No. 19-1299

In the
Supreme Court of the United States

THE CHAMBERLAIN GROUP, INC.,
Petitioner,

v.

TECHTRONIC INDUSTRIES CO.,
TECHTRONIC INDUSTRIES NORTH AMERICA, INC.,
ONE WORLD TECHNOLOGIES, INC.,
OWT INDUSTRIES, INC., RYOBI TECHNOLOGIES, INC.,
Respondents.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF IN OPPOSITION

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QUESTION PRESENTED

Petitioner The Chamberlain Group ("Chamberlain") received a patent covering the idea of wirelessly transmitting information about a garage door opener. Its claims recite a garage door opener (mobile barrier operator), a controller (found in any electric device), and a wireless transmitter—"a handful of generic * * * components configured to implement [this abstract] idea." *Alice Corp. Pty. Ltd.* v. *CLS Bank Int'l*, 573 U.S. 208, 226-27 (2014).

At trial, Chamberlain argued that its patent covered all garage door openers with integrated transmitters that could communicate with smartphones. In the words of its expert, there are no "acceptable non-infringing alternatives."

The Federal Circuit, considering the claims as a whole, concluded that they were directed to the abstract idea of wirelessly transmitting information. The panel further noted that Chamberlain failed to develop any argument that the claims as a whole include an inventive concept that transforms this abstract idea into a patent-eligible application.

If this Court were to grant review, the questions presented would be:

1. Whether the Federal Circuit, on the particular facts of this case, erred in analyzing the claims as a whole.

2. Whether Chamberlain forfeited and is estopped from making its current arguments about the scope and preemptive effect of its claims in view of its inconsistent arguments below.

RULE 29.6 STATEMENT

The Respondents to the proceedings include those listed on the cover.

No parent or publicly held corporation owns 10% or more of the stock of the Respondents.

RELATED PROCEEDINGS

There are no other proceedings in state or federal trial or appellate courts, or in this Court, directly related to this case within the meaning of this Court's Rule 14.1(b)(iii).

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INTRODUCTION

The Petition presents this case as suitable for review only by mischaracterizing the holding below and disregarding the record. Contrary to Chamberlain's assertions to this Court, the court of appeals expressly considered the claims **as a whole**, and Chamberlain's current arguments about the scope of preemptive effect of its claims conflict directly with the arguments and evidence it presented to the jury.

Although the Petition presents the claims as narrow and focused, Chamberlain's infringement and damages case at trial rested on evidence that consumers want to control garage door openers with their smartphones and that this patent covered all acceptable means of implementing "smart" garage door openers. Chamberlain did not argue below that its claims cover "**a** 'smart' garage door opener," Pet. 2 (emphasis added), but that its claims cover **all** smart garage door openers (*i.e.*, any implementation of the idea of a smart garage door opener). See Resp. App. 66a (testimony of Chamberlain's expert that his damages opinion was premised on "a lack of acceptable non-infringing alternatives" for this feature).

Nor is the Petition faithful to the record before the Federal Circuit. Contrary to the Petition's suggestion (at 36) that "there are no outstanding issues of claim construction," TTI raised strong arguments to the Federal Circuit that TTI was entitled to judgment as a matter of law regarding infringement under the correct claim construction. See Resp. App. 12a-26a. Chamberlain's defense of its infringement judgment requires interpreting "operational status condition" so broadly as to be meaningless. *Ibid.* Before the Federal

Circuit, Chamberlain was forced to defend this unbounded interpretation to defend its infringement judgment.

Under the district court's pretrial claim construction, its summary judgment ruling, and the jury charge, TTI was entitled to judgment as a matter of law on infringement. The district court denied judgment as a matter of law to TTI only because it (erroneously) modified its claim construction post-judgment. See, e.g., Resp. App. 17a ("The reasoning in the district court's order denying JMOL is inconsistent with its claim construction and its order denying summary judgment.").

Moreover, if Chamberlain were bound by the claim construction arguments that it made to the Patent Trial and Appeal Board ("PTAB") in (successfully) opposing *inter partes* review, then TTI undisputedly does not infringe.

These infringement-related claim construction issues went unresolved by the Federal Circuit, which resolved the case under Section 101.

Similarly, the Petition incorrectly represents (at 36) that there are no other invalidity issues. TTI argued to the Federal Circuit that, as a matter of law, the claims are anticipated. Resp. App. 3a-11a. Again, Chamberlain's arguments in response rested on strained claim constructions, *ibid.*, which the Federal Circuit did not address because it did not reach invalidity.

Forced to defend its untenable infringement verdict and excessive damages, Chamberlain did not develop

the arguments currently presented in its Petition before the Federal Circuit, which actually applied the test urged by Chamberlain's Petition for certiorari and considered the claims as a whole.

The Petition asks for nothing more than case-specific error correction, and resolving these arguments would entangle this Court deeply in the trial record because of the serious inconsistencies between Chamberlain's current arguments and its arguments to the jury, PTAB, and Federal Circuit. Nor would the requested error correction be case dispositive even if successful: particularly in light of its arguments to this Court, if Chamberlain were to prevail in front of this Court on Section 101 grounds, TTI would be entitled to judgment as a matter of law on infringement and validity.

The Petition should be denied.

STATEMENT OF THE CASE

For decades, Petitioner The Chamberlain Group, Inc. ("Chamberlain") has dominated the market for garage door openers. Chamberlain's domination has inflicted the usual injuries suffered by consumers in the absence of competition, including stagnating technology.

Dissatisfied with Chamberlain's failure to innovate, The Home Depot asked Respondents Techtronic Industries Co., Techtronic Industries North America, Inc., One World Technologies, Inc., OWT Industries, Inc., and Ryobi Technologies, Inc. (collectively, "TTI")—known for their Ryobi brand of tools—to develop an inventive new garage door opener.

Based on The Home Depot's request, TTI entered the market in 2016 with its award-winning Ryobi® Ultra-Quiet Garage Door Opener (the "Ryobi GDO"). An internal Chamberlain document analyzed the Ryobi GDO and acknowledged its numerous advantages over Chamberlain's product. Resp. App. 73a-75a.

Unable to compete in the marketplace, Chamberlain turned to its thicket of patents, suing TTI in district court and at the International Trade Commission. These lawsuits (in addition to proceedings before the PTAB and the Court of International Trade) have been uniformly resolved in TTI's favor, resulting in seven different Federal Circuit decisions in favor of TTI against Chamberlain.

This Petition represents Chamberlain's last hope to block competition and prevent innovation in the garage door opener market.

Legal Background

In the Patent Act, Congress—exercising its power "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries," U.S. Const. Art. I, § 8, cl. 8—provided that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor." 35 U.S.C. 101.

Section 101 contains an implicit exception: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice*, 573 U.S. at 216. "[A]n idea of itself is not patentable." *Id.* at 218 (internal brackets omitted). Nor can one "make [a] concept patentable"

by "limiting an abstract idea to one field of use." *Bilski* v. *Kappos*, 561 U.S. 593, 612 (2010).

This Court developed the current law of patent eligibility under Section 101 in two cases. In *Mayo Collaborative Services* v. *Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), this Court discussed patents concerning natural laws, while in *Alice*, 573 U.S. at 208, this Court discussed patents concerning abstract ideas. *Alice* clarified *Mayo*'s two-step test for patent eligibility. First, a court "determine[s] whether the claims at issue are directed to one of those patent-ineligible concepts." *Alice*, 573 U.S. at 217. Second, if so, the court "must examine the elements of the claim to determine whether it contains an 'inventive concept,'" an "element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Id.* at 217-18.

Alice also confirmed that these principles cannot be evaded by claiming a system implementing an abstract idea: "The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea. * * * Holding that the system claims are patent eligible would [make patent eligibility depend on the draftsman's art]." *Id.* at 226-27.

Chamberlain's Patent Claims the Abstract Idea of Wireless Data Transmission in a Garage Door Opener Environment Using Generic Hardware

Chamberlain's U.S. Patent No. 7,224,275 ("the '275 Patent") discloses wirelessly transmitting information about a movable barrier operator (*i.e.*, a garage door

opener). Resp. App. II-1 (Abstract: "A movable barrier operator [] has a wireless status condition transmitter [] that wirelessly transmits status condition messages[.]"). According to the '275 Patent, "the wireless status condition data transmitter [] serves to transmit a status condition signal that represents a present operational status condition of the controller []." Resp. App. II-5 at 4:64-67.

Representative claim 1 recites:

> A movable barrier operator comprising:
>
> > a controller having a plurality of potential operational status conditions defined, at least in part, by a plurality of operating states;
> >
> > a movable barrier interface that is operably coupled to the controller;
> >
> > a wireless status condition data transmitter that is operably coupled to the controller, wherein the wireless status condition data transmitter transmits a status condition signal that:
> >
> > > corresponds to a present operational status condition defined, at least in part, by at least two operating states from the plurality of operating states; and
> > >
> > > comprises an identifier that is at least relatively unique to the movable barrier operator, such that the status condition signal substantially uniquely identifies the movable barrier operator.

Pet. App. 4-5a.

The specification admits that each of the three components claimed is preexisting and generic: the controller, movable barrier interface, and wireless status condition data transmitter are all "well understood in the art." Resp. App. II-5 at 3:49-53 and 4:2-4.

Before the Federal Circuit, Chamberlain's Patent Eligibility Arguments Were Constrained by Its Infringement and Validity Arguments

On appeal to the Federal Circuit, TTI sought rendition of judgment in its favor on three grounds: eligibility, infringement, and validity.

Although the Federal Circuit did not reach infringement or validity because it found the claims ineligible, the presence of the other issues in the appeal affected Chamberlain's eligibility arguments. Chamberlain's infringement and damages theories rested on an extremely broad (and tenuous) construction of the claims. The need to defend the infringement verdict and damages constrained Chamberlain's ability to argue, for eligibility purposes, that the claims are narrow and specific.

First, TTI argued that Chamberlain's infringement theory was barred by judicial estoppel because Chamberlain successfully argued for a narrower construction for the "status condition signal" limitation in front of the patent office. When TTI petitioned for *inter partes* review, Chamberlain argued that its claims, unlike the prior art, require transmitting "action[s] * * * performed by the controller" rather than information about the garage door (such as "door open" or "light on"). Resp. App. 68a. Expressly relying on Chamberlain's construction, the Patent Trial and Appeal Board

denied institution of *inter partes* review. Resp. App. 69a-70a.

But this information—"door open" and "light on"—is precisely the information transmitted by the Ryobi GDO. Chamberlain's infringement theory in the district court directly conflicted with its arguments to the Board. Before the Federal Circuit, to defend the infringement verdict, Chamberlain was forced to argue that the phrase "status condition signal" was broad and not limited to actions performed by the controller.

Second, TTI asked the district court to enforce the limitation requiring the transmitted signal to be defined by at least two operating states (such as "door open" and "light on"). Chamberlain added this limitation when prosecuting the patent to get around prior art that disclosed transmitting "a single position of the garage door." Resp. App. 67a.

Like the prior art, the Ryobi GDO transmits only a single piece of information—such as "a single position"—at a time. To prove infringement, Chamberlain was forced to argue that the "defined by" limitation was meaningless: its expert testified that any piece of information is inherently defined by both what it is ("door open") and what it is not ("door closed"). Thus, Chamberlain contended, transmitting any information about a garage door opener (such as "door open") practices the claims because sending "door open" is also inherently defined by the door not being "closed." To defend the infringement verdict, Chamberlain was forced to urge the Federal Circuit to interpret the transmission limitation so broadly as to be meaningless.

Similarly, Chamberlain's damages arguments relied on the '275 Patent covering all garage door openers with integrated transmitters that communicated with smartphones. According to Chamberlain, the '275 Patent covered all means of implementing the idea of wirelessly transmitting information about garage door openers.

At trial, Chamberlain reiterated, time and again, that its claims covered the "patented feature" of "a garage door opener with the ability to send status messages." Resp. App. 61a. And its expert testified that "there's a lack of acceptable non-infringing alternatives." Resp. App. 66a.

Because Chamberlain was forced to defend a judgment based on these infringement and damages theories, it could not argue to the Federal Circuit, as it argues now, that the claims are narrow and "leave ample room for other inventors." Pet. i. To the contrary, before the Federal Circuit, Chamberlain insisted that its claims could not be acceptably designed around and left no room for other inventors to implement a smart garage door opener without infringing.

The Federal Circuit Correctly Holds Chamberlain's Claims Ineligible

In light of Chamberlain's arguments, the Federal Circuit recognized that when considered as a whole, the claims are ineligible under Section 101.

In analyzing *Alice*'s step one, the panel explicitly considered "the claim's character as a whole" and determined that they were directed to the abstract idea of wirelessly communicating status information about a garage door opener system. Pet. App. 6a (quoting

Affinity Labs of Tex., LLC v. *DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016)).

The panel readily rejected Chamberlain's principal argument that the mere fact that the claims recite a physical device means that they cannot be directed to an abstract idea. Pet. App. 10a. As this Court explained in *Alice*, "mere recitation of a generic computer"—a physical device—"cannot transform a patent-ineligible abstract idea into a patent-eligible invention." 573 U.S. at 223; see also *id.* at 224 (expressly rejecting the "any physical device" argument).

At *Alice*'s step two, the panel again considered the claims as a whole, asking whether the claims "as an ordered combination * * * may be regarded as the 'inventive concept.'" Pet. App. 12a-13a. As this Court has directed, the panel considered whether the claims contained an inventive concept that transformed the abstract idea into a patent-eligible application: "[B]eyond the idea of wirelessly communicating status information about a movable barrier operator, what elements in the claim may be regarded as the 'inventive concept'?" Pet. App. 12a.

The panel's analysis was straightforward because Chamberlain failed to argue that the claims as a whole recited any inventive concept: "Because [Chamberlain] does not point to any inventive concept present in the ordered combination of elements [*i.e.*, the claim as a whole] beyond the act of wireless communication, we find that no inventive concept exists in the asserted claims[.]" Pet. App. 12a-13a.

Chamberlain petitioned the Federal Circuit for rehearing en banc. Chamberlain did not request en banc review of the panel's *Alice* step one determination that

the asserted claims are directed to an abstract idea. Rather, Chamberlain requested, for the first time, a remand on step two despite the undisputed record that the asserted claims do not recite significantly more than the abstract idea of "wirelessly communicating status information about a system."

But Chamberlain waived its right to seek such relief in view of its own counsel's admission that "[t]here are no non-generic components in the movable barrier operator." Oral Arg. Rec. 23:52-24:08, *The Chamberlain Grp., Inc.* v. *Techtronic Indus. Co. Ltd.*, No. 2018-2103, https://tinyurl.com/y58a8p9f (July 9, 2019).

The Federal Circuit denied Chamberlain's en banc rehearing request. Pet. App. 117a.

REASONS FOR DENYING CERTIORARI

I. The Question Presented Is Not Implicated.

Chamberlain devotes much of its Petition to declaring a "patent emergency" and discussing the general state of Section 101 jurisprudence. Pet. 1-3, 13-34. The Petition's suggestion of an "emergency" is belied by the minimal amicus support, and Chamberlain spends comparatively little time discussing the facts of this case or the claims of its '275 Patent. Pet. 21-22, 24-26. For good reason—the facts do not implicate the broad issues Chamberlain raises.

