

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ACCO BRANDS CORPORATION
Respondent, Requester

v.

FELLOWES, INC.
Appellant, Patent Owner

Appeal 2013-010043
Reexamination Control 95/001,723
Patent No. US 7,963,468 B2¹
Technology Center 3900

Before STEVEN D.A. MCCARTHY, DANIEL S. SONG and
RAE LYNN P. GUEST, *Administrative Patent Judges*.

MCCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Issued June 21, 2011 to Tai Hoon K. Matlin and Eric Gach (the "'468 patent"). The '468 patent issued from Appl. No. 12/616,567, filed November 11, 2009.

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1 STATEMENT OF THE CASE

2 The Appellant/Patent Owner appeals from a final rejection of claims
3 9-12. The Examiner has determined that the Respondent/Requester failed to
4 raise any substantial question of patentability as to claims 1-8, 13 and 14.
5 (*See* Right of Appeal Notice mailed July 19, 2012 (“RAN”) at 3). No claims
6 were added or amended during the course of the reexamination. (*Id.*)
7 Counsel for both the Patent Owner and the Requester participated in an oral
8 hearing held on December 18, 2013. We have jurisdiction under 35 U.S.C.
9 § 134(b) (2011) and 35 U.S.C. § 315(a) (2011).

10 We REVERSE.

11 The decision of the Examiner is set forth in the RAN.² The Patent
12 Owner relies on a Patent Owner Appeal Brief dated November 7, 2012
13 (“Appeal Brief” or “App. Br. PO”) and a Patent Owner Rebuttal Brief dated
14 June 3, 2013 (“Rebuttal Brief” or “Reb. Br. PO”). The Patent Owner
15 additionally relies on two Declarations of Tai-Hoon Matlin under 37 C.F.R.
16 § 1.132, dated January 10, 2012 (“Matlin Decl.”) and May 14, 2012 (“Supp.
17 Matlin Decl.”), respectively. The Respondent/Requester relies on
18 Respondent’s Brief dated December 7, 2012 (“Respondent’s Brief” or
19 “Resp. Br.”). The Requester additionally relies on a Declaration of Paul
20 Aries dated February 8, 2012 (“Aries Decl.”). The Requester’s position is
21 further explained in the Request for *Inter Partes* Reexamination Under 37

² The Examiner’s Answer mailed May 3, 2013 incorporates the RAN by reference. The RAN incorporates by references sections of Requester’s Comments on Patentee’s Response to Action Closing Prosecution dated June 8, 2012.

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1 C.F.R. § 1.913 dated August 23, 2011 (“Request”). Our review is limited to
2 issues and findings of fact raised in these sources. *See* 37 C.F.R.
3 § 41.67(c)(1)(vii) (2011); *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011);
4 *Ex parte Frye*, 94 USPQ2d 1072, 1075-76 (BPAI 2010); *cf. In re Enhanced*
5 *Security Research, LLC*, Appeal 2013-1114 slip op. at 11-12, reproduced at
6 <http://www.cafc.uscourts.gov/images/stories/opinions-orders/13-1114>
7 *.Opinion.1-8-2014.1.PDF* (Fed. Cir. Jan. 13, 2014).

8 Neither the Patent Owner nor the Requester has identified any prior
9 post-grant proceeding involving the '468 patent. The '468 patent has been
10 the subject of lawsuits in the U.S. District Courts for the Northern District of
11 Ohio and the Northern District of Illinois. These lawsuits include *Royal*
12 *Appliance Mfg. Co. v. Fellowes, Inc.*, Case No. 1:10-CV-2604 (N.D. Ohio,
13 Nugent, J.), which was dismissed on or about October 7, 2013; and
14 *Fellowes, Inc. v. ACCO Brands Corp.*, Case No. 1:10-cv-07587 (N.D. Ill.,
15 Leinenweber, J.), which was stayed on November 7, 2013, pending this
16 reexamination proceeding.

17 18 GROUNDS OF REJECTION

19 The Examiner adopts the following grounds of rejection proposed by
20 the Requester:

21 The rejection of independent claims 9 and 11 under 35 U.S.C.
22 § 103(a) (2011) as being unpatentable over Utility Model JP S57-

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70445U, published April 28, 1982 (“JP ‘445”),³ and any one of:

(1)⁴ *GBC SHREDMASTER Models 2230S, 2250X*

Paper Shredders Service Manual, published in or about

November 1997 (“GBC SHREDMASTER Manual”)

(RAN 4);

(2) Chang (US 6,550,701 B1, issued Apr. 22,

2003) (RAN 7);

(3) Tsai (US 5,775,605, issued Jul. 7, 1998) (RAN

11);

(4) Araki (US 4,842,205, issued Jun. 27, 1989)

(RAN 12); and

(5) Bosland (US 3,724,766, issued Apr. 3, 1973)

(RAN 13); and

(6) The rejection of claims 10 and 12, which depend from claims 9 and 11, respectively, under § 103(a) as being unpatentable over the combination of JP ‘445, GBC SHREDMASTER Manual and Yoshida (JP H09-38513A, publ. Feb. 10, 1997)⁵ (RAN 14).

³ More specifically, references to “JP ‘445” will be to an English-language translation of Utility Model JP S57-70445U filed on August 23, 2011 in Appendix B to the Request. A copy of the translation is of record in this proceeding.

⁴ The numbers in parentheses reflect the numbering of the rejections in the RAN.

⁵ References to “Yoshida” will be to an English-language translation prepared by Asian Technical Translation Pty Ltd. The translation was filed in Appendix C to the Request and is of record in this proceeding. Yoshida was referred to as “JP ‘513” in the RAN and the briefs.

