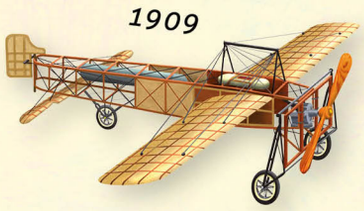
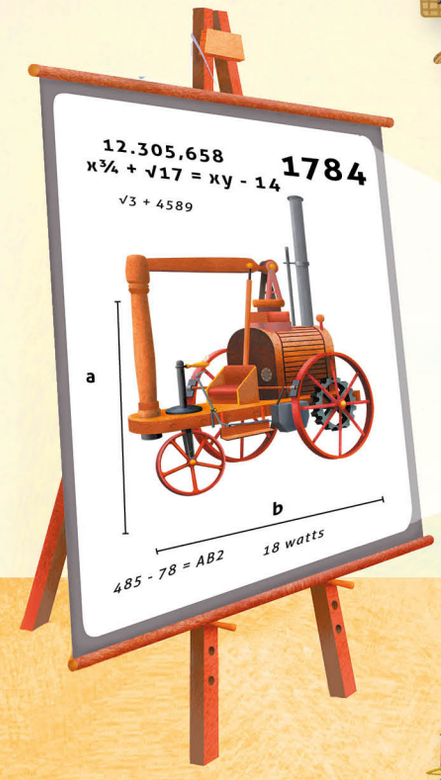
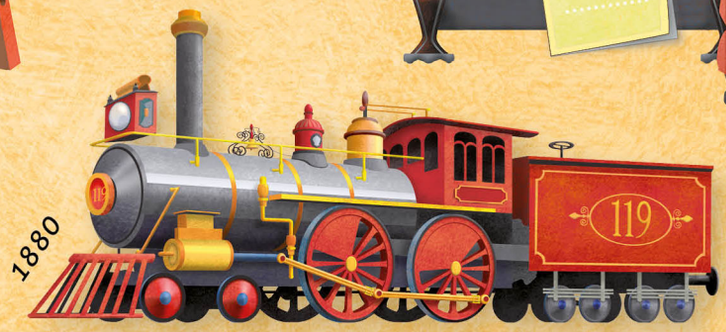
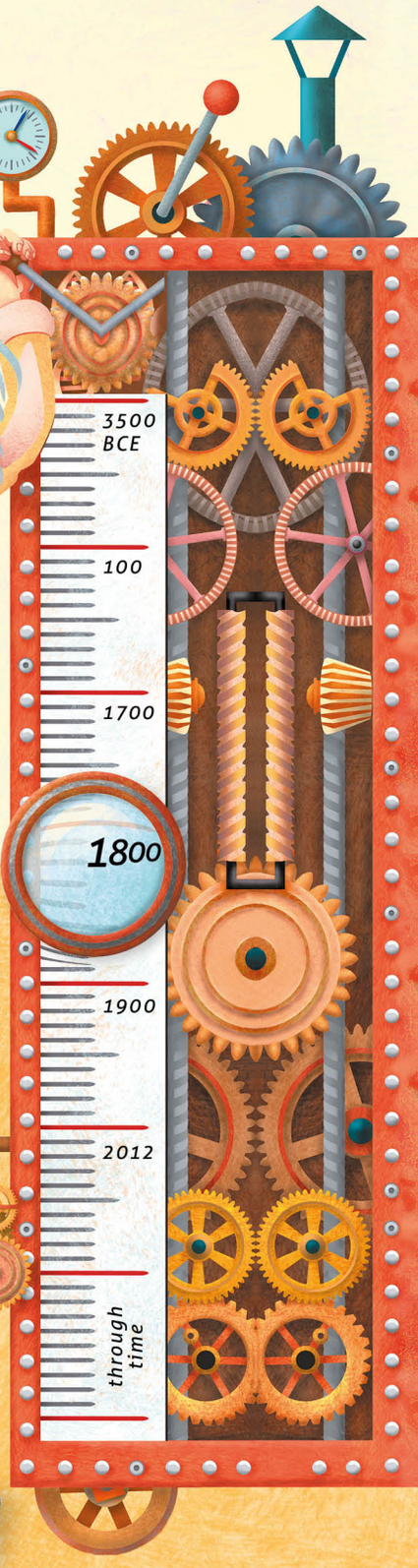
b4u publishing

