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The Patentability Standard in the United States: Part 1

In general, patents protect the solutions that you develop to solve everyday problems in the industry and new contributions that you make to the industry. These contributions can include, for example, a new chemical or material composition or formulation; a new machine or machine component; a new device or product; or a new method for making, processing, or doing business. Occasionally, the contribution to the industry may be considered groundbreaking, referred to as a pioneering invention, where nothing like it has been done before. Typically, however, the contribution is an improvement upon existing technology.

To obtain a patent, an application must be filed in the United States Patent and Trademark Office (USPTO), an agency of the Department of Commerce. An application for a patent must include a written description of the invention concluding with one or more numbered claims, particularly pointing out and distinctly claiming the subject matter regarded as the invention. Drawings must also be included where necessary for the understanding of the claimed subject matter (see below).

The numbered claims of the application legally define the invention that you wish to protect, and it is the numbered claims that are examined by the USPTO for meeting the criteria for patentability. The examined claims that are deemed patentable are then published in a granted U.S. Patent, and thereafter define the exclusionary rights of the patentee; i.e., the patentee has the right to exclude others from making, using, offering for sale, selling, or importing the claimed invention.

What is claimed is:

1. A system for stripping a metal oxide scale from a metal surface, the system comprising:

a metal product having an oxide scale layer on a surface of the metal product, the metal product having a first natural E°;

a separate counter electrode having a second natural E° greater than the first E°;

a holder for the metal product having a third natural E° greater than the first E°, the holder formed to suspend the metal product and to provide a current path therebetween;

an electrical conductor electrically connecting the counter electrode to the holder whereby to provide a dc current path therebetween without imposition of an external positive voltage from the counter electrode to the metal; and

an electrolyte in association with the metal product and counter electrode to thereby strip the oxide scale layer from the surface of the metal product.

2. The system of claim 1, wherein the metal product comprises a bundle of individual steel products, each steel product having the oxide scale layer thereon, and each steel product having the first natural E°.

Patentability Critera

There are three basic criteria for patentability of a claimed invention:

- The invention must be useful.
- The invention must be new.
- The invention must be nonobvious.

In applying the criteria, the meaning of the claims must be interpreted, and the description of the invention and the drawings may be used to aid in that interpretation.

An invention must be considered *useful* to be patentable; i.e., it must serve a useful purpose and may not be frivolous or immoral. What constitutes frivolous or immoral subject matter, however, is quite loosely interpreted, as evidenced by the patents shown on the next page.

Perpetual motion devices, for example, are not considered to be useful. Further, to be considered useful, the invention must be directed to *patentable subject matter*. Patentable subject matter, as defined in Section 101 of Title 35 of the United States Code (35 U.S.C.) includes "any new and useful process, machine, manufacture, or composition of matter." Processes may include methods for manufacturing, methods for treating, methods for using, business

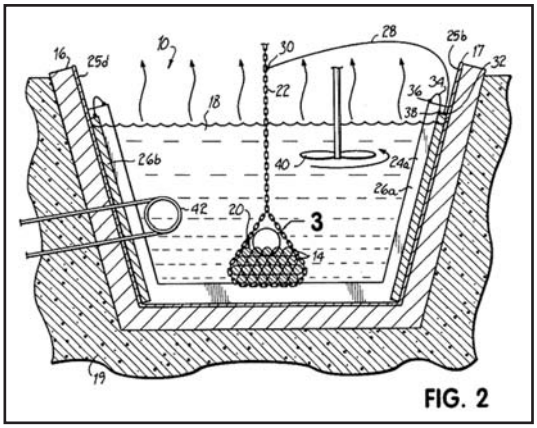
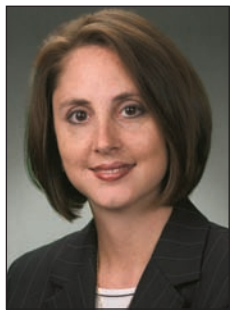


