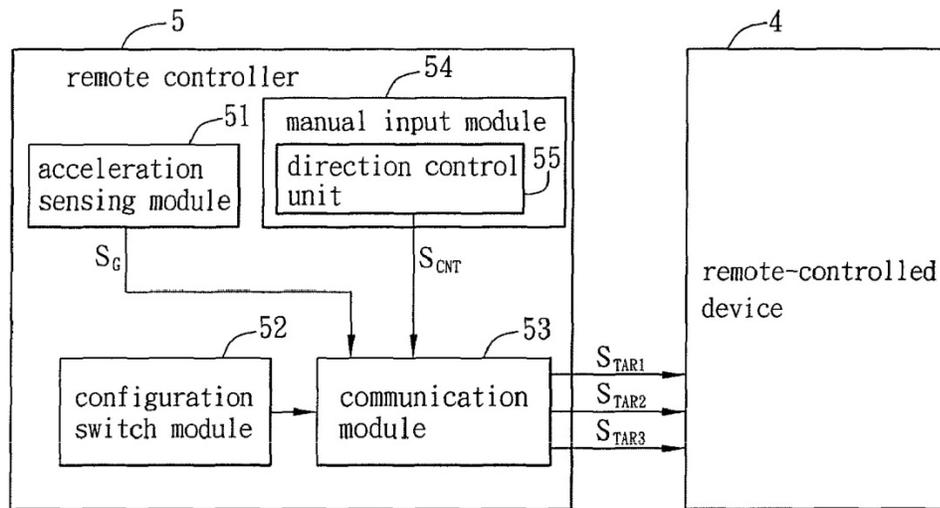


FIG. 5

Figure 5 is a system diagram of a remote control system. Ex. 1001, col. 3, ll. 7–9. Remote controller 5 comprises acceleration sensing module 51, communication module 53, and manual input module 54. In the first operation mode, acceleration sensing module 51 detects the acceleration of remote controller 5 and outputs acceleration sensing signal S_G . Communication module 53 connects to acceleration sensing module 51 and transmits first target motion signal S_{TAR1} according to the acceleration sensing signal. First target motion signal S_{TAR1} controls the motion of remote-controlled device 4 to align with the acceleration sensing signal. *Id.* at col. 5, ll. 54–67.

In the second operation mode, manual input module 54, which includes direction control unit 55, outputs direction control signal S_{CNT} . Communication module 53 connects to manual input module 54 and transmits second target motion signal S_{TAR2} according to the direction control

signal to control the motion of remote-controlled device 4. *Id.* at col. 6, ll. 8–15.

In the third operation mode, communication module 53 transmits third target motion signal S_{TAR3} according to the acceleration sensing signal and the direction control signal to control the motion of remote-controlled device 4. *Id.* at col. 6, ll. 19–25.

Remote controller 5 includes configuration switch module 52. The configuration switch module selects the mode of operation by selecting acceleration sensing module 51 and/or manual input module 54 as the input for communication module 53. *Id.* at col. 6, ll. 32–36.

C. Illustrative Claim

Claim 1, the sole independent claim, is illustrative and reproduced below.

1. A remote control system, comprising:
 - a remote controller, comprising:
 - a first acceleration sensing module, which detects the remote controller's motion and outputs a motion detecting signal;
 - a manual input module, which has at least one direction control unit to generate a direction control signal;
 - a first communication module, which connects to the first acceleration sensing module and the manual input module, the first communication module receives the motion detecting signal and the direction control signal, and transmits a target motion signal; and

a configuration switch module to select between the first acceleration sensing module, the manual input module and the combination of the first acceleration sensing module and the manual input module as the input of the first communication module; and

a remote-controlled device, which is controlled by the remote controller, comprising:

a second communication module, which receives the target motion signal from the remote controller;

a second acceleration sensing module, which detects the remote-controlled device's acceleration and outputs an acceleration sensing signal;

a processing module, which has a first input connected to the second acceleration sensing module and receives the acceleration sensing signal, and a second input connected to the second communication module and receives the target motion signal, and processes the acceleration sensing signal and the target motion signal to output a driving control signal; and

a driving module, which connects to the processing module and receives the driving control signal, and adjusts the remote-controlled device's motion according to the driving control signal.

