

course is distinctly marked by black longitudinal lines. The natives were formerly in the habit of peeling the tree when they required a supply, but have been taught by experience that the juice can be obtained by cutting notches at intervals in the trunk, and thus preserve the tree for future tappings, as our maples for successive years yield their sap to the sugar manufacturers. The juice consolidates in a few minutes after it is collected, when it is formed by hand into compact oblong masses of from seven to twelve or eighteen inches in length, by four to six inches in thickness; and these, when properly dried, are what is known as the Gutta Percha of commerce. It is of a light brown color, exhibiting a fibrous appearance, much like the inner coating of the white oak bark, and is without elasticity. When purified of its woody and earthy substance, it becomes hard, like horn, and is extremely tenacious; indeed, its tenacity is wonderful.

The strength of tubes of this material is so great that no visible effect was produced upon them by the proving-pump of the Water Company of the city of Stirling, in Scotland, which gives more pressure than any other pump in Great Britain—a pressure that would scatter the rivets of leather hose in all directions.

The application of heat to the crude makes it soft and plastic, and in a temperature of about two hundred degrees it becomes ductile, when it can be moulded into any desired shape, which it retains when cool. It can be dissolved by sulphuret of carbon, or chloroform, or if immersed for a time in spirits of turpentine. It is a repellant of and completely unaffected by cold water, and, unlike India rubber, it resists the action of oil and other fatty substances without injury. It is a non-conductor of electricity; is proof against alkalies and acids—being only affected by the sulphuric and nitric, in a highly concentrated state, while the most powerful acetic, hydrofluoric, or muriatic acids, or chlorine, have no perceptible effect upon its structure or capabilities. This gum has qualities entirely different from India rubber. It cannot be worn out. It can be melted and remelted, and repeatedly remoulded, without changing its properties for manufacture, or losing its virtue. It is lighter than rubber, of finer grain, and possesses certain repellant properties unknown to that material; and is extremely tough. It disregards frost, and displays remarkable acoustic qualities.

The experiments which resulted in the astounding discovery of