BAND-AID

The Band-Aid was invented in 1920 by Earle Dickson, an employee of Johnson & Johnson. He developed it for his wife Josephine, who frequently cut and burned herself while cooking.

Out of concern for his wife's safety, he began to prepare bandages ahead of time so that she could apply them by herself.

fig. 1

By combining a piece of surgical tape and a piece of gauze, he fashioned the first crude adhesive strip bandage. The prototype product allowed his wife to dress her wounds without assistance.

fig. 2

fig. 3

Dickson passed the idea on to his employer who then went on to produce and market the product as the Band-Aid. The first bandages produced were hand-made and not very popular. By 1924, Johnson & Johnson introduced the first machine that produced sterilised Band-Aids. In World War II, millions of Band-Aid bandages were shipped overseas.

In 1951 the first decorative Band-Aids were introduced to the market. They continue to be a commercial success today with decorative themes such as Superman, Spiderman, Smiley Faces and Batman.

fig. 1 A box of Band-Aid (assorted shapes).
fig. 2 A Band-Aid is the classic remedy for a cut knee.
fig. 3 An example of a Band-Aid sticking plaster.

CAT SCAN

The Computed Axial Tomography scan, or CAT scan, was developed at Tufts University in the UK by South African physicist Allan Cormack and Godfrey Hounsfield of EMI Laboratories. Their achievement secured them the 1979 Nobel Prize in Physiology or Medicine.

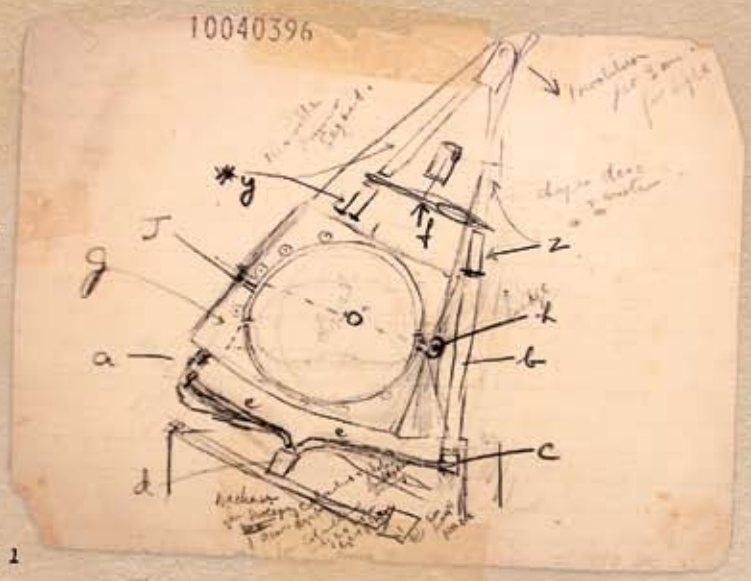

fig. 1

Cormack's interest in the problem of X-ray imaging of soft tissues or layers of tissue of differing densities was first aroused when he took up the part-time position of physicist for a hospital radiology department. The two-dimensional representations of conventional X-ray plates were often unable to distinguish between such tissues. More information could be gained if X-rays of the body were taken from several different directions, but conventional X-ray techniques made this procedure problematic.

fig. 2

fig. 3

In the early 1960s Cormack showed how details of a flat section of soft tissues could be calculated from measurements of the attenuation of X-rays passing through it from many different angles. He thus provided the mathematical technique for the CAT scan, in which an X-ray source and electronic detectors are rotated about the body and the resulting data is analysed by a computer to produce a sharp map of the tissues within a cross-section of the body.

fig. 1 Original sketch from Hounsfield's notebook.
fig. 2 An example of a CAT scan.
fig. 3 A Philips "Brilliance" 64-channel thin-slice scanner.

FRISBEE

The term "Frisbee" did not always refer to the familiar plastic discs we visualise flying through the air. Over 100 years ago, in Bridgeport, Connecticut, William Russell Frisbie owned the Frisbie Pie Company and delivered his pies locally. All of his pies were baked in the same type of 10" round tin with a raised edge, wide brim, six small holes in the bottom and "Frisbie Pies" on the bottom.