D. Prior Art

Spirov et al. (“Spirov”) (Ex. 1005)	US 2006/0144994 A1	July 6, 2006
Barr (Ex. 1007)	US 7,219,861 B1	May 22, 2007
Fouche (Ex. 1008)	US 6,751,529 B1	June 15, 2004
Bathiche et al. (“Bathiche”) (Ex. 1009)	US 7,145,551 B1	Dec. 5, 2006
Shkolnikov (Ex. 1010)	US 2004/0263479 A1	Dec. 30, 2004

E. Asserted Grounds of Unpatentability

The Board instituted *inter partes* review on the following asserted grounds of unpatentability against claims 1–12 under 35 U.S.C. § 103(a) (Dec. on Inst. 14):

References	Claims
Spirov, Bathiche, and Shkolnikov	1–3, 5, and 10–12
Spirov, Bathiche, Shkolnikov, and Fouche	4, 8, and 9
Spirov, Bathiche, Shkolnikov, and Barr	6 and 7

II. ANALYSIS

Section 103(a) Instituted Grounds

A. Prior Art — Spirov, Bathiche, and Shkolnikov

Spirov describes a remotely controlled hovercraft for which the remote controller may provide a thumb-activated throttle and yaw control 20 and one or more finger-operated trigger controls 22 and 24. Ex. 1005 ¶ 82, Fig. 3. The remote controller also may provide one-handed operation with pitch and roll control by mimicking the pitch and roll of controlled hovercraft 10 by means of XY axis transducers in the controller. *Id.* ¶ 87, Fig. 3.

Bathiche teaches a computer input device that may be operated in a first mode whereby X and Y axis tilt sensors generate orientation information. Ex. 1009, col. 8, ll. 37–44. In a second mode, input is from switches rather than the X and Y tilt sensors. *Id.* at col. 8, ll. 48–55. A mode switch selects between the different modes. *Id.*

Shkolnikov (Ex. 1010) teaches an active keyboard system for handheld electronic devices, such as remote controllers (*id.* ¶¶ 27, 87, 94), that may include first selector 216 and second selector 218 (*id.* at Fig. 2) to select between manual input and motion (via movement sensors) as an input. *Id.* ¶¶ 24–25. Shkolnikov also teaches that the motion input may be provided as an alternative or “in addition to” the manual input. *Id.* ¶ 25.

B. Spirov, Bathiche, and Shkolnikov — Claims 1–3, 5, and 10–12

Petitioner asserts that the subject matter of claims 1–3, 5, and 10–12 would have been obvious over the combination of Spirov, Bathiche, and Shkolnikov. Pet. 18–42, 49–51.

Patent Owner responds that neither Bathiche nor Shkolnikov is analogous art. PO Resp. 11–13. The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Whether a reference is analogous art is part of the analysis of the scope and content of the prior art. *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1071 (Fed. Cir. 1994). Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992).

With respect to Shkolnikov, Patent Owner submits that the reference is directed to an active keyboard system for hand-held electronic devices. PO Resp. 12 (citing Ex. 1010 ¶ 20).² “Shkolnikov discloses entering alphanumeric text and data into the system using only one hand. In no way is this technology analogous to the ‘748 Patent.” *Id.* (internal citation omitted). Patent Owner asserts that Shkolnikov is not in the ’748 patent’s field of endeavor, nor reasonably pertinent to the particular problem with

² Our analysis is directed to Shkolnikov, but we consider Bathiche to be, at the least, reasonably pertinent to the particular problem with which the inventor was involved and, thus, analogous art. Counsel for Patent Owner conceded as much at the oral hearing. *See* Tr. 59:22–60:2 (“I must confess that in terms of Bathiche being non-analogous art, Professor Sturges and I disagree on that point. He does not say that Bathiche is non-analogous art, and I understand that’s evidence and what I’m saying is argument.”).

which the '748 patent is concerned, which is “easier control of remotely controlled ‘flying things.’” *Id.* at 12–13. Patent Owner points out that, when questioned on cross-examination about the problem that the '748 patent addressed, Petitioner’s expert Dr. D’Andrea responded that “[t]he problem being addressed was to be able to control these vehicles in [an] as-claimed easier way.” *Id.* at 11 (citing Ex. 2012, 96:1–13).

Patent Owner also refers to the Declaration of Dr. Robert H. Sturges (Ex. 2013). PO Resp. 13. Dr. Sturges submits that Shkolnikov’s system is an active keyboard system for handheld data entry, used to enter alphanumeric text. Ex. 2013 ¶ 32 (citing Ex. 1010, Title and ¶¶ 3, 20). Dr. Sturges acknowledges that Shkolnikov states that the system can be used with electronic handheld devices including remote controls. *Id.* However, with respect to Shkolnikov’s disclosure of using the system with a remote control, Dr. Sturges states that:

I interpret these passages to mean that Shkolnikov’s system can be used as a remote control for controlling such things as a television or a computer where alphanumeric input may be useful — just as I can use my cell phone to control my cable box and search for programs to view.

