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The Rubber Man

by Carleton Beals

One rainy day in 1834 Charles Goodyear dropped into the Roxbury India Rubber Company's store in New York. All that dreary day he had been trudging from bank to bank seeking a loan to save his business in Philadelphia. He had not been able to raise a penny.

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His eyes roved over the rubber goods and rested on a round tube—a life preserver. He was interested in the article because of a recent sea disaster in which many had perished. At his request, the manager tried to inflate it, but the valve stuck. Lucky he wasn't a drowning man, thought Goodyear. And then it occurred to him that he might make a foolproof valve and sell it to the Roxbury Company. He had, after all, developed several other useful tools. And heaven knew he could use the money.

All the way back to Philadelphia he pondered the valve problem. Could he possibly extricate himself from debt this way?

By midsummer he had perfected a valve that opened unfailingly. One steamy day he hastened to New York with it, only to find the Roxbury store a smelly shambles. In the heat, all the rubber goods had been reduced to sticky goo. The distraught manager impatiently brushed the valve aside. In a despairing outburst he announced that the person the company would really reward was the man who could make rubber resistant to heat and cold.

Goodyear's fiasco of a journey was climaxed when he returned to Philadelphia. A bailiff was waiting to take him to debtor's prison.

In prison Goodyear kept thinking of the gooey, stinking mess at the Roxbury store. He persuaded his jailer to bring him some crude rubber and turpentine, and there behind bars he began his first experiments. From then on, his one enduring passion was rubber.

Upon his release months later, Goodyear

and his wife moved to New Haven. There, over the family cookstove, he continued his experiments. He tried using magnesia to tan the rubber, and produced thin sheets superior to any on the market—but this, too, softened in hot weather.

By now he was penniless. Returning to New York, he finally found a druggist who would give him chemicals on credit. Now he tried boiling his magnesia rubber in quicklime, and produced the finest material yet seen. He patented the process and began making rubberized cloth and other articles, bringing in a fair amount of money.

But such luck could not hold. One day juice from an apple he was eating fell on a rubber sheet. To his horror, he found that the rubber became sticky. Further experiments showed that any mild acid would cause the same reaction. His customers soon made the same discovery and demanded refunds.

Finally he tested a powerful acid on a piece of rubber. He was astonished to find that the rubber was tanned—no longer sticky. He set to work feverishly, making table covers and aprons, and managed to earn enough to support his family. Eventually he interested a wealthy New York investor, and they became partners in a thriving business.

Prosperity seemed within his grasp at last. But then came the financial panic of 1837, and he was out of business again.

He struggled to continue his experiments, but for that he needed proper facilities. He wrote to the Roxbury people, who invited him to use their factory, idle now because of the business collapse. He began making rubber goods again, and soon his profits totaled

\$4000. And then came a real triumph: a government contract to make one hundred rubber mail sacks. The elated Goodyear left the plant in the foreman's charge and took his wife on a needed vacation.

On the hot summer day of their return they visited the warehouse. The place reeked, and putrid rubber was dripping off the sack handles. Goodyear's process simply had not tanned the rubber deeply enough for mailbags. Another ruinous setback! Penniless as the day he started, he closed the business.

He continued his experiments nevertheless, now trying sulfur to tan the rubber, but without marked success. And then one day he accidentally placed a sulfur-cured article on a hot stove. Odd—the rubber did not melt, but merely charred. Here at last was a rubber resistant to heat—but what about cold? That winter's night he nailed a piece outside his kitchen door. Early the next morning he rushed out in his nightshirt. The rubber was still flexible. He had discovered the secret!

More extensive experiments with larger quantities were now essential. He sold the children's schoolbooks for five dollars, and persuaded an idle mason to accept some rubber aprons in payment for building an oven.

He made more rubber by the sulfur-and-heat method, but spoiled many batches because he could not control the oven properly. Money for materials ran short—doubly tragic because he knew that the entire problem was almost solved.

Finally he persuaded his brother-in-law to undertake the manufacture of his rubber. And that was the beginning of success. Goodyear's brain was on fire with ideas. He made rubber into inkstands, diving suits, knife handles, hot-water bottles, dolls, footballs—the list is endless. He worked himself to the bone, and his friends saw him only when he rushed forth exultantly to show them some new product.

He made sails for ships, horse collars, elastic for hats, shoestrings, and saddles, taking out some five hundred patents. And before his death in 1860 he succeeded in making a thoroughly dependable life preserver—that lifelong dream.

But in spite of Goodyear's great imagination, modern industry has found a hundred thousand additional uses for rubber. His discovery profoundly affected commerce and industry the world over, and life today would be unimaginable without it.

CHECK YOUR READING

1. As the story opened, Goodyear was in New York trying to
 - A sell an invention
 - B find a laboratory
 - C obtain a loan
2. The item that caught his eye in the Roxbury store was
 - A an inflatable raft
 - B a life preserver
 - C a diving suit
3. The rubber goods in the store melted because of a
 - A heat wave
 - B small fire
 - C Neither A nor B
4. Goodyear's first rubber experiments were carried on
 - A at home
 - B in prison
 - C in a factory
5. The rubber boiled in quicklime became sticky when Goodyear
 - A dropped mild acid on it
 - B placed it in the sun
 - C soaked it overnight
6. Around 1837 the Roxbury factory was idle because of a
 - A business collapse
 - B legal ruling
 - C workers' strike
7. While experimenting at the factory, Goodyear got a government contract to make
 - A rubber boats
 - B table covers
 - C mail sacks
8. That enterprise turned out to be
 - A a solid success
 - B a mild disappointment
 - C an utter failure
9. The sulfur-cured rubber became tanned when it was
 - A beaten
 - B heated
 - C frozen
10. Goodyear's major problem as an inventor was his lack of
 - A confidence
 - B imagination
 - C money