

# From Slave Son's to Agricultural Inventor



William Chester Ruth

1882 – 1971

Pennsylvania Blacksmith, Machinist,  
and Inventor of Agricultural Equipment



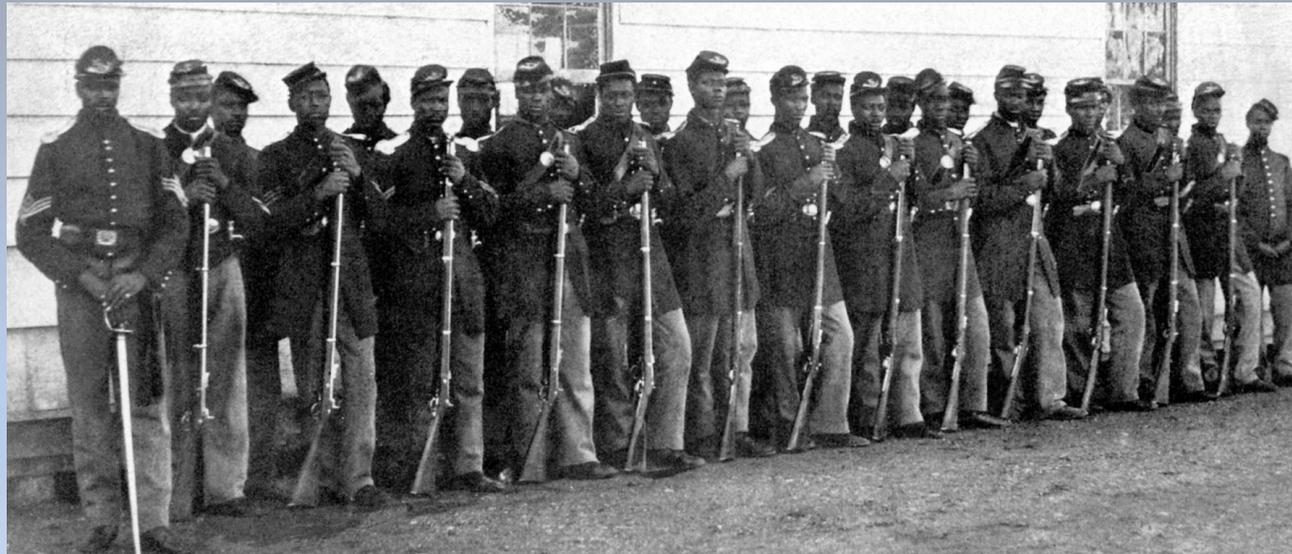
**William Chester Ruth** was the seventh surviving child of Samuel and Maria Louisa Ruth.

Prior to the Civil War, **Samuel (1850-1937)** was a slave in South Carolina. Samuel's mother, **Leah**, was brought to this country from Africa in the 1820s, and Samuel's father, **Robert Frederick Ruth**, was her plantation owner. Leah bore three children on Robert Frederick Ruth's plantation – Samuel, George and Isabel. Robert Frederick Ruth trained Samuel as a house servant so he would not have to go into the fields. When Samuel was seven, his mother was sold away from her children and lost to the family for decades.