Ex. 2013 ¶ 32.

In its Reply to the Patent Owner Response, Petitioner responds that “[i]n its Institution Decision, the Board found that claims 1-3, 5, and 10-12 are obvious over Smith in view of Spirov, Bathiche, and Shkolnikov, and that claims 4 and 6-9 are obvious in view of additional references.” Pet. Reply 6. Petitioner is incorrect. In our Decision on Institution we did not find that any claims were obvious over the references or otherwise unpatentable. In view of the record at that time, we determined that the

Petition demonstrated a reasonable likelihood of Petitioner prevailing (at trial) on certain asserted grounds of obviousness. Dec. on Inst. 13–14.

Petitioner further submits that Patent Owner’s argument in the Patent Owner Response with respect to non-analogous art is, “in substance, identical to” the argument it raised in its Preliminary Response. Pet. Reply 6. Petitioner is, again, incorrect. In our Decision on Institution we addressed two arguments regarding non-analogous art that Patent Owner raised in its Preliminary Response. First, we disagreed that the Petition’s discussion of the level of ordinary skill in the art served to “define” the field of endeavor. Dec. on Inst. 10. Second, we were not persuaded by the argument that the particular problem with which the ’748 patent is concerned is “control of remotely controlled vehicles,” noting that only dependent claim 5 limits the generic remote-controlled “device” to a remote-controlled vehicle such as a model airplane, a model helicopter, or a model car. *Id.* at 10–11.

Petitioner notes (Pet. Reply 6), correctly, that at the institution of trial we determined that “[b]ecause Patent Owner’s arguments [in its Preliminary Response] regarding non-analogous art are not supported by the facts in this record, we are not persuaded that either of Bathiche and Shkolnikov represents non-analogous art.” Dec. on Inst. 11. Notably, in that Decision instituting trial, we did not find that any of the applied references were analogous art with respect to the ’748 patent. Nor did we find that any of the applied references were non-analogous art with respect to the ’748 patent. Rather, we merely were not swayed by unsupported attorney arguments in the Preliminary Response as to why the references should be considered non-analogous art. Patent Owner had not yet had a full opportunity to

submit evidence supportive of its argument. Petitioner had not had the opportunity to provide arguments and/or evidence as to why the applied references might, to the contrary, represent analogous art, and we had not had the opportunity to hear Petitioner's views on the issue.

Petitioner's only reply to the arguments and evidence in the Patent Owner Response in support of why Shkolnikov is non-analogous art, other than the unfounded reliance on the Decision on Institution, is the observation that the fact Dr. D'Andrea had not heard of Bathiche or Shkolnikov prior to this case is irrelevant to the analogous-art inquiry. Pet. Reply 6; PO Resp. 12. We agree with Petitioner to the extent that the fact Dr. D'Andrea was not aware of the Bathiche and the Shkolnikov references prior to this case has little relevance to the question of whether the references are analogous art. "The issue of obviousness is determined entirely with reference to a *hypothetical* 'person having ordinary skill in the art.' It is only that hypothetical person who is presumed to be aware of all the pertinent prior art." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

When the analogous-art issue was raised by Patent Owner in its Patent Owner Response, it was incumbent upon Petitioner to demonstrate that Shkolnikov is analogous art. The grounds for unpatentability in this proceeding are asserted by Petitioner, not grounds entered by the Board as permitted, for example, in reexamination proceedings. In an *inter partes* review, the burden of persuasion is on the petitioner to prove unpatentability by a preponderance of the evidence (35 U.S.C. § 316(e)), and that burden never shifts to the patentee. *Dynamic Drinkware, LLC v Nat'l Graphics, Inc.*, No. 2015-1214, 2015 WL 5166366, at *2 (Fed. Cir. Sept. 4, 2015).

Petitioner has not met its burden in showing that Shkolnikov is analogous art. Moreover, Petitioner cannot rely on the Board to make new findings regarding analogous art in a final written decision.

We find no fault with Patent Owner’s position that Shkolnikov is non-analogous art. The ’748 patent states that the field of invention “relates to a remote-controlled motion apparatus which includes a remote-controlled device and a remote controller.” Ex. 1001, col. 1, ll. 16–19. The related art is said to include “conventional” remote control systems that use a remote controller and a remote-controlled device, with the user operating the remote controller to control the motion of the remote-controlled device. *Id.* at col. 1, ll. 20–24. The patent provides an example of a remote-controlled model airplane, with a control signal sent by a remote controller for controlling the airplane’s flight by changing the angle of a rear fin. *Id.* at col. 1, ll. 24–58.