The Question Presented focuses on the need to consider claims as a whole, asking "[w]hether the Federal Circuit * * * fail[ed] to properly assess Chamberlain's claims 'as a whole.'" Pet. i. But the Federal Circuit did consider Chamberlain's claim's "as a whole." Pet. 6a.

No one—not Chamberlain, not TTI, and not the Federal Circuit—contends that the claims should not be considered as a whole. There is no legal dispute for this Court to resolve: at best, Chamberlain is making a highly fact-specific request for error correction.

A. The court below considered "the claims as a whole" in both steps of the *Alice* analysis.

Despite its overwrought language, the Petition eventually admits (at 17) that the court below explicitly stated it applied the correct test.

At step one, the panel considered "the claim's character as a whole" and concluded that the claims were directed to the abstract idea of wirelessly communicating status information about a system. Pet. App. 6a (quoting *Affinity Labs of Tex., LLC* v. *DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016)).

At step two, the panel asked whether the claim elements—either individually or collectively ("as an ordered combination," Pet. App 12a)—contain an inventive concept that transforms the claims into a patent-eligible application of that idea. The only difference between considering a claim "as a whole" and considering a claim as an "ordered combination" of limitations is semantics.

There is no dispute about the legal standard: Chamberlain asks this Court to hold that *Alice* requires consideration of the claims as a whole—which the panel explicitly did. Chamberlain merely complains about the application of this well-established standard to the facts of this case.

B. Below, Chamberlain failed to identify any inventive concept in the claims "as a whole."

The Federal Circuit's analysis of *Alice*'s second step rested primarily on Chamberlain's failure to identify any inventive concept in the claims as a whole: "[Chamberlain] does not point to any inventive concept present in the ordered combination of elements beyond the act of wireless communication[.]" Pet. App. 12a.

In its Petition, Chamberlain purports to identify an inventive concept in Chamberlain's design choices. See Pet. 12 (arguing that the inventive concept was "incorporat[ing] the controller and wireless transmitter into the garage door opener itself" and "specif[ic] software programming that conveyed status information in the form of states").

But Chamberlain forfeited the argument—as the panel explained, Chamberlain did not argue below that these design choices were inventive concepts that transformed the idea of wireless transmission into a patent-eligible application.

That the Federal Circuit did not address an argument which Chamberlain did not make neither demonstrates error in the panel's decision nor warrants review by this Court. There is no reason that this Court should review the panel's determination.

And in any event, there is good reason that Chamberlain did not raise these arguments to the panel. Chamberlain's counsel admitted at oral argument that these components were not inventive: "There are no non-generic components in the movable barrier operator." Oral Arg. Rec. 23:52-24:08.

Nothing in the record suggests that there is anything "inventive" in putting a controller in the garage door opener. According to Chamberlain's expert, controllers are already located "in almost everything you touch that's got any kind of electrical characteristics," Resp. App. 53a, such as electric garage door openers. See also Resp. App. 56a (Chamberlain's expert Dr. Rhyne testifying that "controllers disclosed in the '275 Patent are used in a conventional well-known manner to control operations within the movable barrier operator").

Chamberlain's argument that "a garage door with a controller" is an inventive concept is the equivalent of suggesting that the claims in *Alice* would have been eligible for patent protection if, instead of just reciting a computer, they had recited "a computer with a mouse and keyboard."

Chamberlain's assertion that its claims require the wireless transmitter to be "incorporated" into the garage door opener is hotly disputed, as this issue was part of TTI's invalidity argument that the Federal Circuit did not reach. Nothing in the claims or the district court's claim construction requires "incorporation." Nor has Chamberlain ever explained what it means by "incorporated"—it has disclaimed the argument that the wireless transmitter and garage door opener must be "included in a single housing." Resp. App. 33a-34a.

Evaluating Chamberlain's new argument that "incorporating" the wireless transmitter is an inventive concept would require this Court to (1) force Chamberlain (for the first time) to articulate what it means by incorporate; (2) review the claim construction to deter-

mine whether the claims actually require this incorporation; and (3) finally, consider whether this "incorporation" (whatever it might be) is an inventive concept.

Nor does the record contain any support for Chamberlain's assertion that the claims cover "specif[ic] software programming." The claims say nothing about programming—and Chamberlain's infringement theory was that sending any information in any form about a garage door opener—even information as simple as "door open" or "light off"—would practice the claims.

C. Chamberlain's claims are broadly preemptive and do not "leave ample room for other inventors" to apply the underlying abstract idea.

Finally, the Question Presented asserts that the claims "leave ample room" for other garage door openers that wirelessly transmit status information. This contention conflicts with the record and with Chamberlain's arguments below.

For example, at trial and in its appellee brief below, Chamberlain argued that TTI willfully infringed its patent because TTI copied its "patented functionality" of wirelessly transmitting information. See Resp. App. 28a ("In 2003, C[hamberlain] conceived of the idea of redesigning an opener to have a wireless transmitter and smart controller 'built into it,' enabling the opener to transmit status information."); Resp. App. 35a ("[TTI] deliberately tried to copy the patented functionality.").

Contrary to its current focus on the specific components (such as the controller and wireless transmitter), Chamberlain argued below that the specific components were irrelevant: TTI willfully infringed because it copied Chamberlains' "patented functionality" regardless of "whether or not any individual component" was copied. Resp. App. 35a.

Far from "leav[ing] ample room for other inventors," Chamberlain premised its damages case on the argument that its patent cannot be acceptably designed around. In the words of Chamberlain's expert, "there's a lack of acceptable non-infringing alternatives." Resp. App. 66a. At trial, Chamberlain reiterated, time and again, that its claims covered the "patented feature" of "a garage door opener with the ability to send status messages." Resp. App. 61a. Chamberlain's argument to this Court—that the claims are narrow and allow others to invent new ways to apply the same abstract idea—squarely conflicts with the infringement and damages case it presented to the jury and defended before the Federal Circuit.

At trial, Chamberlain made clear that its case was about the "patented functionality" of garage door openers with wireless transmitters (*i.e.*, "smart" garage door openers). That (it contended) left no way for competitors to acceptably implement the same feature without infringing. This is the very definition of preemption: a claim that "disproportionately t[ies] up the use of the underlying ideas." *Alice*, 573 U.S. at 217; see also *Bilski*, 561 U.S. at 611-12 (claims directed to risk hedging "would pre-empt use of this approach * * * effectively grant[ing] a monopoly over an abstract idea.").

Having chosen at trial to present theories of infringement, damages, and willfulness in which the claims covered the idea of smart garage door openers, Chamberlain cannot now change tack before this Court. Its assertion that the claims "leave ample room for other inventors to apply any underlying abstract principles in different ways" cannot be squared with its arguments below. Pet. i. There is nothing inequitable about holding Chamberlain to the consequences of the case that it chose to present.

Chamberlain's Petition thus presents no question actually implicated by this case. The Federal Circuit indisputably did consider the "claims as a whole," and the record belies Chamberlain's factual assertions about its claims' breadth.

II. This Case Is a Particularly Unsuitable Vehicle to Consider the Law of Patent Eligibility.

Even if this Court were inclined to consider the law of patent eligibility, this case is an unusually poor vehicle in which to do so.

If this Court were to grant certiorari, rather than clashing with Chamberlain on general legal principles, TTI's merits arguments would primarily rest on the particular record in this case and Chamberlain's infringement, damages, and willfulness arguments to the jury. This Court's analysis of the specific trial record would provide little useful guidance for future cases.

A. Chamberlain's patent eligibility arguments have changed materially from its arguments below.

The eligibility arguments in the Petition were not developed before the Federal Circuit. The centerpiece of Chamberlain's purported "patent emergency" is whether claims must be considered "as a whole."

But the phrase is almost entirely absent from Chamberlain's brief below, appearing only in two block quotations. See Resp. App. 30a (quoting *Diamond* v. *Diehr*, 450 U.S. 175, 185-88 (1981)); Resp. App. 37a.

Instead, before the Federal Circuit, Chamberlain relied on the (now-abandoned) argument that any claim reciting any generic physical device is necessarily eligible for patent protection. See Resp. App. 30a ("The '275's claims are not 'directed to' a patent-ineligible abstract idea * * * [because] they recite a 'new and useful improvement' to a statutorily eligible 'machine.'"); Resp. App. 31a ("C[hamberlain] received protection on the physical device itself."); Resp. App. 32a (arguing that any "physical manifestation" makes a claim eligible).

This Court squarely rejected this argument in *Alice*:

> The fact that a computer necessarily exist[s] in the physical, rather than purely conceptual, realm, is beside the point. There is no dispute that a computer is a tangible system (in § 101 terms, a 'machine'), or that many computer-implemented claims are formally addressed to patent-eligible subject matter. But if

> that were the end of the § 101 inquiry, an applicant could claim any principle of the physical or social sciences by reciting a computer system configured to implement the relevant concept.

573 U.S. at 224 (citation omitted). It is hardly surprising that the Federal Circuit rejected Chamberlain's arguments and declined to disregard *Alice*.

And at step two, Chamberlain "d[id] not point to any inventive concept present in the ordered combination of elements beyond the act of wireless communication[.]" Pet. App. 12a.

To the extent that Chamberlain now complains that the panel failed to recognize an inventive concept in the combination of elements, it has only itself to blame. Chamberlain's problem is not that the Federal Circuit applied the wrong test. It is that Chamberlain failed to develop the argument that it now presses before this Court.

The failure to develop these arguments was no accident. Chamberlain tried a case before the jury with broad theories of infringement, willfulness, and damages. Before the Federal Circuit, Chamberlain could not simultaneously defend these findings (based on its evidence that the claims were broad and cannot be designed around) and make the eligibility arguments that it now seeks to raise before this Court (suggesting that the claims are narrow and nonpreemptive).

Particularly given that Chamberlain failed to present these arguments to the Federal Circuit, its request for fact-bound error correction should be denied.

B. Chamberlain's litigation strategy created significant uncertainty regarding the claim construction.

In addition to entangling this Court in the trial record regarding infringement, damages, and willfulness, granting certiorari would force this Court to consider disputed and unresolved questions of claim construction.

As TTI highlighted in its briefing to the Federal Circuit, Chamberlain's arguments about the scope of the claims have been opportunistic and inconsistent. See Resp. App. 2a ("Chamberlain's claim construction has been a moving target[.]").

Chamberlain currently argues that the claims do not broadly recite the abstract idea of wirelessly communicating status information about a system but rather claim transmitting very specific data. See Pet. 8 ("Chamberlain chose to program [the controller and wireless transmitter] to detect and transmit a defined 'operating state' for each part of the system, rather than sending raw data.").

Chamberlain has reversed its claim construction position from below, where its theory was that sending any information, including raw data indicating a single operating state, such as "door open," infringed. Resp. App. 34a-35a; see also Pet. App. 4a (the claim limitation "a status condition signal that: corresponds to a present operational status condition defined, at least in part, by at least two operating states").

Even if this Court were inclined to address Chamberlain's new arguments, doing so would require this

Court to address the claim construction issues unresolved by the Federal Circuit, determining whether (as TTI contends and the plain language of the claims requires) an operational status condition must be defined by two or more operating states or whether (as Chamberlain contended in its infringement case) the claims are practiced by transmitting a single operating state. Or perhaps (as has occurred several times already throughout the case), Chamberlain has shifted positions again and developed some new theory for what the claims may mean.

Similarly, evaluating the breadth of the claims would also require this Court to consider whether judicial estoppel applies to Chamberlain's successful representations to the Board that an operating state cannot be the state information about the garage door itself (such as the door position) but is limited to an "action being taken by the controller." Resp. App. 71a; see *ibid.* (Chamberlain arguing that the prior art did not practice the claims because the prior art transmitted "the door's position (*e.g.*, open or closed) [which] indicates the status of the door").

Indeed, Chamberlain's petition asserts as established fact a hotly disputed construction issue related to validity: whether the claims cover transmitting the door status by transmitting number of motor turns. Compare Pet. 8-9 (asserting, without explanation, that this method of transmitting the door status would not infringe) with Resp. App. 10a-11a (arguing that the claims are anticipated by this embodiment of the prior art); see also *Peters* v. *Active Mfg.*, 21 F. 319 (W.D. Ohio 1884), affirmed and quoted in 129 U.S. 530 (1889) ("That which infringes if later, anticipates if earlier.").

The court below did not need to reach these issues—it did not address infringement, invalidity, or willfulness. See *Bilski*, 561 U.S. at 602 (describing eligibility as "a threshold test" that precedes the remaining "conditions and requirements" of patentability, including novelty and nonobviousness). These claim construction disputes were not material to the (limited) eligibility arguments that Chamberlain made below, relying on the "physical manifestations" argument rejected in *Alice* and failing to identify any inventive concept beyond the abstract idea itself. But now that Chamberlain has attempted to develop eligibility arguments based on the claims, these claim construction disputes have come into full focus and would necessarily have to be decided by this Court in the first instance.

Chamberlain's litigation strategy and shifting positions have created significant uncertainty about the meaning of the claims, which the Petition glosses over. Attempting to review patent eligibility in these circumstances would entangle this Court in knotty issues of claim construction, estoppel, and validity. The case is an unusually poor vehicle for addressing the law of patent eligibility.

III. There Is Nothing Important About the Question Presented by This Petition.

Chamberlain calls its petition a "Goldilocks petition" because it neither challenges the broad Section 101 framework nor raises more nuanced procedural issues. Pet. 35. But in the next line, Chamberlain's "Goldilocks" characterization collapses: it admits it is only asking the Court to "reaffirm that courts must evaluate the claims 'as a whole.'" *Ibid.*

In other words, Chamberlain is merely asking this Court to tell the Federal Circuit to keep doing what it is currently and routinely doing, as is evidenced by at least the following cases—all decided within the past four months:

- *Ericsson Inc.* v. *TCL Commun. Tech. Holdings Ltd.*, 955 F.3d 1317, 1326 (Fed. Cir. Apr. 14, 2020) ("We are mindful that the step one inquiry looks to the claim's character as a whole rather than evaluating each claim limitation in a vacuum. But where, as here, the bulk of the claim provides an abstract idea, and the remaining limitations provide only necessary antecedent and subsequent components, the claim's character as a whole is directed to that abstract idea.") (citation omitted).

- *CardioNet, LLC* v. *InfoBionic, Inc.*, 955 F.3d 1358, 1368 (Fed. Cir. Apr. 17, 2020) ("When read as a whole, and in light of the written description, we conclude that claim 1 of the '207 patent is directed to an improved cardiac monitoring device and not to an abstract idea.").

- *In re Rudy*, 956 F.3d 1379, 1384 (Fed. Cir. Apr. 24, 2020) ("This mental process of hook color selection based on a provided chart demonstrates that claim 34 as a whole is directed to an abstract idea.").

- *In re Jobin*, No. 2020-1067, 2020 WL 2298381, at *3 (Fed. Cir. May 8, 2020) ("[T]he additional claim elements reciting an online collaborative content management system, data structure, server, and user devices do not integrate the abstract idea into a practical application when reading claim 221 as a whole.").

