

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CRAIG L. DIEKMANN
and BRYAN J. NELSON

Appeal 2008-1750
Application 11/039,242
Technology Center 1700

Decided: August 11, 2008

Before THOMAS A. WALTZ, CATHERINE Q. TIMM, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek review under 35 U.S.C. § 134 from the Examiner's rejections of claims 1-16 and 33-50 in the final Office Action dated Dec. 27, 2006. This Board has jurisdiction under 35 U.S.C. § 6(b).

The invention in the present application is directed to a modular-detachable welding wire cartridge. Exemplary claim 1 is set forth below.

1. A modular-detachable welding wire cartridge for providing a source of welding wire in a wire feeder arrangement, said modular-detachable welding wire cartridge including a cartridge housing designed to be detachably connectable to the wire feeder arrangement, a wire contact arrangement designed to controllably feed welding wire through an opening in said cartridge housing, and a spool of welding wire, said cartridge housing having an internal cavity, at least a majority of said spool of welding wire and at least a majority of said wire contact arrangement contained in said internal cavity of said cartridge housing, said spool of welding wire rotatably connected to said cartridge housing.

The Examiner relies on the following prior art as evidence of unpatentability.

Grimm	5,836,539	Nov. 17, 1998
Albrecht	6,479,795 B1	Nov. 12, 2002
Blankenship	US 2004/0004113 A1	Jan. 8, 2004
Matiash ("Matiash '004")	6,707,004 B2	Mar. 16, 2004
Matiash ("Matiash '482")	US 2005/0224482 A1	Oct. 13, 2005

All pending claims¹ stand rejected, as described below.

Claims 1, 7, and 13 stand rejected under 35 U.S.C. § 102(b) as anticipated by Albrecht (Ans. 3).

Claims 2-6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht in view of Matiash '482 (Ans. 4).

¹ During prosecution, claims 17-32 were cancelled. The remaining pending claims, 1-16 and 33-50, stand under final rejection and are on appeal.

Claims 11 and 15 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht in view of Blankenship (Ans. 5).

Claims 12, 14, and 16 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht and Matiash '482, and further in view of Matiash '004 (Ans. 6-7).

Claims 12, 14, and 16 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht and Matiash '482, further in view of Blankenship (Ans. 7).

Claims 33-38 and 45 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht in view of Matiash '482 (Ans. 9).

Claims 39-44 and 46 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht and Matiash '482 and further in view of Blankenship (Ans. 11).

Claims 39-44 and 46 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht and Matiash '482, further in view of Matiash '004 (Ans. 12).

Claims 47 and 49 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht and Matiash '482 and further in view of Grimm (Ans. 13).

Claims 48 and 50 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht, Matiash '482 and Blankenship and further in view of Grimm (Ans. 14).

Claims 48 and 50 stand rejected under 35 U.S.C. § 103(a) as obvious over Albrecht, Matiash '482 and Matiash '004, and further in view of Grimm (Ans. 15).

FINDINGS OF FACT (FF)

1. Albrecht discloses a modular portable welding wire feeder, (Col. 1, ll. 6-10), including an instrument case, which has a spool support and wire drive assembly. Col. 3, ll. 52-55. The spool support supports a spool of weld wire. The wire drive assembly receives weld wire from the spool and provides it to a welding gun. Col. 4, ll. 41-44.

2. Albrecht teaches adding several interfaces to the instrument case to adapt it to a “housing.” Col. 7, ll. 64-65. Interfaces include holes, slots, other openings, adapters or connectors added to the instrument case to supply welding inputs to the wire feeder and/or provide various welding outputs from the wire feeder when the instrument case is closed. The interfaces disclosed include a control panel interface, a trigger control interface, a welding gun interface, and a combination of weld power interface and shielding gas interface. Col. 8, ll. 14-19.

3. Albrecht discloses a portable welding wire feeder comprising an instrument case, wherein the instrument case includes one or more interfaces. The interfaces may include any hole, slot or other opening, regardless of shape, or any adapter or connector added to an instrument case to allow either various welding inputs to and/or welding outputs from the instrument case when the case is closed. Col. 7, l. 64 – col. 8, l. 6.

