



Utility Patents: Subject Matter

Industry & Invention
Patent

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For this slideshow, I have taken some text verbatim or nearly verbatim from USPTO materials, e.g., marked with a “via USPTO” notation.

Shout out to 17 U.S.C. § 105!

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Five requirements for a valid patent:

➔ Patentable subject matter

- Novelty
- Nonobviousness
- Utility
- Disclosure

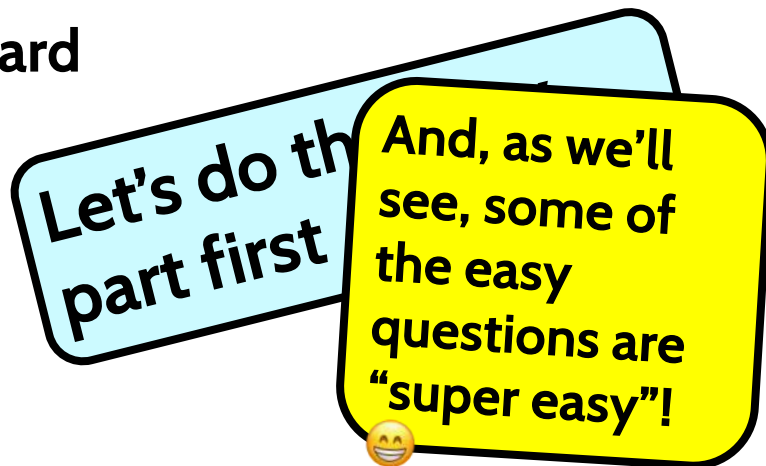
For patentable subject matter, questions are ...

- easy, or
- hard

Let's do the easy part first ... 😊

**For patentable subject matter,
questions are ...**

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35 U.S.C. § 101

§ 101 - Inventions Patentable:

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

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These are the four categories of invention. They define patentable subject matter.

The four statutory categories

Process: “an act, or series of acts or steps”

Machine: “a concrete thing, consisting of parts, or of certain devices and combination of devices”

Manufacture: “an article produced from raw or prepared materials by giving these materials new forms, qualities, properties, or combinations, whether by hand labor or by machinery”

Composition of Matter: “all compositions of two or more substances and all composite articles, whether they be the results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids”



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What's in and what's out as a “process” can often be a difficult problem ...



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But the “product” categories (machine, manufacture, composition of matter) are generally super easy and clear cases of patentable subject matter*!



The four statutory categories

Process: “an act, or series of acts or steps”

Machine: “a concrete thing, or certain parts thereof, or a combination of them, or a new use of a known machine, or a new article of manufacture, or a new composition of matter, or a new mixture, or whether they be solids”



*Unless they are being used as a drafting device to provide cover for excluded subject matter – like claiming a computing device that calculates a result according to an otherwise patent-ineligible process of simply applying a natural law.

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Problem: Show shoveling device

A **device** for shoveling snow, comprising:
a metal scoop having a sharp edge and a wooden handle extending therefrom for manipulation by a person using said device.

Is this patentable subject matter?

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A **device** for shoveling snow, comprising:
a metal scoop having a sharp edge and a wooden handle
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Is this patentable subject matter?

Yes. Although a “device” isn’t a word used in the
categories of patentable subject matter, that’s okay.
Looking at this claim, the device is a machine (a
concrete thing consisting of parts or devices), a
manufacture (an article produced from raw or
prepared materials), and a composition of matter (a
composition of substances or composite article).

Problem: Marketing paradigm

A **paradigm** for marketing software, comprising:
a marketing company that markets software from a plurality
of different independent and autonomous software
companies, and carries out and pays for operations
associated with marketing of software for all of said different
independent and autonomous software companies, in return
for a contingent share of a total income stream from
marketing of the software from all of said software
companies, while allowing all of said software companies to
retain their autonomy.

(In re Ferguson; claim 24)

Is this patentable subject matter?