> • *Packet Intelligence LLC* v. *NetScout Sys., Inc.*, No. 2019-2041, 2020 WL 3966973, at *6 (Fed. Cir. July 14, 2020) ("We agree with Packet Intelligence that [software based] claim 19 is not directed to an abstract idea. In our eligibility analysis, we consider the claim as a whole[.]") (citing *Diehr*, 450 U.S. at 188).

And as discussed above, the Federal Circuit evaluated the claims "as a whole" in this case. Pet. 17.

There is nothing important about the case-specific application of this settled law. Chamberlain's primary complaint is that the Federal Circuit failed to address arguments that it never raised (and could not have raised while simultaneously defending infringement, damages, and willfulness).

Section 101 petitions have been oft- and recently denied. See, *e.g.*, *Athena Diagnostics, Inc.* v. *Mayo Collaborative*, No. 19-430, cert. denied, 140 S. Ct. 855 (2020); *HP Inc.* v. *Berkheimer*, No. 18-415 (Dec. 6, 2019), cert. denied, 140 S. Ct. 911 (2020); *Cisco Sys., Inc.* v. *SRI Int'l, Inc.*, No. 19-619, cert. denied, 140 S. Ct. 1108 (2020); *Hikma Pharm. USA Inc.* v. *Vanda Pharm. Inc.*, No. 18-817, cert. denied, 140 S. Ct. 911 (2020). These petitions generally addressed issues far more fundamental to Section 101 and far more frequently recurring than the case-specific error correction requested by Chamberlain.

TTI does not deny that Section 101, generally, is an important area of the law. Indeed, a few amici have weighed in, asking this Court for clarity on the standard. See Amicus Br. of High 5 Games; Amicus Br. of Hon. R. Rader. But these amici fail to grapple with the inconsistent and forfeited record of this case. Indeed,

it is noteworthy that while the Honorable Randall R. Rader (Ret.) summarizes at 23-26 testimony from United States Senate hearings from Senior Intellectual Property Rights Licensing Counsel for Nokia, Chief Patent Counsel at IBM, and Senior Vice President and Counsel, Government Affairs for Qualcomm that is critical of recent section 101 jurisprudence, none of these industry giants has come forth in support of Chamberlain's petition. Nor have any of the patent bar associations—such as the American Intellectual Property Law Association, the Federal Circuit Bar Association, the American Bar Association, or the Intellectual Property Owners Association—or any industry groups come forth in support of Chamberlain's Petition.

In contrast, many amici came forward recently to support en banc review in *American Axle & Manufacturing, Inc.* v. *Neapco Holdings LLC*, No. 2018-1763, 2020 WL 4377542 (Fed. Cir. July 31, 2020), including law professors, the Intellectual Property Owners Association, the Biotechnology Innovation Organization, and the Alliance of U.S. Startups and Inventors for Jobs. This evidences that amici are interested in Section 101 issues, but most correctly recognized this case is not the appropriate vehicle and the unimportance of the error correction requested by this petition.

At most the amici who have weighed in echo what has already been said by the Solicitor General in suggesting the Court grant review in the appropriate case to reconsider the *Alice* framework. See Br. of U.S. at 18, *HP Inc.*, No. 18-415. But Chamberlain does not challenge the framework generally. Contrary to Chamberlain's representation (at 35), this case does

not meet the Solicitor General's criteria of the ideal vehicle for clarifying Section 101.

Even if this Court has any interest in revisiting Section 101, there is no reason to engage in the fact-bound error correction requested by Chamberlain's petition, which would require this Court to wade through a lengthy trial record and resolve muddy issues of claim construction in the first instance. Section 101 is litigated frequently enough before the Federal Circuit and raised frequently enough in certiorari petitions that better vehicles will be before the Court.

IV. Under Any Test, Chamberlain's Claims Are Ineligible for Patent Protection.

Finally, review is unwarranted because under any reasonable test for patent eligibility, the claims are necessarily ineligible.

As amicus the Honorable Randall R. Rader (Ret.) aptly notes, "there is no dispute that the claims involve the identified well-known idea of 'wirelessly communicating status information about a system.' " Br. of Amicus Hon. R. Rader at 10. And there can be no question that a party cannot patent (and receive a monopoly on) the abstract idea of wirelessly transmitting information. Just as Samuel Morse could not claim the idea of transmitting intelligible characters, signs, or letters by electromagnetism, *O'Reilly* v. *Morse*, 56 U.S. 62, 112 (1853), the idea of transmitting information wirelessly cannot be patented.[1]

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[1] The Federal Circuit recently denied en banc rehearing in *American Axle*, 2020 WL 4377542, on July 31, 2020. In concurring separately in the denial, Judges Chen and Dyk both relied

Nor can a party receive a patent by restricting this abstract idea to a field of use, *e.g.,* wirelessly transmitting information *about a car*, wirelessly transmitting information *about a doorbell*, or wirelessly transmitting information *about a garage door opener*. Morse's patent would not have become valid if it had been limited to electromagnetically transmitting intelligible characters *about a garage door opener*.

In *Bilski* the Court noted that it has long been the case that a party cannot evade eligibility restrictions by confining a patent ineligible invention to "a particular technological environment." 561 U.S. at 610-11 (citation omitted). Although its arguments to the Federal Circuit conflicted with this holding, Chamberlain's petition does not ask this Court to overrule this settled precedent.

Here, the generic components recited in the claims—a garage door opener, a controller, and a wireless transmitter—are all inherent in the abstract idea. Unless a party can patent the abstract idea of wirelessly transmitting information about a garage door opener (a result that neither Section 101 nor the Constitution permits), the claims are invalid. See *Am. Axle*, 2020 WL 4377542, at *7 ("The lesson to patent drafters should now be clear: while not all functional claiming is the same, simply reciting a functional result as the point of novelty poses serious risks under

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heavily on *O'Reilly* and observed that "result-oriented claim drafting raises concerns under section 101." Chen, J., concurring, *Am. Axle*, 2020 WL 4377542, at *7 (citing to Judge Dyk's concurrence).

section 101") (Chen, J., concurring in denial of grant of en banc review).

Under step one of *Alice*, there is no serious dispute that the claims are directed to the abstract idea of wirelessly transmitting information about a garage door opener. During opening argument before the jury, Chamberlain's counsel admitted that the inventor "patent[ed] th[e] idea" of transmitting information:

> And then he thought, "If I'm going to put the transmitter in the garage door opener, .* * * I can transmit all kinds of information * * * ." Well, Mr. Fitzgibbon went to the patent office **to patent that idea** in 2003[.]

Resp. App. 40a-41a (emphasis added). That is, the named inventor did not develop an innovative new device, did not invent new hardware—he simply had an idea and "patent[ed] that idea" of transmitting information about garage doors.

Chamberlain's arguments about innovative hardware, suggesting that it claimed a patent-eligible application of this idea, would be properly considered at step two.

But Chamberlain's arguments fail at the second step: its claims do not include an inventive concept that transforms the abstract idea into a patent-eligible application. There can be no "inventive concept" in hardware and software that the '275 Patent specification describes as conventional. Resp. App. II-5 at 3:49-53 and 4:2-4. And at oral argument below, Chamberlain's counsel conceded representative claim 1 has "no non-generic components." Oral Arg. Rec. 23:52-24:08.

These record admissions are unsurprising. The components recited in the claims are all inherent in the abstract idea. Transmitting information about a garage door opener requires a garage door opener (*i.e.*, a mobile barrier operator). And wireless transmission necessarily requires a wireless transmitter.

There is nothing special about the claimed controller either, which was construed to be a generic piece of electronics already found in garage door openers and in virtually anything electrical. See Resp. App. 48a (inventor admitting that controllers "were well-known"); Resp. App. 49a (inventor admitting that the '275 Patent does not require "any particular type of controller"); Resp. App. 53a (Chamberlain's expert: "You've got microprocessors and microcontrollers in almost everything you touch that's got any kind of electrical characteristics.").

Chamberlain's only "inventive concept" was combining a garage door opener (that already contained a controller) with a wireless transmitter (to transmit). As the panel below concluded, this is nothing more than the abstract idea of wirelessly transmitting information about a garage door opener.

Section 101 permits a party to patent a specific smart garage door opener, but it does not permit a party to patent the idea of a smart garage door opener by patenting the conventional combination of generic hardware required to implement the idea.

If Section 101 is anything more than a dead letter, then a party cannot claim an abstract idea, whether it drafts its claims in the form of a method claim or (as Chamberlain has done) as a system claim. This Court

said as much in *Alice*, and the Federal Circuit has consistently recognized this too. See *BSG Tech LLC* v. *BuySeasons, Inc.*, 899 F. 3d 1281, 1290-91 (Fed. Cir. 2018) ("If a claim's only 'inventive concept' is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.").

These types of claims are precisely why patent eligibility exists. Parties cannot claim a monopoly on the "building blocks of human ingenuity." *Alice*, 573 U.S. at 217.

If Chamberlain had the idea for a smart garage door opener, it could have developed (and potentially, patented) innovative new hardware and software, claiming a specific application of this idea. But Chamberlain cannot—as it attempts—secure a monopoly on the idea of smart garage door openers by claiming every combination of a garage door opener and a wireless transmitter.

Chamberlain added no inventive concept to the abstract idea of wirelessly transmitting information about garage door openers. Rather than patent an application of this idea, Chamberlain sought to patent the idea itself.

Under any test for patent eligibility, Chamberlain's claims are ineligible for patent protection. There was no error in the decision below.

CONCLUSION

Chamberlain admits that the Federal Circuit considered the claims "as a whole." Its petition asks this Court to review a case-specific application of that settled law, in a case in which its arguments to this Court are inconsistent with the record and with its arguments below. The petition should be denied.

Respectfully submitted,

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AUGUST 7, 2020

APPENDICES A-D

APPENDIX A

[Filed: 9/18/2018]

Nos. 2018-2103, -2228

In the United States Court of Appeals
For the Federal Circuit

THE CHAMBERLAIN GROUP, INC.,

Plaintiff-Appellee,

v.

TECHTRONIC INDUSTRIES CO. LTD., TECHTRONIC INDUSTRIES NORTH AMERICA, INC., ONE WORLD TECHNOLOGIES, INC., OWT INDUSTRIES, INC., RYOBI TECHNOLOGIES, INC.,

Defendants-Appellants,

ET TECHNOLOGY (WUXI) CO. LTD.,

Defendant.

Appeals from the United States District Court for the Northern District of Illinois in No. 1:16-cv-06097, Senior Judge Harry D. Leinenweber

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EXCERPTS FROM BRIEF OF APPELLANTS

* * *

[4]

INTRODUCTION

This appeal primarily concerns a patent for wirelessly transmitting information about garage door openers. It does not require any particular form of transmission or that anything be done with that information and uses pre-existing components in a routine and conventional manner. The claims are directed to an abstract idea and are ineligible for patent protection under Section 101. Even if the claims were eligible, they are anticipated, and TTI's accused product does not infringe.

In attempting to avoid these outcomes, Chamberlain's claim construction has been a moving target. Chamberlain first secured a preliminary injunction based on a claim construction that this Court reversed. In arguing against institution of *inter partes* review, Chamberlain convinced the Patent Trial and Appeal Board ("Board") to adopt a narrow construction. But in this case, Chamberlain later convinced the district court to construe the claims more broadly. And when TTI proved it did not infringe, Chamberlain persuaded the district court to adopt yet another broader construction in denying TTI's post-judgment motions.

Despite the vulnerability of these claims, the district court concluded that the case was "not close," Appx169, found the case egregious, and awarded the statutory maximum of treble damages. Even if liability and actual damages somehow survive, this Court should eliminate these enhanced damages.

* * *

[29] neither the claims nor the specification suggest the '275 Patent involves any improvement upon this conventional process.

Asserted dependent Claims 5 and 15 recite the same list of "operating states" (Claim 5) and "predetermined conditions" (Claim 15) of a garage door opener controller. The specification acknowledges these states are routine and well-known garage door functionality. Appx216 at 1:12-2:3. As this Court has held, "[a]dding routine additional steps ... does not transform an otherwise abstract idea into patent-eligible subject matter." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014).

The asserted claims of the '275 Patent are directed to an abstract idea and lack an inventive concept sufficient to transform this abstract idea into a patent-eligible application. The claims are ineligible under Section 101.

B. The asserted claims of the '275 Patent are invalid in view of Menard.

Menard, a prior art reference that satisfies "a need in the art for systems and methods to control and manage a door opener system or other device using a controller," Appx12209, anticipates the asserted claims of the '275 Patent. The district court erroneously denied JMOL on anticipation in view of Menard for two reasons.

[30] First, the district court concluded that substantial evidence supports the finding that Menard lacks a movable barrier operator (i.e., garage door opener) system with a controller and transmitter.

Second, the district court credited testimony by Chamberlain's expert that a skilled artisan could, hypothetically, practice Menard without practicing the asserted claims. Appx 110. But this testimony is both incorrect and irrelevant: the correct inquiry is whether Menard discloses every limitation of the claimed invention, not whether Menard may also teach a separate non-anticipatory embodiment. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1381 (Fed. Cir. 2007).

With these mistakes corrected, no substantial evidence supports the jury's validity verdict, and Menard anticipates the asserted claims of the '275 Patent. *In re Morsa*, 713 F.3d 104, 109 (Fed. Cir. 2013) ("Anticipation is a question of fact reviewed for substantial evidence.").

1. Menard teaches the "moveable barrier operator" limitation.

a. It is irrelevant whether the elements are in a single housing.

The district court denied JMOL based on the theory that Menard's system discloses a controller and transmitter that are allegedly not part of the movable barrier operator but are instead "part of a separate module that can send signals to the [movable barrier operator]." Appx110.

[31] But no limitation in the asserted claims requires all of the components to be in the same "module." The only conceivable way to identify whether components are part of the same "module" is whether they are housed together (*i.e.*, in the same physical

box), but—as the district court acknowledged—even Chamberlain's expert conceded that the asserted claims lack any such requirement. *See* Appx785 (testifying that the '275 Patent does not require the components "to be located in a single housing").

Chamberlain's expert had to concede this because the district court construed the "movable barrier operator" limitation in the preamble of Claim 1 as "an operator that controls movement of the movable barrier and **may contain additional functionality**." Appx79 (emphasis added). No "module" or "housing" limitations were included.

Menard discloses an operator that controls movement of the movable barrier and contains additional functionality, *i.e.*, a system that "allows remote control and management of single or multiple door openers using a wired or wireless communication device." Appx12214 at 3-7. Figure 31 (below) of Menard depicts the movable barrier operator as **system 10000** connected to a **GDO (Garage Door Opener) 1000**. Appx12292, Appx12237-12238, Appx774 (Dr. Rhyne). In system 10000, the processor 12000, a controller coupled to the GDO 1000, controls the [32] movement of the barrier and performs other functions such as turning a light on and off. Appx662 (TTI's expert Dr. Michael Foley); Appx782 (Dr. Rhyne).

