

HISTORICAL REVIEW OF THE RUBBER AND THE ERASER

1800 B.C.	1800 B.C. First rubber ball from of the Olmec culture in Paso de Amada, Mexico. The word “Olmec” means “inhabitants of the rubber country”
400 B.C.	400 B.C. First reference of rubber in the ancient world, with the game of the natives of Zanzibar with balls of this material.
600 A.C.	The Aztecs and Mayans of the Gulf of Mexico made balls, shoes and fabrics impregnated with rubber.
1000	Rubber objects in Chichen Itza, Yucatan (Peabody Museum, Harvard University).
1493	An European reports the use of the rubber balls in Haiti.
1519-1523	Hernán Cortés reports on the first version of the ball game in Mexico. In the “Apologetic History of the Indies” (1875) he mentions the rubber balls.
1530	1530: Peter of Anghiera gives the first printed mention of the eraser. The book was translated into English on 1612
Mid XVI century	In the book “Popol Voh” about the creation of the Mayans myths it appears the ball game “pop-ta-pok”
1570 -1577	The Mexican F. Hernández is the first man to describe the rubber tree.
1601	A. de Herrera Tordesillas describes the ball game of Haitian ball, Mexican trees and the extraction of a liquid for making rubber)
1736	The mathematician and geographer Charles-Marie de la Condamine (Paris, 1701-1774), after several trips to South America, took to the Institute of France in Paris, and for the first time to Europe, the so-called “India rubber”. It describes how rubber is extracted in the Andes. He met François Fresneau, an engineer and botany enthusiast with whom he collaborated on his discoveries. Fresneau discovered in 1761 that turpentine was a solvent for the rubber.
1768	First references of rubber in London.
1770	English engineer Edward Naime (1726-1806) began selling rubber cubes in his London shop as erasers for artists.
Half of XVIII century	The English chemist, theologian and philosopher Josep Priestley (1733-1803) found out that virgin rubber is suitable to erase pencil strokes, thus replacing the bread crumb that was used for the same purpose on those days. The first mention of the eraser is dated on 1770.
1778	The word “eraser” appears for the first time in a French Encyclopaedia.
1791-1820	Early studies of fabric waterproofing from a process of dissolving rubber.
1803	Construction of what was probably the first rubber industry near Paris. The first industry in Wien is born in 1811 (J. Reithoffer)
1819-1821	Early experiments by Thomas Hancock (1786-1865) on waterproof fabrics and manufactured articles.
1823	Collaborations of T. Hancock with C. Macintosh. Foundation of the Chas Macintosh and Co waterproof fabric manufacturing. In 1834 Hancock would run the industry.
1832	F. Lüddersdorf works with a first sulphur solution in combination with rubber.
1839-1844	On those years rubber products are not stable at extreme temperatures. The American Nathaniel Manley Hayward (1808-1865) works with sulphur solutions with rubber. In 1844 Hayward and Burr established “The Hayward Rubber Company” in Lisbon, Connecticut. Charles Goodyear, based on the discoveries of Lüddersdorf and N. Hayward, stabilized the rubber for the creation of new products from a process called “vulcanization”. With the introduction of sulphur into rubber, it gains in elasticity and impermeability. He obtained two patents for these discoveries.
1845-1850 ca	Development by Thomas of machinery for rubber processing.
1858	Hymen Lipman from Philadelphia was granted the first patent to include an eraser on the pencil, patent that it was later revoked.
1876	British explorer Henry Wickham smuggled 70.000 rubber tree seeds into his country and there began the expansion. The first seeds grown in those days in the Royal Botanic Gardens of London, and from there were exported to Ceilan and various tropical regions of Asia.
1909	Patent of the process of hot polymerization of isoprene by Fritz Hofmann (1866-1956). With the polymerization of the isoprene, it is obtained the first synthetic rubber called polyisoprene.
1910-1915 ca	Santiago Marcó Pomar, who commercialized accessories for the cork stopper industry in Palafrugell (Girona), met the English chemist Ralph Summers, who provided him with the first formulations to produce erasers, inks, glues and sealing wax for sealing letters.
1918	Santiago Marcó Pomar founded his first erasers factory in Palafrugell, in Sol Street (currently Torres Jonama Street). It starts to produce bread crumb erasers. These are the oldest, the classic erasers, and they are called “bread erasers”, probably because they are made of a quality that crumbles easily and that already reminded our great-grandparents of the bread crumbs that they used when they did not have erasers. The so-called “bread” erasers are made from a type of synthetic rubber that has very little resistance to abrasion, and characterized by its ability to adsorb graphite.
1920 ca	Commercial agreement with the wholesaler with surname MILAN ® distributor of stationery products (located at Girona Street nº52, Barcelona). They agreed that the Palafrugell industry would manufacture the erasers and other items with its brand MILAN ® and that they would be distributed throughout Spain under that name.
1925-30	The MILAN ®erasers are known all over Spain. At this time, long series of erasers began to be made and the industrial productivity improved (always maintaining the good initial quality) Thanks to the regularity of the supplies from the factory, and the seriousness of the distributor, the brand was built little by little, up to almost turning the MILAN ®brand into a synonym for erasers.
1939	Josep Marcó Dachs, son of Santiago Marcó Pomar, carries out the first projects for modernization of the factory.
1940	Josep Marcó Dachs begins the industrial development with the production of specific machines in its own mechanic workshop. The erasers factory is moving from Torras Jonama Street to Ample Street, in the centre of Palafrugell.
1950 Decade	First exports to Chile, Venezuela and Colombia from the port of Palamós. In 1956 began the exports to Belgium, Congo and Turkey.
1960 Decade	The son of Josep Marcó Dachs, Santiago Marcó Tarrés, graduated in chemist, began working in the family business then called Victòria Marcó Dachs. He industrially develops the first formulation PVC resin-based formulation obtained by his uncle, graduated in pharmacy, Lluís Marcó Dachs. The first nata ®624 eraser with pink cellophane is born.
1970 Decade	The nata ®erasers have a very good ability to crumble into small shavings that adsorb graphite. The other son of Josep Marcó, the engineer Eusebi Marcó Tarrés, develops the first automatic machines in the factory workshop, thanks to which the productivity is improved and the production capacity significantly increases, thus the growing demand for erasers can be covered. First exports with 20-ton trucks to Italy.
1976	MARCÓ DACHS participates for the first time in international Fairs in Paris, Frankfurt, London and the United States. In this decade, the international projection of the company begins to consolidate, and it will continue during the 1980s with its own branded FACTIS ®erasers.
1980 Decade	MARCÓ DACHS moves from the centre of Palafrugell to the Industrial area of Mont-ras, current location.
1990 Decade	MARCÓ DACHS buys the MILAN ®brand to Josep Milan’s heirs and have been commercializing directly from Mont-ras since then. Export growth in Europe and America. The fourth generation of the company is starting to run the business. Expansion of the range of erasers, offering different formulations: Nata, Cristal, bread, soft natural rubber and hard natural rubber.



