

CHARLES GOODYEAR FOR HALL OF FAME

Few More Entitled to Honor Than Great Inventor.

LIFE PASSED IN POVERTY

Whole Rubber Industry Rests on His Discovery of Process of Vulcanization.

In a letter sent to each of the 100 electors for the hall of fame, Colonel S. P. Colt, chairman of the board of directors of the United States Rubber company, who recently formally nominated Charles Goodyear for a place in the hall of fame, gives the following succinct statement of the career and achievements of the great inventor.

Charles Goodyear's fame rests on his discovery of the process of the vulcanization of rubber. Upon this process rests the whole rubber industry of today.

"The annals of invention contain few more romantic chapters than those relating to Goodyear. Convinced that rubber was one of the most useful substances in the world, he undertook the task of finding a way to make it serviceable. After years of effort he learned that sulphur was valuable in its treatment but only half solved the problem. During all his experiments he had never dreamed of applying heat, because even a slight degree of heat turned the substance into a sticky, shapeless mass. Then by accident he found that a high degree of heat was the very thing needed. After making this discovery it took him five years more to work out a process that was satisfactory.

Always in Great Want.
"He was a quiet, sickly, religious man. During the period of his experiments he and his family were in dire want, and only the kindness of friends and neighbors kept them from starvation. Goodyear refused to be swayed from his objective and wrestled with his problem until he had won complete success.

"When Charles Goodyear began his experiments, rubber as known to civilization was the crude rubber of today. The possibilities it possessed were realized to a degree, and fortunes were spent in the attempt to manufacture durable goods from it. But these goods were so affected by temperature changes that they were usually a total loss to the manufacturer. In cold weather they became stiff and brittle, and in summer grew soft and sticky and lost their shape and decomposition caused them to give off an offensive odor.

"Having discovered the proper method of treatment, Goodyear, instead of resting on his laurels, set to work to put his discovery to practical use. In speaking of this phase of his work, his son William H. Goodyear, who is curator of fine arts at the Brooklyn museum, said a few years ago:

Never Profited from His Work.
"It is a matter of record that, with rare exceptions, all the extensive applications of rubber (and there were more than 200 of them) were devised, launched and financed by Charles Goodyear up to the point where any other business man or manufacturer could do the rest, and at that point he invariably began to develop a new application. He never was a manufacturer in the strict sense, or beyond the early days when manufacture was the only means of earning money for experiments.

"He never was a manufacturer for gain and never belonged to any of the so-called 'Goodyear companies,' all of which his name was simply a trade mark. Nor has any member of the Goodyear family since his death ever been in the India-rubber business, in spite of the wide diffusion of the name as a trademark.

"It is by his Goodyear's power, at any time after 1844, to identify himself with some one of the great industries which he has successively launched, and to share by this activity more largely in the enormous profits which these industries produced under protection of the patent laws. His greatest glory is not that he discovered vulcanization, but that having discovered it, he secured the wealth which the discovery created, except in so far as it helped him in the nobler task of continuing to create new industries."

Rubber Clothes Joked At.
"The story of Goodyear's discovery of the secret that solved his problem is told nowhere in more interesting fashion than in John Martin's recent booklet for children, 'Rubber, A Wonder Story.'

"One day Charles Goodyear, a Connecticut hardware merchant of an inventive turn of mind went to a store to buy a life preserver," says this author. "The only ones he could find were imperfect affairs, but they drew his attention to the study of rubber and presently he was thinking of it by day and dreaming of it by night. Rubber became a passion. He neglected his business and grew poorer than the turkey job kept."

"He pawned his goods and borrowed from his friends until they dreaded to have him and his rubber talk enter their doors. He even pawned his children's books to get money for his experiments. His family hardly dared walk into a room or sit down at a table for fear they would come upon some of his ever-present 'gum elastic,' as he called it. "With an inventor's tireless patience and endless hope, he tried one combination after another but they all failed. He had an entire suit of rubber clothes made for himself and once said, 'Mr. Goodyear is the man you will see walking about all dressed in rubber, carrying a rubber purse with nothing in it.'"

