

THE STORY OF RUBBER



TAPPING A FULL-
GROWN RUBBER TREE



The Van Cleef Bros. Exhibit at A Century of Progress, Chicago, 1934

Here in an attractive stage setting in the magnificent Electrical Building are given hourly demonstrations showing the transformation of crude rubber into the several forms which serve mankind so well today.

Of popular interest also are the many Dutch Brand and Vanitex products on display. The variety and usefulness of these products are briefly described in this booklet.

The Story of Rubber

Prior to 1839 the world knew little of rubber. It was not regarded as a practical product for the needs of man.

About the first use of rubber was in 1770 when a British scientist, Priestly by name, discovered quite by accident that this odd substance, then called cautchouc, would erase pencil marks from paper by rubbing it back and forth on the surface. That gave it the name of "rubber" and that designation has been maintained ever since.

Rubber was first discovered by early European explorers along the banks of the Amazon river in South America. The Indians of that region had discovered that the sap from the bark of these trees, when heated, would become sticky and could be used by smearing on their feet to protect them from injury.

Some of the material was brought back to England by the adventurers, but after heating it in native fashion they did not find it satisfactory for use in connection with many experiments they made.

Experiments were continued in all parts of the world. Finally in 1839,

Charles Goodyear, an American, discovered that by adding a small quantity of sulphur to rubber in its plastic state, a change took place in the form of the substance. It became hardened but still retained its resiliency. The stickiness of the crude material disappeared completely. Immediately a new and great industry was born. Man was given an agent to perform countless services for him.

At the time Goodyear made his great discovery, all rubber came from the uncivilized regions of South America and Africa. This continued until about 1895 when rubber trees which had been planted in the Far East began to come into bearing. The uncertainty of supplies from wild regions and irregularity of its quality, encouraged the development of cultivated areas. In the comparatively brief period of thirty years the volume of cultivated plantation rubber had increased from about two hundred tons annually to nearly eight hundred thousand tons every year. Meantime, the quantity of wild rubber produced has decreased until the total in recent years has run around thirty thousand tons or about one twenty-fifth of the amount of plantation rubber.

The United States, of all countries, is the greatest importer and processor of rubber. Annually over four hundred thousand tons come into the country.

Tropical Climate Essential

Rubber trees require a warm, moist climate and consequently thrive best in South America, Central America, Asia, Ceylon, the East Indies and Africa. The most ideal temperature varies from 80 to 120 degrees Fahrenheit, with an average of about 81 inches of rainfall yearly.

The most successful rubber plantations are found on the island of Ceylon. The trees grow to a great size, often to 60 feet in height and 6 feet in circumference. The tree can safely be tapped, some planters believe, in the third year, but it is preferable to wait until the fifth or sixth year, when its girth has reached from 18 to 20 inches.

The tree as cultivated on plantations can be tapped every day without serious injury to its health. In the majority of cases, though, trees are given periods of rest. These rest periods vary according to the policies and ideas of the planter. Some permit a tree to rest one day each week; some one day per month; others one week each year or even one month each year.

Natives Tap Trees and Treat Latex

When the tree is ready for tapping, the natives encircle its bark with a deeply cut groove, at the base of which a cup is hung to collect the latex, as the sap is called, as it flows down the groove. The milky juice is carried through the bark in a series of small veins, very much as the blood is carried through the human body. This substance is about as thick as thin cream and is just a trifle pink in color. The cups, when filled, are emptied into large cans to be sent to a building equipped for the purpose of coagulating. Here the rubber milk is treated with mild chemicals to make it congeal. It looks a great deal like soured milk with the rubber curd floating on the top. The solid matter is taken out of the vats and run between two iron corrugated rolls, coming out in creamy-colored lacy sheets of rubber.

An average of about four hundred pounds of dry rubber per acre is produced annually. There are generally about 120 trees to an acre, thus each tree producing about 3 lbs. annually.

Large Quantities of Rubber in Dutch Brand Products

Many tons of finest rubber coming from plantations in far eastern countries such as Ceylon, Malay Peninsula and Sumatra are used annually in products made by Van Cleef Bros. in their Chicago factory.

