

History of Rubber

Development & Vulcanisation



Charles de la Condamine
1701 - 1774

Despite having been introduced to the Europeans from the 15th century, the practical and industrial applications of natural rubber were not forthcoming for some time. The first scientific paper on rubber was not written until 1751 by the French scientist Charles de la Condamine after he returned from his expedition in Peru. Over time many inventors and scientists began to experiment with rubber fabrics, rubber products and their applications.

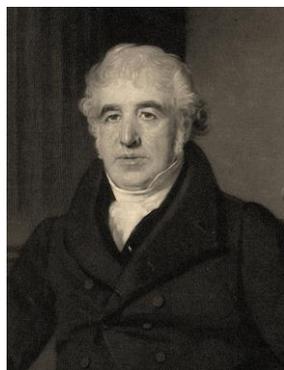
While progress was slow at first, by the beginning of the 19th century the Scottish chemist Charles Macintosh had discovered a new method of waterproofing cotton. His rubberised outerwear, the Macintosh coat or “Mac” as it became known, was an international success and revolutionised fabric design. Later, Macintosh partnered with Thomas Hancock, who invented the machine known as a masticator, which shredded the waste rubber produced during fabrication. They joined forces and together founded a world-leading rubber company.

Despite this innovation and accomplishment, there still existed some major drawbacks to using natural rubber. The coated materials began to smell and rot; it became sticky in the sunshine and stiff in cold weather. Hancock and Macintosh had successfully used solvents to shape and mould rubber, but fundamental problems remained. Many began to doubt whether there was any commercial future for rubber at all.

What's in a name?

The name “rubber” was coined by scientist Joseph Priestley, who also discovered oxygen. In 1770 Priestley paid three shillings for a half-inch cube of natural rubber. Upon finding that the substance could erase, or rub out, pencil marks, the material was henceforth known as rubber.

In most other languages, the word for rubber is derived from “caucho”, the original word in the native language spoken in South America at the time.



Charles Macintosh
1766 - 1843

In the 1830s the rubber pioneer Charles Goodyear began his early experiments on natural rubber. Despite having no experience with chemistry, Goodyear was a persistent inventor whose ambition often came at the expense of his family and finances. After many failed attempts and a near-fatal exposure to hazardous gases, it is perhaps fitting that Goodyear discovered vulcanisation by accident. In 1839, Goodyear mixed rubber with sulphur and by chance dropped it onto a hot stove in his kitchen. While one part remained soft and another became charred, a thin strip in the middle was transformed into something hard, durable and most importantly, weatherproof.

This discovery transformed the commercial landscape for rubber and soon a second rubber boom was underway. Accelerated by the Industrial Revolution, vulcanised rubber quickly became necessary to seal steam cylinders, produce shoes and other rubber-based products. Amongst these industries, the emergence of the pneumatic tyre in the second half of the 19th century was pivotal in cementing rubber as a key commodity in an increasingly industrialised world.

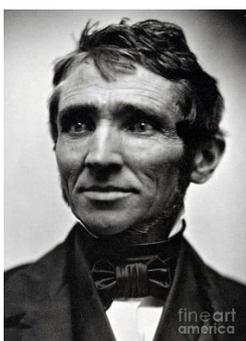
A nod to the Aztecs?

Goodyear denied his discovery was accidental, instead claiming he acted on scientific knowledge.

Perhaps he was inspired by the ancient Aztecs, who used the sap from a local vine to transform rubber from something soft and squishy to hard and durable.



Thomas Hancock
1786 - 1865



Charles Goodyear
1800 - 1860

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As the chemistry, steam and heat processes of vulcanisation were perfected, the resultant material was continuously improved. Coupled with an insatiable demand, rubber became irresistibly profitable.

Many became exceedingly wealthy during this time. There is however, a fairly notable exception. Through a series of misfortunes and embroiled in patent disputes, Charles Goodyear never realised much profits from his revolutionary discovery and died a man of modest means. Nonetheless, the impact of his contribution was felt by his contemporaries. Decades after his death, a new company was founded in his name to honour his legacy and as such, the Goodyear name lives on.

THE ORIGINAL RUBBER STORE, UNDER GOODYEAR'S PATENT.

ESTABLISHED IN 1839.



Mechanic's Apron.



Fireman's Coat.

The Subscriber offers a large assortment of Rubber Goods at reduced prices.

AMONG THE VARIETY OF WATER-PROOF AND AIR-TIGHT GOODS, ARE

<p>Air Beds and Pillows, Air Cushions for Chairs, Aprons for Ladies, Aprons for Bricklayers, Bathing Mats and Caps, Baptismal Pants, Carriage and other Cloths, Coats, Capes, and Cloaks, Caps and Sou'westers, Camp Blankets, Crumb Cloths, Cochinmate and Garden Hose,</p>	<p>Drinking Cups and Canteens, Game and Fish Bags, Gun Covers, Gloves and Mittens, Horse Covers, Horse Boots and Penders, Hunting and Fishing Boots, Leggins, long and short, Life Preservers and Jackets, Ladies' Elastics, Overshoes, Overalls and Pants, Rubber Canes and Combs,</p>	<p>Paper Bands, Parlor and Foot Balls, Seamen's Bags, Suspenders and Elastics, Syringes and Breast Pumps, Traveling Bags, Table Covers, Tobacco Wallets, Teething Rings and Toys, Wagon Covers, Undersheeting for Beds, Urinal Bags, &c., &c.</p>
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Officer's Coat.



Pen Coat.

<p>Horse Covers, Gents' Heavy Boots, Gents' Overshoes, Ladies' Boots, Ladies' Shoes, Misses' Overshoes, Boys' Boots, Youths' Boots, Heavy Black Rubber Coats, Heavy White Rubber Coats, Leggins,</p>	<p>Door Mats, Bathing Tubs, inflated, Spitoons, Chest Expanders, India Rubber Pencils, Thimbles, Card Baskets, Ladies' Mourning Chains, Ladies' Bracelets, Breast Pins, Ear Rings, Hair Pins, Crosses, and other India Rubber Ornaments.</p>
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N. B. A beautiful article of Gentlemen's silk Reversible Coats, weighing only 12 oz. Also, a superior article of Reversible Macintosh Coats.

C. HAYES, 26 School St., Boston.

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An advertisement showcasing the wide variety of rubber goods produced by Charles Goodyear following his discovery of vulcanisation