Further, the ’748 patent’s claims are directed to a remote control system that includes a remote controller that “detects the remote controller’s motion and outputs a motion detecting signal,” and a remote-controlled device that ultimately has its motion adjusted according to a driving control signal derived in part from the remote controller’s motion detecting signal. Ex. 1001, claim 1 (sole independent claim).

Consistent with Patent Owner’s arguments, Shkolnikov appears to relate to “active” keyboard systems for handheld electronic or data entry devices. Ex. 1010 ¶ 3. The related art is said to include electronic devices having small or limited keyboards for data entry or for navigating the Internet. *Id.* ¶¶ 5–10. The inventive “active” keyboard system is said to dynamically present available choices on a display to facilitate entry of alphanumeric text and data using one hand. *Id.* ¶ 20. The system may

include movement sensors to interpret motion of the system as an input. *Id.* ¶ 25. The motion input is used, however, for data-entry applications such as aiding in the navigation of Internet web pages (*id.* ¶ 112) or in moving a selection pointer in a graphical user interface (*id.* ¶¶ 115–116, Figs. 11–13), as opposed to controlling the motion of a remotely controlled device. We find little in Shkolnikov that would be reasonably pertinent to an artisan seeking to improve upon control of the motion of a remotely controlled device.

Shkolnikov is critical to the asserted ground of unpatentability because that reference provides the teaching of three modes of operation, including “the combination of the first acceleration sensing module and the manual input module,” as recited in illustrative claim 1. Pet. 24, 31 (claim chart); Ex. 1010 ¶¶ 24–25. Upon review of the Petition and supporting evidence, as well as the Patent Owner Response and supporting evidence, we conclude that Petitioner has *not* demonstrated, by a preponderance of the evidence, that claim 1 and dependent claims 2–3, 5, and 10–12 are unpatentable for obviousness over Spirov, Bathiche, and Shkolnikov.

C. Spirov, Bathiche, Shkolnikov, and Fouche — Claims 4, 8, and 9

Petitioner contends that the subject matter of claims 4, 8, and 9 would have been obvious over the above-noted combination of Spirov, Bathiche, and Shkolnikov, with the further teachings of Fouche. Pet. 42–43, 46–48. Fouche teaches a remotely controlled helicopter in which the pitch attitude error is the difference between a commanded pitch attitude and a measured (actual) pitch attitude. Ex. 1008, col. 7, ll. 37–56, Figs. 2, 3.

Because the addition of Fouche does not remedy the deficiency in the combination of Spirov, Bathiche, and Shkolnikov applied against base claim 1, we conclude that Petitioner has *not* demonstrated, by a preponderance of the evidence, that dependent claims 4, 8, and 9 are unpatentable for obviousness over Spirov, Bathiche, Shkolnikov, and Fouche.

D. Spirov, Bathiche, Shkolnikov, and Barr — Claims 6 and 7

Petitioner contends that the subject matter of claims 6 and 7 would have been obvious over the combination of Spirov, Bathiche, and Shkolnikov, with the further teachings of Barr. Pet. 43–45. Claims 6 and 7 are specific to adjusting the pitch of an airplane wing. Barr teaches a remotely-controlled airplane in which the pitch of the airplane wing is adjusted. Ex. 1007, col. 4, ll. 18–41; Ex. 1011 ¶¶ 95–100.

Because the addition of Barr does not remedy the deficiency in the combination of Spirov, Bathiche, and Shkolnikov applied against base claim 1, we conclude that Petitioner has *not* demonstrated, by a preponderance of the evidence, that dependent claims 6 and 7 are unpatentable for obviousness over Spirov, Bathiche, Shkolnikov, and Barr.

E. Patent Owner’s Motion to Exclude Evidence

Patent Owner moves to exclude the Declaration of Dr. D’Andrea (Ex. 1011). Paper 19. Because consideration of Dr. D’Andrea’s Declaration does not change the outcome in favor of Patent Owner in this final written decision, the motion to exclude is *dismissed* as moot.

III. CONCLUSION

Petitioner has *not* demonstrated by a preponderance of the evidence that claims 1–12 are unpatentable for obviousness.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that, based on a preponderance of the evidence, claims 1–12 of the '748 patent have not been shown to be unpatentable; and

FURTHER ORDERED that Patent Owner's motion to exclude evidence is *dismissed*; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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