Playing catch with the tins soon became a popular local sport. However, the tins were slightly dangerous when a toss was missed. It became the Yale custom to yell "Frisbie" when throwing a pie tin. In the 40's when plastic emerged, the pie-tin game was recognised as a manufacturable and marketable product.

fig. 1

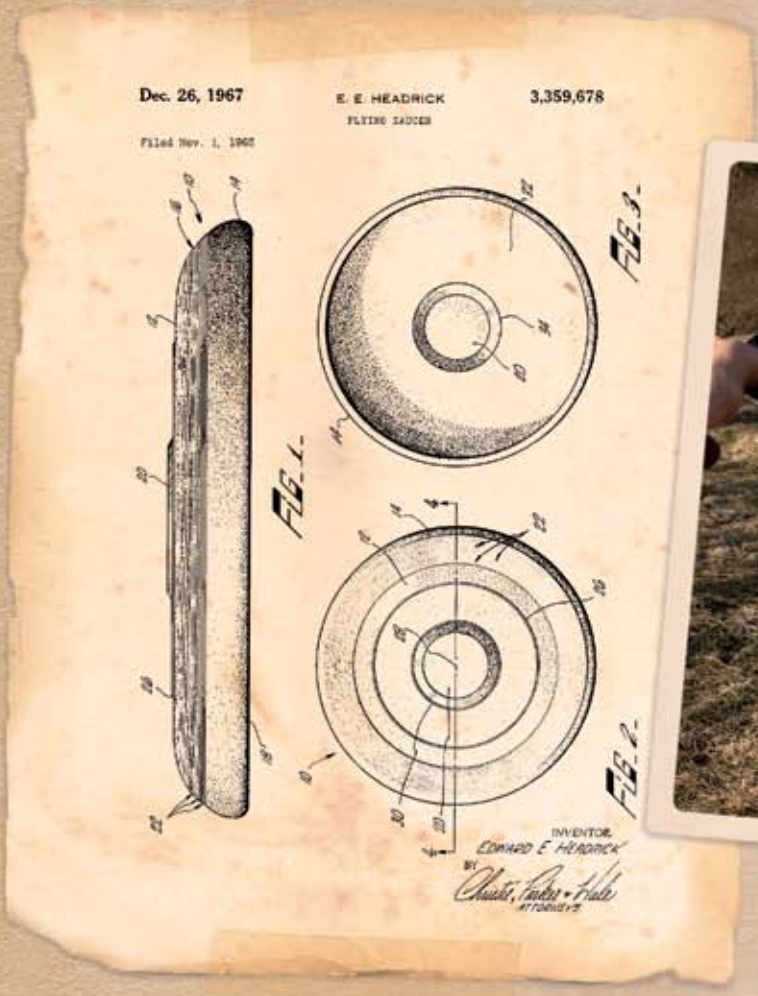

fig. 2

fig. 3

fig. 1 The modern frisbee.
fig. 2 E.E. Headrick's original patent drawings.
fig. 3 An athletic game of "Frisbee".

KREEPY KRAULY

The story begins way back in 1951 when a penniless refugee, Ferdinand Chauvier, from the then Belgian Congo, brought his family to South Africa. Ferdi was a qualified hydraulics engineer and had previously owned a hydraulic pump factory. To earn a living, he utilised his mechanical skills at a service station in Springs.

Ferdi's son, Daniel, grew up and began selling pool equipment and chemicals door to door. It soon became obvious that most pool owners disliked their pools as a result of the laborious task of keeping them clean. Danny discussed the possibility of an automatic pool cleaner with his father, who soon put some ideas together by making use of his hydraulics engineering background. In 1974, the first machines were made from wood and rubber tubing which, incidentally, were melted together on the kitchen stove! Danny took these prototypes out to his clients and once they had been demonstrated in the pool, most were extremely reluctant to part with them.

fig. 1

fig. 2

It was obviously not very long before it became apparent that the Chauviers' automatic pool cleaning machine was a success story. By 1978, a sufficient number of cleaners had been sold to cover the costs of plastic injection moulding and the first Kreepy Krauly, as we know it today, was rolled out.

As technology developed over the years, the Kreepy Krauly was modified so that the nuts and bolts of yesteryear were eventually replaced with clip-on, single piece, moulded plastic parts. The patented design, with a few improvements, is so solid that it has essentially remained the same for over 30 years! During this period, Kreepy Krauly has exported over 1.5 million cleaners to Canada, the United States, Europe, the Middle East, Africa, Australia and the Indian Ocean Islands.

fig.1 The modern Kreepy Krauly unit.
fig.2 Ferdinand Chauvier (no date).