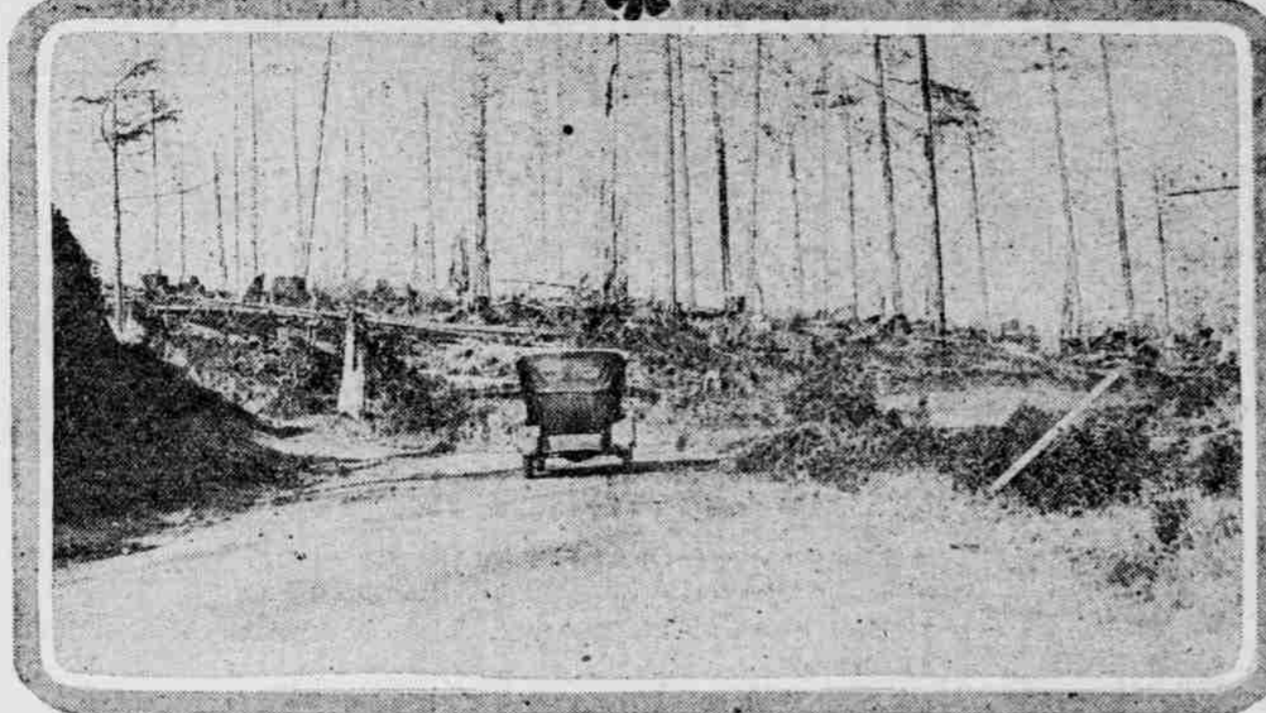
Gaining the Great Secret.
"Finally, in 1829, when he was mixing some rubber and sulphur together, a thing he had done before, he accidentally dropped a spoonful on the hot stove. Rubber melts at such a low temperature that he had never thought of applying great heat.

"Instead of melting, as he expected it would do, it flattened out like a silver dollar. It bent and stretched easily without cracking or breaking; it always snapped back to its original shape and, strange of all, it was no longer sticky."

"Apparently half the problem was solved. Whether his new mixture would stand cold he had yet to find out, so he called it on the outside of the door and went to bed. Probably he slept but little and was up early to find his rubber quite unaffected by the cold. Then he knew that he had made a real discovery and he named the process 'vulcanizing' after the Roman god of fire. 'Vulcanizing' simply means mixing sulphur and pure rubber and then applying heat."

Charles Goodyear is entitled to recognition at this particular time, be-

UNLESS OREGON AWAKES SOON TO THE NEED OF SAVING THE TREES, MANY OF ITS FAMOUS SCENIC HIGHWAYS SOON WILL LOOK LIKE THIS.



