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Paper 31
Entered: May 15, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ONE WORLD TECHNOLOGIES, INC.
d/b/a TECHTRONIC INDUSTRIES POWER EQUIPMENT,
Petitioner,

v.

THE CHAMBERLAIN GROUP, INC.,
Patent Owner.

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Case IPR2017-00214
Patent 7,196,611 B2

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Before JONI Y. CHANG, JUSTIN T. ARBES, and JOHN F. HORVATH, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
*35 U.S.C. § 318(a)*

## I. BACKGROUND

Petitioner One World Technologies, Inc. d/b/a Techtronic Industries Power Equipment filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 18–25 of U.S. Patent No. 7,196,611 B2 (Ex. 1001, "the '611 patent") pursuant to 35 U.S.C. § 311(a). On May 16, 2017, we instituted an *inter partes* review of all challenges raised in the Petition, namely, claims 18–25 on two grounds of unpatentability. Paper 8 ("Dec. on Inst."); *see* Pet. 5. Patent Owner The Chamberlain Group, Inc. subsequently filed a Patent Owner Response (Paper 13, "PO Resp.") and Petitioner filed a Reply (Paper 17, "Reply"). Pursuant to our authorization (Paper 18), Patent Owner filed a list of allegedly improper arguments in Petitioner's Reply (Paper 19) and Petitioner filed a response (Paper 24). Petitioner also filed a Motion to Exclude (Paper 22, "Mot.") certain evidence submitted by Patent Owner, to which Patent Owner filed an Opposition (Paper 25, "Opp.") and Petitioner filed a Reply (Paper 26). An oral hearing was held on January 18, 2018, and a transcript of the hearing is included in the record (Paper 30, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 18–25 are unpatentable.

*A. The '611 Patent*[1]

The '611 patent pertains to "human interface methods" for "barrier movement operators." Ex. 1001, col. 1, ll. 6–8. Barrier movement operators (e.g., gate operators and garage door operators), including "a motor for moving a barrier between open and closed positions and a controller for selectively energizing the motor to move the barrier," were known in the art. *Id.* at col. 1, ll. 9–14. According to the '611 patent, as new features were added to such systems, installation and maintenance became more complicated, resulting in a need for "improved human interaction with barrier movement operators to simplify their installation and maintenance." *Id.* at col. 1, ll. 20–28.

[1] Petitioner also challenged claims 1–8 and 10–14 of the '611 patent in Case IPR2017-00073. Case IPR2017-00073 involves different claims, different asserted prior art, and different patentability issues and arguments. Further, the parties never requested consolidation of the two proceedings. Accordingly, we did not consolidate them for purposes of trial under 35 U.S.C. § 315(d). We issued a final written decision in Case IPR2017-00073 on April 24, 2018.

Figure 1 of the '611 patent is reproduced below.

*Fig. 1*

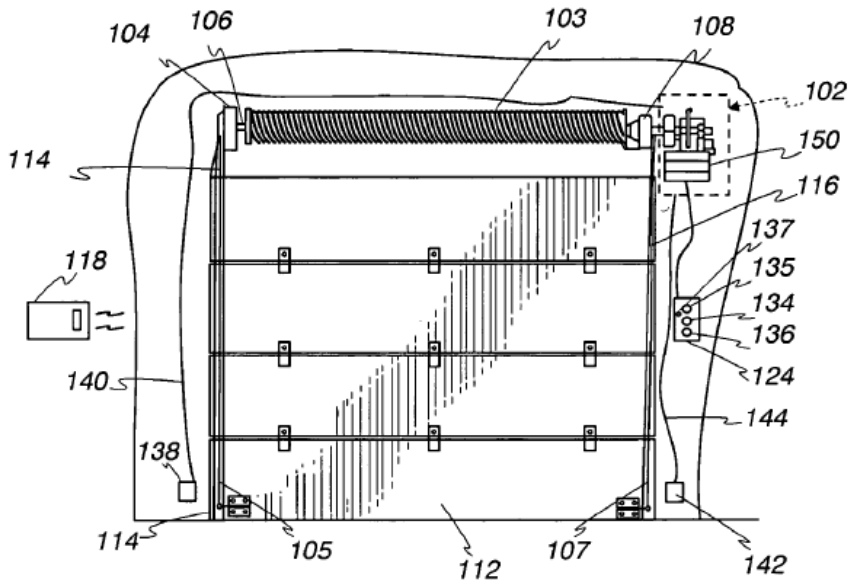


Figure 1 depicts a barrier movement operator comprising panel door 112, head end 102, motor 150, controller 208 (not shown), RF transmitter 118, and wall control 124 with light-emitting diode (LED) 137, close push button 134, open push button 135, and stop push button 136. *Id.* at col. 1, l. 47–col. 2, l. 22. When the user presses one of the buttons, wall control unit 124 signals controller 208, which energizes motor 150 to move or stop movement of panel door 112. *Id.* at col. 2, ll. 18–29, Fig. 2. Controller 208 also is connected to input/output device 147 (not shown), typically located in head end 102, which is "useful to installers and maintainers of the barrier movement operator." *Id.* at col. 2, ll. 41–45, Fig. 2.

Figure 3 of the ’611 patent is reproduced below.

*Fig. 3*

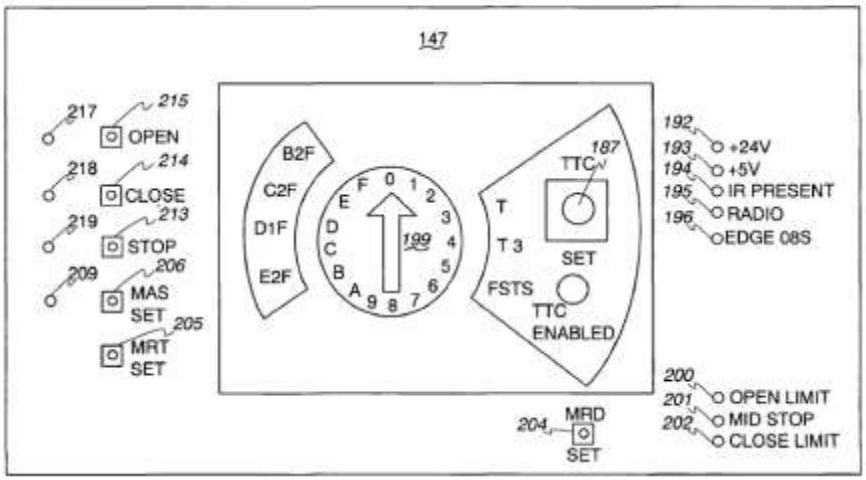


Figure 3 depicts input/output device 147 including switches (open switch 215, close switch 214, and stop switch 213) with corresponding LEDs 217, 218, and 219 to “allow maintenance personnel to control the barrier from the head end 102”; “indicator LEDs” to “advise a user of the status of particular controller functions” (24V status 192, 5V status 193, IR present 194, radio present 195, and edge obstruction 196); and LEDs that indicate the “status of the barrier” (LED 200 for the barrier’s open limit, LED 201 for the mid-travel limit, and LED 202 for the closed limit).[2] *Id.* at col. 2, ll. 41–60, col. 3, ll. 7–12. Controller 208 monitors the conditions represented by the “status” LEDs and causes the LEDs to be activated as necessary. *Id.* at col. 2, ll. 55–57. Controller 208 also detects errors and stores representations of the errors in memory. *Id.* at col. 3, ll. 23–27.

[2] The barrier status LEDs appear to be numbered incorrectly in the Specification of the ’611 patent. *See* Ex. 1001, col. 2, ll. 57–60 (“LEDs 197, 198 and 199”).

The '611 patent describes a "diagnostic mode of operation" of controller 208, entered when the user sets switch 199 shown in Figure 3 above to diagnostic position 9. *Id.* at col. 3, ll. 36–38. The diagnostic mode allows the user to access the error codes stored in the memory of controller 208 from wall control 124. *Id.* at col. 3, ll. 38–42, Fig. 4. Specifically, when the user presses open push button 135, controller 208 communicates with wall control 124 to cause LED 137 to "pulse once for each stored error code," allowing the user to determine "the number of error codes" stored in the memory of controller 208. *Id.* at col. 3, ll. 49–54. Similarly, when the user presses close push button 134, controller 208 causes LED 137 to "pulse . . . a number of times corresponding" to each error code stored in its memory in sequence. *Id.* at col. 3, ll. 60–67, Fig. 5 (showing each error code and its corresponding number of LED blinks).

