G. W. ZASTROW
MACHINE FOR TREATING PINEAPPLES.
No. 482,493. Patented Sept. 13, 1892.

INVENTOR—
George W. Zastrow.

ATTY

WITNESSES:
A. O. Babendreer,
J. Parker Davis.
When the 19th-century American landscape painter John Frederick Kensett was an eight-year-old boy, his father and maternal grandfather obtained a patent for their method of "preserving animal substances" in tin cans. Thomas Kensett and Ezra Daggett were among the earliest in America to develop these highly useful long-lasting provisions, and thereby to establish their names in the international annals of food preservation. Their patent also sheds interesting light on the significant value of patents as levers of social mobility to artisan families of modest means in the 19th century, such as the Kensetts.

The U.S. Patent Office placed Daggett and Kensett’s patent in Class 4, which covered “chemical processes, manufactures and compounds including medicine dying, color-making, distilling, soap and candle-making, mortars, cement, &c.” The patent granted on January 19, 1825, gave them the right to protect their canning process from unauthorized use or copying for 14 years.

The legal duration of patent protection was later extended. This longer period provided innovators and their heirs with a potentially more valuable asset, as Frederick Newbery Kensett recognized in a letter he wrote to his painter brother John in Paris in 1842. Frederick, Thomas Kensett’s third son and a legal clerk in New York City, believed the sale of this patent could raise $7,500 (about $218,000 today) to help the family’s rather uncertain finances. He urged John to recruit 20 to 30 English and Continental subscribers at £250 each to “dispose of our right for preserving fresh provisions.”

The growth of the Kensett family business—preserving food in tin cans—and the development of patent protection in the United States reflect both the pace of invention and innovation in the nation’s early years and the federal government’s response to it.

**Patents Are a Concern**

**In the Young Nation**

Until America established its independence in the late 18th century, official power to grant patents still belonged to the British Crown. Similar protection in America could only be established by asking the relevant state or colony authorities to grant permission. Massachusetts, for example, granted a patent in 1641 for a method of making salt.

The United States Constitution of 1787 first included provision for the Congress to issue patents:

The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

The first Patent Act, “An Act to promote the progress of useful arts,” was enacted in 1790 and enabled any two of the secretary of state, the secretary of war, and the attorney general to grant patents lasting 14 years for new inventions and innovations that were “useful and important.”

The first patent granted under the act was for a method of making potash; the application fee was $4 (approx $104 today). More than 4,000 patents had been granted under the act by the time Daggett and Kensett obtained their patent at the start of 1825, and during that year another 200 were added. By 1836, when a fire swept through the Patent Office, more than 10,000 patents had been issued.

The Patent Act of 1836 gave the Patent Office its own organizational status within the State Department and extended the
duration of some patents by 7 years to 21 years in all. In 1861 the term was altered to establish a basic duration of 17 years, which prevailed until 1994, when it was changed to 20 years.

The Daggett and Kensett Families Are Joined

Why Thomas Kensett became interested in food canning in his early 30s, apart from the need to earn more money to feed his growing family, is not known. Born at Hampton Court village in England, he began an apprenticeship with an engraver in London before immigrating to America in 1802 when he was 16.

Kensett met the Daggett family in New Haven, Connecticut, some years later, moving there after working as an engraver in Philadelphia. He got to know Alfred Daggett, also an engraver, and the two young men went into partnership. Kensett married Alfred’s sister Elizabeth in 1813, and they had six children between 1814 and 1822. Alfred and Elizabeth’s father, Ezra Daggett, was possibly a tailor or a seed merchant in York Street, near today’s Yale University Theatre and the Art Gallery.

Kensett left the partnership with Alfred in 1819, probably because their engraving and publishing work was producing insufficient income for both of them and their families. Kensett began his experiments with food canning around that time. He formed a partnership, with Ezra Daggett probably helping with start-up funding. Kensett’s own brother, John Robert Kensett, had arrived in New Haven in 1817 after working on a sugar plantation in Jamaica, and initially he lodged at Ezra Daggett’s house. He lent Thomas money too, although subsequent disagreements about repaying the debt caused a bitter rift between them.

Food Canning Begins

In France and England

Accounts of the history of food canning in Europe and America usually start in 1810 with the work of Nicolas Appert in France and Peter Durand in England. Appert developed a method for preserving food in sealed glass containers and published his method in *L’Art de conserver les substances animales et végétales*. In the same year, Durand obtained a patent for a process that he learned from Philippe de Girard, which he published together with his own commentary: “a Method of preserving Animal Food, Vegetable Food, and other perishable Articles, a long Time from perishing or becoming useless.”

Durand sold the patent to Bryan Donkin and John Hall of London; they further developed the technique of tinplating iron and sealing food in tin containers and set up a canning factory. Durand obtained a U.S. patent for his method in 1818, and an English émigré, William Underwood, probably commenced preserving food in glass containers in Boston around 1820.

