



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/026,492	09/13/2013	Bob Morrow	1887-001	2639
1009	7590	02/16/2018	EXAMINER	
KING & SCHICKLI, PLLC 800 CORPORATE DRIVE, SUITE 200 LEXINGTON, KY 40503			LAFLAME JR, MICHAEL A	
			ART UNIT	PAPER NUMBER
			3742	
			NOTIFICATION DATE	DELIVERY MODE
			02/16/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@iplaw1.net
laura@iplaw1.net

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BOB MORROW and GEORGE KURZ

Appeal 2017-005570
Application 14/026,492
Technology Center 3700

Before JENNIFER D. BAHR, MICHELLE R. OSINSKI, and
BRANDON J. WARNER, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Bob Morrow and George Kurz (“Appellants”) appeal under 35 U.S.C. § 134(a) from the Examiner’s decision rejecting claims 1–3, 5–12, 14, and 15.¹ We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Claims 4 and 13 are cancelled, and claims 16–20 are withdrawn. Appeal Br. 15–18 (Claims App’x.).

THE CLAIMED SUBJECT MATTER

Claims 1 and 12 are independent. Claim 1, reproduced below, is illustrative of the subject matter on appeal.

1. A sensing system for intended use with a resistance welding apparatus having a pair of welding electrodes configured to come into electrical contact to effect a weld, a weld controller and a controller rectifier, comprising:

a voltmeter for measuring a voltage between the pair of welding electrodes; and

a sensor for sending a signal to initiate welding to the weld controller based on the measured voltage between the pair of welding electrodes, wherein the measured voltage is a resting bleedthrough voltage from the controller rectifier.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Wristen	US 4,103,141	July 25, 1978
Hu	US 2004/0099648 A1	May 27, 2004
Hirsch	US 2008/0302766 A1	Dec. 11, 2008

REJECTIONS

- I. Claims 1, 7, 8, 10–12, and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hirsch. Final Act. 2–3.
- II. Claims 2, 3, 9, and 14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hirsch. *Id.* at 3–4.
- III. Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Hirsch and Hu. *Id.* at 4–5.
- IV. Claim 6 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Hirsch and Wristen. *Id.* at 5.

OPINION

Rejection I

Claims 1, 7, 8, 11, 12, and 15

Appellants present arguments for the patentability of independent claims 1 and 12 together as a group, and do not separately argue dependent claims 7, 8, 11, and 15. Appeal Br. 9–12; Reply Br. 1–4. We select claim 1 as the representative claim, and claims 7, 8, 11, 12, and 15 stand or fall therewith. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that Schultz discloses all of the limitations of independent claim 1. Final Act. 2. In particular, the Examiner finds:

Hirsch discloses a voltage measuring element (20, Fig. 5) [that] measures the voltage between electrodes [0014], and a comparator (22) that[,] in the event of a low voltage[,] signals a controller (25) that there is continuity between the electrodes [0040]. Comparator (22) is in electrical contact with SCR [(silicon-controlled rectifier)] contactor (Fig. 5). The power comes from AC power line through SCR contactor to be measured by voltage measuring element (20) (Fig. 5) [0037] (MPEP 2114).

Id.

Appellants argue that Hirsch does not disclose “a sensor for sending a signal to initiate welding to the weld controller based on the measured voltage between the pair of welding electrodes,” as recited in claim 1. Appeal Br. 9–11. In particular, Appellants assert that “Hirsch discloses initiating the welding process before any measurements are taken,” whereas “the claimed invention measures the voltage between the electrodes before initiating the welding.” *Id.* at 10. According to Appellants, Hirsch “expressly requires measuring continuity (not voltage) between the welding

electrodes after the welding machine has been initiated.” *Id.* at 11. We do not find this argument persuasive.

Hirsch discloses that, during a welding sequence, welding controller 25 actuates low pressure solenoid valve 27 to bring electrodes 18 together under low force. Hirsch ¶ 39. If electrodes 18 contact metal material to be welded, impedance of welder secondary 17 lowers (*id.*), which greatly reduces voltage on the transformer primary 16 and secondary 17 (*id.* ¶ 40). The lowered voltage is input to continuity sensor 20, which conditions the voltage level and feeds it into comparator 22. *Id.* ¶ 40. If the input voltage level is below a reference voltage, comparator 22 signals welding controller 25 that continuity between electrodes 18 has been detected. *Id.* “At this time, logic in welding controller 25 energizes solenoid valve 26 to put full welding force between welding electrodes 18.” *Id.* ¶ 41; *see also id.* ¶ 49 (“The control then goes through the weld sequence and finally turns off both solenoid valves 26 and 27 to release the electrodes 18.”).

