Law and the Engineer –
Linked by Design

Timothy J. Flanagan
Associate Vice President and Counsel
University of Notre Dame
- Patents
- Copyrights
- Trade Secrets
- Trademarks
- Other legal considerations
Patents
Patents

- Provided for in Constitution
- Administered by U.S. Patent and Trademark Office
  - U.S. Department of Commerce
- Exclusive federal jurisdiction
  - District courts to Federal Circuit
What is a Patent?

- Right of “monopoly” in exchange for public disclosure
- Meant to “push the frontiers” of public knowledge
  - no secrecy
Patent Rights

- The right to exclude others from making, using, offering for sale, selling, or importing the subject matter of the issued patent
What a Patent Does NOT Give...

- Right to make use or sell
- Right to practice your own patent
  - Illegal
  - Dangerous
  - Infringes the patent rights of another
Duration of Patent...

- Lives for 20 years from date of application (Plant patent = 14 years from issue)
  - cannot be renewed or extended (some exceptions)
  - enters public domain after lapse
Types of Patent Protection

- Utility Patent
- Plant Patent
  - New variety of plants
- Design Patent
  - Cover Ornamental Designs
    - article of manufacture
  - Protects appearance of an article
Utility Patent

- Covers the way that something:
  - functions
  - works
  - is constructed
  - is made

- Most often obtained & litigated...
Utility Patent Example

3,359,678

In Fig. 4, a section view taken along lines 4-4 of Fig. 2, further details of the relation of the rim 14 to the central portion 22 are shown. As shown in the lower side of Fig. 2, the circular portion 14 is connected to the rim 14 by means of the curved transitional area 16 on which the plurality of ridges 22 have been placed. In addition, as can be observed, the thickness of the rim portion 14 is substantially greater than the thickness of the central portion. In the preferred embodiment the rim 14, ridges 22 and central portion 23 are formed integrally from plastic or other lightweight material by means of a molding operation.

The height of the rim 14 is selected such that the implement may be conveniently griped by placing the thumb on the convex side of the saucer with the finger or fingers of the hand extending around the rim and being placed on the concave side of the saucer. It has been found that when the implement is thrown to a manner such that the saucer is approximately horizontal with respect to the ground at a pitch of between the hand that it displays a definite aerodynamic property and tends to "fly" in the direction in which it is thrown. It is believed that the saucer flies because the saucer approximates an airfoil and hence its flight through the air is enhanced by aerodynamic lift. Depending on the flight of the saucer, the angle at which the saucer with respect to the air to be varied to obtain greater stability in flight such as causing the saucer to fly in one direction or another. Similarly, the angle of attack with respect to the ground can be varied such that if the saucer is thrown at a high angle of attack relative to the ground the saucer can be used to demonstrate an action similar to a boomerang.

As indicated in a preceding discussion, the ridges 22 provided on the convex side of the saucer have been found to result in an improved flight of the saucer regardless of the skill of the thrower. This improved flight is not completely understood but it is thought to be due to an effect analogous to a spoiler on an airfoil which interferes or interrupts the smooth airflow over the top of the saucer. Put another way, the ridges or spoilers cause a disruption of the normal airflow pattern over the top of the saucer. This interference with the smooth airflow pattern results in a reduction in drag and an increase in stability, especially under high-speed flight conditions. The increase in stability under high-speed flight conditions is highly desirable since flight mistakes in execution of a hard throw tend to be exaggerated under these conditions. Due to the fact that the spoilers are provided and stability is thereby increased, the chances of a poor flight due to a hard or high-speed throw are reduced.

In addition to the various methods of throwing herebefore discussed, the saucer can also be used to perform other maneuvers. For example, a high, easy throw of the saucer causes it to sail and float downward gently as if being resist the pull of gravity. This flighting motion enables someone participating in the thrower to easily catch the saucer as it lands vertically. Similarly, the throw can be executed by a throw in which the thrower begins with the toy held behind him and carries it in a vertical plane past the fish and then rotates the wrist such that the saucer is brought to a nearly horizontal plane and released with a flip of the wrist in a relatively horizontal direction causing it to fly away from him.