By 1822 Daggett and Kensett had moved their canning business to New York City and found shop premises near the docks. They advertised in several newspapers, including the *New York Evening Post*.
between 1822 and early 1825, such as:

ing testimonials that the partners published

The vegetable and gravy soups will be found

that we shall

Tin Cans & Patents

The Kensetts Resume

Warranted for any Voyage or Climate,


be seen cans of different provisions put

Thomas Kensett was one of the early pioneers of

The Kensetts Resume

Food Canning

Tribune

California section of the

and later during the Civil War.

The Kensetts Resume

Food Canning

The Kensetts Resume

Food Canning

Preserved Fresh Provisions, by Daggett

They bought tin and other supplies

This is to certify that I took on board

The Kensetts Resume

Food Canning

From his New York dockside premises,

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Preserved Fresh Provisions, by Daggett

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and floors, allowing warm air to circulate and be cooled.

The refrigerated railroad car was patented in 1867, subsequent patents in 1903 and 1905.

George W. Zastrow invented a machine to prepare to peel, core, and slice the fruit from the West Indies. The laborious manual preparation to peel, core, and slice the fruit continued until 1892. That was the year that hospitals rather than by ordinary soldiers.

During American harvest months, the firm bought in large quantities of local produce, particularly peaches and tomatoes, for canning and also to sell wholesale as fresh produce.

Business Grows during The Civil War and Beyond

In an age before refrigerated railroad cars allowed long-distance transport of fresh produce, the Civil War created opportunities for food canners to supply provisions, mostly bought by Army officers or for Army hospitals rather than by ordinary soldiers.

Around 1865, Kensett & Co. began canning fresh pineapples imported to Baltimore in one- and two-pound cans in the Melbourne Argus. During American harvest months, the firm bought in large quantities of local produce, particularly peaches and tomatoes, for canning and also to sell wholesale as fresh produce.

After the war, Kensett’s business continued to grow. Writing in 1871, a Baltimore historian, Mayer, observed:

Fifteen years ago the largest houses in the trade did not pack more than two thousand bushels during the season; now many of them require from five to eight hundred bushels a day, and this, too, during a season which lasts about two months. During the season, Mr. Kensett’s firm employs eight hundred hands; and to give an idea of the activity of the business, we may state that from August 9th to September 14th of the year 1870, this house packed one million thirty-seven thousand four hundred and seventy-six cans of peaches.

Thomas Kensett was elected the first president of the Baltimore Oyster Packers’ Association in 1867. At the first anniversary dinner in 1868, he made a speech citing what had been achieved in less than 20 years:

The United States Government has purchased more canned goods this year than were packed in the entire State eighteen years ago. About eleven million bushels of oysters are taken annually from the Chesapeake Bay and its tributaries, of which nine millions are packed in Baltimore. There are seventy regular packing houses, employing fifteen thousand persons, and packing about fifteen million cans each year. Seventeen hundred vessels, averaging about fifty tons each, and three thousand canoes, are employed in dredging or tonging for oysters. The extensive trade in this line of business has had the effect of bringing to Baltimore an immense amount of business in other pursuits, which never would have sought the city but for its general reputation as a packing depot.

Kensett’s metallic lathing was a new type of plastering to use on wooden surfaces inside buildings. It incorporated corrugated, heat-conducting metallic strips within the plaster, and he obtained a U.S. patent for this invention in 1876 (patent no. 181,851):

My method is applicable to any possible conformation of surface, and is intended to cover all wooden parts of buildings, including walls, floors, ceilings, roofs, window frames, doors and door frames. It is capable of any species of ornamental molding. It is especially applicable to railway-cars, grain elevators, stairways, &c., of houses, theatres, and public halls.

Ten years later, Kensett obtained another patent, this one for a protective holder for pens and pencils (patent no. 352,827). He explained its purpose in the application for the patent:

Heretofore pen-holders as well as pencils have been provided with what
These reproductions have greatly helped innovators, engineers, and assessors to understand what the patents offer. Patent laws have been revised periodically, widening the range of inventions and ideas and principles that could be patented. Even so, in the 19th century many trades and industries (such as brewing and clock-making) chose not to use patents to protect innovations.

The Kensetts’ patents provided them with the right to stop others, for a limited period, from making, using, or selling their invention without their permission. Patents are territorial rights governed by the national or local laws. When a patent is granted, the invention becomes the property of the inventor, and like any other form of property or business asset can be bought, sold, rented, or hired. Patent ownership can be bequeathed to business partners, or, as in the Kensetts’ case, to relatives, heirs, or dependents, thereby passing the benefit of the asset to subsequent generations. This enabled Thomas Kensett in the space of 50 years, through his Baltimore canning business, to secure one route to substantial upward social mobility for the family, distancing his own and subsequent generations ever further from his father’s humble artisan origins and precarious financial predicament.

The engraving of Kensett’s pen holder is an example of the fine draughtsmanship that many patent drawings display. Applicants for patents had to include handmade drawings (and models until 1880) at their own expense, some of which were engraved and published in technical journals.

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