I EAT MY PEAS WITH HONEY:
Are U.S. Patents Granted With Property Rights or the Public Interest in Mind?

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> "I eat my peas with honey/I've done it all my life/It makes the peas taste funny/But it keeps them on the knife." -- Anon., collected by Edward Lear

I don't know if anyone ever really ate their peas with honey on a knife. And, I don't know whether anyone else would ever want to, if indeed it did happen. But suppose it did and suppose they would. And suppose this all happened in the United States of America. And suppose when it happened, the U.S. Patent Office had the same standards for approving patent applications that it had at the end of the 20th Century and the beginning of the 21st. Which just happens to be now.

Well, if that were the case, it just might turn out that the first person to eat his peas with honey to keep them on the knife would also have been the last – unless this activity proved so attractive to others that they were willing to pay royalties to engage in it. This is because the "discoverer" of the "invention" of eating peas with honey on a knife might well have patented this seemingly unique method of consuming legumes.

You may think I am jesting. Or that I exaggerate, if ever so slightly. If so, I invite your attention to two patents that were granted by the U.S. Office of Patents and Trademarks ("hereinafter, the "Patent Office") within the past ten years.

First, consider United States Patent No. 5,616,089, granted on April 7, 1997. This patent grants one Dale D. Miller, of Wasau, Wisconsin, a patent on a particular grip on a golf putter, "so that the golfer can improve control over putting speed and direction." No product is created by this "invention," nor is any process for creating a product. Instead,

it gives exclusive rights over a means of performing a very common physical activity which in most cases is leisure although, concededly, some do it for commercial gain.

If this standard for granting U.S. patents had been in place in 1936, modern basketball would not be as we know it. In that year, according to most accounts, a player on the Stanford College basketball team, Hank Luisetti, "invented" the jump shot, which is now by far the most common way in which field goals are scored in this universally played sport. What if Luisetti had been able to patent this maneuver, so that each player, amateur or professional, who played the game for many years hence would have had to pay him or his estate royalties each time they took a jump shot -- in practice or in a game? Quite obviously, assuming that enforcement of such a patent right were possible, no one except professionals would be able to afford it. In fact, it is likely that the game would never have developed professionally to nearly the degree it has today. The game's development, hence its popularity, would have been frozen at the point where most field goals were scored on layups and standing (or "set") shots.[1]

This golf swing patent, however, is not even the most extreme case of frivolous and unwise patent granting. After all, there is a professional golf circuit. So, one could argue, whatever the policy implications of this patent grant, there is at least a commercial application for the "invention". There is not, however, at least to my knowledge, a professional "swing set" circuit and children do not swing on the playground or under the old oak tree for commercial gain.

Consider, then, U.S. Patent No. 6368227 (copy attached as "Appendix", for the reader's perusal and to support this author's veracity), which relates to the "technical field" of "swinging on a swing". This "invention" stems from the purported "discovery" that one can start a playground-type swing moving from side to side without assistance by pulling repeatedly on one and then the other of the suspending chains or ropes, thus inducing a sideways swinging motion.

The patent "claim" (application) to the Patent Office describes some traditional methods of swinging upon a swing, including the traditional pushing of the swing user's foot against the ground so as to commence swinging forward and backward and the also common twisting of the seat around in a circular pattern until the two suspending chains or ropes become entwined, followed by a release, which produces a spinning motion rather than a to-and-fro motion.

The patent description seeks to establish the usefulness[2] of this "invention" by further noting that the traditional methods of swinging "can lose their appeal with age and experience," and that this supposedly new method of sideways swinging "would therefore represent an advance of great significance and value." The patent claim also suggests that the method of inducing sideways swinging "resembles in some measure the movements one would use to swing from vines in a dense forest" and, hence, that the

[1] N.b. Mr. Luisetti also created the behind-the-back dribble, another maneuver that might be patentable under current U.S. standards.
[2] Usefulness is a criterion for granting a U.S. patent.

five-year old inventor and his sister refer to this method as "Tarzan' swinging". Still further, the patent claim notes, "The user may even choose to produce a Tarzan-type yell while swinging in the manner described," though "[a]ctual jungle forestry is not required.[3]

The patent application also contains some very formal verbal and diagrammatic descriptions of the process of swinging, as though it is some sort of industrial process. This patent claim was presented to the Patent Office with a straight face, as though the discovery would enhance national economic productivity or cure the common cold. And the patent was granted.

Finally, the patent claim notes, "Licenses are available from the inventor upon request." One can only imagine that when the claim was filed, the inventor's parents and lawyers pictured the "inventor" laughing all the way to the piggy bank as children all over America forked over their nickels or dimes for the right to swing sideways[4].

