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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/002,043	07/24/2012	7,159,790 B2	36563-0008RX1	1728

128 7590 08/31/2012

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EXAMINER	
FOSTER, JIMMY G	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
08/31/2012	PAPER

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.

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CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NO. : 95002043
PATENT NO. : 7159790
TECHNOLOGY CENTER : 3999
ART UNIT : 3993

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified Reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070(Rev.07-04)

OFFICE ACTION IN INTER PARTES *REEXAMINATION*	Control No.	Patent Under Reexamination
	95/002,043	7,159,790 B2 ET AL.
	Examiner	Art Unit
	JIMMY G. FOSTER	3993

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

Responsive to the communication(s) filed by:
Patent Owner on _____
Third Party(ies) on _____

RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:

For Patent Owner's Response:
2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.
For Third Party Requester's Comments on the Patent Owner Response:
30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

PART II. SUMMARY OF ACTION:

1a. ☒ Claims 1-8,10-14,17,18,22-24 and 30-39 are subject to reexamination.
1b. ☒ Claims 9,15,16,19-21 and 25-29 are not subject to reexamination.
2. ☐ Claims _____ have been canceled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims]
4. ☐ Claims _____ are patentable. [Amended or new claims]
5. ☒ Claims 1-8,10-14,17,18,22-24 and 30-39 are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95002043.
10. ☐ Other _____

Introduction

This is a first Office action on the merits, which is accompanied by an Order granting inter partes reexamination.

Claims for which reexamination was not granted: 9, 15, 16, 19-21 and 25-29.

Examination

I. Claims 1, 12-14, 17, 22-24, 30, 31, 35 and 39:

Rejection

The following is a quotation of the appropriate paragraphs of 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.

Claims 1, 12-14, 17, 22-24, 30, 31, 35 and 39 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,078,601 to Kolbow.

Detailed explanation in support of rejecting the claims for anticipation over Kolbow is provided in the Request (see Sections V.A.1, pp 8-10 and V.A.2, pp 13-15, 19-22, 25-31, 37-40, 42-43 and 46-48) and adopted by reference in its entirety as part of the basis of this rejection.

Kolbow discloses a thermostat 10. The thermostat has a housing, defined by a ring or cover (19 or 19') and further by a base (11 or 11'). The thermostat further includes a rotatable selector (adjustment member or knob 12 or 12') that is rotatably coupled to the thermostat housing (see col. 2, lines 9-13). The coupling to the housing is via a support member, which may be defined by any of the elements: the support shaft (33) or the rotating shaft (37 or 37') or even that portion of base (11') that must be present to enable the rotating shaft 37' to rotate (see col. 2, line 68 – col. 3, line 4; col. 4, lines 45-53; Figs. 4-6). The rotatable selector is rotated

around a rotation axis that is substantially coaxial with the axis of rotation of its shaft (37 or 37') (see col. 2, line 68 – col. 3, line 4; col. 4, lines 45-48; Figs. 2 and 7). The rotatable selector has a range of rotatable positions about this rotation axis, wherein a desired parameter value (of the temperature control point) is identified (via a pointer/indicator 13) by the position of the rotatable selector in the range of rotatable positions (see col. 2, lines 9-13).

Additionally, the thermostat of Kolbow includes a *mechanical to electrical translator*, defined by the combination of a bi-metal element (21 or 21') and a switch (22 or 22'), which includes a second rotation axis at a post (30 or 30') that is laterally offset (see Figs. 3, 7) relative to the first mentioned rotation axis of the rotatable selector 12. The *mechanical to electrical translator* (21 or 21', 22 or 22') translates the mechanical position of the rotatable selector (using sector gear (45 or 45') and sector gear (31 or 31')) to an electrical signal (see col. 2, lines 27-34; col. 5, lines 7-10) that is related to the desired parameter value (see col. 2, lines 7-16 and 60-63).