4. The modular detachable weld wire cartridge of the present invention can be designed to be: (a) detachably connected to a wire feeder that is integrated in a welding unit, (b) detachably connected to a separate wire feeder that is used in conjunction with a welding unit, and/or (c)

detachably connected to a wire feeder that is on or integrated with a welding gun. Spec. 2.

5. The welding wire cartridge of the present invention includes a wire contact arrangement designed to contact the welding wire and to drive the welding wire at least partially through the welding wire cartridge. Spec. 3:3-4. The wire contact arrangement includes at least one roller. It may include other rollers, and may include a gear arrangement to at least partially interconnect the drive motor(s) to the wire contact arrangement. Spec. 4:1-3.

6. In the present invention, the motors that drive the wire contact arrangement are typically positioned on the wire feeder (e.g., part of the cartridge housing interface, positioned in the wire feeder, etc.); however, this is not required. Spec. 4:2-4.

7. Grimm teaches the practice of directing welding wire into a wire feeder at a specified or desired angle. Col. 1, ll. 15-21.

8. Blankenship teaches displaying information regarding a consumable or component in a welding assembly. Abstract.

PRINCIPLES OF LAW

Claims are given the broadest reasonable construction consistent with the specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

“During examination, ‘claims ... are to be given their broadest reasonable interpretation consistent with the specification, and ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re Bond*, 910 F.2d 831, 833 (Fed.

Cir. 1990)). The broadest reasonable interpretation of the claims must be consistent with the interpretation that those skilled in the art would reach. *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). “[T]he PTO must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification.” *In re Cortright*, 165 F.3d 1353, 1358, (Fed. Cir. 1999).

To properly compare a prior art reference with the claims at issue, the claim must first be properly construed. *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). The specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005). Although claims are to be interpreted in light of the specification, limitations from the specification are not to be read into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). The scope of a disputed term is not limited by the preferred embodiments absent an express disclaimer by Appellants of a broader definition. *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004).

Under 35 U.S.C. § 102, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Under 35 U.S.C. § 103(a), the question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*,

383 U.S. 1, 17-18 (1966). The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1734 (2007).

DISCUSSION

Claim Construction

“Wire Feeder Arrangement”

Upon review of the arguments of Appellants and the Examiner in their entirety, we find a disagreement with regard to the meaning of the term, “wire feeder arrangement,” and its relationship to a welding wire cartridge, between the Appellants’ and the Examiner’s interpretation of claim 1.

Appellants’ arguments clearly imply that they consider the wire feeder arrangement to be an assembly having the welding wire cartridge as a component. Appellants state, “claim 1 is directed to a welding wire cartridge that is modular and detachable, and which welding wire cartridge ... is a **removable component of the wire feeder arrangement**, not the wire feeder itself.” Reply Br. 3 (bold in original). Appellants contend that Albrecht discloses a portable welding wire feeder, not a modular welding wire cartridge that can be in a wire feeder. App. Br. 7.

The Examiner, on the other hand, sees the claim as having broader scope, and would include a wire feeder arrangement which is a component of a cartridge (instrument case), such that the wire feeder arrangement can be removably attached within or inside a welding wire cartridge, Ans. 17-18. The correct construction of the claim is necessary to determine if the Examiner has accurately found each and every element of the rejected claim in the prior art reference.

In construing claims during the prosecution of a patent application, the Examiner, as well as the Board, takes the broadest reasonable construction in light of the specification, as would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d at 1054. However, we avoid importing embodiments or limitations from the specification into the claim. *In re Van Geuns*, 988 F.2d at 1184.

We note that “wire feeder arrangement” is part of the preamble of claim 1, which states: “A modular-detachable welding wire cartridge for providing a source of welding wire in a *wire feeder arrangement*.” Moreover, the body of the claim requires that the modular-detachable welding wire cartridge include “a cartridge housing designed to be detachably connectable to the *wire feeder arrangement*.”

The preamble indicates the invention to be a modular-detachable welding wire cartridge, and further describes the intended use of that cartridge, namely, to provide a source of wire in a wire feeder arrangement. If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is “necessary to give life, meaning, and vitality” to the claim, then the claim preamble should be construed as if in the balance of the claim. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999). When read in the context of the entire claim, we determine that the preamble expresses an intended use for the cartridge, i.e., to provide a source of welding wire in a wire feeder arrangement.

