The First Lady of Gearing

How William Gleason's oldest daughter, Kate, helped build a company while making a place for herself in a "man's world."

Nancy Bartels

In 1877, Irish immigrant William Gleason, owner of a machine tool business in Rochester, NY, suffered a terrible blow. Gleason's son Tom died. The loss was not merely a personal one. Tom had been his father's assistant, and the senior Gleason had no one to fill the gap and help him carry on his business.

Help came from a most unexpected quarter. Tom's little half-sister, Kate, age 11, overheard her father lamenting, "What am I going to do without Tom. If only his sister had been a boy!" To her, the solution seemed obvious: The next day she showed up at the shop, asking to be put to work.

Perhaps he was still too absorbed in his own grief to notice. Maybe he was concerned that he might hurt his daughter's feelings, or perhaps being married to a woman who claimed Susan B. Anthony for a close friend gave him a different perspective on a woman's "place." Whatever the reason, William Gleason did not do what any proper 19th century American father would have done. He didn't send Kate home. Instead he took her up on her offer and launched the unlikely career that would help make Gleason Corporation one of the foremost companies in gearing around the world.

At a time when women's suffrage was still forty years away, higher education was thought to endanger the delicate health of young females, and a woman's place was definitely in the home, Kate Gleason became her father's right hand "man," keeping the books, travelling around America and to Europe alone to sell machine tools and providing much of the public "face" of The Gleason Works.

Even by today's standards, Kate Gleason's accomplishments are impressive. By the standards of her own times, they are remarkable.

By 1880, when she was 14, she was The Gleason Works' bookkeeper. In 1884 she became the first woman to enter Cornell University's engineering program. She never did get her degree, however, because she had succeeded in making herself almost indispensable to her father. The firm was struggling, and he couldn't afford to pay the salary of the man he had hired to replace her. Before her freshman year was over, she had to return home, a loss that devastated her. But she rallied, and in 1888, aged 22, she made her first "road trip" to Ohio to sell machines.

By 1890 she was the Secretary-Treasurer of The Gleason Works and its chief sales representative, a position she held until 1913.

In 1914, she was the first woman to be elected to full membership in the American Society of Mechanical Engineers, and in 1916 she was one of the first women to be elected to the Rochester Chamber of Commerce and the first woman elected to the Rochester Engineering Society.

But the East Coast and the Midwest were not a broad enough field for Kate's ambitions for the company. In 1893, at 27, she made her first trip to Europe. She had been ill, and her doctor suggested she go to Atlantic City for a rest. She told him that wasn't possible because she had no customers there. Instead, she toured England, Scotland, France and Germany and came back with orders from some of the most prestigious companies in Europe.

It was a breakthrough trip for The Gleason Works, for America and for Kate personally. James Gleason, current Gleason CEO, credits his great aunt with laying the groundwork for Gleason's presence overseas. Today an average of two-thirds to three-fourths of Gleason's sales are made outside the U.S. In 1893, when automobiles were still impractical toys for the idle rich and America was not yet anyone's idea of a global industrial powerhouse, Kate Gleason's European trip marked one of the earliest attempts by an American manufacturer to establish overseas markets.

Gleason had already established herself as a witty, knowledgeable and spunky non-conformist and nobody's fool when it came to machine tools, but the trip abroad brought her even more self-confidence and a polish which would stand her in good stead the rest of her life.

Miss Gleason's Grand Tour

In those days it was not uncommon for well-brought-up young women to

make the "grand tour" to Europe. They went for "finishing," to see the art of Florence and Rome, the couturiers of Paris, "to take the waters" at spas in Bavaria and Switzerland and sometimes to find husbands. They travelled in the first-class cabins of the best ocean liners with cartloads of luggage and were always carefully chaperoned.

But Kate Gleason was no heroine from a Henry James novel. She travelled alone on the cattle steamer *Mongolian* out of Montreal, bringing with her only a working knowledge of French and German (which both got considerably better), one good black dress and a letter of introduction from Henry Sharpe of Brown & Sharpe. (The letter was so useful that Kate sent half her earnings from this trip to Sharpe, who returned it to her.)

There were 14 other passengers, all men, who, in spite of her unconventionality, were pleased to take turns walking the deck with her. In the interests of fairness and to avoid any ill feelings, a stopwatch was used to make sure no one got more than his allotted time with Miss Gleason.

It wasn't just the lack of choice that kept the men clamoring for her attention. The young Kate Gleason was a pretty girl of average height and very straight posture with bright blue eyes. She wore glasses, but turned this presumed fatal flaw to feminine beauty into another symbol of her individuality by carrying a lorgnette.

She was, by all accounts, widely read, a wonderful conversationalist and a witty raconteur. She could talk knowledgeably about everything from gear engineering to animal husbandry. She was energetic, enthusiastic and given to sly fun. Her sister Eleanor liked to tell of her habit of hiding whatever novel she was reading inside a leather prayer book cover, so she could cultivate an image of pious devotion while enjoying herself.

