

## Josephine Cochrane: Entrepreneur and Inventor

Name \_\_\_\_\_



*"If nobody else is going to invent a dishwashing machine, then I'll do it myself."*

(1) Josephine Cochrane (1839-1913), wife of an Illinois politician in the late 1880s, set out to invent a major kitchen appliance – though not because Josephine was fed up with the tedious task of washing dirty dishes. She was a wealthy woman, with a full staff of servants. A "blueblood" from Chicago, living in the small prairie town of Shelbyville, Illinois, Josephine Cochrane liked to give formal dinners, and what she was really fed up with was her dishwashing servants breaking her expensive china. Every party ended with more shattered dishes, which took months to replace by mail. A machine seemed like the perfect solution to her. Cochrane would be guided by her independent nature and personal confidence in making this machine a reality.

(2) In a woodshed adjoining her house, Josephine measured her dinnerware, then (with no technical education, training or experience) fashioned individual wire components for plates, saucers, and cups. The compartments fastened around the circumference of a wheel that rested in a large copper boiler. As a motor turned the wheel, hot soapy water squirted up from the bottom of the boiler and rained down on the dishes. The design was crude but effective, and it so impressed her circle of friends that they dubbed the invention the "Cochrane Dishwasher" and placed orders for machines for their kitchens. They also viewed the device as a solution to the vexing problem of servants with poor dishwashing skills.

(3) Word spread quickly. Soon Josephine, making sales calls and presentations on her own behalf in what was a male-dominated business culture, received orders from Illinois hotels and restaurants. The high volume of dishes being washed – and breakage – were continual and expensive problems for them. Realizing that she had hit upon a timely invention, Mrs. Cochrane patented her design in December 1886. Interestingly, her grandfather John Fitch had also been an inventor; he was awarded a steamboat patent in the late 1700s. Josephine's dishwasher went on to win the highest award at the 1893 Chicago World's Fair for, as the citation read, "the best mechanical construction, durability, and adaptation to its line of work." That success led to her opening her own factory in an abandoned schoolhouse.

(4) Hotels and restaurants remained the best customers for Josephine's large-capacity dishwashers until her death in 1913. But in 1914, the company she had started came out with a smaller machine; they were ready to expand into a new market. It was built for the average American home and family. To the complete astonishment of the company's management, the typical American housewife of that time was unimpressed with the labor-saving device!



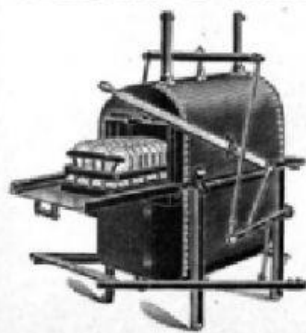
(5) One reason for the reluctance was technological. In 1914, many homes did not have the quantity of scalding water a dishwasher required to wash the dishes. The entire contents of a family's hot-water tank might be insufficient to do just the dinnerware. Furthermore, in many parts of the country the water was "hard," which means it contained dissolved minerals that prevented soap from sudsing enough to spray-clean the dishes. Elbow power was still needed to get dinnerware sparkling.

(6) But there was yet another problem that no one in Josephine Cochrane's company had anticipated. They had assumed that American women viewed dishwashing as a disagreeable chore. So the company executives surveyed housewives, hoping to learn why the home models were not selling. They learned that while many household duties were dreaded (mainly laundering the family clothes), dishwashing was not one of them. It was quite the opposite. The majority of the women questioned in 1915 reported that doing dinner plates was a welcome relaxer at the end of a hard day.

(7) Josephine Cochrane's company (which would later merge with an Ohio manufacturing firm to produce the popular KitchenAid dishwasher) adopted another advertising angle: A major reason for purchasing a dishwasher was the proven fact that a machine could use water far hotter than the human hand could bear. Therefore, dishwashers not only got plates and glasses cleaner; they also killed more germs. Sales still did not really improve.

