

# History Of The Taylor Thermometer Makers

by  
George A. Caswell

The Bicentennial Year 1976 coincided with the 125th anniversary of America's oldest existing and best-known maker of thermometers and associated instruments to measure temperature, pressure and humidity. Known successively as Kendall & Taylor, George Taylor, Taylor & Richardson, Taylor Brothers, then Taylor Instrument Companies, this pioneer manufacturer has now become the Taylor Divisions of Sybron Corporation.

The company started in Rochester, New York, in 1851. The headquarters and principal factory of the Taylor organization are still located there, although its products and method of manufacture have changed vastly in the century and a quarter. David Kendall, aged 35, had come to Rochester from New Lebanon, New York, with knowledge of thermometer making learned from his father, who had begun their manufacture in 1820. He joined in partnership with George Taylor, 19, from Stoddard, New Hampshire, where his father was a prosperous farmer. Taylor brought into the union his youthful enthusiasm, good business sense, and some money.

How much money Taylor invested is not certain, but the amount can be estimated from the original inventory that Kendall listed on October 31, 1851, in which he included \$600 for "knowledge of business" in the total amount of \$919. It seems obvious that the partnership was based on this inventory, and since the "knowledge" at that point could only have been that which Kendall brought with him from New Lebanon, it can be assumed that Taylor contributed \$459.50. It was not a pittance at a time when a fair wage for a six-day week of ten-hour days was seven dollars.

That handwritten inventory now resides in a University of Rochester vault and, it is hoped, will serve as the basis for a museum exhibit duplicating the original one-room shop where Ken-

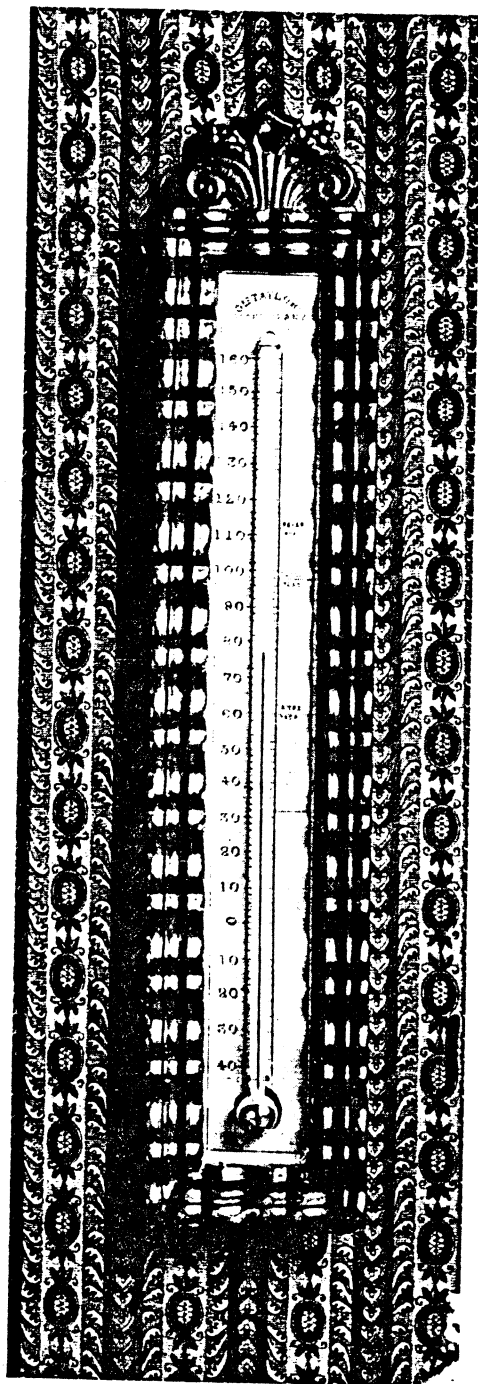


Figure 1. A cast iron "cabinet" thermometer made by George Taylor in 1853. The scale is hand stamped, the tube is held in by copper wire and the scale is soldered to the back of the frame.

dall and Taylor set up business. How much of the material Kendall brought from New Lebanon with him is not known, but it is likely that many of the items were his own tools of the trade. Most were standard wood and metal working tools, with a few unusual items such as bottles of potassium cyanide and four India rubber balls.