The preamble to claim 1 begins, “a modular-detachable welding wire cartridge for providing a source of welding wire in a wire feeder arrangement.” This would generally indicate to one skilled in the art that the

welding wire cartridge was separate from the wire feeder, as the cartridge provides a source of wire to the wire feeder. This preamble would make little sense if the wire feeder were within the cartridge; the cartridge would be the source of wire to part of itself. Further, the embodiments of the invention described in the Specification all teach the cartridge as a component or subassembly of the wire feeder, not the reverse. *See Spec.* 10:18-19. We therefore construe the term, “wire feeder arrangement” as used in claim 1 to mean an arrangement or assembly external of the welding wire cartridge for receiving and handling welding wire dispensed from a welding-wire cartridge, and that the preamble recites an intended use for the modular cartridge, to supply wire to an external wire feeder arrangement. The further limitation “including a cartridge housing designed to be detachably connectable to the wire feeder arrangement” defines a connection capability for the cartridge housing.

35 U.S.C. § 102(b): Anticipation by Albrecht

Independent claims 1, 7 and 13 were rejected pursuant to § 102(b) as anticipated by Albrecht. The Examiner identified corresponding elements in Albrecht to each element of the respective claims. Ans. 3.

Claim 1

Appellants contend that the Examiner has misinterpreted the disclosures in Albrecht, in that Albrecht discloses a portable welding wire feeder, not a modular welding wire cartridge that can be inserted in a wire feeder. App. Br. 7. The Examiner disagrees, finding that “Albrecht et al. disclose a modular-detachable welding wire cartridge (instrument case) (col. 3, ll. 52-55) for providing a source of welding wire in a wire feeder

arrangement (col. 4, ll. 6-9), said modular-detachable welding wire cartridge including a cartridge housing (instrument case) designed to be detachably connectable to the wire feeder arrangement (chassis assembly) (col. 3, lines 59-61).” Ans. 3. *See* FF 1. Albrecht discloses that the chassis assembly is internal to the cartridge housing, col. 6, ll. 56-61.

Based on our claim construction, we agree with Appellants that the Examiner misidentified the chassis assembly as the equivalent of the wire feeder arrangement, to which a modular cartridge would be capable of feeding wire.

However, Appellants argue at length that Albrecht only discloses a portable wire feeder, not a modular detachable welding wire cartridge that can be inserted into a wire feeder (App. Br. 7). Appellants also assert that there is no disclosure in Albrecht that the portable welding wire feeder includes a modular-detachable welding wire cartridge (App. Br. 7). We determine that Appellants have read the claim too narrowly. The issue is not whether Albrecht’s portable welding wire feeder *includes* a modular detachable weld wire cartridge, because Albrecht’s portable welding wire feeder has structures capable of functioning as claimed, and structurally *is* a modular detachable weld wire cartridge within the meaning of claim 1, as explained *infra*.

We determine that Albrecht teaches the structural equivalent of the modular detachable welding wire cartridge of claim 1. Claim 1 requires a modular-detachable welding wire cartridge, comprising a cartridge housing

having an internal cavity, a wire contact arrangement and a spool of wire.² Albrecht teaches a device (the portable wire feeder) having a cartridge housing (instrument case), a wire contact arrangement (wire drive assembly), and a spool of wire. The only limitation of claim 1 not previously identified by the Examiner in Albrecht is a welding wire cartridge “designed to be detachably connectable to a wire feeder arrangement.” As discussed *supra*, we construe the claim phrase, “wire feeder arrangement” as an arrangement external to the cartridge which receives welding wire dispensed therefrom. The relevant issue then is whether Albrecht teaches that its instrument case can be detachably mounted to an external wire feeder arrangement.

According to the Specification, the welding wire cartridge includes a “cartridge housing designed to be detachably connectable to a wire feeder system.” Spec. 2:21-22. Further, the cartridge housing is “configured so that it can be connected to a cartridge housing interface on ... a welding gun and/or wire feeder system integrated with a welding gun.” Spec. 2:25-27; *see* FF 4. “The cartridge housing can include one or more connectors (e.g., tabs, latches, clips, quick-connect, etc.) that facilitate in releasably securing the cartridge housing to the cartridge housing interface on the wire feeder.” Spec. 2:29 – 3:1.

