

Knobbe Martens

Knobbe Practice Webinar Series:
Strategic Considerations for
Electrical/Telecommunication Claim
Drafting

October 22, 2021

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Part I – Understanding Claims in U.S. Patent Applications (特許出願におけるクレームとは?)

Claiming Basics – U.S. Patent Applications

- Claim structure
 - Each claim is a single sentence (すべてのクレームは一文で完結する)
 - Start with a capital letter
 - End with a period
 - Numbered consecutively in ascending order; original numbering preserved throughout prosecution (出願時のクレーム番号は審査の間、維持される)
 - Best Practice: Claim terms/phrases must find clear support in the written description (クレームの用語は明細書中で明確にサポートされていなければいけない)
- Independent claims versus dependent claims
 - Independent claim is standalone claim (独立クレームはスタンドアローン)
 - Dependent claim refers to another earlier claim and further limits that claim
 - Basic US Filing Fee: 3 independent claims/20 total (3独立クレーム、クレーム数20まで、追加手数料はかからない)
 - \$480 per additional independent claim(480ドルの追加手数料)
 - \$100 per additional claim(100ドルの追加手数料)

Claim Structure

- Preamble (前文)
 - Provides context for the claimed invention
 - May or may not limit the claim (限定する場合、限定しない場合がある)
 - “An integrated circuit” instead of “an integrated circuit for processing short range wireless signals”
- Transitional phrase (移行部分)
 - Determines if the claim is “open” (comprising), “closed” (consisting of), or “partially open” (consisting essentially of) (含む、～からなる、本質的に～からなる、で違いがある)
 - “Comprising” is most common in most arts (最もよく使われる)
 - “Consisting essentially of” means those recited elements/steps and those that don’t materially affect the basic characteristics of the claimed invention (クレームの基本的性質に実質的に影響を与えない範囲)
 - “Consisting of” means only those recited elements/steps (限定される)
 - “A circuit comprising” v “A circuit consisting of”

Claim Structure

- Claim Body (本文)
 - Recites the limitations necessary to define the invention (必要な定義のみをクレームに記載する)
 - Antecedent basis (先行詞)
 - First instance is “a” or “an” and subsequent instances are “the” or “said”
 - Be consistent
 - Introduce all of the components and characterizations of the components that are necessary for the invention to work and to be different that what is in the prior art (発明を特定するために必要な事項を全て記載し先行技術との違いを規定する)
 - Independent claims can include different combination of components or different characterizations of the components
- Dependent claim transitions: (従属クレーム)
 - “Further comprising” when adding a component (追加の成分を追加する場合)
 - “Wherein” when further describing previously introduced component
 - Best Practice: No multiple dependent claims. \$860 fee for large entity. No multiple dependent claim depending on another multiple dependent claim is allowed (手数料が増加、マルチのマルチ従属は認められない)

Part II – Selecting Subject Matter and Claim Strategy in U.S. Patent Applications (米国特許出願における権利化対象の選択とクレーム戦略)

Types Of Claim Subject Matter for Electrical and Telecommunication Inventions

- Identifying patentable subject matter (用語の選択)
 - What makes invention better, cheaper, faster, more attractive to ultimate consumer (どんな用語が発明をより良くするのか)
 - What distinguishes the product or service from competitors (どんな用語がその製品やサービスを競合品と区別するのか)
- Product
 - Circuit
 - Transmitter/Receiver
 - Server
 - User terminal
 - System/device/apparatus
- Method or Process to perform function/obtain result
 - Making
 - Using/operating
- Non-transitory computer readable medium

Example Claims for Review (参照クレームの例)

Examples – Method Claims

- Preamble Examples:
 - A method comprising:
 - A method of operating a power amplifier circuit comprising:
 - A method of operating a power amplifier circuit for managing power consumption comprising:
 - In a wireless power receiver apparatus including a wireless interface, a matching circuit, and a switching element, a method of operating the wireless power receiver apparatus comprising:
- Claim Example:
 - A method of operating a wireless power receiver apparatus comprising:
 - wirelessly receiving, via an antenna circuit, power at a level sufficient to power or charge a load comprising a rectifier, wherein the load is electrically connected to an overvoltage protection circuit;
 - providing a matching circuit including at least two components and electrically connected to the antenna circuit and a switching element;
 - electrically connecting the switching element between the at least two components of the matching circuit; and
 - reducing, via the matching circuit, an amount of the received power flowing into the overvoltage protection circuit in response to an overvoltage condition and providing the reduced amount of the received power to the switching element.