With tin cases bought from Taylor's uncle and glass bought from the Bay State Glass Company of East Cambridge, Massachusetts, or from the famous Boston and Sandwich Glass Company, the new business went "on stream" quickly. Kendall blew and filled the glass tubes, graduated the scales, and assembled the instruments; Taylor kept the books and did the selling. It is said that when a trunk or so had been filled with thermometers, Taylor hurried off by wagon, train or canal boat to peddle the lot, while Kendall worked on the next shipment.

Things went well and the assets of the partnership tripled in less than two years. Then David Kendall left the firm and eventually headed west. It is known that he made barometers on his own in Rochester for a short time, then in Cleveland, and later built furniture in Michigan, after which his travels have not been traced. He died in East Bloomfield, New York, in 1862 at the age of 46.

Left to his own fortune, George Taylor immediately went to New York City to find a replacement for Kendall's manufacturing skill. The man he hired was paid \$7.88 per six-day week. This fact is documented in a most detailed journal kept by Taylor from 1853 to 1859, intact today in his neat handwriting. The journal shows that he bought paper from William Alling (now Alling and Cory); the Taylor company still buys from this firm. Sales were made to customers who have remained on the company books for more than 100 years, such as L. Black Company, Detroit, and John Jacob Bausch, co-founder of the Bausch and Lomb Optical Company. Entries over the six

years recorded wages paid, cost of goods, selling prices, and many other details of the business.

The first Taylor catalog appeared in 1877. Previously small leaflets and directory listings had been the only sales promotional material. By this time George Taylor had joined his brother Frank and formed Taylor Brothers, a name that was to continue until 1907, when Taylor Instrument Companies was incorporated.

The eight-page catalog of 1877 listed thermometers for home, dairy, and brewing, mercury barometers, hydrometers, and weather glasses. Weather glasses, which sold for one dollar, were the popular storm glasses or "weather glass barometer and thermometer combined," popular for at least a century as an inexpensive weather forecaster. It was not in any sense a barometric device. It was a sealed glass tube filled with a solution of camphor and grain alcohol, to which were added potassium nitrate, ammonium chloride, and distilled water. This witch's brew had the unique capability of changing appearance through crystalization with changes in temperature. Placed out-of-doors, it certainly did this dramatically, but it hardly justified such forecast claims as "dim liquid with small stars means thunderstorms," or "small stars in winter on bright sunny days means snow in one or two days."

It is interesting to note in passing that the Rochester directory of 1869 gave minute instructions for making one's own "chemical barometer," similar to the commercial product but using an eau-de-cologne bottle and substituting spirits of wine for the straight grain alcohol. Another helpful hint in making your own weather forecaster described a leech barometer, supposedly of great accuracy as determined by the activity of the creature. It neglected to give the feeding requirements of this infallible weather forecaster.

Any of the items in this old Taylor catalog are interesting antiques today. Fortunately many were preserved and are in museums. However, none of the original mercury barometers shown in the catalog are known to exist. They sold originally in black walnut cases for \$8 if plain and \$10 if carved and gilt. One in good condition today, plain or fancy, would bring hundreds of dollars. Taylor Brothers had become well established by the 1880s. However, it was still a small operation in a city that had grown to almost 100,000 population. Rochester's largest employer was then the Kimball tobacco factory, on top of which stood a statue of Mercury. This

ornament became locally famous, and it has now been restored to the Rochester skyline after its original perch was demolished and the statue had spent many years in a dusty warehouse. By coincidence, a similar "Flying Mercury" was inherited by the Taylor firm in the form of a trademark when it absorbed one of its competitors a few years later.