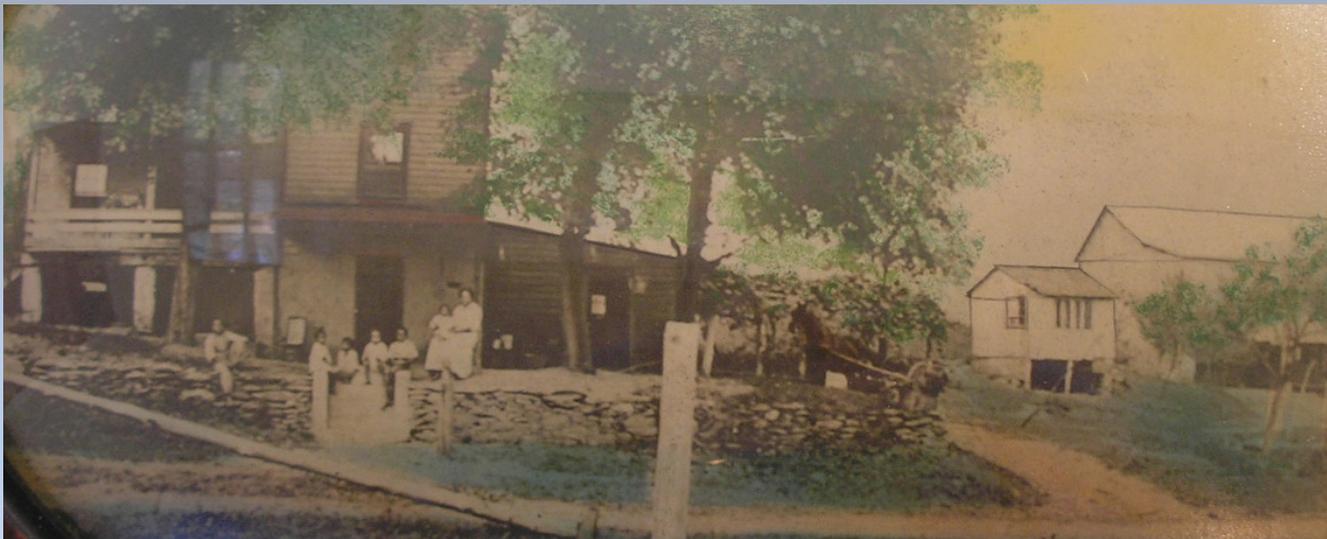
*Blacksmith Shop, Ida Ella Ruth Jones (William Chester Ruth's Sister)*

When **Samuel** was thirteen, Robert Frederick Ruth told his slaves that they were free and should run from the Yankee troops. The **54th Massachusetts Infantry**, the second all-black Union regiment to fight in the war, rescued Samuel. He became the water boy to the soldiers and the personal assistant to **First Sergeant Stephen Swails**, the first African American commissioned officer in the Civil War. In 1865, the 54th mustered out in Mount Pleasant, South Carolina and returned to Boston. Fifteen-year-old Samuel went with them and was fostered by **Corporal Walter Samuel Pinn's family**.

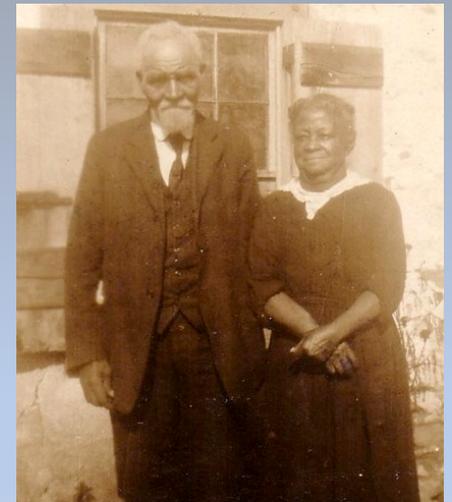


*Massachusetts 54<sup>th</sup> Infantry*

Fifteen-year-old **Samuel** married fifteen-year-old **Maria Louisa Pinn (1850-1930)**, the youngest daughter of the Pinns. Louisa was born free in Fredericksburg, Virginia. Samuel and Louisa moved to **Ercildoun, Pennsylvania**, where there was a strong African American community. The Ruth's purchased land along Route 82. They owned a small family farm, raised 10 children and Samuel Ruth operated a successful threshing business. Louisa did paid domestic work and worked as a midwife in the community. In 1868, Samuel organized the **Church of Christ** in Ercildoun.



*Ruth Family Farm*



*Louisa and Samuel Ruth*



*Ruth Family Church in Ercildoun, PA*



*Pastor Samuel Ruth Baptizing a Woman*

**William Chester Ruth**, born 1882, was Louisa and Samuel's 7<sup>th</sup> surviving child. Early in life "**Chester**" Ruth confounded his hard-working father Samuel by taking apart tools and equipment around the farm. Ruth had the need to understand how mechanical things worked, which interrupted the farm work that had to be completed. Ruth was known to disassemble objects but then be unable to put the pieces back together again before his father found out.