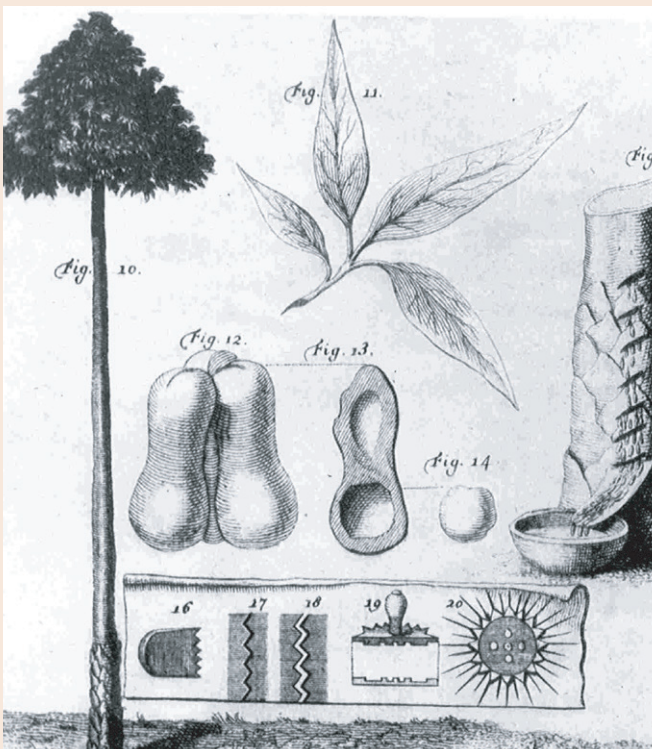
The “Hevea brasiliensis” rubber tree comes from the Amazon region.
The tree of the euphorbia family can measure 20 to 30 meters height. It has a straight and cylindrical trunk, light brown bark and a pyramidal branch.
The rubber tree blooms between February and May, producing about 800 seeds a year.

In pre-Columbian times, the Indians used latex for waterproofing coats, glues to attach their items, balls for games and shoes.