A man could do worse than spend time strolling the decks with the likes of Kate Gleason.

She never married, but one suspects that was more because she was having too much fun doing everything else than from lack of opportunity.

While Gleason had learned as early as 1888 that the negative of being a female in business could be turned to a positive (see sidebar), it wasn't until her trips to Europe in the 1890s that she learned to use that tool to its best advantage.

Family legend suggests that Gleason was not above showing up for work in overalls (nearly unthinkable in the 1890s), although she always denied this. What is true is that prior to her European trip, she never paid much attention to her clothes, wore her hair unfashionably short and was sometimes accused of smelling of horses (she loved to ride).

She told Helen Christine Bennett of *The American Magazine* in an interview that even her mother's friend, Susan B. Anthony, had suggested she do something about her appearance. "So I went in for extremely feminine attire," she told Miss Bennett. "I had my hair dressed and wore violets in my muff and had some soft, frivolous gowns made. This attention to dress repaid me well. Some of my customers spoke to me twenty years after about a certain dress or hat that I wore when I made a sale. I learned to value clothes, to love clothes and to use clothes."

The Paris Exposition

By 1900, when Gleason was representing the company at the Paris

Miss Gleason Pays A Sales Call

The following is from a letter Kate Gleason wrote to her brother on October 25, 1888.

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"Dear Jim,

I have just returned from a four days drumming trip down in Ohio and in the course of my travels I took an order for a large planer and saw the Cincinnati Centennial Exposition. You see, Father has been out of town so much lately that I thought it would be well for him to stay home... while I went after this order... I met Mr. Arthur Curtis on the train. I asked him not to tell you about my little trip for fear I wouldn't get the order, in which case I would rather you remained in dense ignorance.

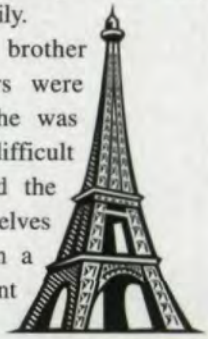
"You see, I had a good many quakings of my valiant spirit. The customer's name was Rudolph Schneible. That sounded as if he might be a Dutchman, and if he were an old Dutchman, the chances were he would not like to have a fascinating young woman like me after his order for machine tools and might put me out at the end of a shotgun. But fortunately for me, Mr. Schneible is young, only 23, and he has until lately attended a Jesuit college, is not used to girls, so I managed to make a 'crush' on him quite early in the morning. After I secured his order, I traveled around Dayton to call on all the firms I had ever heard of there, and in every case I was treated with 'the most distinguished consideration.' I had invitations to go for drives around the city and to the show in the evening, but I didn't accept any of them."

Exposition, this investment in "finishing" paid off. The display of Gleason planers was placed, along with the wares of some other unfortunate companies under the stairs in a dark corner. One Swedish company went so far as to ask their ambassador to intercede for a change of location to no avail.

Kate took a different tack. She went to see the exposition manager. She drew him out about the difficulty of his task and the strain of his enormous responsibility. She listened sympathetically and never once mentioned her own troubles. When the manager finally got around to asking about her company's exhibit and discovered its location, he personally arranged for her to have her choice of one of the best places in the hall.

But Kate Gleason was not all frills, furbelows and feminine wiles. She could be very tough-minded and aggressive, and she understood the uses of publicity. In the Bennett interview she said, "Susan B. Anthony . . . had impressed one fact upon me while I was growing up. 'Any advertising is good,' she said. 'Get praise if possible, blame if you have to. But never stop being talked about.' I have come to believe that absolutely. In those early days I was a freak; I talked of gears when a woman was not supposed to know what a gear was. It did me much good. For, no matter how much men disapproved of me, they were at least interested in seeing me, one distinct advantage I had over the ordinary salesman."

Unfortunately, this was still a time when "decent" women only had their names in the papers three times—when they were born, married and died. Gleason, for all her intelligence, talent and success, was an anomaly—a woman in a man's world—a fact that was tough to swallow, even for her own family.



By 1913, her brother Andrew and others were complaining that she was "overbearing and difficult to work with," and the siblings found themselves on opposite sides in a number of important business decisions.

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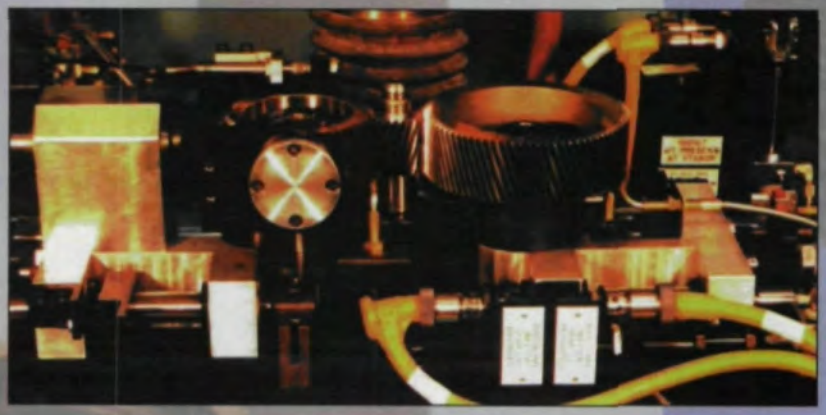

