

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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THE HILLMAN GROUP, INC.  
Petitioner,

v.

Hy-Ko Products Company LLC  
Patent Owner.

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Case IPR2022-00169  
Patent No. 10,421,133 B2

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**PATENT OWNER'S PRELIMINARY RESPONSE  
UNDER 37 C.F.R. § 42.107(a)**

## TABLE OF CONTENTS

I.	Introduction .....	1
II.	The '133 Patent .....	3
A.	History of Key Identification and Duplication .....	3
B.	Overview of the '133 Patent .....	5
C.	A portion of the key head must be positioned within the retention mechanism during imaging. ....	9
D.	The Impact of the '133 Patent's Invention on the Key Identification and Duplication Industry.....	12
E.	The Challenged Claims.....	15
F.	Claim Construction and Related Issues .....	16
III.	The Board Should Exercise its Discretion to Deny Institution.....	17
A.	All six <i>Fintiv</i> factors favor discretionary denial of institution under 35 U.S.C. § 314(a).....	17
B.	The petition should be denied in the Board's discretion under 35 U.S.C. § 325(d) because the Patent Office considered the same or substantially the same art and arguments cited by Petitioner.....	26
IV.	Petitioner Has Failed to Show a Reasonable Likelihood of Success on Any Challenged Claim .....	29
A.	Prior Art Cited in the Petition.....	29
1.	Wills (U.S. Patent No. 6,064,747) .....	29
2.	Speedypik ( <i>The National Locksmith</i> , July 2000).....	34
3.	U.S. Patent No. 4,666,351 (Marchal).....	40
B.	There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are anticipated by Wills. ....	42
1.	Claims 1-6 and 9-10 .....	42
2.	Claims 11-16, 18, 20, 21, and 23 .....	43
3.	Claim 24 .....	47
C.	There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are obvious in view of Wills and Speedypik. ....	48

1.	There is no rationale for combining Speedypik with Wills. ....	48
a.	Wills does not disclose and instead teaches away from positioning the head of the master key outside of the housing. ....	48
b.	The Petition fails to articulate any rationale for combining Wills and the Speedypik Article. ....	50
2.	Wills combined with Speedypik fails to render the Challenged Claims obvious. ....	54
D.	There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are obvious in view of Marchal and Speedypik Article. ....	55
1.	The Petition fails to articulate any rationale for combining Marchal and the Speedypik Article. ....	55
2.	The combination of Marchal and Speedypik fails to teach “interact[ing] and shar[ing] information” between the key blank identification system and the key cutting system. ....	56
E.	There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are obvious in view of Marchal, Speedypik, and Wills. ....	56
V.	Conclusion. ....	56

**TABLE OF AUTHORITIES**

	<b>Page(s)</b>
<b>Cases</b>	
<i>Amazon.com, Inc. v. Barnesandnoble.com, Inc.</i> , 239 F. 3d 1343 (Fed. Cir. 2001).....	16
<i>In re Kahn</i> , 441 F.3d 977 (Fed. Cir. 2006).....	53
<i>KioSoft Techs., LLC, et al. v. PayRange Inc.</i> , 2021 Pat. App. LEXIS 5067 (PTAB Mar. 22, 2021) (CBM2020-00026, Paper 11).....	24
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2017).....	53
<i>Samsung Elecs. Co., Ltd., et al. v. Ancora Techs., Inc.</i> , 2021 Pat. App. LEXIS 3269 (PTAB Jan. 5, 2021) (IPR2020-01184, Paper 11).....	24
<i>The Hillman Group, Inc. v. Minute Key Inc.</i> , Case No. 1:13-cv-00707-SJD (S.D. Ohio).....	13
<i>White v. Dunbar</i> , 119 U.S. 47 (1886).....	16
<b>Statutes</b>	
37 C.F.R. § 42.107(a).....	1
35 U.S.C. § 314(a) .....	17, 56
35 U.S.C. § 325(d) .....	26, 28, 57
<b>Other Authorities</b>	
37 C.F.R. § 42.107(a).....	1

**EXHIBIT LIST**

<b><u>Exhibit Number</u></b>	<b><u>Description</u></b>
2001	Declaration of Dr. Wyatt Newman
2002	CV of Dr. Wyatt Newman
2003	Ex. A to P.R. 4-3 Joint Claim Construction Statement (ECF 65-1, filed Dec. 15, 2021)*
2004	Plaintiff's Original Complaint (ECF 1, filed Jun. 1, 2021)
2005	Plaintiff's Amended Complaint (ECF 14, filed Aug. 2, 2021)
2006	First Amended Docket Control Order (ECF 95, filed February 8, 2022)
2007	Excerpt from Webster's Third New International Dictionary of the English Language, Unabridged, Merriam-Webster Inc. (2002)
2008	Excerpt from Webster's II Dictionary, Merriam-Webster Inc. (3d ed. 2005)
2009	Declaration of Robert Almblad in Support of Defendant Hillman's Responsive Claim Construction Brief (ECF 76-1, filed Jan. 19, 2022, executed Dec. 14, 2021).
2010	Hillman's Amended Preliminary Invalidity Contentions (ECF 62-1, filed Dec. 13, 2021)
2011	July 19, 2011 Email regarding Axxess System (HY-KO00120626)
2012	Hillman P.R. 4-2 Preliminary Claim Construction Statement (November 24, 2021)

<b><u>Exhibit Number</u></b>	<b><u>Description</u></b>
2013	Trial Testimony of Michael Schmidt, <i>The Hillman Group, Inc. v. KeyMe, LLC</i> , Case No. 2:19-cv-JRG (E.D. Tex.) (HY-KO00015121).
2014	January 17, 2017 Search History, File History of U.S. Patent No. 9,656,332 (IPR2022-00168, Ex. 1002 at 1055-56).
2015	Order on Defendant's Unopposed Motion for Leave to Amend Invalidity Contentions (ECF 64, ordered December 14, 2021)
2016	Order on Defendant's Protective Order (ECF 67, ordered on December 12, 2021)
2017	Order on Non-Party Motion to Quash Subpoena to Produce Documents (ECF 68, ordered on December 22, 2021)
2018	Order on Defendant's Motion to Dismiss, Strike, and for a More Definite Statement (ECF 75, January 14, 2022)
2019	Order on Plaintiff's Motion for Leave to Amend Infringement Contentions (ECF 83, ordered on January 25, 2022)
2020	SunSource Inc. Form 10-K Annual Report for Fiscal Year Ending December 31, 2000 (retrieved on February 16, 2022 from <a href="https://www.sec.gov/Archives/edgar/data/1029831/000095011601000560/0000950116-01-000560.txt">https://www.sec.gov/Archives/edgar/data/1029831/000095011601000560/0000950116-01-000560.txt</a> )
2021	Hillman Companies, Inc. Form 10-K Annual Report for Fiscal Year Ending December 31, 2007 (retrieved on February 16, 2022 from <a href="https://www.sec.gov/Archives/edgar/data/0001029831/000095013308001329/w52089e10vk.htm">https://www.sec.gov/Archives/edgar/data/0001029831/000095013308001329/w52089e10vk.htm</a> )

\* Unless otherwise noted, exhibits identified with ECF number are submissions in the parallel district court litigation (*Hy-KO Products Company LLC v. The Hillman Group, Inc.*, Case No. 2:21-cv-00197-JRG (E.D. Tex.)).

Pursuant to 37 C.F.R. § 42.107(a), Patent Owner Hy-Ko Products Company LLC submits the following preliminary response to the Petition filed by The Hillman Group, Inc. (“Petitioner”) as Paper No. 2 (“Petition”) in this proceeding, requesting *inter partes* review of claims 1-6, 9-16, 18, 20, 21, 23, and 24 (“Challenged Claims”) of U.S. Patent No. 10,421,133 (“’133 patent”). This response is timely pursuant to the Board’s Notice in Paper No. 3.

## **I. INTRODUCTION**

Disguised as a run-of-the-mill request for *inter partes* review, the Petition is actually a request for the Board to expend resources to determine whether the set of prior art, that the Patent Office already rejected and that a jury in District Court is soon to reject, invalidates the ’133 patent. Petitioner bases its request on two prior art references: Wills, the Speedypik Article (which describes a system that Petitioner claims is the subject matter of patents issued to Cimino), and Marchal. But Wills, Cimino, and Marchal were considered by the Examiner during the prosecution of a patent related to the ’133 patent. In fact, the Examiner’s search report shows a search query particularly identifying Wills’ and Cimino’s patent numbers. All three of the references that the Board is being asked to consider today were before the Examiner and rejected.

Now, Petitioner seeks a second opinion from the District Court and a third opinion from the Board. Petitioner “stipulated” in its Petition to withdrawing from

District Court its invalidity arguments that are asserted in the Petition, if review is instituted. But Petitioner limits “grounds” to the specific prior art publications presented. In the parallel District Court litigation, Petitioner asserts Wills, the Speedypik Article and system, Cimino, and Marchal, and also patents *related to* Wills and Cimino that have substantially identical disclosure to the prior art publications Petitioner relies upon in its Petition. If the Board grants the Petition and institutes review, and even if Petitioner withdraws its corresponding invalidity arguments as stipulated, Petitioner would still be asserting in the District Court related patents with substantially the same disclosure as Wills and the Speedypik Article. This is the definition of “gaming the system.”

Jury selection in the District Court litigation is set for July 11, 2022, ten months before the deadline for the Board to issue a final written decision, if review is instituted. The trial issues relate to business disputes that are much more expansive than what the Board is now requested to consider. Instituting a review would unjustly delay a resolution to those business disputes for what would most likely be an affirmation of the Challenged Claims. Indeed, there are serious flaws in Petitioner’s arguments for anticipation and obviousness based upon the two prior art references that the ’133 patent’s Examiner had already considered and rejected. The Board should therefore exercise its discretion, deny institution, and put a stop to Petitioner’s delay tactics.



## **II. THE '133 PATENT**

### **A. History of Key Identification and Duplication**

From long haul truckers to latch key kids, humans have relied on keys to safeguard our property and family. It thus comes as no surprise that the design as well as the identification and duplication of keys is an art of precision.

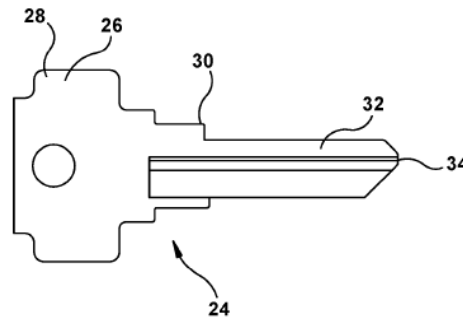
In the past, to duplicate a master key, a locksmith would first inspect the master key carefully to identify which one out of hundreds of confusingly similar key blanks he should use to cut a duplicate key.<sup>1</sup> Selection of the wrong key blank is the most common cause of a “miscut,” which often is not discovered until the customer tries the duplicate key in a lock hours or days later. Key blank selection traditionally relied on visual inspection and practice using the key head shape and key length because they are the easiest features for the eye to see. The key head would vary among manufacturing brands like Schlage, Kwikset, etc., while the key blade grooves and cuts are precise within the width of a human hair and hard to detect using the human eye.

