UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte WALTER SÖLLNER

_____

Appeal 2017-006097
Application 13/680,287
Technology Center 3600

_____

Before JENNIFER D. BAHR, EDWARD A. BROWN, and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant[1] seeks review under 35 U.S.C. § 134(a) of the Examiner's
decision rejecting claims 1–25. We have jurisdiction under 35 U.S.C.
§ 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

Claims 1, 9, and 19 are independent. Illustrative claim 1 reads as follows:

> 1. A method for extrapolating a wavefield to be carried out by a computer system that includes one or more processors and one or more data-storage devices, the method comprising:
>
> receiving a measured pressure wavefield, a measured vertical velocity wavefield, and two measured horizontal velocity wavefields;
>
> decomposing one of the pressure wavefield and the vertical velocity wavefield into an up-going wavefield and a down-going wavefield;
>
> calculating components of a slowness vector from the speed of sound in a fluid, density of the fluid, the measured pressure wavefield, and the two horizontal velocity wavefields; and
>
> extrapolating one of the up-going and down-going wavefields using an extrapolator that depends on the components of the slowness vector.

Appeal Br. 26 (Claims App.).

REJECTIONS

Appellant seeks review of the following rejections:

Claims 1–25 stand rejected under 35 U.S.C. § 101 as directed to patent ineligible subject matter.

Claims 1–7, 9–15, and 17–24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Söllner '937 (US 2011/0242937 A1, published Oct. 6, 2011) and Söllner '174 (US 2008/0089174 A1, published Apr. 17, 2008).

Claims 8, 16, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Söllner '937, Söllner '174, and Klüver (US 7,646,672 B2, issued Jan. 12, 2010).

ANALYSIS

Patent Ineligible Subject Matter (Claims 1–25)

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g., Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 192 (1981)); "tanning, dyeing, making waterproof cloth, vulcanizing India

rubber, smelting ores" (*id.* at 184 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 192 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* ((alteration in the original) quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer

implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The PTO recently published revised guidance on the application of § 101. USPTO's January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* ("Memorandum"). Under Step 2A of that guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Memorandum.

Here, Appellant argues all of the claims 1–25 together in contesting the rejection under § 101. *See* Appeal Br. 4–14. Accordingly, we decide the appeal of this rejection based on claim 1, with claims 2–25 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (permitting the Board

to select a single claim to decide the appeal as to a ground of rejection of a group of claims argued together).

Step 1 – Statutory Category

Claim 1 recites a series of steps, and, therefore, is a process. *See* Appeal Br. 26 (Claims App.).

Step 2A, Prong One – Recitation of Judicial Exception

Step 2A of the 2019 Guidance is a two-prong inquiry. In Prong One, we evaluate whether the claim recites a judicial exception. For abstract ideas, Prong One represents a change as compared to prior guidance because we here determine whether the claim recites mathematical concepts, certain methods of organizing human activity, or mental processes.

The Examiner determines that claim 1 is directed to an abstract idea, and, particularly, "to a method . . . for extrapolating a wavefield that is accomplished through a series of mathematical operations performed by a computer." Final Act. 2–3.

Appellant acknowledges that the Examiner's rejection is based on the abstract idea exception. Appeal Br. 4. Appellant contends, however, that the Examiner mischaracterizes the claim elements as "'a series of mathematical operations'" and as "'directed to mathematical manipulation of data.'" *Id.* Appellant asserts that claim 1 is "described in terms of mathematical formulas as a concise way of symbolically describing and representing specific and novel *computational operations* carried out by a computer system." *Id.* Similarly, Appellant states, "claims 1–25 describe a series of computational operations that are described mathematically to

generate extrapolated wavefields" (*id.* at 5–6), and "[c]laims 1–25 are merely a description of the computational operations that make extrapolation of spatial aliased seismic data possible" (*id.* at 6). According to Appellant, "the Examiner's statement regarding mathematical formulas indicates that the Examiner would declare as an abstract idea *any invention described in terms of mathematical formulas* to represent measurable physical quantities, *relationships between physical quantities, and computational operations performed on the physical quantities.*" *Id.* at 4 (emphasis added).