The '611 patent further describes a "learn mode operation" to "guide a user through installation and learn mode actions." *Id.* at col. 4, ll. 13–19, Fig. 6. Controller 208 "determines the user activities or steps needed during the learn process," identifies the beginning status (e.g., open or closed) of the barrier movement operator, and checks to determine whether the user has taken each determined action in sequence. *Id.* at col. 4, ll. 15–42. The '611 patent provides an example of learning "a time value for the max run timer," which is used to "determine whether the movement of the barrier has been going on for too long without reaching the destination limit." *Id.* at col. 4, ll. 43–47. The user presses MRT set button 205 (shown in Figure 3 above), LED 202 flashes to inform the user that the barrier should be moved to the closed limit, and after the barrier is closed, LED 217 flashes to direct the user to open the barrier by pressing open switch 215. *Id.* at col. 4,

ll. 50–63. Controller 208 then "counts the time of travel and adds five seconds to the counted value and stores the result for use" as the max run timer limit. *Id.* at col. 4, l. 66–col. 5, l. 3.

### *B. Illustrative Claims*

Claims 18 and 21 of the '611 patent recite:

> 18. A method of assisting in the installation and maintenance of a barrier movement operator including a controller, comprising:
>
> activating a learn mode activity of the controller of the barrier movement operator which learning mode requires pre-determined activities by a user;
>
> first identifying by the controller the present status of the barrier movement operator;
>
> second identifying by the controller, the activities to be completed by a user of the barrier movement operator; and
>
> responsive to the first and second identifying steps transmitting guidance signals to an annunciating unit for guidance of the user.
>
> 21. A method of controlling a barrier movement operator comprising:
>
> identifying a user interactive mode of operation;
>
> determining the operator statuses and the user actions to complete the interactive mode;
>
> signaling the user to perform a first action in furtherance of the interactive mode operation;
>
> determining that the first action has been correctly performed and signaling the user of a next action in the interactive mode operation.

*C. Prior Art*

The pending grounds of unpatentability in the instant *inter partes* review are based on the following prior art:

> U.S. Patent No. 4,638,433, issued Jan. 20, 1987 (Ex. 1004, "Schindler"); and
>
> The Chamberlain Group, Inc., OWNER'S MANUAL, MODELS: J + H + HJ, LOGIC CONTROL (VER. 2.0) INDUSTRIAL DUTY DOOR OPERATOR (2000) (Ex. 1009, "LiftMaster").

*D. Pending Grounds of Unpatentability*

The instant *inter partes* review involves the following grounds of unpatentability:

| Reference(s) | Basis | Claims |
|---|---|---|
| Schindler | 35 U.S.C. § 102(b)[3] | 18–25 |
| Schindler and LiftMaster | 35 U.S.C. § 103(a) | 23 and 24 |

## II. ANALYSIS

*A. Claim Interpretation*

The Board interprets claims in an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b). Under this standard, we interpret claim terms using "the broadest reasonable meaning of the words in their

[3] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. §§ 102 and 103. Because the challenged claims of the '611 patent have an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997); *see In re Smith Int'l, Inc.*, 871 F.3d 1375, 1382–83 (Fed. Cir. 2017) ("[The] broadest reasonable interpretation . . . is an interpretation that corresponds with what and how the inventor describes his invention in the specification."). "Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). Our interpretation "'cannot be divorced from the specification and the record evidence,' and 'must be consistent with the one that those skilled in the art would reach.' A construction that is 'unreasonably broad' and which does not 'reasonably reflect the plain language and disclosure' will not pass muster." *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citations omitted), *overruled on other grounds by Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017).

In the Decision on Institution, based on the parties' arguments and record at the time, we preliminarily interpreted claims 19 and 20 to each recite a method, rather than an apparatus, and concluded that no other claim terms required interpretation. Dec. on Inst. 8–9. The parties do not dispute our preliminary interpretation of claims 19 and 20, and we do not perceive any reason or evidence that compels any deviation from that interpretation. We adopt the previous analysis for purposes of this Decision.

In its Response, Patent Owner argues that "no construction is necessary for any claim term" and "the plain language of the claims should be given its broadest reasonable interpretation." PO Resp. 2–3. Patent Owner does not propose any of its own interpretations, but disputes Petitioner's proposed interpretations of two phrases. *See id.* at 2–4. Specifically, Petitioner argues that "second identifying by the controller, the activities to be completed by a user of the barrier movement operator" in claim 18 means "the controller establishing which of the pre-determined activities a user must complete,"[4] and "determining . . . the user actions to complete the interactive mode" in claim 21 means "establishing which actions are required for the user to complete the interactive mode." Pet. 20–21, 23–24 (emphases omitted). Patent Owner contends that Petitioner's proposed interpretations[5] "conflict[] with the plain language of claims 18 and 21," as they permit "identification of a *single activity* to meet the claim, despite the claim language clearly reciting an identification of *activities* (plural)." PO Resp. 4 (emphases omitted).

Petitioner agrees that each claim requires multiple things—identifying "activities" for claim 18 and determining "actions" for claim 21. *See* Reply

[4] Petitioner proposes a slightly different interpretation in its Reply: "second identifying by the controller, which of the pre-determined activities [required by the learning mode] to be completed by a user of the barrier movement operator." Reply 4. At the oral hearing, however, Petitioner stated that the minor differences between the two interpretations do not impact its analysis. Tr. 8:7–20.

[5] Patent Owner incorrectly states that Petitioner's proposed interpretation of the "second identifying" step in claim 18 applies to both claims. *See* PO Resp. 4. Petitioner proposed two different interpretations. Pet. 20–21, 23–24.

3–5; Tr. 7:15–18. Thus, there is no dispute between the parties as to whether the claims permit identification of only a single activity. By using the plural terms "activities" and "actions," they plainly do not. This is consistent with how the "learn mode operation" is described in the Specification of the '611 patent as well. *See, e.g.*, Ex. 1001, col. 4, ll. 13–19 ("controller 208 determines the user activities or steps needed during the learn process"), 51–52 ("Controller responds by identifying the proper beginning status and steps for the user to perform."), Fig. 6 (block 253). We also agree with Petitioner that "the activities" in claim 18 finds antecedent basis in the "pre-determined activities" recited earlier in the claim (the only other use of the plural term "activities" in the claim), which Patent Owner does not dispute in its Response. *See* Pet. 20–21; Reply 4–5; Ex. 1012, 6–7 (U.S. International Trade Commission decision in a related investigation involving the '611 patent, concluding that "the activities" refers to the earlier-recited "pre-determined activities").

Thus, applying the broadest reasonable interpretation of the claims in light of the Specification, we conclude that claim 18 requires identifying at least two "pre-determined activities" and claim 21 requires determining at least two "actions." No further interpretation is necessary to resolve the parties' disputes over the asserted grounds of unpatentability in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("Because we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy,' we need not construe [a particular claim limitation] where the construction is not 'material to the . . . dispute.'" (citations omitted)). No other terms require interpretation for purposes of this Decision.

*B. Principles of Law*

To prevail in challenging claims 18–25 of the '611 patent, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

"Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference," *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1255–56 (Fed. Cir. 1989), and that the claim limitations be "arranged or combined in the same way as recited in the claim[]," *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). However, "the reference need not satisfy an *ipsissimis verbis* test." *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009).

A claim is unpatentable for obviousness if, to one of ordinary skill in the pertinent art, "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." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). The question of obviousness is resolved on the basis of underlying factual determinations, including "the scope and content of the prior art"; "differences between the prior art and the claims at issue"; and "the level of ordinary skill in the pertinent art."[6] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

[6] Additionally, secondary considerations, such as "commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries

A patent claim "is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550 U.S. at 418. An obviousness determination requires finding "both 'that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418 (for an obviousness analysis, "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does").

A motivation to combine the teachings of two references can be "found explicitly or implicitly in market forces; design incentives; the 'interrelated teachings of multiple patents'; 'any need or problem known in the field of endeavor at the time of invention and addressed by the patent'; and the background knowledge, creativity, and common sense of the person of ordinary skill." *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013) (citation omitted). Further, an assertion of obviousness "cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); *In re Nuvasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (a finding of a motivation to combine "must be supported by a 'reasoned explanation'" (citation omitted)).

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may have relevancy." *Graham*, 383 U.S. at 17–18. Patent Owner, however, has not presented any such evidence.

