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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TIMOTHY M. O'DONNELL and RUSSELL K. MYERS

Appeal 2014-005779
Application 11/327,736
Technology Center 3700

Before LINDA E. HORNER, JILL D. HILL, and PAUL J. KORNICZKY, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Timothy M. O'Donnell and Russell K. Myers (Appellants)[1] seek our review under 35 U.S.C. § 134 of the Examiner's decision rejecting claims 1–18 and 20–53, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] Appellants identify the real party in interest as Lincoln Global, Inc. Appeal Br. 3.

CLAIMED SUBJECT MATTER

Appellants' claimed subject matter relates to a series arc welder. Spec. 1, l. 3. Claims 1 and 18 are the independent claims on appeal. Claims 1 and 18 are reproduced below, with paragraphing added.

> 1. An electric arc welder for depositing weld metal along a groove between two edges of a metal workpiece, said welder comprising
>
> a leading electrode driven toward a point in said groove by a first wire feeder operated at a first speed by a first motor with a speed control input,
>
> a trailing electrode driven toward said point by a second wire feeder operated at a second speed by a second motor with a speed control input, and
>
> a power source for creating an arc between said leading and trailing electrodes to melt said leading and trailing electrodes,
>
> only one of said motors having a tachometer to generate a feedback WFS signal,
>
> said power source having a wire feed speed controlling device for creating a control WFS signal directed to said speed control input of said first motor to maintain said first motor at a set speed based upon said feedback WFS signal, said wire feed speed controlling device including a slave circuit that includes a converter and is connected to said control WFS signal to control said speed control input of said second motor, wherein said second motor is operated at a speed below or a speed above said set speed based upon said feedback WFS signal, said control WFS signal independent of a speed of said second motor, said second motor not providing any signal for use in controlling a WFS of said first motor.

18. An electric arc welder for depositing weld metal along a groove between two edges of a metal workpiece, said welder comprising

first and second power sources,

a leading electrode driven toward a point in said groove by a first wire feeder operated at a first speed by a first motor with a speed control input and a tachometer derived first feedback signal,

a trailing electrode driven toward said point by a second wire feeder operated at a second speed by a second motor with a speed control input and a tachometer derived second feedback signal,

said first power source directing a first current to flow through said leading electrode and said second power source causing a second current to flow through said trailing electrode with said current flow being in a series arc circuit,

said second power source is grounded to said workpiece to modify said series arc current so ground current flows to said workpiece whereby said second current is generally equal to said first current minus said ground current,

said tachometer derived first feedback only controlling said first motor and not providing any control signal to said second motor,

said tachometer derived second feedback only controlling said second motor and not providing any control signal to said first motor, and

a voltage sensing circuit and a controller associated with each power source that detects a given voltage associated with each one of said electrodes and accordingly adjusts each said corresponding speed control input.

EVIDENCE

The Examiner relied upon the following evidence in the Final Action, dated May 6, 2013 ("Final Act."), from which this appeal is taken:

Shutt	US 4,246,463	Jan. 20, 1981
Ferrero	US 4,700,042	Oct. 13, 1987
Stava	US 6,207,929 B1	Mar. 27, 2001
Hsu	US 2003/0071025 A1	Apr. 17, 2003
Kaufman	US 2006/0163230 A1	July 27, 2006
Myers	US 7,105,773 B2	Sept. 12, 2006
Blankenship	US 7,183,516 B2	Feb. 27, 2007
Osaka Transformer Co. Ltd. ("JP")	JP 51-013347 A	Feb. 2, 1976
Gorshtein	SU 1540996 A	Feb. 7, 1990
Planeta Druckmaschinen-werk AG ("DE")	DE 4 112 760 A1	Oct. 22, 1992

REJECTIONS

The Final Action included the following rejections:

1. Claims 1–18 and 20–53 as unpatentable on the ground of non-statutory, obviousness-type double patenting over claims 1–125 of Myers, in view of Shutt and DE.
2. Claims 1–4, 13, 15, and 17 under 35 U.S.C. § 103(a) as unpatentable over Shutt, DE, JP, and Kaufman.
3. Claims 5–12 under 35 U.S.C. § 103(a) as unpatentable over Shutt, DE, JP, Kaufman, and Blankenship.
4. Claim 14 under 35 U.S.C. § 103(a) as unpatentable over Shutt, DE, JP, Kaufman, and Hsu.

5. Claim 16 under 35 U.S.C. § 103(a) as unpatentable over Shutt, DE, JP, Kaufman, and Gorshtein.
6. Claims 18, 20, 21, 34–43, 48, and 50–53 under 35 U.S.C. § 103(a) as unpatentable over Shutt, Stava, Gorshtein, and Ferrero.
7. Claims 22–33, 44–47, and 49 under 35 U.S.C. § 103(a) as unpatentable over Shutt, Stava, Gorshtein, Ferrero, and Blankenship.