There is not space in this paper to continue with the many examples of absurd patents that have successfully wended their way through the Patent Office. Hence, we shall forgo the dissection of such grants as that for a crustless peanut butter and jelly sandwich[5]

The granting of patents in these examples, of course, raises serious public policy questions, even though the public harm may not be serious. Among these are the most basic question, how do the grants of patents for swinging a golf club or swinging sideways benefit the general public? Also, do they "promote science or the useful arts," which is the U.S. constitutional standard for granting a patent? Further, since these patents are for specific methods of performing noncommercial pastime activities that has been commonplace among millions and perhaps billions of persons over centuries, how could one possibly know that these particular methods have not had prior use, hence how can it be determined whether they advance the "art" (another traditional requirement for U.S. patent granting)? Finally, even if no prior use can be established, are the methods not obvious extensions of the putter grip or "the push method," "the twist" method and other previously known ways of swinging upon a swing? Traditionally, in the U.S., patents are only granted to non-obvious extensions of the art.

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[3] Luckily for the inventor and his lawyers, filings in legal and administrative proceedings are legally protected, so that no frivolous copyright infringement could be filed against them by the Edgar Rice Burroughs estate or the copyright holders of the Tarzan film series for unauthorized references to the Tarzan character or his yell.

[4] Alternatively, the application may have been submitted to test the gullibility of the U.S. patent granting system, in which event it certainly proves a "useful," if not unique, point.

[5] U.S. Patent No. 6.004,596, granted to the manufacturers of Smucker's jams and jellies and successfully enforced by the patent holder against a much smaller food company. While the sandwich may have been different than the typical homemade variety in that, after the crusts were trimmed, the edges were crimp-sealed, the crimping of the edges of a sandwich has been in widespread prior use for ages, for example the English meat pastie and the Spanish empanada. Just recently, Smuckers' claim was rejected by a U.S. Court. For lists of absurd patent grants, see, e.g.g., http://www.patent.freeserve.co.uk/internat.html and http://www.absurd.com.

In short, how do consumers of the "art" of "swinging on a swing" or those of the "art" of putting a golf ball in motion benefit from the grant of monopoly patent rights to these inventors?

If the reader is not from the U.S., these questions are still important. First, patents are increasingly sought and granted internationally in this day of a global economy. Second, patents policy is these days typically addressed in each new trade agreement negotiation, whether bilateral, regional or global, undertaken by the United States, which seeks global assurances for its inventors and investors that their domestic protections will be recognized globally.

Constitutional Basis for Granting U.S. Patents. From whence comes the U.S. government's authority for granting patents? Patents, of course, preceded the United States, its Constitution and it laws. But, having adopted the legal concept of patents from its British predecessor government, how did the U.S. structure its legal system regarding these monopolies?

Under the U.S. constitutional system of government, the Congress enacts laws and the Executive branch carries out laws. But, the Congress must find within the Constitution the grant of power to enact each law. Further, the implementation of the law must be within the confines of both the law and the Constitution.

The authority by which the Congress can establish patent laws is Article I, Section 8, clause 3 of the U.S. Constitution. That clause grants to the Congress the power:

> *To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries.*

Explicitly, then, the constitutional purpose for patents (and copyrights) is to "promote the progress of science and useful arts". This is on its face a public interest standard, not an inventor's rights or an investor's rights or a business rights standard. Patents are established clause as, and limited by, the public benefit from progress in science and the useful arts. That is the end which the patents clause seeks. The rights of inventors, authors (and investors in invention and publication) are only created as the end to the means. The Congress in the exercise of its legislative power and the Patent Office in the implementation of legislation may exercise discretion in fulfilling this purpose, but neither has any authority to authorize or grant patents that are outside this constitutional purpose.

U.S. Patent Laws. U.S. law creates three types of patents: (1) design patents, (2) utility patents and (3) plant patents. The three have some similarities and some differences in both the statutory requirements and the administrative and judicial requirements that have evolved in practice. These details are beyond the scope of the considerations in this paper.

Certain patentability elements are required for all types of patents in the U.S. Principle are (1) only the first inventor of something patentable can obtain a patent[6]. (2) The invention must be useful. (3) The invention must be novel[7]. (4) The patent must involve a creative step. This last requirement is subject to various descriptions and tests, the simplest of which is that the creative aspect of the patent must not be obvious to a person having ordinary skill in the "art" from which the patent derives.

These patentability requirements, properly applied, *should* assure that creations already in public use or that are ordinary will continue to be subject to actual or potential competition from identical or similar creations. Such a policy promotes greater choice and price competition to the ultimate benefit of consumers.