*William Chester Ruth and his sister, Ida*

One of the first pieces William Chester Ruth made as a child was a **wagon jack that he adapted from a bicycle tire pump**. However, when Ruth tried to have his new wagon jack lift a full wagon it buckled under the strain and struck him in the head, a dangerous act that his father was trying to prevent by discouraging his son's curiosity. Though punished many times and sometimes injured, Ruth never stopped being fascinated with **discovering how machines worked**.



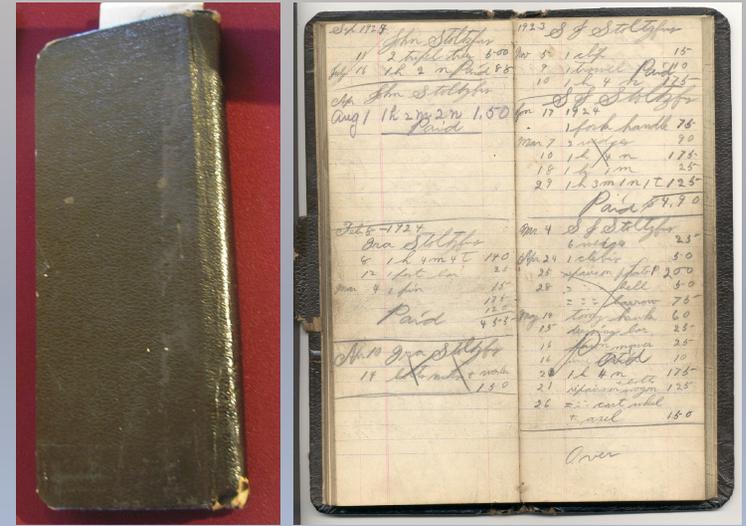
*Conestoga Wagon Jack  
Landis Valley Village and Farm Museum,  
Pennsylvania Historical and Museum Commission*



*William Chester Ruth working at his Anvil.*



*Richard Ruth working at his Grandfather's Anvil.*



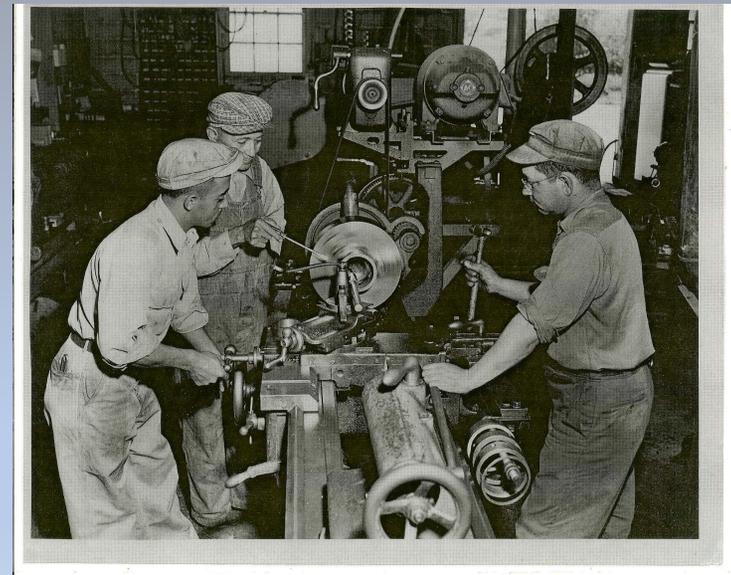
*Ruth Ledger, 1920s*

By the age of 12, William Chester Ruth had learned blacksmithing skills from his father and was forging nails. Later he worked at **Lukens Steel Company** and in 1923 he opened a **blacksmith shop in Gap, Lancaster County**. The shop was known as **Ruth's Ironworks Shop**. Ruth was the only African American in the region to have his own manufacturing business. He was a well-known and capable blacksmith to the Amish, Mennonite and other farm families of Eastern Lancaster and Western Chester Counties that were looking for farrier work or for Ruth to repair or forge various agricultural parts.