Below is Figure 4b of the '133 patent showing a key blank 24 consisting of a key head 26 with a key bow 28, a key shoulder 30, and a key blade 32. The key blade 32 extends from key head 26, and the key shoulder 30 is adjacent to the key

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<sup>1</sup> As used herein, a master key is a key that is to be duplicated.

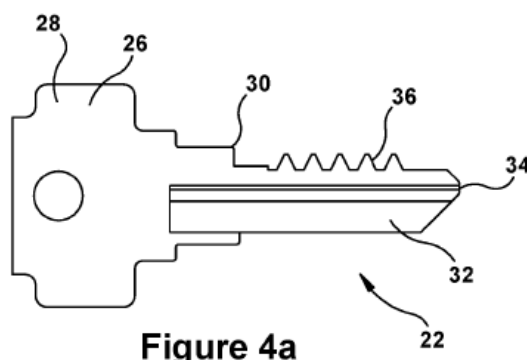
blade 32. A keyway groove 34 is provided on the key blade 32. Ex. 1001 at Figure 4b, 5:44-67.



**Figure 4b**

Any given lock manufacturer's keys, such as Schlage, Kwikset, etc., have distinctive keyway groove shapes and depth, as well as distinctive key thickness that precisely match the lock aperture. These and other features are unique to that manufacturer's locks and keys and serve as security measures to prevent that manufacturer's keys from fitting into, let alone unlocking, the locks of another manufacturer. In the past, identification of the proper key blank was done by eye and required the locksmith to inspect not only the key blade 32 and keyway groove 34, but also the key head 26. Visual inspection of the keyway grooves is very difficult. A customer would have to rely on the expertise of a locksmith, a bonded and licensed professional, to identify the correct key blank to use when duplicating a master key. Due to the difficulty of visually distinguishing between different key blades, key selection manuals and machinery have included the key head.

Once the correct key blank was identified, the locksmith would cut the key using a machine that included a stylus attached to a cutting wheel. Below is Figure 4a of the '133 patent showing a master key 22 and its key pattern 36.



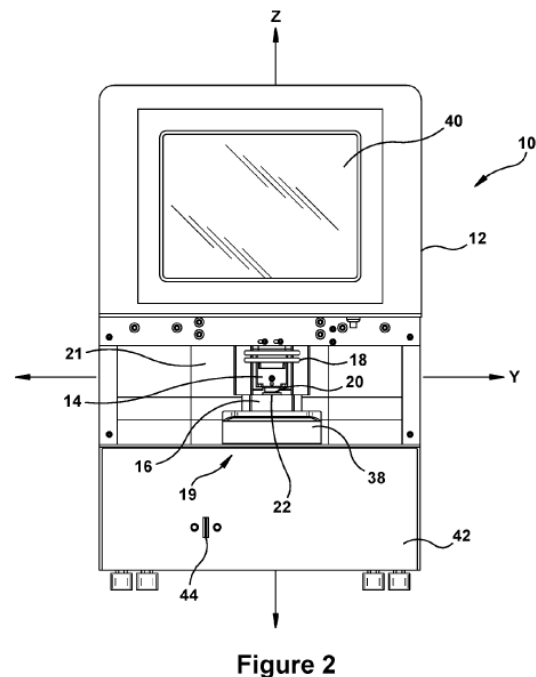
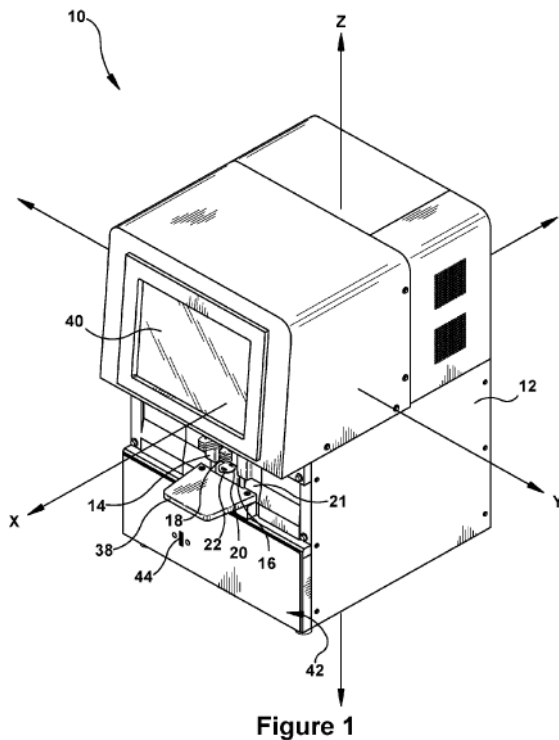
As the locksmith used the stylus to trace the key pattern (also called the “bitting” pattern) of the master key, the cutting wheel would correspondingly follow the motion of the stylus, thus cutting the key pattern into the blade of the selected key blank to create a duplicate key. This category of duplication is known as “tracer technology.”

## B. Overview of the '133 Patent

The '133 patent discloses receiving and positioning a master key's key blade within a key identification and duplication machine (also called a "key duplication machine") via a slot formed in the outer shell and a retention mechanism, identifying the proper key blank based upon an optical image of the key blade without having to observe the key head of the master key, and cutting the key blank—all in a single machine. Ex. 2001 at ¶¶ 33-39. The '133 patent teaches an

advantageous feature that allows a key to be duplicated without requiring the customer to pull the key off of her key ring: “The table 38 is positioned such that when a master key 22 is secured in the slot 20, the table 38 holds additional keys on a key ring so that the user does not have to remove the master key 22 from its key ring for the purposes of duplication.” Ex. 1001 at 6:58-61. This user-friendly system allows a clerk at a hardware store to reliably duplicate keys for customers, even without the expertise or guidance of a locksmith.

Figures 1 and 2 of the '133 patent depict an exemplary embodiment of the claimed key duplication machine, which comprises an outer shell 12 and a retention mechanism 19:



Figures 6 and 7 of the '133 patent depict the interior of the same embodiment of the claimed key duplication machine, which further comprises “a lighting panel 52” (Ex. 1001 at 8:17-19) that enables an optical imaging device 50 to capture an image of the key’s silhouette:

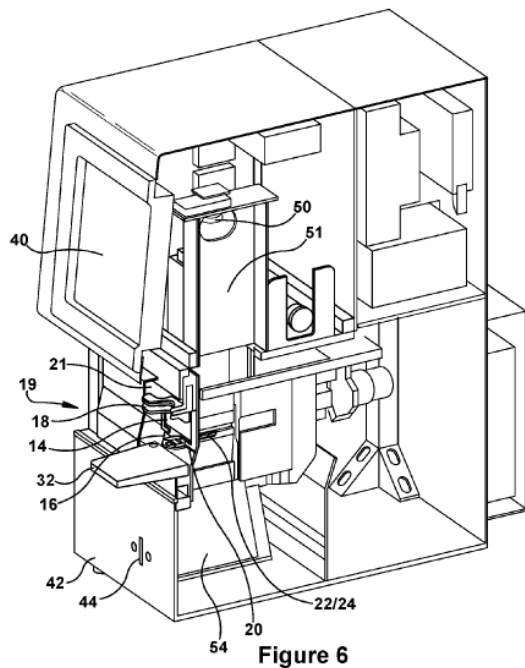


Figure 6

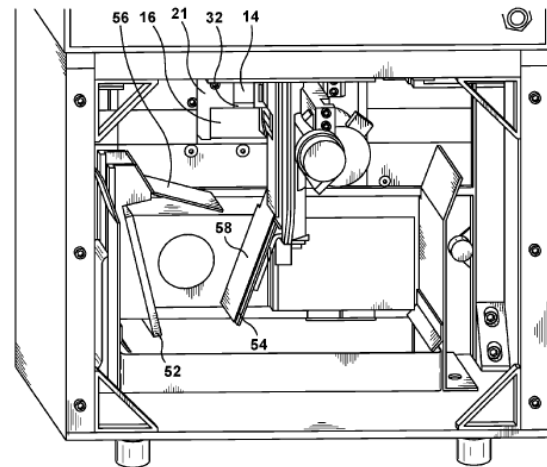


Figure 7

The '133 patent further discloses “front lighting or providing light directly to the key 22 and 24...when capturing an image of the key 22 and 24.” Ex. 1001 at 8:58-60.

The '133 patent teaches that “[t]he captured [silhouette] image of the blade 32 of the master key 22 may also be used to specifically determine the proper key blank 24 to use when duplicating the master key 22.” Ex. 1001 at 9:21-23.

Optionally, an additional image of the master key 22 may be captured to identify

its surface features, such as the keyway groove 34. Ex. 1001 at 9:40-51. A laser scan using single or multiple laser dots can be used to capture this additional image. Ex. 1001 at 9:52-60. “Therefore, based upon the master key 24 silhouette and, optionally, the key groove 34 features, the logic may identify a single key blank 24 for use in duplicating the master key 24.” Ex. 1001 at 9:61-64.

The machine also captures the image of the key blade 32 of the master key 22 including the key pattern 36. Ex. 1001 at 9:1-3. “Such a captured image may be analyzed by logic to quantify and specifically define the key pattern 36 of the master key.” Ex. 1001 at 9:3-5. This information is then stored for later use in “precisely cutting a key pattern into a key blank 24 and in comparing the key pattern cut into the key blank 24 and the key pattern 36 of the master key 22.” Ex. 1001 at 9:16-20.

Once the proper key blank is identified, the operator retrieves the identified key blank and inserts it into the key duplicating machine. Ex. 1001 at 10:26-29. While the optical imaging processes up to now had been conducted in the imaging zone of the ’133 key duplication machine, the key blank is now moved into the cutting zone to be cut into a duplicate key. Ex. 1001 at 12:30-31. The ’133 patent further teaches that the key blank is clamped in the retention mechanism to secure it against the forces of the cutting wheel. Ex. 1001 at 10:26-29, 10:52-56. The key blank is then cut according to the key pattern of the master key, which was

captured earlier in the imaging zone during the identification process. Ex. 1001 at 9:1-20, 10:29-34, 13:3-8 (“Once the key blank 24 is clamped, the cutting operation can be performed. The logic may use the quantified and stored information from the captured image of the key pattern 36 of the master key 22 to calculate precise movements of the cutting wheels 60 and 62, with respect to the key blank 24, to produce a duplicate key.”).

The ’133 patent notes that “the key duplication machine 10 described herein incorporates a key blank identification system and a key cutting system into a single apparatus. However, it should be understood that either system could be used individually or used together.” Ex. 1001 at 5:32-36. In other words, the operator can choose to use only the key blank identification system. Or, the operator can also choose to use only the cutting system. Or, the operator can choose to use the key blank identification system and the cutting system together. Ex. 2001 at ¶¶ 39-40. The ’133 patent then emphasizes that “[n]othing in this description should be interpreted to limit novel features of each individual system as used alone or in an integrated unit.” Ex. 1001 at 5:36-39.

**C. A portion of the key head must be positioned within the retention mechanism during imaging.**

A person of ordinary skill in the art would have understood that the structure and roles of the retention mechanism would necessarily limit the imaging of the

master key or key blank to only a portion of the master key or key blank. Ex. 2001 at Section V.B. The '133 patent teaches a slot that is an opening to the interior of the key duplication machine. Ex. 1001 at 15-19. The retention mechanism 19 shown in Figures 1 and 2 of the '133 patent is formed by door clamp 14, base 16, handle 18, and biasing member. Ex. 1001 at 6:13-15.

