“Mattie, will you make a new sled for us?” the boys called out as they ran home through the fresh New Hampshire snow.

Margaret sighed. Then she smiled and went to find her toolbox and some wood. She was not yet fifteen that winter day in 1853, but the sleds, kites, and other playthings that she made for her brothers were the envy of all the boys in town.

Margaret liked working with jackknives and pieces of wood. When she grew up, she said, “Dolls never possessed any charms for me. I couldn’t see the sense of coddling bits of porcelain with senseless faces.”

Margaret E. Knight was born in York, Maine, in 1838. Her family moved to Manchester, New Hampshire, when she was young, and she and her brothers all worked in the cotton mills as children. When she was twelve, Margaret saw a mill worker injured by a steel-tipped shuttle that fell from a loom. Shocked by the accident, she invented a safety mechanism to keep shuttles from flying loose. That mechanical device—her first invention—was so practical that it was soon adopted by all the cotton mills.

By the late 1860s, Knight was working for the Columbia Paper Bag Company in Springfield, Massachusetts. There she operated machines that made the flat, envelope-shaped bags that were in general use at the time. A number of people had tried to improve these machines so that they would automatically make square-bottomed, self-standing bags—like our present-day grocery bags—without having to cut, fold, and paste them by hand. No one had been able to make such a machine.

Knight studied the machines at the factory during the day and made numerous drawings and models at night in the boarding house where she lived. In 1867, she wrote in her diary, “I’ve been to work all this evening trying the clock work arrangement for making the square bottoms. It works well so far, so good. Have done enough for one day.”

She completed a wooden model and made thousands of trial bags in the factory. When she was sure the machine was in working order, she hired a machinist to make an iron model so that she could register it at the U.S. Patent Office in Washington, D.C.
Before Knight had time to apply for a patent, however, she heard that a man named Charles F. Annan had just received a patent for a nearly identical machine. She discovered that Annan had been spying on the machinist who was making her model and that he had copied it and hurried to have it patented in his name.

Knight was furious. She hired an attorney, and armed with witnesses, documents, drawings, early models of her machine, and even her personal diaries, she fought for her rights to the patent. And she won!

In his decision in the case of *Knight v. Annan* in 1871, the commissioner of patents complimented Knight on “the most notable character” of her work and judged her “the prior inventor, and entitled to a patent.” Then he added, “Considering her little practical acquaintance with machinery, her success . . . is a matter of great surprise.” Knight must have been insulted. Little acquaintance, indeed! Defending her knowledge of mechanics at one point in the case, she told him, “I have from my earliest recollection been connected in some way with machinery. . . . I have worked at almost everything where machinery is employed.”

Knight continued to broaden her mechanical and inventive skills. While most women inventors of the time patented devices for the home, she was truly “a lady in a machine-shop,” as the *Woman's Journal* called her in 1872. She lived in Framingham, Massachusetts, but worked long hours in her “experiment rooms” at 110 High Street, Boston. In the next twenty years, Knight patented machines for the paper bag, rubber, and shoe industries. By 1900, she was designing engines for the new automobile industry.

Among her last patents, registered when she was in her seventies, were ones for a “non-skiddable” tire tread and the gasoline-powered Knight Silent Motor, which she developed with the financial backing of Anna F. and Beatrice M. Davidson and others of Saratoga Springs, New York.

When Knight died at the age of seventy-six on October 12, 1914, she held patents for twenty-two inventions and had assigned patents for an estimated sixty more to her financial backers and employers. One newspaper called her a “woman Edison.” As a professional inventor, Knight might have considered that a great compliment.