William Chester Ruth wanted to do more than fix implements and shoe horses. He turned his **blacksmith shop into a machine shop** with six employees so he could design and invent machines, like he was doing as a child. While working with the farmers he learned what problems they were having with their machinery. Ruth's hope was to solve the local farmers mechanical problems while make farming easier, less back-breaking and safer.



*William Chester Ruth in Overalls, Son Joseph in Center, Grandson Richard in Front and Shop Assistants*

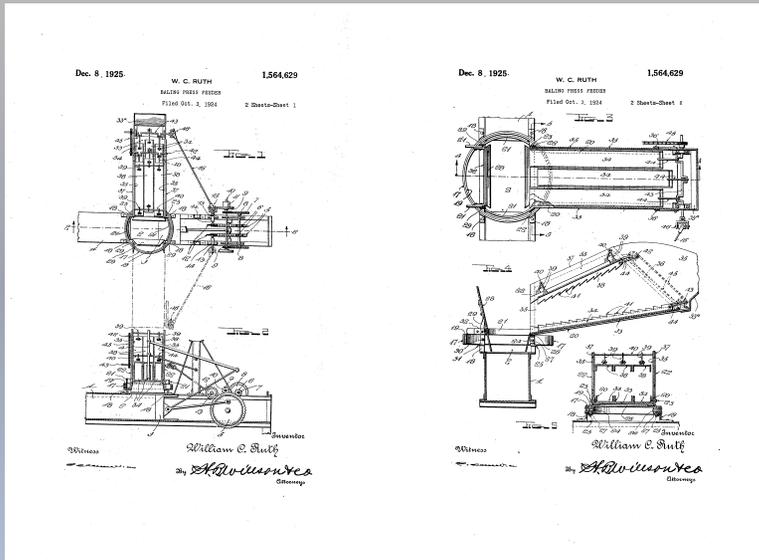


*Three Generations of Ruth Machinists (William Chester Ruth, Joseph and Richard)*

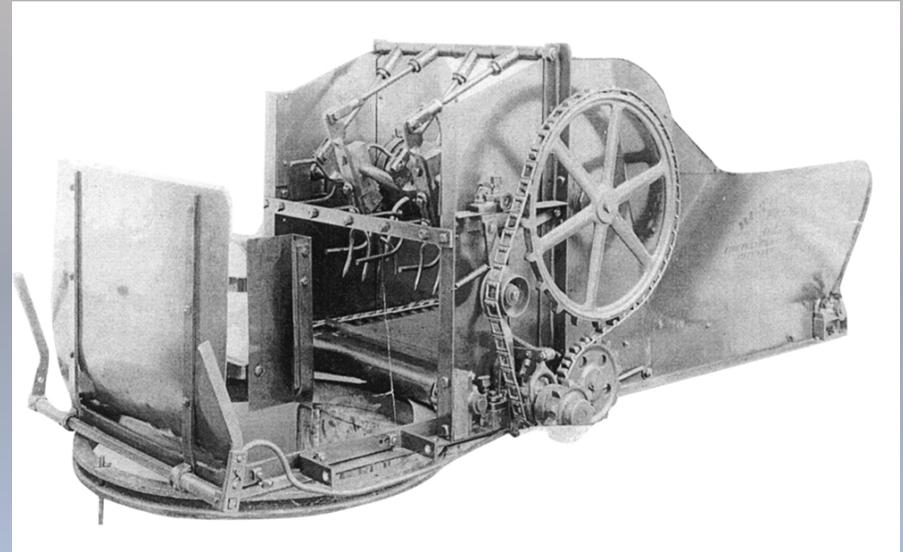
One issue occurred between the **thresher**, whose purpose was to separate grain from its stem, and the **baler**, positioned behind the thresher to receive the stems as straw to bale. If straw exiting the thresher dropped into the bale chamber in gobs too thick or came too heavily at the finish of one bale and the start of another, the baler could jam. Sometimes a man with a fork had to be positioned at the point where the thresher and baler met in order to help the flow of straw, which could be dangerous. **Hay baler accidents** occur every year. A hay baler is one of the most dangerous types of farming equipment. Every year, hundreds of farmers suffer injuries by being pulled into hay balers. Ruth's goal was to invent a machine that would make hay baling safer for local farmers.