As pointed out in the Request (see p 15), Kolbow discloses an additional *mechanical to electrical translator* having an axis offset relative to the rotation axis of the rotatable selector (12) (and thus the position of the support member), whereby the position of the selector is translated to an electrical signal related to a desired parameter value. More specifically, in Kolbow's Figure 3 a lever (40), connected to rotate with rotatable selector (12), presses against one of the arcuate surfaces (43, 46) of a pivotable member (41). Resultant pivoting of the member 41 about its pivot (42) functions (when sufficient) to close a circuit (caused by the actuation of a switch 24 or 25) and thereby place the thermostat into heating mode or cooling mode. The axis of the pivot (42) is laterally offset from the axis of rotation of the rotatable selector (12).

Accordingly claim 1 is anticipated by Kolbow.

Regarding claim 12, within the rotatable selector 12 of Kolbow's thermostat is a face plate (i.e., scale plate 14) which is fixed relative to the support member (defined by shaft 33; see Fig. 4). The rotatable selector includes a rotary dial, which is defined by the pointer (13), attached to the rotatable selector.

Regarding claim 13, Kolbow's face plate includes a temperature scale (see col. 2, lines 12-15) and its rotatable dial includes a pointer (id; Figs.1 and 4).

Regarding claim 14, the scale 14 of Kolbow includes markings for indicating temperature in association with a position of the pointer 13. The scale and its markings which indicate temperature are fixed relative to the support member (i.e., the shaft 33).

Regarding claim 17, the scale plate 14 of Kolbow includes printed matter in the form of marks, numbers and a word (i.e., "off"), any of which has the capability of representing a trade name or appearance. Accordingly, that which is shown in Figure 1 meets the limitation recited in claim 17. Moreover, it is agreed with Requester that mere printed matter, not affecting operation of the thermostat, would provide no further limitation beyond that which is recited in claim 12 (from which claim 17 depends).

Regarding the limitation in claim 22, Kolbow includes a housing (cover 19 and base 11). Kolbow's housing additionally includes a support post (33). The thermostat further includes a rotatable selector (adjustment member or knob 12 or 12') that is rotatably coupled to the thermostat housing (see col. 2, lines 9-13). The coupling of the rotatable selector to the housing is via the support post (33) (see col. 2, line 68 – col. 3, line 4; Fig. 4). The rotatable selector is disposed about the support post (33) (see Fig. 3). The axis of rotation of the rotatable selector is substantially coaxial with the axis of rotation of shaft (37 or 37') (see col. 2, line 68 – col. 3, line 4; col. 4, lines 45-48; Figs. 2 and 7). The rotatable selector has a range of rotatable positions, and a desired parameter value (of the temperature control point) is identified (via pointer/indicator13) by the position of the rotatable selector in the range of rotatable positions (see col. 2, lines 9-13).

Additionally, the thermostat of Kolbow includes a *mechanical to electrical translator*, defined by the combination of the bi-metal element (21 or 21') and the switch (22 or 22'), which is laterally offset (see Figs. 3, 7) relative to the support post (33). The *mechanical to electrical translator* (21 or 21', 22 or 22') translates the mechanical position of the rotatable selector (using

sector gear (45 or 45') and sector gear (31 or 31')) to an electrical signal (see col. 2, lines 27-34; col. 5, lines 7-10) that is related to the desired parameter value (see col. 2, lines 7-16 and 60-63).

As pointed out in the Request (see p 27), Kolbow discloses an additional *mechanical to electrical translator* having an axis offset relative to the rotation axis of the rotatable selector (12) (and thus the position of the support member), whereby the position of the selector is translated to an electrical signal related to a desired parameter value. More specifically, in Kolbow's Figure 3 a lever (40), connected to rotate with the rotatable selector (12), presses against one of the arcuate surfaces (43, 46) of a pivotable member (41). Resultant pivoting of the member (41) about its pivot (42) functions (when sufficient) to close a circuit (caused by the actuation of a switch 24 or 25) and thereby place the thermostat into heating mode or cooling mode. The axis of the pivot (42) is laterally displaced from the axis of rotation of the rotatable selector (12) and from the support member/post (33) about which the selector rotates.