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THE '468 PATENT

The claims on appeal relate to shredders for destroying articles such as sensitive documents, compact discs and expired credit cards. ('468 patent, col. 1, ll. 22-23 and 25-30). According to the Specification of the '468 patent, one such shredder *10* has a shredder mechanism *16* including a plurality of cutter elements *19* mounted on shafts *20*. An electrically powered motor *18* rotates the shafts *20* and the cutting elements *19* through a conventional transmission (that is, gear train) *23*. ('468 patent, col. 3, ll. 41-43 and 50-55; *see also id.* figs. 2 and 8). The shredder *10* receives an article for shredding through a throat or feed-aperture *36*. ('468 patent, col. 4, ll. 22-26 and 30-32).

In addition, the shredder *10* includes a controller *200*. The controller *200* receives signals from a thickness detector *100* and from an infrared presence sensor *150* located below the thickness detector *100* along a side of the feed-aperture *36*. The sensor *150* detects the presence of an article for shredding. The thickness detector *100* detects overly thick stacks of articles that could jam the shredder mechanism *16*. ('468 patent, col. 6, ll. 45-49; col. 10, ll. 38-44; and figs. 6 and 11).

The Specification of the '468 patent states with reference to Figures 8 and 11 that:

When the sensor **150** senses that an article is passing through a lower portion of the throat **36**, the controller **200** signals the motor **18** to start turning the shafts **20** and cutter elements **19**. Of course, because the detector **100** is also in communication with the controller **200**, if the detector **100** detects that the thickness of the article that has entered the throat is too thick for the

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1 capacity of the shredder mechanism **16**, the
2 shredder mechanism **16** may not operate, even
3 though the sensor **150** has indicated that it is time
4 for the shredder mechanism **16** to operate.

5 ('468 patent, col. 10. ll. 44-53).

6 Claim 9 recites, with italics added for emphasis:

7 9. A shredding machine for shredding sheet
8 material, the machine comprising

9 a feed-aperture and an electric cutting
10 mechanism, the feed-aperture being
11 configured to receive multiple sheets
12 and direct said sheets in a feeding
13 direction towards the cutting
14 mechanism for shredding,

15 the machine being characterized by the provision
16 of

17 a thickness detector which is moveable
18 between

19 a first position in which the thickness
20 detector permits energization of the
21 cutting mechanism and

22 a second position in which the
23 thickness detector prevents
24 energization of the cutting
25 mechanism,

26 wherein part of the thickness detector
27 extends into the feed-aperture.

28 the thickness detector being configured such
29 that said part will be

30 engaged by sheet material inserted in
31 the feeding direction into the feed-
32 aperture prior to reaching the cutting
33 mechanism, and

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1 moved from said first position to said
2 second position as a result of said
3 engagement,

4 if the sheet material exceeds a
5 predetermined thickness;

6 further provided with

7 maximum thickness indicating means to
8 provide a visual indication to a user of the
9 machine that energization of the cutting
10 mechanism is prevented due to the sheet
11 material moving said part of the thickness
12 detector to said second position;

13 further comprising

14 a presence sensor along the feed-aperture for
15 detecting a presence of the sheet material
16 inserted into the feed-aperture, and

17 a controller coupled to the thickness
18 detector, the presence sensor, the maximum
19 thickness indicating means, and the electric
20 cutting mechanism,

21 *wherein the controller is configured to start*
22 *energization of the cutting mechanism only in*
23 *response to the presence sensor detecting the*
24 *presence of the sheet material inserted into the*
25 *feed-aperture and the part of the thickness detector*
26 *not having been moved to the second position by*
27 *the sheet material;*

28 *wherein the controller is configured to prevent the*
29 *starting of energization of the cutting mechanism*
30 *and also actuate the maximum thickness indicating*
31 *means to provide the visual indication in response*
32 *to the part of the thickness detector moving to the*
33 *second position.*

34 (App. Br. PO 45 (Claims App'x)).

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ISSUES

1
2 The Patent Owner states that independent “[c]laim 11 also recites
3 materially the same language as claim 9, except that the ‘indicating means’
4 is defined as an ‘indicator’ in non-means language.” (App. Br. PO 6). The
5 Examiner summarily concludes that the same reasoning underlying the
6 rejection of claim 9 also justifies the rejection of claim 11. (*See* RAN 6-7,
7 11, 12 and 13). The arguments in the Respondent’s Brief consistently
8 address the patentability of claims 9 and 11 together. Therefore, this opinion
9 will only address grounds of rejection (1)-(5) (*see supra* pp. 3-4) in the
10 context of the language of claim 9. Similar findings and conclusions will
11 apply to claim 11.

12 A single issue is dispositive of the appeal:

13 Has the Examiner or the Requester persuasively shown
14 that it would have been obvious to one of ordinary skill in the
15 art to combine in a shredding machine a presence sensor, a
16 thickness detector and a controller configured to satisfy the
17 limitations of claim 9 italicized above?

FINDINGS OF FACT

18
19
20 The record supports the following findings of fact (“FF”) by a
21 preponderance of the evidence.

22 1. JP ‘445 describes a paper shredder including a shredding
23 portion having cutting blades 5 rotated by an electric motor. (*See, e.g.*, JP
24 ‘445 at 2 (“Referring to the drawing, papers to be shredded . . . reach a
25 rotating blade 5 configured to be rotated by a rotational shaft 4 to be

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1 shredded thereby.”)). JP '445 teaches that most conventional shredders as of
2 its publication date were equipped with speed reduction portions (for
3 example, gear boxes or transmissions) for amplifying output torques from
4 their motors to cause their shredding portions to operate. (JP '445 at 1; *see*
5 *also* Aries Decl., para. 6).