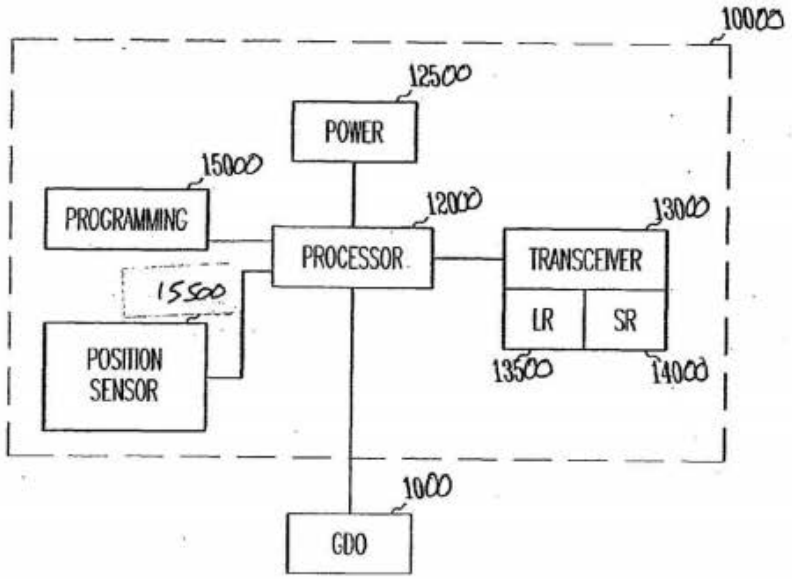

Fig. 31

Menard characterizes these physically separate components as part of a moveable barrier operator system. Appx12214 at 3-10 ("A system and method is described which allows remote control and management of single or multiple door openers using a wired or wireless communication device. ... [A]n illustrative embodiment ... includes a processor executing programming and coupled to a door opener, a position sensor, and a wireless transceiver.").

Menard thus satisfies the preamble's limitation of a "movable barrier operator." It controls movement of the movable barrier and contains additional [33] functionality. Appx79. The only evidence to the contrary was Dr. Rhyne's conclusory testimony: "[T]he system 10000 and [garage door opener] 1000 in Menard[] [a]re separate, ... [in view of] Menard[]'s Figure 31" and

therefore not part of a movable barrier operator. Appx10686; *see also* Appx775 (interpreting system 10000 as "added on to the garage door, [and] separate from it"); Appx793 (limiting the movable barrier operator to "GDO 1000 down in the bottom [of Figure 31]" and testifying that "[t]he top guy [*i.e.*, 10000 in Figure 31] is not a movable barrier operator").

Dr. Rhyne—and the district court—erred by effectively interpreting the claims to require that the movable barrier operator contain all elements in a single housing or, at the very least, in a single box—despite the fact that the asserted claims nowhere mention this requirement and Menard's Figure 31 clearly discloses the claimed movable barrier operator.

b. Menard discloses the inclusion of the elements in a single housing.

Even if the claims require all elements to be in a single housing, Menard discloses that its moveable barrier operator can be integrated with a garage door opener: "[O]ther embodiments of the system are also contemplated, one of which **includes the garage door opener as part of the system**." Appx12238 (emphasis added). Dr. Foley testified that a skilled artisan would understand this language to mean that "the system can be integrated with the ... garage door opener." Appx707; [34] Appx663 (testifying that Menard describes how "you can create an integrated system").

TTI cited this disclosure in its motion for JMOL, Appx9624, but the district court failed to address it. No substantial evidence rebuts the significance of this disclosure. The district court thus erred in denying

TTI's motion on the ground that "TTI did not present any evidence that the Menard GDO 1000—as opposed to an add-on module ... —contained a controller or wireless transmitter." Appx110-118 (citing Appx777, Appx793).

2. Menard teaches the "operational status condition" elements.

The only other disputed limitation is whether Menard discloses transmitting a signal corresponding to a "present operational status condition," which the claims require to be "defined, at least in part, by at least two operating states from the plurality of operating states."

In denying TTI's motion for JMOL on infringement, the district court adopted Chamberlain's argument that transmitting information about a single state of the controller satisfies this limitation (as long as that state precludes other, potential states of the controller). *See* Appx115-116 ("Such a signal (for example, 'light on') [35] is defined both by the status condition it carries and the potential, but not present, condition(s) it necessarily precludes (in this example, 'light off')."),[3]

Menard discloses this limitation. Menard discloses transmitting a signal corresponding to three different pieces of information: door position, light levels, and temperature. Appx12214; Appx665 (Dr. Foley); Appx783 (Dr. Rhyne) ("Q. So you agree that for the

[3] As detailed below, this analysis is both incorrect and conflicts with the district court's original construction and its analysis on summary judgment.

door status, the light status, and the temperature status, that information can be transmitted wirelessly using the transceiver 13000 in Menard, correct? A. Yes."). Each has at least two mutually exclusive states, such as Door Open/Closed, Light On/Off, and Overheating/Freezing. Appx664 (Dr. Foley); Appx844 (Dr. Rhyne).

Under the district court's post-judgment reasoning, Menard discloses transmitting a signal that corresponds to a present operational status condition that is defined by a plurality of possible states because any individual piece of information (such as "door open") is "defined" both by the state it is in and by the antithetical state it precludes ("door closed"). Appx665 (Dr. Foley); Appx115-116.

Menard also satisfies this limitation under a correct construction, discussed below, which requires the signal to transmit information about **at least two** operating states. Menard teaches that three operating states could be sent in one signal. [36] Appx665-67 (Dr. Foley); *see also* Appx783 (Dr. Rhyne agreeing that Menard discloses sending two or more current operating states in a single signal).

The district court erred in ruling otherwise. In denying TTI's post-judgment validity motion, the district court relied on Dr. Rhyne's testimony that Menard "does not explain how its signals are defined." Appx111.[4] But this is irrelevant because Menard contains the same (or greater) degree of specificity as the '275 Patent. Indeed, Menard is transmitting precisely

[4] In its order, the district court only referred to Claims 5 and 15, *see* Appx111, but this limitation also is found in Claim 1.

the same information (*e.g.*, door and light position) as the GD200A, which Chamberlain relies upon as evidence of infringement. "[T]hat which infringes if later anticipates if earlier." *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1573 (Fed. Cir. 1986). And as Chamberlain admitted, "[n]o specific format is required by the claims." Appx10515.

The district court also relied on testimony from Dr. Rhyne that a skilled artisan **could** practice Menard by transmitting the number of motor rotations (allowing the receiving device to calculate the position of the door) rather than simply transmitting whether the door is open or closed. Appx112. But nothing in Menard even hints at this implementation.

Dr. Rhyne's testimony is also irrelevant. At most, he testified that a skilled artisan could, hypothetically, implement Menard without practicing the asserted [37] claims. But Menard unquestionably discloses an embodiment that anticipates the claims: "**Position information** is transmitted to the device by a transceiver coupled to the processor. Other information, such as **temperature** or **light levels**, may also be transmitted to the device." Appx12214; Appx783 ("Q. So you disagree that Menard discloses transmitting multiple types of status information in the same signal? [Dr. Rhyne]: I'm not disagreeing with you."). In view of this evidence, no reasonable jury could have found that Menard fails to disclose the "operational status" limitations.

And, even under Dr. Rhyne's strained hypothetical, the signal still would satisfy the "operational status condition" limitation. Dr. Rhyne's hypothetical simply

involves a different format for transmitting door position, and "[n]o specific format is required by the claims." Appx10515. Dr. Rhyne's suggestion that this implementation would not anticipate the asserted claims is incorrect.

Substantial evidence does not support the finding that Menard fails to anticipate the asserted claims of the '275 Patent.

C. Judicial estoppel precludes Chamberlain from arguing the GD200A practices the '275 Patent.

When a party "successfully urges a particular position in a legal proceeding, it is estopped from taking a contrary position in a subsequent proceeding where its interests have changed." *Data Gen. Corp. v. Johnson*, 78 F.3d 1556, 1564 (Fed. Cir. 1996).

[38] As discussed above, *see supra* pp. 11-12, Chamberlain argued to the Board that the asserted claims require transmitting "action[s] ... performed by the controller." Appx2914; *see also* Appx2923 (arguing that Menard does not anticipate because Menard does not transmit "operations being performed by the controller at the present time").

The Board adopted these arguments in denying institution. See Appx2967 (agreeing that an "operational status condition" must "relat[e] to operations being performed by the controller at the present time"); Appx2973 (ruling that the "position of the door does not describe an operation of the controller").

Chamberlain's successful argument to the Board—that transmitting information such as the door's position does not practice the asserted claims of the '275

Patent—precludes Chamberlain from taking a contrary position in this case. Judicial estoppel exists to prevent such gamesmanship: "[A] party who successfully argues one position is estopped from later adopting a contrary position in a case involving the same patent." *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1358 (Fed. Cir. 2013).

Chamberlain's theory of infringement—that the GD200A practices the asserted claims of the '275 Patent by transmitting the status of a light or the position of a door—contradicts its successful arguments to the Board. Based on judicial [39] estoppel, alone, this Court should render judgment that TTI does not infringe the '275 Patent.

D. Under a correct construction, the undisputed evidence establishes that TTI does not infringe.

The key infringement dispute turns on the "present operational status condition" limitation. Claim 1 requires that the controller have "a plurality of potential operational status conditions defined, at least in part, by a plurality of operating states" and that the transmitter transmit a "status condition signal" that "corresponds to a present operational status condition defined, at least in part, by **at least two** operating states from the plurality of operating states."

As the district court recognized in its claim construction order and in denying summary judgment, at least two "operational conditions being experienced by the controller" (such as "door open" and "light on")

must define the "present operational status condition." Appx39.[5] This is "multi-state transmission."

At trial, the uncontroverted evidence established the Ryobi GD200A transmits a signal defined by only a single operational condition being experienced by the controller (such as "light on"). This is "single-state transmission."

[40] The district court denied JMOL in TTI's favor only because it modified its construction, ruling that an operational status condition could satisfy the limitation if it were defined by one operational condition being experienced and (implicitly) by a second condition not being experienced. Appx115-116.

The district court erred—both procedurally and substantively—in adopting this new construction. Under a correct construction of a "present operational status condition defined ... by at least two operating states," TTI does not literally infringe.

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[5] TTI urged the district court to construe the phrase to require transmission of the "current condition of the movable barrier operator, where the current condition is determined by at least two actions involving the movable barrier operator." Appx1056. Although the district court erred by not limiting operational status conditions to "actions," its construction is otherwise materially indistinguishable from TTI's proposed construction.

1. Under the district court's written construction and the reasoning in its summary judgment order, the GD200A does not infringe.

Under the district court's pretrial construction and its summary judgment denial reasoning, TTI does not infringe. JMOL is warranted.

The district court construed the claims to require that "at least two operational conditions **being experienced** by the controller" must define the present operational status condition. Appx39. Merely transmitting a single operational condition (such as "door open") would not satisfy the limitation. Instead, the present operational status condition must be defined by multiple conditions being experienced, such as "door open" **and** "light on."

The district court reaffirmed this construction in its order denying summary judgment. The district court recognized that transmitting a present status condition signal corresponding solely to door position would not practice the claims. Instead, [41] the claims require that a signal transmitting door position must also be defined by "at least one additional operational condition ... relate[d] to a system component other than the door":

> If the controller can obtain four *potential* operational status conditions based on four possible mutually exclusive door positions (*i.e.*, open, opening, closing, closed), then logically it can be experiencing only one of these when a signal corresponding to its single *present* operational status condition is transmitted. In this

> example, the at least one **additional operational condition being experienced** by the controller and defining the transmitted present status condition signal relates to a system component **other than the door**.

Appx4176 (emphases added).[6]

The district court also recognized that each signal sent by GD200A contains information regarding only a single system component: "[T]he redesigned Ryobi [garage door opener] merely sends signals *seriatim* for each system component[.]" Appx4178. That is, the GD200A sends one signal corresponding to door position, then it sends a second separate signal corresponding to light status.

The district court only denied summary judgment because TTI did not "rul[e] out the possibility that the present operational status condition that the signal reflects (or to which it corresponds) is defined by at least one additional operational [42] condition being experienced by the controller—regardless of the affiliated system component." Appx4179. That is, TTI did not "rule out the possibility" that a signal transmitting the door position (the "affiliated system component" for the signal) might also be defined by an "additional operational condition being experienced" (such as whether the light was on or off).

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[6] The district court's use of "operational status conditions," "operational conditions," and "operating states" is neither precise nor consistent. The district court construed "operating states" to mean "operational conditions being experienced by the controller." Appx37. The first sentence of the quote should refer to potential "operating states" or "operational conditions."

At trial, TTI ruled out this possibility. The uncontroverted evidence established that the GD200A engages in single-state transmission, *i.e.*, it only transmits one state "being experienced." Appx349.

Chamberlain's expert Dr. Rhyne conceded that signals transmitted by the GD200A reflect a single operating state that is "independent" of any other operating state:

> Q. So you'll agree with me that the status condition of the light is not defined by the position of the door, right?
>
> A. Absolutely.
>
> Q. Door's got nothing to do with what the light is doing?
>
> A. Yes.
>
> Q. And that's because the status of the light and the status of the door are what you called independent, correct?
>
> A. Yes.

Appx486. Put simply, as Dr. Rhyne admitted, when the GD200A "transmit[s] the present operational status condition, [it] transmits only one of the states." *Id.* For example, the signal transmitted to show the door is open is not affected—in any [43] way—by whether the light is on or off. *Id.* (Dr. Rhyne admitting "[t]here's always only one in the message. There's not two.").

TTI thus "ruled out the possibility" that prompted the district court to deny summary judgment. Under

the district court's written construction—which requires two conditions "being experienced" by the controller to define the "present operational status condition"—and its reasoning in denying summary judgment, TTI does not infringe.

The district court erred in denying JMOL on literal infringement.

2. The district court denied JMOL based on a new, incorrect construction.

The reasoning in the district court's order denying JMOL is inconsistent with its claim construction and its order denying summary judgment.

Rather than requiring that "at least two operational conditions being experienced" define the "present operational status condition," Appx39, the district court held that the present operational status condition could be defined by one condition being experienced and one condition not being experienced. See Appx115-116 (holding that a signal could be "defined both by the status condition it carries and the potential, but not present, condition(s) it necessarily precludes").

In the district court's example, both "light on" and "light off" would define the "present operational status condition," even though only "light on" was "being experienced." Appx115-116.

[44] This reasoning reflects an erroneous new construction.

a. The district court erred by modifying its construction after trial.

"[P]arties cannot reserve issues of claim construction for the stage of post-trial motions." *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1320 (Fed. Cir. 2003). It is "too late at the JMOL stage" to argue for or adopt a different construction. *Id.* at 1321. Absent objection, "[t]he verdict must be tested by the charge actually given and by giving the ordinary meaning of the language of the jury instruction." *Comcast IP Holdings I LLC v. Sprint Commc'ns Co., L.P.*, 850 F.3d 1302, 1311 (Fed. Cir. 2017).

The jury was instructed, consistent with the court's construction, that "at least two operational conditions **being experienced** by the controller" must define the "present operational status condition." Appx9359; Appx39. Under this instruction, the GD200A does not infringe.