Regarding claim 23, Kolbow's thermostat includes a housing (cover 19 and base 11), whose surface area has a centroid (see Fig. 1). The thermostat further includes a rotatable selector (adjustment member or knob 12 or 12') that is rotatably coupled to the thermostat housing (see col. 2, lines 9-13). The coupling to the housing is via a support member, which may be defined by any of the elements: the support shaft (33) or the rotating shaft (37 or 37') or even that portion of base (11') that must be present to enable the rotating shaft 37' to rotate (see col. 2, line 68 – col. 3, line 4; col. 4, lines 45-53; Figs. 4-6). The rotatable selector has a range of rotatable positions, wherein a desired parameter value (of the temperature control point) is identified (via a pointer/indicator13) by the position of the rotatable selector in the range of rotatable positions (see col. 2, lines 9-13).

Additionally, the thermostat of Kolbow includes a *mechanical to electrical translator*, defined by the combination of the bi-metal element (21 or 21') and the switch (22 or 22') that translates the mechanical position of the rotatable selector (using sector gear (45 or 45') and sector gear (31 or 31')) to an electrical signal (see col. 2, lines 27-34; col. 5, lines 7-10) that is related to the desired parameter value (see col. 2, lines 7-16 and 60-63).

As pointed out in the Request (see p 27), Kolbow discloses an additional *mechanical to electrical translator* whereby the position of the selector is translated to an electrical signal

related to a desired parameter value. Regarding Kolbow's Figure 3 embodiment, a lever (40), connected to rotate with the rotatable selector (12), presses against one of the arcuate surfaces (43, 46) of a pivotable member (41). Resultant pivoting of the member (41) about its pivot (42) functions (when sufficient) to close a circuit (caused by the actuation of a switch 24 or 25) and thereby place the thermostat into heating mode or cooling mode.

Rotation of the of the selector (12, 12') and the *mechanical to electrical translator,* in each case, are in opposite directions (see Figs. 3, 7). For example, clockwise rotation of the selector and the sector gear (45, 45') results in a counter-clockwise rotation of the sector gear (31) and thus the bi-metal element, due to an intermesh teeth of the sector gears. In another example, rotation of the selector (12) and lever (40) clockwise results in a counter-clockwise rotation of the pivotable member (41), in view of the lever pressing against a surface (43) to move the pivotable member.

Regarding claim 24, the support member as indicated above regarding independent claim 23 is disposed at the centroid of the housing of Kolbow, as evident from Figures 1, 3 and 7.

Regarding claim 30, Kolbow discloses a thermostat 10. The thermostat has a non-rotatable region at a base (11 or 11') and a shaft (33) extending upwardly therefrom. The thermostat further includes a rotatable selector (adjustment member or knob 12 or 12') extending around a part (shaft 33) of the non-rotatable region. The rotatable selector is rotated in a range of rotatable positions, such that a desired parameter value (of the temperature control point) is identified (via a pointer/indicator13) by the position of the rotatable selector in the range of rotatable positions (see col. 2, lines 9-13). The axis of rotation of the selector is at the center of the rotatable shaft (37 or 37') (see Figs. 3 and 7).

Additionally, the thermostat of Kolbow includes a *mechanical to electrical translator*, defined by the combination of the bi-metal element (21 or 21') and the switch (22 or 22'), which is laterally offset relative to the selector's rotating axis (see Figs 3, 7). The *mechanical to electrical translator* (21 or 21', 22 or 22') translates the mechanical position of the rotatable selector (using sector gear (45 or 45') and sector gear (31 or 31')) to an electrical signal (see col.

2, lines 27-34; col. 5, lines 7-10) that is related to the desired parameter value (see col. 2, lines 7-16 and 60-63).

As pointed out in the Request (see pp 39-40), Kolbow discloses an additional *mechanical to electrical translator* having an axis offset relative to the rotation axis of the rotatable selector (12), whereby the position of the selector is translated to an electrical signal related to a desired parameter value. More specifically, in Kolbow's Figure 3 a lever (40), connected to rotate with the rotatable selector (12), presses against one of the arcuate surfaces (43, 46) of a pivotable member (41). A resultant pivoting of the member (41) about its pivot (42) functions (when sufficient) to close a circuit (caused by the actuation of a switch 24 or 25) and thereby to place the thermostat into heating mode or cooling mode. The axis of the pivot (42) is laterally displaced from the axis of rotation of the rotatable selector (12).

Regarding claim 31, the non-rotatable region includes a display (i.e., stationary scale or index 14; see col. 2, lines 12-15).