Although the spoilers which for the basis of the improvement in the saucer with which this invention is concerned have been shown to be circular ribs or wings circumventing the peripheral edge of the saucer, various modifications and embodiments of such spoilers are believed to be possible. Provision of other means for interrupting the normal airflow pattern over the convex side of the saucer are possible without departing from the scope of the invention as determined by the following claims.

What is claimed is:

1. An aerodynamic toy comprising:
   (a) a circular central portion having a center surrounded by a substantially flat circular area whose boundary is defined by a predetermined radius therefrom circumventing the circular central portion;
   (b) a surface of curvature extending from said boundary and curving downwardly to a point of junction with said rim to form an upper convex surface and a lower concave surface of the toy; and
   (c) air flow spoiler means located on the convex surface of curvature extending substantially from said boundary to the point of juncture at the rim, said spoiler means comprising a plurality of concentric circular raised ribs being concentric about said center.

2. A toy according to claim 1 wherein said plurality of raised ribs are evenly spaced.

3. A toy according to claim 1 wherein the rim has a greater thickness than the body portion.

References Cited

UNITED STATES PATENTS

D. 293,826 9/1880 Morrison 34-35
159,929 2/1887 Cotton et al. 273-165
2,039,17B 11/1933 Van Horne 64-74
2,835,079 7/1958 Davis 64-74

RICHARD C. PINKHAM, Primary Examiner.
ANTON O. OECHSLER, R. BARRY SHAY, Assistant Examiners.
T. ZACK, Assistant Examiner.

Dec. 26, 1967
E. E. HEADRICK
FRAN. 1965
2 Circular-sheet 2
Conditions for Patentability

- Patentable Subject Matter & Utility
- Novelty
- Nonobviousness
Patentable Subject Matter

- Pretty much anything made by humans
  - process
  - machine
  - article of manufacture
  - composition of matter
  - new & useful improvements
NOT Patentable Subject Matter

- Abstract Ideas
- Laws of Nature
- Things that occur naturally
- Mathematical algorithms
Application Process

- Types of application
  - Regular application
  - Provisional application
    - not reviewed by PTO
    - effective for one year
    - acts as placeholder
Application Process

- Submit to PTO
  - Inventor, patent attorney, patent agent
  - Application
  - Fees

- After submission - Prosecution
  - PTO examiner assigned to case
  - “Back and forth” - examiner and inventor/agent/attorney
  - Seldom get all asked for
Application Process

During prosecution

- May use “Patent Pending” language on invention
  - Puts competition/public on notice that protection has been sought
- Application not necessarily confidential
  - Generally published after 18 months
Infringement

- Make, use, import, offer to sell or sell patented invention without authority
- Patents are presumed valid
- Damages for infringement
Copyright Law Basics

- Copyright is legal protection afforded to the authors of “original works of authorship.”
- Exclusive federal law question
Copyrightable Works

- literary works;
- musical works, including any accompanying words
- dramatic works, including any accompanying music
- pantomimes and choreographic works
- pictorial, graphic, and sculptural works
- motion pictures and other audiovisual works
- sound recordings
- architectural works
Works that have *not* been fixed in a tangible form of expression (for example, choreographic works that have not been notated or recorded, or improvisational speeches or performances that have not been written or recorded)
Not eligible for copyright protection

- Titles, names, short phrases, and slogans; familiar symbols or designs; mere variations of typographic ornamentation, lettering, or coloring; mere listings of ingredients or contents
Not eligible for copyright protection

- Ideas, procedures, methods, systems, processes, concepts, principles, discoveries, or devices, as distinguished from a description, explanation, or illustration
- U.S. Government produced works
- Works in the public domain
Not eligible for copyright protection

- Works consisting entirely of information that is common property and containing no original authorship (for example: standard calendars, height and weight charts, tape measures and rulers, and lists or tables taken from public documents or other common sources)
Ownership of Copyright

- Copyright immediately vests with the author or owner upon creation (fixation) of the work. No other affirmative act is required to establish copyright.
- Copyrights may be registered with the U.S. Copyright Office, which affords additional protection in the event of infringement.
Ownership of Copyright

- Copyright Registration
  - Not required, but gives certain advantages:
    - Presumption of ownership and validity
    - Statutory damages and attorneys fees
    - Required to file a copyright infringement lawsuit