The pictures show scenes along the lower Columbia river highway between Clatsop Crest and Astoria, and there is a similar long stretch between Rainier and Clatskanie where for miles the highway goes through a denuded, late logged-off country. In California there is a strong movement afoot to save the trees along the highway. Unless action is taken in the Pacific northwest soon, it will be too late. Loggers are now ruining the beauty of the road from Seaside to Cannon Beach. In Washington the beautiful highway from Tacoma to Mount Rainier is suffering the same fate. Shall we save the trees along the highways, or bring tourists through desolate stretches such as these?

cause of the importance to present-day civilization of rubber as demonstrated by the tremendous growth of the rubber industry of the United States in the last decade, and more especially in the last five years.

Rubber Industry Vast.
The growth of the industry in this country is best illustrated by the following official government figures showing rubber manufactures since 1875:

1875.....	25,300,648	1909.....	157,394,638
1880.....	42,832,817	1914.....	399,993,706
1890.....	96,889,317	1918.....	1,122,135,769
1904.....	148,619,291		

America dominates the field of rubber manufacture. Not less than 70 per cent of all the crude rubber consumed in the world is made into goods in American mills. It was the American, Charles Goodyear, who discovered vulcanization and then perfected many methods of manufacture and it is not too much to say that the impetus given to the rubber industry in the United States by his genius is responsible in great degree for the commanding position the country holds in this field.

In placing rubber at the service of mankind Charles Goodyear made available a substance of so many important characteristics that its uses are countless. Rubber is used for some certain purposes because it stretches, for others because it is airtight and watertight, for others because it is a non-conductor of electricity, for others because it has either great plasticity or great hardness, and for others because it is shock-absorbing, and for others because it is adhesive.

Its manifold uses.
Rubber literally holds up the stockings and the trousers of the world. Infants cut their teeth on it, and old age uses it in false teeth. Eight million motorists and other millions of cyclists in the United States ride on rubber tires that are durable, noiseless and airtight. Balloons of rubber float aloft, and huge submarines plow their routes beneath the ocean's surface propelled by electricity stored in great rubber cells.

Sheathed in rubber, the lightning-

rod makes a peaceful way through our homes, offices and factories, furnishing light and telephone service. Divers sink out of sight beneath the waves in rubber suits. Rubber air-brake hose makes safe the travel of a nation, air-drill hose rivets our ships, fire hose protects the property in city and town and garden hose brings nourishment to our growing plants. Rubber clothing protects against storm and rubber footwear guards us against cold and wet. Tennis balls and golf balls and rubber-cored baseballs give healthful sport to the millions. In hospitals and medical work the uses of rubber are without number.

To select the most important use to which rubber is put would be difficult. To illustrate how little the average citizen is likely to be informed of some of its less romantic uses the following extract from a statement made by one student of the subject is given:

"Of all the applications of rubber, that of packing for the steam engine and connecting machinery appears to have been the most important, as it has been an essential condition of the development and extended use of steam as a motive power."

Use for Lamp Wick.
That old round wick from the oil stove that your wife usually throws away when it burns too short, if slit in half and laid flat, makes an excellent scrubber for the motorist to use in working the grease and grime out of his hands. If kept soaking in the cupboard in a tin with enough kerosene to keep it always moist, the wick scrubber is available whenever needed. It soon cleans dirty hands. The old wick will stand the hardest usage without wearing out and saves the wife's dainty towels.

Use for a Mirror.
In making adjustments in the differential housing it is a good plan to use a small mirror, the reflection of the ring gear and pinion in this enabling the operator to work with more accuracy than the ordinary method of determining conditions by sight. The mirror should have a handle long enough to prevent its being accidentally shut into the differential.

Lamp Shade.
By painting the upper portion of the bulb of the trouble lamp with some kind of opaque oil paint glare will be obviated and the driver can work in greater comfort and with much more accuracy.

WHERE THE MONEY GOES

FRANKLIN STATEMENT SHOWS HOW EXPENSES PILE UP.

Cost of Raw Material 45 Cents Every Dollar; Stockholders Get Only 2 Cents.

Of every dollar expended by the Franklin Automobile company of Syracuse the cost of raw material, supplies and parts eats up 45 cents, according to a statement just issued by H. H. Franklin, president.

Labor is paid 26 cents of every dollar in wages, this constituting the second largest item. Income added to working capital takes 3 cents. This represents the fund devoted to expansion purposes, which in turn gives employment to more labor with each succeeding year.