Regarding claim 35, the non-rotatable region (at scale 14) of Kolbow includes printed matter in the form of marks, numbers and a word (i.e., "off"), any of which having the capability of representing a trade name or appearance. Accordingly, that which is shown in Figure 1 meets the limitation recited in claim 35. Moreover, it is agreed with Requester that mere printed matter, not affecting operation of the thermostat, would provide no further limitation beyond that which is recited in claim 30 (from which claim 35 depends).

Regarding claim 39, Kolbow discloses a thermostat 10. The thermostat has a non-rotatable region at a base (11 or 11') and a shaft (33) extending upwardly therefrom. The thermostat further includes a rotatable selector (adjustment member or knob 12 or 12') extending around a part (shaft 33) of the non-rotatable region. The rotatable selector is rotated in a range of rotatable positions, such that a desired parameter value (of the temperature control point) is identified (via a pointer/indicator13) by the position of the rotatable selector in the range of rotatable positions (see col. 2, lines 9-13). The axis of rotation of the selector is at the center of the rotatable shaft (37 or 37') (see Figs. 3 and 7).

Additionally, the thermostat of Kolbow includes a *mechanical to electrical translator*, defined by the combination of the bi-metal element (21 or 21') and the switch (22 or 22'), which is laterally offset relative to the selector's rotating axis (see Figs 3, 7). The *mechanical to electrical translator* (21 or 21', 22 or 22') translates the mechanical position of the rotatable selector (using sector gear (45 or 45') and sector gear (31 or 31')) to an electrical signal (see col. 2, lines 27-34; col. 5, lines 7-10) that is related to the desired parameter value (see col. 2, lines 7-16 and 60-63).

Kolbow discloses an additional *mechanical to electrical translator* being offset relative to the rotation axis of the rotatable selector (12), whereby the position of the selector is translated to an electrical signal related to a desired parameter value. More specifically, in Kolbow's Figure 3 a lever (40), connected to rotate with the rotatable selector (12), presses against one of the arcuate surfaces (43, 46) of a pivotable member (41). A resultant pivoting of the member (41) about its pivot (42) functions (when sufficient) to close a circuit (caused by the actuation of a switch 24 or 25) and thereby to place the thermostat into heating mode or cooling mode. The member (41) is laterally displaced from the axis of rotation of the rotatable selector (12).

II. Claims 10, 17, 18 and 35

Rejection

The following is a quotation of 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 negatived by the manner in which the invention was made.

Claims 10, 17, 18 and 35 are rejected under 35 U.S.C. § 103 as being unpatentable over Kolbow.

Detailed explanation in support of rejecting the claims 17 and 35 for obviousness over Kolbow is provided in the Request (see Section V.A.2, pp 18, 20-21 and 42-43) and adopted by reference in its entirety as part of the basis of this rejection.

Kolbow has been described above.

Regarding claim 10, by conventional dictionary definition, a "gear" (when referring to a part) is a *machine part, as a toothed wheel or cylinder that meshes with another toothed part to transmit motion or change direction or speed.* Thus, even though Kolbow fails to disclose the sector gear (31 or 31') as being a wheel, one of ordinary skill in the art would have considered it obvious that the sector gear (31 or 31') of Kolbow could be replaced by a "gear" (i.e., a toothed wheel) of the same diameter, such as by providing sufficient housing space therefor.

Regarding each of dependent claims 17 and 35, it is agreed with Requester that

(1) The recitation regarding the logo merely concerns printed matter that does not have an effect on the operation of the thermostat and therefore cannot support patentability, and

(2) Incorporation of a logo on thermostats constitutes something Patent Owner has been doing since the 1950's.

The examiner would add that Kolbow already teaches providing printed matter on the non-rotatable portion (scale or index 14) of a thermostat (see Fig. 1).

For such reasons, the claim limitations regarding location of the logo (i.e., on a face plate or non-rotatable region) would have been obvious to one of ordinary skill in the art over what is disclosed by Kolbow. Thus, claims 17 and 35 are unpatentable over Kolbow.