The '133 patent states that the retention mechanism 19 is “for retaining or securing a master key 22 or key blank 24.” Ex. 1001 at 6:13-15. In order for a key to be retained or secured by the retention mechanism, at least a portion of the master key or key blank must be physically grasped by the retention mechanism. But by physically grasping the master key or key blank, the retention mechanism would physically block a portion of the key from the view of the optical imaging device. The optical imaging device would therefore be unable to capture the portion of the key being grabbed by the retention mechanism. Therefore, a person of ordinary skill in the art would have understood that the imaging process could capture only a portion of the inserted key. Ex. 2001 at ¶¶ 37 and 41, and Section V.B.

The '133 patent teaches analyzing two captured images—the backlit silhouette image of the key blade and the frontlit image of the key blade. Neither includes any portion of the key head. For example, the '133 patent teaches an apparatus that “capture[s] the image of the blade 32 of a master key 22, including



the key pattern 36” and that this captured image of the blade 32 may be used in “selecting a key blank 24, precisely cutting a key pattern into a key blank 24 and in comparing the key pattern cut into the key blank 24 and the key pattern 36 of the master key 22.” Ex. 1001 at 9:1-20 (utilizing features such as “depth, angle, and position of each tooth in the key pattern 36 of the master key,” whether the master key is “single-sided” or “double-sided,” “where along the blade 32 the key pattern 36 begins and ends,” and “surface features of the blade 32, such as the presence, length, and width of a key groove 34”). To determine the proper key blank, “[t]he captured image of the blade 32” is analyzed for “the size and shape of the shoulder 30, the length and width of the blade 32, whether the master key 22 is single-sided or double-sided, whether the blade 32 includes any steps or grooves.” Ex. 1001 at 9:21-29.

The additional (front lit) image may also be used to determine the proper key blank because, again, the analyzed features analyzed in the ’133 patent reside on the surface of the key blade (e.g., the keyway groove 34) and not the key head. Ex. 1001 at 9:40-42. Further, the ’133 patent teaches optionally focusing the imaging on the key blade grooves: “Such imaging may be performed by providing a ring of structured light about the key blade 32 and an optical imaging device to record a tip view or cross-sectional view of the key 24, performing a laser scan across the key blade 32 to identify the width and spacing of a keyway groove 34, or

projecting a shadow across the surface of the blade 32 to measure the variations in shadow contour related to surface area contour.” Ex. 1001 at 9:44-51. *See also* Ex. 1001 at 9:52-64 (describing using one or more lasers to scan the key blade).

Considering the totality of the ’133 patent’s disclosure as described above, a person of ordinary skill would have understood that the ’133 patent requires leaving a portion of the key head within the retention mechanism to physically retain and secure the key in position for imaging, as well as to allow the other features of the key (e.g., the shoulder, blade dimensions and features, key groove) to remain visible to the optical imaging device. Ex. 2001 at ¶¶ 37 and Section V.B.

**D. The Impact of the ’133 Patent’s Invention on the Key Identification and Duplication Industry**

As previously mentioned, keys have been duplicated manually for decades on manual “key duplicators”—hand-operated tracer machines used by experienced hardware store associates or by professional locksmiths. That situation changed as retail hardware began consolidating towards national Big Box chains (e.g., Lowe’s, Home Depot, Menards, Walmart, etc.) and regional chains (e.g., Orchard Supply, etc.). These Big Box and regional chains needed a more versatile automated key duplication solution that was suitable for the retail environment with lower requirements for staffing and training.

Axxess Technologies, Inc. was one of the first firms to offer a solution to this problem, specifically the Axxess key duplication system (the “Axxess system”) for which Axxess Technologies in 1992 applied for and obtained U.S. Patent No. 5,351,409. Recognizing Axxess Technologies’ innovation and having contributed no creative efforts of its own, Petitioner acquired Axxess Technologies in 2000 and the 10,000 machines that Axxess Technologies owned and had deployed at the time. Ex. 2020 at pp. 2, 7, 8, and 11 of original document. This number grew to over 15,000 machines by 2007. Ex. 2021 at p. 3 of original document. Such Petitioner-owned Axxess machines remain deployed around the country to this day.

Big Box and regional chains in the early 2000s were frustrated with the amount of miscuts (incorrectly duplicated keys) that Petitioner’s Axxess systems were producing. After losing business to a competitor, one of Petitioner’s executives attributed the loss to Petitioner’s “lack of progress” in fixing the miscut problem: “I personally view the lack of progress on reducing miscuts as the root reason for the door being held open [by the customer for competitor]. ... Quite frankly we are 10 years late on this deliverable.” Ex. 2011<sup>2</sup> at 1.

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<sup>2</sup> Exhibit I is a document filed publicly in *The Hillman Group, Inc. v. Minute Key Inc.*, Case No. 1:13-cv-00707-SJD (S.D. Ohio). It has been produced in the parallel District Court litigation with Bates stamp HY-KO00120626.

Patent Owner's engineering team invented a user-friendly design called the KID system that allowed the customer's key to stay on the key ring and the operator could simply insert only the master key's blade into the machine for imaging and duplication. These advancements were recognized by others in the industry—even one of Petitioner's engineers. In recent court testimony, Michael Schmidt, Petitioner's engineer, explained the commercial importance of making key duplication machines more customer friendly by allowing duplication without taking the customer's key off the key ring and acknowledged this achievement was attributable to the '133 patent's co-inventor William R. Mutch. Ex. 2013.<sup>3</sup> (Patent Owner has limited its evidence of objective indicia of non-obviousness to only publicly available evidence identified so far through the parallel District Court litigation

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<sup>3</sup> Exhibit K is a transcript of trial testimony given before Judge Gilstrap in a trial last year by Mr. Schmidt. *See* Ex. 2013 at 277- 279 (engineer's employment by Petitioner), 281-285 (engineer's inventorship for Petitioner of a key duplication machine that allowed the master key to remain on the customer's key ring while being imaged so as to be more customer-friendly, and "that's where the key on ring concept was -- had begun"), 296-298 (difference between prior art and "key on ring concept"), 301 (Petitioner's product built according to its engineer's invention), and 317-318 and 321-324 (engineer's admission that Patent Owner's engineer invented a key identification and duplication machine that did not require the key head to be inserted into the machine). It has been produced in the current litigation with production number HY-KO000155121.

**E. The '133 Patent and the Challenged Claims**

The '133 patent specifically claims a key duplication system that includes an identification component that identifies an appropriate key blank for use in duplicating a master key, and a cutting component that cuts a duplicate key from the key blank using information captured during the identification process. Petitioner challenges the validity of claims 1-6, 9-16, 18, 20, 21, 23, and 24 of the '133 patent.

Independent claims 1, 11, and 24 claim an integrated key duplication machine comprising a key blank identification system and a key cutting system. The identification system identifies the proper key blank to use to duplicate the master key. The key cutting system may employ a cutting member to cut the key blank. The identification and cutting systems operate individually but interact and share information, which may include the master key's captured image information.

The dependent claims recite additional features, such as optical imaging devices, a database, and logic for comparing features of the master key with reference data related to key blanks or the physical dimensions of key blanks (claims 2-4, 12-14); logic for determining and selecting the proper key blank (claims 5, 6, 15, and 16); using the master key's captured image to provide key pattern information for cutting (claims 9 and 20); integrating the identification

system and the cutting system into a single machine (claims 10 and 21). Claim 18 recites a cutting system that has a retention mechanism and a cutting member. Claim 23 recites that the cutting system's retention mechanism can move vertically.

#### **F. Claim Construction and Related Issues**

Petitioner asserts that no terms in the Challenged Claims require express construction and that each term should be understood according to its plain and ordinary meaning. Petition at 3-4. In taking this position, Petitioner acknowledged that “[c]laim construction in *inter partes* review is governed by the same standard as it would be in a district court.” *Id.* at 3. Despite this acknowledgment, Petitioner took a contrary approach in the District Court litigation and proposed that “retention mechanism panel” should be construed to mean “slidable panel with a retention mechanism located on it.” Ex. 2003, at 10-14.

Inconsistent claim constructions under the same legal standards inherently create potential conflicts. Claim terms should not be treated like the proverbial “nose of wax,” and twisted one way for invalidity analysis and another for infringement analysis. *See Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F. 3d 1343, 1351 (Fed. Cir. 2001), citing *White v. Dunbar*, 119 U.S. 47, 51 (1886).

### **III. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION**

A claim construction hearing is scheduled in the District Court litigation on February 17, 2022, one day after this preliminary response. Jury selection is scheduled for July 11, 2022, a full ten months prior to May 16, 2023 when the Board is statutorily required to issue its final written decision on an *inter partes* review. Even before the Board's institution decision is expected, the parties and the Court would have expended much effort and addressed many of the issues that the Board would determine if *inter partes* review were instituted.

Moreover, the prior art references upon which Petitioner relies were considered and rejected by the Examiner during prosecution of the '133 patent. Petitioner's arguments are thus a rehash of what the Examiner already considered.

The Board, therefore, should exercise its discretion to deny institution.

#### **A. All six *Fintiv* factors favor discretionary denial of institution under 35 U.S.C. § 314(a).**

The District Court is better suited to address the issues of this Petition. Petitioner, however, has announced its intention to seek a stay and suspend the non-patent claims therein by requesting *inter partes* review (without merit).

On June 1, 2021, Patent Owner asserted the '133 patent, along with three other related patents and a false advertising and conversion claim, against Petitioner in the Eastern District of Texas. Ex. 2004, *see also* Ex. 2005. The non-

patent claims request prompt injunctive relief and remedial advertising to be funded by Petitioner. The case was assigned to Judge Gilstrap. Claim construction issues have already been briefed, and the Court will conduct the claim construction hearing on February 17, 2022 (the day after the filing of this preliminary response), and jury selection is scheduled to begin in less than five months on July 11, 2022, with a trial to follow immediately thereafter. Ex. 2006.

In *Fintiv*, the Board weighed six factors in determining whether to exercise its discretion to deny the petitioner's request for institution of *inter partes* review. Here, all six *Fintiv* factors favor discretionary denial.

***Fintiv* Factor 1: Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.**

Judge Gilstrap has not granted a stay and evidence suggests that he would not grant a stay even if the Board institutes review, especially in this case because the non-patent claims require prompt injunctive and remedial orders. In *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, Judge Gilstrap denied the defendant's motion for stay after IPR was instituted for the asserted patents because the IPR was instituted after dispositive and *Daubert* motions had already been filed and the Court had already invested time and effort into handling pretrial issues. Case No. 2-17-cv-00577 (E.D. Tex. Dec. 13, 2018). More recently, in *Longhorn HD LLC v. NetScout Systems, Inc.*, Judge Gilstrap denied a motion to



stay pending *ex parte* reexamination, reasoning that, at the time the motion was filed, “fact discovery had closed, expert discovery was nearly complete, pre-trial briefing was imminent, and a date for jury selection had been set.” Case No. 2:20-cv-00349 (E.D. Tex. Jan. 6, 2022).

