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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/983,842	08/03/2020	William DUNN	MAN2241-010M	5599
8698	7590	11/24/2020	EXAMINER	
STANDLEY LAW GROUP LLP			PETTITT, JOHN F	
6300 Riverside Drive			ART UNIT	
Dublin, OH 43017			PAPER NUMBER	
			3763	
			NOTIFICATION DATE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

standleydocketing@standleyllp.com

Office Action Summary

Application No.

16/983,842

Applicant(s)

DUNN, William

Examiner

JOHN F PETTITT

Art Unit

3763

AIA (FITF) Status

No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 10/23/2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☐ This action is **FINAL**.

2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) 1-13 and 17-20 is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 14-16 is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☒ The drawing(s) filed on 8/3/2020 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

3) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date ____.

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)

4) ☐ Other: ____.

Paper No(s)/Mail Date ____.

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Examiner Request

The applicant is requested to provide line numbers to each claim in all future claim submissions to aid in examination and communication with the applicant about claim recitations. The applicant is thanked for aiding examination.

Priority

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of 35 U.S.C. 112(a) or the first paragraph of pre-AIA 35 U.S.C. 112, except for the best mode requirement. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994)

The disclosure of the prior-filed application, Application No. 11/941728, 61/039454, 61/057599, 61/076126, 12/191834, 12/234307, 12/234360, 15/135032, fails to provide adequate support or enablement in the manner provided by 35 U.S.C. 112(a) or pre-AIA 35 U.S.C. 112, first paragraph for one or more claims of this application.

There is no support found for the recitation “one or more solar energy reducing layers” in combination with the second airflow pathway recitations which is delimited by the rear surface of the cover panel and the front surface of the display. Therefore, there is no support for this delimitation and the location of the layers. For present examination the earliest filing date is 8/3/2020.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the polarizer and the more than one solar energy reducing layers must be shown in the claimed locations or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In no way should the drawings be amended to include new matter. The Examiner sees no support for the layers or the polarizer claimed and the applicant should show explicit support for any amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim(s) 14-16 is/are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention.

In regard to claim 14, there is no support in the disclosure for a plurality of solar reducing layers between the cover panel and the electronic display in combination with the second airflow pathway as claimed. The applicant claims priority to previous applications and none of those applications can be seen to support the full scope of the recitations of claim 14 either.

In regard to claim 15, there is a recitation of a “circulating gas” in addition to the already recited “air within said portion of said second airflow pathway”. There is no

support anywhere for the second airflow pathway to contain two separate fluids as claimed.

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim(s) 14-16 is/are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

In regard to claim 14, the recitation, “one or more solar energy reduction layers located along a rear surface of said cover panel” is indefinite for many reasons. First, there are no disclosed solar energy reduction layers disclosed in combination with the second airflow pathway as claimed. Second, the claim already recites a rear surface of the cover panel earlier in the claim and therefore the reintroduction creates confusion as to whether this is the same or another rear surface. Further there is no way to determine the extent to which the layers must “reduce” solar energy and it is not clear what aspect of solar energy must be reduced. This is especially indefinite since in common language a mere transparent glass is not considered solar reducing, while shaded glass (sunglasses for example) is considered solar reducing and therefore, this illustrates the ambiguity and lack of clarity that the recitation creates.

In regard to claim 15, the recitation, “for exhausting ambient air from said first airflow pathway” is indefinite since “ambient air” has already been introduced and it is unclear if this is the same or another air.

There is a recitation of a “circulating gas” in addition to the already recited “air within said portion of said second airflow pathway”. There is no way to determine whether these recitations refer to the same or different fluid and the recitation is unclear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim(s) 14-15 is/are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Wellhoefer (EP 1951020) provided by the applicant, see translation. See 112 rejection.

In regard to claim(s) 14, Wellhoefer teaches a system for reducing solar loading of an electronic image assembly (display assembly in Fig. 1, as described below), said system comprising:

a housing (see entire enclosure; para. 22) for the electronic image assembly (Fig. 1), wherein said electronic image assembly (Fig. 1) comprises an electronic display layer (11, LCD) comprising liquid crystals (LCD - liquid crystal displays - para. 23) and a backlight (behind the LCD);

a cover panel (35; para. 30) forming a front portion of the housing (left side is front), the cover panel (35) located forward of, and at least some distance from, the

electronic image assembly (11) and configured to permit viewing of images displayed at said electronic image assembly (Fig. 1) through said cover panel (35);

a first airflow pathway (15 and pathways associated therewith as described herein) extending behind, and along at least a portion of, the backlight (behind the LCD);

a second airflow pathway (sealed pathway within 3), at least a portion of which extends between a rear surface (right side) of said cover panel (35) and a front surface (left side) of said electronic display layer (11, LCD); and

one or more solar energy reduction layers (see portions of 3 at top of figure located as identified, hereafter called plates) located along a rear surface (right side) of said cover panel (35), wherein each of said one or more solar energy reduction layers (plates) is configured to prevent a portion of ambient light (coming from above) entering said cover panel and striking said electronic display layer (11; see that at least a portion of light is blocked by top portions of the housing part 3, preventing some light from striking 11).