Claim 18 has been added by the Examiner, because the explanation in the Request for applying Kolbow, which is not accepted under 35 U.S.C. 102 (regarding anticipation), is nonetheless sufficient for applying Kolbow under 35 U.S.C. 103 (regarding unpatentability based upon obviousness). Inasmuch as it is notoriously well known in the thermostat art to make a thermostat housing cover fixed even when the thermostat includes a movable selector, such as a knob, it would have been obvious to one of ordinary skill in the art to have made the cover (19 or 19') in Kolbow fixed, such as in relation to the base (11 or 11'). Moreover, Kolbow appears to

insinuate a stationary nature for the cover. Kolbow expressly points out elements (e.g., the selector (12), the bi-metal coil (21)) that are movable, and one of ordinary skill in the art would understand from the reference that such elements are rotated. However, Kolbow does not indicate or imply movement of the cover 19. Thus, one of ordinary skill in the art upon reading Kolbow would expect that the housing is to remain in a fixed position. Such an expectation would have made fixing the housing against movement obvious to one of ordinary skill in the art.

III. Claims 2-8, 11, 32 and 33

Rejection

Claims 2-8, 11, 32 and 33 are rejected under 35 U.S.C. § 103 as being unpatentable over Kolbow in view of U.S. Patent No. 4,751,961 to Levine et al (Levine).

Detailed explanation in support of rejecting the claims for unpatentability over Kolbow in view of Levine is provided in the Request (see Section V.A.2, pp 15-19 and 40-42) and adopted by reference in its entirety as part of the basis of this rejection.

Kolbow is described above.

Levine expressly teaches the use of a potentiometer (62) in combination with a thermistor (110) and microprocessor (64) (see col. 5, lines 25-47) as a replaceable improvement for a conventional thermostat mechanism (see col. 2, lines 3-11), which includes a bi-metal strip and mercury switch (see col. 1, lines 15-37), for the purpose of offering the user a complex mode of control, including capability to control different temperature schedules (see col. 1, lines 54-59). A signal from the potentiometer is ultimately provided to the microprocessor in a manner to represent normal temperature adjustment (see col. 3, lines 24-31). As with a bi-metal strip, the potentiometer is set by knob rotation (see col. 1, lines 33-36; col. 2, lines 19-22). Accordingly, it would have been obvious in view of Levine to have replaced the bi-metal coil (21 or 21') and positionable switch (22, 22') of Kolbow with an electronic system that includes a potentiometer,

a thermistor and a microprocessor, including wherein the potentiometer produces a signal representative of a temperature setting, for the purpose of offering the thermostat user a capability to control different temperature schedules. As argued by Requester (see Request, p 16) such a modification would have been obvious also for the reason that it would have been obvious to make a simple substitution of one element for another for performing the same basic function (in this case, temperature setting).

Inasmuch as the potentiometer, as taught by Levine, is adjusted by rotation (of its shaft; see col. 2, lines 19-22; col. 3,lines 24-31; col. 4, lines 49-55) and the Kolbow's bi-metal element is also essentially adjusted by rotation (using sector gear rotation (31) about a post (30)), one of ordinary skill in the art, when making the art combination (for the reasons indicated above), would have been provided with an obvious choice between two known/taught alternatives in the thermostat art regarding placement of the rotatably adjustable part of a *mechanical to electrical translator*. The alternative locations to be chosen from would have included (1) the location as taught by Levine in which the axis of rotation of the part is coaxial with the selector (see Fig. 1), and (2) the location as taught by Kolbow in which the axis of rotation of the part is laterally displaced (similar in the manner of Kolbow's bi-metal coil) and gear-driven (in the manner of the interaction of the sector gears (31), (45) of Kolbow). Accordingly it further would have been obvious to one of ordinary skill in the art, as including merely a choice between alternative locations taught within the thermostat art, to have chosen to locate the potentiometer (in the above-indicated art combination) as a modification to Kolbow, wherein the axis of the rotatable shaft thereof is laterally displaced from the axis of rotation of the selector (12) and the interaction between the selector and the rotatable shaft of the potentiometer is that of gear interaction, involving a gear associated with each of the potentiometer and the selector. Thus, claim 2 is unpatentable over Kolbow in view of Levine.