The district court's post-judgment construction—in which a condition not **being experienced** can somehow define the present operational status condition, Appx115-116—is flatly inconsistent with these instructions. Under the instructions given to the jury, no substantial evidence supports the finding that TTI literally infringes.

The district court incorrectly suggested that its post-judgment construction was consistent with its summary judgment order. Appx116. But the phrase from [45] the summary judgment order quoted by the district court concerned "potential or present" operational status conditions. *See* Appx4176 ("operational status condition(s), past or present"). It said nothing

about a present operational status condition being "defined by" potential operating states. To the contrary, the full discussion correctly recognizes that a "present operational status condition" cannot be defined by "operational conditions the controller can experience" (such as "possible door positions") but only by "one of its possible positions or states" that the component "has assumed." Appx4176.

The district court made clear that the GD200A could not infringe if TTI "rul[ed] out the possibility that the present operational status condition that the signal reflects (or to which it corresponds) is defined by at least one additional operational condition being experienced by the controller—regardless of the affiliated system component." Appx4179. TTI did just that, and JMOL should have been granted.

b. The district court's post-trial construction is erroneous.

Even without the procedural error, the district court's new construction—in which transmitting a signal reflecting a single present state practices the claims—is erroneous. [46]

i The plain language of the claims requires multi-state transmission.

The plain claim language requires multi-state transmission. At least two "operating states" must "define" each "operational status condition." For ex-

ample, "door up and light on" might define one operational status condition; "door down and light off" might define another.

Although "door up" and "door down" are both operating states, these two states could never define the **present** operational status condition. A door cannot simultaneously be up and down.

One operational status condition—which must be transmitted—will be the "present operational status condition." "Present" requires that the garage door opener actually be experiencing the "operational status condition" being transmitted. "Potential" simply requires the possibility that the controller experience different operational status conditions.

The chart below illustrates the relationship of the terms used in the claims with the door and light of a garage door opener:

Operating State	**Operating State**	**Operational Status Condition**	**Status Condition Signal**
Door up	Light on	Door up & Light on	11
Door up	Light off	Door up & Light off	10
Door down	Light on	Door down & Light on	01
Door down	Light off	Door down & Light off	00

[47] Two operating states define an operational status condition. All four possible combinations are "potential operational status conditions." The one that corresponds to the present status (highlighted in dark gray, in this example) of the garage door opener is the "present operational status condition."

The column on the far right shows an example of a binary relationship between a status condition signal and the operational status condition. Because the claim requires multi-state transmission, the signal must transmit information regarding both operating states that define the present operational status condition.

This understanding gives effect to every word in every limitation. An "operational status condition" is distinct from an "operating state." *E.g., Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so."); *In re Power Integrations, Inc.*, 884 F.3d 1370, 1376 (Fed. Cir. 2018) ("Another problem with the board's claim construction is that it renders claim language meaningless.").

The district court erred in its post-trial construction by eliminating the requirement that two operating states being experienced by the controller define the "present operational status condition." Instead, the district court held that the claims are practiced when a controller transmits a single state being experienced, as long as [48] the controller could, hypothetically, be in a different state. This renders "defined, at

least in part, by at least two operating states" meaningless. *See* Appx115-116.[7]

As a matter of plain language, the district court's post-trial construction cannot be correct. The claims require that "at least two operating states" must define "the present operational status condition." It is nonsensical to suggest that the operating state "light off" defines the "present operational status condition" when the light is actually "on."

Moreover, the new construction eliminates any distinction between an "operational status condition" and an "operating state." In the district court's example quoted above, "light on" is both an "operating state" and the entire "present operational status condition." An "operational status condition" cannot be identical to an "operating state" because claims should be construed to give different meaning to different terms. *Power Integrations, Inc.,* 884 F.3d at 1376. The district court's construction thus renders claim language meaningless—it cannot be correct. [48]

ii The file history confirms this plain-language construction.

The file history confirms this construction. A court must "must look at the ordinary meaning in the con-

[7] The district court was led astray by Chamberlain's expert. *See also* Appx486-487 (Dr. Rhyne testifying that "the operational status condition is **always** defined by a plurality of operating states" when "you transmit **only one** of the states") (emphasis added).

text of the written description and the prosecution history." *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005).

Originally, Claim 1 said nothing about operating states. It required only "a controller having a plurality of potential operational status conditions." Appx1484. No claim in the patent application required an "operational status condition" to be defined by two or more operating states.

The Patent Office initially rejected Claim 1 "as being clearly anticipated by Doyle." Appx2157. In response, the applicants amended the claims to add "defined, at least in part, by a plurality of operating states" and cancelled a dependent claim reciting transmitting "data that corresponds to **at least one** of the plurality of operating states." Appx2162. The applicants explained that these amendments were made "to overcome the cited reference." Appx2169.

The applicants argued that Doyle transmitted only "**a single position**." Appx2172 (emphasis in original). Based on the "defined ... by a plurality of operating states" amendment, the Patent Office allowed the claims over Doyle. Appx2216.

The remainder of the prosecution history confirms this understanding. The Patent Office noted the prior art showed "a controller that ... monitors the operational [50] status (open or close[)] of garage doo[r] as well as another parameter." Appx1372; *see also id.* (in one prior art reference, the "plurality of operating states" was several different sensors). A separate prior art patent, Morris, disclosed the amended claims by teaching transmission of both (1) "the state of [various] switches" and (2) "the temperature measured by

the garage unit." U.S. Pat. No. 6,184,787 at 5:1-3; *see also* Appx1323 (Patent Office rejection). In discussing Morris, the applicants acknowledged that the claims require a "signal containing at least two operating states." Appx1355.[8]

The file history's lesson is clear and consistent with the plain and ordinary meaning of the claim term: Transmitting "a single position of the garage door" fails to satisfy the requirement that the signal be defined by "at least two operating states."

"The prosecution history constitutes a public record of the patentee's representations concerning the scope and meaning of the claims, and competitors are entitled to rely on those representations when ascertaining the degree of lawful conduct, such as designing around the claimed invention." *Hockerson-Halberstadt v. Avia Grp. Int'l*, 222 F.3d 951, 957 (Fed. Cir. 2000). When designing around the '275 Patent, TTI was entitled to rely on the applicants' representation that [51] transmitting a "single position of the garage door," like Doyle, does not infringe. To the contrary, Claim 1 requires transmitting a "signal containing at least two operating states."

The district court repeated the claim construction error noted by this Court in *Board of Regents v. BENQ American Corp.*, 533 F.3d 1362 (Fed. Cir. 2008), where

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[8] The full context of this quote involves distinguishing Morris and amending the claims to require that "at least one, but not all of the at least two operating states substantially uniquely identifies the movable barrier operator." Appx1355. This amendment was later replaced by the limitation requiring that the "status condition signal" comprise a relatively-unique identifier. Appx219 at Claim 1.

the Board of Regents proposed construing the phrase "syllabic element" to "include letter groups having any number of syllables." *Id.* at 1370. Under this construction, "all words would also be syllabic elements (because every word is a single- or multi-syllabic letter group)." *Id.*

This Court rejected the proposed construction as inconsistent with the prosecution history. During prosecution, "the examiner identified a reference that showed matching with a word," and "the Board of Regents limited claim 10 to require matching with syllabic element(s) and canceled the dependent claim that required matching with words." *Id.* "The cancellation of this dependent claim indicates that the set of 'syllabic elements' does not include all words." *Id.* "[I]f 'syllabic elements' included words, then [the prior art's] disclosure of matching with words would teach the portion of claim 10 that was amended to distinguish [the prior art]." *Id.* This Court declined to adopt a construction "that would effect this nonsensical result." *Id.*

[52] The same is true here, where the district court adopted a construction under which Doyle's disclosure would teach the portion of Claim 1 that was amended to distinguish it. As in *Board of Regents*, this Court should refuse to affirm a construction that would effect this "nonsensical result."

The district court erred in denying TTI's post-judgment motion by adopting a new construction. Under the district court's pre-trial construction, its order denying summary judgment, and the jury instructions, the GD200A does not transmit a signal corre-

sponding to a present operational status condition defined by at least two operating states (*i.e.*, two operational conditions being experienced by the controller). This Court should render judgment that TTI does not literally infringe the asserted claims of the '275 Patent.

3. Chamberlain cannot rely on the doctrine of equivalents because the applicants relinquished single-state transmission during prosecution.

If TTI does not literally infringe, Chamberlain cannot rely on the doctrine of equivalents. As discussed above, the applicants narrowed the claims via amendment to relinquish single-state transmission (transmitting only the "single position of a garage door") and require multi-state transmission (sending a "signal containing at least two operating states"). Appx2162; Appx2169.

Once a patent applicant narrows the application via amendment and relinquishes subject matter, the applicant cannot later rely on the doctrine of

* * *

APPENDIX B

[Filed: 11/28/2018]

NON-CONFIDENTIAL
Nos. 2018-2103, -2228

In the United States Court of Appeals
for the Federal Circuit

THE CHAMBERLAIN GROUP, INC.,

PLAINTIFF-APPELLEE

v.

TECHTRONIC INDUSTRIES CO. LTD., TECHTRONIC INDUSTRIES NORTH AMERICA, INC., ONE WORLD TECHNOLOGIES, INC., OWT INDUSTRIES, INC., RYOBI TECHNOLOGIES, INC.,

DEFENDANTS-APPELLANTS

ET TECHNOLOGY (WUXI) CO. LTD.,

DEFENDANT

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS, NO. 1:16-CV-06097
HON. HARRY D. LEINENWEBER, PRESIDING

EXCERPTS FROM BRIEF FOR APPELLEE
THE CHAMBERLAIN GROUP, INC.

* * *

[7]

STATEMENT OF THE CASE

A. The '275 Patent.

Of the patented inventions in today's garage door openers, the '275's technology is among the most important for enabling the opener to form a key part of the modern, connected home. Prior to the '275 patent, openers were single-function devices that received commands, often through a remote, to open or close a garage door. *See* '275 patent, 1:29-31 (Appx995) (discussing conventional receive-only operators); Appx370, 94:7-95:9; Appx377, 124:1-3; Appx435, 151:1-4.

In 2003, CGI conceived of the idea of redesigning an opener to have a wireless transmitter and smart controller "built into it," enabling the opener to transmit status information and operate as the hub of a smart home. *See, e.g.*, Appx370-371, 96:6-98:6; '275 patent, 5:47-6:23 (Appx997); Appx370, 94:24-96:10. In an early application, CGI used the '275's design to monitor a garage door's position and wirelessly transmit that status to a bedside-table monitor. Appx371, 98:25-100:8. Later, CGI developed its highly regarded MyQ smartphone app that receives operator status information, allowing homeowners to check and change their garage door status from anywhere in the world. Appx371-372, 100:25-102:21; Appx440, 171:18-172:21.

CGI asserted claims 1, 5, and 15 at trial. Claim 1 is illustrative:

1. A movable barrier operator comprising:

* * *

[19] is meaningful" (*Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1347 (Fed. Cir. 2017)) because, otherwise, this analysis could "swallow all of patent law." *Alice*, 134 S. Ct. at 2354. Courts examine the "claimed advance to determine whether the claims are directed to an abstract idea." *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018).

Alice step two evaluates whether the claim elements, individually and as an ordered combination, transform an abstract idea into a patent-eligible application of the concept. *Alice*, 134 S. Ct. at 2355. This step "requires more than recognizing that each claim element, by itself, was known in the art" because an "inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). Instead, the challenger has to provide clear and convincing evidence that the claims recite "well-understood, routine, and conventional activities previously known to the industry." *Berkheimer*, 881 F.3d at 1367-68 (quotations omitted).

2. The '275's claims are not directed to an abstract idea because they recite a specific improved machine.

The '275's claims are not "directed to" a patent-ineligible abstract idea under *Alice* step one. Instead, they recite a "new and useful improvement" to a statutorily eligible "machine"—a moveable barrier operator, such as a garage door opener. 35 U.S.C. § 101. The operator is an electromechanical machine with a motor, gearbox [20] and other moving parts that opens and closes heavy garage doors. *See, e.g.*, Appx611, 651:14-17; Appx623, 700:24-701:10. The patent claims a "new and useful improvement" to the operator: an integrated wireless transmitter and a controller configured to transmit status information and a unique identifier for security.

To try to get around the fact that the '275's claims recite statutory subject matter, TTI invites this court to dissect the claims in the manner that the *Diehr* court cautioned against:

> A claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer. Respondents' claims must be considered as a whole, it being inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis.

Diamond v. Diehr, 450 U.S. 175, 185-88 (1981). The district court rightfully recognized this, citing this Court's precedent:

> Further, 'claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.' *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). The court 'look[s] to whether the claims. . . focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.' *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017).

Appx98.

Under the proper test, *Diehr* was an even closer case than this one. Whereas in *Diehr*, respondent sought "protection for a process of curing synthetic rubber" [21] (*i.e.*, a process implemented by a physical device) (*see Diehr*, 450 U.S. at 187), here CGI received protection on the physical device itself—an improved moveable barrier operator.

Thales is also illustrative. In *Thales*, this Court upheld as patent-eligible claims directed to a physical system with sensors arranged in a specific way. 850 F.3d 1348-49. Although the claims recited a mathematical formula, they were still patent-eligible because the formula was used in connection with "a new and useful technique" for using the claimed physical sensors. *Id.* at 1349. In finding eligibility, this Court analyzed how the *Thales* claims improved the prior art, for example, by reciting a system that "works with any type of moving platform," "is simpler to install," and "is self-contained." *Id.* at 1348

The '275's claims, like those in *Thales*, similarly recite a physical system configured in a specific way: an operator that includes a barrier interface, a controller (for controlling the movement of the barrier and communicating status information), and an integrated wireless transmitter (for transmitting the status information). Like *Thales*, the '275's claims improved technical deficiencies with the prior art's reliance on physical and separate interfaces. *See supra* at 7-10. Indeed, the '275's claims and offer very similar benefits to those in *Thales*—by reciting an improved operator that is designed to work with any type of peripheral (including later-developed devices) (Appx996, 3:18-20), simpler to install (Appx995, 1:61-2:3) and self-[22]contained with an integrated wireless transmitter avoiding the need to use additional physical interfaces (Appx996, 3:20-26). *See supra* at 7-10. Moreover, claims 5 and 15 recite additional specific improvements over the prior art.

TTI's attempts to focus this court on the signal transmission part of the claims runs afoul of this Court's and the Supreme Court's precedent and works to improperly shoehorn this case into a series of cases where generic computers executed software-based abstract ideas without any "physical real world manifestation." *See Diehr*, 450 U.S. at 186-87 (discussing ineligible claims that used a pre-existing computer to calculate an alarm limit number) (citations omitted). Because the '275's claimed operator is itself a physical real world manifestation of an improved machine, they readily survive Section 101 scrutiny.