*C. Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art at the time of the '611 patent would have had "at least an undergraduate degree in electrical or computer engineering, or equivalent education, and one to two years of work experience in the fields of access control or automated door control systems, or equivalent work experience or training in the field of such technologies," citing the testimony of its declarant, Stuart Lipoff. Pet. 16 (citing Ex. 1003 ¶ 29). Patent Owner does not propose a different level of ordinary skill in the art in its Response. Patent Owner's declarant, Nathaniel J. Davis, IV, Ph.D., however, opines that a person of ordinary skill in the art would have had "at least an undergraduate degree in computer or electrical engineering (or equivalent education) along with at least two years of industry experience working with embedded computer systems or related technologies involving microcontrollers." Ex. 2001 ¶ 18.

Neither party explains in detail why the respective proposed level of ordinary skill in the art should be adopted nor how the different levels affect the parties' analyses. The parties' declarants agree that an ordinarily skilled artisan would have had an undergraduate degree in electrical or computer engineering (or the equivalent) and some amount of work experience. The difference between the two is the substance of that work experience. Mr. Lipoff opines that it would be in "the fields of access control or automated door control systems," whereas Dr. Davis opines that it would be in "embedded computer systems or related technologies involving microcontrollers." *See* Ex. 1003 ¶ 29; Ex. 2001 ¶ 18.

Mr. Lipoff's proposed definition is consistent with the technology at issue in this proceeding. The '611 patent is directed to "barrier movement

operators," such as "[g]ate operators and garage door operators," and "human interface methods and apparatus for such systems." Ex. 1001, col. 1, ll. 6–14. The '611 patent does not mention specifically "embedded" computer systems, but does disclose that barrier movement operators were known to include a "motor" and "controller" that "selectively energiz[es] the motor to move the barrier" and is "responsive to stimulus signals to perform various barrier movements." *Id.* at col. 1, ll. 9–19; *see also* Ex. 1004, col. 1, l. 7–col. 2, l. 28 (Schindler similarly disclosing that it is directed to "a microprocessor controlled garage door operator," and describing prior art systems with a microprocessor unit that controls a motor to move the garage door); Ex. 1009, 1 (LiftMaster describing a "Logic Control (Ver. 2.0) Industrial Duty Door Operator"). Thus, an individual having experience working with barrier movement operators would have been familiar with their constituent parts, including motors and controllers for the devices.

Based on the record developed during trial, including our review of the '611 patent and the types of problems and solutions described in the '611 patent and cited prior art, we conclude that a person of ordinary skill in the art at the time of the '611 patent would have had at least an undergraduate degree in electrical or computer engineering, or equivalent education, and two years[7] of work experience in the fields of access control or automated door control systems, or equivalent work experience or

[7] Mr. Lipoff proposes "one to two years" of work experience in this proceeding, but "two years" in related Case IPR2017-00073. *See* Ex. 1003 ¶ 29; IPR2017-00073, Paper 32, 13–15. We conclude that two years is the appropriate amount, given the disclosure in the '611 patent and level of complexity of the technology.

training in the field of such technologies, and apply that level of ordinary skill in the art definition for purposes of this Decision.

### *D. Anticipation Ground Based on Schindler (Claims 18–25)*

#### *1. Schindler*

Schindler discloses a "microprocessor controlled garage door operator which eliminates lower and upper limit switches on the garage door in that the upper and lower limits are set in a program mode of the microprocessor with up and down control switches by the operator." Ex. 1004, Abstract. Figure 1 of Schindler is reproduced below.

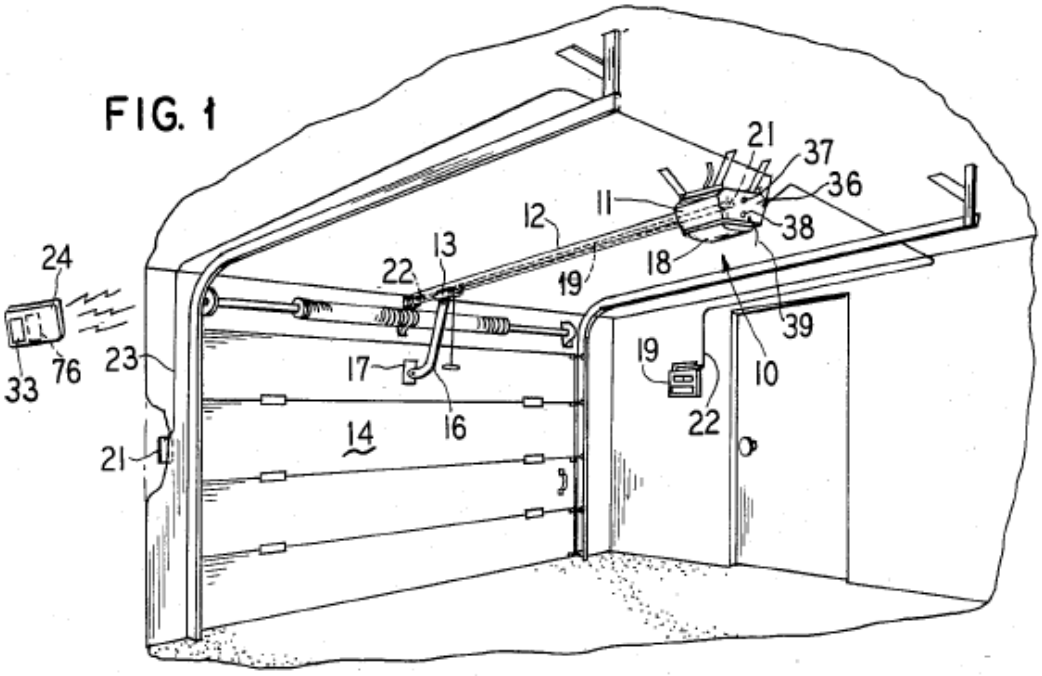



Figure 1 depicts garage door operator 10, which includes head unit 11 with a motor for moving garage door 14, and control unit 19 "mounted on the inside wall of the garage and . . . connected by an electrical cable 22 to the microprocessor mounted in the head unit" of garage door operator 10. *Id.* at col. 2, ll. 53–66.

Figure 1B of Schindler is reproduced below.

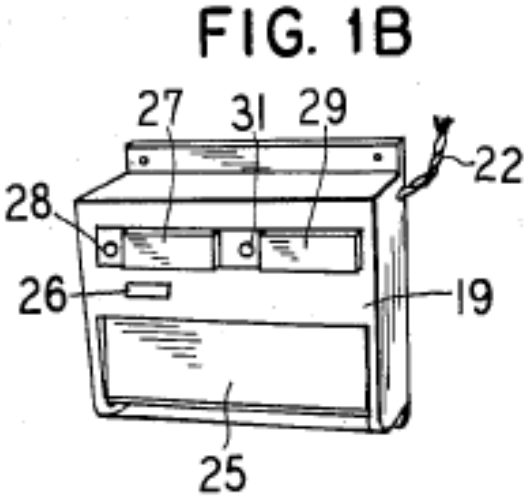



Figure 1B depicts control unit 19, which includes control push button 25 "for operating the door up and down"; control indicator light 26 that "indicates when the garage door operator is being actuated"; vacation/down switch 27 and corresponding light 28; and work light/up switch 29 and corresponding light 31. *Id.* at col. 3, ll. 7–15. The control unit is connected to a microprocessor, which is used to control various functions of the garage door operator. *Id.* at col. 1, ll. 45–47, col. 4, ll. 22–39, Fig. 4B (microprocessor 101).

A user can put the control unit and microprocessor into a "program mode" or "operate mode" using switch 38 on head unit 11. *Id.* at col. 3, ll. 24–27, col. 6, ll. 62–65, col. 24, ll. 1–3. The program mode allows the user to set the upper and lower limits of the garage door using switches 27 and 29 on control unit 19. *Id.* at col. 11, l. 30–col. 13, l. 58. Schindler discloses that

> [t]he control unit and microprocessor may be put into a program mode in which condition the door may be moved downwardly with a down switch mounted on the control unit to the desired down position of the door and this position will be automatically

> set into the microprocessor memory. Then the door may be moved to the full up position with [an] up switch which will set the up limit of the garage door in the microprocessor memory.
>
> After the up and down limits have been set, the unit is placed out of the program mode and into the operate mode and the garage door is operated through a complete cycle which will automatically set the up and down force limits for the door. Subsequently, the door may be operated up and down with the up and down set limits and with the set force.

*Id.* at col. 1, ll. 47–62. The microprocessor communicates with the control unit to "flash the proper LED [on the control unit] to indicate which limit is being programmed. The work light LED indicates the up limit and the vacation LED indicates the down limit." *Id.* at col. 12, ll. 59–67, col. 24, ll. 1–8.

