Invention and Discovery: A Fable of History

Jeffrey A. Lefstin, Ph.D.

UC HASTINGS
COLLEGE OF THE LAW
EST. 1878

Mayo v. Prometheus (2012)

- A patent claim directed to a fundamental principle (laws of nature, natural phenomena, abstract idea) must contain a further "inventive concept" to qualify as patent-eligible subject matter under 35 U.S.C. § 101

- Known, routine, or conventional activity insufficient to transform a scientific discovery into a patent-eligible invention

Ariosa v. Sequenom (Fed. Cir. 2015)

- **Discovery**
  - Fraction of maternal bloodstream contains unexpectedly high levels of fetal DNA
- **Claimed Application**
  - Diagnose fetal genetic condition by amplifying fetal DNA from maternal blood sample
- **Held:**
  - Means to amplify DNA were conventional and well-known
  - Diagnostic method is therefore ineligible as a natural phenomenon under § 101

Bilski v. Kappos (2010)

The Court's precedents provide three specific exceptions to §101's broad patent-eligibility principles: "laws of nature, physical phenomena, and abstract ideas." While these exceptions are not required by the statutory text, they are consistent with the notion that a patentable process must be "new and useful."

And, in any case, these exceptions have defined the reach of the statute as a matter of statutory stare decisis going back 150 years.

1952 Patent Act, Section 101

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.

1952 Patent Act, Section 101

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.

Discoveries: The Plant Patent Act of 1930

Present patent laws apply to—

any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof * * *.

It will be noted that the laws apply both to the acts of inventing and discovery and this alternative application has been true of the patent laws from their beginning. See, for instance, the patent act of 1790 (1 Stat. 109). The amendment proposed by the pending bill to care for plant patents likewise applies to "any person who has invented or discovered" the particular variety of plant.

H.R. REP. NO. 71-1129; S. REP. NO. 71-315 (Committees on Patents)

Discoveries: The Plant Patent Act of 1930

At the time of the adoption of the Constitution the term "inventor" was used in two senses. In the first place the inventor was a discoverer, one who finds or finds out. In the second place an inventor was one who created something new. All the dictionaries at the time of the framing of the Constitution recognized that "inventor" included the finder out or discoverer as well as the creator of something new.

The distinction between discovering or finding out on the one hand and creating or producing on the other hand, being recognized in the dictionaries current at the time of the framing of the Constitution, it is reasonable to suppose the framers of the Constitution attributed to the term "inventor" the then customary meaning. That they did not ignore the meaning of inventor as "a discoverer or finder out" is furthermore indicated by the fact that in the Constitution itself the framers referred to the productions of inventors as "discoveries."

H.R. REP. NO. 71-1129; S. REP. NO. 71-315 (Committees on Patents)

35 U.S.C. § 100 (1952 Patent Act)

(a) The term "invention" means invention or discovery.

(b) The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

P.J. Federico, *Commentary on the New Patent Act* (1954)

[D]iscussions of the patentability of new uses are usually concerned with the simple situation in which a discovery has been made that a known substance or thing has some hitherto unknown property, or can be used to obtain a particular result for which is had not been used before.

P.J. Federico, *Commentary on the New Patent Act* (1954)

It is believed that the primary significance of the definition of method above referred to is merely that a method claim is not vulnerable to attack, on the ground of not being within the field of patentable subject matter, *merely because it may recite steps conventional from a procedural standpoint* and the novelty resides in the recitation of a particular substance, which is old as such, used in the process.

Bilski v. Kappos (2010)

The Court's precedents provide three specific exceptions to §101's broad patent-eligibility principles: "laws of nature, physical phenomena, and abstract ideas." While these exceptions are not required by the statutory text, they are consistent with the notion that a patentable process must be "new and useful."

And, in any case, these exceptions have defined the reach of the statute as a matter of statutory stare decisis going back 150 years.

Mayo and the Hot-Blast Cases

This Court has previously discussed in detail an English case, *Neilson*, which involved a patent claim that posed a legal problem very similar to the problem now before us. . . .

The English court concluded that the claimed process did more than simply instruct users to use the principle that hot air promotes ignition better than cold air, since it explained how the principle could be implemented in an inventive way.