6 2. JP '445 teaches that:

7 Conventional shredders have utilized an
8 apparatus (for example, a circuit breaker) that
9 detects a change in motor current and disconnects
10 the motor from a power source when the motor
11 current exceeds a predetermined value, as a means
12 for protecting a driving portion against an
13 excessive load applied to a shredding portion.
14 However, although such an apparatus can prevent
15 burnout of the motor when a lock [that is, a jam]
16 occurs, this mechanism cannot prevent another
17 portion such as a speed reduction portion from
18 receiving an excessive load two to five times larger
19 than the rated range of use. This is because the
20 apparatus is configured to function upon detection
21 of a change in motor current that is made after a
22 lock [that is, a jam] occurs.

23 (JP '445 at 1) This teaching implies, at minimum, that the problem of
24 shredder jamming was known as of the filing date of the '445 patent.

25 3. The Patent Owner's Declarant, Tai-Hoon Matlin (“Matlin”),
26 reasonably explains the subject matter of claims 9 and 11 by stating that:

27 The claimed “presence sensor” is used to
28 determine whether an article is present, and the
29 “thickness detector” determines whether it violates
30 the “predetermined thickness” based on movement
31 to the “second position.” As a result, “only” if the
32 sheet material is detected as present by the
33 “presence sensor” and it is less than the

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1 “predetermined thickness” (because the thickness
2 detector part has not reached the “second
3 position”), the “controller” will “start energization
4 of the cutting mechanism.” By requiring the
5 “controller” to be responsive to both these
6 conditions, this prevents the “controller” from
7 *starting* a shredding operation where the sheet
8 material is present but too thick, which will cause
9 jamming of the shredder.

10 (Matlin Decl., para. 25 (*italics added for emphasis*)).

11 4. As the Patent Owner points out (*See App. Br. PO 8*), none of
12 the references cited in the rejections on appeal teach a shredding machine
13 including a controller prevented from *starting* to supply energy to a motor
14 driving the cutting element where sheet material is present but is sufficiently
15 thick that a jam is likely.

16

17 *JP '445*

18 5. JP '445 describes with reference to its sole drawing figure a
19 shredding operation in which “papers to be shredded are fed along a feeding
20 guide plate 1, pass through a thickness detection portion 2, and then reach a
21 rotating blade 5 configured to be rotated by a rotational shaft 4 to be
22 shredded thereby.” (JP '445 at 2).

23 6. The sole drawing figure of JP '445 depicts the thickness
24 detection portion 2 as a lever. As depicted in the drawing figure, an
25 upstream end of the lever is attached to a housing of a determination
26 apparatus 3. A downstream end of the lever extends through the feeding
27 guide plate 1 into the path of the papers to be shredded. A mid-portion of
28 the lever between the upstream and downstream ends overlies a limit switch

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1 of the determination apparatus 3. One may infer that the lever pivots and
2 displaces the limit switch to indicate an excessive thickness of paper fed to
3 the paper shredder.

4 7. JP '445 teaches that:

5 a total thickness of paper fed to be shredded is
6 detected, and the exceedance of the thickness
7 beyond a predetermined value causes the warning
8 apparatus to issue a warning to a user to prompt
9 the user to stop the supply of the excessive load or
10 to cause the rotation of the motor to be stopped.
11 This arrangement can prevent an excessively large
12 load out of the rated range of use from being
13 applied to the speed reduction portion disposed
14 between the motor and the shredding portion.

15 (JP '445 at 3). The warning apparatus may be a warning lamp or buzzer to
16 notify the shredder user that an excessive thickness of paper has been fed
17 into the shredder. (JP '445 at 2).

18 8. JP '445 specifically teaches the use of a limit switch in the
19 determination apparatus 3 “since this switch can serve as a detector of a
20 thickness of paper fed to be shredded, and also serve as an apparatus for
21 automatically stopping the motor when more than a predetermined amount
22 of paper is fed.” (JP '445 at 3).

23 9. JP '445 does not appear to describe a controller coupled to the
24 limit switch.

25 10. The Requester’s declarant, Paul Aries (“Aries”), states that:

26 JP '445 is directed to finding a way to prevent
27 shredder jamming before it occurs so that
28 expensive overdesigning of the speed reduction
29 portion (to accommodate high loading due to
30 jamming) is not needed. Its solution is the use of a

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1 thickness detector in the throat of the shredder and
2 upstream of the cutting blades. The thickness
3 detector is designed to detect the thickness of a
4 stack of sheets inserted into the throat, and if the
5 stack is determined to be too thick, the shredder
6 will activate a warning lamp or buzzer to alert a
7 user to stop the cause of the excessive loading, or
8 will simply cut electrical power to the motor. Both
9 options are clearly intended to prevent jamming
10 before it occurs, with the warning lamp or buzzer
11 option relying on user action, and the option of
12 cutting electrical power to the motor being the
13 automated solution.

14 (Aries Decl., para. 7).

15 11. While Aries' statement is correct, preventing shredder jamming
16 before it occurs is not the same as preventing starting of the motor driving
17 the cutting element if a jam is likely. JP '445 teaches stopping the running
18 motor if an excessive thickness of paper is detected. (*See* FF 8). JP '445
19 does not teach a controller configured to prevent a power supply from
20 starting to energize the motor driving the cutting element where sheet
21 material is present but is too thick.