Here, an institution decision would be due by May 16, 2022. Under the current schedule of the District Court litigation, discovery closes March 9, 2022, and the parties are scheduled to have served pretrial disclosures and accompanying objections and rebuttals thereto, and to complete briefing of dispositive and *Daubert* motions by May 16, 2022. Ex. 2006. The circumstances here are nearly identical to those that resulted in denials of stay by Judge Gilstrap in *Intellectual Ventures* and *Longhorn HD*. This suggests that Judge Gilstrap would deny any motion for staying the parallel litigation, especially when such a motion could only be appropriately filed two months before the trial date and especially because the intertwined conversion and false advertising Counts urge prompt treatment.

*Fintiv* Factor 1 favors denial of institution.

***Fintiv* Factor 2: Proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.**

The Court’s trial date is July 11, 2022, ten months before the statutory deadline for a final written decision, should review be instituted. *Fintiv* Factor 2 favors denial of institution.

***Fintiv* Factor 3: Investment in the parallel proceeding by the court and parties.**

Fact discovery closes in less than one month, and claim construction briefing is complete, and the Markman hearing will be held one day after this response is submitted. The Court has ruled on motions to dismiss and amend contentions, and discovery motions. Exs. 2015, 2016, 2017, 2018, 2019. By the deadline for an institution decision, it is highly likely that the District Court will have issued a claim construction order, expert discovery will have closed on April 22, 2022, and briefing on dispositive and Daubert motions will have been completed by May 16, 2022.) By the time the Board determines whether to institute review, the Court and the parties would have invested significant time and effort in the parallel proceeding.

*Fintiv* Factor 3 favors denial of institution.

***Fintiv* Factor 4: Overlap between issues raised in the petition and in the parallel proceeding.**

Even if IPR is instituted, Petitioner still seeks to litigate the same issues in the parallel proceeding in District Court. In the parallel proceeding, Petitioner currently asserts, inter alia, that Wills, the Speedypik Article, and Marchal each anticipate several of the Challenged Claims and the combination of these references renders the remaining Challenged Claims obvious—grounds 1, 1A, 2,

and 2A of the Petition. Ex. 2010 at 22 and 32-34. The deadline for Petitioner to make its final election of prior art is February 22, 2022. Although Petitioner has stipulated to not pursue in the parallel proceeding invalidity of the '133 patent on any grounds that the Board institutes for review, that stipulation is exceedingly narrow. Ex. 1020. Petitioner narrowly defines “grounds” as the “specific obviousness combinations and anticipation challenges” identified in the Petition, and thus attempts to retain the right to rely on other references that contain substantially the same disclosure as the references Petitioner asserts here. Petition at 43.

In the District Court litigation, Petitioner’s invalidity contentions include the Wills, the Speedypik Article, and Marchal that Petitioner relies on here, as well as U.S. Patent No. 6,588,995 (also issued to Wills with substantially overlapping disclosure as the Wills patent here), the Speedypik system (which is substantively the same as the Speedypik Article that Petitioner relies upon in its Petition), and U.S. Patent Nos. 4,899,391 and 6,543,972 (patents issued to William Cimino, which Petitioner’s expert, George Heredia, has described as covering “[t]he system described in the Speedypik article.”) Ex. 1017, ¶ 55. Petitioner’s “stipulation” therefore does nothing to prevent overlap of the arguments in the District Court litigation and here before the Board.

Furthermore, while Petitioner asserts that this Petition will decide different claims, the Board's consideration of additional claims does not prevent (or even substantially reduce) overlap of issues between an IPR and the District Court litigation. The Petition challenges claims 1, 2, 4, 7-11, and 13 of the '133 patent. By Court order, in an effort to simplify issues as trial nears, Patent Owner has submitted its finally elected the claims of the '133 patent that it will continue to assert in the parallel litigation: independent claims 1, 11, and 18. The election of a subset of claims for trial in the parallel proceeding, however, does not weigh in favor of discretionary institution.

The Petition's analysis of dropped claims relies essentially on the same evidence and arguments presented for claim 1. The Petition's arguments for claims 3, 5, 6, 9, 12, 13, 15, 16, 20 cite back to its argument for claim 2. Petition at 26-31. The Petition's arguments for claim 18, 23, and 24 cite back to its argument for claim 1. Petition at 32-34.

There is thus substantial overlap in prior art and the claimed subject matter to be addressed in the parallel District Court litigation and an *inter partes* review, if instituted. *Fintiv* Factor 4 favors denial of institution.

***Fintiv* Factor 5: Whether the petitioner and the defendant in the parallel proceeding are the same party.**

The Petitioner and the defendant in the parallel proceeding are one and the same. *Fintiv* Factor 5 favors denial of institution.

***Fintiv* Factor 6: Other circumstances that impact the Board’s exercise of discretion, including the merits.**

Various reasons exist for the Board to weigh *Fintiv* Factor 6 in favor of denial.

Most glaringly, the divergence in claim construction manufactured by Petitioner destroys the purpose behind the Board’s adoption of the district courts’ standard for claim construction—“greater uniformity and predictability of the patent grant, [which] improve[es] the integrity of the patent system.” *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51,340, 51,342 (Oct. 11, 2018). In the course of denying the institution of a covered business method patent review in *KioSoft*, the Board noted the common standard for claim construction between the Board and the district courts and found that *Fintiv* Factor 6 favored denial because the Petitioner offered constructions in its Petition that differed from the constructions it offered in the parallel district court litigation: “[R]egardless of the Petition’s merits, the potential problems inherent in the inconsistent claim constructions set forth by Petitioner between the Petition and its proposals at the district court warrant us to find that factor 6 weighs in favor of denying

institution.” *KioSoft Techs., LLC, et al. v. PayRange Inc.*, 2021 Pat. App. LEXIS 5067, \*19-21 (PTAB Mar. 22, 2021) (CBM2020-00026, Paper 11); *see also* *Samsung Elecs. Co., Ltd., et al. v. Ancora Techs., Inc.*, 2021 Pat. App. LEXIS 3269, \*26-30 (PTAB Jan. 5, 2021) (IPR2020-01184, Paper 11) (denying institution of *inter partes* review and finding that inconsistent constructions proposed by Petitioner favor denial under *Fintiv* Factor 6). Contrary to the Board’s stated goal of “improving the integrity of the patent system” through maintaining consistency in claim construction, Petitioner seeks parallel proceedings that could eventually arrive at the Federal Circuit with contradictory claim constructions, Petitioner’s gambit of seeking different constructions for the same terms in parallel proceedings undermines the integrity of the patent system. The better choice is to deny the Petition and allow the District Court to resolve the parties’ disputes.<sup>4</sup>

If the Petition is granted, Petitioner’s tactic of inconsistent claim construction positions between the PTAB and the District Court will further complicate matters and drive up expenses. The parties will be forced to develop evidence and expert analysis to address various contingent outcomes and arguments. This is a waste of resources brought about by Petitioner’s “nose of

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<sup>4</sup> Further, application of the constructions that Petitioner proposed in the District Court would destroy Petitioner’s argument at least with regard to claims 11 and 13 of the ’133 patent. *See* Section IV.B.2 below.

wax” tactics with inconsistent claim construction declarations from conflicting experts.

Moreover, Petitioner and Patent Owner are direct competitors in the key duplication industry. In addition to allegations of patent infringement, the Complaint also contains allegations of false advertising, conversion/receipt of stolen property, and replevin. Ex. 2004; *see also* Ex. 2005. It is unlikely that Petitioner and Patent Owner will resolve their disputes without a trial in July where Petitioner’s overlapping invalidity defenses will be advanced .

The dispute between Petitioner and Patent Owner arises out of active competition between the two parties and include ancillary issues that are intertwined with the secondary considerations of non-obviousness such as long felt need, copying and commercial success. This intersecting subject matter is better suited to the discovery and trial tools of the District Court and addressed as a whole during days of trial testimony.

Patent Owner also urges a discretionary denial in the interest of judicial economy and fairness. Patent Owner’s Complaint in the District Court seeks an injunction against ongoing false advertising and an Order for remedial advertising to correct the market impact of the false advertising. The Complaint also alleges that Petitioner wrongfully obtained Patent Owner’s engineering drawings and seeks their return.

These aspects of the case have two effects on fairness and efficiency caught up with the Petition. On the one hand, if the Petition is accepted and the District Court stays the case, Patent Owner will be faced with months of delay in the pursuit of its injunction, remedial advertising, and return of engineering drawings with an uncertain outcome on the patent issues in the case. On the other hand, the presence of these additional urgent non-patent disputes may persuade the District Court to deny Petitioners request to stay case and vacate the July trial date. In either case, the parallel actions add to the cost and burdens to both the parties and the two tribunals.

\* \* \*

In conclusion, all six *Fintiv* Factors favor discretionary denial of institution and the District Court is better suited to probe Petitioner's conflicting claim constructions and odd circumstances surrounding Petitioner's tactics. Therefore, a denial under *Fintiv* is appropriate.

**B. The petition should be denied in the Board's discretion under 35 U.S.C. § 325(d) because the Patent Office considered the same or substantially the same art and arguments cited by Petitioner.**

The subject matter of all three references upon which Petitioner relies were disclosed to and considered by the '133 patent's Examiner. Indeed, the Examiner's Search Strategy and Results in the prosecution history of the '332 patent, a patent related to the '133 patent, shows that in his very first search query,



the Examiner searched specifically for U.S. Patent Nos. “6064747” and “4899391”—the Wills patent and the Cimino patent, which Petitioner’s expert claims covers “[t]he system described in the Speedypik article.” Ex. 2014, and Ex. 1017 at ¶ 55. This shows that the Examiner was keenly aware of Wills and the Speedypik system, but he opted not to apply them, individually or in combination, against any of the then-pending claims in the ’332 patent or the ’133 patent.

Moreover, as part of their September 20, 2016 Information Disclosure Statement, Applicants submitted an August 18, 2010 search report (“Search Report”) and a November 1, 2011 preliminary report (“Preliminary Report”) that were part of the prosecution of PCT/US2010/033414. Ex. 1002 at 0131, 0962-967, 957-961. The Search Report identifies U.S. Patent No. 6,064,747 (“Wills”) as a Category Y “document of particular relevance” and that “the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.” Ex. 1002 at 963. The Preliminary Report then discusses Wills in greater depth, including that Wills discloses a key identification system that includes an imaging system and the use of lasers to identify groove features. Ex. 1002 at 0960-961.

Not only had the Examiner considered Wills during prosecution, he had also considered the subject matter of Speedypik. U.S. Patent Nos. 4,899,391

(“Cimino”) and 6,543,972 (“Cimino ’972”) were issued to William Cimino, the creator of the Speedypik system. Exs. 1006 and 1007. Petitioner’s expert, George Heredia, states that “[t]he system described in the Speedypik article was the subject of” these two patents. Ex. 1017 at ¶ 55. But, like Wills, these two patents were already submitted to and considered by the Examiner during prosecution of the ’133 patent. Ex. 1002 at 0098, 0108, 1033, 1043, and 1111 (search report showing that the Examiner included Cimino’s patent number in a search query). Additionally, two PCT search reports in which Cimino was expressly identified were submitted to the Examiner. Ex. 1002 at 0586-587, 815.

