

The nuts and bolts of modern play sets

Lego turns 50 today. FRANK CROOK reports on how a toy empire was built block by block

Wooden building blocks were once part of every child's life. They were the simplest toys ever devised, allowing millions of children to stack one on top of the other and letting their imagination run free.

Fifty years ago today, the wooden building block became obsolete with the introduction of a series of plastic interlocking bricks, complete with a range of gears and mini-figures. In a small workshop in the Danish town of Billund, Lego was born.

Since then the blocks, designed by Ole Kirk Christiansen, have swept across the world. Today's production line produces 20 billion Lego pieces a year — or 6000 pieces a second. Thousands of play sets have been released, themed on robots, pirates, vikings, dinosaurs, racing cars and even entire cities.

There have been film tie-ins with *Star Wars*, *Jurassic Park*, *Harry Potter*, *Spider-Man* and *Batman*. The Lego company also runs three Legoland amusement parks in Europe and another in the US.

There are 25 Lego retail stores in the US, including outlets at Disneyland and Walt Disney World. There are others in Europe and a store in Abu Dhabi. Lego enthusiasts also use the blocks to make films, using stop-motion animation.

Lego has even moved into the corporate world, with Lego Serious Play, in which team members build metaphors of their organisational abilities and experiences using Lego bricks. The game is designed to foster creative thinking.

Every year Lego conducts a Brickfest convention for adult Lego fans. Last year's convention was in Portland, Oregon, with workshops, special events and challenges.

Legoland Park in Billund features models and miniature towns built from Lego bricks. After the park opened on June 7, 1968, it drew 625,000 visitors in its first year. Today, the greatly expanded park draws crowds in excess of a million.

Lego and the Meccano set, devised by Frank Hornby in Liverpool, England, in 1901, were the first modern toys to set children the task of using their imagination. And as with many great ideas, they both rose from humble beginnings.

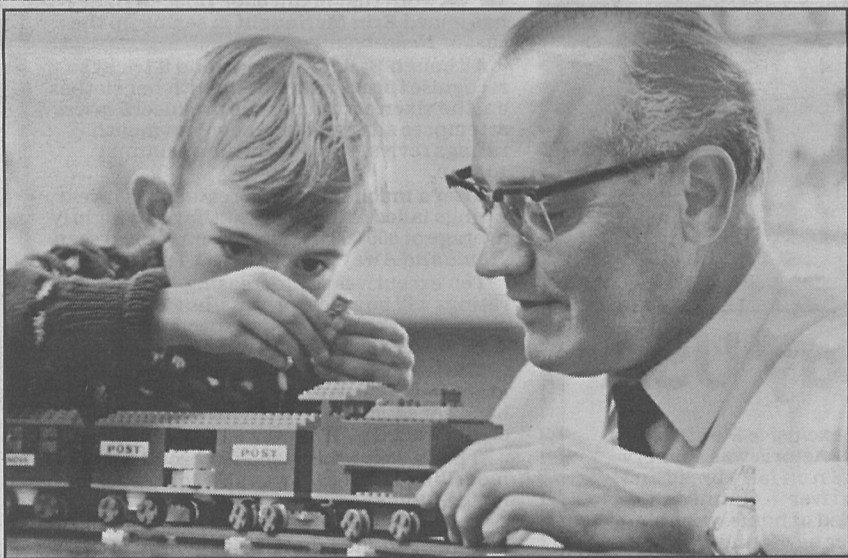
Christiansen, founder of Lego, was born on April 7, 1891, in the Jutland town of Billund in western Denmark, one of 13 children of a local farmer. He trained as a carpenter and when he lost his job in the Great Depression in 1932, he began making wooden step-ladders and ironing boards before turning his hand to children's toys.

The business prospered and by 1942 he was still making wooden toys when his factory burned down. Christiansen decided to concentrate on toys made of plastic, then regarded as a new wonder material. He began making interlocking plastic bricks called Automatic Binding Bricks, based on the design of Kiddiecraft self-locking bricks released in the UK in 1947.

