The Intersection of Environmental Innovation and Intellectual Property

A&WMA Midwest Technical Conference

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The Value of Intellectual Property

• Intellectual capital is recognized as the most important asset of many of the world’s largest and most powerful companies.

• It is the foundation for the market dominance and continuing profitability of leading corporations.

• It is often the key objective in mergers and acquisitions and knowledgeable companies are increasingly using licensing routes to transfer these assets to low tax jurisdictions.
The Value of Today’s Corporate Intellectual Property

• Intellectual property (patents, trademarks, copyright, trade secrets) is the heart of the 21st-century company, an essential motor driving innovation, competitiveness and the growth of businesses and the economy as a whole.

• Intellectual property can constitute more than 80% of a single company’s value today.
The Value of Today’s Corporate Intellectual Property

• Know-how is a first cousin of trade secrets but far more difficult to inventory as a discrete IP asset.

• Know-how is the essence of what makes a company's most valuable employees valuable.

• Trade secrets and know-how, unlike patents, may be licensed in perpetuity.

• The quid pro quo for the licensee's payment is disclosure and access to the technology.
COMPONENTS of S&P 500 MARKET VALUE

<table>
<thead>
<tr>
<th>Year</th>
<th>Tangible Assets</th>
<th>Intangible Assets</th>
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<tbody>
<tr>
<td>1975</td>
<td>17%</td>
<td></td>
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<tr>
<td>1985</td>
<td>32%</td>
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<td>1995</td>
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<td>2005</td>
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<td>80%</td>
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<tr>
<td>2015*</td>
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<td>87%</td>
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SOURCE: OCEAN TOMO, LLC
Patent Law Basics

- Authority is found in the U.S. Constitution – Article 1, Section 8, Clause 8
- A simple bargain – an inventor discloses to the world what their new invention is and how it works in exchange for the right to exclude others from practicing the invention for a certain period of time.
- The purpose of patent law is to promote progress by enabling inventors to profit from their inventions through the award of a legal monopoly.
Design Patents

- Design patents - protects the way an article looks
- Patent application includes very brief figure descriptions and most importantly figures
- Steve Jobs is listed on 313 Apple patents – most of which are design patents addressing the look and feel of a product
- Mr. Jobs was likely to have had an especially prominent role in patents where his name appears first – 33 of them, including two related to the striking glass staircases in many Apple stores.
United States Design Patent

Inventors: Steve Jobs, Palo Alto, CA (US); Karl Backus, Emeryville, CA (US); Rosa Sheng, Emeryville, CA (US); Ben McDonnell, San Francisco, CA (US); Michael Walton, Berkeley, CA (US); Colleen Caflisch, San Francisco, CA (US); James O’Callaghan, New York, NY (US); Graham Cout, London (GB); Damian Rogan, New York, NY (US); Scott Nelson, Cirencester (GB)

Assignee: Apple Computer, Inc., Cupertino, CA (US)

Term: 14 Years

Filed: Jul. 15, 2002

Appl. No.: 29/164,077

Patent No.: US D478,999 S

Date of Patent: Aug. 26, 2003

References Cited

U.S. PATENT DOCUMENTS

5,022,197 A 6/1991 Aragoni
3,371,878 S 7/1996 Jáures
3,389,588 S 1/1988 Dunk

Field of Search: D25/62, 69; 52/182, 188, 199

SMH D25/62

Primary Examiner—Doris Clark

Attorney, Agent, or Firm—Beyer Weaver & Thomas, LLP

Claims

We claim the ornamental design for a staircase, substantially as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a staircase in accordance with the present design. The staircase has a transparent character. FIG. 2 is a front view for the staircase shown in FIG. 1. FIG. 3 is a rear view for the staircase shown in FIG. 1. FIG. 4 is a left side view for the staircase shown in FIG. 1. FIG. 5 is a right side view for the staircase shown in FIG. 1. FIG. 6 is a top view for the staircase shown in FIG. 1. and FIG. 7 is a bottom view for the staircase shown in FIG. 1.
Design Patent Term

• Term of design patent is 14 years from the date of issuance or 15 years if granted after May 13, 2015
(12) United States Design Patent
Reiter
(10) Patent No.: US D577,976 S