*Threshing Scene, c.1900  
Landis Valley Village and Farm Museum,  
Historical and Museum Commission*



*Bale Press Feeder Patent, 1925*



*Feeder Apart From the Bale Press*

William Chester Ruth designed and patented a **baler feeder** that that could be installed atop a bale press to catch the straw from the thresher and regulate its passage into the baling chamber. Once the **Ruth Combination Baler Feeder** was put on the market, Ruth would sell over 5,000 units. Many went to the grain belt in the American Midwest, as well as to Canada. Ruth reported selling as many as 21 feeders in a single day in 1928. The name plate on the product read: **The Ruth Improved Feeder, Gap, PA.**

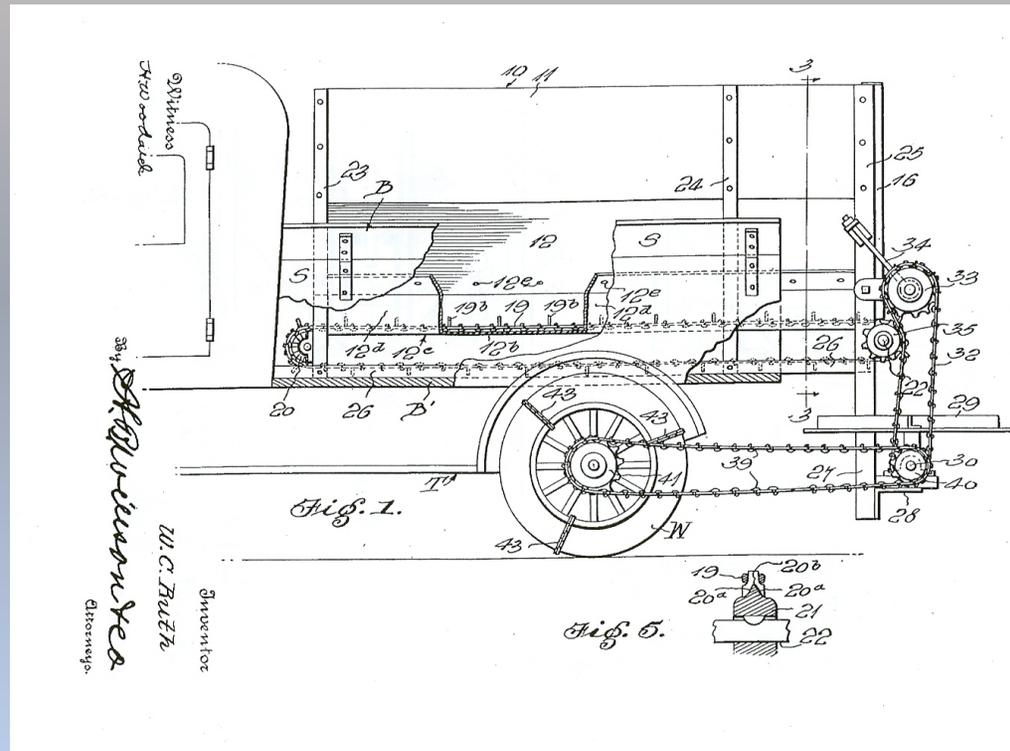


William Chester Ruth (left) and a Shop Assistant Install a Ruth Bale Feeder on a Bale Press

In 1928, William Chester Ruth invented an **automatic tie for a hay baler**, which was made up of 87 parts. Ruth's piece was so intricately constructed that patent attorneys called it a "complicated mess". It took two years before the patent office cleared Ruth's patent. It was then discovered that 47 of its 87 parts could also be patented.