As recited in claim 1, the method for extrapolating a wavefield comprises, in part, "*decomposing* one of the pressure wavefield and the vertical velocity wavefield into an up-going wavefield and a down-going wavefield" ("decomposing limitation"), "*calculating* components of a slowness vector from the speed of sound in a fluid, density of the fluid, the measured pressure wavefield, and the two horizontal velocity wavefields" ("calculating limitation"), and "*extrapolating* one of the up-going and down-going wavefields using an extrapolator that depends on the components of the slowness vector" ("extrapolating limitation"). *Id.* at 26 (Claims App. (emphasis added).

We agree with the Examiner that claim 1 recites an abstract idea. First, Appellant argues that claim 1 recites "mathematical formulas" and "a series of computational operations that are described mathematically." *Id.* at 4–6. Under the 2019 Guidance, however, mathematical formulas and computational operations fall within the "mathematical concepts" grouping. Accordingly, Appellant acknowledges that claim 1 recites subject matter that falls within this grouping.

Second, we determine that the decomposing, calculating, and extrapolating limitations are specific elements in claim 1 that recite mathematical relationships and mathematical calculations. The decomposing limitation recites a mathematical relationship or mathematical calculation between the pressure wavefield and vertical velocity wavefield and the up-going and down-going wavefields. This limitation is addressed at paragraph 37 of Appellant's Specification, which describes the corresponding mathematical formula (relationship): $P = p^u + p^d$, where P is the pressure wavefield, p^u is the up-going pressure wavefield, and p^d is the down-going pressure wavefield. The calculating limitation recites mathematically calculating components of a slowness vector "from the speed of sound in a fluid . . . and the two horizontal velocity wavefields." Hence, this limitation recites a mathematical relationship or mathematical formula. For example, the components of the slowness vector can be considered a function of "the speed of sound in a fluid . . . and the two horizontal velocity wavefields." And, the extrapolating limitation recites a mathematical relationship, mathematical formula, or mathematical calculation between the up-going or down-going wavefield and the components of the slowness vector. Under the 2019 Guidance, these mathematical formulas, mathematical relationships, and mathematical calculations fall within the "mathematical concepts" grouping. Accordingly, claim 1 recites this abstract idea.

Furthermore, the decomposing, calculating, and extrapolating limitations, as drafted, are respective processes that under the broadest reasonable interpretation cover performance of the limitation in the human mind.

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The preamble of claim 1 recites a method "to be carried out by a
computer system that includes *one or more processors and one or more
data-storage devices*." Appeal Br. 26 (Claims App.) (emphasis added).
These generic computer components are not recited in the claim body. Even
if the computer components were given patentable weight, their mere
recitation, especially only in the preamble, does not take the decomposing,
calculating, or extrapolating limitation out of the mental process grouping.
Thus, claim 1 also recites a mental process, which is a second one of the
groupings of abstract ideas set forth in the 2019 Guidance.

Because we conclude claim 1 recites an abstract idea, we proceed to
Prong Two to determine whether the claim is "directed to" the judicial
exception.

Step 2A, Prong Two – Practical Application

If a claim recites a judicial exception, in Prong Two we next
determine whether the recited judicial exception is integrated into a practical
application of that exception by: (a) identifying whether there are any
additional elements recited in the claim beyond the judicial exception(s); and
(b) evaluating those additional elements individually and in combination to
determine whether they integrate the exception into a practical application.
If the recited judicial exception is integrated into a practical application, the
claim is not directed to the judicial exception. This evaluation requires an
additional element or a combination of additional elements in the claim to
apply, rely on, or use the judicial exception in a manner that imposes a
meaningful limit on the judicial exception, such that the claim is more than a
drafting effort designed to monopolize the exception. If the recited judicial

exception is integrated into a practical application, the claim is not directed
to the judicial exception.

Here, apart from the decomposing, calculating, and extrapolating
limitations, the only additional element that is recited in claim 1 is the
limitation "*receiving* a measured pressure wavefield, a measured vertical
velocity wavefield, and two measured horizontal velocity wavefields"
("receiving limitation"). Appeal Br. 26 (Claims App.) (emphasis added).
The receiving limitation, however, merely recites receiving certain
information or data that can be analyzed. As such, the receiving limitation is
insignificant extra-solution activity to the judicial exception. *See*
Memorandum at 55 n. 31. Accordingly, this element does not integrate the
judicial exception into a practical application of the exception.