Importantly, during examination of the related ’133 patent, the Examiner explicitly included Cimino’s patent number in a search query *that also included the Wills patent number*. Ex. 2014. But in allowing the Challenged Claims, the Examiner had considered Wills and Cimino, individually and in combination, and determined that Challenged Claims were not anticipated or rendered obvious by Wills and/or Cimino, which according to Petitioner’s expert, describes Speedypik.

Clearly, Petitioner is now attempting to invalidate the ’133 patent with the prior art that the Examiner researched, considered, and rejected prior to allowing the Challenged Claims. The Board should therefore exercise its discretion under 35 U.S.C. § 325(d) and deny the Petition.

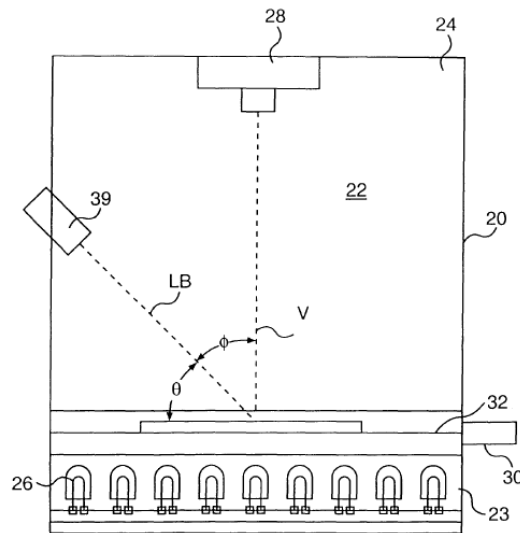
**IV. PETITIONER HAS FAILED TO SHOW A REASONABLE  
LIKELIHOOD OF SUCCESS ON ANY CHALLENGED CLAIM**

**A. Prior Art Cited in the Petition**

**1. Wills (U.S. Patent No. 6,064,747)**

U.S. Patent Application No. 08/855,227 was filed on May 13, 1997, and was issued as U.S. Patent No. 6,064,747 (“Wills”) on May 16, 2000. The assignee at the time was Axxess Technologies, Inc (“Axxess”). One year later, Axxess assigned Wills to Petitioner as a consequence of Petitioner’s acquisition of Axxess and its thousands of installed machines throughout the country. The Axxess machine is the technology that Petitioner admitted was at least “10 years late” in working to improve at the time of Patent Owner’s inventions. Ex. 2011 at 2.

Wills describes a system that uses backlighting to create a silhouette image of the entire master key (including the key head), and then uses that silhouette image (of the entire master key) to identify the proper key blank. As shown in Figure 6 of Wills (below), the system is encased in a housing 20 and the master key is received by the system via a drawer 30 that is “slidably mounted to the housing 20.” Ex. 1003 at 7:4-5.

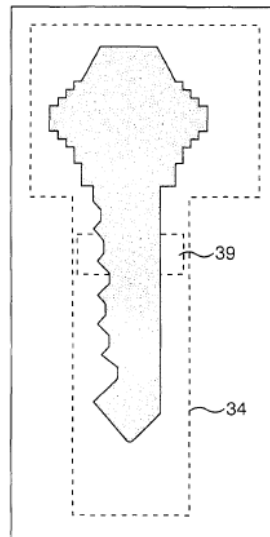


**FIG. 6**

To start the identification process, the operator slides the drawer 30 open, positions the master key in the drawer 30, and slides the drawer 30 closed. When the drawer 30 is slid closed, the entire master key is received completely into the housing 20 and within a “substantially light-tight” environment. Ex. 1003 at 7:4-11.

There, an array of LEDs 26 provide backlighting from underneath the master key so that a silhouette image can be captured by a camera 28, which could be positioned overhead or in conjunction with a mirror as shown in Figures 6 and 9, respectively. Wills teaches the necessity of using a transparent material for forming the drawer 30 to capture the backlit silhouette of the master key. For example, Wills teaches using “clear” and “light-transmittive” materials that “allow light to pass therethrough.” Ex. 1003 at 7:4-26.

Figure 7C of Wills (below) is a top plan view of a master key that is backlit within drawer 30. The operator positions the master key within a “cut-out template 34” in drawer 30. Ex. 1003 at 7:17-18. Note that the template encompasses the entire head of the key.

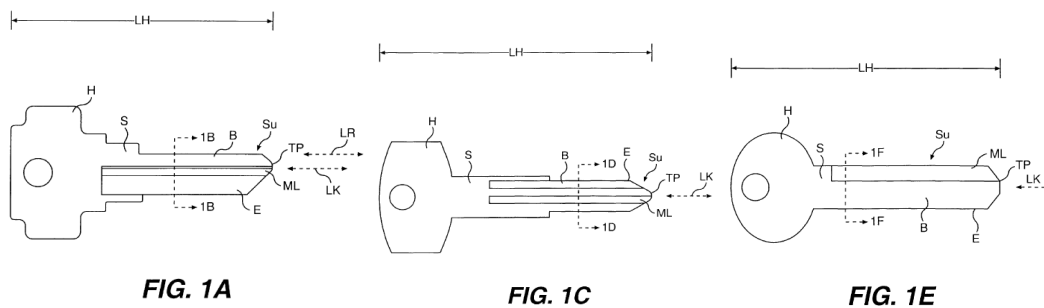


**FIG. 7C**

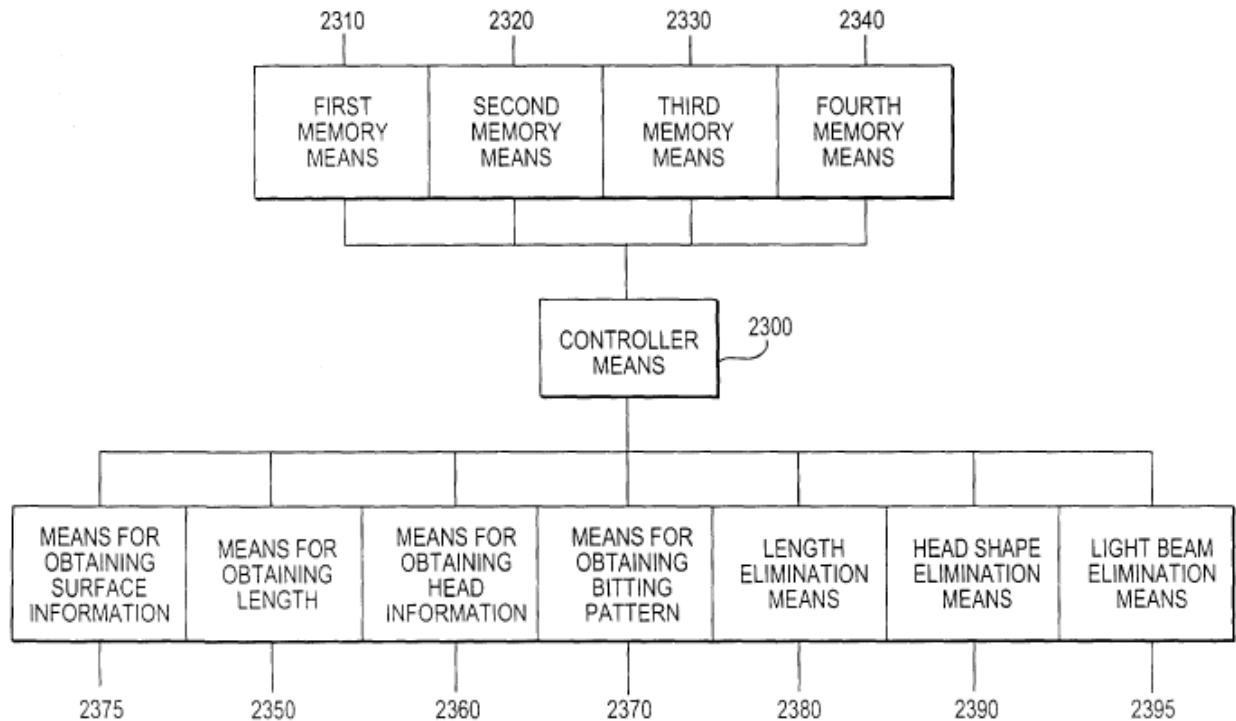
“The dimensions of the cut-out of the template 34 are large enough to accept any key for which the operator has a key blank to duplicate.” Ex. 1003 at 7:19-21. In fact, Wills “does not require the master key to be precisely aligned to operate efficiently.” Ex. 1003 at 7:29-31. Instead, the concern is to “ensur[e] that the master key is positioned away from the edge of the drawer 30 with the tip facing forward” so that “the edge of the drawer does not interfere with the backlit image of the master key.” Ex. 1003 at 7:32-38.

Once generated, the backlit image is digitized by an onboard computer. The digitized image is analyzed and compared against “a database of reference keys” that are stored in the computer’s memory subsystem. Ex. 1003 at 6:19-22. “The memory subsystem stores information about a plurality of reference keys in the hard disk 17. The information includes data about the length of each of the reference keys and the head of each of the reference keys.” Ex. 1003 at 9:42-44. Wills expressly defines the key length as including the key head in addition to the blade. Ex. 1003 at 5:11-15. The length and head are analyzed in tandem.

The processes that Wills teaches for eliminating improper key blanks necessarily use the master key’s head because they analyze the master key’s length and head shape. These features form the key’s profile and each require information about the key head. Examples of key profiles are shown in Figures 1A, 1C, and 1E of Wills (below), each of which include the key head. The “LH” designation above each example indicates the key length, which includes the key head. Of course, the head shape includes the key head.



Wills' computer subsystem for key identification is illustrated in Figure 23 (below) and shows that the master key's length and head shape are used to eliminate improper key blanks (length elimination means 2380 and head shape elimination means 2390).



**FIG. 23**

Wills' specification describes the "KEY IDENTIFICATION PROCESS" in columns 6 through 16, starting with the capture (Ex. 1003 at 6:42-8:46) of a backlit image of a master key and digitization (Ex. 1003 at 8:47-9:49) of the captured backlit image, followed by a description of the elimination processes using the key's length (Ex. 1003 at 9:50-10:3) and the key's head shape (Ex. 1003 at 10:4-11:21). After these two elimination processes are done and "[only i]f an *additional*

elimination step is necessary,” surface information analysis (light beam elimination) would be used as a process to further eliminate improper key blanks. Ex. 1003 at 11:22-43 (emphasis added).

Once Wills’ computer subsystem provides the operator with at least one identified key blank that is a candidate to duplicate the master key, the operator “verifies the proper key blank” and “the LEDs 26 are again energized...to backlight the profile of the [master] key.” Ex. 1003 at 16:52-58. This second backlighting step is to collect the master key’s biting pattern information so that the grinding wheels cut the same biting pattern on the selected key blank. Ex. 1003 at 16:58-60.