Mayo v. Prometheus, 132 S.Ct. 1289, 1300 (2012)

Mayo and *Neilson v. Harford* (Exch. 1841)

Thus, the claimed process included not only a law of nature but also several unconventional steps (such as inserting the receptacle externally, and blowing the air into the furnace) that confined the claims to a particular, useful application of the principle.

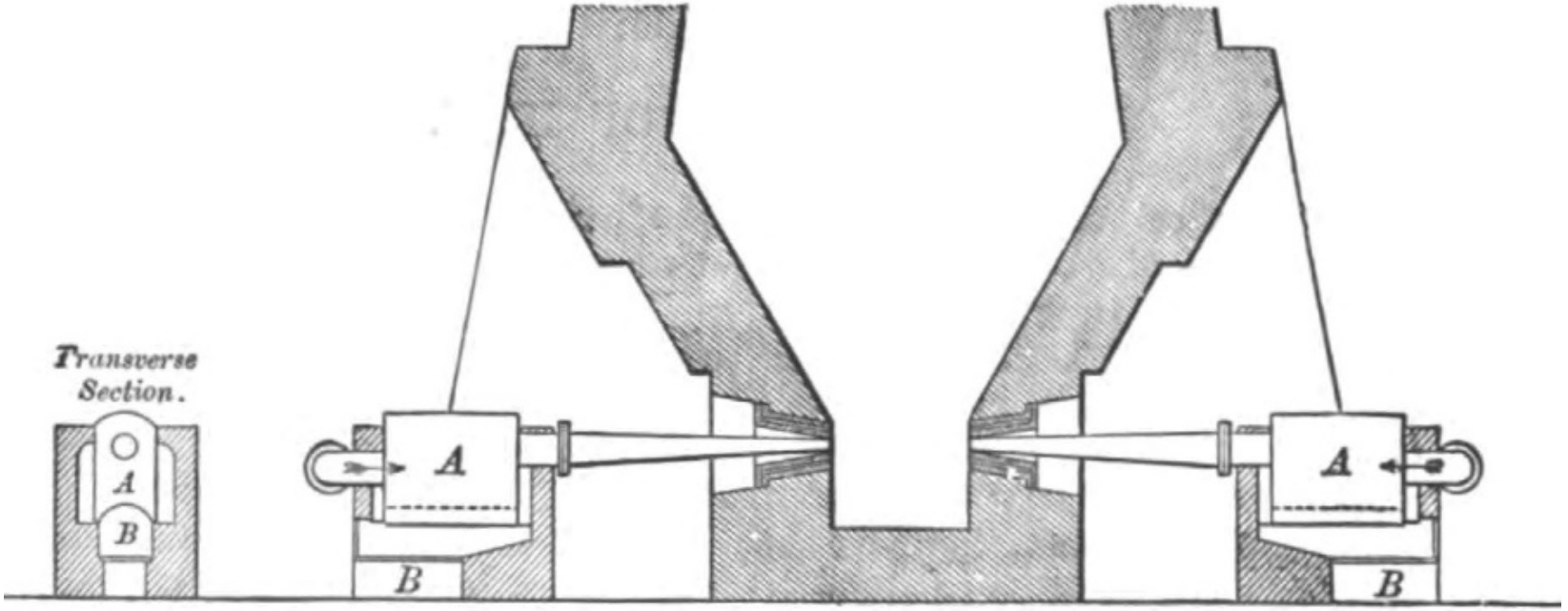

Fig. 5.—Neilson's original hot blast apparatus, 1829.

Mayo and *Neilson v. Harford* (Exch. 1841)

Thus, the claimed process included not only a law of nature but also several unconventional steps (such as inserting the receptacle externally, and blowing the air into the furnace) that confined the claims to a particular, useful application of the principle.

