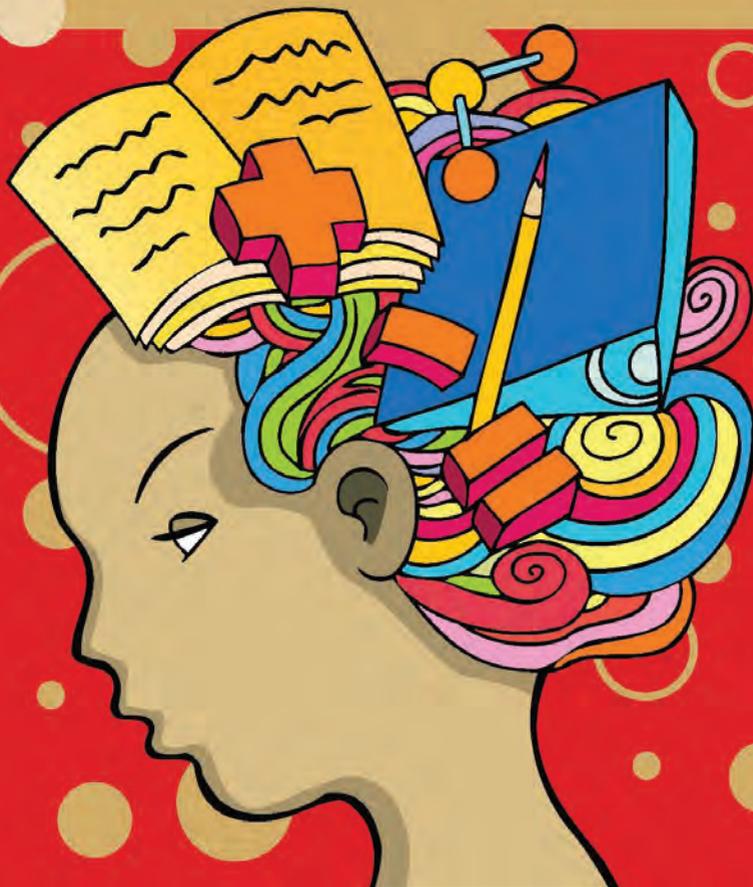


Intellectual Property Management Booklet



Intellectual Property

Intellectual property (IP) refers to creations of the mind and can generally be classified into two types:

- Industrial property, which includes inventions (patents), trademarks, industrial designs, trade secrets, geographic indications of origin and plant-breeder rights; and
- Copyright, which includes literary and artistic works.

In this pamphlet, we will share with you all you need to know IP and protecting your ideas.

1. Patents

A patent is the right of an inventor to prevent others from making, using, exercising, importing and selling their invention. It is a right granted by a government in return for the inventor to disclose details of his invention so others can build or improve on it.

A patent is valid for 20 years from the date of application. There is no such thing as a worldwide patent. Patents are only valid and enforceable in the countries in which they have been applied for and granted. For an invention to be eligible for patent protection, certain criteria must be met:

- It must consist of patentable subject matter.
- It must be new (novel).
- It must be inventive (non-obvious).
- It must be industrially applicable (useful).



Examples of subject matter that may not be patentable include:

- discoveries of materials or substances in nature;
- scientific theories or mathematical methods;
- plants and animals and biological processes for the production thereof;
- schemes, rules or methods, such as those for doing business, performing mental acts or playing games;
- methods of medical treatment or diagnostic methods for humans or animals (but not products used in such methods); and
- computer programs.

Novelty

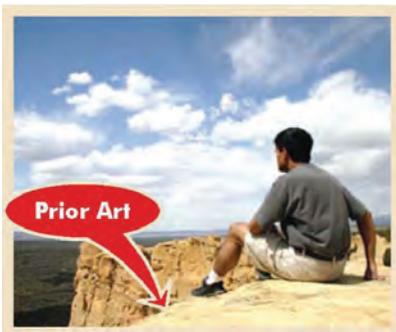
How do you know if your invention is novel? You will have to do a prior art search. “Prior art” is all the knowledge that existed before the date of filing of a patent application for the invention.

Example: *If cavemen usually sat on boulders and a chair never existed then a person who made a base to sit on, supported above the ground by four legs and a back rest (i.e. a chair), that person could say that his invention (the chair) is novel, because it did not exist anywhere before he invented it.*

Inventive Step (Non-Obviousness)

To tell whether an invention contains an inventive step (also referred to as “non-obviousness”), ask yourself: Would the invention have been obvious to a person with ordinary skill in the field that the invention fits into? The invention must be the result of some creative idea and it must be a noticeable step that offers some advantages or solves some problems of the prior art.