Van Cleef Bros. manufacture many items of rubber to serve a diversified list of consumers. New uses are being constantly found for the application of products made from rubber among which is rubber cement. It is used in the making of shoes, many kinds of leather and cloth articles, women's millinery, raincoats, for patching automobile and cycle tires, for artists' requirements and for use by industry in numerous interesting ways.

Rubber is also used by Van Cleef Bros. in the making of the following items:

Friction Tape	Patching Stock
Rubber Tape	Shoe Soles
Masking Tape	Golf Balls

Rubberized Fabrics
Hospital Sheetings
Adhesive Plaster
Printers' Blankets
Rubber Play Balls

Rub'r-Shim—Stops drafts and rattles.
Sponge Rubber

Science Governs

Constant experimental work is going on in the laboratories of Van Cleef Bros. to devise new articles involving the use of rubber, within the scope of the facilities contained in the factory and unceasing efforts are also made to improve methods and qualities, even though perfection may seemingly have been attained.

Products of a Chemical Nature

Van Cleef Bros. do not limit themselves to articles of rubber. Many firms engaged in selling or using rubber goods also are interested in certain types of chemical products. Some of them are:

- Gasket Shellac Compound
- Gask-A-Tex—A gasket paste
- Drip-Seal—Stops leaks in Auto Tops
- General-Use Oil
- Penetrating Oil
- Aluminum and Gold Paint
- Touch-Up Black Enamel
- Soldering Paste
- Bicycle Tire Fluid
- Auto Top Dressing
- Valve Grinding Compound
- Belt Cement
- Nev'r-Creep Bicycle Rim Cement
- Clometalac—For Auto Shop Use
- Canvas Cement
- Running-Board Cement
- Household Cement

Where to Buy Dutch Brand Products

Items put up in smaller containers bearing orange and blue labels with the picture of the Dutch Girl may be found in automotive supply, cycle, hardware, sporting goods, electrical, stationery, art supply and department stores. Only popular prices prevail. Purchasers are assured satisfaction.

Industrial Department

The various items put up in small packages are also sold in bulk containers to manufacturers using such materials in their production. These may be modified to suit their specific requirements. Prices will be found most reasonable, consistent with the high quality of materials furnished. Inquiries are solicited.

Dependability

"The firm of Van Cleef Bros. which today does an international business, was founded in Chicago in 1910. Its modern plant covers a large area with up-to-date equipment and facilities, plus a loyal experienced organization, which assures the maximum of perfection in all its products."

VAN CLEEF BROS.

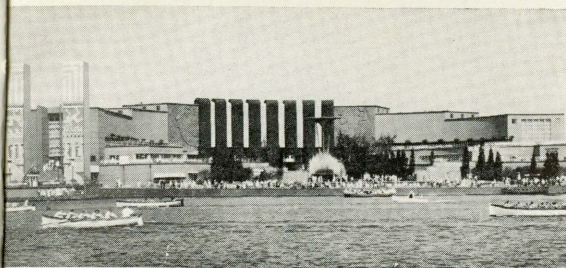
Manufacturers Rubber & Chemical Products
WOODLAWN AVE., 77th To 78th STS.
CHICAGO, ILL.



"This trade-mark identifies an extended line of Rubber and Chemical products for the Automotive, Electrical, Cycle, Hardware and many other trades."

"This trade-mark identifies the products of the Rubberizing Division of Van Cleef Bros. It appears on such products as hospital sheeting, raincoat fabrics, etc."


Vanitex
Rubberized
Fabrics



A View of the Electrical Building at A Century of Progress, Chicago, 1934

The locale for the DUTCH BRAND Exhibit is this colorful Electrical Building situated on Northerly Island. Cooled by the blue waters of Lake Michigan and surrounded by attractions that gladden the hearts of visitors . . . no more enchanting spot can be found within the Exposition grounds.





This booklet is a souvenir of
your visit to the Van Cleef
Bros. Exhibit and is accom-
panied by a small piece of
crude rubber, known com-
mercially as smoked sheet,
just as it comes from rubber
plantations.