(54) POWER DRILL FOR LOOSENING SOIL

(76) Inventor: John P. Reiter, 6521 Stevens Ave.
South, Richfield, MN 55422

(21) Appl. No.: 29/304,224
(22) Filed: Feb. 27, 2008

(51) LOC (8) CL ......................... 08-03
(52) U.S. Cl. ......................... D6/70
(58) Field of Classification Search D6/70, D6/71; D15/21, 28, 138, 139, 140; 33/169 R,
33/185 R, 534; 76/18, 18R, 18T, 30/300.5; 125-40, 145/116 R; 175-40, 400/16, 144,
406/202, 219, 211, 211-214, 225, 225, 226,
408/241R, 241 S

See application file for complete search history.

References Cited

U.S. PATENT DOCUMENTS
1,525,235 A * 2/1925 Hanseat....................... 175/508
1,570,665 B * 10/1925 Nydloewski et al. ............. 1915-139

5,222,842 A * 6/1993 Schenkel et al. ........... 407/53

* cited by examiner

Primary Examiner—Sandra Snapp
Assistant Examiner—Patricia Palasik
(74) Attorney, Agent, or Firm—Alan Kanrath; Kanrath &
Associates PA

CLAIM

The ornamental design for a power drill for loosening soil, as
shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a power drill accessory for
loosening soil showing my new design;
FIG. 2 is a front view thereof;
FIG. 3 is a rear view thereof;
FIG. 4 is a right view thereof; the opposite side being a mirror
image thereof;
FIG. 5 is a top view thereof; and,
FIG. 6 is a bottom view thereof.

1 Claim, 6 Drawing Sheets
Design Patent Infringement

- Design patent infringement may be met if the patent owner alleges, and can convince a jury/judge, that the resemblance between the design patent and the accused design is such as to deceive an ordinary observer and that the accused product is "virtually identical in design" to the patented design.
Utility Patents

- Utility patents - protects the way an article is used and works
- Utility patents contain a series of numbered sentences that claim the invention.
- If another person makes, uses, or sells the exact thing described in a patent claim, then that person is infringing the inventor's patent.
United States Patent

Yosill et al.

SYSTEMS AND METHODS FOR TEMPERATURE CONTROL AND HEAT EXTRACTION FROM WASTE LANDFILLS

Inventors: Nazif Yosill, San Luis Obispo, CA (US); James Lewis Hanson, San Luis Obispo, CA (US)

Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. § 154(b) by 323 days.

Appl. No.: 13/190,313

Filed: Jul. 25, 2011

Prior Publication Data


Int. Cl.

F23J 1/00
B09B 1/00 (2006.01)

U.S. Cl.

USPC .............................. 405/129.98, 405/129.28

Field of Classification Search

USPC .............................. 405/129.28, 129.95, 128.28

See application file for complete search history.

References Cited

U.S. PATENT DOCUMENTS


FOREIGN PATENT DOCUMENTS

CN 201532023 U * 7/2010

*cited by examiner

Primary Examiner — John Kreck

Attorney, Agent, or Firm — Joseph K. Liu; One LLP

ABSTRACT

The field of the invention relates to systems and methods for exchanging heat from the degradation, decomposition, and chemical/biochemical transformation of municipal, industrial, and other types of waste. In one embodiment, a heat extraction system may include a closed-loop fluid circulation piping channeled throughout at least one heat extraction well oriented throughout a waste mass. The piping is fluidly coupled to a heat exchanger. A first circulation fluid is circulated through the closed-loop circulation piping into various depths of the waste mass to transfer thermal energy between said mass and said heat exchanger. In one embodiment, the transfer of thermal energy between the waste mass and the heat exchanger is used as alternative energy method and to control at least one of shear strength, compressibility, and hydraulic conductivity of the waste mass.

