Industry & Invention
Patent

Utility Patents: Subject Matter *(part 2 of 2)*

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Five requirements for a valid patent:

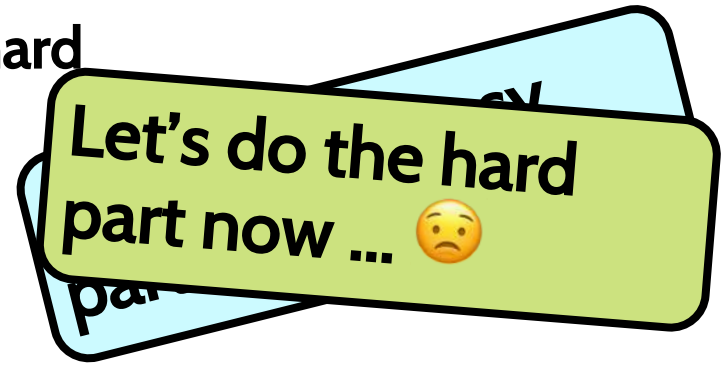
Review

- **Patentable subject matter**
- Novelty
- Nonobviousness
- Utility
- Disclosure

For patentable subject matter, questions are …

Review

- easy, or
- hard



Excluded subject matter — judicial

Review

- 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.

(2) If so, then ask whether the claim's elements, considered both individually and as an ordered combination, transform the nature of the claim into a patent-eligible application.

Let's do a fresh problem to practice what we've learned ...

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.

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.

Now on to some additional information about *Mayo* and *Alice* …

What is the scope of the judicial exceptions?

Review

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Mayo v. Prometheus Labs (U.S. 2012)

The patent claims at issue covered "processes that help doctors who use thiopurine drugs to treat patients with autoimmune diseases determine whether a given dosage level is too low or too high." Inventors found "the precise correlations between metabolite levels and likely harm or ineffectiveness," which the court characterized as "natural laws describing the relationships between the concentration in the blood of certain thiopurine metabolites and the likelihood that the drug dosage will be ineffective or induce harmful side-effects."

Mayo v. Prometheus Labs (U.S. 2012)

SCOTUS said: "[T]he steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field. … [U]pholding the patents would risk disproportionately tying up the use of the underlying natural laws, inhibiting their use in the making of further discoveries. If a law of nature is not patentable, then neither is a process reciting a law of nature, unless that process has additional features that provide practical assurance that the process is more than a drafting effort designed to monopolize the law of nature itself."

Alice Corp. v. CLS Bank (U.S. 2014)

"The claims at issue relate to a computerized scheme for mitigating "settlement risk"—i.e., the risk that only one party to an agreed-upon financial exchange will satisfy its obligation. In particular, the claims are designed to facilitate the exchange of financial obligations between two parties by using a computer system as a third-party intermediary. The intermediary creates "shadow" credit and debit records … The intermediary updates the shadow records in real time … At the end of the day, the intermediary instructs the relevant financial institutions to carry out the "permitted" transactions in accordance with the updated shadow records, thus mitigating the risk … "

Alice Corp. v. CLS Bank (U.S. 2014)

"In sum, the patents in suit claim (1) the foregoing method for exchanging obligations (the method claims), (2) a computer system configured to carry out the method for exchanging obligations (the system claims), and (3) a computer-readable medium containing program code for performing the method of exchanging obligations (the media claims). All of the claims are implemented using a computer; the system and media claims expressly recite a computer, and the parties have stipulated that the method claims require a computer as well."

Alice Corp. v. CLS Bank (U.S. 2014)

"We must first determine whether the claims at issue are directed to a patent-ineligible concept. We conclude that they are: These claims are drawn to the abstract idea of intermediated settlement. ...

Because the claims at issue are directed to the abstract idea of intermediated settlement, we turn to the second step ... We conclude that the method claims, which merely require generic computer implementation, fail to transform that abstract idea into a patent-eligible invention."

Alice Corp. v. CLS Bank (U.S. 2014)

"[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea "while adding the words 'apply it'" is not enough for patent eligibility. … [T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer. They do not."

Problem: Optimizing therapeutic efficiency

A method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising:

(a) administering a drug providing 6-thioguanine to a subject having said immune-mediated gastrointestinal disorder; and

(b) determining the level of 6-thioguanine in said subject having said immune-mediated gastrointestinal disorder,

wherein the level of 6-thioguanine less than about 230 pmol per 8×10^8 red blood cells indicates a need to increase the amount of said drug subsequently administered to said subject and

wherein the level of 6-thioguanine greater than about 400 pmol per 8×10^8 red blood cells indicates a need to decrease the amount of said drug subsequently administered to said subject.

(US6355623B2, claim 1)

Is this patentable subject matter?

Problem: Optimizing therapeutic efficiency

A method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising:

(a) administering a drug providing 6-thioguanine to a subject having said immune-mediated gastrointestinal disorder; and

(b) determining the level of 6-thioguanine in said subject having said immune-mediated gastrointestinal disorder,

wherein the level of 6-thioguanine less than about 230 pmol per 8×10^8 red blood cells indicates a need to increase the amount of said drug subsequently administered to said subject and

wherein the level of 6-thioguanine greater than about 400 pmol per 8×10^8 red blood cells indicates a need to decrease the amount of said drug subsequently administered to said subject.

(US6355623B2, claim 1)

Is this patentable subject matter?

No. This is the claim from the *Mayo* case that SCOTUS rejected.