In contrast to the inapposite no physical manifestation opinions, or, as the district court recognized,

cases like *Vehicle Intelligence & Safety LLC v. Mercedes-Benz USA, LLC*, 635 F. App'x 914, 920 (Fed. Cir. 2015) (method used "equipment that already exists in various vehicles"), the "claims better fit the mold in *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259 (Fed. Cir. 2017), where the Federal Circuit held claims patent-eligible which were directed to an improved computer memory system with programmable operational characteristics, which '*provided flexibility that prior art processors did not possess*, and obviated the need to design a separate memory system for each type of processor.'" Appx105-106. In

* * *

[36] connected to an operator, such as garage door opener, which is outside the scope of the claims. Indeed, TTI acknowledges as much by identifying that Menard discloses "a system that 'allows ***remote control*** and management of single or multiple door openers ***using a wired or wireless communication device***.'" Br. 31 (emphasis added).

TTI's theory appears to be that any separate device that can send signals to control an MBO is the MBO under the court's construction. That is an absurd proposition, that would allow calling a car or smartphone an MBO, if they had built-in technology to send control signals to an MBO. Dr. Rhyne explained to the jury that Menard's modular system and these types of remote devices are not considered MBOs themselves. *See, e.g.*, Appx855, 1374:9-24.

TTI's single "housing" argument is similarly misplaced. The claims do not recite a "housing", nor require that each of the limitations are included in a sin-

gle housing. Indeed, the claims recite a "moveable barrier interface", such as a belt, chain, or rail that connects to a garage door and will extend outside a garage door housing. Appx847, 1341:22-1342:14. Dr. Rhyne did not differentiate Menard on the basis that it did not disclose the modular system and garage door opener existing in a single housing. Instead, he testified that "Menard discloses a "module with a sensor to indicate the position of the door ***coupled to a door opener***." Appx836, 1296:13-14. Indeed, the district court agreed "the key limitation in [CGI's] claims

* * *

> [44] So the light is either on or off. At—at a moment in time, it will be either on and off, but there has been a definition from the very beginning that they have assigned data values to represent "on." They've got a data value to represent "off." And what happens here is, depending on whether the controller thinks the light is on or off, it's going to pick the right data value, put it in the field of the message, and send it out ... .

Appx469, 287:4-17; *see also* Appx470, 290:18-291:13 (identifying evidence of how the door status is defined); Appx466, 275:4-276:12; Appx12735; Appx468-469, 285:15-286:9.

The GD200A thus transmits a signal that "represents the present operational status condition defined, at least in part, by the at least two operational conditions being experienced by the controller [programmable platform]." *See* Appx39 (court's construction). The GD200A's signal represents the present status condition, such as door status, where that status condition

is defined, in part, by the conditions being experienced by the controller (door opening/closing/open/closed).

CGI's position has remained constant, and is consistent with the '275 patent's disclosed embodiments. The specification teaches transmitting either a single data field (*e.g.*, only for door status) or multiple data fields (*e.g.*, one field for door status, another for light status, etc.), with each field defined by the "flags or indicia" used to transmit the different possible states for each status field:

> For example, and referring now momentarily to FIG. 4, such a message 40 can include a first field 41 that includes a specific identification number that is at least relatively unique to a given movable barrier operator and that also includes ***one or more additional data fields. A sin-***
>
> * * *

[61] Next, citing only its own employees' testimony (Br. 64-65), TTI criticizes the district court's finding that it copied CGI's products and did not try to avoid infringement, and for allegedly discounting its redesigns. This ignores the substantial evidence *from TTI's own engineers* that they deliberately tried to copy the patented functionality. For example, TTI's lead product manager actually got upset when he learned that his team tried but failed to hire CGI's own vendor. Appx608-609, 639:19-640:24, 641:19-643:2; Appx10245-10246. Whether or not any individual component was actually copied, TTI was aware of CGI's patents and *tried* to copy. Further, TTI did nothing to avoid infringement, instead using privilege as both a sword

and a shield to prevent discovery into its alleged clearance efforts. Appx595, 586:8-587:2; Appx613-614, 660:21-663:25 (court limiting testimony because TTI shielded its clearance efforts using privilege objections in discovery). Finally, TTI's "redesign" was too little too late. It was a difference without distinction that cannot retroactively relieve TTI's from liability for its earlier decision to intentionally infringe.

Last, TTI says the district court did not address why it trebled damages. The district court's entire opinion clearly explains, with reference to each Read factor, why TTI's conduct was particularly egregious. Appx167-172; *see Arctic Cat v. Bombardier Recreational Prods.*, 876 F.3d 1350, 1371 (Fed. Cir. 2017) (approving

* * *

APPENDIX C

* * *

[Appx98] 2017)). Further, "claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). The court "look[s] to whether the claims . . . focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017) (quoting *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016)).

Here, TTI claims that wireless transmission of content is an abstract idea, and that the asserted '275 patent claims are directed to nothing more. First off, the cases TTI cites in support of this proposition do not hold that wireless transmission is an abstract idea. *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (holding that the concept of providing out-of-region access to regional broadcast content is an abstract idea), *cert. denied sub nom. Affinity Labs of Tex., LLC v. DIRECTTV, LLC*, 137 S. Ct. 1596 (2017); Affinity Labs of Tex., LLC v. Amazon.com Inc., 838 F.3d 1266, 1271-72 (Fed. Cir. 2016) (holding that the concept of delivering user-selected media content to portable devices is an

* * *

[Appx318] [21] used to be the case that there were only a certain number of codes in your garage door opener,

so sometimes you would click it, and if you accidentally got the same code as your neighbor, you might open their garage door.

Then there was another invention that Chamberlain worked on called a billion -- billion number code so that there were so many codes that that was really unlikely to happen. Well, then the opportunists who wanted to break into people's houses invented something called a code grabber. They invented this device that when you clicked on your garage, I won't call it the opener, the transmitter, and it transmitted the signal to the garage door, they could capture that code. And then they could come back later when you were sleeping, and they could press the button again and replay it just like a recording, and it would open your garage door.

So Chamberlain, focusing on safety and security, they created a rolling code algorithm, a very -- an encryption algorithm to keep people safe. Mr. Fitzgibbon is an inventor on that patent as well. That patent keeps people so safe that most people use their garage door opener as a main point of entry to the house. They don't go in through the front door. They come in, they've got their groceries, they just open the garage door, and they leave their house door open between the garage door and the house because they know that Chamberlain is keeping them safe.

[22] Now, technology has come a long way. We talked about safety and security. The focus of Chamberlain now is connectivity. And it's related. And I'll show you how. But connectivity is in all their MyQ products. This here is a MyQ product. They're products that can interface with the world, where you can drive away from your garage and you don't have to

wait and watch to make sure that the sensors don't trip. You can look at your cell phone or get an alert if something is going wrong. If somebody decides to come into your garage, maybe they have access in some way, you get an alert and you know that.

That technology is so connected that not only can you find out -- and here's an example of the status of your garage door on your phone. But you can install a camera so that when your garage door does open, you can see a picture of who is entering to keep yourself safe.

You're going to be hearing -- in this litigation, you're going to hear testimony from Mr. Fitzgibbon. He's going to talk to you about his invention. You're also going to be hearing from Cory Sorice who is sitting in the front row next to Colin Willmott. Mr. Sorice is going to talk to you about the business that Chamberlain built around Mr. Fitzgibbon's invention, about the connected products they're offering today.

In terms of the two patents in suit, remember, one of [23] them is a connected patent. It's Mr. Fitzgibbon's patent. That one was invented in the 2003, 2002 timeframe. And just to orient you, this is a connected patent, and it was invented five years before the first i Phone.

In 2003, Mr. Fitzgibbon was trying to solve a problem. And this is one of those stories where you think you're solving one problem and then you have an "aha" moment and you can solve something else. They had customers that wanted to locate the garage door opener on the side of the garage here. Some of them had cathedral ceilings, so you couldn't really put the garage door opener on the ceiling. Some of them liked

to use their garages for storage, so they wanted to put shelving up here and -- and put storage up there. So they were asking them to come up with a garage door opener that you could put here.

Well, the dilemma, you'll hear testimony on this, and the evidence will show that the dilemma was that when you locate the garage door opener here, you have now moved the light. And when you move the light, you can no longer illuminate the whole garage and, again, keep people safe so they can see what's in their garage when they're entering it.

And so when he -- when he was coming up with the invention to move the garage door opener here, he had to find a way to communicate from the garage door opener to the light so that when you open the garage, the light came on.

[24] And he thought about a couple different solutions. He thought about wiring it, but people don't like wires. And if we're talking about cathedral ceilings and -- and other types of garage doors, it's difficult to do the wiring.

He thought about putting a beam system like this and projecting a beam from the garage door opener to the light, but he found that that was going to be unreliable. So what he decided to do is he decided to put a transmitter in the garage door opener and transmit a signal up to the light. That was his initial thought. That was a solution to the initial problem of, what do I do when the light and the garage door opener are not connected.

And then he thought, "If I'm going to put the transmitter in the garage door opener, what else can I do? If I can transmit information from the garage door, I

can transmit the status of the garage door. I can transmit all kinds of information, the status of the light," and it opened up a lot of ideas for him. He thought, "If I can do that, if I can transmit the status of the garage door, I can send a signal to the bedside table."

So if you're going to sleep and you want to reassure yourself that the garage door is shut, you can look at a little light at the bedside table and find out if that's the case. Or if your child comes home at night, you get a little indication that somebody has opened the garage door.

* * *

[Appx319] [25] Well, Mr. Fitzgibbon went to the patent office to patent that idea in 2003, and he filed a patent application. And through a rigorous process over four years of back and forth at the patent office -- this is just the history. It went back and forth to the patent office. He was finally, in 2007, granted a patent. And the process he went through is rigorous.

You heard from the video. The patent office searches for prior art from around the world. They try to find what's -- what's relevant. They need to make sure before they give somebody a right as strong as this that they deserve it, that the patent is new, it's not obvious, and that it meets all the criteria that the patent office requires it to meet. Mr. Fitzgibbon's application did meet that criteria, and he was awarded the patent.

The same process occurred for the '966 patent. Now, the '966 patent is the invention of a fellow named Brian Butler. And when Mr. Butler came up with his idea, he immediately ran to Mr. Fitzgibbon to tell him about it. When he came up with his idea, he -- he

called him in and said, "I've got to tell you about this. Instead of using these big batteries as battery back-ups, what if we take the tool out of a piece of" -- like a power tool, "what if we take the battery out of a power tool and put that in the garage door opener?" You maybe have a portable drill, and there's a little tool [26] a little battery you can pull out the bottom, but let's find a way to put that in the garage door opener.

And he thought that was a clever idea for a couple of reasons. Number one, if you don't have a battery in your garage door opener and the power fails, you can go grab your power tool and take it out of there so you're never without a battery and, number two, you could use the garage door opener to charge those batteries, so you could take your power tool out and put it in the garage door and charge them and then leave them in there and then use it in your tool when you wanted to use it. That was Mr. Butler's invention.

You won't be hearing from Mr. Butler today. He doesn't work at Chamberlain anymore. He's gone off to other companies. But you will hear Mr. Fitzgibbon talk about that.

I want to say a -- a few things about the Constitution, and I know you've heard this in the video and you've heard it from the judge, but we believe the American Constitution is there to promote science and the useful arts. It's an important part of our society. It protects American innovation. Patents were in the U.S. Constitution even before the Bill of Rights.

Now, this is different than other countries. Some countries have a registration system. It's like getting their driver's license. They don't spend the four years that were spent on the '275 patent or the three-and-a-

half that were [27] spent on the '966 battery patent. They don't -- they don't go through this process to make sure that the patent is worthy of an invention. But in America, we do that. And as you heard from the judge and as you heard from the video, because the patents go through this rigorous process, they're presumed valid.

These are valid patents. They're presumed valid. And the only way to invalidate them in court is by clear and convincing evidence. We set a really high burden because we assume the U.S. Patent Office did their job right after all that time and all that we expect of them.

The second thing I want to say about the -- about the Constitution and about patent law is that you don't need to actually practice your invention. So I told you that Chamberlain is practicing the connected patent. On the other one, they're not using it right now, but that's not what the patent laws require. The patent law says if you innovate, then we're going to give you profits off of that for a limited period of time. It's used to incentivize innovation. And to Chamberlain, it's very important because when they get those profits, they feed it back into more innovation.

So how did we get here today? We got here today because TTI who was never in the garage door opener business wanted to put a product on the market quickly. Now, you heard in the voir dire, there were questions about Chinese [28] companies. Some of TTI's entities are in China. That's actually where they make the product and they import it into the U.S. But that's not really relevant.

The reason I am showing you this is to show you that there are a lot of TTI entities you might hear

about. You're going to see documents from different locations. One of them is in North America. There's one, I believe it's in South Carolina. They're all over the place. One of them is called One World Technologies or One World Industries. They're all the same. They're all the same entity.

And I don't know whether that name is familiar to you, TTI, but you've seen their products. When you buy a Dirt Devil vacuum, it's a TTI vacuum. When you buy Empire, it's TTI. The same thing with Hart. The same thing with power drills. Whether or not you -- whether you shop at Home Depot or another hardware store, when you buy these power drills, you're buying TTI power drills. It's just a different casing and a different brand. They're all TTI power drills. Even Milwaukee is a TTI power drill.

So how did we get to where we are? Well, a lot of those products are sold at Home Depot. So you've got to imagine that Home Depot is one of TTI's most important customers.

Well, in December 2014, Home Depot went to TTI and asked them to make a garage door opener. TTI was already

* * *

[Appx332] [77] touchscreen system that actually went into the '86 Riviera entertainment system.

Q. When you say "'86 Riviera," what are you referring to?

A. Buick Riviera, the car, if you will.

Other things I worked on was basically, again for the automotive companies, working on taking surfaces within the car and making -- using surfaces, way of

making them actable. In other words, it would measure a finger's location, how hard you pressed.

Q. So you were at Zenith, you said, for about ten years. What does that take us up to in time?

A. 1990.

Q. And what did you do then?

A. That's when I went over to The Chamberlain Group.

Q. What was the business of The Chamberlain Group at the time you joined the company?

A. Their -- their main business is garage door operators at the time.

Q. And how long had The Chamberlain Group been in business -- in the business of garage door openers at the time you joined?

A. Since the early '60s.

Q. Where was Chamberlain located when you started there?

A. They were located in Elmhurst, Illinois.

Q. So let's talk a little bit about Chamberlain when you got there. What was it about Chamberlain that attracted you to [78] working there?

A. As an engineer, I was looking for a variety of different technologies.

Q. And what were the technologies -- were there specific technologies at Chamberlain that were of interest to you?

A. The garage door operator has a mixture of technologies such as radio control, motor control, safety systems to make sure you're not hurting somebody.

Q. Okay. And -- and why were these particular technologies of interest to you?

A. It was a broad spectrum, so there was a lot of different directions I could be working.

Q. Now, what position were you hired into when you came to Chamberlain?

A. I came in as a senior project engineer.

Q. And what does it mean to say you're a senior project engineer?

A. That meant that I would develop specific circuitry, etcetera, for the -- of the product.

Q. Okay. Now, you're the first witness in the case, so let's talk about -- let's define our terms. When you say "circuitry," what does that mean?

A. The electronics or brains that are within the garage door operator.

Q. Okay. And what kind of projects did you work on when you [79] came in to Chamberlain, when you first started to be employed there?

