

Rainforest Butterflies

Australian Innovations



First day cover



Indigenous Australians devised unique tools, such as the boomerang and woomera, to assist in hunting. The early European settlers invented tools and equipment to help them work the land – the stump jump plough, the Sunshine header harvester and the rotary hoe are notable examples.

Over the last century there have been many Australian innovations in different fields of endeavour. Some are now icons of Australian life: the surf lifesaving reel; the utility vehicle; the automatic totalisator; the rotary clothesline; and the rotary lawn mower. There have also been great innovations in medicine: spider anti-venins; microsurgery techniques; the bionic ear; IVF embryo freezing; and the flu vaccine.

These stamps use the featured innovations to illustrate and celebrate the spirit and culture of Australian innovation. These five may not be Australia's best known innovations, but they are part of every day life, not just in Australia but around the world.

As well as the gummed and self-adhesive stamps the issue includes a first day cover, a stamp pack, a set of five maximum cards and a gutter strip. There is no special text or design printed in the gutter.

Technical details

Issue date.....	4 May 2004
Designer	Wayne Rankin
Denominations.....	One each 5c, 10c, 75c, \$2.00
Stamp sizes/Perforations	
5c, 10c, 75c	30 x 25 mm/14 x 14.4
\$2.00	50 x 30 mm/14.4 x 14
Printer	SNP Sprint
Paper	Tullis Russell
Printing process	Lithography
Sheet layout.....	Modules of 50, no gutter
National postmark.....	Daintree QLD 4873

Mail order codes

1408067 Stamps (one each 5c, 10c, 75c, \$2.00) ...	\$2.90
1408001 First day cover	\$3.20
1408126 Stamp pack.....	\$3.35
1408220 Maximum cards (set of four)	\$5.90

Black Box Flight Recorder 1961

In 1953 Dave Warren, a chemist at the Aeronautical Research Laboratory in Melbourne, was involved in the investigation into the mysterious crash of the Comet, the world's first jet-powered aircraft. There were no witnesses and no survivors to help them find out what happened. Warren's idea was that a voice recorder in the cockpit, as well as data from flight instruments, would provide invaluable information that could be of enormous assistance in solving otherwise inexplicable aircraft accidents.

Today every commercial aeroplane in the world carries a black box recorder (which is actually bright orange so it can be found easily).



Ultrasound Imaging 1976

In the 1960s it was known that X-rays could damage unborn babies and that it would be safer to produce images using ultrasound. But images produced from ultrasound were not clear enough to be useful. George Kossoff and colleagues at the Ultrasonics Institute (then part of the Commonwealth Health Department, later transferred to the CSIRO) pioneered the use of ultrasound in medical diagnosis. They made a technical breakthrough called 'grey scale imaging', which enabled them to produce images of much greater clarity and detail. It was an important step leading to the widespread adoption of ultrasound throughout the world.

Most expectant mothers in our society have at least one ultrasound during their pregnancy. The original technology has been overtaken, however ultrasound remains an important diagnostic technique throughout the world.

Racecam TV Sport Coverage 1979

Channel 7 revolutionised television sports coverage during the 1979 Bathurst 1000 with racecam, a compact, fixed, forward-looking camera mounted in a car to give viewers at home a driver's eye view of the race.

The system combined cameras mounted in competing cars which sent sound and pictures to miniaturised microwave radio transmitters on the roof of the vehicles. These were linked to relays in helicopters that followed the cars around the circuit.

The technique of using tough, compact cameras to transmit pictures from positions that were impossible for camera operators spawned a host of variations including 'stumpcam' for cricket, 'netcam' for tennis, 'skicam' for skiing.

Given the global popularity of televised sports, racecam is an Australian innovation with a presence in many millions of homes around the world.

Baby Safety Capsule 1984

In the 1970s legislation made the wearing of car seat belts compulsory and special restraints for children were introduced quickly. But it wasn't until 1984 that specially-designed protection for infants became available.

The now ubiquitous baby safety capsule was developed by Safe n Sound™. The capsule is made up of a bassinette inside a base, which is kept in place by a seat belt. In an accident, a release mechanism allows the bassinette to

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rotate, keeping the baby more upright and distributing forces uniformly over its body. At the same time, the bassinette pushes against an impact-absorbing bubble in the base.

Today in many states a child must travel in an approved capsule device until the child is large enough to travel safely in a child's car seat or be restrained by a special child's seat belt.

Polymer Banknotes 1988

The first polymer banknote was issued in January 1988 to celebrate the bicentenary of European settlement. The note was the culmination of almost 20 years of collaboration between the Reserve Bank of Australia and the CSIRO. The notes were developed to improve the security and durability of Australia's currency. By 1996 the complete series of circulating banknotes were polymer.

The polymer note's non-porous and non-fibrous substrate mean that the notes last much longer than their paper counterparts. The polymer note is more resistant to tearing, stays cleaner longer and survives machine processing and manual handling very well.

When polymer notes need replacing, they are recycled in a variety of plastic products.

Today Australia leads the world in polymer banknote technology and the benefits of polymer banknotes are recognised internationally. Note Printing Australia has printed notes for other countries including Thailand, Papua New Guinea, Malaysia, Singapore, Indonesia and New Zealand.

The design and designer

The stamps were designed by Mike Heine, who has taken a witty, lateral approach using iconic settings and images to raise the profile of these Australian innovations that can be found almost anywhere you look in the world.

Heine's first stamp design was Active with Asthma (October 2003).



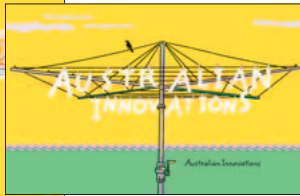
Maximum cards (set of five)

Further information

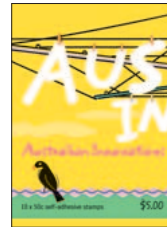
Margaret McPhee, *The Dictionary of Australian Inventions and Discoveries*, Allen & Unwin, 1993

And on-line at:

The Powerhouse Museum at www.powerhousemuseum.com/australia_innovates/
 IP Australia at www.innovated.gov.au/Innovated/



Stamp pack



Booklet of ten x 50c

First day cover



Technical details

Issue date.....	18 May 2004
Denominations.....	Five x 50c
Designer	Mike Heine Design
Stamp size.....	37.5 x 26 mm
Perforations.....	13.86 x 14.6
Printer (all).....	SNP Sprint
Paper (gummed)	Tullis Russell
Paper (booklets)	B/O 100
Sheet layout.....	Modules of 50 in two panes of 25
National postmark.....	Canberra ACT 2600?

Mail order codes

1407067 Stamps (five x 50c)	\$2.50
1407001 First day cover	\$2.80
1407126 Stamp pack	\$2.95
1407220 Maximum cards (set of five)	\$6.25
1407240 Gutter strip of ten x 50c (no special text or design in gutter)	\$5.00
1407182 Booklet of ten x 50c	\$5.00
1407250 Cheque book (20 booklets of ten x 50c) ..	\$100.00