Regarding claim 3, Kolbow teaches gear interaction wherein both the selector (12) and the *mechanical to electrical translator* (i.e., the bi-metal element 21 or 21' and the switch 22 or 22') includes a gear with teeth (see sector gear (45 or 45') and sector gear (31 or 31'); see Figs. 3, 6 and 7). It would have further been obvious in view of Kolbow of the art combination to have

provided interacting gears in the art combination, having teeth between the potentiometer shaft and the shaft of the selector (12).

Regarding claim 4, Kolbow teaches a gear sector (45 or 45') that circumscribes a part of the shaft of the rotatable selector (12). It would have been further been obvious in view of Kolbow to have made the gear of the selector wherein it circumscribes a portion of the shaft of the selector.

Regarding claim 5, Kolbow of the art combination teaches providing a sector gear (31 or 31') circumscribing a part of the shaft of the *mechanical to electrical translator* (i.e., the bi-metal element 21 or 21' and the switch 22 or 22'), whereas Levine teaches using a shaft (78) to rotatably adjust a potentiometer. From these teachings it further would have been obvious to have made the rotatable connection of the potentiometer of the art combination wherein the shaft of the potentiometer includes a sector gear (as Kolbow's sector gear (31 or 31')) which inter-engages the sector gear from the rotatable selector (12).

Regarding claim 6, the Request has argued (see p 17):

> *The relative size of the gears in Kolbow is not clear, but such a selection would have been an obvious design choice that depended on the particular positioning of the shafts relative to each other, the distance a designer wanted to place between temperature values on the face of the thermostat, and the parameters of the particular bi-metal. Moreover, the '790 patent does not indicate that the particular gear sizes have anything to do with any other feature of the invention, or that there was anything nonobvious about them. See MPEP 2144.04 (IV)(A) (providing an example in which a mere recitation of relative dimensions is not enough when the claimed relative dimensions would not perform differently than the prior art device). Accordingly, this claim would have been obvious for the same reason as claim 2.*

The Examiner agrees with the argument of Requester. The reexamined patent fails to disclose a functional benefit regarding thermostat operation that is attained by making one of the gears larger than the other. Moreover, even if different relative gear diameters would have produced such a benefit to the thermostat operation, claim 6 is broader by merely claiming that the first gear is "larger." Thus, Requester's arguments are correct that a choosing relative gear dimensions constitutes an obvious choice.

Additionally, a recognition, as in the description of the reexamined patent, that different sizes (i.e., diameters) in the gears would have produced different extents of rotation in the gears (see for example col. 5, lines 30-59), is insufficient to make any claiming of a larger diameter define a threshold of patentability. Kolbow already substantially shows gear interaction between gears having different diameters (see Figs. 3, 4, 7), meaning that their degree of rotation will be different. Merely reversing this relationship would have further been obvious to one of ordinary skill in the art (see MPEP 2144.04, VI).

Regarding claim 7, Kolbow is pointed out by Requester (see Request, p 17) as having a degree of rotation of less than 180°, based on what is shown in Figure 1. The pointer 13 of Kolbow, which is attached to the selector for rotating therewith will move from a temperature 58° to temperature 94° (see col. 2, lines 39-52). The angle of rotation, as pointed out by Requester, appears to be about 120 degrees. It would have been obvious in view of Kolbow to have maintained this rotation range when Kolbow is modified to include a the potentiometer instead of a bi-metal coil.

Regarding claim 8, the Request has argued (see p 18):

> *The relative number of degrees rotated by each element is a merely function of the relative sizes of the gears, so the features of this claim would have been obvious design choices for the reasons discussed above for claim 6. MPEP 2144.04 (IV)(A); see also KSR, 82 USPQ2d at 1400 (explaining that "results of ordinary innovation are not the subject of exclusive rights under the patent laws.")*

The Examiner adds that, similarly as with claim 6, the reexamined patent fails to disclose a functional benefit regarding thermostat operation that is attained by making relative rotation of one of the gears greater than the other. Kolbow already substantially shows gear interaction between gears having different diameters (see Figs. 3, 4, 7), meaning that their degree of rotation will be different. Merely reversing this relationship, when such is desired, would have further been obvious to one of ordinary skill in the art (see MPEP 2144.04, VI). Thus, Requester's arguments are correct that choosing relative gear dimensions, and therefore relative degrees of rotation of the gears in Kolbow, in the art combination, constitutes an obvious choice. Providing a greater degree of rotation for of the gear associated with the potentiometer, as compared to that

for the gear associated with the selector, would have been obvious to one of ordinary skill in the art.

