Discovery-Development Of Rubber Reads Like Fictio

Discovery Of Rubber Has Hard, Bloody History

Rubber Was Discovered In South America About 150 Years Ago.

The discovery and development of natural rubber was fully as exciting and interesting as is today's development of synthetic rubber. Over centuries it has caused massacres, hardships, scandals, achievement, adventure, and fabulous wealth.

When Spanish Conquistadores followed Columbus and fought their way through the South American jungle into its fabulous cities, they found the Indians playing with rubber balls. Samples of the latex were sent to Europe. Nothing was done about this strange material, however, until the beginning of the 19th century after South American countries had opened their barriers to European traders.

Rubber, then, was shipped in small quantities to manufacturers to make rubber shoes, cements, slippers. Machintosh, a Scotsman, invented a fair waterproof raincoat named after himself. In those days, no one knew why rubber was sticky, would often soften in summer, yet become as stiff as linolium in winter until Charles Goodyear after years of heart-breaking struggle, discovered vulcanization in 1839. He had accidentally left a slab of rubber dusted with sulphur on his kitchen stove. What was left in the charred, leatherly ash did not melt. Goodyear, after some experimentation, eventually obtained a reliable vulcanization process.

To this day, rubber experts don't know the exact chemical structure of rubber.

Rubber grows in a belt roughly 500 to 1500 miles on either side of the Equator. In most of these areas, rainfall is 250 inches a year with intermittent, long, dry seasons.

Rubber is taken from a tree. The rubber sap is in the bark and is obtained by tapping. The tapping wounds close quickly and can be tapped every day or two to give a high yield. The latex will pour out a pint of fluid a day per tree which, when collected and coagulated, gives two to five pounds per tree per year.

America's gold rushes to California and the Yukon were tame in comparison to the brutal and bloody history of rubber collecting in the Amazon and the Belgian Congo. Native rubber gatherers—exploited, half-starved, whip-lashed slaves, worked under overseers who were, in turn responsible for rubber output to national and international monopolistic cartels. In the Congo, the atrocities committed reached such violence that an international commission investigated conditions.

Plantation Rubber

Until 1876, Brazilian inspectors watched with eagle eye all outgoing ships from their borders. What they wanted to do was control the wild rubber so that no one else could develop it. And thus, of course, control the price per pound.

In 1876, a ship lay in the Amazon River about 500 miles from Para (also called Belem). An Englishman named Henry Wickham had loaded the British boat with 70,000 seeds of rubber trees packed in banana leaves and hung them in small baskets from the beams. He managed to slip past the Brazilian inspectors and arrived in England.

Thus Wickham made history. From his smuggled seeds about 2300 seedlings germinated in heat-controlled Kew Gardens. Some of the seedlings were shipped to Ceylon and later to the Malay States. From such a start, the plantation rubber industry developed. First notable shipment from Far East plantations was thirty years later in 1905 when 174 tons were exported.

It takes five years for rubber trees to mature enough to tap and they reach their maximum sap or latex output about the 12th or 13th year and remain at high yield for years. About 100 trees to the acre will produce today, about 400 pounds an acre. Prewar plantation planting was around seven to eight million acres.

By 1910 English companies had more than 500 million dollars invested in active plantation companies. And some time later the Dutch planted rubber trees in Sumatra and Java. Bud grafting, first begun by the Dutch in 1916 brought good results up until World War II. Their selection and grafting of certain types of rubber trees brought higher latex yield—in 1940, 1,600,000 tons.

However, if it had not been for greater automobile production from 1910 on and the resultant tremendous use of rubber in tires and tubes, plantation plus wild rubber production would have swamped the world with rubber.

Price Wars

During all this development period, and indeed up until the birth of our synthetic rubber industry the United States could do little about rubber prices. We paid out hundreds of millions of dollars for wild and plantation rubber because we didn't have our own sources of rubber.

With the first tonnage shipment of plantation rubber in 1905, the price wars began. Capitalists, gamblers and speculators saw their chance to make quick and ready money. Quotes on rubber stock fluctuated on the London Exchange as widely as steel and railroad shares in our own country. Over a period of three decades rubber prices dropped to a low of 3c and hit a high of $3.06. To offset the new competitor—plantation rubber, Brazil jacked up her price of wild rubber to over $3.00 in 1910. English interests answered with further plantation acreage and in 1912 surpassed the output of wild rubber.

Some attempts were made to control price fluctuations. In 1923, the Stevenson Restriction Plan was introduced by England to control production. The plan failed chiefly because it did not include Dutch and native growers and antagonized American manufacturers whose demands for rubber were increasing tremendously.

The price of rubber fluctuated much as it had before and affected both English and Dutch rubber interests to such an extent that in 1934 a more elastic international restriction scheme was set up by them. The United States was permitted an observer on the Committee but no membership even though we bought half the world's rubber. What the Committee wanted from us, was mainly a forecast on possible future consumption. The plan worked fairly well and has helped cut down wide price spreads but has provoked criticism as an "artificial device" to control rubber prices.

Rubber could be laid down in New York prior to World War II for about 10c to 11c a pound and we have been paying 16c to 22c. The difference represented, largely, the payment for restricted output. We used 785,000 long tons in 1941 and 648,000 tons in 1940.

United States Independence

The actual loss of our hemisphere independence began when Wickham shipped wild rubber seeds to England. Many Americans foresaw what would happen. In 1899, President McKinley recommended to Congress that we start plantations in our own possessions—including the Philippines, just acquired. Later, the question of rubber plantations in the Philippines came up again. The land laws prohibiting an American corporation from owning more than 2,500 acres prevented this country from growing its own rubber there. In the late thirties, the law was presented for revision and the Philippine Senate created such a riot that the question was hurriedly dropped. Some plantations were started in Haiti but weren't too successful. Mexico, too, tried it but because of lack of know-how, climate conditions, and other difficulties, the project was abandoned.

Then came Pearl Harbor and the loss of our Middle East supply.

Desperately we looked to any rubber source we could possibly exploit.

We tried to increase all possible production in the Amazon Valley. Today we get about 25,000 to 30,000 tons a year at a cost of from 80c to $1.00 a pound.

Rubber types other than the rubber trees were cultivated. One of these is Guayule, native to northern Mexico and several southern States. Its cultivation is being tried out but since it takes four years for a crop and large acreage is necessary, development of guayule is not practical on a large scale. The government has abandoned most of its cultivation for dandelion rubber; it also, from a shrub, and, as with the shrub growth must be de... ed every time a crop is harve...

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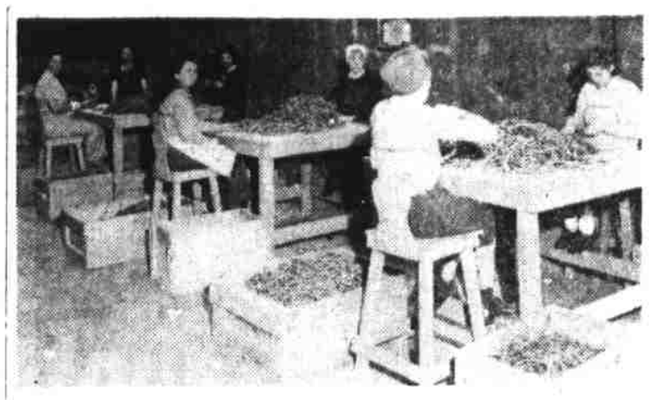
Salvage Saves Precious Rubber



Every possible bit of scrap rubber is saved at Dayton Rubber. Here girls are sorting fabric from rubber so that it can be reprocessed for use in other products.

SCOTT'S SCRAP BOOK By R. J. SCOTT