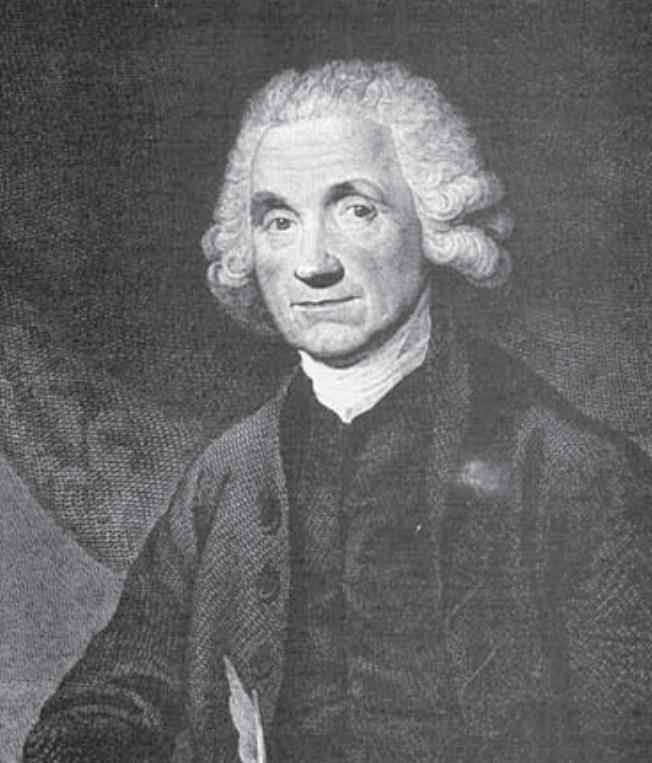
Although part of the production has now been extended to Equatorial Africa (Ivory Coast), Malaysia and Indonesia, in the original cultivation areas the old extraction methods are maintained: the rubber collectors or “seringueiros” make angle-shaped incisions in the bark of the tree, from which the liquid whitish substance that is the rubber latex is extracted.



Charles-Marie de la Condamine



Design by François Fresneau



The scientist Joseph Priestley called his erasers “peaux de negres”



Charles Goodyear conducted many studies on rubber and its properties.

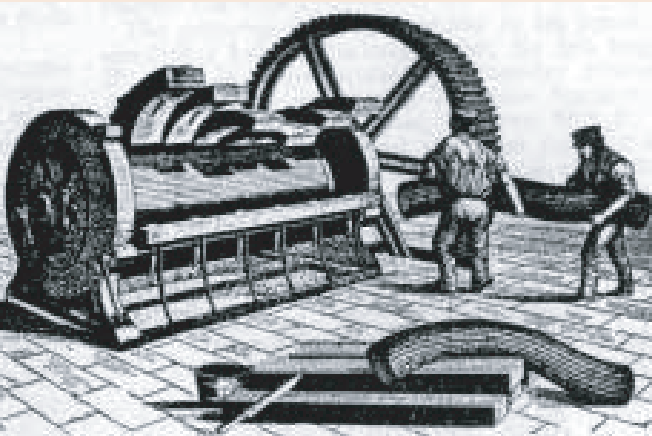


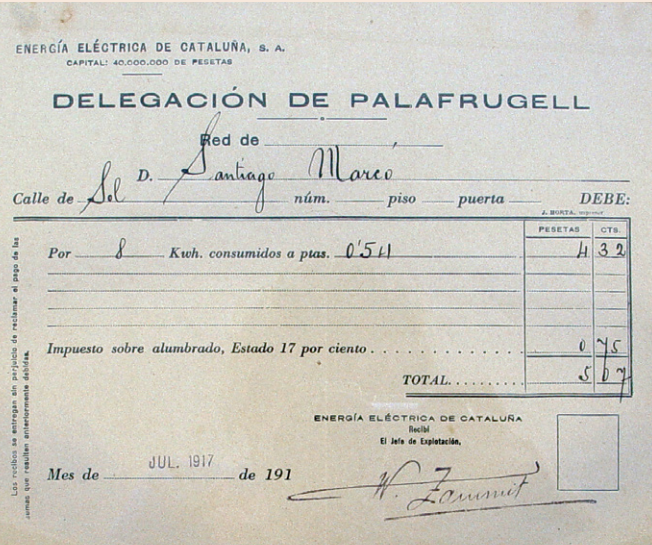
Image of T. Hancock's masticator machine at the Chas. Macintosh and Co in 1840



Santiago Marcó Pomar



First container of erasers



Invoice of 1917



Reference erasers

MILAN®

FACTIS®

nata®