For this reason, the appropriate questions for consumers are not whether current law and practice have created incursions on these requirements, but if so then why, and how policy and practice may be changed to restore them.

When these questions are asked regarding claims for such patents as the golf swing and the sideways swinging method (the examples above), it becomes clear that something is amiss in the U.S. patent system. That something, it seems to me, is at least in part an overweening eagerness on the part ofthe U.S. legislative and executive branches of government to rush to protect business investment in intellectual property without due regard for the public interest in the constitutional requirements and traditional standards of patentability.

Consumers have seen this rush in other contexts, such as the extension of the copyright term at the behest of Walt Disney Co. and other major entertainment corporations, the extension of patent terms achieved by the U.S. in new trade agreements in the 1990s (which the U.S. made a *sine qua non* in the trade negotiations) and the further curtailment of the intellectual property rights of generic drug manufacturers in trade agreements negotiated by the U.S. in the current decade.

The foregoing examples of improvidently granted patents, of course, are relatively harmless except as precedent. There are no widespread reports of golfers frustrated by their inability to afford the royalties needed to utilize the golf swing, because there seems to be little demand to the counter-intuitive grip that is patented. And there are no widespread reports of children who are either unable to swing sideways because of the patent or are foregoing necessities in order to pay the "sideways" royalties. Both of these patents seem basically unenforceable, so the patentability issues do not rise to a high level of public policy concern.

This is not true, however, with certain other categories of U.S. patent grants which matter far more to consumers and raise more difficult policy questions.

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[6] The inventor may, however, assign the rights thereto.
[7] There are various tests for novelty or lack thereof.

Patenting Health-Improving Medical Procedures. Surgical procedures have been the subject of patent grants and of policy controversy over the grants. There are two public policy issues affecting consumers. First, whether a patent should be granted for a method of medical practice that has health benefits for patients, where no device or pharmaceutical is the subject of the invention, but merely a method of surgery. Such a patent, if effectively enforced, would raise the cost of the surgeries that utilized the patented procedure, unless of course the patent holder either waived royalties or placed the discovery in the public domain. The second is whether, if such patents are *not* allowed to be granted, this could serve as a disincentive to further innovation in beneficial surgical procedures.

The issue of surgical procedure patents came to a head when an eye surgeon sought to enforce his patent for a particular way of making the incision used in cataract surgery[8]. The surgeon claimed to have discovered, and did patent, an incision cut in the shape of a chevron that healed itself without the need for sutures after the operation, yielding a superior healing of the incision.

When a fellow eye surgeon utilized this method and taught it to other eye surgeons at a clinic associated with Dartmouth College, the inventor sued for infringement. The federal district judge who heard the case at the trial level, however, invalidated all of the patent holder's claims in a consent order to which the patent holder agreed. The bases for the consent order were that (1) others had used the procedure before the patent holder, hence it was not novel and (2) the patent holder had himself used the method himself for a longer period than is allowed prior to filing his patent claim. Intervening in the proceeding on behalf of the defendant were medical societies which opposed the policy of allowing a single practitioner to own rights to a procedure.

These facts of the case, however, muddied the effects of the outcome on public policy. Because of a poor search (or, perhaps, no search) of the prior state of the art, a patent was granted that never should have been granted based on the facts of prior use by the claimant and others. And the consent order, therefore, had no precedential or persuasive effect on future cases where the patented procedure is indeed novel. Hence the policy question, whether any patents should be issued on procedures that do not involve invention of medicines or medical devices that can be sold for use in the practice of medicine, was not addressed.

The Congress soon stepped in, however. It enacted legislation which obviated enforcement of medical procedures patents[9]. However, this law does not change the policy that such patents, however unenforceable, could be granted (assuming, of course, that they meet current standards, which the eye surgery involved in the case did not). Hence, the Patent

[8] U.S. Patent No. 5,080,111.
[9] Pub. L.104-208, 35 U.S.C.§287(c), enacted 1996.

Office remains free to approve such patents and the patent holders may queue up in hopes that the enforcement provisions will be repealed before their patent terms expire[10].

The question of incentives seems easily resolved in this instance. Surgeons are among the highest-paid of all professionals. A surgeon's degree of standing in the profession has at least some effect upon income and the development of new procedures confers greater standing. And, one might assume that the pride of renown is itself a strong incentive for innovation in this field.

The good news for consumers in the case of surgical procedures patents is not only that such patents are, at least for the meanwhile, unenforceable. More importantly, the U.S. Congress has finally found an intellectual property right it does not like. Consumer advocates must see what effective lessons are to be found in this situation and must apply what can be learned to other instances where there is an overriding public interest in disallowing patents. This seems especially true in the case of essential medicines.