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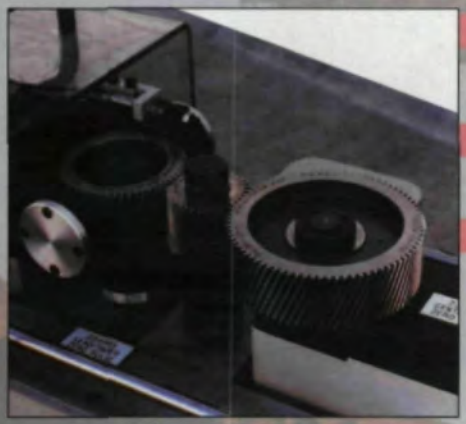

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"A Wonderful Mechanic"?

Another part of the problem may have been Kate's growing reputation as "a wonderful mechanic," which was only partly deserved. While no doubt she was extremely knowledgeable about the Gleason product line, contrary to popular wisdom and the fact that she was admitted to ASME on the basis of her "contributions to gear design," she did not invent the Gleason gear planer.

The source of the story that she did may have been Henry Ford, who, it should be noted, regularly called history "bunk." He was in the habit of describing the planer as "the best machine ever invented by a woman." No matter how often Gleason tried to deny that she was the inventor (it was her father), the story stuck.

Still her travels and her forceful personality did make her the most well-known Gleason, which may have been another cause for discontent back in Rochester.

Ultimately, in 1913, Gleason resigned from the company and while that may have eased tensions within the family, it certainly didn't get her to conform. She simply went on to build another career.

Life After The Gleason Works

In 1914 she was the first woman to be appointed receiver by a bankruptcy court. She undertook the reorganization of the Ingle Machine Co. of East Rochester, NY. The company's stock was

A Letter to *The Times*

A letter from Kate Gleason to the *New York Times* dated May 18, 1910.

The New York Times
Editorial Dept.
New York City

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Gentlemen,

There was a paragraph about me in your paper of May 15th that I wish were all so—but it isn't. The paragraph is headed "Feminine Mechanical Genius" and credits me with designing our Bevel Gear Planer when the nearest I have come to designing it is in having a father and a brother smart enough to do it.

My place in the business is Secretary and Treasurer. You see, I have captured two jobs, but neither of them have anything at all to do with designing.

Is there any chance you can overtake that mistake with a correction? It will oblige me very much if you will try. About the most important training for the treasurer is not to take what does not belong to one, and it looks to me as though I would be falling down on my own job if I get credit for other people's work.

Yours truly,
Kate Gleason

worthless, and it was $140,000 in debt. In a year and a half, all the debts were paid, and when Gleason returned the company to its shareholders in 1917, it had earned one million dollars.

In 1917, when the president of the First National Bank of East Rochester went off to World War I, Kate Gleason was named acting president, the first woman in America to hold such a post. It was then that she realized the potential for suburban residential and industrial development, and during the next few years she helped to launch eight new businesses in the East Rochester area.

The largest of these was the Concrest community, a subdivision of one hundred low-cost, poured-concrete, six-room houses, along with a country club, golf course and park. With some success, Gleason tried to apply the techniques of standardization and mass production she had learned in gear manufacturing to home construction. The units sold for as little as $4,000 and could be purchased for a small down payment and $40 a month. Some of these buildings are still occupied.

This second career in building and real estate not only brought her considerable wealth in her own right, but to Berkeley, CA. In 1924, she was called in to advise the city on rebuilding after a disastrous fire there. She also built a number of homes in Sausalito, although much of the property was taken over to provide the northern approach to the Golden Gate Bridge. She also bought property in Beaufort, SC, and in Septmonts, France, where she helped the village rebuild after the war.

But Gleason's interests were not devoted exclusively to business. She was generous with her money and involved in a number of charities, many times anonymously. She contributed to a number of causes, from a Catholic orphanage in San Francisco to Johns Hopkins University, as well as libraries and schools. At the time of her death in 1933, she was in the middle of building an artists' and writers' colony on her South Carolina property.

Gleason's place in the history of American gearing is an ironic one. That she was one of the tough and courageous pioneers carving out a place for women in what was understood to be a "man's world" is without dispute; however, the accomplishment she is most often credited with, the invention of the gear planer, is the one she didn't achieve.

What she did do is often overlooked. Her real legacy is in being what Christopher Lindley in *Notable American Women* calls, "the invaluable middle link between her father's inventive genius and the business world . . . that helped to build her family's small machine-tool factory into the leading American producer of gear cutting machinery." ⚙

Thanks to Jan (Mrs. James) Gleason for her help with this article.

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