Time Traveller









INVENTIONS

INVENTIONS

Time Traveller

Sumer

SUMER

Sumer was a civilization and region of southern Mesopotamia between the Rivers Euphrates and Tigris, approximating to where Iraq, Syria, Turkey and Iran lie today. It lasted from 4000 to 2000 BCE. The Sumerians enriched humankind by a wide range of very important inventions. In addition to script and the wheel, they discovered, invented or established multiplication and division, the state, school, irrigation, the potter's wheel, the brick, the division of the year into twelve months, and also beer and bribes.

3100 BCE

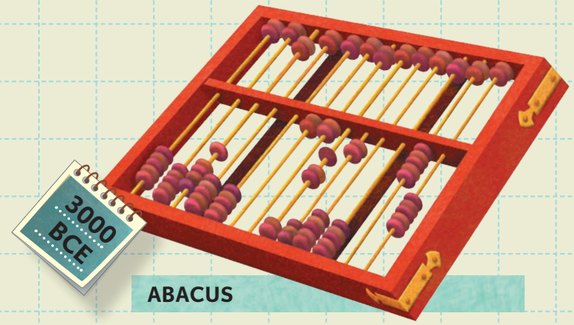
POTTER'S WHEEL

The potter's wheel was already making the work of Sumerian craftsman easier in 3100 BCE.

The potter would turn the wooden or stone platform with one hand while using the other to shape his product.

Although it may seem unbelievably, our ancestor were skiing already 5 000 years ago.

3000 BCE



ABACUS

The Chinese invented the first real abacus in the 3rd millennium BCE. Before this people would count using boards covered with dust or sand. The Chinese abacus was given the name suanpan; it could be used not only to add and subtract but also to multiply, divide and extract the root of a number.

3000 BCE

SKIS

An unknown Norwegian artist produced a rock painting of a skier around 3000 BCE, in the Bronze Age. But our ancestors may have used skis 2000 years earlier, as discoveries of wooden planks and poles in Siberia and Scandinavia suggest.

SHADOW CLOCK AND SUNDIAL

In the 2nd millennium BCE the Egyptians were able to tell the time using a clock, calling it a 'shadow clock' rather than a 'sundial'.

Notches, each representing a different hour, were carved in stone in an arc. Fixed at the centre of the semi-circle was an arm that cast a shadow and showed what time it was.