Patenting of business methods. Methods of doing business are patentable in the U.S. as utility patents. Until 1998, the Patent Office usually took the position that methods of doing business were not patentable because they were ideas too abstract to be patentable. Two situations have changed this state of affairs, to the effect that the Patent Office now has a special section for processing business method patent claims and an extra review in which outside specialists in various areas ascertain "prior art" (i.e., the state of the art at the time of the patent application) in the fields of e-commerce, finance, insurance and Internet infrastructure.

The first situation that brought about this change was a judicial interpretation of the Patent Act. In 1999, the Court of Appeals for the Federal Circuit[11] decided the so-called State Street case[12]. It upheld a patent[13] which the Patent Office had granted (contrary to its usual policy regarding business method patents) for a method of calculating the net assets of individual mutual funds that share a common administrator. The challenger to the patent had characterized it as merely a mathematical algorithm and, hence, unpatentable. However, the Federal Circuit ruled that is was an algorithm with a specific and useful business application and, as such, was patentable:

> *Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a*

[10] This is not a totally far-fetched possibility. Two of the chief Congressional proponents of the non-enforcement statute were practicing physicians, Sen. Bill Frist (R-TN) and Rep. Greg Ganske (R-IA). No Member of Congress serves forever, and the reasons for changes in the law are oft forgotten.

[11] This court hears all initial appeals from U.S. District Courts, which are the trial courts in which patent cases are brought. This creates uniformity in the appellate decisions regarding patent cases, but also creates its own problems, according to some experts.

[12] *State Street Bank & Trust Co*. v. *Signal Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), cert. denied 19 S.Ct. 851.

[13] U.S. Patent No. 5,193,056, March 11, 1991.

> *mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result" -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.*

The second situation that brought about the change in business method patents was the rapid development of e-commerce on the Internet. Within months of the *State Street* decision, a rush of new patent claims was filed with the Patent Office and many of these involved methods of conducting e-commerce.

Some of the more recent grants of business method patents seem to raise the same questions as do our first examples, the golf grip and swinging sideways: they are grants of patents for processes applied to widespread and common activities that seem obvious or merely a next step from an existing practice. In some of these cases, the obviousness of the patented method may be either inherent regardless of the locus of business activity or an obvious application to the Internet of common business practices conducted offline.

The issue for consumers is that if an enforceable patent exists on a business method that is both obvious and efficient (that is, should be available without a fee and is likely to be adopted as an effective way of doing business), consumers pay the costs of either (1) the license fees paid to the patent holder by businesses that use the method or (b) the costs of inefficiency on the part of those businesses not utilizing the patent, but they will receive no offsetting benefits because the advantages of the method should have been freely available. In effect, they are paying an indirect surcharge to an unworthy third party with the assistance of the Patent Office. In the latter case ("b"), the consumer costs of improvident patent granting may be the increase in the cash price of the less efficiently produced end product or service, or it may be in the form of a direct inconvenience to the consumer in the interface with the business that does not adopt the inappropriately patented method[14].

For example, Amazon.com was granted a business method patent on its one-click purchase system[15]. The patented feature allows the repeat customer to complete an Internet purchase by allowing the vendor to store the needed credit card and shipping address information in the vendor's computers, so that a single mouse click of an on-screen button charges the items in the "shopping basket" to the previously-designated card and ships them to the previously-designated address. When Barnesandnoble.com, a competing online seller of books, music and videos, implemented such a system on its website, Amazon.com sued for infringement. A preliminary injunction against Barnesandnoble.com was granted by the U.S. District Court. But it was vacated by the Court of Appeals for the Federal Circuit 16 months later, after it was discovered that another company had utilized a one-action ordering

[14] Of course, if the method is truly worthy of a patent, then the benefits should offset the costs, at least over the life of the patent.
[15] U.S. Patent No. 5,960,411, September 28, 1999.

system prior to Amazon.com, albeit not on the Internet. The Court of Appeals recognized that application of an existing offline business method to Internet transactions does not constitute a new invention.

Similarly, eBay.com, which operates the best-known online auction site, was sued by a smaller company when it implemented its "Buy Now" one-click set price purchase "button" feature. This allows customers to pre-empt an ongoing auction of an item by paying a higher, pre-determined price at which the seller is willing to terminate the auction. The smaller company had previously obtained a business method patent on this feature. It also has a patent on the "name your own price" method of selling[16] that has been implement by Priceline.com and is also suing that vendor for infringement.

The efficiency of these business methods is clear. They save the consumer time and effort in making a purchase, if the consumer is willing to forgo certain other benefits (privacy gained from not allowing the retention of credit card and shipping address information, in the case of Amazon.com; the potential price savings from haggling with other prospective purchasers through the auction method, in the case of eBay.com; or prospective price savings though the haggling with the sellers in the case of Priceline.com). And, each step of the process that is eliminated reduces the chance for consumer error. The sellers realize benefits, as well.