A. When I first started there, I started working on the radio to make it a little bit more reliable for range, etcetera. Continuing on, I worked on the photo beams, basically making the circuitry reliable for high-volume manufacturing. And then the brains, if you will, I was working on the custom chip that was the brains at the time.

Q. And when you talk about a chip, could you tell the jury what you mean by that?

A. Basically, the IC that contains the electronics that is the brains.

Q. Okay. Now, you were a project engineer at the start. How long did you stay in that role?

A. I stayed in that role until 1996.

Q. Okay. And what happened then?

A. I became the manager of electrical engineering.

Q. Was that a promotion for you?

A. Yes, it was.

Q. And how did your job duties change, if at all?

A. Basically, I was managing people that were doing the work I was doing originally.

Q. Okay. And what kind of technologies were you working on then when you became the manager?

A. In that area, I was still working on basically the garage [80] door operator.

Q. Now, did your job duties -- did your job title change again over time?

A. In 1998, my job title changed to the present title, which is director of intellectual capital.

Q. Okay. What is intellectual capital as the term is used at Chamberlain?

A. It's basically working with patents.

Q. Is -- are patents important to Chamberlain?

A. They are important to Chamberlain, yes.

Q. And -- and why as the director of intellectual capital, why -- why is it that they're important to Chamberlain?

A Because they're the only way you can protect your inventions in reality.

Q. Now, how long -- you're still at Chamberlain today?

A. Yes, I am.

Q. How long have you been at Chamberlain all told, how many years?

A. 27 years.

Q. Have you received patents --

A. Yes, I have.

Q. -- over the course of time?

Now, over the course of that 27 years, how many patents have you personally been listed as an inventor on?

A. Over 140 patents.

* * *

[Appx377] [121] Q. Let's go to the next part of the claim, the limitation that starts "a controller."

A. Uh-huh.

Q. In 2003 when you applied for your patent, controllers were well-known, right?

A. Correct.

Q. And if we could look at your patent, Column 3, Lines 49 through 50.

If you could put that up on the left, please.

In your patent, you actually say that, "Such controllers 11 and movable barrier interfaces 12 are well understood in the art." That's a truthful statement, right?

A. It is.

Q. And by "art," you mean prior art?

A. Yes.

Q. In fact, controllers were so well understood that your patent said you didn't even need to talk about them very much?

A. Correct.

Q. And if we look at the lines right after what we've got highlighted there, so we're on Lines 49 to 53 now in Column 3, I had read, "Such controllers 11 and movable barrier interfaces 12 are well understood in the art and, therefore, for the sake of brevity and the preservation of focus, additional explanatory detail regarding such mechanisms will not be provided here."

[122] Your patent says that, right?

A. Correct.

Q. And that's -- that's a true statement?

A. Yes.

Q. So you agree, you did not invent with the '275 patent any particular type of controller?

A. Correct.

Q. Let's go back to Claim 1, look at the next limitation there, and it starts, "a movable barrier interface." The movable barrier interface is a mechanism that moves the garage door. Do I have that right?

A. Correct.

Q. And it includes things like the rail system, the trolley, the belt, and the arm connecting to the door; is that right?

A. Correct.

Q. At Column 3, Lines 49 through 50, we were just looking at that, you said these movable barrier interfaces were also well understood in the art; isn't that right?

A. Correct.

Q. And that was a true statement?

A. Yes.

Q. So you agree, you did not invent in this '275 patent any particular type of movable barrier interface?

A. Correct.

Q Now, let's look at the next limitation of the claim that [123] starts "a wireless status condition." A wireless transmitter is a device that sends out a signal in the form of a message; is that right?

A. Yes.

Q. And before you filed your '275 patent, wireless transmitters were well-known?

A. Wireless transmitters for commanding the operator to move were well-known.

Q. Right. And at Column 4, Lines 2 through 4 of your patent, you said just that. You said, "Again, such transmitters are well understood in the art and, hence, further elaboration here will not be provided." And that was a true statement?

A. Correct.

Q. So you would agree you did not invent wireless transmitters with the '275 patent?

A. Can you highlight that sentence again, that section of the sentence, rather? That section says, "wireless status condition data transmitter that is operably connected to the controller."

Q. Well, you certainly didn't invent a wireless transmitter that transmits data over the internet, right?

A. Correct.

Q. In fact, the '275 patent doesn't even mention wireless transmission over the internet, does it?

A. Correct.

[124] Q. There was also nothing new about sending status condition data wirelessly when the patent was filed?

A. For a garage door operator, it was.

Q. But not generally sending wire -- sending status condition data wirelessly?

A. I don't -- I don't know if I can say that wirelessly. I can say wired, but not wirelessly.

Q. And let's put up Column 3, Lines 54 through 60.

All right. Here you say, your '275 patent says, "The status condition data can be transmitted by any number of wireless transmitters all generally being understood in the art;" is that right?

A. That the type of transmission is well understood in the art for a commander control, yes.

Q. But the wireless transmission, that's what we're talking about here?

A. Yes, just the wireless transmission, not the status.

Q. Now, the next limitation of Claim 1 recites sending data about operating states from the plurality of operating states; is that right?

A. Why don't you highlight it.

Q. Sure. That limitation, please.

And you see the language, Mr. Fitzgibbon, "operating states from the plurality of operating states"?

A. Yes.

* * *

[Appx465] [270] Ryobi makes and sells and is available with the GD200 a fan and a tire inflater and a security camera and a park assist and those kinds of things, that's fine. It has no effect one way or the other on whether or not this device over here on that side infringes the claim, and if I -- I will show you line by line that it does. And all this other stuff is fine. It just doesn't affect my opinion about infringement.

Q. Thank you. Let's turn to the next element of Claim 1. Dr. Rhyne, is there a Court construction that's relevant to understanding this next element of Claim 1?

A. There is, and I'm going to break it into two pieces. Okay? And I'm going to deal -- the claim language is, "A controller having a plurality of potential operational status conditions defined at least in part by a plurality of operating states."

The thing I want to deal with first is the Court's construction of the controller. And the Court said it would be "a programmable platform, such as, for example, a microprocessor, a microcontroller, a programmable logic gate or gate array, or the like."

We're going to be dealing with principally the microcontroller, which is a small computer device, typically maybe about the size of a part of your finger, and it is a programmable device that someone writes a control program using a computer language that is stored with that device and [271] tell it what to do.

You've got microprocessors and microcontrollers in almost everything you touch that's got any kind of electrical characteristics. They're in refrigerators and washing machines. If you drive an automobile, it's probably got 20 to 30 of these kinds of things in it. I'm going to show you where I found one of them with programming inside the GD200 and 200A.

Q. Let's turn to that, Dr. Rhyne. Did you -- in your analysis of the Ryobi garage door openers, did you see a microcontroller?

A. Yes. If we go -- there's a photograph. This is actually a photograph provided not by me but by TTI as part of their work with the Federal Communications Commission here in the United States. If you sell a product that broadcasts radio signals, you generally have to get FCC approval so that you don't step on top of somebody else's radio signals. And they submitted this image.

And this is what's called a control MCU board, CPU board. And I have to get my glasses on to be absolutely

sure. I think this little guy right here is a commercially available microcontroller. And that is the device that's in -- in the Ryobi product.

Q. And for the record, Dr. Rhyne, were you reading from PTX 218 for this image?

[272] A. Yes, at Page 2, yes.

Q. And, Dr. Rhyne, let's turn to the second part of the Court's construction for this element. Can you please explain your analysis with respect to this construction?

A. There are two key terms that are going to come up again and again in this part of the device. One is -- let's just talk about "operational status conditions." Okay. That's something about the device, about the operator. Tell me about the door. Tell me about the light. Tell me about the operational mode.

It's something that's characteristic of the way in which that device is capable of operating. That's why it says "potential." Okay. So we have potential operating status conditions that are defined by a plurality of operating states. Okay?

Let me back up for a moment and say that when a patent claim says "plurality," it means at least two, but you can have more. Okay? So two or more status conditions defined in part by a plurality of operating states.

And what the Court has done is actually defined "operating states." So let's look at what the judge said. This means -- excuse me a moment -- "a controller that can obtain, through self-awareness or through externally developed information, for example, from sensors" -- and we talked about, you can control the light

or you can test to see [273] whether it's on, okay -- "two or more potential operational status conditions defined," and here's what the state is, "defined, at least in part, by two or more operational conditions being experienced by the controller." Okay?

Now, let me give you an example: The door. Okay? The door has a status condition. Okay? What are the states of that status condition? Up, down, moving up, moving down, broken, okay, halfway up, stopped because there was a tricycle in the way. All of those kinds of things are states. Those are operational conditions being experienced by the controller that define the status condition of the door. Okay?

So we've got two things that start with "S": Status conditions and states. I'll try to -- I'll keep trying to explain that to you as we work through this claim.

Q. And, Dr. Rhyne, I see that the claim language uses the word "defined." Does the '245 patent discuss how these status conditions are defined?

A. They're kind of bounded in. It says, for example, that we can do it by looking at the transmitted message that we're going to send out in at least one of the ways that Mr. Fitzgibbon envisioned. Okay? This is the way the message is going to be worked -- be sent out. And it's broken up into what are commonly called fields. It's like if the message had 100 characters in it, you might say the first ten characters is one thing, the second ten are the next, and the second ten

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[Appx491] [371] Q. And just so we're clear, you understand that normally there's a wired keypad inside the garage, right?

A. Yes.

Q. And then there can be a wireless keypad outside?

A. Outside when the door is shut, you can use it to open the door.

Q. And you'd agree with me that the asserted claims of the '275 patent don't recite a screw for connecting wires to a circuit board, correct?

A. Yes, I would agree with that.

Q. Now, Chamberlain applied for the '275 patent in May 2003, correct? We can put it up for you if you want.

A. I don't need it. Yes, May 29th.

Q. You'd agree that microcontrollers were used in garage door openers prior to May 2003, correct?

A. Yes.

Q. And you agree that the controllers disclosed in the '275 patent are used in a conventional well-known manner to control operations within the movable barrier operator, correct?

A. Yes.

Q. You agree that the '275 patent discloses a conventional and well-known movable barrier interface, correct?

A. Movable barrier interface, yes.

Q. And you agree that the movable barrier interfaces existed well before 2003, right?

[372] A. Yes.

Q. Can we agree that Bluetooth existed before May 2003?

A. Yes.

Q. And can we also agree that wifi existed before May 2003?

A. Yes.

Q. And can we also agree that MAC addresses were known and used in wireless systems before May 2003?

A. Yes.

Q. And can we agree that using identification signals in transmission systems to identify a device was something also done prior to May 2003?

A. Yes.

Q. Can we also agree that sending a signal with a status condition of a device was done prior to May 2003?

A. Yes.

Q. And would you agree with me that wireless transmitters were used with garage door openers prior to May 2003?

A. Yes.

Q. And would you agree that wireless receivers were used with garage door openers prior to May 2003?

A. Yes.

Q. And would you agree that the '275 patent -- with the '275 patent, Chamberlain did not invent the new form of data transmission?

A. I didn't understand the opening.

[373] Q. Yeah. I'll say it again. I fumbled that, so that's my fault.

A. I'm sorry.

Q. Would you agree that with the '275 patent, Chamberlain did not invent a new form of data transmission?

A. Yes.

Q. And would you agree that position sensors was used with garage door openers before May 2003?

A. Yes.

Q. And would you agree that prior to May 2003, position sensors were used to determine the position of a door of a garage door opener?

A. Yes.

Q. Now, the '275 patent gives some examples of conventional and well-known remote peripherals that were known before the '275 patent was filed, correct?

A. I believe so.

Q. You testified that some Chamberlain products practice claims of the '275 patent, right?

A. One in particular, the one --

Q. Just one?

A. I believe so, yeah. I think we focused on -- on one, I think.

Q. So in your opinion, the only product that you're aware of from Chamberlain that practices the '275 patent claims is – [374] is this one here, the 950WF?

A. Your question was very carefully worded. That's the only one that I focused on, and it's the only one that sitting here in this chair today I know about. I was told that I needed to find one, and working with Mr. Fitzgibbon, we went over this one, and I concluded that this one practices it. That's not an exclusion. There

may be others that do. I don't think in any of my reports, I alluded to any others.

Q. Are you familiar with the Chamberlain MyQ Garage or MyQ Gateway devices?

A. Those are two different devices. I'm generally familiar with them.

Q. And would you agree that the MyQ Garage device practices some of the claims of the '275 patent?

A. From what I know of it, I believe so. Now, you said "garage," right, not "gateway"?

Q. Correct.

A. I -- I think it does.

Q. Would you agree that the MyQ Gateway devices also practice some of the claims of the '275 patent?

A. I don't think I've offered any opinion on either one of those devices, frankly, and I'm not sure I know enough about the technical details of them to offer an informed opinion.

Q. The MyQ Garage that you -- you testified about before, you agree that that's a separate component from the head unit,

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[Appx558] [439] so it's actually 13 months' worth of data. It's a little bit shorter period.

Q. Based on the data you've reviewed, is there any – is there anything in terms of your opinion as to whether there's demand for the patented product, any dispute there?

A. To me, there's clearly demand for the patented product.

Q. Let's move on to the second Panduit factor, if we can --

THE COURT: I think we'll take a recess now.

MR. ELACQUA: Thank you, your Honor.

(Recess from 2:46 p.m. to 3:04 p.m.)

THE COURT: Mr. -- please be seated.

Mr. Elacqua, you may continue with Mr. Hansen's direct.

MR. ELACQUA: Thank you, your Honor.

Welcome back, ladies and gentlemen.

BY MR. ELACQUA:

Q. Mr. Hansen, I think when we broke, we had just finished the Panduit factor No. 2 -- I'm sorry, Panduit factor No. 1, was there demand for the patented product.

If I could get the slide, Mr. Ko.

We are moving on to the Panduit factor No. 2, which is, are there acceptable non-infringing alternatives. Can you explain that, please, Mr. Hansen?

A. Certainly. I looked at a couple of different things under factor No. 2. First, I looked to see if there was evidence of [440] demand for the patented invention, and then I also looked at alternatives that were available from either TTI or available in the market.

Q. Why -- why would you look at whether there's demand for the patented invention for this factor No. 2?

A. Well, that helps us to determine -- remember, overall, what we're trying to do here is determine what

would have happened but for the infringement. If there's evidence that consumers demanded the patented feature, then that helps us to determine that that sale would have been made by somebody else offering that patented feature, which in this case would be Chamberlain.

Q. And do you have an understanding as to the '275's patented feature?

A. Yes, I have a general understanding.

Q. And where does that come from?

A. That comes from talking to Dr. Rhyne.

Q. And what is your understanding from talking with Dr. Rhyne about the patented feature?

A. And -- and we've -- we've heard a lot of testimony about this already, but generally, a garage door opener with the ability to send status messages, and that garage door opener, that status message reports on the status of the garage door that it's attached to.

Q. And this is the '275, the connected patent, right, we're [441] talking about still? We're not talking yet about the '966?

A. That's correct.

Q Okay. And what type of evidence would someone in -- in -¬what type of evidence would you look at to figure out if there is demand for the patented feature?