The Examiner determines that all claim elements "are directed to the
mathematical manipulation of data by a general purpose computer and do
not result in an improvement in the functioning of the computer or to another
technology." Final Act. 2. Regarding the recitation of mathematical
formulas in claim 1, Appellant's argument refers to "seismic data" and "the
field of seismic data processing." For example, Appellant asserts, "claims
1–25 describe a series of computational operations that are described
mathematically to generate extrapolated wavefields that are not impacted by
spatial aliasing, *which is a clear improvement in the field of seismic data*,"
and "[c]laims 1–25 improve the existing technical process of seismic data
processing by enabling the wavefields to be extrapolated even when the
seismic data is spatial aliased." Appeal Br. 5–6 (emphasis added).
Appellant also contends that the Specification explains the technical problem
solved by the claims. *Id.* at 6 (citing Spec. ¶¶ 48–52). According to

Appellant, "[c]laims 1–25 are merely a description of the computational operations that make extrapolation of spatial aliased seismic data possible, thus improving *an existing technological process of the field of processing seismic data*." *Id.* (emphasis added).

But even if the recited method could be used in the field of processing seismic data, claim 1 does not recite any limitation that even generally links the use of the "method for extrapolating a wavefield" and the judicial exception to the field of seismic data or seismic data processing. In fact, claim 1 recites no particular technological field or field of use. Accordingly, the language itself of claim 1 does not reflect an improvement in any particular technical field or technology. *See* MPEP § 2106.05(a).

We also agree with the Examiner that claim 1 does not pertain to an improvement to the functioning of the "computer system." *See* MPEP § 2106.05(a). We note that Figure 14 of Appellant's application depicts a "generalized computer system" for extrapolating wavefields. The Specification describes, "[t]he internal components of many small, mid-sized, and large computer systems as well as specialized processor-based storage systems can be described with respect to this generalized architecture." *See* Spec. ¶ 56. This paragraph describes central processing units ("CPUs") 1402–1405, but does not indicate that the CPUs need to be more than generic devices. *Id.* This paragraph also describes, "[c]omputer-readable medium 1428 is a data-storage device, including electronic memory, optical or magnetic disk drive, USB drive, flash memory and other such data-storage device." *Id.* Accordingly, the Specification indicates that the data-storage devices can be generic devices. Absent evidence to the contrary, we determine that claim 1 merely uses a computer system that

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includes generic components as a tool to perform the abstract idea. *See* MPEP § 2106.05(f).

Because we conclude that the additional element in claim 1 fails to integrate the judicial exception into a practical application, we proceed to Step 2B to determine whether the claim recites an "inventive concept."

Step 2B – Inventive Concept

As noted, for Step 2B of the analysis, we determine whether the claim adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field. *See* Memorandum.

The Examiner concludes that claim 1 does not include additional elements that are sufficient to amount to significantly more than the abstract idea itself, and thus, the additional elements do not transform the abstract idea into a patent eligible application of the abstract idea. Final Act. 2.

Appellant contends:

> By contrast, the methods of claims 1–25 describes computational operations of extrapolating a wavefield that were actually derived by the inventor. The inventor did not take computational operations or mathematical formulas that were already in existence and implement these operations on a computer. Claims 1–25 are not an attempt to tie up an already existing building block of human ingenuity.

Appeal Br. 8. Appellant contends that the calculating and extrapolating limitations in claim 1 contain inventive concepts. *Id.* at 9–10. Appellant acknowledges that "the general concept of calculating a slowness vector is known" and also "agrees that the general concept of extrapolation is known," but Appellant contends that the Examiner has not provided

evidence to show that calculating a slowness vector or extrapolation based on the slowness vector, as recited in claim 1, is well known. *Id.* at 14.