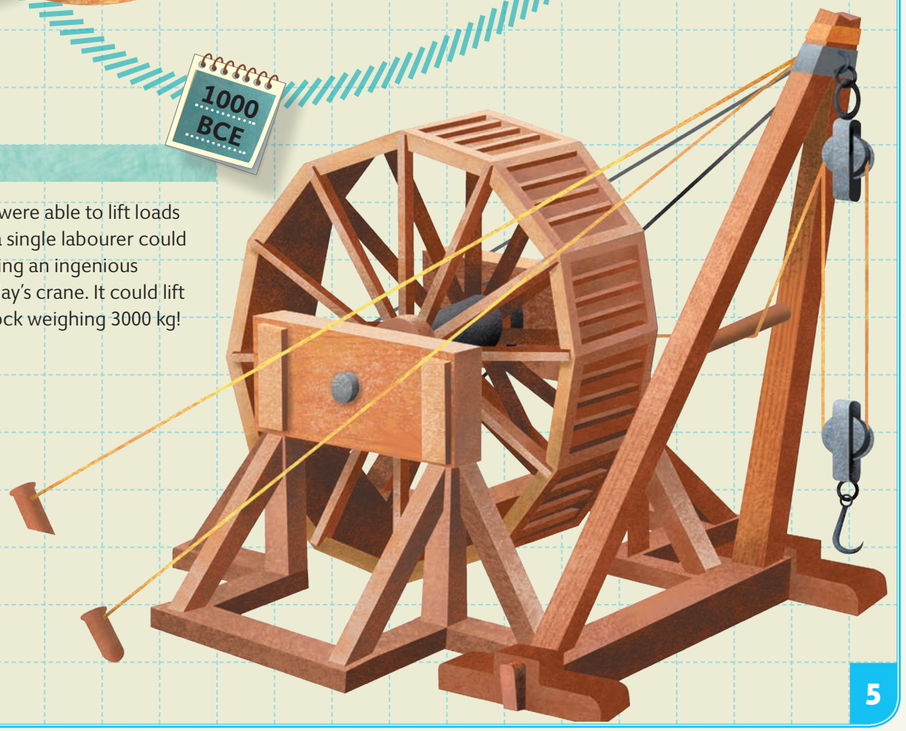
2000 BCE

1000 BCE

ROMAN CRANE

Around 1000 BCE the Romans were able to lift loads around 50 times heavier than a single labourer could manage. They achieved this using an ingenious mechanism reminiscent of today's crane. It could lift several metres high a stone block weighing 3000 kg!

The Roman crane was driven by a treadwheel powered by labourers and slaves.



1700

PIANO

The first piano was built by Bartolomeo Cristofori in Padua, Italy in 1709. He gave it the name 'pianoforte', Italian for 'soft' and 'loud', because the intensity of the instrument's sound was determined by the strength applied by the fingers to the keys.

By striking a key the player sets in motion a hammer inside the piano which hits a string and then rebounds away so that the resultant note continues to sound.

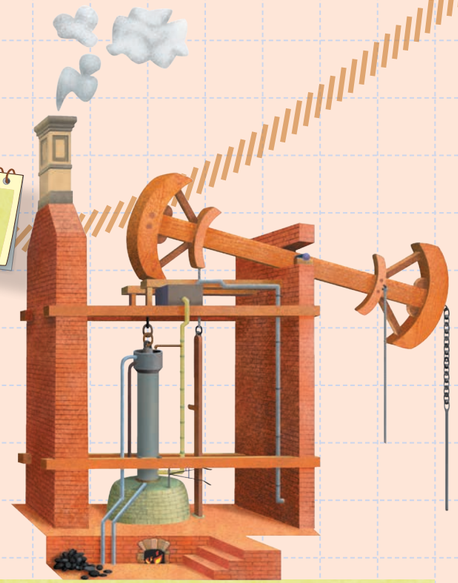
1709

1700

CLARINET

The clarinet evolved from a Baroque instrument called a chalumeau, which looks rather like a recorder. Around 1700 German master instrument-maker Johann Christoph Denner made improvements to the chalumeau, adding a second key to prevent overblowing. Still it was not really suitable for the playing of lower notes. Further improvements were made until in 1867 it settled on its present form, with twenty keys and seven movable rings.

1712



STEAM ENGINE

Thomas Newcomen and his associate Thomas Savery built the first real steam engine in England in 1712. It was intended to pump water from mines. Later engineers including James Watt made improvements to Newcomen and Savery's machine.

FIRE EXTINGUISHER

In 1723 renowned apothecary and chemist Ambrose Godfrey patented the first automatic fire extinguisher. It was in the shape of a barrel and contained a liquid and a pewter chamber with gunpowder in it. In the event of fire, the high temperature would ignite the gunpowder, tearing the device open and scattering the fire-extinguishing liquid, which would put out the fire. In 1734 a German chemist called Fuches came up with the idea of extinguishing fire using glass balloons filled with a saline solution.

1723

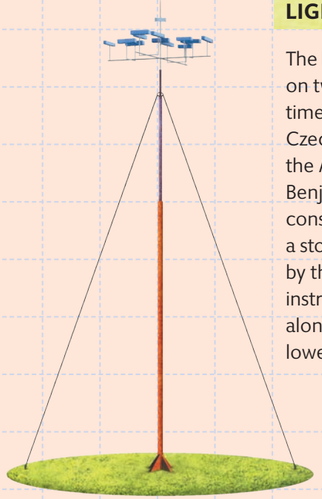
1714

TYPEWRITER

In 1714 the English engineer Henry Mill filed a patent on a mechanical typewriter. These days there are electric typewriters, too.