A. I looked to several different pieces of evidence. I looked to evidence from Chamberlain, testimony, documents, TTI testimony and documents, as well as The Home Depot testimony and documents.

Q. Now, have we seen any of those types of documents in the course of this trial so far?

A. Yes. We've already seen a couple of those pieces of evidence that I considered. I considered numerous pieces of evidence, but we've -- we've looked at a few of those already.

Q. What -- what was one of the witnesses that talked about some of the evidence for demand for the patented invention?

A. Well, there was evidence from The Home Depot witness that we just listened to. There was also evidence that -- in depositions that I read from TTI personnel. And Mr. Sorice, Cory, talked about a few things and looked at a few documents in connection with that.

Q. And we won't go through all of the documents that I think Mr. Sorice discussed, but let's -- let's at least look at one of them, which is PTX 168 at Page 21. And I believe this is the -- the triangle that Mr. Sorice talked about with the core [442] drivers. Do you see that, Mr. Hansen?

A. I do.

Q. If you could blow out, Mr. Ko, the top bar of this particular slide.

How does this influence your opinion as to whether there is demand for the patented invention?

A. This is talking about the app's status-checking functionality and alerts should be considered the core features to retain. In my view, that relates directly to the patented technology. And so that indicates to me that the patented technology reflects kind of core pieces of this technology.

Q. Is there anything else you did in terms of looking at whether there was demand for the patented invention?

A. Again, I mentioned I looked at and reviewed testimony from several different parties.

Q. Let's -- let's look at some of that. We're going to look at -- if we can go back to the slides, please.

We're going to look at this, and this is testimony from a TTI corporate designee, and that's Mr. Michael Farrah. For the record, I'll read in the question and answers, if I can, from Mr. Farrah's deposition.

> "By selling the Ryobi GD200, was TTI targeting to get into expanding the business for the smart home and the connected home?
>
> * * *

[Appx564] [463] garage door opener with the modules all attached. Those sell from 40 to $60 each. So they earn a lot of additional profit from selling the modules. We mentioned the batteries and the profit that's earned on the batteries.

So when TTI is at the hypothetical negotiation, they recognize that if they're able to sell this garage door, there are a lot of other sources of economic value to them, so it tends to increase the amount that they'd be willing to pay for a license.

Q. Let's move on to the next *Georgia-Pacific* factor, I believe *Georgia-Pacific* factor 8. How does *Georgia-Pacific* factor 8 factor into your opinion for the -- just the royalty-bearing units on the '275 patent?

A. Factor 8 addresses profitability and what's called commercial success. So have these products been successful in the market? Are they popular? And the answer to that question is yes, for both companies.

The second bullet, I mentioned a word here, "profit premium." And one way to determine the value of a patented invention is to look at if there are additional profits that the company earns when they sell a product that practices that invention.

And there were some internal analyses at Chamberlain which identified when they introduced and sold the wifi GDOs that they earned additional profit margins ranging from [REDACTED TEXT] to [464] [REDACTED TEXT] percent. I took those profit margins. I multiplied them by the price that we saw for The Home Depot, and that gave me the [REDACTED TEXT] that you see here. And this was for 2015, 2016, 2017. I think the 2016 figure around the time of the hypothetical negotiation was about [REDACTED TEXT].

Q. Do -- those profits for the HD950, I think we're talking about, do those relate at all to any of the investments that Chamberlain has put into the connected line of its products?

A. Well, it's certainly a way that a company can try to recoup some of their investment and earn additional profits that they can then put back into research and development and other product initiatives.

Q. What about some of the other *Georgia-Pacific* factors? I know we've highlighted a few of them here. What about some of the other *Georgia-Pacific* factors relating to the royalty-bearing units for the '275 patent? How do those influence your opinion?

A. There were a number of other factors. Again, I -- I went through every factor in my expert report, and I talked about the three that I think are probably the most instructive or important. Here I list other factors that I think also would have an influence.

Q. And let's -- let's go to the first, GP, or *Georgia-Pacific* factor 4, licensing policy. How does that impact royalty rate, in your opinion?

[465] A. Factor 4 goes to Chamberlain's licensing practices. And they're not in the business and don't have a practice of licensing their competitors to compete against them, so that would indicate that they would require a higher royalty.

Q. And this would be -- but at this particular time, they'd have to license to TTI, correct, knowing they were going to get into the garage door opener market for the royalty-bearing units?

A. That's exactly right. Although they may never in reality be willing to grant a direct competitor a license, at the hypothetical negotiation, we have to force the parties to come to an agreement. But because of that fact, that tends to increase the rate that they would require.

Q. What about the next factor, factor 7, the term of the license?

A. The products at issue in this case are a little bit unique in that they have such a long life, so that if you lose the sale of the product, you've essentially lost contact with that customer for potentially a decade or longer. And that can exceed the term of the patent even. So you can have some long tail impacts of a lost sale today.

And that tends to, for Chamberlain, would increase the amount that they would require to grant a license, and it would also increase the amount that TTI would reasonably be willing to pay because they now have that customer [466] relationship and the other opportunities to market to that customer in the future.

Q. And the last factors you looked at were 9 and 10, advantages and benefits of the patent. How does this influence your opinion on the '275 royalty-bearing units?

A. We talked about this a little bit, that the patented functionality is really the core enabling functionality for the connectivity features, so it's important. There are a lot of benefits to using the patented invention.

And we also discussed the fact that there's a lack of acceptable non-infringing alternatives. So that tends to, again, increase the royalty that would be reasonable.

Q. Based on your analysis of these *Georgia-Pacific* factors and looking at this hypothetical negotiation for the '275 patent, what is your opinion as to what the appropriate - pardon me -- the appropriate royalty rate would be for the '275 royalty-bearing units?

A. In my opinion, a reasonable royalty is [REDACTED TEXT] per unit.

Q. All right. Let's turn now to the '966 patent, if we can. And this is the battery patent. What did you do to determine whether -- what the appropriate royalty would be for the '966 battery patent? What -- what analysis did you do, and what was the construct you looked at?

A. I followed the same approach, a hypothetical negotiation in April of 2016. Now we've got the same parties at the same

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[Appx2172] [12 of 13] The RF receiver unit 52 includes a RF receiver 38 coupled to a control logic 40 that generates a control signal having two states. See *Id.*, Column 4, lines 4-6. In the first state, a power supply 50 is coupled through the relay 42 to a switch 46 and a lamp 44. See *Id.*, Column 4, lines 13-16. In the second state, the power supply 50, in contrast, is isolated from the switch 46 and the lamp 44. See *Id.*, Column 4, lines 16-18. Whenever a RF signal is received at the RF receiver 38 of the RF receiver unit 52, the control logic switches the current state of the RF receiver unit 52, which effectively turns the lamp on and off. See *Id.*, Column 4, lines 19-32. Specifically, if the switch is closed, the lamp 44 and a tone generator 48 are turned on when the garage door 22 is raised and turned off when the door 22 is lowered. See *Id.*, Column 4, lines 39-42.

As shown, the transmitted RF signal from the RF transmitter unit 20 of Doyle, at its most reasonable broadest interpretation, provides **a single position** of the garage door 22. In contrast, claims 1 and 25 require a wireless status condition data transmitter to transmit a status condition signal that corresponds to a present operational status condition defined, at least in part, by **at least two operating states** from the plurality of operating states and claim 15 requires automatically wirelessly transmitting a status condition signal that represents the present operational status defined, at least in part, by the **at least two operating states** in response to detecting the at least one

predetermined condition. For all these reasons, Applicant respectfully submits that independent claims 1, 15, and 25, as amended, are distinguishable from Doyle and requests that the rejections of independent claims 1, 15, and 25 be withdrawn.

B. Dependent claims 2-14, 16-24, and 26-33

Dependent claims 2-14, 16-24, and 26-33 ultimately depend respectively upon independent claims 1, 15, and 25, which have been shown to be allowable above. Moreover, they introduce additional content that, particularly when considered in context with the claims from which they depend, comprises additional incremental patentable subject matter. Applicant reserves the right to present further arguments in the future with regard to these dependent claims in the event that their corresponding independent claims are found to be unpatentable. For all these reasons, Applicant respectfully submit that claims 2-14, 16-24, and 26-33 may be passed to allowance.

* * *

[Appx2914] [20] the controller could be programmed to automatically change the vacation mode status on particular days without requiring a user to manually change the status.

Further, as discussed above, each of these example operational status conditions is defined from the point of view of the controller, and describes an action (e.g., "receiving," "detecting," effectuating "a lighting status change," etc.) performed by the controller. This is consistent with the plain language of claim 1, which recites the controller "having" (not merely "knowing") a plurality of operational status conditions.

Accordingly, Petitioner's attempts to justify its rewriting of claim 1 fail, and thus the Board should interpret the unmodified, plain language of the claims according to the broadest reasonable interpretation standard.

B. "operational status [condition] defined, at least in part, by at least two operating states"

The Petition proposes construing this feature to mean "a status of any operation that has two or more potential operating states." Petition, p. 14 (emphasis added). Here, Petitioner again attempts to improperly rewrite the plain language of the Challenged Claims by (1) introducing the notion of "any operation" and (2) changing "defined, at least in part, by" to "has."

To this first point, as discussed above, the operational status condition is a condition the controller has. *See* Section IV.A, *supra*. Broadening the meaning of

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[Appx2944] [50] As previously discussed in Section IV.A, *supra*, the claimed "operational status conditions," including the "present operational status condition," are attributes of the controller, not of external components. Because the failure codes of Tazumi relate to external components and not to the CPU 14 (the alleged controller), the failure codes of Tazumi do not teach the claimed "present operational status condition" of a controller.

Further, Petitioner has not explained how any component that has ***failed*** can have a present ***operational*** status. If a component has failed, it is by definition no longer operating.

With respect to Tazumi's state code, Petitioner argues that the "state code itself contains multiple operating states, including 'the position of the door where it has stopped, values of various operating parameters, maintenance information about the maintenance which has been provided for the automatic door, etc.'" Petition, p. 62 (citing Tazumi, 9:7-26).

None of this information represents a present operational status condition of the alleged controller of Tazumi. The "information of the position of the door where it has stopped" is information about the door, not the present operational status of the alleged controller, and constitutes merely an output from a sensor (the encoder 24). Tazumi, 6:32-36.

* * *

[Appx2972] [19] sensor readings, and do not describe a present operational status condition of *the alleged controller*. *Id.* at 24–26.

On this record, we agree with Patent Owner's arguments (*id.* at 22– 32) and determine that Petitioner fails to show Menard discloses wireless transmission of a status condition signal that "corresponds to a present operational status condition defined, at least in part, by at least two operating states," as required by the challenged claims.

At the outset, for the reasons given in our claim construction analysis, we decline to adopt Petitioner's construction that interprets "operational status condition defined, at least in part, by at least two operating states" as a "status of *any operation* that has two or more potential operating states." Pet. 14 (emphasis added). Rather, we construe "a present operational

status condition" as "a present status condition of the controller's operation."

We are not persuaded by Petitioner's argument and Mr. Lipoff's testimony that Menard describes the claimed "status condition signal" because "the operational status condition regarding *the door's position* is defined at least two operating states, namely door open or door closed." Pet. 27, 30 (citing to Ex. 1008 ¶ 89) (emphasis added, original emphasis omitted). Petitioner's argument and Mr. Lipoff's testimony conflate the status information regarding *the door* (e.g., the door's position) with the present operational status condition of the controller, which is defined by at least two operating states of *the controller* (e.g., moving the door towards an opened or closed position). *See* Pet. 30; Ex. 1008 ¶¶ 89, 96. Notably, the door's position (e.g., open or closed) indicates the status of the *door*. By [Appx2973] [20] contrast, *moving* the door *towards* an open or closed position identifies an action being taken by the controller. Ex. 1001, 8:30–46. As recited in claim 5, for example, a plurality of operating states of the controller include: "moving a movable barrier in a first direction; . . . a lighting status change; . . . and receiving an operating parameter alteration signal." *Id.* Indeed, each item on this list describes an action being taken by the controller.

As noted above, the Specification of the '275 patent also explains that "the wireless status condition data transmitter 15 serves to transmit a status condition signal that represents *a present operational status condition of the controller* 11." Ex. 1001, 4:64–67 (emphasis added). The Specification further discloses that a status condition signal reflects "the actions being taken by the controller and/or the other operational

conditions being experienced by the controller." *Id.* at 5:33–36. Contrary to Petitioner's argument (Pet. 22, 30), the position of the door does not describe an operation of the controller, much less a present operational status condition of the controller.

More importantly, the portions of Menard cited by Petitioner do not support its argument, or Mr. Lipoff's testimony, that "Menard discloses that information about any present operational status condition (which would include the condition of open door and obstruction present) can be transmitted wirelessly to a user device." Pet. 30–31 (emphasis omitted) (citing Ex. 1003 ¶¶ 10, 11, 66, 69); Ex. 1008 ¶¶ 95–101. Indeed, those cited portions of Menard describe a transmission of status information of the door, light, and HVAC system, but not a present operational status condition of

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APPENDIX D

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[Appx6255] [271] your house lights using your cell phone, again, from your understanding, that's not covered by the claims of the '275 patent?

A. Again, without confirmation that it's closed, its value has a limited level of utility.

Q. In your deposition, I believe in Paragraph 25, you mentioned that TTI/Ryobi has frequently lauded the innovation of the Ryobi GD200, and I want to talk about that. We talked about this somewhat at your deposition.

You recall that at your deposition, we talked about a Chamberlain document that compared the key features of the Ryobi GD200 and the Chamberlain 950WF?

A. That's correct.

Q. And let's look at that. And that was Exhibit 10 to your deposition. And we're going to have it on the screen. In a particular -- just so we understand what this document is, I believe you said this was an internal Chamberlain analysis of the Ryobi GD200 that you did not personally prepare?

A. That's correct. We regularly review competitive products and identify any competitive reviews of features and benefits.

Q. And the words that are in this document, those are, in effect, Chamberlain's words, right?

A. Chamberlain employees created these, yes.

Q. Okay. Let's look now at Page 5515. And this is in black and white. Because of the shading, it's difficult to see, but [Appx6256] [271] just so first we know, the shading was applied by Chamberlain in preparing this document. Is that your understanding?

A. That's my understanding.

Q. Okay. And this page, 5515, shows that the Ryobi GD200 has advantages over the HD950WF for horsepower, wifi smartphone control, lights, ease of installation, and add-on accessories.

A. That's what we noted in here, is that the Ryobi unit has features that we do not include in our unit, yes.

Q. And on the right-hand side, there's a summary of those advantages, right?

A. That's correct.

Q. And again, the Ryobi advantages include higher horsepower, additional app capability, LED lighting, easy-to-install features, and add-on accessories, right?

A. That's correct.

Q. And on the battery backup point, Chamberlain was rated as having the advantage, true?

A. That's what the slide notes, yes.

Q. And Chamberlain noted that the GD200 does not include a battery backup, correct?

A. Correct. I do not believe that the free accessory or battery promotion had been run at this time.

Q. Now, if we turn to the next page ending in '516, here Chamberlain lists Ryobi as having an advantage for additional app capabilities. Do you see that?

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