LIFE SAVERS

Life Savers is an American brand of ring-shaped mints and artificially fruit-flavored hard candy. The candy is known for its distinctive, aluminium foil roll packaging.

fig. 1

During the hot summer of 1913, Clarence Crane, a chocolate candy manufacturer, found himself facing a dilemma. When he tried to ship his chocolates to candy shops in other cities they melted into gooey blobs. To avoid dealing with the "mess", his customers were deferring their orders until cooler weather. In order to retain his customers, Mr. Crane needed to find a substitute for the melted chocolates. He experimented with hard candy that wouldn't melt during shipment. Using a machine designed for making medicine pills, Crane produced small, circular candies with a hole in the middle. He called them "Crane's Peppermint Life Savers" because they looked like miniature, throwable life preservers (these ring-shaped devices were just beginning to come into use after the Titanic disaster).

fig. 2

Interestingly, the South African chorus group, Ladysmith Black Mambazo, sang the distinctive a cappella songs used in American Life Savers commercials throughout the 1990s.

fig.1 A roll of Life Savers.
fig.2 Lots of Life Savers!

POST-IT NOTES

Post-it® notes may have been a God-send... literally. In the early 1970s, Art Fry was in search of a bookmark for his church hymnal that would neither fall out nor damage the hymnal.

fig. 1

Fry noticed that a colleague at 3M, Dr. Spencer Silver, had developed an adhesive that was strong enough to stick to surfaces, but left no residue after removal and could be repositioned. Fry took some of Dr. Silver's adhesive and applied it along the edge of a piece of paper. His hymnal problem was solved!

fig. 2

Fry soon realized that his "bookmark" had other potential functions when he used it to leave a note on a work file and co-workers kept dropping by, seeking "bookmarks" for their offices.

This "bookmark" was a new way to communicate and to organise. 3M Corporation crafted the name Post-it note for Fry's bookmarks and began production in the late 1970s for commercial use.

In 1977 test-markets failed to show consumer interest. However, in 1979 3M implemented a massive consumer sampling strategy and the Post-it note took off. Today we see Post-it® notes peppered across files, computers, desks and doors in offices and homes throughout the world.

From a church hymnal bookmark to an office and home essential, the Post-it note has coloured the way we live.

fig.1 A pad of fan-folded Post-it pop-up notes, shown still glued together.
fig.2 While in search of a bookmark for his church hymnal, Art Fry invented the Post-it.

fig. 1

PRATLEY PUTTY

Krugersdorp engineer, George Pratley, invented his famous sticky stuff in the 1960s while looking for a glue that would hold components in an electrical box.

Pratley Putty was the first of its type in the world and had the distinction of being used in the first American space module to land on the Moon. Pratley Putty also halted cracking in one of the main supports of the Golden Gate Bridge spanning the San Francisco Bay in the U.S.A., while in South Africa the holes in two sunken ships were repaired with the adhesive, which sets under water. Both ships were raised and ultimately sailed the high seas once more.

fig. 2

fig. 3

Pratley died in 1983 and today, the company is run by his son, Kim. Hundreds of tons of Pratley Putty have been exported all over the world and the company has diversified into other products.

fig. 1 The original Pratley Putty.
fig. 2 Pratley Putty was used on the Golden Gate Bridge.
fig. 3 Pratley Putty has traveled to the Moon.

fig. 2

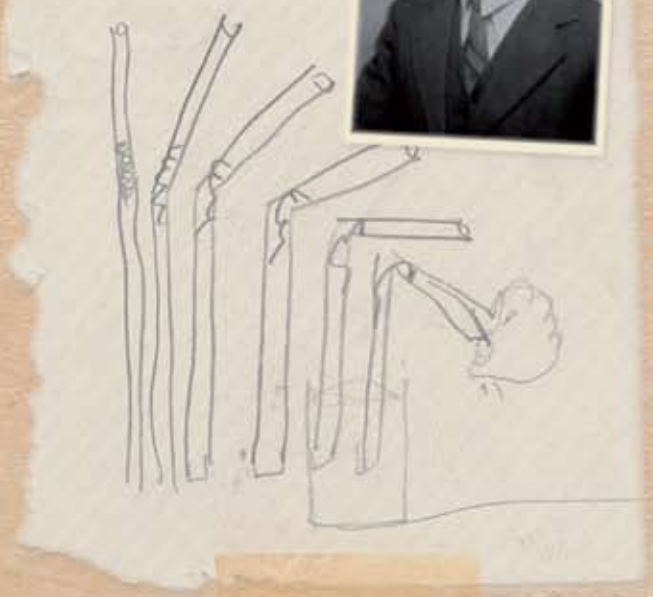

fig. 1

THE FLEXIBLE DRINKING STRAW

One day in the 1930s, while sitting in his brother's fountain parlor – the Varsity Sweet Shop, in San Francisco – Joseph B. Friedman (1900-1982) watched his young daughter Judith at the counter struggling to drink a milkshake out of a straight paper straw.