Appellant's contentions do not address the pertinent issue; namely, whether the additional element recited in claim 1 (i.e., the claim element in addition to the claim elements that recite an abstract idea) is sufficient to amount to significantly more than the abstract idea itself. This issue is explained by the Federal Circuit, as follows:

> *It has been clear since Alice that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention "significantly more" than that ineligible concept.* In *Alice*, the Supreme Court held that claims directed to a computer-implemented scheme for mitigating settlement risks claimed a patent-ineligible abstract idea. 134 S.Ct. at 2352, 2355–56. Some of the claims at issue covered computer systems configured to mitigate risks through various financial transactions. *Id.* After determining that those claims were directed to the abstract idea of intermediated settlement, the Court considered whether the recitation of a generic computer added "significantly more" to the claims. *Id.* at 2357. *Critically, the Court did not consider whether it was well-understood, routine, and conventional to execute the claimed intermediated settlement method on a generic computer. Instead, the Court only assessed whether the claim limitations other than the invention's use of the ineligible concept to which it was directed were well-understood, routine and conventional.* *Id.* at 2359–60.

BSG Tech LLC v. Buyseasons, Inc., 899 F.3d 1281, 1290 (2018) (emphases added).

Apart from the limitations that recite an abstract idea, the only additional element in claim 1 is the receiving limitation, which merely recites insignificant extra-solution activity to the judicial exception. Also, the method recited in claim 1 merely uses a computer system including

generic components as a tool to perform the abstract idea. The application of the abstract idea using generic computer components does not transform the claim into a patent-eligible application of the abstract idea. *Id.*

Accordingly, Appellant does not apprise us of error in the Examiner's conclusion that claim 1 fails to recite an inventive concept that transforms the claim into a patent-eligible application of the abstract idea. Thus, we sustain the rejection of claim 1 as not being directed to patent eligible subject matter under 35 U.S.C. § 101. Claims 2–25 fall with claim 1.

Obviousness over Söllner '937 and Söllner '174

(Claims 1–7, 9–15, and 17–24)

The Examiner finds that Söllner '937 discloses all limitations of claims 1, 9, and 19, except for the "extrapolating" limitation. Final Act. 3–4 (citing Söllner '937 ¶¶ 7, 18, 27, 32–33, 45, 70–71, 105). The Examiner relies on Söllner '174 as teaching the "extrapolating" limitation. *Id.* at 4 (citing Söllner '174 ¶¶ 48–57). For claims 1 and 9, the Examiner concludes that it would have been obvious to modify the method of Söllner '937 "with the step of formulating an extrapolator based on the components of the slowness vector once its components are known for the purpose of generating an up-going or down-[going] wavefield to more reliably construct the source wave." *Id.* For claim 19, the Examiner concludes that this modification would have been obvious "for the purpose of avoiding spatial aliasing disruptions in the extrapolated wavefield to more reliably reconstruct the source wave." *Id.* at 5.

Appellant contends that Söllner '174 fails to disclose the "extrapolating" limitation recited in claims 1, 9, and 19. Appeal Br. 16.

Paragraph 48 of Söllner '174 relied on by the Examiner discloses an expression for the amplitude scaling function in Equation (5), and explains that the amplitude scaling function marked with a "double tilde" in this equation designates transformation into *the plane-wave domain*. Söllner '174 ¶ 48. Equation (6) gives a relationship between "vertical slowness" and "the horizontal slownesses in two orthogonal horizontal directions." *Id.* Appellant contends that paragraphs 48–51 of Söllner '174 fail to teach or suggest extrapolating an up-going or down-going wavefield. Appeal Br. 18. We agree with Appellant that these paragraphs do not describe extrapolating.

Appellant also contends that, in Söllner '174, the scale factor in the numerator of Equations (9) and (10) (*see* Söllner '174 ¶ 51) corresponds to the same scale factor given in Equation (3) (*see id.* ¶ 47), which scale factor does *not* depend on the slowness vector. Appeal Br. 18. Appellant contends that in regard to Equations (9) and (10), Söllner '174 provides no teaching or suggestion of extrapolating the up-going and down-going pressure wavefields, much less of using an extrapolator that depends on components of the slowness vector. *Id.*

Appellant acknowledges that Söllner '174 *teaches* "extrapolation; namely, "extrapolating hydrophone and geophone wavefields with additive noise components." Appeal Br. 18 (citing Söllner '174 ¶¶ 55–59). Appellant contends that paragraphs 56 and 57 of Söllner '174 describe extrapolating up-going and down-going pressure wavefields, as expressed in Equations (16)–(19). *Id.* at 19. Appellant contends that the extrapolation operators in these equations depend on the vertical wavenumber k_z. *Id.* Appellant also acknowledges that Söllner '174 discloses slowness vector components in paragraph 48 (*see* Eq. (6)), but contends that Söllner '174

does not describe how these components are used, much less describe performing extrapolation in which the extrapolation operators depend on slowness vectors. *Id.*