In regard to claim 15, Wellhoefer teaches an inlet (17) located at a first portion of said housing (enclosure) for ingesting ambient air into said first airflow pathway (15);

an exhaust (19) located at a second portion of said housing (enclosure) for exhausting the ambient air from said first airflow pathway (15);

a first fan assembly (29) positioned along said first airflow pathway (15) between said inlet (17) and said exhaust (19) and configured to force the ambient air through the first airflow pathway (15) when said first fan assembly is activated (29);

a second fan assembly (25) positioned along said second airflow pathway (sealed pathway within 3) to force a circulating air around the second airflow pathway (within 3) when said second fan assembly is activated (25); and

a heat exchanger (21 at least) located rearward (right of) of the electronic image assembly (LCD), wherein a first portion of said heat exchanger (21) forms part of said first airflow pathway (15), and wherein a second portion of said heat exchanger (21) forms part of said second airflow pathway (within 3).

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented 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 to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 14-16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Wellhoefer (EP 1951020) in view of Larson (US 6392727).

In regard to claims 14-15, see above and all of the relevant information below.

In regard to claim 16, Wellhoefer teaches most of the claim limitations, but does not explicitly teach a polarizer as a solar energy reduction layer located along the rear surface of said cover panel (35). However, providing such is well known for as taught by Larson. Larson teaches a polarizer (20, also see others) located along a rear surface of a cover panel (4) for reducing reflectances (column 1, line 34-50; column 2, line 35-40; column 4, line 10-30). Therefore it would have been obvious to a person of ordinary skill in the art to modify the cover panel of Wellhoefer to at least have the polarizer of Larson for the purpose of improving the viewing of the display and reduce reflectance.

Claims 14-16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Heady (US 5991153) in view of Lee (US 2006/0082271) and Larson (US 6392727).

In regard to claim(s) 14-16, Heady teaches a system comprising:

a housing (105) for the electronic image assembly (Fig. 2 at least), wherein said electronic image assembly comprises an electronic display layer (110, column 2, line 30) comprising liquid crystals and a backlight (700, 235 at least);

a cover panel (207) forming a front portion of the housing (105), the cover panel (207) located forward of, and at least some distance from, the electronic image assembly (207) and configured to permit viewing of images displayed at said electronic image assembly (Fig. 2) through said cover panel (207);

a second airflow pathway (behind 207, including sealed gas), at least a portion of which extends between a rear surface of said cover panel (207) and a front surface of said electronic display layer (110); and

a second fan assembly (140, 150) positioned along said second airflow pathway (behind 207) to force a circulating air around the second airflow pathway (behind 2017) when said second fan assembly is activated (140,150).

Heady does not explicitly teach a first airflow pathway extending behind, and along at least a portion of, the backlight (235, 700); an inlet located at a first portion of said housing for ingesting ambient air into said first airflow pathway; an exhaust located at a second portion of said housing for exhausting the ambient air from said first airflow pathway; a first fan assembly positioned along said first airflow pathway between said inlet and said exhaust and configured to force the ambient air through the first airflow pathway when said first fan assembly is activated; a heat exchanger located rearward of the electronic image assembly, wherein a first portion of said heat exchanger forms part of said first airflow pathway, and wherein a second portion of said heat exchanger forms part of said second airflow pathway; and further does not teach one or more solar energy reduction layers located along a rear surface of said cover panel (207), wherein each of said one or more solar energy reduction layers is configured to prevent a portion of ambient light entering said cover panel (207) and striking said electronic display layer (110).

However, Lee explicitly teaches that the backlights (131, 160) of such display systems have high cooling demands made of them (para. 10) and that the reliability and performance of these systems can be improved by providing a dedicated fan (para. 33) to force ambient air through an integrated heat exchanger (40) that provides directed cooling to the backlights (131, 160), thereby forcing ambient air into an indirect heat exchanger and exhausting air out of the heat exchanger.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the back of the backlight (700, 235) of Heady with an integrated heat exchanger that is fed with ambient air from an ambient air fan to provide greater cooling to the backlights (700, 235) thereby providing greater cooling of the system of Heady and greater flexibility in operation while maintaining all of the benefits of the circulating sealed gas.

Note that no modification is made to the circulating sealed gas of Heady; the circulating sealed gas continues to circulate, as already taught by Heady. The only change necessary to Heady is the inclusion of the indirect heat exchanger to the backlight and the ambient air fan of Lee.

The modification provides the benefit of allowing the system of Heady to be operated at higher backlighting powers with greater luminescence and in environments where greater cooling is required and for larger displays. Further, by modifying Heady with the backlight heat exchanger and the ambient fan, such increases the area for heat transfer to external ambient air from the heat generating components, and provides the expected benefit of increased cooling while maintaining all of the reliability benefits of the sealed gas of Heady, since the pathway for ambient air in the heat exchanger of Lee provided to Heady by the modification is explicitly an indirect heat exchanger. Note that providing the heat exchanger to the back of the backlight provides greater and more direct cooling capability, provides further flexibility of operation for cooling, maintains the ability of the backlight to provide lighting to the display, and maintains the reliability benefits of the sealed gas of Heady. Note that the modification results in the heat exchanger walls of Lee and the structure (220) of Heady forming part of the rear wall.

Further, Larson teaches a polarizer (20, also see others) located along a rear surface of a cover panel (4) for reducing reflectances (column 1, line 34-50; column 2, line 35-40; column 4, line 10-30). Therefore it would have been obvious to a person of ordinary skill in the art to modify the cover panel of Heady to at least have the polarizer of Larson for the purpose of improving the viewing of the display and reduce reflectance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN F PETTITT whose telephone number is (571) 272-0771. The examiner can normally be reached on M-F, 9-5p. The examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOHN F PETTITT, III/
Primary Examiner, Art Unit 3763

JFP/III
November 19, 2020