22 12. JP '445 teaches that:

23 In the case of employing the warning apparatus,
24 the shredder should be designed so that a sufficient
25 distance is provided between the detection portion
26 and the shredding portion, whereby the shredder
27 user can have sufficient time to stop the motor or
28 the supply of papers after receiving the warning.

29 (JP '445 at 2).

30 13. Aries states that:

31 JP '445 explicitly describes the importance of
32 providing sufficient distance between the detection

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1 portion and the shredding portion to prevent the
2 thick stack from reaching the cutters, thereby
3 preventing a jam before it occurs. While this
4 discussion of providing sufficient distance is in
5 relation to the warning apparatus option, its
6 teachings apply equally to the power cutting
7 option. The point being that the overly-thick stack
8 of sheets should not reach the cutters, regardless of
9 whether the shredder is already running or is just
10 getting started.

11 (Aries Decl., para. 9).

12 14. JP '445 teaches providing sufficient time for a shredder user to
13 react once the thickness detector detects an excessive thickness of paper fed
14 to the paper shredder. It does not teach that care must be taken to design the
15 distance between the detection portion and the shredder portion to provide
16 the determination apparatus 3 (instead of the shredder user) sufficient time to
17 stop the motor once an excessive thickness of paper is detected. Even more
18 emphatically, JP '445 does not teach or suggest configuring a controller to
19 prevent energy from ever being supplied to a motor driving a cutting
20 element where sheet material is present but is sufficiently thick that a jam is
21 likely.

22

23 *GBC SHREDMASTER Manual*

24 15. The GBC SHREDMASTER Manual describes adjustment,
25 disassembly, operation, preventive maintenance and troubleshooting
26 procedures for GBC SHREDMASTER 2230S and 2250X shredders. (GBC
27 SHREDMASTER Manual 4). Each of the two shredder models has two
28 rotating cutting shafts driven by an electric motor for shredding paper. (*Id.*
29 at 8; *see also id.* at 21, fig. 8.2 (ref. numerals 04-06)).

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1 16. Each of the two shredder models includes a controller mounted
2 on a PC board. The GBC SHREDMASTER Manual also referred to the PC
3 boards as “control boards.” According to the GBC SHREDMASTER
4 Manual, these PC boards “sense” door ajar, bin full and jam state conditions.
5 The PC boards also illuminate appropriate control panel icons when the
6 shredder is in any of these conditions. (GBC SHREDMASTER Manual 9;
7 *see also id.* at 19, fig. 8.1 (ref. numeral 06)).

8 17. Each of the two shredder models also includes a mechanical
9 actuator. (GBC SHREDMASTER Manual 8). The mechanical actuator
10 includes a trigger switch. (*See id.* at 23, fig. 8.3 (ref. numeral 6)). The
11 mechanical actuator acts as a presence detector for detecting the presence of
12 paper fed to the shredder. According to the GBC SHREDMASTER Manual,
13 “[w]hen the mechanical actuator is triggered on, power is supplied from the
14 hot side of the circuit through the following components: the fuse, door ajar
15 switch, bin full switch and the motor.” (*Id.* at 8; *see also id.* at 7 (“To shred
16 simply insert paper into the throat of the unit. Once your document has
17 activated the Automatic On switch the unit will start and then will stop once
18 your document is shredded.”)). The PC Board includes an input JP5 for
19 positioned to receive a signal from the trigger switch. (GBC
20 SHREDMASTER Manual 12-13; *see also id.* 8 (“The neutral line is fed
21 through the control board, power switch, trigger switch (only in the auto
22 mode) and the motor.”)).

23 18. The GBC SHREDMASTER 2230S and 2250X shredders have
24 “jam stopper” circuitry. According to the GBC SHREDMASTER Manual,
25 “[w]hen the shredder is severely loaded, the jam stopper circuitry senses the

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1 condition and illuminates the reverse icon.” (GBC SHREDMASTER
2 Manual 8; *see also id.* at 7 (“OVERLOAD”)). The “jam stopper” circuitry
3 also stops the electric motor driving the cutting shafts when the capacity of
4 the shredder is exceeded. (*See id.* at 4 (“**Overload Warning** – Whenever
5 the capacity of the shredder is exceeded the unit will stop shredding and the
6 ‘Reverse’ icon will illuminate.”)).

7 19. Matlin states that the GBC SHREDMASTER 2230S and
8 2250X shredders use current or speed sensors on the shredder motor to
9 detect jams. (Matlin Decl., para. 20). This statement is consistent with the
10 description of the GBC SHREDMASTER Manual, which does not show a
11 switch or other electromechanical sensor for detecting jams. (*See, e.g.,* GBC
12 SHREDMASTER Manual 12-13). The “jam stopper” circuitry of the GBC
13 SHREDMASTER 2230S/2250 X shredders does not include a thickness
14 detector. (*See* Supp. Matlin Decl., para. 2). Furthermore, the “jam stopper”
15 circuitry is depicted as residing on the PC board. (*See* GBC
16 SHREDMASTER Manual 12-13). The PC Board does not include an input
17 for a “jam state.”

18 20. In other words, the “jam stopper” circuitry of the GBC
19 SHREDMASTER 2230S/2250 X shredders addresses the problem of
20 jamming by detecting a symptom of a jam, namely, an increase in current
21 demand or a decrease in output speed by the motor, after a jam occurs. (*See*
22 *id.*) JP ‘445 criticizes this solution. (*See* FF 2). In addition, this solution to
23 the problem of jamming is different from the solution of preventing energy
24 from being supplied to a motor driving a cutting element in the first place if
25 sheet material is present but is sufficiently thick that a jam is likely.