Example: *Once the chair had been invented, was it obvious to someone making chairs that it would be a good idea to put armrests on the chair or even wheels, like an office chair? If not, the person who came up with the idea could successfully patent it.*



Utility

So you think you have an idea that is new and inventive? But does it have a use? If your invention does not have a practical application, it cannot be patented.

Example: *A chair is useful for people to sit on. Some chairs even help back problems or can give you a massage.*

Filing a patent application

In South Africa a provisional patent application can be filed. A provisional patent application broadly describes an invention. Once a provisional patent application is filed, the inventor has a period of 12 months before filing a complete patent application. During the period, improvements to the invention and marketing thereof can be undertaken without affecting the validity of the patent. The provisional patent application will lapse unless it is completed within 12 – 15 months by the filing of a complete patent application.

In South Africa, you can file a provisional patent application yourself. The cost is R60*, however, a provisional patent application is usually compiled and filed by a professional patent attorney (this is recommended to avoid invalidity) for a fee of R4 000 – R15 000 or more, depending on how complex the invention is.

Patent applications, as well as design registrations (to be discussed later) and trademarks (to be discussed later) are filed at Companies and Intellectual Property Offices (CIPC) at the Department of Trade and Industry (**the dti**).

A complete patent application must be filed within 12 months after the filing of a provisional patent application, although in South Africa, a grace period of an additional three months is allowed. Upon the granting of a patent, it becomes enforceable by law. A complete patent application is filed by a patent attorney and could cost anything from about R5 000 – R20 000*. Don't forget the yearly renewal fees of between R500 and R1 000 to keep the patent in force.

2. Trademarks



A trademark is any mark, name or sign that is used to distinguish the goods and services of a given enterprise from those of its competitors in the course of trade.

Signs that may serve as trademarks

Almost any sign that is capable of distinguishing goods or services from other goods or services can be a trademark. Some examples:

- Words
- Letters and numerals
- Devices
- Coloured marks
- Three-dimensional signs



Criteria of trademarks

Generally, words that are descriptive cannot be used as trademarks. For example, the word “apple” or an apple device cannot be registered for apples, but it is highly distinctive for computers. This shows that distinctive character is relative to the goods. A trademark may not have a misleading character or violate public order or morality.

Protection of trademark rights

A trademark can be protected on the basis of use under common law (™) or registration (®). Registration has the benefit that the owner does not have to prove their right to the trademark.

Trademark use requirement

If a trademark is not used, the registration may be cancelled at the request of a person with a legitimate interest. Usually, the registered owner is required to prove use. Registered trademarks are valid for 10 years in South Africa but can be renewed for subsequent terms, indefinitely, when the time limit expires.

3. Registered designs

A registered design protects the physical or aesthetic features of an article of manufacture or product. A registered design allows the owner to stop others from using the specific physical appearance of something for a limited period.

Only articles multiplied by an industrial process qualify for design registration. Handcrafted articles or works of art cannot be protected and are generally covered by copyright protection. The subject matter of design protection is the design applied to a product. Protection does not stop other manufacturers from making articles with the same function as long as they do not reproduce the articles or products with the same protected design or aesthetic features. For protection, the design must be new, although there is a “grace period” of six months in which the design can be disclosed without destroying novelty.

There are two recognised categories for design registration in South Africa:

- Aesthetic design – the appearance of an article that is judged by the eye, for example, a piece of jewellery.
- Functional design – the features of an article that are necessitated by the function that the article has to perform, for example, a bottle has to be able to contain liquid and have an opening.

Examples of different designs applied to a product include those of the shape and configuration of roll-on deodorant containers.

Duration of rights

The duration of industrial design rights protection varies from country to country. The duration in South Africa is 10 years for a functional design and 15 years for an aesthetic design.

4. Trade secrets

A trade secret is information that has independent economic value from not being generally known. This information must be the subject of reasonable efforts (in relation to the value) to maintain secrecy. Trade secrets are not registered in the manner of patents, designs or trademarks.

In some cases, it may be difficult to police the infringement of a patent, particularly in the case of patents covering a process or manufacturing method. In such cases, it may be best to keep the process or manufacturing method secret, provided it is difficult to reverse engineer. In addition, while patents expire, a trade secret lasts as long as it is kept a secret, so the protection provided may last much longer than that given by a patent.



What information can be a trade secret?

Trade secrets may include processes or methods of manufacture, chemical formulae, blueprints or prototypes, sales methods, distribution methods, contract forms, business schedules, details of price agreements, consumer profiles, advertising strategies and lists of suppliers or clients.

To sue for violation of a trade secret, the trader must show that he/she intended to have the information treated as a secret. Often, specific measures, such as confidentiality agreements, to keep the information secret are also required. External publications or other information that is readily available will not be considered secret.