Mechanical and electric typewriters operate on the same principle; on pressing a key the corresponding letter or character is printed through an inked ribbon onto paper placed in its roller.

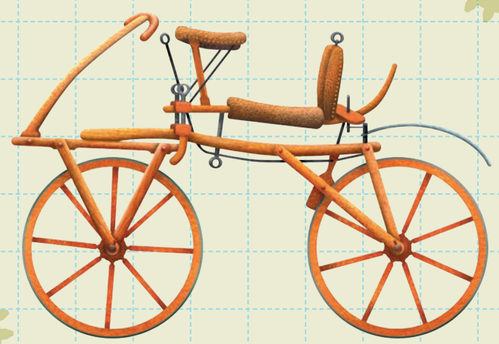
1752



LIGHTNING CONDUCTOR

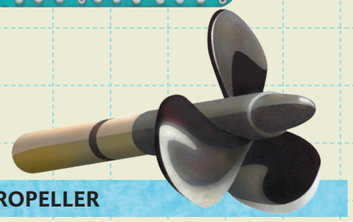
The lightning conductor was invented on two continents at around the same time. The European inventor was Czech priest Prokop Diviš (in 1752), the American politician and scientist Benjamin Franklin. The instrument consists of three components. During a storm electrical discharge is captured by the lightning rod at the top of the instrument. This leads to a metal wire along which lightning travels to the lowest component, the ground rod.

1800



ANCESTOR OF THE BICYCLE

In 1818 Karl von Drais patented an invention known as the draisine, which is considered the ancestor of today's bicycle. But it did not have pedals and the rider moved about on it by pushing off the ground with the foot, as with a scooter.

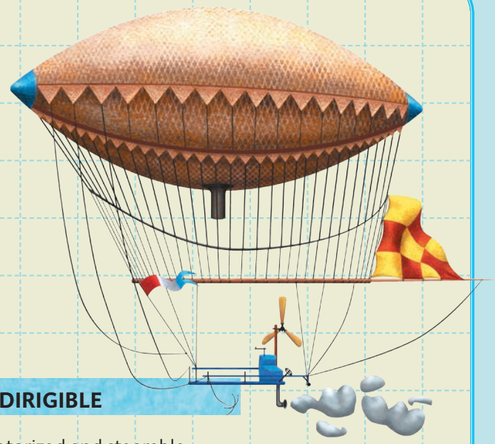


SCREW PROPELLER

In 1827 Czech designer Josef Ressel filed a patent for a special device for the driving of a steam engine, known as a screw propeller. Ships fitted with Ressel's propeller soon replaced paddle steamers.

SEWING MACHINE

The first sewing machine, which stitched together fabric with a needle, thus removing the need for tedious manual work, appeared in 1830. It was made of wood and sewed at a speed of 200 stitches per minute. Its inventor was French tailor Barthélemy Thimonnier, whose factory equipped with 80 modern machines was destroyed by artisans fearful for their livelihoods.



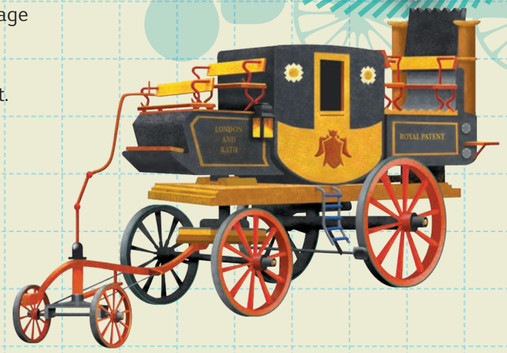
GIFFARD DIRIGIBLE

The first motorized and steerable flying machine was an airship by the French designer Henri Giffard. It made its first flight on 24 September 1852 in Paris, covering 27 kilometres at a speed of 9 km/h.