ANALYSIS

First Ground of Rejection

The Examiner determined that each of the pending claims is not patentably distinct from claims 1–125 of Myers, in view of Shutt and DE. Final Act. 2. The Examiner explains only that "it would have been obvious to have practiced the processes of the patented claims with [a] tachometer . . . in view of [the] teachings [of] Shutt et al (4246463) and [a] slave circuit . . . in view of [the] teachings [of] (DE 4112760)) . . . to provide a device that [renders] readable the calculated voltage and current." *Id.* at 2–3. Appellants contend that several of the elements set forth in independent claims 1 and 18 are not rendered obvious by Myers, Shutt, and DE. Appeal Br. 17–18.

When determining whether a basis exists for an obviousness-type double patenting rejection, one must discern whether any claim in the application defines an invention that is merely an obvious variation of an *invention claimed* in another patent. *In re Braat*, 937 F.2d 589, 592 (Fed. Cir. 1991). The analysis employed for a non-statutory, obviousness-type

double patenting rejection is "similar to, but not necessarily the same as, that undertaken under 35 U.S.C. § 103." *Id.* at 592–93 (citing *In re Longi*, 759 F.2d 887, 892 n.4 (Fed. Cir. 1985)). The Manual of Patent Examining Procedure ("MPEP") explains:

> In view of the similarities, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1[, 17] (1966) that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103 should typically be considered when making a nonstatutory double patenting analysis based on "obviousness."

MPEP § 804(II)(B)(2).

In this case, the Examiner has not presented the requisite analysis, as set forth in the MPEP, to make clear "[t]he differences between the inventions defined by the conflicting claims — a claim in the patent compared to a claim in the application" and "[t]he reasons why a person o[f] ordinary skill in the art would conclude that the invention defined in the claim at issue would have been an obvious variation of the invention defined in a claim in the patent." *Id.* In fact, rather than comparing the claims of Myers to the rejected claims in the application, the Examiner responds to Appellants' arguments with a discussion of the combined teachings of Shutt, DE, Kauffman, and JP, even though the statement of the obviousness-type double patenting rejection as set forth in the first ground of rejection did not rely on the teachings of Kauffman or JP. *Compare* Ans. 13–15, *with* Final Act. 2–3. As such, the Examiner has failed to make a prima facie showing of obviousness-type double patenting of the claimed invention in view of claims 1–125 of Myers in view of Shutt and DE. For this reason, we do not

sustain the non-statutory, obviousness-type double patenting rejection of claims 1–18 and 20–53.

Second Ground of Rejection

With respect to independent claim 1, the Examiner determined that Shutt teaches an electric arc welder, including leading electrode 21 driven by a first wire feeder operated at a first speed by first motor 19, trailing electrode 31 driven by a second wire feeder operated at a second speed by second motor 29, and a power source H having wire feed speed controlling device 55 for creating a control wire feed speed ("WFS") signal directed to control input of first motor 19 "wherein said second motor (29 as shown in [F]ig. 1) is operated at a speed below or a speed above said set speed based upon said feedback WFS signal." Final Act. 3–4 (citing Shutt, col. 6, ll. 10–20); *see also* Ans. 3 (finding that controller 55 "receives feedback wire feeder speed signal thru [sic] (28 as shown in [F]ig. 1) in order to control and adjust the wire feeders speeds").

We find inadequate support for the Examiner's finding that Shutt discloses a feedback WFS signal. *See* Appeal Br. 9 (Appellants challenging finding that Shutt teaches a feedback WFS signal). As correctly noted by Appellants, Shutt "merely discloses a power source H, which supplies power to the motors 19, 29 from a control 55 through leads 28, 38." Reply Br. 8 (emphasis omitted); *see also* Shutt, col. 6, ll. 21–24. We do not find disclosure in Shutt that supports the Examiner's position that feedback is delivered to controller 55 via line 28, or otherwise seen in Figure 1 of Shutt

any indication that controller 55 receives a feedback WFS signal used to generate a WFS signal.

The Examiner also found that "Kaufman discloses that only one of said motors [has] a tachometer to generate feedback WFS signal." Final Act. 5 (citing Kaufman, para. 14). The Examiner determined that "it would have been obvious to one [of] ordinary skill in the art to modify Shutt with [a] single tachometer as taught by Kaufman in order to monitor the wire feed speed." *Id.* The Examiner further explained that "applying the known technique taught by Shutt . . . to a tachometer to generate a feedback WFS signal of Kaufman would have yielded predictable results and resulted in an improved system and method." Ans. 5–6.