Friedman, an inventor with a natural curiosity and a creative instinct, took the straw and inserted a screw. He then wrapped dental floss around the paper into the screw threads, creating corrugations.

After he removed the screw, the altered paper straw would bend conveniently over the edge of the glass, allowing a small child to better reach the beverage.

U.S. patent number 2,094,268 was issued for this new invention, under the title Drinking Tube, on September 28, 1937. Friedman would later obtain two additional U.S. patents and three foreign ones in the 1950s, relating to its formation and construction.

fig. 1 Pencil sketch of the flexible drinking straw (no date).
fig. 2 Joseph B. Friedman (no date).

fig. 1

THE SWISS ARMY KNIFE

In 1891, Karl Elsener, then owner of a company that made surgical equipment, discovered to his dismay that pocket knives supplied to the Swiss army were in fact made in Germany.

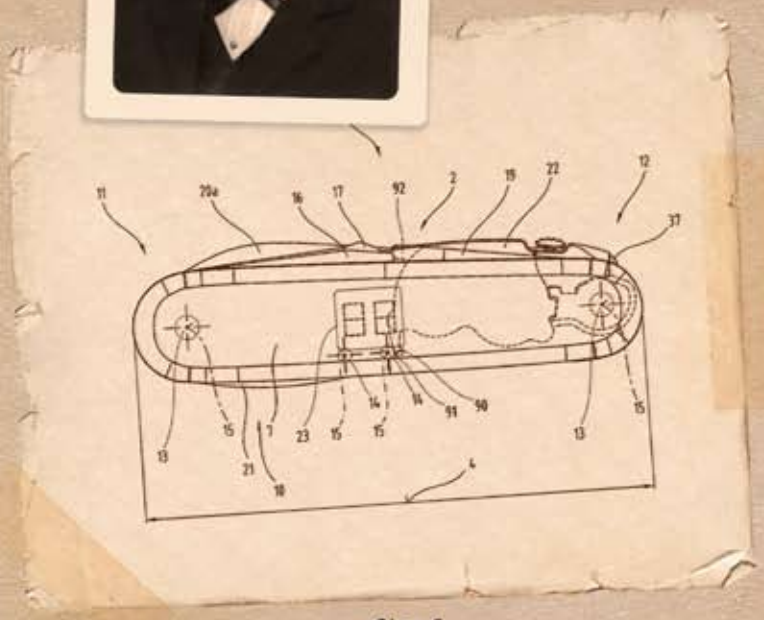

fig. 2

In that age of nationalism, Elsener set out to manufacture the knives in Switzerland itself. Elsener began working on what became the predecessor to the modern Swiss Army knife, called the "Soldier's Knife". The original had a wooden handle, as opposed to the plastic and metal seen today, and featured a cutting blade, a screwdriver, a can opener, and a punch. This knife was sold to the Swiss army, but Elsener was not satisfied with its first incarnation.

In 1896, after five years of hard work, Elsener managed to put the blades on both sides of the handle using a special spring mechanism. This allowed him to use the same spring to hold them in place; an innovation at the time. Elsener could now put twice as many features on the knife, including a second cutting blade and a corkscrew.

fig. 3

fig. 4

fig. 1 Karl Elsener invented the Swiss Army Knife in 1891.
fig. 2 Elsener Pocket Tool Patent Drawing, from US Patent Documents.
fig. 3 Modern Swiss Army Knife, closed.
fig. 4 Modern Swiss Army Knife, opened, showing the various tools.

TRIVIAL PURSUIT

Trivial Pursuit was first conceived on December 15, 1979 by Chris Haney and Scott Abbott. At the time, Chris Haney worked as a photo editor at the Montreal Gazette, and Scott Abbott was a sports journalist for The Canadian Press. The two friends came up with the basic concept of Trivial Pursuit within a few short hours.

fig. 1

fig. 2

fig. 3

The pair had been playing a game of Scrabble, when they decided to invent their own game. However, it was not until 1981 that the board game was released commercially.

On November 10, 1981, "Trivial Pursuit" was trademark registered. That same month, 1100 copies of Trivial Pursuit were first published in Canada. Eighteen-year-old artist Michael Wurstlin agreed to create the final artwork for Trivial Pursuit, in exchange for five shares in the company.

The first copies of Trivial Pursuit were sold at a loss. The manufacturing costs for the first copies came to seventy-five dollars per game and the game was sold to retailers for just fifteen dollars. The manufacturers financed a successful public relations effort and soon Trivial Pursuit became a household name.