1818 — 1827 — 1829 — 1829 — 1830 — 1844 — 1852 — 1860

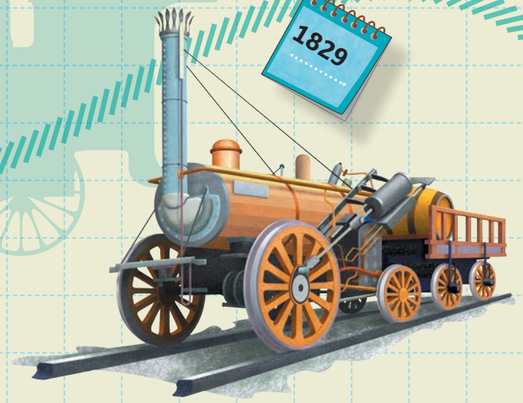
STEAM CARRIAGE

Trevithick's steam carriage of 1803 was the first self-propelled vehicle for passenger transport.



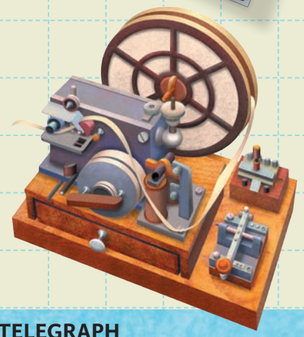
GURNEY'S STEAM CARRIAGE

In 1829 British designer Goldsworthy Gurney built a large steam-powered carriage with a maximum speed of 30 kilometres per hour.



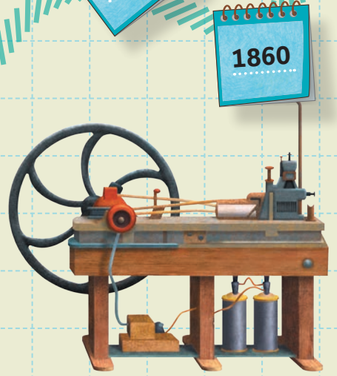
STEPHENSON'S ROCKET

In 1829 Robert Stephenson built the Rocket, a steam locomotive which became the first practicable such machine and the foundation stone of railway transport. One of Stephenson's machines was called Locomotion, hence today's name for all types of locomotive.



MORSE TELEGRAPH

In 1844 American painter Samuel Morse sent a message from Washington over a distance of about 50 km, in so doing inventing a telegraph after twelve years of trying. It would remain in use for more than 100 years.

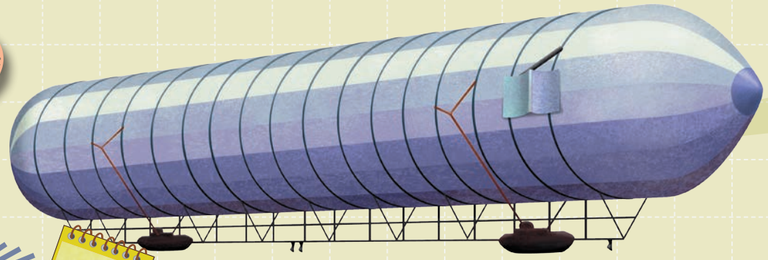


INTERNAL COMBUSTION ENGINE

The internal combustion engine was invented by Étienne Lenoir. A spark ignited the gas in the cylinder and the explosion set in motion the piston, which was attached to the flywheel on the shaft.

There is the reason why the century is called century of steam.

1900



1900

ZEPPELIN

In 1900 German Ferdinand von Zeppelin – a military general who was also an outstanding design engineer – launched the LZ1, a new kind of dirigible airship. After this first success Zeppelin airships became very famous. Passengers and crew were carried in an aluminium gondola that hung beneath the body of the airship.

1901

RADIO TRANSMISSION

Italian physicist, entrepreneur and politician Guglielmo Marconi is considered to be the inventor of wireless telegraphy, although it was patented several years earlier by the American Nikola Tesla. On 12 December 1901 Marconi certainly became the first sender of a message on radio waves across the Atlantic Ocean.