The first Lego bricks, made from cellulose acetate, had the advantage over wooden building blocks because they could be locked together. They were made with several round studs on the top of each brick, with a hollow, rectangular bottom.

They could easily be pulled apart, but fine balance was needed to obtain what was known as "clutch power". If they were too easily separated, they would be unstable.

Since 1963, Lego bricks have been made of a strong resilient plastic, acrylonitrile butadiene styrene, which holds its colour and shape better than the original plastic. Today inspectors check every



Well built... Ole Kirk Christiansen (above centre holding paper), creator of Lego, at the original Lego factory in 1958; and (left) Godtfred Christiansen, son of creator of Lego with his son Kjeld, playing with a Lego train, in the early 1960s.

Pictures: COURTESY OF LEGO

mould and it is estimated that just 18 bricks out of every million fail to meet the factory's standards.

But plastic was not popular in the 1950s and many Lego shipments were returned by unhappy retailers. It was thought plastic would never replace wooden children's toys. It was not until 1958 that the modern-day Lego brick was designed.

From its beginnings in Christiansen's workshop, Lego is now the sixth largest toy firm in the world. The company's name was coined by Christiansen from the Danish phrase "leg godt" or "play well" in English. Christiansen's son Godtfred, who joined his father's firm at the age of 12, took over the company when Ole Kirk died in 1958 and one of the founder's grandsons now runs the company.

Lego is now made in the Czech Republic as well as Denmark, with packaging done in the US and Mexico. Only 1 per cent of the plastic in Lego bricks is not recycled.

Lego seemed to be the natural successor to the Meccano set, a fixture in most homes from the 1930s to the 1950s, the decades regarded as Meccano's heyday.

The familiar Meccano set was a construction kit of perforated metal strips, plates, girders, pulleys, wheels, axles and gears held together by nuts and bolt. A screw-

driver and a spanner were the only tools needed for its construction.

It was devised in Liverpool, by Hornby, a clerk with no engineering experience. He patented his new toy as Mechanics Made Easy.

Hornby, born in Liverpool on May 15, 1863, left school aged 16 and worked in his father's provisions business. He later worked as a bookkeeper and began making toys for his son, with pieces cut from sheet metal. He built bridges, trucks and cranes until the breakthrough came when he made separate parts that could be bolted together.

He registered the Meccano trademark in September 1907 and built a factory in Liverpool in 1914 that would be the company's headquarters for the next 60 years. In 1926, to mark the company's 25th anniversary, colour was introduced, unveiling Meccano's familiar red and green pieces.

In 1935, Meccano material was used in building early analogue computers. One of them, the Meccano Differential Analyser No. 2, still exists.

Production was interrupted by World War II, when the factory was used to make war materials and again in 1950, due to the Korean War. It was not until the mid-1950s that Meccano returned to full production.

The company was taken over in 1964 and changed hands again in 1981, when a new range was produced using some plastic parts.

Today's Meccano sets are so different from the original models that many purists tend to look down on the modern version. And there are purists aplenty.

Hornby formed the Meccano Guild in 1919 and today there are still thousands of Meccano addicts around the world.

The largest model ever built was a giant Ferris wheel constructed in 1990. It was 6.5m high, weighed 544kg and was made from 19,507 pieces and 50,560 nuts and bolts.

Hornby's name lives on today for his range of Hornby model train sets, first released for the Christmas market in 1920. The original comprised a clockwork-driven locomotive, tender, coal wagon and an oval-shaped, plug-together rail track. Hornby produced its first electric train in 1925 before production ceased in 1964.

His inventions made Hornby a millionaire. He lived in a mansion outside Liverpool and was driven to his factory each day by a chauffeur. In 1932 he was elected Conservative MP for the seat of Everton but stood down before the 1935 election. He died on September 21, 1936.