

"Iowa Inventors and Inventions from A to Z," 1998

Airtight Mailbag

Bags stuffed with letters were piled atop stage coaches to travel between stage stop post offices in the 1850s.

The problem: Dust and dirt blown into the bags soiled the mail. Rain and snow leaked in, reducing letters to a soggy mess.

The solution: Charles A. Robbins and Harvey Allen designed an air-tight mailbag to protect mail from dust and water. Robbins constructed the prototype by crimping in elastic material at the mouth of the bag. He was one of the first Iowa City residents to apply for a patent, which was granted on September 7, 1852. Robbins's inventions didn't stop when he solved the soggy mail problem. He also patented a ditching and excavating plow for turning prairie sod.

Basic Skills Tests

Sharpen your #2 pencil and blacken the oval of the correct answer: Everet F. Lindquist, a professor of education at the University of Iowa, devised The Iowa Tests Of Basic Skills in 1935. Born in Gowrie, Lindquist earned national recognition for his innovations in testing. Schools across the nation used tests he developed, sending them in by the thousands for grading. Scoring them one by one was a tedious job. Lindquist dreamed of an easier way—then invented the first electronic scoring machine in 1952, even though he had no special training in electronics.

Corn Picker

Patrick Lawler was a farm kid who didn't like the hard work of farming. Picking corn by hand left him exhausted. But he liked tinkering with machines and dreamed of an easier way to get the job done. By 1880, Lawler had drawn his ideas for a corn picking machine on paper. With the help of John F. Barry, a lawyer from Chicago, Lawler built a working model of his dream. Then, on a sunny afternoon in 1885, a crowd gathered at the Lawler farm near Wall Lake to watch the strange machine pick corn. Neighbors were amazed as the horse-drawn picker poured out a stream of husked ears. A Chicago manufacturing company offered Lawler money for the rights to produce his machine, but he and Barry wanted to manufacture the corn picker themselves. They purchased a blacksmith shop and built two machines but were unable to sell them. Lawler's first corn picker was sold for scrap in 1932.

Gasoline Tractor

In 1892, John Froelich built the first gasoline-powered tractor that propelled itself backward and forward. His invention helped pave the way for modern farming. John grew up in Froelich, a Clayton County town named after his father, Henry. John ran a feed mill and elevator, and tinkered with machines. Mounting a gasoline engine on a well-drilling rig gave him the idea to mount an internal combustion engine on a tractor. A few weeks later, the tractor—a forerunner of today's John Deere tractors—was shipped to South Dakota, where it threshed 72,000 bushels of wheat in 52 days. Froelich, with other investors, founded the Waterloo Gasoline Traction Engine Company in 1893. This company eventually became the John Deere Tractor Works. Like many inventors, Froelich received little recognition for his work during his life time while others profited from his creations.

Incubator

When Rebecca Johnson's husband died, the Maxwell woman had to support three young children on her own. Cleaning houses and sewing did not pay enough, so Johnson used her small inheritance to buy a house, eight acres of land, two cows, a few pigs, and several dozen hens. She raised chickens year-round, paying careful attention to their needs. She built a hen house that was so warm her hens laid eggs all winter. She later wrote, "I fed them cabbage, beets, turnips, squash, onions, for I knew to produce eggs in winter I would have to make conditions as near like those of the warmer months as possible... I never let them out on cold days." Soon she made enough money selling eggs for 18 cents per dozen to pay her living expenses and feed her animals. In the late 1800s Johnson made her first incubator. Using incubators, Johnson hatched 5,000 chickens in one season. Later in her poultry career, she hatched half that amount in a single day! Eventually, she made \$300 monthly during the busy part of the year. Newspapers wrote about her skills. She received so many letters asking for advice that she wrote a book. Johnson published *How to Hatch, Brood, Feed and Prevent Chicks from Dying in the Shell* in 1906. In 1907, Johnson received U.S. Patent No. 894,835 for an incubator alarm. The device alerted farmers to changing temperatures within the incubator. Later, she refined her invention so the thermostat raised and lowered the wick of a heat lamp.

-by Katherine House

Locomotive Cow Catcher

Obstacles on railroad tracks created collision hazards for trains speeding across the countryside. James Mitchell of Osceola patented this early development in locomotive cow catchers. The device, mounted on the front of the engine, helped remove livestock or debris from the tracks without derailing the train.