The Examiner responds that Söllner '174 teaches that the slowness vector is a component of the amplitude scaling function (Ans. 13 (citing Söllner '174 ¶ 48, Eq. 5, 6)), and "[t]he amplitude scaling function used [sic] in extrapolation step" (*id.* (citing Söllner '174 ¶¶ 56–58)). The Examiner submits that any of Equations (16)–(21) in paragraphs 56–58 can be considered an "extrapolator," and "[e]ach [equation] contains an expression for amplitude scaling factor (w)." *Id.* The Examiner states, "[t]he amplitude scaling factor is a function of [the] slowness vector. Therefore extrapolating one of the up-going and down-going wavefields using an extrapolator that depends on the components of the slowness vector, as claimed in claim 1, is taught by [Söllner '174]."

In reply, Appellant acknowledges that Equations (5) and (6) in Söllner '174 teach an amplitude scaling function expressed in terms of slowness vector components. Reply Br. 6. However, Appellant contends that the amplitude scaling factor of equations (5) and (6) is different from, and has a different symbol than, the amplitude scaling factor given in Equations (3) and (4). *Id.* Particularly, the amplitude scaling factor of Equations (5) and (6) has a double tilde, whereas the amplitude scaling factor in Equations (3) and (4) has a single tilde (i.e., $\tilde{w}$). *Id.* Appellant submits that the amplitude scaling function of Equations (5) and (6) has a different symbol to distinguish it from the amplitude scaling factor that depends on the wavenumbers given in Equations (3). *Id.* Also, Appellant contends, Equations (16)–(21) all depend on the amplitude scaling factor given in

Equations (3) and (4), which does not depend on the slowness vector components, rather than on the amplitude scaling factor given in Equations (5) and (6) expressed in terms of slowness vector components. *Id.*

Appellant's contentions are persuasive. Söllner '174 describes that the amplitude scaling function given in Equations (3) and (4) is in the "frequency-wavenumber domain," whereas Söllner '174 describes that the amplitude scaling function in Equation (5) is in the "plane-wave domain." *See* Söllner '174 ¶¶ 47–48. In view of this difference, the Examiner has not established by a preponderance of the evidence that Söllner '174 teaches the extrapolating limitation recited in claims 1, 9, and 19, which requires "using an extrapolator that depends on the components of the slowness vector." As the underlying factual basis for the rejection stated by the Examiner is not supported by sufficient evidence, the Examiner has not established an adequate reason with rational underpinnings to modify Söllner '937 in view of Söllner '174 to result in the subject matter recited in these claims. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) (holding that "[t]he legal conclusion of obviousness must be supported by facts. Where the legal conclusion is not supported by facts it cannot stand."). Therefore, we do not sustain the rejection of claims 1, 9, and 19, and of claims 2–7, 10–15, 17, 18, and 20–24 depending therefrom, as unpatentable over Söllner '937 and Söllner '174.

*Obviousness over Söllner '937, Söllner '174, and Klüver
(Claims 8, 16, and 25)*

The Examiners' reliance on Klüver in rejecting dependent claims 8, 16, and 25 fails to cure the deficiencies in the rejection of parent claim 1, 9,

or 19. Final Act. 9. Accordingly, we do not sustain the rejection of claims 8, 16, and 25 as unpatentable over Söllner '937, Söllner '174, and Klüver for the same reasons as for claims 1, 9, and 19.

DECISION

The rejection of claims 1–25 under 35 U.S.C. § 101 as directed to patent ineligible subject matter is AFFIRMED.

The rejection of claims 1–7, 9–15, and 17–24 under 35 U.S.C. § 103(a) as unpatentable over Söllner '937 and Söllner '174 is REVERSED.

The rejection of claims 8, 16, and 25 under 35 U.S.C. § 103(a) as unpatentable over Söllner '937, Söllner '174, and Klüver is REVERSED.

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

AFFIRMED