Examples – Computer Readable Medium Claim

- Preamble Examples:
 - A non-transitory computer readable medium comprising:
 - A non-transitory computer readable medium storing instructions configured to perform a method of operating a wireless power receiver apparatus, the method comprising:
 - One or more processor-readable storage devices having processor-readable code embodied on the processor-readable storage devices, the processor-readable code for programming one or more processors to perform a method of operating a wireless power receiver apparatus, the method comprising:
- Claim Example:
 - One or more processor-readable storage devices having processor-readable code embodied on the processor-readable storage devices, the processor-readable code for programming one or more processors to perform a method of operating a wireless power receiver apparatus, the method comprising:
 - wirelessly receiving, via an antenna circuit, power at a level sufficient to power or charge a load comprising a rectifier, wherein the load is electrically connected to an overvoltage protection circuit;
 - providing a matching circuit including at least two components and electrically connected to the antenna circuit and a switching element;
 - electrically connecting the switching element between the at least two components of the matching circuit; and
 - reducing, via the matching circuit, an amount of the received power flowing into the overvoltage protection circuit in response to an overvoltage condition and providing the reduced amount of the received power to the switching element.

Examples – Apparatus Claims

- Preamble Examples:
 - An apparatus comprising:
 - An apparatus for utilization in wireless communications comprising:
 - A wireless terminal configured to operate in a wireless communication network comprising:
 - A user equipment terminal having a transceiver and processor configured to operate in a wireless communication network with a plurality of wireless communication networks comprising:
- Claim Examples:
 - A wireless terminal configured to operate in a wireless communication network, the wireless terminal comprising:
 - a transceiver configured to facilitate communications with a base station of the wireless communication network and a plurality of additional wireless terminals; and
 - a processor coupled to the transceiver, wherein the processor is configured to:
 - receive first information through the transceiver from the first base station wherein the first information corresponds to first data from the first base station;
 - receive second information through the transceiver from the first base station, wherein the second information corresponds to second data directed to an identified additional wireless terminal communicating with the wireless communication network; and
 - transmit the second data through the transceiver to the plurality of additional wireless terminals, wherein the second data is transmitted in accordance with a low priority designation.

Claim Drafting – Terms and Phrases with Special Meaning/Purpose

- Counting/Numbers
 - “Plurality” – Two or more: “A plurality of fasteners” (複数個の場合)
 - “At least one” - Open ended count with a minimum of one: “At least one processor configured with” (少なくとも...)
- Associations
 - “Each” - Places a limitation on every member of a group: “wherein each control unit is configured with local ...” (全ての部材について言及する場合)
 - “Individual” - Places a limitation on some member of a group: “wherein individual control units are configured with local” (ある個々の部材について言及する場合)
- Combinations or Alternatives
 - “And” - Standard meaning as a conjunctive: “wherein the widget has a first part **and** a second part” (複数の組み合わせ)
 - “At least one of ... and” - Interpreted as a disjunctive: “at least one of a maximum threshold and a minimum threshold” (See specification) (少なくとも...)

Claim Drafting Strategy – Method Limitations and Negative Limitations

- Method Limitations in Apparatus Claims
 - Do not include method limitations in apparatus claims (方法による限定を装置クレームに用いないようにする)
 - Manner of operating the device does not differentiate apparatus claim from the prior art. (先行技術との差別化に用いられない) mpep 2114.11
 - Can render the apparatus claims of an issued patent invalid since the claims are indefinite under 112(b). (明確性欠如による無効の可能性有り) MPEP 2173.05(p)
 - Use “configured to” language to convert a method limitation into an apparatus limitation(方法による限定よりも「設定されている」という表現を使う)
 - The secondary battery of claim 1, wherein the controller generates is configured to generate the compensation data