1901

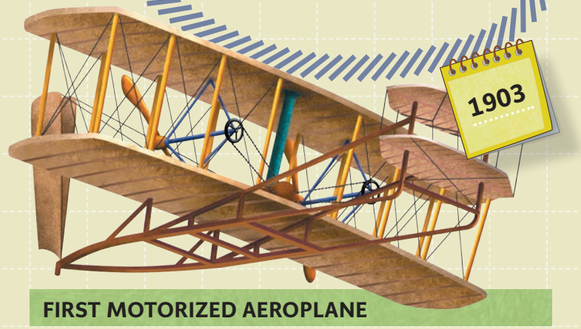
BLOOD GROUPS

The composition of red corpuscles in the blood varies from person to person. They determine the division of blood into types, as first described by the Austrian biologist and physicist Karl Landsteiner in 1901. For the discovery of three blood groups (A, B, and C – now referred to as A, B and O) Landsteiner received the Nobel Prize. In fact there is one more basic type, as Czech serologist, neurologist and psychiatrist Jan Jánský discovered six years later. This fourth blood group is designated AB.

WRIGHT BROTHERS

The Wright brothers invented the first heavier-than-air flying machine. At first they worked on the development of gliders, i.e. aeroplanes without engines. In 1903 they built Wright Flyer I, which remained in the air for 12 seconds.

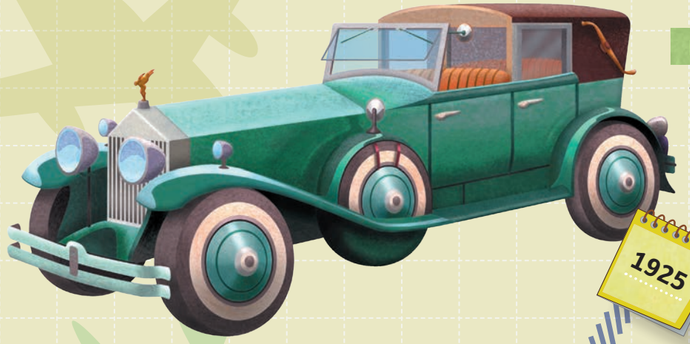
The Wright brothers



1903

FIRST MOTORIZED AEROPLANE

This was built by the Wright brothers, who went up in it in December 1903. It flew for a mere 12 seconds at a height of 3 metres, covering a distance of 36.5 metres.



1925

LUXURY AUTOMOBILE

The Rolls-Royce luxury automobile was first produced in 1925. Rolls-Royce immediately became a byword for expensive luxury cars.

1914

FOKKER

German triplane used by ace fighter pilot Manfred von Richthofen in the First World War.

Louis Blériot

1908

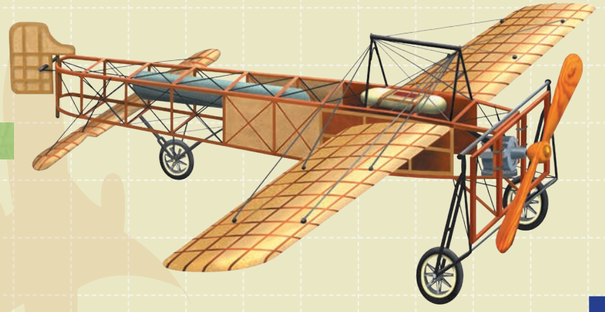
1909

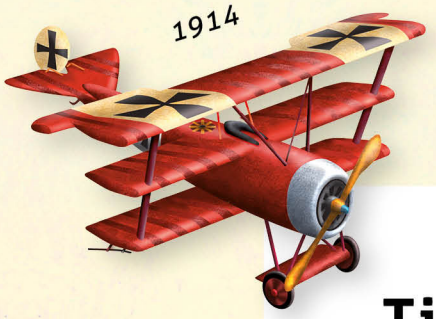
FIRST PRODUCTION AUTOMOBILE

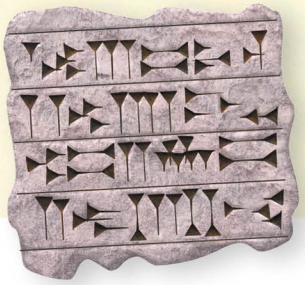
Production of the Ford Model T – which began in Detroit in 1908 – took America by storm. It is considered the first widely affordable car. Its price was so low because it was made on a production line.