In this regard, the Examiner explains that, although “Hirsch measures continuity between the electrodes after the *machine* has been initiated,” the system “does not initiate *welding* (applying appropriate pressure to the electrodes) until the continuity is high enough.” Ans. 4 (emphasis added) (citing Hirsch ¶ 14). We agree with the Examiner that “welding (i[.].e[.]. application of high electrode force) is not started until the continuity/voltage is of a sufficient value [0014].” *Id.* In other words, Hirsch initiates the welding *machine* such that electrodes 18 come together under low force, but the system does not initiate *welding* (i.e., applying full force to the electrodes and actually welding the material) until a voltage level from continuity sensor 20 is determined to be below a reference value. In this regard,

Hirsch's disclosure is consistent with Appellants' Specification, which describes that, if "the cylinder is coming down in low pressure mode and the operator's hand is not in the way, the voltage dissipates when the welding electrodes come into contact and the cylinder switches to high pressure mode and the weld start signal is initiated by the weld controller." Spec. 7, ll. 22–25. Thus, Appellants do not apprise us of error in the Examiner's finding that Hirsch discloses the disputed limitation, which is supported by a preponderance of the evidence.

Appellants also argue that "the claimed invention relies solely on measuring the resting bleedthrough voltage (which is used as a control voltage that naturally exists) from the controller rectifier, rather than requiring an induced voltage and comparing the induced voltage to a reference voltage[,] as in Hirsch." Appeal Br. 11 (citing Spec. 7, ll. 5–9). More particularly, Appellants argue that "Hirsch relies upon measuring continuity based on an inputted signal from an externally derived source, not the voltage between the electrodes," and assert that the "[S]pecification expressly notes that 'contact between top and bottom electrodes is determined by using the SCR bleedthrough or leakage voltage instead of utilizing a comparator circuit that induces a low control voltage into the secondary wiring of the weld transformer.'" *Id.* (quoting Spec. 6, ll. 25–27). According to Appellants, the Specification "further notes the advantage of such an arrangement[,] as it eliminates the need for a comparator circuit (which Hirsch requires) and a number of other components, such as circuitry components (also required by Hirsch), which add expense and complexity to the welding system." *Id.* (citing Spec. 6, l. 28–7, l. 4). These arguments are unpersuasive for the following reasons.

First, as to whether Hirsch teaches a resting bleedthrough voltage from the controller rectifier, the Examiner responds, in the Answer, that “Hirsch discloses a low voltage leakage (a bleedthrough voltage) when the welding electrodes are not in contact (resting before welding) [0037] that goes through electrodes to complete the circuit and across resistor/capacitor (14) and SCR contactor (15, controller rectifier) as described [0037] and shown in Fig. 5.” Ans. 5. According to the Examiner, “[t]his low voltage leakage is developed by the resistor/capacitor and therefore would exist even if a standard welding power supply were not on (resting).” *Id.* Appellants do not specifically address or identify error in the Examiner’s position, particularly as explained in the Answer. *See* Ans. 5. Namely, Appellants do not offer any evidence or persuasive technical reasoning to refute the Examiner’s finding that “*the input continuity is a voltage* (for example ‘input voltage’ that is conditioned and fed to the comparator.” *Id.* at 4 (emphasis added) (citing Hirsch ¶ 44). Consequently, Appellants do not persuasively explain why Hirsch’s low voltage leakage developed by resistor-capacitor element 14, connected across SCR contactor 15 to put low voltage on transformer primary 16, and transmitted inductively to transformer secondary 17 and to welding electrodes 18 (Hirsch ¶¶ 37–38) cannot reasonably be considered a “resting bleedthrough voltage from the controller rectifier” as claimed, in light of the Examiner’s explanation in the Answer.

Second, Appellants’ arguments are not commensurate with the scope of claim 1. As stated by our reviewing court in *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998), “the name of the game is the claim.” It is well established that limitations not appearing in the claim cannot be relied upon for patentability. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982). Here,

claim 1 only recites, in relevant part, “sending a signal to initiate welding to the weld controller *based* on the measured voltage between the pair of welding electrodes, wherein the measured voltage is a resting bleedthrough voltage from the controller rectifier.” Appeal Br. 15 (Claims App’x.) (emphasis added). The claim does not recite that the signal sent by the sensor to the controller is based *solely* on the measured voltage. For that matter, neither does the claim recite any limitations that exclude the use of a comparator. In this regard, the language of claim 1 is broader than the particular disclosure of the Specification relied on by Appellants. *See SuperGuide Corp. v. DirecTV Enterps., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”). In other words, although the Specification describes that the disclosed invention “eliminates the need for comparator circuit” (Spec. 6, l. 28), such disclosure in the Specification does not impart any structural limitations to the claimed system. *See In re Van Geuns*, 988 F.2d 1191, 1184 (Fed. Cir. 1993) (Although the claims are interpreted in light of the Specification, limitations from the Specification are not read into the claims.). Thus, even though Hirsch discloses using comparator 22 to determine if an input voltage level from continuity sensor 20 is below a reference voltage (Hirsch ¶ 40), claim 1 does not *exclude* a comparator element.

