

It has been estimated that each person in the United States uses about one hundred pounds of sugar a year. Yet, like many of the things that are used every day, sugar is probably taken for granted. During most of the 1800s, however, sugar was a luxury. Few people could afford it, and for those who could it was hard to get. The manufacturing process that changed the juice from the sugarcane plant into sugar was slow and expensive.

In 1846 Norbert Rillieux received a United States patent for an invention first used in a sugar factory near New Orleans, Louisiana.

Rillieux was born in March 1806. His father, Vincent Rillieux, of French birth, was an engineer and master of the plantation on which his mother, who was black, had been a slave. Since Rillieux's birth record indicates that he was born a free black, his mother must have been freed from slavery some time before his birth.

At a very young age Norbert Rillieux was recognized as an extremely intelligent child. His father sent him to Paris, France, to be educated. This was not unusual for the time, since many black children born to white fathers were sent to Europe for their education. As Norbert went through school he excelled in engineering science. As early as 1830, when only twenty-four years old, he had published papers on steam engine work and had several inventions to his name. About this time Rillieux developed the idea for his evaporator for processing sugar. He tried unsuccessfully to get French manufacturers to build it.

Rillieux's reputation as an engineer had reached Louisiana. In New Orleans a new sugar refinery was being built. The owner of

the refinery approached Rillieux and asked him to be his chief engineer. Depressed because he could not get French backing, he decided to try in America. He returned to his homeland in 1830 to accept the job at the sugar refinery.

Rillieux's position as chief engineer lasted only a short while. His father had a disagreement with the owner of the refinery where his son worked. This made it difficult for young Rillieux to work there, and so he resigned. There was no chance for him to try his plan on his first job, so he decided to set out on his own.

Rillieux went into the real estate business. He hoped to earn enough money to build and operate his own evaporator. He made a considerable amount of money but lost it in a bank failure in 1837.

Despite repeated failures and misfortunes, Rillieux did not quit. Finally, the first of his patents was awarded to him in August 1843. In the same year he met Theodore Packwood, a sugar manufacturer. Packwood was interested in Rillieux's invention and invited him to install one on his homestead. In 1845, the "Rillieux system" operated with complete success on the Packwood plantation.

Rillieux's apparatus received quick and loud acclaim. The news of his invention was widespread, and it was recognized as a tremendous contribution to the sugar industry. His evaporating system produced a superior grade of sugar at greatly reduced costs.

The years from 1845 to 1855 were years of triumph for Rillieux. In the past, slaves used long ladles to transfer boiling sugar juice from one steaming open kettle to another. With Rillieux's discovery, one workman operating a

few valves moved the hot juice in completely closed containers. Rillieux's system was more than just a change from a hand operation to a mechanical one. It was a complete overthrow of a practice that had changed little through the centuries.

Rillieux's professional status was solid. He was one of the most sought-after engineers in Louisiana. But though his ideas, ability, and achievements were accepted, Rillieux as a person was treated unfairly because of his racial ancestry.

When Rillieux was employed on various sugar plantations as a consulting engineer, the "color problem" was met by providing him with special living quarters. Because of his "colored" blood he was not entertained in the plantation owner's home, or in the house of any other white person.

Sometime after 1855 Norbert Rillieux left Louisiana and returned to France. Some believe that he did not want to leave but probably did so because of the prejudice and discrimination faced by black Americans.

In the United States during the 1850s free black people were more and more restrained. Although they never reached the low status of slaves, free blacks like Rillieux were subjected to restrictions and ridicule. By 1855 they could not walk the streets of New Orleans without permission. A traveling black person could not stop off in New Orleans unless represented by a white person. It is quite probable that the social conditions faced by black people during the pre-Civil War days made Rillieux decide to return to France.

Back in France, Rillieux faced more trouble with his inventions and patents. A German who had worked for the American

firm that constructed one of Rillieux's first evaporators had copied the plans and brought them back to a factory in Germany. Due to a misunderstanding of Rillieux's designs, this evaporator and others like it constructed in Europe operated very poorly. So when Rillieux reached France in the late 1850s, he had a bad name among French sugar engineers. He could find no Europeans who were interested in trying his sugar refining process.

Discouraged, Rillieux lost all interest in sugar engineering and machinery. He turned to archaeology and spent ten years in that profession.

At the age of seventy-five, Rillieux renewed his interest in the evaporator. He sought a patent for his system of manufacturing sugar from the sugar beet plant and was finally successful in 1881. The French sugar beet houses accepted Rillieux's efforts, and he received full credit for cutting their fuel costs. Yet the experts were still not willing to recognize that the evaporating process was created by Rillieux back in the 1830s. Norbert Rillieux retired from the work to which he had contributed so much and died in 1894.

Most historians who have written about the development of the sugar industry fail to mention that Rillieux was a black American, although they are generous in their praise of his contributions. Rillieux's invention was used throughout the sugar industry and also in the manufacturing of condensed milk, soap, gelatin, and glue. The underlying principle in processing sugar has not changed much since he first designed his system in the 1830s.

CHECK YOUR READING

- 1. Norbert Rillieux's invention was first used at a factory**
 - A in France
 - B near New Orleans
 - C in Hamburg, Germany
- 2. For a child like Norbert, going to school in France was considered**
 - A rather commonplace
 - B impossible
 - C unheard of
- 3. By the time Norbert was twenty-four he had**
 - A published papers on sugar refining
 - B several inventions to his name
 - C Both A and B
- 4. Rillieux decided to take his first job in America because**
 - A he was homesick
 - B he could not get French backing
 - C Neither A nor B
- 5. The "Rillieux system" first operated successfully**
 - A at the Packwood plantation
 - B on Norbert's plantation
 - C in a Swiss factory
- 6. The effect of Norbert's discovery on the sugar refining industry was that it**
 - A improved the existing system
 - B revolutionized the system
 - C completely eliminated the process
- 7. Rillieux had problems while working on sugar plantations because**
 - A he was black
 - B he did not speak English
 - C Both A and B
- 8. The European factories that first used Rillieux's design**
 - A refined wheat
 - B operated poorly
 - C were praised by engineers
- 9. Rillieux spent ten years as an archaeologist after becoming**
 - A wealthy as an engineer
 - B a French citizen
 - C Neither A nor B
- 10. The story says that the experts**
 - A finally recognized Rillieux's work
 - B did not give Rillieux credit
 - C never understood the evaporator

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