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1 *Chang*

2 21. Chang describes a machine for shredding both sheets of paper
3 and optical discs. (Chang, col. 3, ll. 17-21). The machine includes a pair of
4 shredding roller blades *18* driven by way of a gearbox. The machine also
5 includes two openings or “inports” *14*, *15* for conducting paper and optical
6 discs, respectively, to the shredding roller blades *18*. (Chang, col. 3, ll. 22-
7 34 and Fig. 1).

8 22. Chang teaches that:

9 The paper inport **14** and the disc inport **15** are,
10 respectively, provided with a paper touch switch
11 **16** and a disc touch switch **17** at appropriate
12 locations of the openings or the channel walls. As
13 shown in FIGS. 2 and 3, while feeding a piece of
14 paper **25** [into the paper inport *14*], the paper
15 touches and activates the paper touch switch **16** so
16 as to activate the shredding roller blades **18** to
17 perform the intermeshing and shredding task.
18 Likewise, while feeding an optical disc **26** [into the
19 disc inport *15*], the disc touches and activates the
20 disc touch switch **17** so as to activate the shredding
21 roller blades **18** to perform the intermeshing and
22 shredding task.

23 (Chang, col. 3, ll. 39-49). The touch switches *16*, *17* act as presence sensors
24 for activating the shredding roller blades *18* in response to the presence of
25 the sheet material or optical discs inserted into the inports *14*, *15*,
26 respectively.

27 23. Chang does not teach preventing energy from being supplied to
28 a motor driving a cutting element in the first place if sheet material is present
29 but is sufficiently thick that a jam is likely.

30

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1 *Tsai*

2 24. Tsai describes a shredding machine *10* including a cutting
3 device *12* and a paper feed inlet *111* opening onto the cutting device *12*.
4 (Tsai, col. 2, ll. 58-65 and fig. 1). Figure 1 of Tsai depicts the cutting device
5 *12* as having rotating cutting elements.

6 25. Tsai's shredding machine *10* also includes a control switch
7 assembly *13* in which a circuit board *130* mounts a multi-position slide
8 switch *131* and a contact switch *132*. The multi-position slide switch *131*
9 slides between AUTO and OFF/REVERSE positions. (Tsai, col. 2, l. 65 –
10 col. 3, l. 7 and fig. 2).

11 26. Tsai's control switch assembly *13* also includes a contact arm
12 actuator *30* which extends into the paper feed inlet *111* when the multi-
13 position slide switch *131* is in the AUTO position. The contact switch *132*
14 cooperates with a contact arm actuator *30* to activate the cutting device *12*
15 and automatically initiate shredding when a paper sheet is placed into the
16 paper feed inlet *111*. (Tsai, col. 3, ll. 28-30; col. 4, ll. 9-25; and fig. 2). The
17 combination of the contact switch *132* and the contact arm actuator *30* acts
18 as a presence sensor for detecting the presence of paper inserted into the
19 paper feed inlet *111*.

20 27. Tsai teaches that, "when a paper jam occurs, the slider **1311** [of
21 the multi-position slide switch *13*] is placed in the second switch position so
22 that the cutting device **12** can be operated in the REVERSE mode in order to
23 release the same from the paper jam condition." (Tsai, col. 4, ll. 48-53). As
24 the multi-position slide switch *13* is moved from the AUTO position to the
25 OFF/REVERSE position, the contact actuator arm *30* is withdrawn from the

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1 paper feed inlet 111. Tsai teaches withdrawing the contact actuator arm 30
2 from the paper feed inlet 111 when the multi-position slide switch 13 is
3 moved into the OFF/REVERSE position in order to protect the contact
4 actuator arm 30 from damage when the jammed paper is moved in a reverse
5 direction away from the cutting device 12. (Tsai, col. 4, ll. 34-41 and 53-57;
6 *see also id.*, fig. 5).

7 28. Tsai does not teach preventing energy from being supplied to a
8 motor driving a cutting element in the first place if sheet material is present
9 but is sufficiently thick that a jam is likely. (*Cf.* Matlin Decl., para. 18
10 (“[I]nstead of finding a way to cure the problem with shredder jamming,
11 [Tsai] designed a very complicated approach for treating the symptom of
12 broken contact presence sensors.”)).

13

14 *Araki*

15 29. Araki describes a shredder 1 having both a batch feed system
16 and a single feed system. (Araki, col. 3, ll. 52-56; col. 4, ll. 12-18 and fig.
17 2). The single feed system makes use of a feed aperture 3 designed to
18 receive one-to-three sheets of paper for shredding. The feed aperture 3
19 directs papers to be shredded to a pair of cutting rollers 6a, 6b. (Araki, col.
20 4, ll. 7-11). The cutting rollers 6a, 6b are driven by an electric drive motor
21 8. (Araki, col. 4, ll. 3-6; *see also id.*, figs. 2 and 4).

22 30. Araki’s shredder 1 also includes a sensor switch 40 “positioned
23 and operable so as to detect the insertion of the paper to be shredded into the
24 paper feed aperture 3.” (Araki, col. 6, ll. 19-21). As depicted in Figure 4 of
25 Araki, an actuator arm appears to overlies a push button of a sensor switch

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40. When paper inserted into the paper feed aperture 3 pivots the actuator arm against the push button, the motor 8 drives the cutting rollers 6a, 6b in a forward direction so as to shred paper inserted into the paper feed aperture 3. (Araki, col. 8, ll. 1-5). Therefore, the combination of the sensor switch 40 and the actuator arm acts as a presence sensor for detecting the presence of paper inserted into the paper feed aperture 3.