3 Claims, 8 Drawing Sheets
Claim 1 of U.S. 8,672,586

1. A method of temperature control and heat exchange of a waste mass comprising:

routing at least one heat extraction well throughout the waste mass;

channeling a closed-loop fluid circulation pipe into the at least one heat extraction well, the at least one heat extraction well intermittently filled with a highly conductive granular backfill for providing a thermal encasing for said closed-loop fluid circulation pipe;

circulating a first circulation fluid throughout the closed-loop fluid circulation pipe via a circulation pump operatively coupled to the closed-loop circulation pipe: and exchanging heat between . . . .
Utility Patent Term

• 20 years from the date of filing – some patent term adjustment can occur

• Term Extensions or Adjustments for Delays Within the US patent office Under 35 U.S.C. 154
Provisional Patent Applications

- United States Patent and Trademark Office has offered inventors the option of filing a provisional application for a patent which was designed to provide a lower-cost first patent filing in the United States.
- A provisional application is not required to have a formal patent claim or an oath or declaration.
- A provisional application for patent has a pendency lasting 12 months from the date the provisional application is filed.
- The 12-month pendency period cannot be extended.
Patent Validity Requirements

(what is needed in order to secure a patent)

- **Five statutory criteria**
  - 1 – must be patentable subject matter (no coverage for laws of nature, abstract idea or natural phenomenon);
  - 2 – must possess utility;
  - 3 – must be novel;
  - 4 – must be non-obvious (most challenging);
  - 5 – must have adequate disclosure.
Patentability Searching

• Before filing for a patent application – may want to perform a patentability search
• Generally performed by a company or individual that specializes in patentability searches
• May also want to consider an infringement search if significant dollars are at stake in new product development
Non-Obviousness Requirement

• An invention must be non-obvious in light of what is already known in order to receive a patent
• Trivial advances over prior technology are not entitled to patent protection
• Obviousness is typically the real hurdle to patentability, and unfortunately the law of obviousness can be quite subjective and difficult to understand.
• With obviousness we are asking whether there is any combination of prior art references that when put together would be the invention in question.
Entity Status – Discounts Available

- When filing a patent application you must pay the patent office fees that include the following:
  - a basic filing fee ($280)
  - patent search fee ($600)
  - patent examination fee ($720)
  - If patent is allowed then you pay issue fee ($960)
  - Large entity (full payment); small entity (50% reduction); micro-entity (75% reduction)
Inventorship

• Who is (are) the inventor(s)?
Prosecution of a patent application

• What happens after a patent application is filed?
• Wait for a patent office examiner to review the office action.
• Rejections based upon lack of novelty, or the apparatus / system is obvious over prior art or is lacking definiteness.
• Generally two bites at the apple (can get more at additional cost).
• Wait some more.
Petition to Make Special

• In United States patent law, a petition to make special is a formal request submitted to the United States Patent and Trademark Office asking that a patent application be examined ahead of the other pending applications in the same technological art.

• The application relates to certain areas including: quality of the environment, development of energy resources, or terrorism. See 37 CFR § 1.102(c)(2)
Maintenance Fees Paid to U.S. Patent Office (after patent issues)

- Due at 3.5 years - $1,600 (50% less for small entity; 75% less for micro entity)
- Due at 7.5 years - $3,600
- Due at 11.5 years - $7,400
Innovation in the Environmental Arena

- In 2013 (latest statistics I could find) there were a total of 27,345 patents filed in the United States that were directed to environment-related technologies.
  - Art areas include:
    - climate change mitigation technologies related to energy generation, transmission or distribution (6,296)
    - capture storage, sequestration (295)
    - environmental management (12,078)
    - climate change mitigation technologies related to transportation (3,769)
    - water related adaptation technologies (3,785)
Innovation in the Environmental Arena

• The rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country.

• an inventor who wishes patent protection in other countries must apply for a patent in each of the other countries or in regional patent offices.

• Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country, in accordance with the requirements of that country.
Joint Development Agreements

- Consider entering into a joint development agreement with other parties whose expertise complements your (your company’s) expertise.
- The expense of jointly developed intellectual property can be shared and the agreement can provide that jointly developed intellectual property can be jointly owned.
- Restrictions on use / licensing of the jointly developed intellectual property can also be incorporated into the agreement.
Joint Development Agreements

• Unless otherwise specified, each joint owner has the right to make, use, sell and exploit the patented invention, including the right to license the patented invention to third parties, without the consent and duty to account profits to the other joint owners.
Practice, Assignment and Licensing

• Now that I have my patent, what can I do with it?
• Practice it
• Assign it
• License it
GoPro: Harness system for attaching camera to a user
U.S. # 6,955,484
The FURminator
6,782,846
The Intersection of Environmental Innovation and Intellectual Property

• Go forth and continue to innovate!