However, it is difficult to see what is novel and non-obvious about any of these methods (as contrasted with the specific computer programs, or algorithms, for executing them). Have not small retail merchants for many years offered known repeat customers the option to charge purchases on account based on their signature or a phone call only, without having to reapply for credit and to provide billing address information each time they shop? Has not many an auction been cut short by a dramatic jump in the bidding? And, of course, in many a haggle over the purchase price at a street bazaar, has not the bidding has been initiated by the buyer rather than the seller[17]?

What all of these instances have in common is that there is nothing particularly creative about the "invented" method, given long-standing offline business practices. There seems to be no reason why the adoption of the method to e-commerce involves a non-obvious and creative step,as the Appeals Court acknowledged in the *State Street* case. The public interest in rewarding the "inventor" in each of these instances, seems negligible, indeed negative, since any number of businesses were likely to have adopted such offline business methods in short order, absent the patent.

If such patents are deemed to have been validly granted, it seems to follow that some "inventor" could in the first place have patented the entire business method of

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[16] U.S. Patent No. 5,794,207, August 11,1998.

[17] This technique even has a name in offline transactions, though the name is improperly applied. It is a variant of the transaction known as the" reverse Dutch auction". A buyer raises the price from a low starting point until a bidder agrees to sell at that price. In a true Dutch auction, the auctioneer starts with an artificially high price and lowers it until he finds one bid.

"selling online". And where would the public interest in that lie? If business methods should be at all patentable[18], then somewhere between the patent in the *State Street* case and the Internet examples above there lies a policy principle that rewards true innovation but denies ordinary, obvious next-step applications and translations of long-standing business practices to e-commerce. Consumer advocates need to find that line and argue it vigorously.

Patenting of Software. Software traditionally has not been the subject of patents issued by the U.S. Patent Office. Protection of software has traditionally been left to copyright. However, in the 1980s, U.S. Courts established the patentability of at least that software which runs some application other than computing itself[19]. Under Article 10 of the WTO's TRIPS Agreement, computer software is copyright protected in accordance with the Berne Convention (1971).

The arguments typically made against patenting of software are simple. (1) Copyright is available for software and provides an easier and much cheaper means than patent of protecting new creations. The cost of obtaining protection is important to innovation because many creators of software are small independent firms or individuals who cannot afford the costs of the patent process, let alone the cost of patent litigation in the event of a claim of infringement. Hence, the patenting as contrasted with the copyrighting of software favors the megaplayers in the industry. (2) Software is incremental and almost always builds on a very complex existing art, by combining known techniques. This makes searches of prior art and evaluation of novelty and the "creative step" requirement complicated and beyond the capabilities of the U.S. Patent Office. The inordinate number of new software programs being created adds to these problems. (3) The art of software changes rapidly and software is typically outdated far before the end of the 20-year patent term[20].

These arguments are made on behalf of smaller software developers, but it is easy to view them in consumer terms, as well. If software is easier to protect[21], cheaper to defend and more free to build on the existing art without challenge, then the marketplace will offer consumers more software at lower prices. Efforts to rechannel software from patent protection into copyright protection and freeware, therefore, will further the consumer interest.

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[18] For an excellent argument against the patenting of business methods and information technology (including software), see "Why Patenting Information Technology and Business Methods is Not Sound Policy: Lessons from History and Prophecies for the Future," J.A. Gladstone, Bryant College, Smithfield RI, USA, presented at the 16th Bileta Annual Conference, April 2001, Edinburgh, Scotland, and available at http://www.bileta.ac.uk/01papers/gladstone.html. As Professor Gladstone points out, Samuel F.B. Morse was granted seven patents on the telegraph, but denied an eighth which would have conferred upon him monopoly power over the very idea of transmitting characters to a distant site by electromagnetism.

[19] See Diamond v. Diehr, 450 U.S. 175 (1981) and In re Alappat, 33 F.2d 1526 (Fed. Cir.) (1994).

[20] See, e.g., the software patent policy statement of a major U.S. software producer, Oracle Corporation, at http://lpf.ai.mit.edu/Patents/papers/corporate. See also the list of reasons against software patenting explicated by the Irish Free Software Organization, http://ifso.ie/projects/swpats.html.

[21] To the extent, of course, that authors are unwilling to make their software available as freeware.

Patenting of Life Forms. Certain life forms are patentable under U.S. law. Others are not. At one end of the spectrum are man-made, genetically-engineered micro-organisms (patentable)[22]. At the other are the so-called "higher living beings," including human life forms (not patentable). The Patent Office in 2005 turned down an application for a genetically engineered animal[23] that would have certain human genes in its genetically engineered makeup. The Patent Office stated that the invention would too closely resemble a human to be patentable[24].