- Notice
  - © 2007 University of Notre Dame du Lac
Copyright of a work made by an employee or a contractor may be owned by the employer or the entity contracting, on the basis of “work made for hire”
Work Made for Hire

- work prepared by an employee within the scope of his or her employment; or

- a work specially ordered or commissioned for use as one of 9 narrowly defined types of works (such as, contributions to collective works, translations, tests, answers for tests)
Exclusive rights

- To reproduce the work in copies or phonorecords
- To prepare derivative works based upon the work
- To distribute copies or phonorecords of the work to the public by sale or other transfer of ownership, or by rental, lease, or lending
Exclusive rights

- *To perform the work publicly*, in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works
Exclusive rights

- *To display the copyrighted work publicly*, in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work
Exclusive rights

- In the case of *sound recordings*, *to perform the work publicly* by means of a *digital audio transmission*
Duration of Copyright

- Works published after January 1, 1978:
  - Individual works – life of author plus 70 years
  - Joint works – life of last surviving author plus 70 years
  - Works made for hire, and for anonymous and pseudonymous works (unless the author's identity is revealed in Copyright Office records) - 95 years from publication or 120 years from creation, whichever is shorter

- Works published before 1978 but after 1923:
  - Oftentimes very difficult to determine
    - Depends on whether copyrights were renewed
    - Required notice of ©
    - Extension provisions for works that had been renewed

- Works published before 1923
  - In the public domain
Infringement

- violation of any of the exclusive rights of the owner or author
- Remedies available for infringement
Trade Secrets
Trade Secrets

- Generally controlled by State law
- Uniform Trade Secrets Act
- Duration
  - As long as secrecy maintained
Trade Secrets

- What is subject to Trade Secret Protection?
  - Something of value
    - Formula, pattern, compilation, program, device, method, technique or process
  - Not generally known
    - Economic value derives from not being known to others who would be able to benefit from disclosure
    - Not readily ascertainable by proper means by others who would be able to benefit from disclosure
  - Reasonable efforts made to maintain secrecy
Misappropriation

- Acquisition by improper means
- Disclosure or use without consent
  - Acquired by improper means, or
  - Acquired from someone who had a duty of confidentiality
Misappropriation

- Proper v. Improper means
  - Proper
    - Independent invention
    - Reverse engineering of validly obtained article
    - Discovery under license
    - Observation in public
    - Published literature
Misappropriation

- Proper v. Improper means
  - Improper
    - Theft
    - Bribery
    - Misrepresentation
    - Breach or inducement of a breach of a duty to maintain secrecy
    - Espionage
Trademarks
Trademark

- Word symbol or device used to identify goods and distinguish them from others.
- Initial term for federally registered trademark is ten years – renewable if in use
- Not exclusively federal jurisdiction (®)
  - State Law
  - Common Law (TM or SM)
Trademark Functions

- Indicate the source or origin of the goods
- Guarantee the quality of the goods bearing the mark; and
- Create and maintain a demand for the product through advertising
Advantages of federal registration

- Universal notice of ownership claim
- Evidence of ownership of the mark
- Federal Courts jurisdiction
- May be a basis for obtaining foreign registration
- Registration may be filed with U.S. Customs Service to stop infringing imports
Categories of Trademark

- Fanciful (fictitious):
  - *Kodak* cameras
  - *Exxon* petroleum products
Categories of Trademark

- **Arbitrary** (existing words but do not mean anything in relation to goods)
  - *Apple* computers
  - *Tide* detergent
Categories of Trademark

- Suggestive:
  - *Coppertone* sun tan oil
  - *Whirlpool* washers
Categories of Trademark

- Descriptive:
  - *Rollerblade* in-line skates
  - *Weight Watchers* food products
Categories of Trademark

- Generic
  - *Shuttle* for air transportation services
  - *Kleenex* for tissues
Trademark Infringement

- Likelihood of Confusion
- Remedies
Other Legal Considerations...
- Business creation issues
  - Form of entity
- Employment matters
  - Ownership of IP
  - Non-compete agreements
- Contracts
  - Personal
  - Corporate
- Product liability/Torts