31. Araki's shredder 1 includes a detector circuit for detecting excessive loads imposed on the motor 8 driving the cutting rollers 6a, 6b due to paper jams. As depicted in Figure 12 of Araki, the detector circuit includes a comparator 68 and a timing circuit 69 for detecting when the current drawn by the motor 8 exceeds a predetermined value for a predetermined time. (See Araki, col. 9, ll. 29-42 and fig. 12). When the detector circuit finds that the current drawn by the motor 8 exceeds a predetermined value for a predetermined time, the drive signal *MLR* for driving the motor 8 is cut off, thereby bringing the cutting rollers 6a, 6b to a halt. (Araki, col. 8, ll. 5-8; see also *id.*, col. 7, ll. 42-47 and fig. 8).

32. Araki's shredder 1 includes a controller, namely, the control circuitry depicted in Figures 7-13 of Araki. This controller as depicted in Figures 8 and 12 encompasses the comparator 68 and the timing circuit 69. Araki's controller as depicted in Fig. 8 appears to receive an input from the sensor switch 40.

33. Araki's control circuit, like the "jam stopper" circuitry of the GBC SHREDMASTER 2230S and 2250X shredders, addresses the problem of jamming by detecting an increase in current demand after a jam occurs. (See Araki, col. 9, ll. 29-42 and fig. 12). As mentioned earlier, JP '445

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1 criticizes this solution. (*See* FF 2). Araki does not teach preventing energy
2 from being supplied to a motor driving a cutting element in the first place if
3 sheet material is present but is sufficiently thick that a jam is likely.

4
5 *Bosland*

6 34. Bosland describes a paper shredder device including a pair of
7 rotatable shredders 20, 22 mounted within a housing 10. (Bosland, col. 1, ll.
8 2-5, 51-52 and 59-62; *see also id.*, fig. 3). A motor 30 and suitable reduction
9 gears 28 drive the rotatable shredders 20, 22. (Bosland, col. 2, ll. 19-21 and
10 fig. 2). A cover 12 secured to the housing 10 includes a paper chute 40 for
11 directing paper into a nip between the two rotatable shredders 20, 22.
12 (Bosland, col. 1, ll. 52-53; col. 2, ll. 22-25; and fig. 3).

13 35. Bosland's paper shredding device also includes a sensing wire
14 56 which extends into the paper chute 40. The sensing wire 56 cooperates
15 with a miniature snap-action switch 58 to energize the motor 30 driving the
16 rotatable shredders 20, 22 in response to insertion of a document into the
17 paper chute 40. (Bosland, col. 2, ll. 35-48 and figs. 2 and 3). The
18 combination of the sensing wire 56 and the miniature snap-action switch 58
19 acts as a presence sensor for detecting the presence of paper inserted into the
20 paper chute 40.

21 36. Bosland does not teach preventing energy from being supplied
22 to a motor driving a cutting element in the first place if sheet material is
23 present but is sufficiently thick that a jam is likely.

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1 *Yoshida (JP '513)*

2 37. Yoshida describes a shredder 1 having a continuous feed
3 system 4, 5 for feeding either single documents at a time to motor-driven
4 document shredding means 2. (Yoshida, paras. 0024, 0025, 0035 and 0040
5 (describing modes of implementation 7 and 8); *see also id.*, fig. 7). Yoshida
6 criticizes manually fed shredders as inconvenient because the manual
7 feeding of documents to be shredded is time consuming and because the
8 feeding of too many documents at one time could cause shredder overloads.
9 (See Yoshida, paras. 0004 and 0005). As the Patent Owner points out (*see*
10 App. Br. PO 22), Yoshida proposes solving the problem of shredder jams
11 caused by manually feeding too many sheets to the shredding means at one
12 time by using a continuous feed system instead of a manual feed system.
13 (Supp. Matlin Decl., para. 20).

14 38. Yoshida describes a “mode of implementation” 8, depicted in
15 Figures 7 and 8, in which the shredder 1 includes a sheet thickness detection
16 sensor 221 communicating with a control part or controller 10. (See
17 Yoshida, para. 0040 and fig. 7). As depicted in Figure 8, Yoshida’s sheet
18 thickness detection sensor 221 consists of a pivotable lever which cooperates
19 with a photosensor 223 to determine the thickness of a sheet. (See Yoshida,
20 para. 0043). Figure 8 depicts the pivot point 224 of the lever as being closer
21 to the path of the paper to be shredded than to the photosensor 223. Aries
22 states that, “[t]o achieve good accuracy and sensitivity, [Yoshida] discloses
23 an arrangement in which a small amount of movement at the paper end of
24 the pivoting arm results in a larger amount of movement at the sensor end of
25 the arm.” (Aries Decl., para. 20).

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ANALYSIS

Claims 9 and 11

JP '445 describes a shredding machine which does not include:

a presence sensor along the feed-aperture for detecting a presence of the sheet material inserted into the feed-aperture, and

a controller coupled to the thickness detector, the presence sensor, the maximum thickness indicating means, and the electric cutting mechanism,

wherein the controller is configured to start energization of the cutting mechanism only in response to the presence sensor detecting the presence of the sheet material inserted into the feed-aperture and the part of the thickness detector not having been moved to the second position by the sheet material; [and]

wherein the controller is configured to prevent the starting of energization of the cutting mechanism and also actuate the maximum thickness indicating means to provide the visual indication in response to the part of the thickness detector moving to the second position.

(See FF1 and 5-8; *see also* RAN 4; App'x K at 1-3).