In comparison, the instrument case of Albrecht includes one or more interfaces. FF 2. Albrecht defines “interface” to mean, “any hole, slot or other opening (including openings that are filled with adaptors or

² The wire spool and wire contact arrangement have further limitations, as set forth in claim 1, which are not germane to the present analysis and are not repeated here.

connectors), regardless of shape, or any adaptor or connector, added to an instrument case to allow various welding inputs to be supplied to the wire feeder ... and/or to allow various welding outputs to be provided from the wire feeder.” Albrecht, col. 7, ll. 66 - col. 8, l. 5. Albrecht discloses that the welding inputs and outputs may include a weld power interface, a shielding gas interface, a welding gun interface, col. 4, l. 55, a control panel interface. col. 8, l. 34, and a trigger control interface, col. 8, l. 48. Albrecht further teaches converting the instrument case into a welding system by adapting the instrument case to receive weld power from a welding power source, adapting the instrument case to provide weld power to a welding gun, and adapting the instrument case to provide a weld wire to a welding gun. Albrecht, col. 4, ll. 62-67.

We determine, as a finding of fact based on substantial evidence, that Albrecht discloses that the instrument case has one or more connectors that facilitate detachably connecting the instrument case (cartridge) to “a welding gun and/or wire feeder system integrated with a welding gun.” *See* FF 3. We further determine, as a finding of fact based on substantial evidence, Albrecht teaches an instrument case (cartridge housing) with one or more interfaces (connectors) to which can be connected various output interfaces, which use wire from the instrument case / cartridge and which comprise a “wire feeder arrangement.”

Because Albrecht discloses each and every element of claim 1, the rejection of claim 1 as anticipated by Albrecht is sustained.

Claims 7 and 13

Appellants dispute the Examiner's rejection of claim 7, arguing that Albrecht does not teach a cartridge housing fully containing a wire spool. Specifically, Appellants argue that the instrument case is not a cartridge housing. App. Br. 9. As discussed *supra*, we have determined that the instrument case of Albrecht has the required structure of the cartridge housing of the present invention. Therefore, the rejection of claim 7 is sustained.

Appellants traverse the rejection of claim 13, arguing that Albrecht does not teach a control interface between the welding wire cartridge and the welding wire feeder, at least one that provides an information connection as limited by claim 13. Appellants argue that the disclosure identified by the Examiner goes only to a mechanical connection. App. Br. 9.

We agree with Appellants, but determine that the Examiner's error was harmless. As discussed *supra*, the Examiner incorrectly identified the chassis assembly in Albrecht as the functional equivalent of the wire feeder arrangement, which is external to the modular-detachable welding wire cartridge. Albrecht, however, also identifies welding output interfaces, such as a trigger control interface with a voltage sense signal. Albrecht, col. 8, ll. 34-38. We determine that these structurally correspond to the control interface between the instrument case and the welding system. Therefore, the rejection of claim 13 is sustained.

35 U.S.C. § 103(a): Obviousness over Albrecht in view of Matiash '482

Claims 2-6 and 8-10, dependent on claim 1, and claims 34-38 and 45, dependent on independent claim 33, stand rejected under 35 U.S.C. § 103(a)

as obvious over Albrecht in view of Matiash '482. Matiash '482 discloses a wire contact arrangement including at least one drive roller (§ 0056) a gear arrangement, § 0063, and a wire guide (§ 0070). Matiash '482 also discloses a wire spool tension arrangement (§ 0151)

Claims 2-6 and 8-10

In Albrecht, the portable wire feeder (when viewed as the structural equivalent of the modular detachable welding wire cartridge), together with the wire drive assembly within the portable wire feeder, contains, in various embodiments, the additional limitations of claims 2-6 and 8-10 (e.g., a wire guide, a wire spool compartment and a wire spool tensioning arrangement). Either Albrecht alone, as alluded to by Appellants, App. Br. 15, or together with Matiash '482, teach the additional limitations of these dependent claims. Therefore, the rejection is sustained.