## 2. Speedypik (*The National Locksmith*, July 2000)

In its July 2000 issue, *The National Locksmith* reported on Speedypik, a “computerized keyway identifier” for identifying the keyway profile of a master key in order to suggest potential key blanks to its operator. Ex. 1004 at 32-34 (“Speedypik Article”).<sup>5</sup> Petitioner’s expert, Mr. George Heredia, states that

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<sup>5</sup> While it proposes potential key blanks to the operator, Speedypik actually identifies keyways: “Speedypik is a computerized **keyway** identifier.” Ex. 1004 at 32 (emphasis added). A “keyway” is the keyhole path in a lock. So, while the Speedypik system can distinguish a Kwikset keyway from a Schlage keyway, it cannot distinguish a Schlage SC1 key blank from a Schlage SC4 key blank (Ex. 1004 at 34) because they have identical “C” keyways but different lengths and corresponding lock pin configurations. *See, e.g.*, <https://absupply.net/kaba-ilco-1145a-5-pin-schlage-a-keyway-for-almet-and-schlage-locks.aspx>. The same is



Speedypik was described in U.S. Patent Nos. 4,899,391 and 6,543,972 (“Cimino” and “Cimino ’972,” respectively) issued to William Cimino. Exs. 1006, 1007, and 1017 (“Heredia Declaration”) at ¶ 55. Patent Owner reserves the right to dispute Mr. Heredia’s statement if the Board institutes *inter partes* review of the ’133 patent.

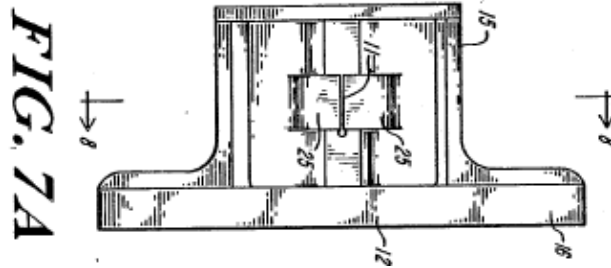
The Speedypik unit connects to a personal computer. When installed and operated on the personal computer, Speedypik software worked in conjunction with the Speedypik unit to identify the scanned keyway profile of the master key in order to propose a possible key blank to use for key duplication. Photograph 7 (below, left) from the Speedypik Article shows the front of the Speedypik unit, which included an opening where a master key could be inserted and a knob that a user operates to hold the master key in place. Figure 7A of Cimino (below, right) depicts the Speedypik unit’s key holder 10 and a vertical aperture 11 as the insertion point for the master key. Ex. 1006 at 3:21-34.

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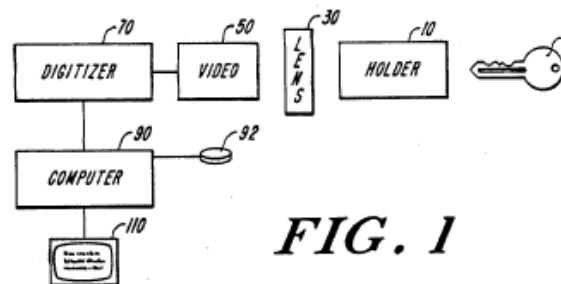
true of other brands. *See, e.g.*, <https://www.redteamtools.com/kwikset-kw11-multi-section-disassembly-top-master-key/>. This becomes even more confusing when key grooves have steps along the path like a staggered second shoulder as with the Kwikset KW11. *Id.* In other words, a key blank identifier must take into account additional features of the key that are beyond the capability of the Speedypik system.



7. Front of the Speedypik unit.



The Speedypik unit uses a lensing subsystem 30 and video subsystem 50 aimed at the key blade centerline to form a cross-sectional image of the inserted master key 1 and convert the image into an electrical signal, as shown in Figure 1 of Cimino below. Ex. 1006 at 3:1-12; *see also* Ex. 1006 at 4:18-20 (“The output of the lensing subsystem is an end-on cross-section image<sup>35</sup> of the front 2 of the key 1.”).



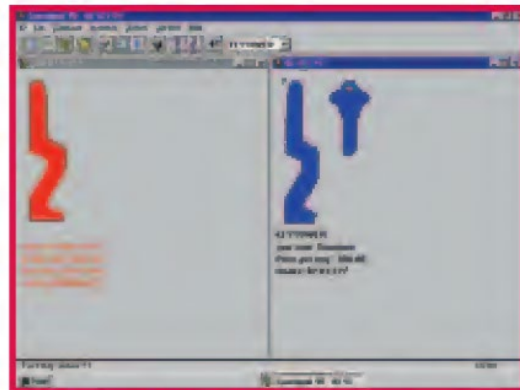
A digitizing subsystem 70 converts those electrical signals into a digital image, which is then stored in a computer subsystem’s 90 memory disk 92. Ex. 1006 at 3:10-16, 5:47-63. The computer subsystem then compares the master key’s digital image to “stored digital images of known keys.” Ex. 1006 at 3:12-16. Matches are identified to the system operator as a proper key blank to be used to duplicate the

master key 1. Ex. 1006 at 3:16-19. Because the Speedypik unit imaged only the keyway profile of the master key, the comparison and matching performed by the Speedypik software can be based only upon the keyway profile. In other words, Speedypik identifies a **keyway**, and then suggests potential key blanks that can be used to duplicate the master key.

Although they had similar purposes, Speedypik differed from the system in Wills in at least two significant respects. First, unlike the system in Wills that relied on features of the master key's head, Speedypik relied on a cross-section of the key blade only (the keyway profile). Photograph 9 of the Speedypik Article (below) depicts a master key inserted into the Speedypik unit, with the master key's key head remaining external to the unit housing.



9. The following screen information.

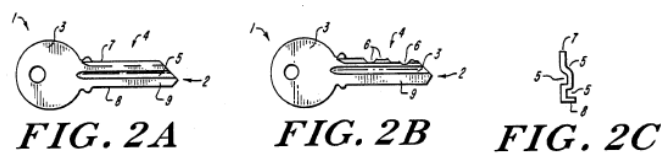


D. Scan of the key inserted.

Figure D of the Speedypik Article (above) is a screenshot of the Speedypik software after the Speedypik unit completes a scan. The red keyway outline on the left is the image of the inserted master key's blade taken perpendicular to the

blade's centerline.<sup>6</sup> Ex. 1004 at 54; Ex. 1006 at 4:18-20 (“The output of the lensing subsystem is an end-on cross-section image 35 of the front 2 of the key 1.”). Cimino teaches that this keyway outline (which is called a “cross-sectional profile,” “front view,” “front elevational view,” or “head-on view” in Cimino) reveals the distinctive characteristics that differentiates the keys of one manufacturer from the keys of another manufacturer:

The manufacturer's unique coding system of grooves and indentations 5 are most easily identified in a head-on view of the front 2 of the shank 4 as shown in FIG. 2C. It is this front 2 view which provides the distinctive features which allow the present invention to distinguish key blanks among manufacturers and among specific manufacturer's product lines. ... The salient characteristics of the front 2 view of a key shank 4 is that the cross-sectional profile is unique and independent of the vertical notches 6 extending along the top 7 and/or bottom 8 of the shank 4, thereby allowing a precisely matched key blank for use in duplicating a key 1.



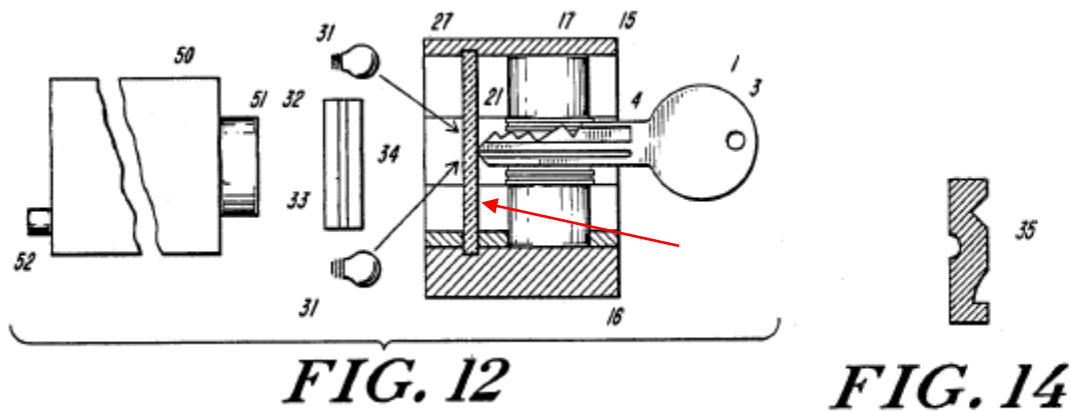
Ex. 1006 at 2:44-68, Figures 2A-C. By using only the cross-section of a master key, the Speedypik system was able to identify the proper key blank for the

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<sup>6</sup> There is a blue key with blue keyway profile on the right side of Figure D which shows the key blank that Speedypik system proposes based on having identified the keyway from the scanned keyway profile.

inserted master key without any consideration of the key head. Indeed, Cimino even states that “[i]t is *only the cross-sectional edges* which are of interest in the identification process.” 4:56-58 (emphasis added).

Second, unlike the backlighting method taught in Wills, Speedypik utilized a direct illumination method to obtain a head-on scan of the key blade. Figure 12 of Cimino (below) is a cross-sectional view of the lensing subsystem 30.



A master key 1 is inserted into the Speedypik key holder 10 until the tip of its blade touches a viewing glass 13 (not enumerated in FIG. 12 but indicated by an added red arrow above). Ex. 1006 at 4:16-23; Ex. 2001 at ¶ 58. The viewing glass serves as a barrier beyond which the master key 1 cannot be inserted without damaging the Speedypik unit. Ex. 2001 at ¶ 58. Two or more light bulbs 31 illuminate the front of the master key's blade. Ex. 1006 at 4:16-30. The light image 35 (see Figure 14 of Cimino above) of the front 2 of the key 1 is captured head-on by the input lens 51 of the video subsystem 50. Ex. 1006 at 4:59-61.

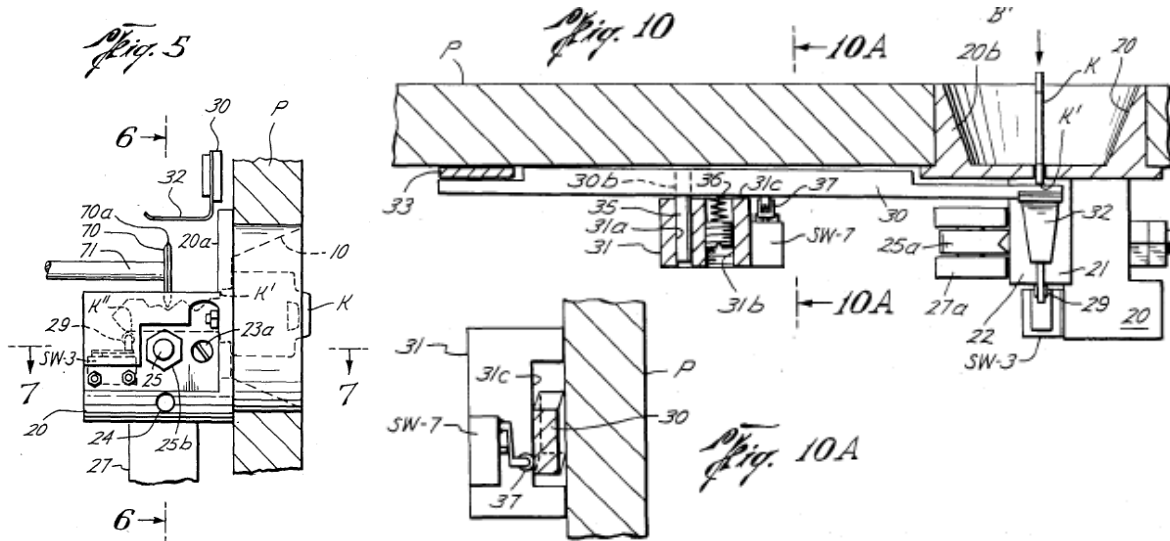
**3. Marchal (U.S. Patent No. 4,666,351)**

Marchal discloses a machine that “automatically mak[es] a duplicate key.”