(8) The home market for dishwashers would not expand and become profitable until the early 1950s. There were three reasons for this. First, the new suburban homes in America had a large quantity of far hotter water in their hot water tanks, more advanced plumbing systems, and cleaner, "softer" water than in the early 1900s. In addition, high-quality dishwashing detergents, specifically produced for the dishwashing machine, became readily available. Finally, post-World War II prosperity made leisure time and an emerging sense of personal time for women, independent from husband and children, major concerns of the American housewife. Today, not surprisingly, the dishwasher is very much a part of the typical American household. Josephine Cochrane was posthumously inducted into the National Inventors Hall of Fame in 2006 for her invention of the dishwasher.

## GARIS-COCHRANE DISH WASHING MACHINE CO.



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*"Women are inventive, the common opinion to the contrary notwithstanding. You see, we are not given a mechanical education, and that is a great handicap. It was to me—not in the way you suppose, however. I couldn't get men to do the things I wanted in my way until they had tried and failed in their own. And that was costly for me. They knew I knew nothing, academically, about mechanics, and they insisted on having their own way with my invention until they convinced themselves my way was the better, no matter how I had arrived at it."*

Exercise A: Below are important events in the history of the dishwasher. Put a 1 next to the first thing that happened and continue in order until number 10. Look back at the article if you need help. (RI.3.8)

- \_\_\_\_\_ Josephine's dishwasher won the highest award at the Chicago World's Fair.
- \_\_\_\_\_ The majority of the women reported that washing dishes by hand was relaxing.
- \_\_\_\_\_ Josephine Cochrane was tired of her servants breaking her expensive china.
- \_\_\_\_\_ Josephine Cochrane was inducted into the National Inventors Hall of Fame.
- \_\_\_\_\_ Cochrane made sales calls and received orders from Illinois hotels and restaurants.
- \_\_\_\_\_ The company Josephine had started built a smaller machine for the American home.
- \_\_\_\_\_ A patent for a new dishwasher design was issued to Josephine Cochrane.
- \_\_\_\_\_ The "Cochrane Dishwasher" became popular with Josephine's friends.
- \_\_\_\_\_ The market for in-home dishwashers finally become profitable.
- \_\_\_\_\_ Josephine measured her dinnerware and made wire components for her dishwasher.

Exercise B: Two words that have opposite meanings are called *antonyms*. *Difficult* and *easy* are examples of antonyms. Look at each word or phrase below and match it to the word in the article that means the opposite. The number in parenthesis is the paragraph where you will find the word. (RI.5.4)

- |                                 |       |
|---------------------------------|-------|
| 1) casual (1)                   | _____ |
| 2) sophisticated; complex (2)   | _____ |
| 3) weakness; unreliability (3)  | _____ |
| 4) reduce; shrink (4)           | _____ |
| 5) fascinated (4)               | _____ |
| 6) freezing; extremely cold (5) | _____ |
| 7) minority (6)                 | _____ |
| 8) separate; split apart (7)    | _____ |
| 9) metropolitan; inner-city (8) | _____ |
| 10) poverty; hardship (8)       | _____ |



Exercise C: Some statements below are factual (certainly true). Some of the statements are opinions (individual beliefs). On the line in front of each statement, write **F** if it is a fact and **O** if it is an opinion. Think carefully about each statement and look back at the passage if you need help! (RH.6-8.8)

- 1) \_\_\_\_\_ Josephine Cochrane's invention was more popular and commonly used in homes after her death.
- 2) \_\_\_\_\_ The dishwasher is the greatest invention in home appliances of the past hundred and fifty years.
- 3) \_\_\_\_\_ If Josephine Cochrane had not invented the dishwasher then some man certainly would have.
- 4) \_\_\_\_\_ A dishwashing machine can use water far hotter than the human hand can bear.
- 5) \_\_\_\_\_ There were some technological reasons for the limited sales of dishwashers in the early 1900s.
- 6) \_\_\_\_\_ Josephine Cochrane would have had quicker success with her invention if she had let men develop her idea for her.