FIG. 2



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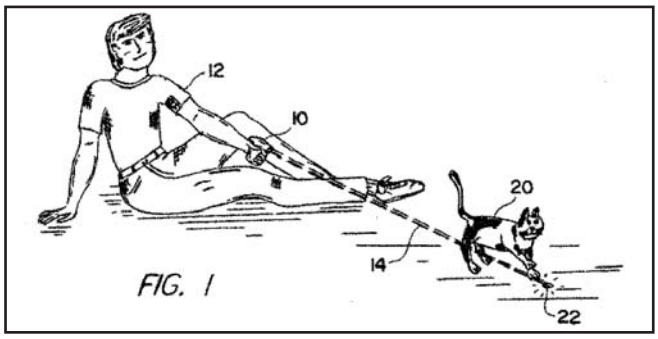
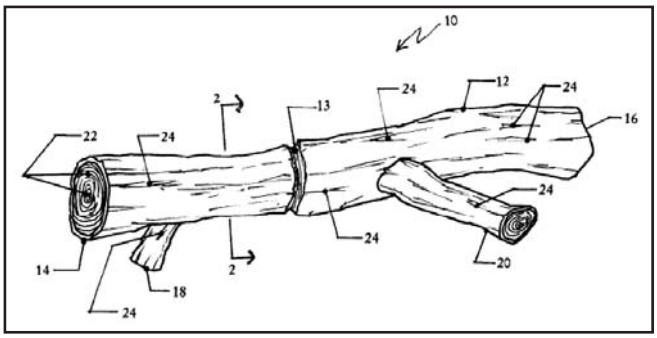
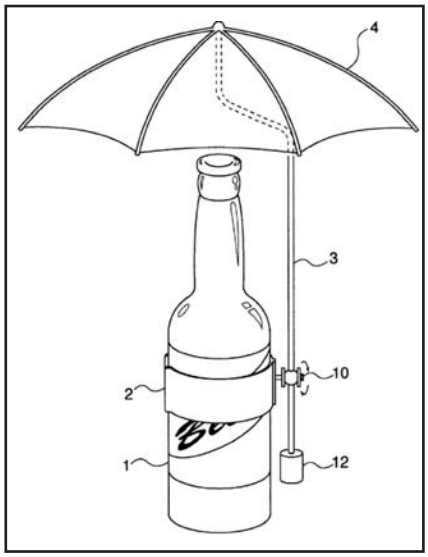


A method for inducing cats to exercise consists of directing a beam of invisible light produced by a hand-held laser apparatus onto the floor or wall or other opaque surface in the vicinity of the cat, then moving the laser so as to cause the bright pattern of light to move in an irregular way fascinating to cats, and to any other animal with a chase instinct.



An apparatus for use as a toy by an animal, for example a dog, to either fetch carry or chew includes a main section with at least one protrusion extending therefrom that resembles a branch in appearance. The toy is formed of any of a number of materials including rubber, plastic, or wood including wood composites and is solid. It is either rigid or flexible.



The present invention provides a small umbrella ("Beerbrella") which may be removably attached to a beverage container in order to shade the beverage container from the direct rays of the sun.

methods, etc. Business methods are a relatively new category of process subject matter for patents, and have become quite controversial. According to a recent precedential court decision, to qualify as patentable subject matter, a business method must be tied to a particular machine or apparatus, or must transform a particular article into a different state or thing. Machines may include multi-part systems, apparatuses, mechanisms with moving parts, etc. Manufacture may include man-made articles, devices, products, etc. Composition of matter may include chemical and material compounds, mixtures, solutions, alloys, etc.

Novelty Requirement and Prior Art

An invention must be *new* to be patentable. This criterion is also referred to as the novelty requirement. In determining whether a claimed invention is new or novel, it is compared to what has been done before; i.e., the prior art. A rejection under 35 U.S.C. § 102 for anticipation by the prior art is an assertion by the USPTO that the invention is not new.