In the context of Figure 1B shown above, Schindler discloses performing the following steps to set the up and down limits:

> After the garage door opener has been installed, it is placed in the program mode by moving the switch 38 to the program position. By checking the control unit 19 and determining which of the lights 28 or 31 are on, it can be determined whether the system is set for setting [the] up or down limit. If the light 28 is flashing, the switch 27 can be closed to cause the door to move down until the desired down limit of travel has been reached. When the door has been moved by the motor 135 to the desired down position the switch 27 is opened. Switch 25 is pressed to allow the up limit to be adjusted. Then the up limit can be set by closing the work light switch 29 which will cause the motor 135 to drive the door in the up position and it will continue to drive the door until the full up position is reached at which time the switch 29 should be released and the up limit will have been set. In the event the door moves past the desired up limit, it can be moved backward by closing switch 27 to the proper position.

> When the up and down limits have been set, press momentarily switch 38 to place the machine in the operate mode.
> . . .

*Id.* at col. 24, ll. 1–23. Finally, Schindler includes a lengthy program of "SOFTWARE FOR MICROPROCESSOR" written in assembly code. *Id.* at col. 24, l. 60–col. 142, l. 30.

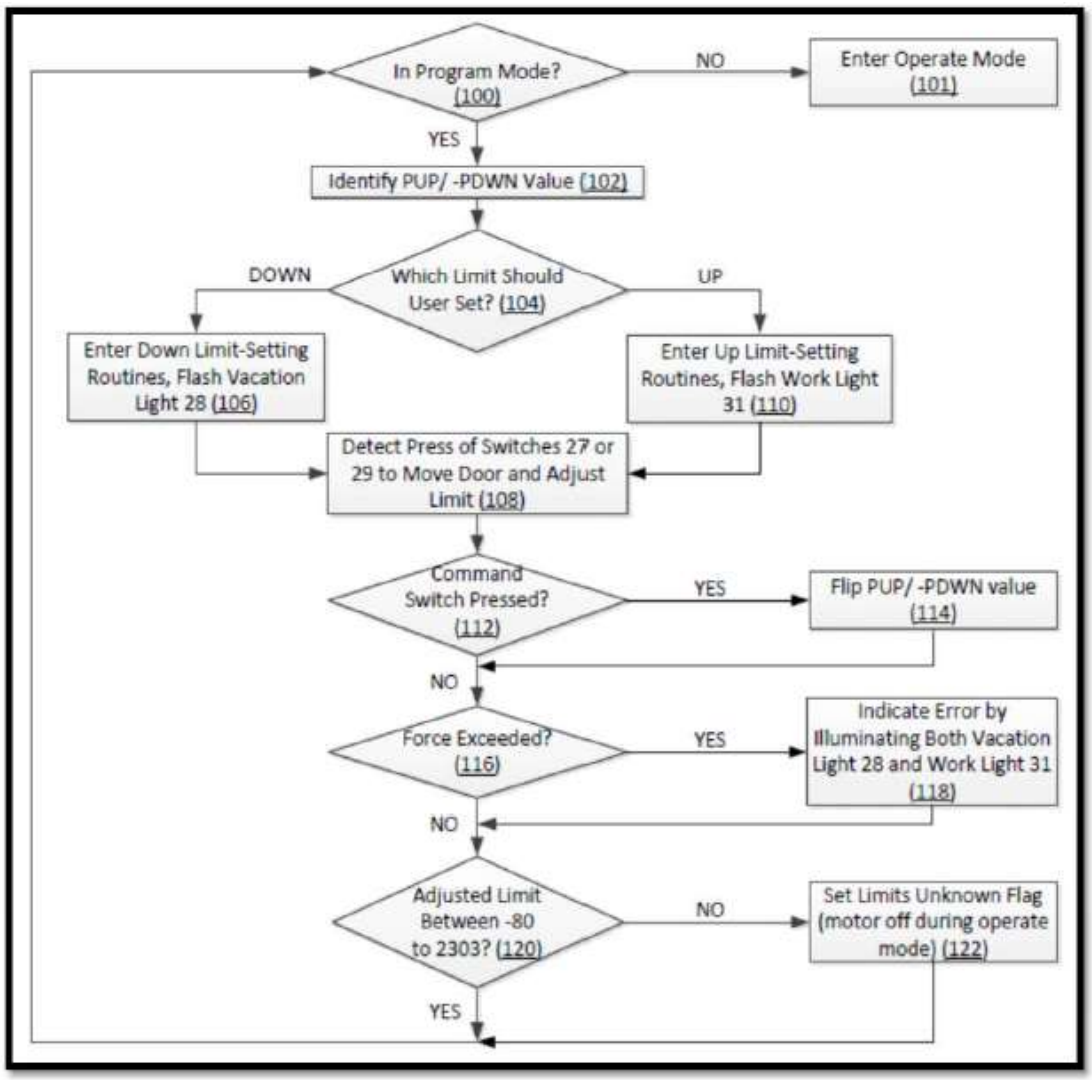
*2. Independent Claim 18*

Petitioner explains in detail how Schindler[8] discloses every limitation of claim 18, relying on the testimony of Mr. Lipoff and Nikolaus Baer as support. *See* Pet. 8–16, 25–41; Ex. 1003 ¶¶ 39–54, 84–108; Ex. 1006 ¶¶ 14–52. Petitioner argues that Schindler discloses a method of assisting in the installation and maintenance of a "barrier movement operator" (i.e., garage door operator 10) including a "controller" (i.e., microprocessor 101), comprising activating a "learn mode activity" (i.e., activating the program mode for learning the upper and lower limits of the garage door when the user moves switch 38 to the program position), identifying the "present status" of the barrier movement operator (i.e., "the position [e.g., up or down] in which the barrier movement operator is holding the barrier"), identifying "activities to be completed by a user of the barrier movement operator" (i.e., setting the up and down travel limit positions using the switches on control unit 19), and transmitting guidance signals to an "annunciating unit" (i.e., control unit 19) for guidance of the user. Pet. 26–41. In addition to the written description of Schindler, Petitioner relies on portions of Schindler's assembly source code, as well as the testimony of

[8] Schindler was not of record during prosecution of the '611 patent. *See* Ex. 1001, (56); Pet. 3–4. Schindler is assigned to Patent Owner.

Mr. Baer, who "analyzed the assembly source code relating to [the] routines" for Schindler's limit-setting process. *Id.* at 10–16, 28–38 (citing Ex. 1006).

Mr. Baer provides the following process flow chart on page 7 of his declaration (Ex. 1006).




The chart "illustrate[s] how the assembly source code in Schindler is executed to allow a user to set door travel limit positions" according to Mr. Baer. Ex. 1006 ¶ 14; *see* Pet. 11. The chart is not part of Schindler itself, but rather is a visual depiction of how the assembly source code

functions according to Mr. Baer. *See* Ex. 1006 ¶ 14. For each step in the chart, Mr. Baer cites and explains the relevant portion of Schindler's assembly source code. *See id.* ¶¶ 15–52.

With respect to the first step recited in method claim 18, Petitioner contends that the microprocessor in Schindler "activat[es] a learn mode activity" in step 100 above when the program checks to see whether the program mode has been activated (i.e., whether switch 38 was moved to the program position). Pet. 30–31 (citing Ex. 1006 ¶¶ 15–17). This is similar to the embodiment described in the Specification of the '611 patent, where the user presses a "learn enable switch[]," causing the controller to enter a particular learn mode. *See* Ex. 1001, col. 2, l. 60–col. 3, l. 6, col. 4, ll. 50–51.

Next, Petitioner argues that Schindler "identif[ies] . . . the present status of the barrier movement operator" in step 102 when the program checks the "PUP/-PDWN" flag, which indicates the last direction of door travel and, correspondingly, the current position of the door. Pet. 31–35 (citing Ex. 1006 ¶¶ 19–22); *see* Ex. 1004, col. 22, ll. 7–9 (stating that the "PUP/-PDWN" flag "[r]emembers [the] direction of door travel"). Again, this is similar to the disclosed embodiment in the '611 patent, where the controller "identifies the proper beginning status (such as barrier position) of the barrier movement operator." *See* Ex. 1001, col. 4, ll. 19–23, 51–54.

Next, Petitioner argues that Schindler "identif[ies] . . . activities to be completed by a user of the barrier movement operator" in steps 104, 106, and 110 when the program determines whether the user must perform the activities of setting the up or down limit positions and enters the corresponding routine for the activities. Pet. 35–38 (citing Ex. 1006

¶¶ 19–20, 23–27). This is similar to the disclosed embodiment in the '611 patent, where one of the identified activities is moving from the closed position to the open position. *See* Ex. 1001, col. 4, l. 59–col. 5, l. 3.