The Examiner finds that "JP '445 fails to teach how the user controls turning on and off the shredder." (RAN 7, 11, 12 and 13). The Examiner finds that "[p]roviding [a] presence sensor in the feed-aperture of JP '445 would provide just such a conventional means to automatically turn the cutting mechanism on when papers are inserted into the feed aperture." (RAN 8). More specifically, the Examiner cites GBC SHREDMASTER Manual. Chang, Tsai, Araki and Bosland as each being exemplary of "the convention of using a presence sensor [in a shredder] to automatically turn

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1 the cutting mechanism on whenever sheet material is being inserted into the
2 feed-aperture.” (RAN 11, 12 and 13; *see also id.* at 6 and 7; Resp. Br. 3;
3 Request, App’x K at 3, 22, 32, 42 and 52; FF 17, 22, 26, 30 and 35).

4 In addition, the shredding machines described by GBC
5 SHREDMASTER Manual and Araki include controllers which receive
6 inputs from their respective presence sensors (*see* RAN 15-16; Request,
7 App’x K at 4 and 43; FF 17 and 32). Tsai’s shredding machine includes a
8 controller which incorporates a switch component of its presence sensor (*see*
9 Request, App’x K at 33; FF 25 and 26). The controllers of the shredding
10 machines described by GBC SHREDMASTER Manual and Araki each
11 include circuitry for detecting excessive current drawn by the motor or
12 reduced motor speed, both of which are symptomatic of an existing jam.
13 (FF 18-20, 31-33).

14 Yet, neither the Examiner nor the Requester has established that the
15 subject matter of claim 9 would have been obvious. The Examiner finds that
16 the “Patent [O]wner claims a combination that only unites old elements
17 [namely, a thickness detector as described by JP ’445 with a conventional
18 presence sensor and a controller] *with no change in the respective functions*
19 *of those elements*, and the combination of those elements yields predictable
20 results.” (RAN 9 (italics added for emphasis); *see* Resp. Br. 4; *see also KSR*
21 *Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 415-16 (2007)(quoting *Great*
22 *Atlantic & Pacific Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152
23 (1950))). Neither the Examiner nor the Requester has established this by a
24 preponderance of the evidence.

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1 The subject matter of claim 9 unites the thickness detector, the
2 presence sensor and the controller to perform a function not disclosed or
3 suggested in the cited prior art, namely, “prevent[ing] the *starting* of
4 energization of the cutting mechanism . . . in response to the part of the
5 thickness detector moving to the second position.” None of the references
6 describes this limitation. (*See* FF 4; *see also* FF 11, 14, 20, 23, 28, 33 and
7 36).⁶ For example, JP '445 describes automatically *stopping* a motor driving
8 the cutting element if an excessive thickness of paper is fed to the shredding
9 machine. (*See* FF 8). GBC SHREDMASTER Manual and Araki are
10 understood as each teaching detecting a jam by detecting a decrease in the
11 speed or increase in the current demand of the motor after the cutting
12 mechanism has been energized. (*See* FF 18-20 and 31-33). Chang, Tsai and
13 Bosland do not teach the claimed function, either. (*See* FF 23, 28 and 36).

⁶ The Requester criticizes the Patent Owner's argument that “there is nothing in the applied art that shows the functionality of the controller using two inputs relevant to the inserted sheets to make a determination as to whether to start energization of the shredder.” (Resp. Br. 4-5, quoting App. Br. PO 8). The Requester argues that “[o]ne cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.” (Resp. Br. 5, citing *In re Keller*, 642 F.2d 413 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091 (Fed. Cir. 1986)). Section 103(a) itself contemplates that the subject matter of a claim might have been obvious though no single prior art reference identically discloses or describes the subject matter as set forth in 35 U.S.C. § 102 (2011). *See* § 103(a). Nevertheless, as the Patent Owner points out (*see* Reb. Br. PO 2-3), the failure of *all* of the cited references to disclose or describe a claim limitation is a deficiency in the teachings of the prior art as a whole rather than merely a failure on the part of a single reference to anticipate. Absent a persuasive explanation why the claimed subject matter would have been obvious, one generally cannot conclude that the subject matter would have been obvious.

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1 Since the Patent Owner is correct in arguing that at least the controller
2 recited in claim 9 performs a function not disclosed or suggested in the prior
3 art, there is a change in the respective function of at least this element. (*See*
4 App. Br. PO 7-8).

5 Alternatively, the Examiner concludes that one of ordinary skill in the
6 art would have had reason to add a presence sensor to the shredding machine
7 described in JP '445, namely, to automatically turn on the cutting mechanism
8 when papers are inserted in the feed-aperture.⁷ The Examiner reasons that it
9 would have been obvious:

10 to modify JP '445 to include a presence sensor in
11 the feed-aperture . . . so that the cutting mechanism

⁷ The Examiner also concludes that claim 9 is unpatentable “because it is no more than the predictable use of prior art elements according to their established functions resulting in . . . the mere application of a known technique to a piece of prior art ready for improvement.” (RAN 9; *see* Resp. Br. 4; *see also KSR Int'l* at 417). It appears that the shredding machine described by JP '445 was “ready for improvement” only in the sense that one of ordinary skill in the art might have had reason to add a conventional presence sensor to provide an automated way of turning on and off the shredder. In that sense, there is no logical distinction between the Examiner’s conclusion that one of ordinary skill in the art might have had reason to add a presence sensor to the shredding machine described by JP '445 and the Examiner’s conclusion that the shredding machine described by JP '445 was “ready for improvement.”