Mice bred for their unique research capabilities are patentable[25]. And, the Patent Office has issued patents for hundreds of other animals, as well as plant patents under the Plant Patent Act and utility patents under the Patent Act for plants, under a Supreme Court decision that confirms the availability of such utility patents[26] despite the existence of more specialized statutes addressing intellectual property rights for specialized plants[27].

The consumer's economic interest in such patents is clear but, as with any patent, in a given case that interest may favor granting the patent to promote innovation or oppose granting the patent to prevent monopoly over more ordinary "inventions".

It may also be in certain cases that there are broader public policy reasons why it would seem contrary to the public interest to grant patents to life forms. Some of these reasons involve the social conditions in which the inventions are used. Consider the following argument by the Center for Rural Affairs:

> *Allowing patents on bacteria and seeds and the possibility of patenting other life forms raises ethical and moral questions. It also raises questions relating to increasing consolidation in agriculture. How family farmers and ranchers are treated in such a legal and regulatory regime will go a long way in determining their future*[28]

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[22] Diamond v. Chakrabarty, 447 U.S. 303 (1980), reversing the Patent Office's denial of a claim on a genetically-engineered bacterium capable of breaking down the components of crude oil. The Patent Office's action was reversed by the Court of Customs and Patent Appeals [predecessor to the Court of Appeals for the Federal Circuit] and the Supreme Court upheld this reversal.

[23] The claim was for a theoretical animal which could have been a chimpanzee, an ape or another animal.

[24] "U.S. Denies Patent for a Too-Human Hybrid," February 13, 2005 P. A3, reproduced at www.washingtonpost.com/ac2/wp-dyn/A19781-2005Feb12?1anguage=printer. The patent application was jointly filed by anti-biotech advocate Jeremy Rifkin and a fellow scientist with the specific intent of getting the Patent Office to deny the application. The application was under consideration for seven years before the final decision.

[25] See, for example, U.S. Patent No. 5,549,884, August 27, 1996.

[26] J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc., 534 U.S. 124 (2001).

[27] The Plant Patent Act, 35 U.S.C. §161 et seq., and the Plant Variety Protection Act, 7 U.S.C. Chapter 57.

[28] "Life Form Patenting and Family-Scale Agriculture: Implications and Recommendation," http://www.cfra.org/resources/issue_brief_patenting.htm.

The Center's more specific arguments are that the J.E.M. decision[29], which could be applied to animal as well as plant germplasm, could have the following effects:

- *Accelerates [sic] the amount of germplasm that is held privately rather than in the public domain as companies devote additional resources to cost-effective patents*
- *Public plant breeders will lose access to germplasm*
- *Public research being directed to a greater extent toward satisfying the desires of the firms that purchase the rights to the patents and to a lesser extent toward the desires of farmers, ranchers and consumers*
- *Potentially more concentration with more germplasm in private hands*
- *Reduced competition and innovation in plant breeding*
- *More concentration as small seed companies cannot find new breeding material.*
- *Greater control by firms holding patents over crops grown from patented seed.*

These arguments seem to address producer concerns, rather than consumer concerns. However, producer concerns clearly can have consumer effects.

It may not be in the consumer interest, for instance, that livestock breeders must pay license fees each time they breed food animals. The same may be true of planting seeds from new food plant and feed plant varieties. The answer may depend on a balance between the level of the fees and the benefits of the patented breed or variety. It may or may not be good public policy to allow the marketplace to determine the outcome of that question and then to play catch-up if the answer is unfavorable to consumers.

Some of the social issues raised may be well beyond the reaches of patent policy. While the concentration of agricultural production may be affected by patent policies, as suggested by the Center for Rural Affairs, there are many other determinants which, collectively, are far more influential than patent policy alone. Formulating patent policy in isolation from the other factors is more likely to distort patent policy than it is to address the broader social issues effectively.

Whether it is *ethical* to allow ownership of life forms is also a frequently raised question. However, in passing from the realm of economics and the social environment into the purely ethical realm, the interests of consumers as consumers rather than as concerned citizens becomes less clear. And concerned citizens are more likely to have differing views on a given question than are consumers in their roles as consumers.

To a vegetarian, economic policy that promotes the affordability of meat and hence promotes meat consumption may be viewed as unethical, hence policies that increase the price of meat may be viewed as promoting good ethics. To those who view the consumption of meat as ethical, a policy that promotes the affordability of meat may be viewed as both ethical and desirable. And, if the right of consumer choice involves a more important consumer principle to consumers as a class than do two conflicting

[29] fn. 23, supra.

principles regarding the ethics of meat consumption, then the economic issue prevails over the ethical question. To some, however, it may not.