Finally, Petitioner argues that, responsive to the identification of the "present status" and "activities to be completed," the microprocessor in Schindler transmits guidance signals to control unit 19, which flashes various LEDs to guide the user. Pet. 38–41 (citing Ex. 1004, col. 12, ll. 64–65; Ex. 1003 ¶¶ 106–108; Ex. 1006 ¶¶ 23–27). For example, if the door is currently in the up position (determined at step 106), the transmitted signal causes control unit 19 to illuminate vacation light 28 (shown in Figure 1B above), guiding the user to press vacation/down switch 27 to move the door to the appropriate location and set the down limit. *Id.* A similar procedure occurs with work light 31 and work light switch 29 to set the up limit if the door is currently in the down position (determined at step 110). *See* Ex. 1006 ¶¶ 26–27. Petitioner's analysis for each of the limitations of claim 18, supported by the testimony of Mr. Lipoff and Mr. Baer, which we credit, is persuasive.[9]

Patent Owner argues in its Response that Schindler does not teach "second identifying by the controller, the activities to be completed by a user of the barrier movement operator." PO Resp. 5–6. According to Patent Owner, the claim language requires identifying multiple activities, but Schindler's controller only "identifies *a single activity*; it either sets the 'up' limit, *or* it sets the 'down' limit." *Id.* We agree with Patent Owner (and

[9] Patent Owner cross-examined Mr. Lipoff in connection with this proceeding and related Case IPR2017-00073, but did not ask any questions regarding his testimony in this proceeding. *See* Reply 7 n.8; Ex. 2002.

Petitioner) that the claim requires identifying multiple activities. *See supra* Section II.A. However, we disagree with Patent Owner that Schindler fails to disclose doing so.

Multiple activities are completed by the user during Schindler's program mode—the user sets both the up limit *and* sets the down limit. *See* Pet. 29–30 (arguing that Schindler discloses at least two "pre-determined activities," namely "programming the upper travel limit" and "programming the door's lower travel limit"), 35–38; Ex. 1004, Abstract ("[T]he upper and lower limits are set in a program mode of the microprocessor with up and down control switches by the operator."), col. 2, ll. 16–19 ("[T]he up and down limits are set by the home owner by noting and controlling the actual up and down positions of the door . . . ."), col. 12, ll. 47–48 ("The limit program is such to allow the user to program the limits of door travel easily."), col. 13, ll. 7–23 (describing steps for "[p]rogramming the up limit" and "[p]rogramming the [d]own [l]imit"). The microprocessor identifies each of these as activities to be completed by the user. It determines which limit needs to be set and causes the appropriate light on the control unit to illuminate to inform the user of what to do, and the user then sets the respective limit using the switches on the control unit. *See* Pet. 35–38; Ex. 1003 ¶¶ 89, 100–104. Dr. Davis agrees that the user in Schindler is able to "set multiple limit positions, including a down-limit position and an up-limit position," which are two "independent actions." Ex. 1010, 298:16–299:3.

Patent Owner's argument appears to be premised on timing, i.e., because the user in Schindler sets each limit in sequence, rather than together at the same time, Schindler does not disclose identifying multiple

activities according to Patent Owner. *See* PO Resp. 5–6. Claim 18 recites "second identifying by the controller, the activities to be completed by a user of the barrier movement operator." We do not see—and Patent Owner does not point to—any language in this limitation or the rest of the claim that requires the activities to be identified together or at the same time. Indeed, Dr. Davis agrees that claim 18 "requires identifying multiple activities by the controller and is silent on any timing requirement." Ex. 1010, 262:25–263:3, 294:7–12. Thus, we disagree with Patent Owner's argument that Schindler fails to disclose the "second identifying" step of claim 18.

Patent Owner in its Response does not dispute Petitioner's assertions regarding any of the other steps of claim 18. *See* PO Resp. 5–6. At the oral hearing, however, Patent Owner argued that Schindler does not disclose the "second identifying" step as well as the step of "responsive to the first and second identifying steps transmitting guidance signals to an annunciating unit for guidance of the user." Tr. 24:23–43:5. Patent Owner did not make these arguments in its Response, or even mention the "responsive" step in its Response. Accordingly, we need not consider Patent Owner's arguments raised for the first time at the oral hearing. *See Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018) (holding that the Board was not obligated to consider an "untimely argument . . . raised for the first time during oral argument").

In any event, we disagree with Patent Owner's new arguments. Patent Owner's position is that, because the claim recites the phrase "responsive to the first and second identifying steps," the "responsive step is responsive to the entirety of the second identifying step having been performed. In other words, it guides the user through multiple activities that were identified in

the second identifying step." Tr. 25:6–9. Again, however, there is no timing requirement in the claim as to when each of the multiple activities needs to be identified. Further, Patent Owner acknowledges that it is within the scope of the claim to transmit *multiple* guidance signals at *different times*. *Id.* at 32:6–13. Indeed, doing so is consistent with the following description of Figure 6 in the '611 patent:

> In block 263 the first user action is identified to the user. A check is then performed in block 265 to determine whether the correct action has been taken within a predetermined period of time. If not, failure is signaled to the user in block 267 and the learn mode is exited. When block 265 determines that the correct action has been taken a block 269 is performed to identify if more actions are needed. Flow returns to block 263 and a loop continues until block 269 determines that no further steps are needed in which case the parameters are learned (stored) in block 271 and the learn mode is exited.

Ex. 1001, col. 4, ll. 31–42. Signaling the first action to the user at block 263 is triggered by the preceding block 255, which "checks actual status to determine whether or not the operator is in the proper beginning status," and signaling every subsequent action is triggered by a determination at block 269 that additional actions are needed. *Id.* at col. 4, ll. 21–42. The Specification, therefore, discloses a loop whereby each action is signaled to the user, one after the other.

Schindler operates in a very similar manner. As explained above, Schindler discloses determining that the door is in the up position and signaling the user (by illuminating vacation light 28) to guide the user to set the down limit; then, once completed, determining that the door is in the down position and signaling the user (by illuminating work light 31) to guide the user to set the up limit. *See, e.g.*, Ex. 1004, col. 1, ll. 47–55,

col. 12, l. 47–col. 13, l. 23, col. 24, ll. 1–19. We are persuaded that Schindler's disclosure of transmitting the signals in sequence, one after the other in response to the previously-completed steps of identifying the garage door operator's present status and activities to be completed, as in the Specification of the '611 patent, teaches the limitation of "responsive to the first and second identifying steps transmitting guidance signals to an annunciating unit for guidance of the user." *See* Pet. 38–41.

We are persuaded by Petitioner's explanations and supporting evidence, and we find that Schindler discloses every limitation of claim 18. Petitioner has proven, by a preponderance of the evidence, that claim 18 is anticipated by Schindler under 35 U.S.C. § 102(b).