Regarding claim 11, Levine expressly teaches the use of a potentiometer (62) in combination with a thermistor (110) and microprocessor (64) on a printed circuit board (50) (see col. 4, lines 49-55; col. 5, lines 25-47) as a replaceable improvement for a conventional thermostat mechanism (see col. 2, lines 3-11), which includes a bi-metal strip and mercury switch (see col. 1, lines 15-37), for the purpose of offering the user a complex mode of control, including capability to control different temperature schedules (see col. 1, lines 54-59). A signal from the potentiometer is ultimately provided to the microprocessor in a manner to represent of normal temperature adjustment (see col. 3, lines 24-31). As with a bi-metal strip, the potentiometer is set by knob rotation (see col. 1, lines 33-36; col. 2, lines 19-22). Accordingly, it would have been obvious in view of Levine to have replaced the bi-metal coil (21 or 21') and positionable switch (22, 22') of Kolbow with an electronic system that includes a potentiometer, a thermistor and a microprocessor connected on a circuit board, including wherein the potentiometer produces a signal representative of a temperature setting, for the purpose of offering the thermostat user a capability to control different temperature schedules. As argued by Requester (see Request, p 16) such a modification would have been obvious also for the reason that it would have been obvious to make a simple substitution of one element for another for performing the same basic function (in this case, temperature setting).

Inasmuch as the potentiometer, as taught by Levine, is adjusted by rotation (of its shaft; see col. 2, lines 19-22; col. 3,lines 24-31; col. 4, lines 49-55) and the Kolbow's bi-metal element is also essentially adjusted by rotation (using sector gear rotation (31) about a post (30)), one of ordinary skill in the art, when making the art combination (for the reasons indicated above), would have been provided with an obvious choice between two known/taught alternatives in the thermostat art regarding placement of the rotatably adjustable part of a *mechanical to electrical translator*. The alternative locations to be chosen from would have included (1) the location as taught by Levine in which the axis of rotation of the part is coaxial with the selector (see Fig. 1), and (2) the location as taught by Kolbow in which the axis of rotation of the part is laterally displaced (similar in the manner of Kolbow's bi-metal coil) and gear-driven (in the manner of

the interaction of the sector gears (31), (45) of Kolbow). Accordingly it further would have been obvious to one of ordinary skill in the art, as including merely a choice between alternative locations taught within the thermostat art, to have chosen to locate the potentiometer (in the above-indicated art combination) as a modification to Kolbow, wherein the axis of the rotatable shaft thereof is laterally displaced from the axis of rotation of the selector (12) and the interaction between the selector and the rotatable shaft of the potentiometer is that of gear interaction, involving a gear associated with each of the potentiometer and the selector. Thus, claim 11 is unpatentable over Kolbow in view of Levine.

Regarding claim 32, Levine, in addition to teaching replacing a conventional thermostat mechanism with an electronic thermostat system (such as including a potentiometer, a thermistor, a microprocessor, and a circuit board) (see discussion above regarding, for example, claim 2), also teaches one of ordinary skill in the art to provide the thermostat housing cover with a push button (104) which operates another button (60) provided on a circuit board (50; see Fig. 1) for initializing a clock (128) and performing period deletion, used in association with the programming (see col. 7, lines 13-48). Accordingly, it would have been obvious in view of Levine as part of a replacement of Kolbow's conventional thermostat mechanism with an electronic thermostat system, to additionally have provided buttons on the non-rotatable region (e.g., cover or circuit board) of Kolbow of the art combination, for performing operations associated with the programming of the thermostat.