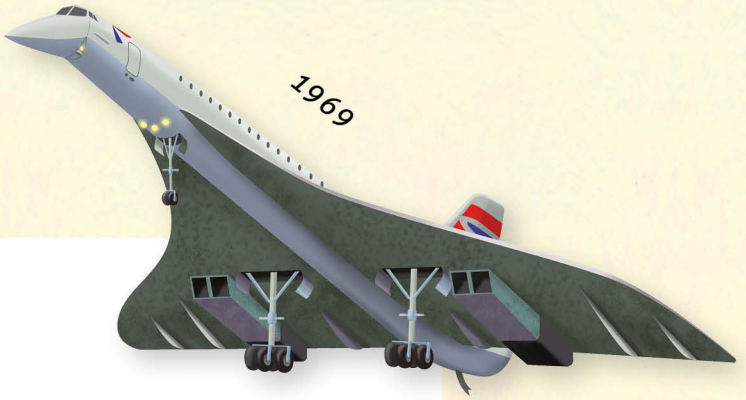
BLÉRIOT XI

In 1909 Louis Blériot piloted his monoplane over the English Channel, thus making the first such crossing in a heavier-than-air machine. The flight took 40 minutes.







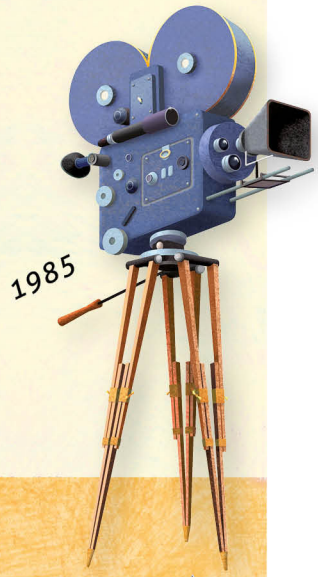


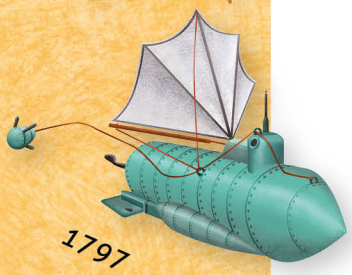
Time Traveller
INVENTIONS

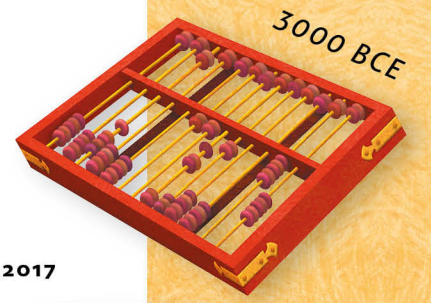
Written by Oldřich Růžička, Silvie Sanža
Illustrations by Jan Klimeš

Let´s travel through time and peep into the world of scientific & technological inventions

The mechanism on the cover of the book will enable reader to transfer to chosen passage in the book and herewith travel through centuries or millenniums back and forth and see the greatest inventions of all time. The book covers everything – from invention of the bicycle, potter´s wheel, through invention of book printing, glasses, telephone to first motor car or airplane.
Innovative design with a sliding mechanism on the cover, easy to understand text plus modern illustrations create together really attractive book that will engage attention of every small reader.







CE

WARNING: CHOKING HAZARD
Small parts. Not suitable for children under 36 months.

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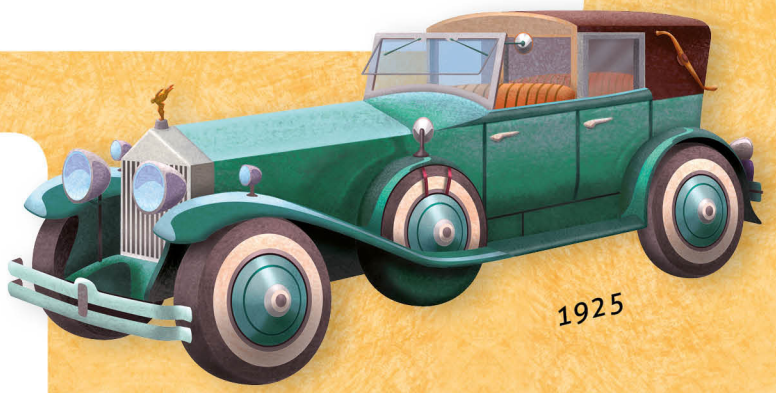

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