The primary § 102 anticipation rejections are under subsections (a), (b), and (e). The strongest prior art is § 102(b) prior art, which includes that which was previously known to others or in public use in the U.S., or that which was patented or described in a printed publication in the U.S. or a foreign country more than one year before the filing date of the patent application. The source of this prior art may be from the activities and publications of others, or it may be from the inventors own activities or publications. Thus, this provision of the statute is also referred to as the "one-year statutory bar" or "grace period" because a one-year clock begins to run as soon as any of three events take place that are considered to place the invention in the public domain:

- An invention is described in a printed publication
- It is placed in public use
- It is placed on sale

An application for patent must be filed within that one-year period or the claimed invention is absolutely barred from patentability for lack of novelty. It is important to note, however, that most countries other than the U.S. do not provide this grace period, but rather require absolute novelty. For absolute novelty countries, an application must be filed before the invention is placed in the public domain to permit protection to be granted in those countries. For example, if you internally develop a new alloy composition, and you offer to sell the new alloy to a customer on January 12, 2009, a U.S. application for patent must be filed by January 12, 2010, but you will not be able to obtain patent protection in absolute novelty countries such as Japan unless the application is filed before January 12, 2009.

Prior art under § 102(a) is that which was known or used by others in the U.S., or patented or described in a printed publication in the U.S. or a foreign country, before the invention by the patent applicant. The date of invention is presumed to be the filing date of the application. For example, if an article publishes by Author A on February 5, 2009 disclosing an alloy composition, and Inventor B discovered and tested the same alloy composition on January 13, 2009 and files a patent application on February 13, 2009, Author A's article can be cited by the USPTO as prior art under § 102(a), but not under § 102(b) because it did not publish more than one year before Inventor B's filing date.

Thus, filing a patent application at the earliest possible stage after an invention is conceived is important to reduce the possibility that use or publication of the invention by another after your date of invention will be applied as prior art. Bear in mind that competitors are often engaged in research and development in the same areas, and, therefore, it is possible that more than one inventor can independently arrive at the same invention. Timing in the filing of a patent application may thus determine whether a particular inventor is entitled to a patent. However, there are procedures where Inventor B can submit evidence of the earlier date of invention

to secure entitlement to the patent despite the later filing date.

Prior art under § 102(e) is that which was described in a patent application by another filed in the United States before the invention by the patent applicant, which patent application is then published or granted. "By another" means a different inventive entity, such that an application in the name of Inventor A has a different inventive entity than an application in the names of Inventors A and B, even though Inventor A is an inventor in both applications. So, if Inventor A files an application on July 6, 2007, Inventor B file an application on the same claimed invention on June 6, 2008, and Inventor A's application is published by the USPTO on January 8, 2009, Inventor A's application will be prior art under § 102(e) against Inventor B's claimed invention even though it published after Inventor B's filing date. Inventor A's application would not be prior art under § 102(a) because it did not publish for Inventor B's presumed date of invention, nor under § 102(b) because it did not publish more than one year before Inventor B's filing date. Again, if the facts support it, there are procedures where Inventor B can submit evidence of an earlier date of invention; i.e., before July 6, 2007, to secure entitlement to the patent despite the later filing date. There is also a procedure for Inventor B to assert that Inventor A derived or stole the invention from Inventor B, such that Inventor A is not the true inventor.

Forms of Prior Art

Prior art may include, for example, patents, patent application publications, technical articles, Applicant's own admissions, Abstracts, and product literature. Anticipation is established by a single prior art reference that discloses each and every element of the claimed invention. The USPTO may look to the entire disclosure of a prior art reference for all that it teaches, expressly, impliedly, and inherently, in determining patentability. For example, if the claimed invention is to an alloy composition AB where element A is present in an amount of 20-40 atomic percent and element B is present in an amount of 60-80 atomic percent, and wherein the alloy has a Rockwell B hardness of at least 75, then a prior art reference that disclose a 25A75B alloy anticipates the claimed invention, as the hardness would be considered by the USPTO to be inherent when the prior art composition falls squarely within the claimed range. Where the prior art is a patent or published application, the entire disclosure must be considered, as a whole, rather than simply looking at the claims of the prior art reference compared to claims of the application. If the prior art fails to teach even one element of the claimed invention, there can be no anticipation, and the invention is considered to be new.

Finally, to be patentable, an invention must be *nonobvious*. So, even if the invention is new, the USPTO will consider whether the differences between the claimed invention and the prior art would be obvious to one of ordinary skill in the relevant art. The nonobvious criterion will be discussed in detail in the next IP Corner. **HTP**