Claim Drafting Strategy – Method Limitations and Negative Limitations

- Negative Limitations (否定的限定)
 - A negative limitation is definite, as long as the boundaries of the patent protection sought are set forth definitely, albeit negatively. (特許保護対象の境界が明確なら否定的限定も可能) MPEP 2173.05(i)
 - If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims. (代替要素が積極的に列挙されている場合にはクレームから除外される可能性有り) Id.
 - The drawings may provide a support for a negative limitation (図面が活用され得る)
 - Consider providing a textual support for a negative limitation in the original disclosure (出願時に文章での開示をすることが有効)

Claim Drafting – Terms and Phrases with Special Meaning/Purpose

- Potential Problem Terms（問題となる可能性のある用語）
 - Relative terminology - “relatively large”, “similar”, “about“, etc.（定義が曖昧な用語：比較的、おおよそ、など）
 - Fails to provide standard for measuring degree
 - Exemplary terminology - “such as” and “for example”（～のような、例えば、など）
 - Unclear language
 - Be careful of “tech terms“ – “cloud”, “Internet”, etc.（テック関連の用語については注意）
 - Claims may be specific to a company and may not be well understood in industry

Top Tips – Avoid Divided Infringement

- Where multiple entities are involved, draft claims that will directly infringed by a single entity (複数人が関係するクレームの場合、1人で侵害行為を完結できるクレームにする)
 - Method claims: all steps performed by one entity (方法クレームの場合)
 - System claims: all elements operated by single entity (システムクレームの場合)
 - Resist temptation to describe a complete system or process (誘惑に耐える)

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Avoiding Divided Infringement – Method Claims

- A method of authenticating a user installed program comprising
 - sending, at a user terminal comprising a user installed program, a request for an authentication code to a server;
 - receiving, at the server, a request for the authentication code from the user terminal;
 - downloading, at the server, the authentication code to the user terminal;
 - receiving, at the user terminal, the authentication code from the server; and
 - executing, at the user terminal, the authentication code to verify the user installed program

Avoiding Divided Infringement – Method Claims

- A method of authenticating a user installed program comprising
 - sending, at a user terminal comprising a user installed program, a request for an authentication code to a server;
 - receiving, at the server, a request for the authentication code from the user terminal;
 - downloading, at the server, the authentication code to the user terminal;
 - receiving, at the user terminal, the authentication code from the server; and
 - executing, at the user terminal, the authentication code to verify the user installed program.

Claim Drafting Strategy – Avoid Divided Infringement

- Single entity claim (user terminal)
 - A method of authenticating a user installed program comprising
 - sending a request for an authentication code configured to verify a user installed program to a server;
 - downloading the authentication code from the server; and
 - executing the authentication code to verify the user installed program.
- Single entity claim (server)
 - A method of authenticating a user installed program comprising
 - receiving a request for an authentication code configured to verify a user installed program from a user terminal;
 - downloading the authentication code to the user terminal; and
 - causing the user terminal to execute the authentication code to verify the user installed program.

Top Tips – Teaching Claim

- A “teaching claim” is an independent claim that is typically more narrow in scope than the other independent claims
- Often provided as Claim 1 to provide an Examiner with a clear understanding of the full scope of the invention. (審査官が発明の全体像を理解できるようにクレーム1は明確に)
- Strategy for “teaching claim”
 - Options – one or more of:
 - Limit to specific environment (詳細な環境に限定する)
 - Limit to an important embodiment (重要な具体的事項に限定する)
 - Use more concrete terms (より具体的な用語を使う)
- May be helpful for Section 101 (101拒絶の回避の手助け)

Claim Drafting Strategy – Teaching Claim v. Non-teaching Claim

Teaching Claim

A multi-function/multi-purpose portable electronic device, comprising:

- a display monitor including a display screen configured to display an image and a rear surface opposite to the display screen;
- a scanner disposed below the display monitor, the scanner including a body extending to intersect the display monitor and one or more light pipes disposed on a side of the body and configured to emit light;
- a base disposed below the scanner, the base including a planar portion and an inclined portion, the display monitor and the body of the scanner at least partially vertically overlapping the planar portion of the base;
- a speaker disposed in the inclined portion of the base and configured to output an audio sound;
- a scanner support extending from the planar portion of the base toward the scanner to support the scanner;
- a curved connector extending from the scanner support and connected to the rear surface of the display monitor, at least a portion of the curved connector disposed directly above the speaker and the inclined portion of the base;
- a controller configured to control operations of at least one of the display monitor, the speaker or the scanner, and
- the one or more light pipes configured to emit light based on the audio sound output from the speaker.

