

Researching Patents

You might know that Abraham Lincoln is the only US President to hold a patent, but did you know that it's for a maritime application? Patent 6469 is called "Buoying Vessels over Shoals," and describes a system of inflatable bladders that are used to lift a ship out of a difficult situation in shallow waters. Of course, with current US patent numbers now approaching nine million, we have quite a few more inventions than at Lincoln's time. Searching through all of them will take a lot more time than it did in Lincoln's day, but at least you're not required to travel to Washington, DC, to do the searching.

Thanks to a 2010 agreement between the **US Patent and Trademark Office** (USPTO) and **Google**, essentially all of the patents granted in the United States back to 1790 can be easily searched, as well as many recent rejected applications. While USPTO had put some content online before the agreement, Google provided terabytes of space along with valuable functionality to make historical patent information much more easily available.

USPTO offers a search interface at <http://patft.uspto.gov>. Searching for a patent is a good example of the importance of going beyond simple keyword searching. USPTO uses a complex, hierarchical method for categorizing patents, and trying to fit that paper-based system into a simple online search function is not easy. This site allows one to quickly search by patent number, and through other means, including the USPTO classification structure. Patents issued before 1976 are only stored as scanned images, and are not full-text searchable.

As a result of the Google-USPTO agreement, Google created a patent-dedicated site at www.google.com/patents. This site does allow for free-text searching, though it has some known OCR (Optical Character Recognition) problems: one patent provides a method for measuring "Marine Undergurbents" (rather than "UNDERCURRENTS," you can see how the OCR software got confused). I searched for "sail leech" and found new methods of furling sails, along with a way of adding serrated flaps to the trailing edges of sails.

Several websites provide useful guides to searching for patents; two of the most useful are from **Nolo**, publisher of self-help legal guides (search "**nolo patent search**"), and from **How**

Stuff Works (search "**how stuff works patent search**"). These can be very helpful for understanding what one is searching, what the different types of patents are, how the patent process operates, and why one might need to search for patents in the first place.

Outside the US, the **European Patent Office** (EPO) has information about searching its database at <http://www.epo.org/searching.html>. Together, the USPTO and the EPO have created a system called **Cooperative Patent Classification**, to simplify searching their separate classification systems. The cooperative classification is available at <http://www.uspto.gov/web/patents/classification/cpc.html>, and organizes all potential inventions into a single structure, much as the Dewey Decimal System does for non-fiction books. The CPC structure assigns letters of the alphabet to the main categories, such as "A" for "Human Necessities" and "D" for "Textiles; Paper."


The USPTO classification, explorable at <http://www.uspto.gov/web/patents/classification/selectnumwithtitle.htm>, assigns numbers to categories, such as 441 for "buoys, rafts, and aquatic devices." From there, one can narrow down to subclass 29, for buoyant items having variable ballast, and, eventually, find patents such as 6,824,289, which states that although some similar devices have previously been granted patents, "A need still exists for novel beverage accessories which have buoyancy control, assist in the drinking process, and provide illumination or mood enhancers all to provide visual pleasure to one's other sensory pleasures while relaxing consuming a beverage; particularly, those novelty items resembling an ice cube for use in a drink." This invention appears to be a floating ice-cube shaped straw that lights up.

The illuminated floating straw may not see the light of day, but neither did President Lincoln's invention, though you can see a model of it, built by the future President, both in person at the Smithsonian, and online, at http://amhistory.si.edu/onthemove/collection/object_1348.html.

Suggestions for other sites worth mentioning are welcome at peter@shipindex.org. See <http://shipindex.org> for a free compilation of over 150,000 ship names from indexes to dozens of books and journals. ⚓


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