Claim 33

Appellants traverse the rejection of independent claim 33, arguing that the portable wire feeder in Albrecht does not contain a modular wire cartridge. App. Br. 14-16. Appellants' argument is premised on the same overly narrow reading of the claim. As discussed *supra*, we determine that the portable wire feeder of Albrecht is the structural equivalent of the present modular detachable welding wire cartridge. For the same reasons as claim 1, the Appellants' argument is not persuasive and the rejection is sustained.

Claims 34-38 and 45

Appellants' rebuttal against the rejections of claims 34-38 and 45, which depend on and incorporate the limitations of claim 33, is premised on the argument that Albrecht, either alone or in combination with Matiash '482, fails to teach a detachable weld wire cartridge, App. Br. 18-19. Since we have determined that the portable wire feeder in Albrecht has the structure of the claimed detachable wire cartridge, Appellants' premise is not persuasive. Therefore, we sustain the rejection of these dependent claims.

35 U.S.C. § 103(a)- Obviousness over Albrecht in view of Blankenship – Claims 11 and 15

Claims 11 and 15 stand rejected as obvious over Albrecht in view of Blankenship. Appellants' rebuttal to this rejection is premised on the argument that neither Albrecht alone or in combination with Blankenship teaches a modular detachable weld wire cartridge. App. Br. 19-20. For the reasons discussed *supra*, we determine that the portable wire feeder of Albrecht is the structural equivalent of the present modular detachable weld wire cartridge. The premise of Appellants' argument is therefore not persuasive. Appellants acknowledge that Blankenship discloses information regarding a welding consumable. *See* FF 8. Therefore, the Examiner's rejection is sustained.

35 U.S.C. § 103(a): Obviousness over Albrecht in view of Matiash '482 and Matiash '004

Claims 12, 14 and 16

Claims 12, 14 and 16 depend on and incorporate the limitations of claim 1, and further add limitations including information identification

arrangements (claim 12), a control interface between the wire cartridge and the wire feeder arrangement (claim 14) and a color coding on the exterior used to identify one characteristic of the cartridge (claim 16).

Appellants contend generally that neither *Matiash '482* nor *Matiash '004* overcome the deficiency of *Albrecht* in failing to teach or disclose a detachable modular welding wire cartridge. App. Br. 21. As we have determined that *Albrecht* does so disclose, Appellants' argument is not persuasive.

Appellants dispute that *Matiash '004* teaches the elements of claims 12, 14, 16, arguing that *Matiash '004* teaches different types of information, such as model and serial numbers, App. Br. 21. An obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 127 S. Ct. at 1741. The particular type of identification, as compared to the prior art, has not been shown as significant or as anything more than one of numerous configurations or variations a person of ordinary skill in the art would have found obvious for the purpose of providing the necessary identification information. See *In re Dailey*, 357 F.2d 669, 674-74 (CCPA 1966).

Notwithstanding, claims 12 and 16 merely add non-functional, descriptive printing to a product. Printed matter does not patentably distinguish a product from the prior art when the printed matter is not functionally related to the underlying product. *In re Ngai*, 367 F.3d 1336, 1338.

The Examiner's rejection of claims 12, 14 and 16 as obvious is sustained.

Claims 39-44 and 46

Appellants first argue that claims 39-44 and 46 depend on claim 33, which, they had contended, was allowable, and thus the dependent claims should also be allowable. App. Br. 22. We have sustained the rejection of claim 33, *supra*, thus rendering Appellants' argument not persuasive.

Appellants also contend that the limitation of an identification arrangement, as found in claim 39-44, is not taught by Matiash '004. App. Br. 23. For the same reasons discussed *supra* with regard to claims 12, 14, and 16, we determine the differences to be obvious, and sustain the Examiner's rejection.

Appellants also contend that the limitation of a predefined wire tension between two drive rollers in claim 46 is not found in Matiash '482. Specifically, Appellants argue that Matiash '482 discloses a pressure drive roller that applies lateral pressure to a wire, while the present invention involves two drive rollers. Appellant contends, "pressure and tension are two different concepts and apply differently to welding wire." App. Br. 23. However, claim 46 is not limited to any particular means for creating tension in the wire. *See* FF 6. We take the broadest reasonable construction of the term, and sustain the Examiner's rejection. The Examiner found that the pressure roller was a means to apply the tension to the wire. Ans. 11. We find that the Examiner's finding has a reasonable basis, and Appellants have not shown the prior art did not inherently have or exhibit the functionality of the claimed invention. *See In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir.