Ex. 1005 at Title. Marchal’s machine uses direct key-to-blank tracing to duplicate a master key.

In searching for a way to fully automate key duplication, Marchal found that the key duplication systems in use prior to his invention were “not suitable for completely automatic operation.” Ex. 1005 at 1:27-29. The systems in existence at the time employed stationery cutting wheels and moved the key blank to reproduce the master key’s bitting pattern on the edge of the key blank. Ex. 1005 at 1:32-35. Other systems that moved the cutting wheels and kept the master key and key blanks clamped down were unstable and resulted in inaccurate results. Ex. 1005 at 1:46-50.

Marchal thus describes a system in which a customer inserts a master key into one slot and a key blank into another, both are clamped down in place, and a “key follower” traces the “edge variations” (i.e., bitting pattern) on the master key as the movement is translated to a key cutter that cuts the master key’s bitting pattern into the awaiting key blank. Ex. 1005 at 2:4-16. Referring to Figures 5 and 10, Marchal teaches that a master key is inserted blade first and only up to its shoulder, where it is clamped in place:



In Figure 5 above, master key K (dotted outline) is shown inserted up to only its shoulder K' into beveled opening 10. Figure 10 above shows a bird's eye view. Marchal teaches that "[t]he engagement of switches SW-3 and SW-7 as described above activates the solenoid S-1 for clamping the master key K when the edge K'' and the shoulder K' of the master key K are positioned properly within the clamping mechanism." Ex. 1005 at 5:6-10. Marchal thus teaches that the master key's key head remains outside of the housing. Marchal teaches a similar manner of securing the key blank (positioning the blade inside the housing and the key head outside the housing). Ex. 1005 at 5:11-59. But Marchal's teachings are limited to tracer systems. Ex. 2001 at ¶ 64; *see also* Ex. 2001 at section VI.C. Nothing in Marchal suggests that its structure could be used in an optical identification system. Ex. 2001 at ¶ 64; *see also* Ex. 2001 at section VI.C .

Marchal then teaches running a key follower 70 along the edge of the master key K (where the bitting pattern is located) and “simultaneously transmitting [that trace of the bitting pattern] to the key cutter 68”:

...The key cutter 68 is positioned adjacent the key blank B when the key blank B is clamped between the movable clamping plate 41 and the fixed clamping plate 48.

A key follower 70 of circular shape and having a sharp annular edge 70a is eccentrically mounted on a mounting shaft 71. ... Movement of the key follower 70 in response to the edge variations of the master key K cause the pivoting base 65 to pivot on the shaft 60. Such movements are simultaneously transmitted to the key cutter 68 so as to cut edge variations in the key blank B which are identical to the edge variations in the master key K. ...

Ex. 1005 at 6:13-29.

**B. There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are anticipated by Wills.**

**1. Claims 1-6 and 9-10**

Independent claim 1 and its dependent claims 9-10 require, among other things, that “a portion of [the master key that is being imaged] is positioned outside said housing when a blade of said key is positioned within the imaging zone of said housing.” Wills does not disclose this limitation and, instead, requires that the entire key be inside its housing for imaging.



As explained in Section IV.A.1 above, Wills employs a process for eliminating improper key blanks by analyzing key length (which includes the entire key from bow to tip) and head shape (which includes the entire key head). Ex. 1003 at 9:42-44 (“The information includes data about the length of each of the reference keys and the head of each of the reference keys.”) and Figure 23; *see also* Ex. 1003 at Figures 1A (showing that key length is measured from the head to the tip of the blade and includes the entire head), 1C (same), and 1E (same). A person of ordinary skill in the art would understand that this necessitates imaging at least the key head, if not the entire key itself. Ex. 2001 at ¶¶ 51-55. Because Wills requires the key head to be inside its housing, there is no configuration in Wills that would allow any portion of the master key to be outside Wills’ housing “when a blade of said key is positioned within the imaging zone of said housing,” as required by claim 1 of the ’133 patent. Ex. 2001 at ¶¶ 51-55. Because Wills does not anticipate claim 1, it also does not anticipate dependent claims 2-6 and 9-10.

Petitioner has failed to show a reasonable likelihood that Wills anticipates claims 1-6 and 9-10 of the ’133 patent.

## **2. Claims 11-16, 18, 20, 21, and 23**

Claims 11-16, 18, 20, 21, and 23 recite a “retention mechanism...for receiving a blade of a master key” and require that “a portion of a key blank is

positioned outside said housing” during the cutting process. Wills does not disclose either of these limitations.

First, Wills fails to disclose a “retention mechanism.” Petitioner argues that *any* structure that supports a master key for imaging constitutes a “retention mechanism.” But Petitioner’s argument fails to “analyze [this] claim term according to its plain and ordinary meaning.” Petition at 3-4.

The plain and ordinary meaning of “mechanism” is not a mere passive structure but a machine that generally includes multiple components that move in a coordinated fashion. Ex. 2001 at ¶¶ 47. For example, dictionaries define “mechanism” as having “working parts” that “function[] together” or an “arrangement of connected machine parts.” Exs. 2007 and 2008. But Petitioner points to only static *structures* disclosed in Wills, such as the “cut-out template” of Figure 7C, “key-shaped cavity templates,” and “clear protrusions.”<sup>7</sup> Petition at 15-16.

Moreover, the ’133 patent specification used the term “mechanism” according to its ordinary and customary meaning of multiple components that move in a coordinated fashion. Ex. 2001 at ¶ 47. The ’133 patent describes the

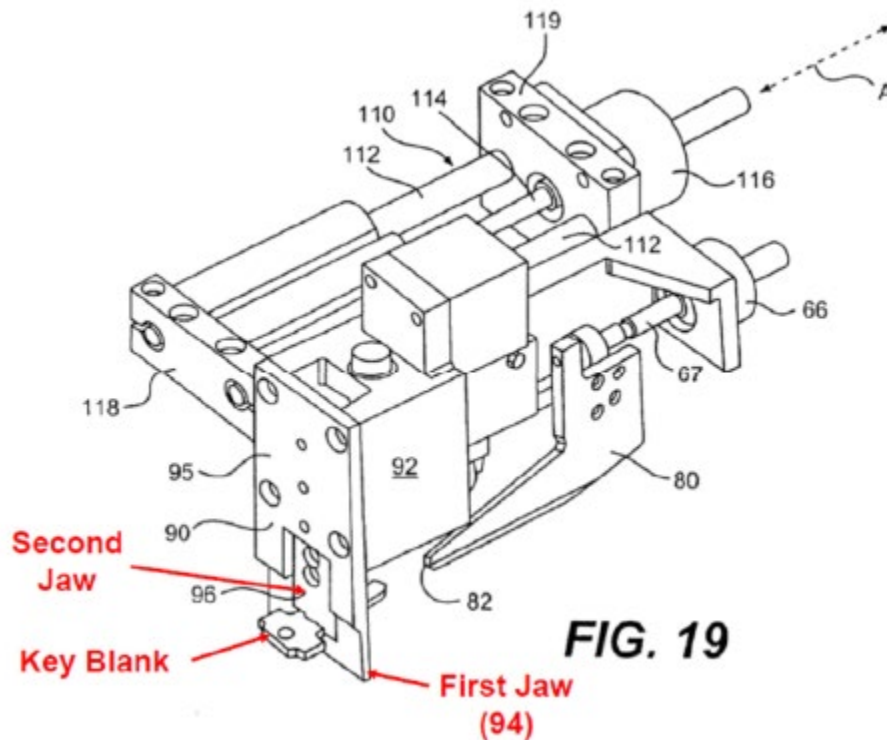
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<sup>7</sup> Wills also discloses a “clear shelf” which, if Petitioner argues constitutes a “retention mechanism,” suffers from the same deficiency of being a structure rather than a mechanism.

“retention mechanism” as being formed by “[t]he combination of the door clamp 14, base 16, handle 18, and biasing member.” Ex. 1001 at 6:13-15. The ’133 patent goes on to describe the movement the components of the retention mechanism that perform the task of “retaining or securing” a key: “The door clamp 14 may be biased against the base 16 by any biasing member such as, for example, an extension or compression coil spring, a torsion spring, a counterweight, or the like. The door clamp 14 may be *raised* against the biasing force by a handle 18.” Ex. 1001 at 6:8-12 (emphasis added). In other words, the claimed “retention mechanism” is formed by multiple components that move in coordinated fashion to retain or secure a key. Ex. 2001 at ¶ 47.

The intrinsic and extrinsic evidence thus makes clear that the structures put forward by Petitioner are not “retention mechanisms.” By contrast, Wills discloses only *structures* and not “retention *mechanisms*.”

Second, Wills fails to disclose that “a portion of a key blank is positioned outside said housing” during the cutting process. Petitioner cites to the following image and passage from Wills to support its argument:



The operator then inserts the key blank tip first into and through the gripper 90 until further insertion is not possible, e.g., the shoulder portion of the key blank contacts one of the alignment jaws 50 or the tip of the key blank contacts the tip alignment mechanism 80 shown in FIG. 19. If the key is a Single sided, the operator is provided instructions to orient the key so that the correct side of the blade is aligned to be cut. When the operator prompts the machine 10 that the key has been inserted by responding to the continue prompt, the gripper 90 then closes, clamping the Selected portion of the key blank between the jaw 94, 96. Thus, the key blank is firmly

secured by the gripper 90 and the key blank is at a known position for cutting.

Ex. 1003 at Figure 19 (red lettering added by Petitioner, Petition at 21), 28:4-16.

However, '133 patent claims 11-16, 18, 20, 21, and 23 require that a portion of the key blank be positioned outside the *housing*. Figure 19 and the language quoted above establish only that Wills teaches that a portion of the key blank is positioned beyond the first and second jaws in Wills. Nowhere in the image or language quoted above (or anywhere else in Wills) does it show where the *housing* is located relative to the key blank. Thus, the citations proffered by Petitioner do not teach positioning a portion of the key blank outside of the housing. In view of the foregoing, Wills does not teach positioning a portion of the key blank outside of the housing.

Thus, Petitioner has failed to show a reasonable likelihood that Wills anticipates claims 11-16, 18, 20, 21, and 23 of the '133 patent.

### **3. Claim 24**

Claim 24 requires that “a portion of said key is positioned outside said housing” during the cutting process. As explained above in Section IV.B.2, Wills fails to disclose this limitation. Thus, Petitioner has failed to show a reasonable likelihood that Wills anticipates claim 24.

**C. There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are obvious in view of Wills and Speedypik.**

**1. There is no rationale for combining Speedypik with Wills.**

Petitioner contends that Speedypik discloses the slot and retention mechanism recited in the Challenged Claims and its combination with Wills renders the Challenged Claims obvious. But setting aside whether Speedypik discloses the claimed slot and retention mechanism of the Challenged Claims, the Petition fails to demonstrate that a person of ordinary skill in the art would have had a rationale for combining Speedypik with Wills. Ex. 2001 at Section VI.D.