5. Copyright and related Rights

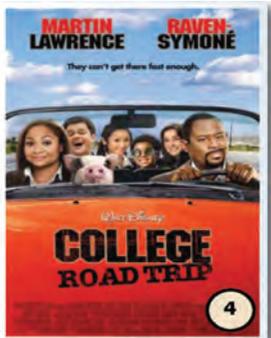
Copyright protects the material expression of ideas. Once an idea has been reduced to material form, such as writing or recording, it is the idea in that material forms that is protected by copyright.

Unlike other forms of IP, and similar to trade secrets, registration is not necessary for copyright to exist.

What can be protected by copyright?

For a work to enjoy copyright protection, it must be an original creation of the author. Purely technical guides, engineering drawings, or even maps are protectable by copyright. Copyright protection is given to the following types of work:

- Literary works – novels, short stories, poems, dramatic works and any other writings.
- Musical works – serious or light, songs, choruses, operas, musicals, operettas.
- Artistic works – two-dimensional (drawings, paintings, etchings, lithographs, etc) or three-dimensional (sculptures, architectural works).
- Photographic works – irrespective of the subject matter and the purpose for which they are made.
- Motion pictures (“cinematographic works”) – such as television broadcasting, films, documentaries and DVDs, whether silent or with a soundtrack, irrespective of their purpose, genre or length.
- Computer programs – either as a literary work or independently.



What rights does copyright give me?

The owner of copyright in a protected work has the right to prevent others from making copies.

Limitations on copyright protection

Copyright lasts relatively long and the term varies for different categories of works. Copyright is immediate for artistic works and generally exists for the lifetime of the creator and for 50 years after his/her death. In other cases, the duration is for 50 years after the work is first made available to the public.

Piracy and infringement

The unauthorised copying of copyright materials for commercial purposes is known as “piracy”. An essential part of piracy is that the unauthorised activity is carried out for commercial gain. While consumers may sometimes see short-term benefits in the availability of cheaper works, the quality of reproductions made by pirates is often bad and copyright owners are deprived of benefits for their creations.

6. Plant-breeder rights/new plant varieties

Plant-breeder rights protect new plant varieties.

New varieties of plants that are developed by cross-breeding may not be patented, but may be protected by plant-breeder rights. The holder of a plant-breeder’s right has exclusive right to the production, sale, import and export of propagating material or harvested material of the protected variety.

If a plant is developed using a microbiological process where a microbial vector is introduced to change the genetic composition of the plant, it may be patented and protected by way of a plant-breeder’s right. There are four criteria for a plant variety to be considered for a plant-breeder’s right, namely:

- Novelty – a variety is new if the propagating material or harvested material thereof has not been sold in South Africa for more than one year.
- Distinctiveness – a variety is distinct if it is clearly distinguishable from any other variety of the same kind of plant that exists.
- Uniformity – the variety should be sufficiently uniform with regard to its characteristics.
- Stability – the characteristics of the new variety should remain unchanged after repeated propagation. Application for registration of plant-breeder rights is made to the Department of Agriculture, Forestry and Fisheries.

7. Summary

Hardware and concept = **Patent**

Logo and name = **Trademark**

Trademark protection for the “iPod” logo and name; and

Copyright protection for the software, “iTunes”, and drawings for producing the iPod.

Now that you know how to protect your IP, here are some examples of young inventors to inspire you to innovate ...



iPod

Shape and look = **Design**

software = **Copyright**

In summary, it is worth mentioning that a variety of IP protection mechanisms can be afforded to a single product. For example, an iPod is protected by a number of IP mechanisms:

1. One or more patents for protection of the underlying concept and hardware;
2. Design registration(s) for the aesthetic features;

1642

The mechanical adding machine was invented by a 19-year-old Frenchman named Blaise Pascal in 1642.

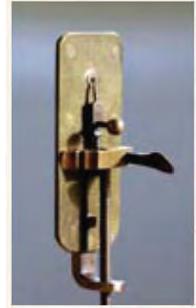
An old mechanical calculator



1648

Antonie van Leeuwenhoek is best known for his work on improvements to the microscope, in 1648, at the age of 16. He also contributed towards the establishment of microbiology in 1673.

Replica of a microscope by Van Leeuwenhoek



1721

Benjamin Franklin, aged 15, was busily occupied in delivering newspapers by day and in composing articles for it at night.

These articles, published anonymously, won wide notice and acclaim for their pithy observations on the current scene.

1824

When Louis Braille was 15 years old, he developed an ingenious system of reading and writing by means of raised dots. Today, in virtually every language throughout the world, Braille is the standard form of writing and reading used by blind people. At the age of 15, Cyrus Hall McCormick invented a lightweight cradle for carting harvested grain. Seven years later, in 1831, he invented the reaper, a horse-drawn farm implement to cut small grain crops.