1997). Claim 46 is not limited to any particular means for creating tension in the welding wire, and we will not import any particular limitation found in the Specification into the claim. The rejection is sustained.

35 U.S.C. § 103(a): Obviousness over Albrecht in view of Matiash '482 and Blankenship; Claims 12, 14, 16, 39-44, and 46

Appellants again repeat generally their argument that, together, the teachings in Albrecht, Matiash, and Blankenship do not teach a modular detachable welding wire cartridge (App. Br. 24-26). As we have found that Albrecht does so teach, the premise of the argument is not persuasive, and the rejection is sustained.

35 U.S.C. § 103(a): Obviousness over Albrecht in view of Matiash '482 and Grimm: Claims 47 and 49.

Appellants first contend that claims 47 and 49 are allowable, as the combined teachings of Albrecht, Matiash '482 and Grimm do not teach a modular-detachable welding wire cartridge, App. Br. 27. As we have found that Albrecht does so teach, the premise of the argument is not persuasive. Therefore, the rejection is sustained.

Appellants next argue that Grimm teaches an inlet guide, which “has nothing to do with positioning a spool of welding wire in the interior cavity of the cartridge housing of a welding wire cartridge, so that a maximum angle that the welding wire that is fed to the wire contact arrangement in the cartridge housing is less than some angle.” App. Br. 27. However, this does not address the Examiner’s rationale supporting the rejection. The Examiner states, “[p]ut another way, Grimm et al. teach controlling the angle of feed wire to the wire contact arrangement to be an art recognized result effective variable depending on the type of material to be used. It would have been

obvious to one having ordinary skill in the art at the time of the invention was made to modify the combined invention of Albrecht et al. and Matiash '482 to include the wire feed angle of Grimm et al. in order to avoid damage to the wire.” Ans. 14. The Examiner did not cite Grimm for its teaching of an inlet guide, but rather for its teaching of the practice in the art of altering or managing the wire feed angle for reducing damage and wear to the wire. *See* FF 7. The Examiner found it would have been obvious to a skilled artisan to modify Albrecht in view of Matiash '482 based on the known principles and practices of altering wire feed angle. We agree, and determine that the Examiner’s finding was based on substantial evidence. Therefore, we sustain the rejection.

35 U.S.C. § 103(a): Obviousness over Albrecht in view of Matiash '482, Blankenship, and Grimm – Claims 48 and 50

The Examiner rejected claims 48 and 50 as obvious over Albrecht in view of Matiash '482, further in view of Blankenship, and further in view of Grimm. Appellants traverse the rejections with two arguments.

First, Appellants argue that the combined teachings of Albrecht, Matiash '482, Blankenship, and Grimm still do not overcome the deficiency in the rejection of claim 33, upon which these two claims depend, for failing to teach a modular detachable welding wire cartridge. App. Br. 28. This argument is not persuasive, however, as we have determined that Albrecht anticipates the subject matter of claim 33.

Second, Appellants argue that the combination of Albrecht, Matiash '482, Grimm, and Blankenship do not teach the limitation of positioning a spool of wire within a cartridge. But, as explained *supra*, we determine that Grimm teaches of the practice of altering or managing wire feed angles, and

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we agree with the Examiner's finding that a skilled artisan would have found it obvious to incorporate this practice into the invention of claim 46.

Therefore, the rejection is sustained.

35 U.S.C. §103(a): Obviousness over Albrecht in view of Matiash '482, Matiash '004, and Grimm: Claims 48 and 50

The Examiner also rejected claims 48 and 50 as obvious over Albrecht in view of Matiash '482, Matiash '004, and Grimm. Appellants traverse this rejection based on the same arguments as the prior rejection of these two claims, namely that the cited references do not teach a detachable-modular welding wire cartridge of claim 33, or positioning a spool of wire, App. Br. 29. As discussed *supra*, we determine that the cited references teach these limitations, namely that Albrecht teaches a modular detachable welding wire cartridge and that Grimm teaches the practice of managing the wire feed angle. As we have already addressed these arguments in the discussion of the prior rejection, we likewise sustain this rejection.

CONCLUSION

In summary, we sustain all rejections of all the pending claims of the application.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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