For similar reasons, there is no logical distinction between the Examiner’s conclusion that one of ordinary skill in the art would have had reason to add a presence sensor to the shredding machine described by JP '445 and the Requester’s argument that the proposed modification represents “known work in one field of endeavor prompting variations of it for use in the same field based on design incentives or market forces.” (Resp. Br. 4). It appears that the “design incentive” would have been to provide an automated way of turning on and off the shredder.

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1 can turn on automatically when it senses paper of a
2 proper thickness is being inserted into the feed-
3 aperture[,] and modify the controller so that it can
4 handle the respective functions of the presence
5 sensor, thickness detector, cutting mechanism and
6 warning lamp.

7 (RAN 9). The Examiner additionally reasons that:

8 There are only two ways to include the presence
9 sensor in the feed-aperture, either before or after
10 the thickness detector 2 of JP '445. Placing it
11 before the thickness detector would turn on the
12 cutting mechanism just to have the cutting
13 mechanism to turn off a split second [later] when
14 the thickness detector detects too much paper is
15 being inserted in the feed aperture. This is a waste
16 of energy, wear and tear on the cutting mechanism
17 and would confuse and alarm the user. Placing the
18 presence sensor after the thickness detector would
19 have the thickness detector detect first whether or
20 not the paper exceeds the predetermined maximum
21 amount of paper before the paper reaches the
22 presence sensor. If the paper being inserted
23 exceeds the maximum thickness the thickness
24 detector would prevent communication between
25 the power source and the shredder motor such that
26 when the excessive paper reaches the presence
27 sensor and the presence sensor attempts to turn on
28 the shredder motor, the presence sensor wouldn't
29 be able to turn on the shredder because the
30 thickness detector has already disabled the cutting
31 mechanism. One of ordinary skill in the art would
32 determine the second scenario is the better
33 alternative.

34 (RAN 5-6; *see also* Resp. Br. 5-7, quoting Aries Decl., paras. 15-17).

35 This reasoning is not persuasive. The cited prior art teaches
36 manually or automatically stopping the motor driving the cutting element

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1 when either the fact or the likelihood of a jam is detected. Neither the
2 Examiner nor the Requester has demonstrated adequately that one of
3 ordinary skill in the art would have known to “prevent the starting of
4 energization of the cutting mechanism . . . in response to the part of the
5 thickness detector moving to the second position.”

6 The Examiner reasons that it would have been obvious to “modify the
7 controller so that it can handle the respective functions of the presence
8 sensor, thickness detector, cutting mechanism and warning lamp.” (RAN 9).
9 Based on the evidence, only impermissible hindsight would have led one of
10 ordinary skill in the art to configure the controller to perform the additional
11 function of preventing the starting of energization of the cutting mechanism
12 in response to the part of the thickness detector moving to the second
13 position. Although the Examiner provides reasoning to explain why one of
14 ordinary skill in the art might have placed a *thickness detector* upstream of a
15 *presence sensor* in the feed aperture of a shredding machine, this reasoning
16 does not explain why one of ordinary skill might have configured a
17 controller to perform the function recited in claim 9. We do not sustain the
18 rejection of claims 9 and 11 under § 103(a) as being unpatentable over JP
19 '445 and any one of GBC SHREDMASTER Manual, Chang, Tsai, Araki
20 and Bosland.

21

22 *Claims 10 and 12*

23 The Examiner concludes that the subject matter of dependent claims
24 10 and 12 would have been obvious from the combined teachings of JP '445,
25 GBC SHREDMASTER Manual and Yoshida. In support of this rejection,

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1 the Examiner and the Requester rely on the same findings and reasoning
2 used to reject parent claims 9 and 11. In addition, the Examiner finds that
3 Yoshida “teaches a sensor 223 and the part 221 includes a detectable
4 element in which a portion thereof that is above the pivot point 224
5 amplifies the movement of the detectable element below the pivot point.”
6 (RAN 14, citing Request, App’x L; *see also* FF 38). Even assuming this
7 finding to be correct for purposes of this appeal, the finding does not remedy
8 the deficiencies which prompted the decision not to sustain the rejection of
9 claims 9 and 11 over the combined teachings of JP ‘445 and GBC
10 SHREDMASTER Manual. (*Accord* FF 37; *see* Reb. Br. PO 5). We do not
11 sustain the rejection of claims 10 and 12 under § 103(a) as being
12 unpatentable over JP ‘445, GBC SHREDMASTER Manual and Yoshida.
13

14 CONCLUSION

15 For these reasons, we do not sustain grounds of rejection (1)-(6)
16 proposed by the Requester and adopted by the Examiner. Our decision is
17 based on our conclusion that the prior art cited by the Requester, in and of
18 itself, does not provide an adequate factual underpinning to conclude that the
19 subject matter of claims 9-12 would have been obvious. Moreover, based on
20 the evidence of record, the articulated rationale relied upon by the Examiner
21 appears to be based on impermissible hindsight. Therefore, we make no
22 findings as to any assertions of fact relating to secondary considerations of
23 patentability.
24

25 DECISION

1 We REVERSE the Examiner's decision rejecting claims 9-12.
2 Requests for extensions of time in this *inter partes* reexamination
3 proceeding are governed by 37 C.F.R. § 1.956 (2011).

5 REVERSED

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Patent Owner:

PILLSBURY WINTHROP SHAW
PITTMAN, LLP (NV)
P.O. Box 10500
McLean, VA 22102

Third Party Requester:

MICHAEL BEST & FRIEDRICH LLP
10 EAST WISCONSON AVENUE
SUITE 3300
MILWAUKEE, WI 53202