1830

Henry Bessemer produced his first invention at the age of 17 – embossed stamps for use on title deeds. At that time, the British government was losing thousands of pounds in revenue each year through the illegal reuse of title stamps. Bessemer's invention made the crime impossible and earned him his first job.

1862

When he was 15 years old, Thomas Alva Edison published a weekly newspaper, printing it in a freight car that also served as his laboratory. While working as a telegraph operator, he made his first important invention, a telegraphic repeating instrument.



1865

Since the age of 18, Alexander Graham Bell had been working on the idea of transmitting speech. While working on a multiple telegraph, he developed the basic ideas for the telephone.

Bell speaking into prototype model of the telephone

1865

At 19, George Westinghouse obtained his first patent, for a rotary steam engine.

Le Rhône 9C, a typical rotary of World War I. The copper pipes carry the fuel-air mixture from the crankcase to the cylinder heads.



1873

At 17, Chester Greenwood applied for a patent. For the next 60 years, Greenwood's factory made earmuffs. Greenwood went on to create more than 100 other inventions.

A pair of Husqvarna earmuffs



1993

At 14, Philo Farnsworth realised an electron One Saturday morning in 1993, when she was eight years old, his father's Idaho farm. Philo beam could Abigail M. Fleck, and her father Jonathan, were cooking bacon in scan a picture in horizontal lines, reproducing the image almost their St. Paul, Minnesota home. Inspired by an offhand comment instantaneously. It would prove to be a critical breakthrough, from her father, Abbey Fleck invented a new, quicker and healthier towards electronic television. way to cook bacon, then founded a company to sell her product, The Makin' BaconCE. The 1927 version of Farnsworth's image dissector, which he received a patent for in 1930 and successfully defended the microwave cooking vessel with removable food supports by Abbey that patent against Vladimir Zworykin and David Sarnoff.

Courtesy: Fleck Smithsonian Institution.

2000 1930 "I called it a Batball because I can store my baseballs inside the bat and I like it. It's really cool." At 16, George Nissen finished high school and set out to says Jacob Dunnack age 8. develop a bouncing apparatus (trampoline). Working in his parents' garage using steel materials he found at a junkyard, he built a **2005** rectangular frame with a piece of canvas stretched across it. It was Taylor Hernandez, age 10, invented "Magic Sponge Blocks," large building blocks made from an instant hit and Nissen was sure he could commercialize it. sponge that can safely stack high without worry that they could fall and hurt a child.

1958

As a 17-year-old high school junior, Robert Heft found himself in need of a class project. His proposed 50-star US flag idea was initially turned down by the teacher. He went ahead and finished his project, receiving a B-minus for his efforts. Heft's teacher compromised and promised to deliver a better classroom grade if he could get the US

Congress to accept his flag. The rest is history.

1972

One evening when she was 10 years old, Becky Schroeder was doing her homework in the car while her mom finished shopping. As it grew darker, Becky was having trouble seeing her paper. She wondered how to make something glow in the dark, and pulled her glow-in-the-dark Frisbee out of her toybox. She did some investigating and found that it was phosphorescence that caused the effect. She started experimenting with phosphorescence paint, spreading it on sheets of paper. She then painted a clipboard, and placed a piece of paper on top of that. With a few modifications, in 1974, her simple invention, which she named the "Glow Sheet", enabled her to become the youngest female ever to receive a US patent.

While you are at it, take a look at all these proudly South African inventions:

CAT scan by South African physicist Allan Cormack and Godfrey Hounsfield of EMI Laboratories. They were even awarded the 1979 Nobel Prize in Physiology or Medicine.

The prototype CT scanner



Oil from coal Sasol is the world's first and largest oil-from-coal refinery. Situated in Sasolburg in Free State, it provides 40% of the country's fuel.



Side-by-side comparison of FT synthetic fuel and conventional fuel. The synthetic fuel is visibly cleaner, being as clear as water because of a near-absence of sulphur and aromatics.

Heart transplant The world's first heart transplant was performed by a South African doctor, Dr Chris Barnard, in Cape Town on 3 December 1967.



Speed gun The speed gun used to measure ball speed was developed by Somerset West inventor Henri Johnson. It was launched at The Oval in England during the 1999 Cricket World Cup.

Kreepy Krauly The swimming pool vacuum cleaner was invented by Ferdinand Chauvier, a hydraulics engineer who came to South Africa from the Congo in 1951.



Pratley Putty Pratley's famous glue is the only South African invention that has been to the moon. Developed by Krugersdorp engineer George Pratley in the 1960s, the putty was used to hold bits of the Apollo XI mission's Eagle landing craft together.

For additional information, see:

- www.saiipl.org.za
- www.wipo.int
- https://www.sabs.co.za/Business_Units/Design_Institute/Publications/IP/IPindex.aspx

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