As noted by Appellants, the Examiner has misconstrued Kaufman. Appeal Br. 8–9. Kaufman discloses a "system and method for coordinating delivery of a welding-type consumable using a multi-motor wire feeder system." Kaufman, para. 1. As Kaufman explains, a multi-motor drive configuration uses a first motor to push a wire toward a gun and a second motor to pull the wire from the push motor and drive it to the weld. *Id.*, para. 2. Kaufman is directed to a system that promotes a taut condition of the wire when traveling between motors to avoid bunching of the wire. *Id.*, para. 10. Kaufman explains that some prior art systems use tachometers on the pull motor, or on both the push and pull motors, to control motor speed, but that these systems require resynchronization whenever a gun is changed or there is a change in the type or size of wire. *Id.*, paras. 7–8. Kaufman discloses a method that avoids the need for recalibration or

resynchronization by using a higher than desired starting wire feed speed on the pull motor, followed by droop regulation to gradually lower the speed of the pull motor to the desired speed. *Id.*, paras. 35–37. Although one embodiment, shown in Figure 7 of Kaufman, allows for the use of a tachometer to monitor wire speed at the pull motor, Kaufman does not disclose that this tachometer is used to generate a feedback WFS signal. Further, Kaufman teaches that feedback from a tachometer at the pull motor is "not required" because "the speed of the pull motor 5 is synchronized with the speed of the push motor 3 by starting the pull motor 5 before the push motor 3 and then droop regulating the pull motor 5 to substantially match the speed of the push motor 3." *Id.*, para. 49. As such, rather than promoting the use of feedback from a tachometer to control wire feed speed, Kaufman teaches a method in which feedback from a tachometer is not required. Thus, the Examiner has failed to provide an adequate explanation as to why the teachings of Kaufman would have prompted one of ordinary skill in the art to modify the system of Shutt in the manner claimed. For these reasons, we do not sustain the rejection of independent claim 1, or its dependent claims 2–4, 13, 15, and 17 under 35 U.S.C. § 103(a) as unpatentable over Shutt, DE, JP, and Kaufman.

Third through Fifth Grounds of Rejection

The Examiner does not rely on Blankenship, Hsu, or Gorshtein to remedy the above-noted deficiencies in the rejection based on Shutt, DE, JP, and Kaufman. Final Act. 6 (relying on Blankenship to teach a short

detector); *id.* at 7 (relying on Hsu to teach a buck converter and Gorshtein to teach gear reducers). Accordingly, the rejections of dependent claims 5–12, 14, and 16 suffer from the same deficiencies as discussed *supra* in our analysis of claim 1. For these reasons, we do not sustain the rejections under 35 U.S.C. § 103(a) of claims 5–12 as unpatentable over Shutt, DE, JP, Kaufman, and Blankenship, of claim 14 as unpatentable over Shutt, DE, JP, Kaufman, and Hsu, and of claim 16 as unpatentable over Shutt, DE, JP, Kaufman, and Gorshtein.

Sixth Ground of Rejection

With respect to independent claim 18, the Examiner determined that "Shutt fails to teach of having . . . two tachometers to derived [sic] feedback from two motors." Final Act. 8. The Examiner found that "Gorshtein teaches of having two tachometers to derived [sic] feedback from two motors." *Id.* at 10 (citing Gorshtein, Abst.).

Claim 18 recites that the leading electrode is operated at a first speed based, in part, on a "tachometer derived first feedback signal," the trailing electrode is operated at a second speed based, in part, on a "tachometer derived second feedback signal" and "said tachometer derived first feedback only controlling said first motor and not providing any control signal to said second motor." Appeal Br. 21 (Claims App.). As noted by Appellants, Gorstein "fails to teach a tachometer derived first feedback only controlling said first motor and not providing any control signal to said second motor," as called for in claim 18. *Id.* at 14. Gorshtein describes a system including

driven support roller 2 having two rollers 4. Gorstein, Abst., Fig. 1. "[O]ne [of rollers 4] is driven by first motor (7) with reducer (5) and tachometer generator (8), and the other roller [(4)] [is] driven by second motor (9) with reducer (6) and tachometer generator (10)." *Id.* Although Gorstein discloses two motors each with its own tachometer, Gorstein does not describe or suggest using the feedback from the tachometers in the manner called for in claim 18. Rather, Gorstein discloses using feedback from the tachometer associated with the first motor to provide a control signal to both the first and second motors, stating that "[t]he control circuit contains [a] velocity setter and two velocity regulators, one for each of the motors. Velocity regulator of first motor (7) is connected to velocity setter, while setting signal for second motor (9) consists of feedback signal from first motor (7)." Gorstein, Abst., Fig. 2 (showing feedback signal from tachometer generator 8 being sent to first motor 7 and second motor 9). As such, the Examiner erred in the findings as to Gorshtein that underlie the rejection of claim 18. For these reasons, we do not sustain the rejection of independent claim 18, and its dependent claims 20, 23, 34–43, 48, and 50–53, under 35 U.S.C. § 103(a) as unpatentable over Shutt, Stava, Gorshtein, and Ferrero.

Seventh Ground of Rejection

The Examiner does not rely on Blankenship to remedy the above-noted deficiencies in the rejection based on Shutt, Stava, Gorshtein, and Ferrero. Final Act. 11 (relying on Blankenship to teach a short detector). Accordingly, the seventh ground of rejection suffers from the same

deficiencies as discussed *supra* in our analysis of claim 18. For these reasons, we do not sustain the rejection of claims 22–33, 44–47, and 49 under 35 U.S.C. § 103(a) as unpatentable over Shutt, Stava, Gorshtein, Ferrero, and Blankenship.

DECISION

The decision of the Examiner to reject claims 1–18 and 20–53 is REVERSED.

REVERSED