*3. Dependent Claim 19*

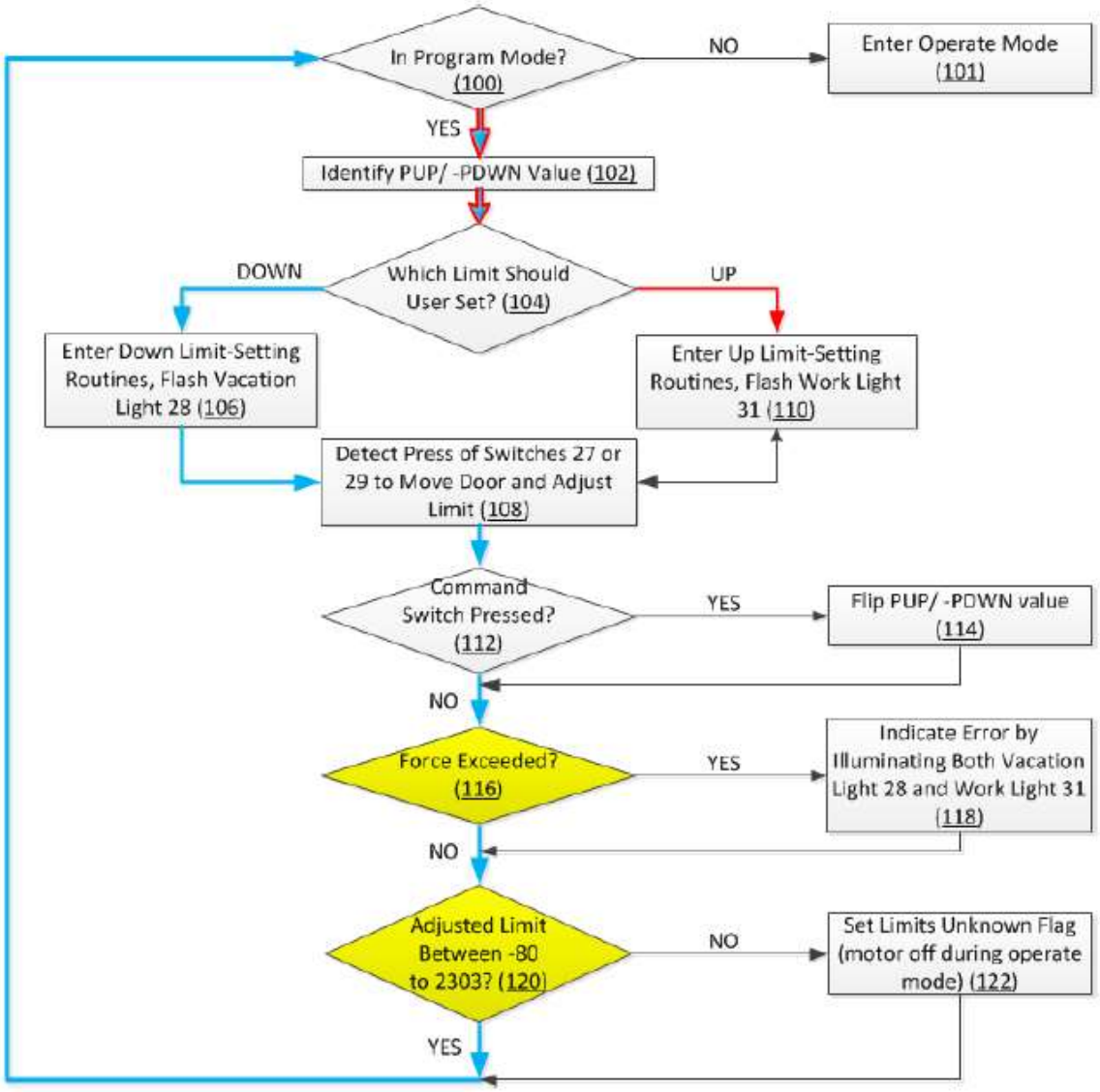
Claim 19 depends from claim 18, and further recites "receiving indications of activities performed by a user during the learn mode" and "annunciating the next activity to the user after the performance of a prior activity by the user, when the prior activity meets pre-determined parameters."

With respect to the "receiving" step, Petitioner argues that during Schindler's program mode, the user presses switches 27 and 29 to move the garage door and set the up and down limits, and presses control push button 25 to switch from setting one limit to the other. Pet. 43–45 (citing Ex. 1003 ¶¶ 114–115). Pressing the switches and button on the control unit causes indicator signals to be sent from the control unit to the microprocessor, which receives those signals. *Id.* Patent Owner does not dispute Petitioner's

arguments regarding the "receiving" step, and we find that Schindler discloses the step for the reasons stated by Petitioner.

With respect to the "annunciating" step, Petitioner argues that after setting one limit in the program mode (a first "activity"), "Schindler's microprocessor checks that the force applied by the motor has not exceeded a maximum force and that the adjusted limit is within a defined range of values." *Id.* at 46–51 (citing Ex. 1003 ¶¶ 117, 119; Ex. 1006 ¶¶ 37, 45–51). When those "pre-determined parameters" are met and the user presses control push button 25, the microprocessor annunciates the "next activity" (i.e., setting the other limit) according to Petitioner. *Id.* at 50–53 (citing Ex. 1003 ¶¶ 120–123; Ex. 1006 ¶¶ 30–34). For example, after the user first sets the down limit, the microprocessor would check the applied force and the adjusted down limit and, if within the acceptable ranges, "a next activity is annunciated to the user by flashing work light 31, which indicates to the user that the 'up' limit must be programmed using at least adjacent work/up switch 29." *Id.*

Petitioner provides on page 53 of the Petition an annotated version of the above process flow chart created by Mr. Baer to show how the assembly source code in Schindler is executed to allow a user to set door travel limit positions:




The annotated chart shows performance of a "prior activity" (steps shown in blue) that meets "pre-determined parameters" (checked at the steps shown in yellow), then proceeding to and annunciating the "next activity" (steps

shown in red leading to flashing work light 31 at step 110), according to Petitioner. *Id.* at 53; *see* Ex. 1003 ¶ 122.

Patent Owner responds that Petitioner and Mr. Baer fail to identify any assembly source code in Schindler to support the portion of the process flow chart depicting a loop back from steps 120 and 122 to step 100. PO Resp. 6–17. In support, Patent Owner cites a single paragraph from Dr. Davis's declaration, where Dr. Davis testifies as follows:

> The Baer Declaration does not explain how execution of the program would jump to the first source code line in Figure 2 to implement the loop shown in Baer Figure 1. A "loop" in a software program involves executing a set of source code instructions, then redirecting execution of the software program (i.e., "jumping") back to the first line in the set of source code instructions, and executing the set of source code instructions again. The Baer Declaration does not explain how any of the identified source code from Schindler would cause execution of the program to jump to the first source code line in Figure 2 ("MOV R1, #SW"), which would be necessary in order to implement the "loop" shown in Baer Figure 1.

Ex. 2001 ¶ 32 (cited at PO Resp. 13–14, 16–18[10]). Patent Owner further argues that "during each iteration of the loop, only a single activity [i.e., setting the up limit or setting the down limit], and no 'next activity,' is identified." PO Resp. 17–18.

We disagree with Patent Owner's arguments. Regardless of the actual operation of the assembly source code, Schindler in its written description

[10] Patent Owner's citation to paragraph 52 on page 17 of its Response appears to be a typographical error, as Dr. Davis's declaration only contains 48 paragraphs. We understand the citation to be to paragraph 32. Also, because Patent Owner in its Response does not cite any portions of the declaration other than paragraph 32 or explain their relevance, we give little weight to the remainder of Dr. Davis's testimony.

discloses multiple activities being completed by the user during the program mode (i.e., the user sets both the up limit *and* sets the down limit), as explained above. *See supra* Section II.D.2; Pet. 9–10, 29–30, 35–38, 43–53 (identifying setting the down limit as the "prior activity" and setting the up limit as the "next activity"); Ex. 1004, Abstract ("upper and lower limits are set in a program mode"), col. 1, ll. 47–55 (disclosing that the down limit is set and "*[t]hen* the door may be moved to the full up position with [an] up switch which will set the up limit of the garage door in the microprocessor memory" (emphasis added)), col. 2, ll. 16–19 ("up and down limits are set"), col. 12, ll. 47–48 ("program the limits of door travel"), col. 13, ll. 7–23 ("programming the limits"), col. 24, ll. 1–19 (disclosing that the down limit is set and "*[t]hen* the up limit can be set by closing the work light switch 29" (emphasis added)). Schindler's written description thus supports Petitioner's contention that the disclosed process is repeated for each activity. We are persuaded that a person of ordinary skill in the art, reading Schindler as a whole for all that it discloses, would have understood Schindler to disclose the user completing a "prior activity" (i.e., setting the down limit) and then, once completed and within appropriate parameters, annunciating to the user the "next activity" to be completed (i.e., setting the up limit).

Regardless, though, Patent Owner does not respond to other aspects of Mr. Baer's testimony supporting his view that the disclosed process repeats after completing a first activity, which we find persuasive. Mr. Baer identifies specific instructions in the assembly source code that are executed once in conjunction with a first activity and then *again* in conjunction with a second activity. For example, Mr. Baer explains the assembly source code instructions pertaining to steps 112 and 114, which determine whether the

command switch has been pressed and, if so, flip the "PUP/-PDWN" flag. Ex. 1006 ¶¶ 32–35. By doing so,

> the execution of the assembly source code is able to *later (i.e., in the next cycle through the program)* identify this new value of *PUP/-PDWN* and then start setting a different limit (*i.e.*, if down limit was set first, then up limit could be set on the *next iteration of the limit-setting routine* after a press of the command switch has been received).

*Id.* ¶ 34 (first and fourth emphases added).