**a. Wills does not disclose and instead teaches away from positioning the head of the master key outside of the housing.**

Petitioner states that “the remainder of the master key that is supported by the clear protrusions (*e.g.*, the head of the master key) may be positioned outside of the housing 10.” Petition at 16. This is incorrect and would render Wills inoperable for its purpose. Ex. 2001 at ¶¶ 51-55. Regardless of whether the *structure* of clear protrusions can accommodate positioning the head of the master key outside of the housing 10, Wills requires that the head of the master key be imaged for purposes of its process for eliminating improper key blanks. Positioning the head outside the housing would prevent its imaging.

As explained above in Section IV.A.1, Figure 23 of Wills depicts its computer subsystem and includes three means for eliminating improper key blanks: length elimination means 2380, head shape elimination means 2390, and light beam elimination means 2395. The light beam elimination means 2395 is used only if the key's length and head shape do not sufficiently eliminate improper key blanks. Ex. 1003 at 11:37-43. But the length elimination means 2380 and head shape elimination means 2390 are always used and both require the head of the master key to be analyzed. *See also* Ex. 1003 at Figures 1A (showing that key length is measured from the head to the tip of the blade and includes the entire head), 1C (same), and 1E (same). This requirement is further evidenced by Wills' teaching that the key head be positioned inside a "cut out template 34" or, if no template is used, be positioned "away from the edge of the drawer 30 with the tip facing forward. Ex. 1003 at Figure 7C, 7:17-38. Both the template and template-free options in Wills (there are no other options) ensure that the head features are included in the analysis. Ex. 2001 at ¶¶ 51-51; *see generally* 2001 at Section VI.A.

The Petitioner also relies on language from claims 26 and 60 of Wills to support its argument that Wills allows the head of the master key to be positioned outside the housing. Petition at 16. But claim 26 (which recites imaging a "portion of one side of the [master] key") relates to the light beam elimination means, which operates only if the key length and head shape elimination means

fail to reduce the possible proper key blanks to a manageable number. Although claim 60 relates to identification using a backlit image of the master key, the recitation of “at least a portion of the profile of the key” does not indicate that the key head can be excluded. For example, imaging just the key head would satisfy this limitation and would allow the head shape elimination means to operate. Additionally, imaging only enough of the key to show the key length (which includes the key head) would also satisfy this limitation and would allow the key length elimination means to operate. Ex. 2001 at ¶ 54.

Thus, contrary to Petitioner’s statement, Wills does *not* teach that the head of the master key may be positioned outside of the housing 10 and, instead teaches *away* from positioning the key head of the master key outside the housing. Ex. 2001 at ¶¶ 51-55.

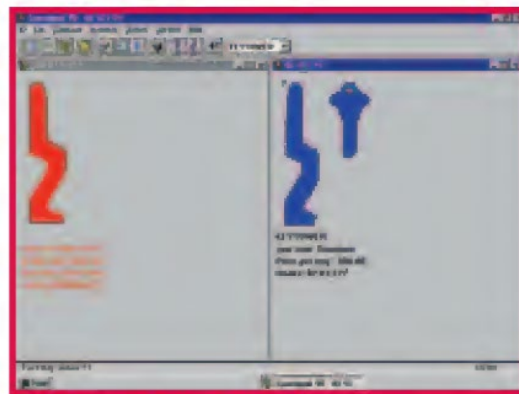
**b. The Petition fails to articulate any rationale for combining Wills and the Speedypik Article.**

As explained in Section IV.A.2 above, Speedypik and Wills are systems that attempt to solve similar problems using incompatible approaches such that a person of ordinary skill in the art would not have combined Speedypik with Wills. Ex. 2001 at Section VI.D.

First, while Wills relies on data describing the master key head to eliminate improper key blanks using its key length and head shape elimination means,



Speedypik rejects all information that describes the key head. Ex. 2001 at Sections VI.A and VI.B. Making the key head visible axially (as would be necessary if Wills' requirement of imaging the entire key is applied) would interfere with Speedypik's scan of the master key's keyway profile because the head would obscure the keyways. Ex. 2001 at ¶ 68. For example, the image on the left below is a head-on, axial view of a key's blade tip. The image on the right is Figure D of the Speedypik Article, which is a screenshot of the Speedypik software once the Speedypik unit completes a scan.



**D. Scan of the key inserted.**

The red keyway outline is the scan of the inserted master key's blade. Ex. 1004 at 54. The key head of the master key is not outlined because the key head is positioned outside the housing and because a superimposed outline of the key head would occlude the keyway profile's outline. But as can be seen in the image of the axial view of the entire key, if the key head or the Speedypik unit's clamping mechanism becomes visible to the input lens and captured by the video subsystem,

the key head and clamping image information or data would have to be excised in order to formulate the cross-sectional keyway outline that is Speedypik's output (the red outline). Ex. 2001 at ¶ 68. Second, while Wills relies on backlighting (light illuminates the key on the opposite side of the camera) to identify a key blank, Speedypik utilizes front lighting (light illuminates the key on the side of the camera). Third, Wills relies on imaging the flat surface of the master key, while Speedypik relies on imaging the axial view of the tip of a key blade. Thus, Speedypik could not function properly when the key head is located inside the unit's housing, and Wills cannot function properly when the key head is located outside the unit's housing. Ex. 2001 at ¶ 69 and Section VI.D.

Because of the incompatible approaches taken by Wills and Speedypik, a person of ordinary skill in the art would have understood that the components of one would degrade the effectiveness of the other, and would not have had any rationale to combine Wills and Speedypik.<sup>8</sup> Ex. 2001 at Section VI.D.

An obviousness challenge must be supported by “some articulated reasoning with some rational underpinning” to support the determination that it would have

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<sup>8</sup> In asserting that it would have been obvious to a person of ordinary skill in the art to combine Wills and Speedypik, the Petition reiterates that “Wills does not require imaging the entire key and expressly teaches indexing only a relevant portion of the key, such as the blade.” Petition at 34-35. Again, this statement is incorrect, as discussed in Section IV.B.1.c above.

been obvious to one of ordinary skill in the art to combine the prior art references in a manner that would arrive at the claimed invention. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2017) (citing *In re Kahn*, 441 F.3d 977, 977 (Fed. Cir. 2006)). This must be done with more than mere conclusory argument. *Id.*

Petitioner’s supporting statement appears on page 34 of the Petition: “It would have been obvious to use the slot insertion and retention mechanism of Speedypik with the key imaging system of Wills in order to make the Wills system even *easier to operate* and to eliminate the need for the drawer that is inserted in the slot in the Wills housing” (emphasis added). By this argument, Petitioner proposes that the Wills sliding drawer be “eliminated” and replaced by the pivot handle, interior components and key aperture of Speedypik for the proposed reason that doing so would be seen by a POSA to make the combination “easier to operate.” This argument fails under KSR for a variety of reasons.

First, the substitution of the pivot handle and internal components and the key aperture of Speedypik for the sliding drawer of Wills would make the combination inoperable. Ex. 2001 at ¶ 68. The sliding drawer of Wills, with or without a template cut out, ensures that the key head is moved well into the camera’s field of vision and away from the ambient light sources. Ex. 1003 at Figure 7C, 7:17-38. The Speedypik pivot handle, internal components and aperture, in contrast, maintains the key head *outside* the container and exposed to

the ambient light. If the simple transparent plate and sliding drawer of Wills was “eliminated” and replaced by the Speedypik pivot handle and internal structures that guide the key insertion, those structures would actually interfere with the field of vision of the Wills camera. Ex. 2001 at ¶ 68.

In addition, Petitioner offers no explanation why such a combination would be “easier to operate” than the Wills simple sliding drawer. What could be easier to use than the Wills sliding drawer to ensure a stable and predictable placement of the key within the camera’s field of view? Indeed, the author of the Speedypik Article undercuts Petitioner’s “easier to operate” argument by noting that “[a] few [keys] had to be repositioned a few times until the unit would recognize the key, while others didn’t identify at all.” Ex. 1004, p. 34.

Because Petitioner has failed to articulate a reasoning for combining Wills and the Speedypik Article with some rational underpinning, the proposed combination fails.

**2. Wills combined with Speedypik fails to render the Challenged Claims obvious.**

Petitioner’s ground 1A obviousness challenge is based upon its argument that Speedypik discloses the “retention mechanism” limitation in the Challenged Claims. Even if that were correct (it is not), Wills fails to disclose other recited limitations in the Challenged Claims as explained in Section IV.B above. For

those reasons, Wills combined with Speedypik fails to render the Challenged Claims obvious.

**D. There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are obvious in view of Marchal and Speedypik Article.**

**1. The Petition fails to articulate any rationale for combining Marchal and the Speedypik Article.**

Marchal and Speedypik discloses two systems that differ in approach as well as goal. Marchal is a system that cuts keys using a physical tracing device; it does not identify key blanks. Speedypik identifies key blanks using an electronic imaging device; it does not cut keys. A person of ordinary skill in the art would not have looked at these disparate inventions and be motivated to combine them. Ex. 2001 at ¶ 64.

Indeed, a requirement in each of the Challenged Claims is that the identification and key cutting systems, while working individually, can “interact and share information.” Speedypik’s information output is digital, whereas Marchal’s information input is deviations in physical space. Moreover, even if Speedypik’s information could be converted into physical space format, it would not be helpful for Marchal. Marchal needs to cut a biting pattern into a key blank, but Speedypik can only determine what master key’s keyway profile looks like. So even if Marchal and Speedypik employ the same format of information, there would still be no useful information that Speedypik could share with Marchal.

There is no reason why these two systems would interact. A person of ordinary skill in the art would have understood that there could be no interaction or sharing of information between these two systems, and would therefore not be motivated to combine the two systems.

**2. The combination of Marchal and Speedypik fails to teach “interact[ing] and shar[ing] information” between the key blank identification system and the key cutting system.**

As explained above in Section IV.D.1, the disparity between the technologies in, at least, information format and approach makes combining Marchal and Speedypik nonsensical. A person of ordinary skill in the art would have no rationale for combining Marchal and Speedypik.

**E. There is no reasonable likelihood that Petitioner will prevail in its contention that the Challenged Claims are obvious in view of Marchal, Speedypik, and Wills.**

As explained above in Sections IV.D.1 and IV.C.1, a person of ordinary skill in the art would have no rationale to combine Marchal and Speedypik, nor to combine Wills and Speedypik. Thus, a person of ordinary skill in the art would not have a rational for combining all three prior art references.

**V. CONCLUSION**

Petitioner has failed to meet its burden of demonstrating that there is a reasonable likelihood that any of the Challenged Claims is unpatentable.

Moreover, other compelling reasons exist for denying institution under 35 U.S.C. §

314(a) and 35 U.S.C. § 325(d), including the complications introduced by Petitioner's experts' inconsistent claim construction declarations, and by the intertwined commercial evidence of secondary considerations militate against granting the Petition. Patent Owner respectfully requests that the Board deny institution of *inter partes* review of the '133 Patent.

Date: February 16, 2022

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**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Patent Owner's Preliminary Response contains 12,643 words, in compliance with the word-count limit of 37 C.F.R. § 42.24(b)(1).

Date: February 16, 2022

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that, pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing Patent Owner's Preliminary Response is being served via email on counsel for the Petitioner as follows:

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