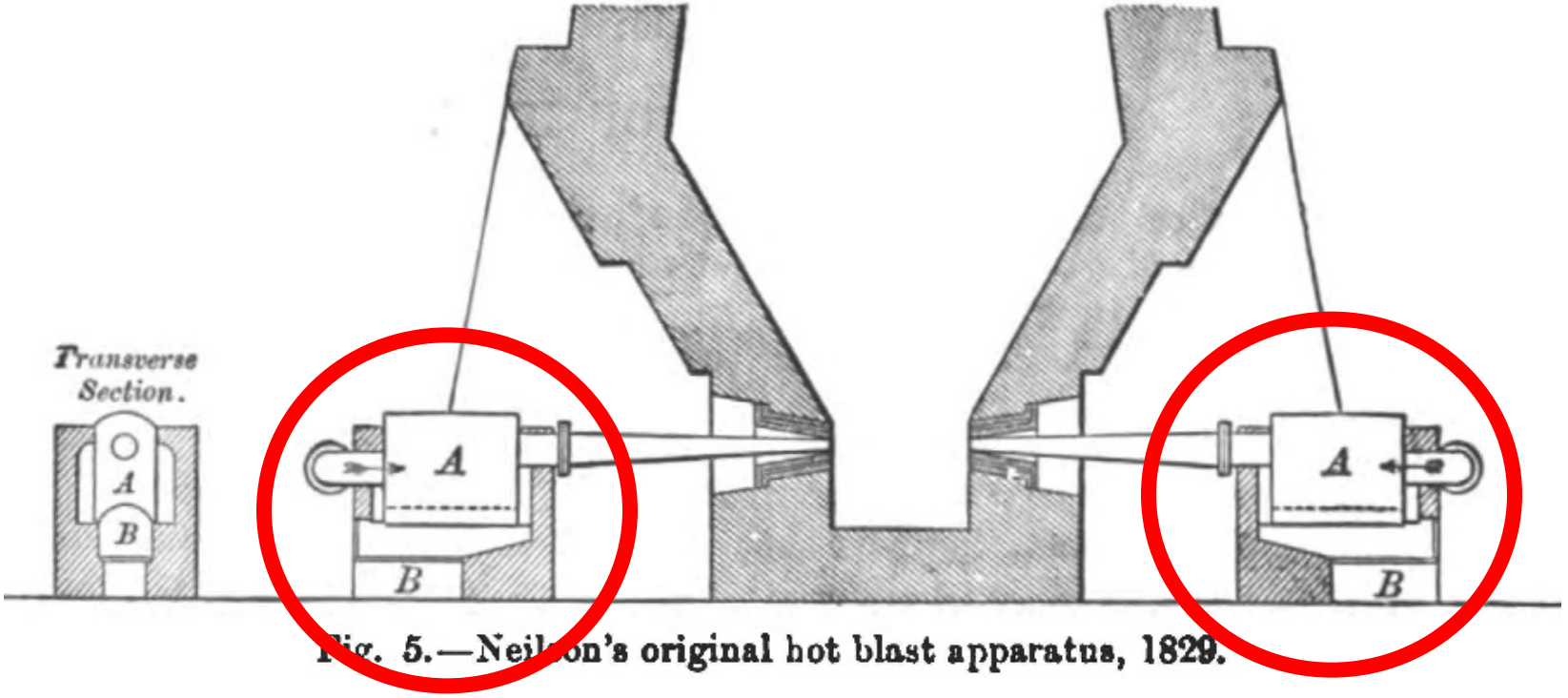

Fig. 5.—Neilson's original hot blast apparatus, 1829.

Mayo and *Neilson v. Harford* (Exch. 1841)

The English court concluded that the claimed process did more than simply instruct users to use the principle that hot air promotes ignition better than cold air, since it explained how the principle could be implemented in an inventive way.

Baron Alderson in *Neilson v. Harford*:

> ***The blowing apparatus was perfectly well known; the heating of air was perfectly well known; the twire was perfectly well known as applicable to blast furnaces; then what he really discovered is, that it would be better for you to apply air heated up to red heat, or nearly so, instead of cold air as you have hitherto done.***

Household v. Neilson (Court of Session 1843)

It is quite true that a patent cannot be taken out solely for an abstract philosophical principle—for instance, for any law of nature, or any property of matter, apart from any mode of turning it to account in the practical operations of manufacture, or the business, and arts, and utilities of life. The mere discovery of such a principle is not an invention, in the patent law sense of the word. . . .

But a patent will be good, though the subject of a patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.

Lessons from History

- Supreme Court's current patent-eligibility regime contradicts statutory text, Congressional intent, and long-standing precedent

- Patent protection for discovery-based inventions has been radically curtailed compared to historical standards