Problem: Marketing paradigm

A **paradigm** for marketing software, comprising:
a marketing company, comprising:
of different independent companies, and
associated with independent companies,
for a contingent marketing of the companies, which
retain their autonomy

WAIT! Let's stop and ask this first: *Is this a "super easy" question of patentable subject matter?*

(*In re Ferguson*; claim 24)

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WAIT! Let's stop and ask this first: *Is this a "super easy" question of patentable subject matter?*

I'm going to say "no" it's not "super easy" in the sense that, since it's not a genuine "product" (machine, manufacture, composition of matter), we will at least have to stop and think about it.



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But don't worry — this is still
actually a fairly easy question.

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Review

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Problem: Marketing paradigm

A **paradigm** for marketing software ...

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A **paradigm** for marketing software ...

Is this patentable subject matter?

No. The “paradigm” is a business model for an intangible marketing company, not a process (series of steps), machine (a concrete thing consisting of parts or devices), manufacture (an article produced from raw or prepared materials), or composition of matter (a composition of substances or composite article).



The last three categories can be grouped together into “products.” So we essentially have two categories:

§
“V
products and processes

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useful **process, machine, manufacture, or composition of matter**, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

These are the four categories of invention. They define patentable subject matter — but not if it falls within a category of excluded subject matter ...

Excluded subject matter

Judicial “exceptions”:

- “Laws of nature, natural phenomena, and abstract ideas”

Diamond v. Diehr (1981)

Statutory exceptions, of which key examples are:


- tax strategies
- nuclear weapons inventions
- human organisms

Excluded subject matter

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- “Laws of nature, natural phenomena, and abstract ideas”

Diamond v. Diehr (1981)



The U.S. Supreme Court has called these “exceptions,” but you could also think of these as things that aren’t processes, machines, manufactures, or compositions of matter – and therefore are excluded subject matter.

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Excluded subject matter

Judicial “exceptions”:

These statutory exceptions are true exceptions – carveouts by statute. They apply to things that are clearly processes, machines, compositions of matter, and manufactures.

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- tax strategies
- nuclear weapons inventions
- human organisms

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**Let's do the hard
part now ...** 😞

Excluded subject matter — judicial

- We know these are excluded:
 - Laws of nature
 - Natural phenomena
 - Abstract ideas
- But many if not all inventions that are legitimately patentable subject matter make use of some or all of those things!
- So where do the off-limits judicial exceptions end and patentable inventions begin?
- In other words, how do we determine the scope of the judicial exceptions?

What is the scope of the judicial exceptions?

Mayo Collaborative v. Prometheus Labs
(U.S. 2012) created a two-part test:

- (1) Determine whether the claim is directed to a patent-ineligible concept. If not, it's patentable.
- (2) If yes, then ask whether the claim's elements, considered both individually and as an ordered combination, transform the nature of the claim into "significantly more" than the patent-ineligible subject matter.

Problem: Method for determining force required

A **method** for determining the force required to accelerate a mass of a given quantity at a desired rate of acceleration wherein a computer takes inputs for said desired rate of acceleration and said mass and produces a result for said force according to the formula $F=ma$, in which F is said force, m is said mass, and a is said desired rate of acceleration.

Is this patentable subject matter?

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Is this patentable subject matter?

No. Newton's Second Law expressed as $F=ma$ is a law of nature. Adding that a computer will calculate a result according to the formula does not work to transform this law of nature into patentable subject matter.

Problem: Method for determining heating capacity needed

How big of a heater do you need for your house? (I.e., how much heating capacity in BTUs per hour is needed?) HVAC professionals have a well-known rule of thumb: For a newer home in a warm climate, multiply the square footage by 30.

We claim: A **process** for determining the minimum installed heating capacity required for a newer home in a warm climate wherein a computer takes an input for said home's square footage, multiplies said input by 30, and displays the resulting number as said minimum installed heating capacity in BTUs.

Is this patentable subject matter?

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We claim: A **process** for determining the minimum installed heating capacity required for a newer home in a warm climate wherein a computer takes an input for said home's square footage, multiplies said input by 30, and displays the resulting number as said minimum installed heating capacity in BTUs.

Is this patentable subject matter?

No. The rule of thumb is a patent-ineligible concept of how much heating capacity to install. Adding that a computer will calculate a result according to the formula does not transform the rule of thumb into patentable subject matter.