Mr. Baer also cites, in support of his opinion that the process repeats until the user switches from program mode to operate mode, "[c]olumn 22 of Schindler," which "describes a four and one-half minute timer that will set the *F0* flag to zero, which will indicate operate mode." *Id.* ¶ 52 & n.2. Column 22 discloses that when the user performs no action for four and one-half minutes in the program mode, "the light is turned off and the flag F0 (program mode flag) is reset to indicate operate mode. This will prevent the user from forgetting to take the unit out of program mode." Ex. 1004, col. 22, ll. 59–63; *see also id.* at col. 21, ll. 53–54 (disclosing that the *F0* flag "indicates that the unit is in program mode"). As Mr. Baer further explains, the microprocessor checks the *F0* flag at the beginning of the process (step 100), after which the program mode process either continues (at step 102) or the microprocessor switches to operate mode (at step 101). Ex. 1006 ¶¶ 15–20 (describing instructions that "check . . . to see if the user has pressed the program/operate mode button," "change[] operate mode to program mode by setting the *F0* flag" if so, and "check[] the *F0* flag" to determine whether to continue with program mode steps or enter operate mode), 52 ("If Step 100 detects that the program/operate mode button is pressed while in programming mode, then the execution of the assembly

source code will exit programming mode, stop the process for setting the limits, and enter operate mode, as represented by Step 101."). This further supports Mr. Baer's opinion that the process repeats (e.g., the user can set one limit, then not take any action for four and one-half minutes, resulting in the beginning of the process again being performed).[11] We credit the testimony of Mr. Lipoff and Mr. Baer regarding the "annunciating" step, as it is consistent with and supported by the disclosure of Schindler, and find that Schindler's process in fact does repeat and annunciate the next activity in the manner recited in claim 19.

We are persuaded by Petitioner's explanations and supporting evidence, and we find that Schindler discloses every limitation of claim 19. Petitioner has proven, by a preponderance of the evidence, that claim 19 is anticipated by Schindler under 35 U.S.C. § 102(b).

[11] We disagree with Patent Owner's contention that Petitioner's argument on this point in the Reply was improper. *See* Paper 19, 2. In its Petition, Petitioner relied on, and sufficiently explained, the supporting testimony of Mr. Lipoff and Mr. Baer regarding the limitations of claim 19. *See* Pet. 10–16, 43–53. Patent Owner argued in response that Petitioner and Mr. Baer failed to identify sufficient evidence supporting the loop aspect of the process flow chart. PO Resp. 9–12. Petitioner, in its Reply, properly responded to that argument, pointing to arguments made in its Petition and the original testimony of Mr. Baer to explain why it believes Patent Owner is incorrect. *See* Reply 23–26; 37 C.F.R. § 42.23(b) ("A reply may only respond to arguments raised in the corresponding . . . patent owner response."); *Idemitsu Kosan Co., Ltd. v. SFC Co. Ltd.*, 870 F.3d 1376, 1380–81 (Fed. Cir. 2017) (permitting rebuttal argument from a petitioner in response to a patent owner's argument that a reference taught away from a particular combination, as such argument was "simply the by-product of one party necessarily getting the last word").

*4. Independent Claim 21*

Independent claim 21 is similar in a number of respects to independent claim 18. For example, claim 18 recites "activating a learn mode activity," "identifying . . . the activities to be completed by a user," and "transmitting guidance signals . . . for guidance of the user," and claim 21 similarly recites "identifying a user interactive mode of operation," "determining . . . the user actions to complete the interactive mode," and "signaling the user" to perform a "first action" and "next action." Petitioner explains how each limitation is disclosed by Schindler, incorporating its previous analysis for claim 18 for certain aspects and accounting for the differences in language between the claims. *See* Pet. 57–62; Ex. 1003 ¶¶ 131–144; *see CRFD Research, Inc. v. Matal*, 876 F.3d 1330, 1345–46 (Fed. Cir. 2017) (agreeing with the petitioner that it "incorporated [an] argument into other grounds of unpatentability . . . by direct citation to [the] argument in the petition").

Patent Owner argues that Schindler does not disclose "determining . . . the user actions to complete the interactive mode," as recited in claim 21, because Schindler only identifies a single action (setting either the "up" limit or the "down" limit), not multiple actions. PO Resp. 18–19. Patent Owner also argues that Schindler does not disclose "determining that the first action has been correctly performed and signaling the user of a next action in the interactive mode operation," as recited in claim 21, because Petitioner refers to its arguments regarding the "annunciating" step of claim 19 and that analysis is deficient for the same reasons as claim 19. *Id.* at 19 (citing Pet. 62). We disagree with both arguments, for the reasons stated above. *See supra* Sections II.D.2–3. We are persuaded by Petitioner's explanations and

supporting evidence, and we find that Schindler discloses every limitation of claim 21. Petitioner has proven, by a preponderance of the evidence, that claim 21 is anticipated by Schindler under 35 U.S.C. § 102(b).

*5. Dependent Claims 20 and 22–25*

Petitioner explains with specific details how the limitations of dependent claims 20 and 22–25 are disclosed by Schindler, with supporting testimony from Mr. Lipoff and Mr. Baer. *See* Pet. 54–57, 62–69; Ex. 1003 ¶¶ 125–129, 145–155; Ex. 1006 ¶¶ 36–41, 46–48.

Claim 20 depends from claim 19, and recites "annunciating incorrect performance to a user when the prior activity does not meet pre-determined parameters." Similarly, claim 22 depends from claim 21, and recites "determining that the first action was not correctly performed and signaling an alert to the user." Petitioner argues that, when setting a door limit in the program mode, the microprocessor in Schindler checks "whether a threshold force is exceeded while the motor is running" and, "[i]f the threshold force is exceeded (*i.e.*, the prior activity does not meet pre-determined parameters), then the vacation and work lights 28 and 31 are alternately flashed . . . at the control unit 19 to provide an indication to the user." Pet. 54–55, 62–63 (citing Ex. 1003 ¶¶ 126, 145; Ex. 1006 ¶¶ 14, 36–41, Fig. 1 (steps 116 and 118)). Petitioner also contends that door condition indicator light 37 on head unit 11 illuminates when the door will not operate due to a fault, such as when an adjusted door limit does not meet pre-determined parameters and the microprocessor sets a "limits unknown" flag. *Id.* at 55–57, 62–63 (citing Ex. 1003 ¶¶ 127–128; Ex. 1006 ¶¶ 14, 46–48, Fig. 1 (steps 120 and 122)); *see* Ex. 1004, col. 12, ll. 48–56; col. 24, ll. 43–51.

Claims 23 and 24 each depend from claim 21. Claim 23 recites "determining that the status of the barrier movement operator is correct before signaling that a first action is to be performed by the user." Claim 24 recites the converse, namely "determining that the status of the barrier movement apparatus is not correct for the performance of the first action" and "signaling the user to correct the status of the barrier movement operator." We interpret "barrier movement apparatus" in claim 24 to refer to the "barrier movement operator" of parent claim 21.

Petitioner argues that the microprocessor in Schindler's garage door operator checks the "PUP/-PDWN" flag, which indicates the last direction of door travel and whether the status is proper for setting the up or down limit. Pet. 63–64 (citing Ex. 1003 ¶ 148). Specifically, if the flag shows that the door is up, then "the operational state of the door is proper for setting a down limit" and vacation light 28 is flashed to do so. *Id.* Likewise, if the flag indicates that the door is down, then the operational status is proper for setting an up limit and work light 31 is flashed. Petitioner further contends that Schindler "establish[es] that the garage door is operating properly before signaling a user to perform a first limit-setting activity" and, if the door is not operating properly, illuminates door condition indicator light 37 to signal the user to correct the status first. *Id.* at 64–68 (citing Ex. 1003 ¶¶ 149–153; Ex. 1004, col. 1, ll. 63–68 (disclosing that the door condition indicator light indicates there is "something wrong with the operation of the control or the door" and gives the operator a "warning" to "take proper correction action"), col. 24, ll. 43–51 ("In the event the door will not operate when programming limits . . . the door condition indicator light [is illuminated].")).

Claim 25 depends from claim 21, and recites that "the user interacts with the barrier movement operator to initiate the interactive mode." Schindler discloses that the garage door operator is "placed in the program mode by moving the switch 38 [on head unit 11] to the program position." Ex. 1004, col. 24, ll. 1–3; *see* Pet. 68–69; Ex. 1003 ¶¶ 154–155.

Patent Owner does not argue separately dependent claims 20 and 22–25 in its Response. PO Resp. 19–20. We have reviewed Petitioner's contentions and supporting evidence, including the testimony of Mr. Lipoff and Mr. Baer, and are persuaded that Petitioner has proven, by a preponderance of the evidence, that dependent claims 20 and 22–25 are anticipated by Schindler under 35 U.S.C. § 102(b), for the reasons stated by Petitioner.