Regarding claim 33, Levine, in addition to teaching replacing a conventional thermostat mechanism with an electronic thermostat system (such as including a potentiometer, a thermistor, a microprocessor, and a circuit board) (see discussion above regarding, for example, claim 2), also teaches one of ordinary skill in the art to provide a thermostat housing cover with indicator lights (98, 100 extending from a circuit board 50; see Fig. 1; col. 6, lines 38-42) for indicating whether the thermostat is in the actual temperature mode or set-back mode. Accordingly, it would have been obvious in view of Levine as part of a replacement of Kolbow's conventional thermostat mechanism with an electronic thermostat system, to additionally have included indicator lights with the non-rotatable region (e.g., the cover or circuit board) of

Kolbow of the art combination, for indicating to the user whether the thermostat is in an *actual temperature mode* or *set-back mode*.

IV. Claims 36-38

Rejection

Claims 36-38 are rejected under 35 U.S.C. § 103 as being unpatentable over Kolbow in view of Published European Patent Application No. EP 1 065 079 A2 to Volkswagen Aktiengesellschaft (Volkswagen).

Detailed explanation in support of rejecting claims 36-38 for obviousness over Kolbow in view of Volkswagen is provided in the Request (see Section V.A.2, p 43-46) and adopted by reference in its entirety as part of the basis of this rejection.

Kolbow has been described above.

Although Kolbow fails to disclose an electronic display for displaying information, use of such a device is known in the thermostat art. For example, the Volkswagen reference teaches providing an LCD display unit on an operating element 1 of a thermostat for use within a vehicle's cabin. The LCD display unit initially displays actual/cabin temperature, but after the ring (2) of the operating element is rotated, a flashing value of the desired (i.e., setting) temperature is displayed (see paragraphs [0007] and [0009]).

From the teaching of Volkswagen it would have been obvious to one of ordinary skill in the art, regarding claims 36 and 37, to have provided any viewable portion of the thermostat of Kolbow with an electronic display unit which indicates room temperature (via a thermometer) and desired temperature, as proposed by Requester.

Regarding claim 38, Volkswagen substantially teaches that the displayed temperature is changed by rotation of the selector (ring (2)), by disclosing that a user can set a desired target value by appropriately rotating the ring (see paragraph [0009]). From this teaching it further would have

been obvious to one of ordinary skill in the art to have made the thermostat of Kolbow whereby rotation of the selector (12 or 12') results in a change of value of the desired parameter (i.e., the setting temperature).

V. Claim 34

Rejection

Claim 34 is rejected under 35 U.S.C. § 103 as being unpatentable over Kolbow in view of U.S. Patent No. 5,690,277 to Flood.

Detailed explanation in support of rejecting the claim 34 for obviousness over Kolbow in view of Flood is provided in the Request (see Section V.A.2, p 42) and adopted by reference in its entirety as part of the basis of this rejection.

Kolbow has been described above.

Although Kolbow fails to disclose a noise making device as part of the non-rotatable region thereof, Flood teaches providing a noise making device on a thermostat for the purpose of informing a ~~hearing~~ sight-impaired user of an increase or decrease in the setting of the thermostat and also informing the user of the ambient room temperature (see col. 2, lines 1-7 and 34-36). The speaker (4) in Flood is not placed with the indicated movable elements (i.e., the button 5 and the rocker 2) of the thermostat, and the reference does not disclose any of the parts of the thermostat as being rotatable. Moreover, Figure 1 tends to portray the speaker as being associated with a housing (shown by a rectangular outline) of the thermostat. From these considerations one of ordinary skill in the art would expect a non-rotatable region of the thermostat to include the speaker. Thus, from Flood one of ordinary skill in the art would have found it obvious to have provided an audible device, such as a speaker, on a non-rotating region of a thermostat such as Kolbow and to have modified the housing of the thermostat sufficiently to accommodate a placement of the speaker, together with providing the necessary processor with the thermostat for electronically producing sound based upon a condition, for the purpose of informing the ~~hearing~~ sight-

impaired user of the setting of the thermostat and of the room temperature (as likely determined by using a thermometer).

Conclusion

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By Mail to:	Mail Stop *Inter Partes* Reexam Attn: Central Reexamination Unit Commissioner of Patents United States Patent & Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450
By FAX to:	(571) 273-9900 Central Reexamination Unit
By hand:	Customer Service Window Randolph Building 401 Dulany St. Alexandria, VA 22314

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Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

signed

Jimmy G. Foster
Primary Examiner
Central Reexamination Unit 3993

Conf.: JG EKR