I raise this issue not because the ethics of meat consumption is directly relevant to patent policies, but because it illustrates how difficult it is to apply far-reaching, abstract ethical questions to patent policy issues.

For instance, consumers have an interest in progressive medical research. If, as most medical research scientists contend, medical research would be difficult to perform without specialized laboratory animals that mimic human disease, deformity or vulnerability, and if patents on such life forms either are necessary or at least contribute greatly to the efficient production of such test animals, then the argument against ownership of life forms conflicts with the consumer interest in progressive medical research.

Broad assertions on both sides of such arguments are often made. But they are seldom examined or debated with analytical particularity. Further, they are often asserted broadly and generally, rather than specifically and analytically.

For instance, the Center for Rural Affairs' argument regarding germplasm really ought to be separated from the issue of patenting bacteria that might help to clean up oil spills. Separating out those uses that may be positive from those uses that are questionable helps sharpen the debate.

Further, an argument against all grants of patent rights to life forms seems to run contrary to the history of public benefits from patented hybridized plant varieties of food and fiber-yielding crops. At the very least, such an argument requires full examination of the meaning of that history for public policy.[30] It seems to me that some general assertions against *all* life form patents are primarily aimed at eliminating or crippling genetic engineering and that the issue should be addressed as such.

Separating consumers' economic concerns from personally held ethical views is sometimes difficult. It seems critical that, if consumer advocates address such issues, it be done with analytical particularity and after careful debate. The patentability of life forms is a debate that would benefit from such an approach. Attempting to reaching a consumerist view on the patentability of life forms should not be a mask for seeking consensus on broader social and ethical issues.

Conclusions. In summary, I offer the following conclusions:

1. The U.S. Patent Office often improvidently issues utility patents based on an inadequate examination of the "prior art" and a failure to evaluate the novelty and usefulness of the claim.

[30] Regarding this argument, I include in the term "patent grants" protection granted under the Plant Patent Act and the Plant Variety Protection Act as well as under the Patent Act.

2. Some of these improvident patent grants establish bad policy that is contrary to the constitutional patent clause and harmful to the public interest.
3. Improved examination of the prior art and utilization of a public purpose evaluation could help the Patent Office to avoid such harm.
4. The Congress has recognized the harm to consumers and medical practitioners of patent grants in the field of surgical procedures but has not examined the principles underlying that experience or applied them to other areas of patent granting.
5. Business method patent granting deserves a broad review as to whether such patents should be granted and, if so, whether the basis for granting business methods patents should be narrowed.
6. The patenting of software is unnecessary to protect those authors who do not make their works available as freeware, as copyright affords sufficient protection.
7. The patenting of life forms raises public policy issues, including economic, social and ethical issues, that require careful analysis and debate in order to evaluate and, possibly, to reform the basis for issuing life form patents.

This conference should make a major contribution toward these resolution of these concerns and the advancement of efforts on behalf of the consumer interest in the outcomes of these policy battles.

APPENDIX

U.S. PATENT NO. 6368227

References Cited

U.S. Patent Documents

242601	Jun., 1881	Clement	472/118.
5413298	May., 1995	Perreault	248/228.

Primary Examiner: Nguyen; Kien T.
Attorney, Agent or Firm: Olson; Peter Lowell

Claims

I claim:

1. A method of swinging on a swing, the method comprising the steps of:

a) suspending a seat for supporting a user between only two chains that are hung from a tree branch;

b) positioning a user on the seat so that the user is facing a direction perpendicular to the tree branch;

c) having the user pull alternately on one chain to induce movement of the user and the swing toward one side, and then on the other chain to induce movement of the user and the swing toward the other side; and

d) repeating step c) to create side-to-side swinging motion, relative to the user, that is parallel to the tree branch.

2. The method of claim 1, wherein the method is practiced independently by the user to create the side-to-side motion from an initial dead stop.

3. The method of claim 1, wherein the method further comprises the step of:

e) inducing a component of forward and back motion into the swinging motion, resulting in a swinging path that is generally shaped as an oval.

4. The method of claim 3, wherein the magnitude of the component of forward and back motion is less than the component of side-to-side motion.

Description

TECHNICAL FIELD

The present invention relates to a method of swinging on a swing.

BACKGROUND OF THE INVENTION

A few basic types of swings have been around for generations. Perhaps the most common is one that includes a seat suspended between two ropes or chains that are hung from a tree branch or other substantially horizontal support. These swings are often found in side-by-side sets of two or three or more on, for example, a school playground.