### *E. Obviousness Ground Based on Schindler and LiftMaster (Claims 23 and 24)*

#### *1. LiftMaster*

LiftMaster is an owner's manual for an "Industrial Duty Door Operator" marketed by Patent Owner. Ex. 1009, 1, 19, 28; *see* Pet. 4. The operator has a "Logic Control board" with "Open, Close and Stop buttons" that "provide easy programming ability and door control at the electrical box." Ex. 1009, 14. LiftMaster discloses:

> *Programmable Maximum Run Timer:*
>
> Any time a "closing" or "opening" door takes 10 seconds longer than its programmed normal cycle time, the door will stop. The factory default for maximum run time is 90 seconds.
>
> *Setting Maximum Run Timer:*
>
> Start with the door in the fully closed position. Set DIP switches to "set max run timer" mode. Press the open button.

> Allow the door to run to the open limit. Once the door has stopped, set DIP switches to the desired operating mode (B2, C2, D1, E2, T, TS, FSTS). The maximum run time is now set to the door's travel time + 10 seconds.

*Id.*

*2. Analysis*

Petitioner explains how Schindler and LiftMaster[12] collectively teach every limitation of dependent claims 23 and 24, relying on the testimony of Mr. Lipoff as support. *See* Pet. 69–77; Ex. 1003 ¶¶ 156–173. As explained above, we find that Schindler discloses the limitations of claims 23 and 24. *See supra* Section II.D.5. Petitioner also argues that the limitations of claims 23 and 24 are taught by the combination of Schindler and LiftMaster, relying in particular on LiftMaster's instruction that the user should "[s]tart with the door in the fully closed position" when setting the maximum run timer. Pet. 69–70, 73–74 (quoting Ex. 1009, 14). Petitioner argues that a person of ordinary skill in the art

> would have understood that, in order to properly set LiftMaster's maximum run timer, the door is required to start in the fully closed position. In other words, based on the instructions in LiftMaster, a user must look at the door to establish whether it is in the correct position of being fully down/closed. If the door is not in the fully closed position, a [person of ordinary skill in the art] would have understood that a user is required to take corrective action by moving the door into the fully closed position.

*Id.* at 70 (citation omitted). According to Petitioner, "the user is necessarily required to check whether the door is fully closed (*i.e.*, status is correct) or

[12] LiftMaster was not of record during prosecution of the '611 patent. *See* Ex. 1001, (56); Pet. 3–4.

the door is open (*i.e.*, status is incorrect) in order to proceed with the instruction to '[s]tart with the door in the fully closed position.'" *Id.*

Petitioner explains why a person of ordinary skill in the art would have been motivated to combine the references' teachings to achieve the methods recited in claims 23 and 24 and would have had a reasonable expectation of success in doing so, again with supporting testimony from Mr. Lipoff. *Id.* at 71–77; *see* Ex. 1003 ¶¶ 160–163, 166–167, 171–172. According to Petitioner and Mr. Lipoff, a person of ordinary skill in the art "would have been motivated to incorporate into Schindler the step required by LiftMaster of establishing whether the status of the operator is correct for performing a particular programming activity and instructing the user to start from a proper beginning status before proceeding with certain programing routines," such as "setting the maximum run timer." Pet. 71. Specifically, Schindler's process would be modified (based on the teachings of LiftMaster) to determine that the status of the garage door operator is correct (e.g., the door is closed) or incorrect (e.g., the door is open) for performance of a "first action" (e.g., setting the up limit) and signal the user to start with the door in the closed position (e.g., by illuminating vacation light 28). *Id.* at 73–77.

With respect to a motivation to combine the references' teachings, Petitioner argues that an ordinarily skilled artisan would have looked to garage door opener owner's manuals of the time (such as LiftMaster, which, like Schindler, was created by Patent Owner) for guidance on how to instruct a user during installation, would have understood that Schindler's system could be "improved" by making the modification described above, and would have recognized that requiring the door to be in a certain position

would be "simpler for users as they must follow a predefined series of programming steps from a start position to an end position of the door." *Id.* at 71–75. We agree with Petitioner's analysis, which is supported by Mr. Lipoff's testimony and consistent with the disclosures of the references and the level of ordinary skill in the art set forth above, and adopt it as our own. *See supra* Section II.C.

Patent Owner does not argue separately dependent claims 23 and 24 in its Response. PO Resp. 19–20. For the reasons set forth by Petitioner and Mr. Lipoff, and explained above, we are persuaded that Schindler and LiftMaster collectively teach all of the limitations of claims 23 and 24, and that a person of ordinary skill in the art would have had reason to combine those teachings to achieve the methods recited in those claims and would have had a reasonable expectation of success in doing so. Petitioner has proven, by a preponderance of the evidence, that claims 23 and 24 would have been obvious based on Schindler and LiftMaster under 35 U.S.C. § 103(a).

### *F. Petitioner's Motion to Exclude*

The party moving to exclude evidence bears the burden of proof to establish that it is entitled to the relief requested—namely, that the material sought to be excluded is inadmissible under the Federal Rules of Evidence. *See* 37 C.F.R. §§ 42.20(c), 42.62(a).

Petitioner moves to exclude Exhibits 2002 and 2003 under Federal Rules of Evidence 401–403. Mot. 1–6. Petitioner's Motion to Exclude is dismissed as moot with respect to these exhibits, as we do not rely on them in a manner adverse to Petitioner.

Petitioner also moves to exclude Dr. Davis's declaration (Ex. 2001) under Federal Rules of Evidence 701 and 702. Mot. 6–11. Federal Rule of Evidence 702 provides:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:
>
> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
>
> (b) the testimony is based on sufficient facts or data;
>
> (c) the testimony is the product of reliable principles and methods; and
>
> (d) the expert has reliably applied the principles and methods to the facts of the case.

Petitioner argues that Dr. Davis is not qualified to offer expert testimony in this proceeding and is not a person of ordinary skill in the art because he does not have work experience with access control or automated door control systems. Mot. 6–8. Rather, Dr. Davis states that he has experience with "embedded microprocessor[] systems."[13] *Id.* at 9 (quoting Ex. 2001 ¶ 13) (emphasis omitted).

We have reviewed Dr. Davis's testimony and are not persuaded that it would warrant the remedy of exclusion. As explained above, a person of

[13] Dr. Davis also states that in writing his declaration, he considered his "work experience in the fields of semiconductor device design and fabrication." Ex. 2001 ¶ 15. Patent Owner contends that the statement was a "clerical error," Opp. 5, and Dr. Davis testified during cross-examination that such experience is "[p]robably not" relevant to the claims at issue in this proceeding, Ex. 1010, 188:23–189:6. Regardless, we are able to assess Petitioner's arguments based on Dr. Davis's qualifications as stated in his declaration and during cross-examination.

ordinary skill in the art at the time of the '611 patent would have had at least an undergraduate degree in electrical or computer engineering, or equivalent education, and two years of work experience in the fields of access control or automated door control systems, or equivalent work experience or training in the field of such technologies. *See supra* Section II.C. Although Petitioner is correct that Dr. Davis has limited experience with access control or automated door control systems specifically, he has a B.S., M.S., and Ph.D. in electrical engineering and "more than 30 years of experience with computer hardware, architectures and networks in academic and practical situations." *See* Ex. 2001 ¶¶ 2, 13. Further, as noted above, Patent Owner in its Response only cites to paragraph 32 of Dr. Davis's declaration, and does not rely on any other portion of the declaration in support of its arguments. *See supra* Section II.D.3. We are able to determine what weight to give Dr. Davis's testimony without excluding the testimony. Petitioner's Motion to Exclude is denied as to Exhibit 2001.

Accordingly, for the foregoing reasons, Petitioner's Motion to Exclude is *denied* as to Exhibit 2001 and *dismissed* as to Exhibits 2002 and 2003.

## III. ORDER

Petitioner has demonstrated, by a preponderance of the evidence, that claims 18–25 are anticipated by Schindler under 35 U.S.C. § 102(b), and that claims 23 and 24 are unpatentable over Schindler and LiftMaster under 35 U.S.C. § 103(a).

In consideration of the foregoing, it is hereby:

ORDERED that claims 18–25 of the '611 patent have been shown to be unpatentable; and

FURTHER ORDERED that Petitioner's Motion to Exclude (Paper 22) is *denied-in-part* and *dismissed-in-part*.

This is a final 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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