Non-Teaching Claim (rejected and cancelled)

A multi-function/multi-purpose portable electronic device, comprising:

- a display monitor configured to display an image;
- a scanner disposed below the display monitor and extending to intersect the display monitor, the scanner not directly contacting the display monitor;
- a base configured to support the scanner, the base including a first portion having a first thickness and a second portion having a second thickness greater than the first thickness, the display monitor and the scanner at least partially vertically overlapping the first portion of the base
- a speaker at least a portion of which is disposed only in the second portion of the base; and
- a connector physically interconnecting the base and the display monitor to support the display monitor, at least a portion of the connector vertically overlapping the second portion of the base.

Part III – Means + Function (ミーンズプラスファンクション)

Invoking Interpretation Under Section 112(f)

- Definition (35 U.S.C. §112(f))
 - An element . . . may be expressed as a means . . . for performing a specified function (要素を機能的に表現することは可能)
- Downsides of MPF claim (MPFクレームが不利になる点)
 - Limits the scope to only those structures disclosed in the specification (and equivalents thereof!) (明細書に開示された構造とその均等物に限定される)
 - If no corresponding structures are provided, the claim will be rejected under 112(b) (during prosecution) or invalid (if issued) (対応する構造が開示されていない場合には拒絶されるか無効となる)
- Upsides of MPF Claim (MPFクレームが有利になる点)
 - Provide a scope of protection and more flexible infringement analysis (侵害分析に柔軟な保護範囲を提供)
 - Since an MPF claim is narrowly interpreted in the U.S., it can cover the intended product and survive an invalidity challenge (目的とする製品への狭小解釈可能で無効主張にも耐えやすい)

Invoking Interpretation Under Section 112(f)

- Invoking interpretation under Section 112(f) (See MPEP § 2181(I)): (112(f)だと解釈される場合)
 - The claim limitation uses the term “means” or a term used as a substitute for “means” that is a generic placeholder; (“means”またはそれと同様の用語を使った場合) AND
 - The term “means” or the generic placeholder is modified by functional language, typically, but not always linked by the transition word “for” (e.g., “means for”) or another linking word or phrase, such as “configured to” or “so that.”; (“for”やそれと同様の用語を接続として使った場合) AND
 - The term “means” or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function. (“means”またはそれと同様の用語が、その構造などによって十分に変化されていない場合)
- Common substitute terms: “mechanism for,” “module for,” “device for,” “unit for,” “component for,” “element for,” “member for,” “apparatus for,” “machine for,” or “system for.” (112(f)だと解釈される例)
- There is no fixed list of terms that avoid invocation of Section 112(f) (どのような用語が112(f)だと解釈されるかのリストはない)

Example Claim – Avoiding Interpretation as Means Plus Function

1. A battery system, comprising:
 - a ~~plurality of~~ battery trays ~~that comprises each comprising one or more at least one~~ battery cells;
 - a ~~plurality of~~ slave ~~battery management systems (BMSs)~~ ~~for controlling~~ ~~configured to respectively control~~ the battery trays; and
 - a master BMS ~~for controlling a plurality of~~ ~~configured to control~~ the slave BMSs, wherein ~~each of~~ the slave BMSs comprises:
 - a ~~switching unit switch for generating~~ ~~configured to generate~~ a pulse signal ~~according to~~ ~~based at least in part on~~ an input;
 - a display ~~unit for displaying a state~~ ~~configured to display~~ a status of the ~~corresponding~~ battery tray; and
 - a ~~control unit controller for determining~~ ~~configured to:~~ i) ~~determine~~ an operation mode ~~of the slave BMS based at least in part on~~ ~~according to~~ a pulse width of the pulse signal, ~~setting~~ ii) ~~assign~~ an identifier (ID) of the slave BMS ~~according to~~ ~~a based at least in part on~~ ~~the number of generation of generated of the~~ pulse signals, and ~~displaying~~ iii) ~~control~~ the display to display the ID of the slave BMS, ~~on~~ ~~the display unit.~~

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