For the foregoing reasons, Appellants do not apprise us of error in the Examiner's finding that Hirsch discloses all of the limitations of independent claim 1. Accordingly, we sustain the rejection of claim 1, and of claims 7, 8, 11, 12, and 15 falling therewith, under 35 U.S.C. § 102(b) as anticipated by Hirsch.

Claim 10

In contesting the rejection of claim 10, Appellants initially rely on the arguments and reasoning that we found unpersuasive in connection with independent claim 1, from which this claim depends. Appeal Br. 12. Appellants further assert that "claim 10 is also independently patentable" because "Hirsch does not measure voltage between the electrodes, but relies on a continuity sensor to measure continuity and utilizes a conditioned voltage, not a measured voltage." *Id.* This argument essentially rehashes one of Appellants' arguments set forth with respect to claim 1, which is unpersuasive with respect to claim 10 for the same reasons. *See id.* at 11 (asserting that "Hirsch relies upon measuring continuity based on an inputted signal from an externally derived source, not the voltage between the electrodes"). Namely, Appellants' argument does not persuasively refute the Examiner's finding that Hirsch's input continuity is a voltage. Ans. 4.

For the above reasons, Appellants' arguments do not apprise us of error in the rejection of claim 10. Accordingly, we sustain the rejection of claim 10 under 35 U.S.C. § 102(b) as anticipated by Hirsch.

Rejection II

In rejecting dependent claims 2, 3, 9, and 14, the Examiner finds that "Hirsch discloses that a high electrode force is applied when a measured continuity is below a reference level [0040] (MPEP 2114)." Final Act. 3.

The Examiner acknowledges that “Hirsch does not state the reference voltage where the high electrode force is applied,” but explains that “[Appellants] do[] not state that these values are critical.” *Id.* The Examiner determines that it would have been an obvious matter of design choice to use a value of 1V as the reference voltage in Hirsch. *Id.*

Appellants argue that “the Examiner’s position that the voltage of 1V is not critical is contradicted by Appellant[s’] specification.” Appeal Br. 13. In particular, Appellants assert that the resting bleedthrough voltage is “typically less than 30 volts and usually around 18 volts,” and, “[w]hen the electrodes make contact, this bleedthrough voltage dissipates (typically less than 1 volt), so the sensing system looks for a significant drop in voltage.” *Id.* (citing Spec. 5, l. 25–6, l. 5). According to Appellants, “a measurement of 1 volt or less is indicative of sufficient contact between the electrodes to initiate welding and to avoid injury to an operator due to the high pressure mode of welding initiating upon a reading of 1 volt or less.” *Id.* We are not persuaded by these arguments.

Although the Specification describes that, “[w]hen the top and bottom electrodes make contact, the voltage dissipates (*typically* less than 1 volt)” (Spec. 6, ll. 1–2 (emphasis added)), this disclosure does not indicate, much less show, that there is any criticality to the 1V measured voltage value recited in the claims. Rather, the Specification suggests that any significant drop in voltage, regardless of exactly what the lower value is, would be sufficient to confirm continuity before initiating welding. *See id.*, ll. 2–5 (describing that “the sensing system looks for a significant drop in the voltage (confirming that the electrodes are touching and nothing, such as the operator’s hand or fingers is in the way of the two electrodes) in order to

begin the welding process”). Thus, based on the evidence before us, we agree with the Examiner that the selection of 1 V as the reference voltage value is simply an obvious matter of design choice to one of ordinary skill in the art. *See* Final Act. 3–4.

For the foregoing reasons, Appellants do not apprise us of error in the Examiner’s determination that Hirsch renders obvious the subject matter of claims 2, 3, 9, and 14. Accordingly, we sustain the rejection of claims 2, 3, 9, and 14 under 35 U.S.C. § 103(a) as unpatentable over Hirsch.

Rejections III and IV

In contesting the rejections of claims 5 and 6, Appellants rely on the same arguments and reasoning we found unpersuasive in connection with independent claim 1, from which these claims depend. *See* Appeal Br. 12 (relying on the alleged deficiencies of Hirsch and asserting that Hu and Wristen fail to remedy such deficiencies). Accordingly, we also sustain the rejections, under 35 U.S.C. § 103(a), of claim 5 as unpatentable over Hirsch and Hu, and of claim 6 as unpatentable over Hirsch and Wristen.

DECISION

The Examiner’s decision to reject claims 1, 7, 8, 10–12, and 15 under 35 U.S.C. § 102(b) as anticipated by Hirsch is affirmed.

The Examiner’s decision to reject claims 2, 3, 9, and 14 under 35 U.S.C. § 103(a) as unpatentable over Hirsch is affirmed.

The Examiner’s decision to reject claim 5 under 35 U.S.C. § 103(a) as unpatentable over Hirsch and Hu is affirmed.

The Examiner’s decision to reject claim 6 under 35 U.S.C. § 103(a) as unpatentable over Hirsch and Wristen is affirmed.

Appeal 2017-005570
Application 14/026,492

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