In December 1993, Trivial Pursuit was added to the "Games Hall of Fame" by Games Magazine.

fig. 1 "Pies and slices" are used to keep score in the game.
fig. 2 Chris Haney and Scott Abbott.
fig. 3 Question and answer cards.

SONY WALKMAN

fig. 1

fig. 2

In 1978, Masaru Ibuka requested that Kozo Ohsone, general manager of the Tape Recorder Business Division, begin work on a stereo version of the Pressman, the small, monaural tape recorder that Sony had launched in 1977. When Sony's founder, Akio Morita, was introduced to the modified Pressman, he had the following reaction: "This is the product that will satisfy those young people who want to listen to music all day. They'll take it everywhere with them and they won't care about record functions. If we put a playback-only headphone stereo like this on the market, it'll be a hit."

Morita's words proved prophetic. By 1995, total production of Walkman units reached 150 million and over 300 different Walkman models had been produced.

fig.1 An early Sony Walkman (1984).
fig.2 Later Sony Walkman (1998).

THE WINDSCREEN WIPER

During a trip to New York City, Mary Anderson noticed that streetcar drivers had to open the windows of their cars in bad weather in order to see. As a solution, she invented a swinging arm device with a rubber blade that was operated by the driver from within the vehicle, using a lever. Mary's invention could clean snow, rain or sleet from a windscreen, making driving in stormy weather much safer.

fig. 1

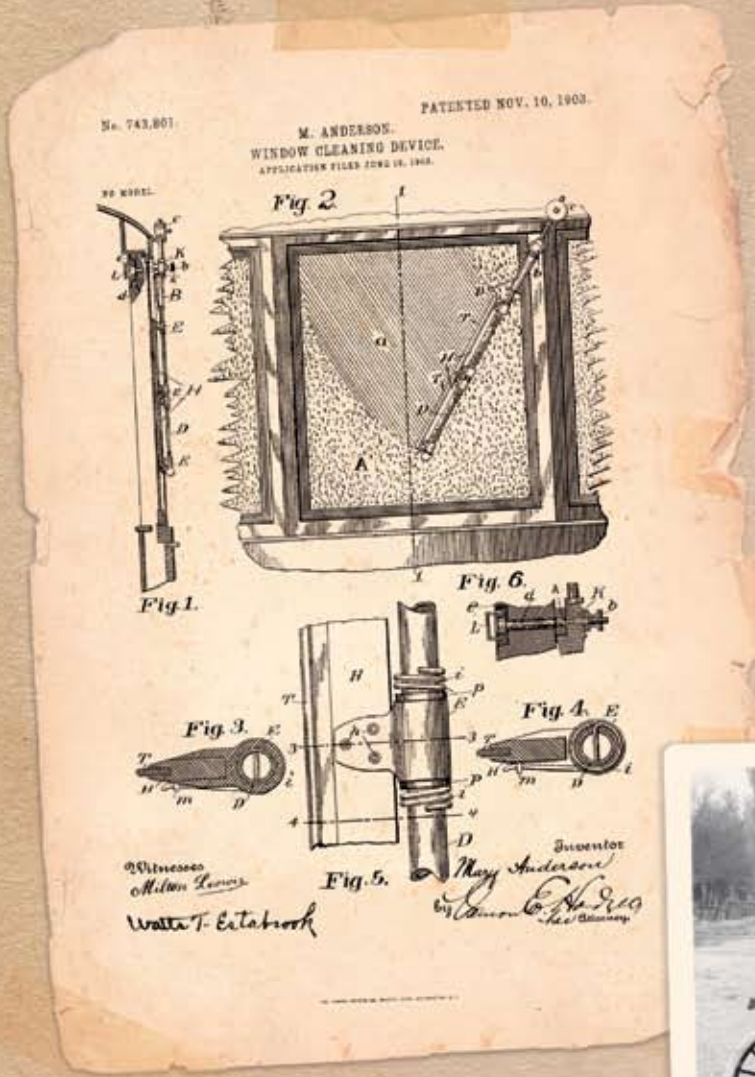

fig. 2

She applied for and received a patent in 1903 and in 1905 she tried to sell the rights to a noted Canadian firm – but they rejected her application, saying: "We do not consider it to be of such commercial value as would warrant our undertaking its sale."

Windscreen wipers using her design later became standard issue on cars, but unfortunately her patent expired in 1920. She did occasionally receive royalties, but they did not amount to much.

fig. 3

fig. 1 Mary Anderson (no date).
fig. 2 Original patent drawing for the "Window Cleaning Device", Nov 1903.
fig. 3 Model T Ford photographed in Salt Lake City, 1910.