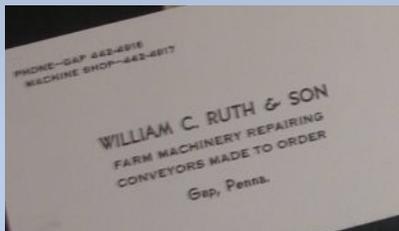


*William Chester Ruth*



In the early 1930s, William Chester Ruth developed a **wintertime highway cinder spreader for highway maintenance trucks**. Ruth sold 150 of these units to the Pennsylvania Department of Transportation for use on icy roads. The cinder spreader could also be used as a manure spreader.

One of William Chester Ruth's most successful patented farm inventions was the **self-lifting elevator** for conveying bales of hay or straw, ears of corn, and bags of grain or feed into storage. Farmers had already been using such elevators as inclined conveyors. However, in order to raise those elevators to the height of a corn crib or hay mow, the farmer had to crank a cable winch by hand. The improvement represented by Ruth's elevator was that the same power used to run the conveyor could also raise the elevator, merely by moving a lever that transferred the power drive to the hoist mechanism. An elevator could operate with an electric motor, gasoline engine, or belt power from a tractor pulley.



*William Chester Ruth with a Model of an Elevator*



*Leon Stoltzfus and His Father with a Ruth Elevator*



## The Ruth Elevator

is made from 20 to 35 feet long. 30 foot is best recommended for the average farm. It is of all steel construction with slats spaced about 5 foot apart. Inside width of the machine is 24 inches, height of the sides are 7 inches.

This Elevator handles ear corn, baled hay and straw, baled tobacco, potatoes, wheat in bags, etc.

The 30 foot Elevator will elevate about 24 foot from ground level. It can be operated with electric, gas, motor, or can be driven with a tractor.

**I**t is mounted on a sturdy chassis with 6.00 x 16 tires on the rear and 4.00 x 12 on the front.

For ear corn, if so desired, the front wheels can be removed.

It is elevated by a windlass and any height from 3 feet to 24 feet can be obtained on a 30 foot machine.

This chassis can be obtained in a two or four wheel type.

- This is truly a time and labor saving machine.



**A** BALE TURNER and a corn shute can be purchased for a small additional cost.

*The Ruth Elevator Contains Several Exclusive Features*

Before purchasing an elevator be sure to get all the facts about a *Ruth Elevator*.

*For prices and other details write*

**WILLIAM C. RUTH**

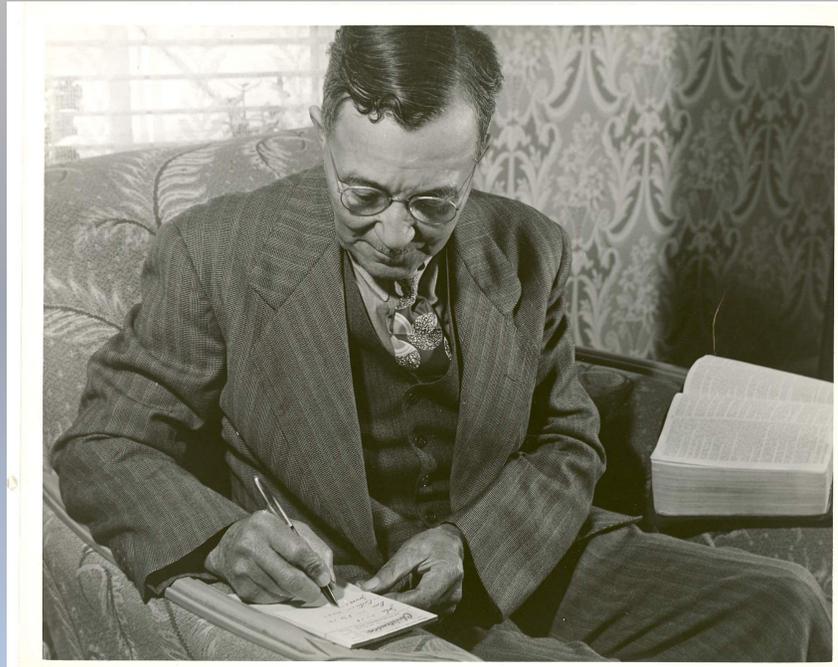
Gap, Pennsylvania

R. D. 2



William Chester Ruth had more than **52 patents**. Some of those inventions were not farming related. He was commissioned by the United States government to design and manufacture **secret wartime devices for airplanes and bombsites** during World War II. He also created an **amusement park aerial ride** and the **Ruth Clean Cut Lawn Mower Attachment**. This attachment from the 1940s cut a swathe wider than the basic mower's width.