Young children often need help to climb onto a swing, and may need a push (sometimes even an "underdog" push) to begin swinging. Others may be able to begin the swinging movement on their own by pushing with their feet against the ground, and once moving may coordinate the motion of their legs and body in what may be called "pumping" to sustain the movement of the swing. When swinging in this manner, the user travels along a path as generally shown in the cross-section of FIG. 1. Another method of swinging on a swing involves twisting the seat around repeatedly so that the chains or ropes are wound in a double helix. When allowed to unwind, the swing spins quickly, which can be entertaining for the user.

These methods of swinging on a swing, although of considerable interest to some people, can lose their appeal with age and experience. A new method of swinging on a swing would therefore represent an advance of great significance and value.

SUMMARY OF THE INVENTION

In accordance with one embodiment of the present invention, a method is provided for swinging on a swing. The swing comprises a seat for supporting a user that is suspended between two chains that are hung from a substantially horizontal tree branch. The method comprises the steps of: a) positioning a user on the seat; and b) having the user pull alternately on one chain to induce movement of the user and the swing toward one side, and then on the other chain to induce movement of the user and the swing toward the other side, to create side-to-side motion. In another embodiment of the invention, the swinging method may be practiced independently by the user to create the side-to-side motion from an initial dead stop. These and other features of the invention are described in greater detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic top view of the swinging path of a swing used in accordance with conventional swinging methods.

FIG. 2 is a front view of a swinging path of a swing used in accordance with one embodiment of the swinging method of the present invention.

FIG. 3 is a schematic top view of a swinging path of a swing used in accordance with a second embodiment of the swinging method of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The present inventor has created, through experimentation on a standard swing, a new and improved method of swinging. The swing is of the type described above, in which a seat is suspended between two chains that are hung from a substantially horizontal tree branch. As is apparent to those of ordinary skill in the area of swinging, the chains could be replaced with ropes, cables, or the like, or the tree branch could be replaced with another substantially horizontal support such as a metal bar or pole.

The standard swing should be a single swing that is suspended sufficiently far away from obstructions to make the practice of the inventive swinging method completely safe. That is, the swing should be suspended a sufficient distance away from the trunk of the tree from which it suspended, and from any other swing, building, support, overhead wire, or other obstruction or threat to safety that may be present.

The standard method of swinging on a swing is defined by oscillatory motion of the swing and the user along an axis that is substantially perpendicular to the axis of the tree branch from which the swing is suspended. This "forward and back" movement has been known for generations, and is illustrated in FIG. 1. In contrast to the conventional method of swinging, the present inventor has discovered that much greater satisfaction can be obtained by alternately pulling on one chain to move the swing and the user toward that side, and then pulling on the other chain to move the swing and the user toward that side. This side-to-side oscillatory motion of the swing and the user is thus along an axis that is substantially parallel to the axis of the tree branch from which the swing is suspended, and is illustrated in FIG. 2. This side to side swinging method has the added benefit that it can be continued for long periods of time simply by alternately pulling on one chain and then the other. The importance of sufficient clearance between the swing and any obstructions or threats to the user's safety is apparent.

The present inventor has discovered certain other improvements in the art of swinging on a swing, either or both of which can be used in conjunction with the swinging method described immediately above. The first is that the inventive swinging method can be initiated from a dead stop without pushing, and without the user having to contact the ground. That is, the user can climb onto the swing, and begin from an initial dead stop to pull first on one chain, and then on the other chain, alternately until the user and the swing have begun to swing side-to-side in accordance with the inventive swinging method described herein. This enables even young users to swing independently and joyously, which is of great benefit to all.

Another improvement on the swinging method described above is the induction into the side-to-side swinging movement of a component of forward-and-back

motion. That is, by skillful manipulation of the body, the present inventor has found it possible to add a relatively minor component of forward-and-back motion to the side-to-side swinging motion, resulting in a swinging path that is generally shaped like an oval, as is shown in FIG. 3. It is preferred that the magnitude of the forward-and back motion (shown in FIG. 3 as being along the Y axis) be less than the magnitude of the side-to side motion (shown in FIG. 3 as being along the X axis), so that the latter predominates. In this manner, the motion can be more easily continued simply by alternately pulling on one chain and then the other in the manner described.

Lastly, it should be noted that because pulling alternately on one chain and then the other resembles in some measure the movements one would use to swing from vines in a dense jungle forest, the swinging method of the present invention may be referred to by the present inventor and his sister as "Tarzan" swinging. The user may even choose to produce a Tarzan-type yell while swinging in the manner described, which more accurately replicates swinging on vines in a dense jungle forest. Actual jungle forestry is not required.

Licenses are available from the inventor upon request.