Administration and operating expenses of the factory uses up 8 cents. The selling expenses attached to merchandising the car is 5 cents, this latter item including the expenses of the sales, advertising, service and traffic department.

Taxes exacted by the federal and state governments takes 4 cents, and the depreciation in property value takes 2 cents more. Two cents on every dollar is paid in dividends on stock.

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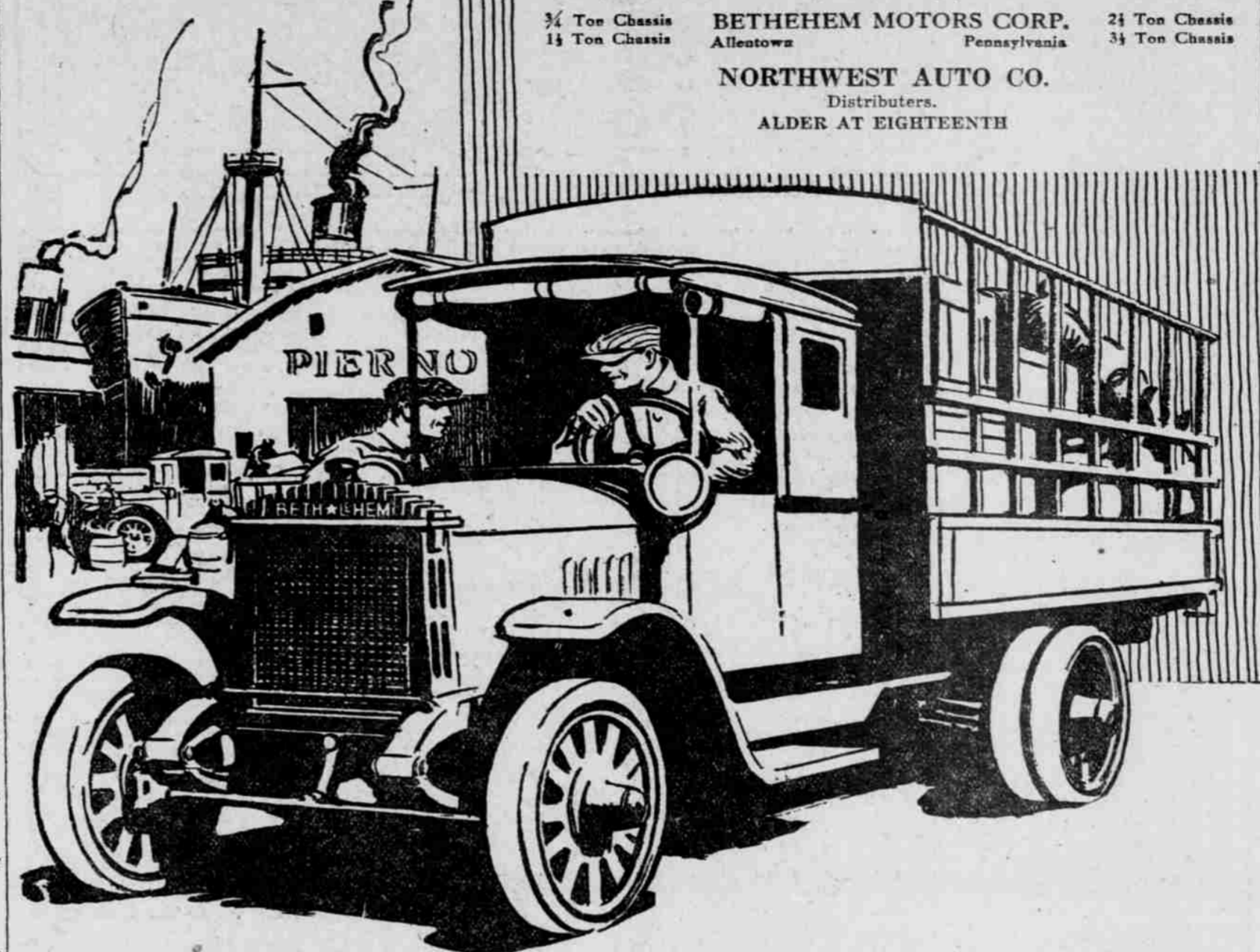
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