*William Chester Ruth Preparing a Sermon, c.1950*



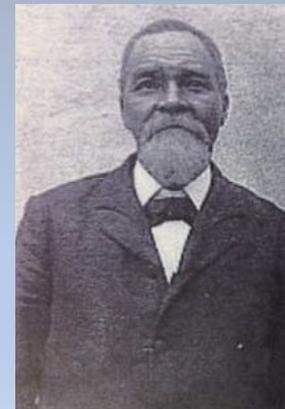
William Chester Ruth's Bible, Reading Glasses, and Sermon Notes

William Chester Ruth was indispensable to the agricultural community due to his inventions and ability to customize and repair different types of machinery. He was also indispensable to the **spiritual community of Ercildoun**. In 1914, at the age of 32, Chester took over his father's **Church of Christ congregation**. At 70, he was still leading that congregation and delivering regular sermons.

William Chester Ruth's family was filled with wonderful stories as well. Ruth's father, Samuel, was able to find his mother, **Leah**, who was sold when he was seven years old. Samuel learned she was living in Hilton Head, South Carolina and persuaded her to come North to live on his farm with him, her grandchildren and great grandchildren. It is believed that she was in her late nineties when she died on May 18, 1912. Ruth's sister, **Ida Ella Ruth Jones**, was a famous primitive African-American artist and has a PHMC Historical Marker describing her success. Ruth's brother, **George**, was a musician who entertained often at the White House.



*Ida Ella Ruth Jones*



*Samuel Ruth*



*George Ruth*

William Chester Ruth is remembered fondly by his family members and by local Pennsylvania Germans, including Amish and Mennonite farmers. He had married Gertrude Miller in 1906 and they had six of their seven children die in childbirth. Gertrude died in a car accident in 1962. His family feared Ruth would also be killed in an automobile accident because he would not look back when reversing. He would slowly reverse until he bumped into an immovable object. However, he **died in 1971 at the age of 89** when he was struck by a car walking along a highway.



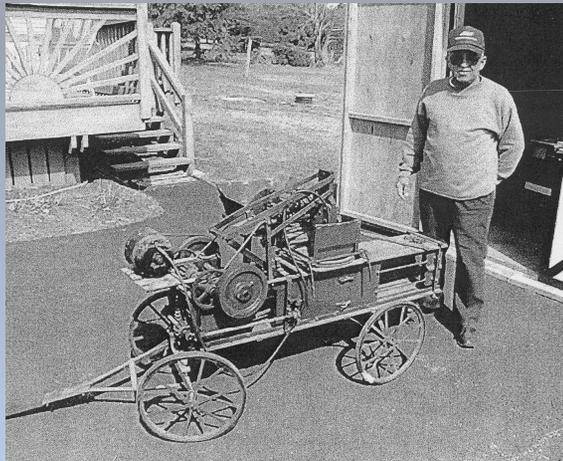
*William Chester Ruth and Granddaughter, Gwendolyn Ruth Dickinson*



William Chester Ruth designed and created his inventions and their prototypes in a **small machine shop in Gap, Pennsylvania**. The building no longer exists but there is a **PHMC Historical Marker** commemorating his many achievements.



**Landis Valley Village & Farm Museum, Pennsylvania Historical and Museum Commission** in Lancaster, PA preserves and interprets working scale models that William Chester Ruth constructed to demonstrate his inventions, as well as a full-scale example of his baler feeder. For more information, visit [landisvalleymuseum.org](http://landisvalleymuseum.org).



*Robert Ruth with Baler Feeder Model*

Gwendolyn Ruth Dickinson and the late Richard A. Ruth, the grandchildren of William Chester Ruth, have been very kind to Landis Valley Village & Farm Museum in provided information, historic photographs, and artifacts.