After the death of George Taylor in 1889 and the incorporation of Taylor Brothers in 1904, dramatic growth began with the acquisition of company after company and the opening of sales offices in major American cities and in London. All the products acquired by those acquisitions were in the basic area of temperature, pressure and specific gravity measurement, but some oddities did creep in. Among Taylor listings over the years were glass eyes, razor strops, syringes, and urinalysis equipment, imported "weather cottages," and fancy glass thermometers. The strops were of unusual four-sided construction and were made by the

power plant engineer to occupy time while keeping watch over the boiler room machinery.

The first acquisition, Hohmann & Maurer of New York City, has an interesting history. Henry Maurer was a Swiss emigrant who came to New York in 1882 and soon owned a small lunchroom featuring French cuisine with dinners at twenty-five cents. One of his customers was A. B. Hohmann, who worked for a firm that made a few thermometers for industrial use. Legend has it that Mr. Maurer was concerned about keeping the dishwater sufficiently hot without burning his hands and that this led to the two friends joining to make thermometers to check water temperature.

At any rate, the firm of Hohmann & Maurer became very successful and when acquired by Taylor Brothers in 1896 added substantially to the product line with heavy-duty straight and angle process thermometers. Hundreds of industries — from such now unfamiliar ones as butterine makers and plaster

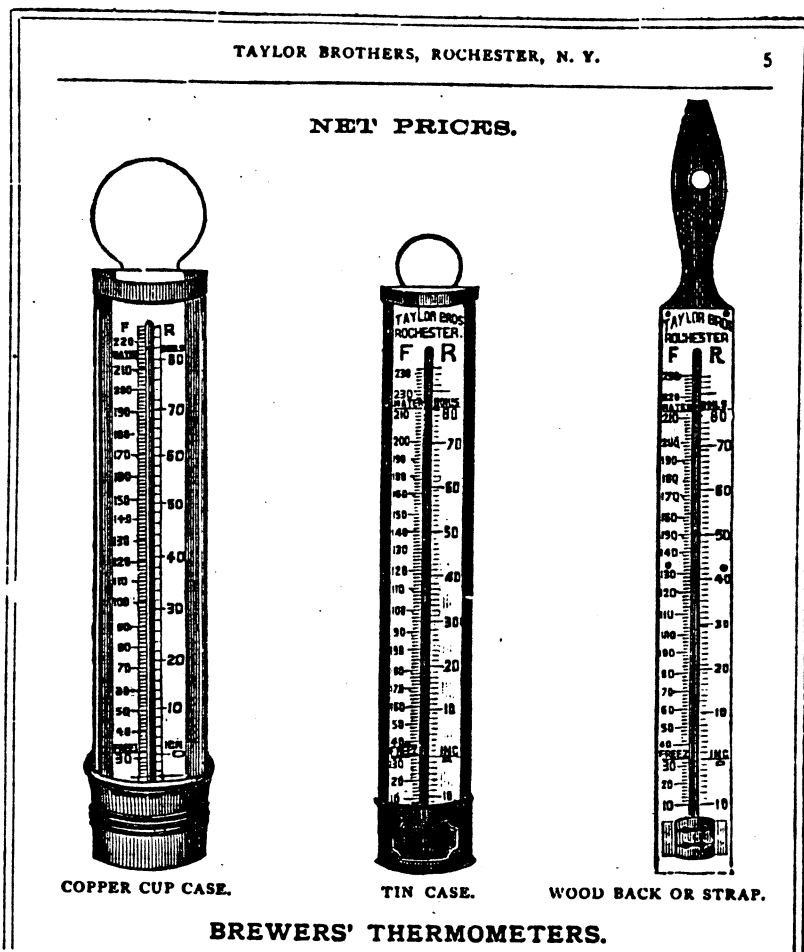
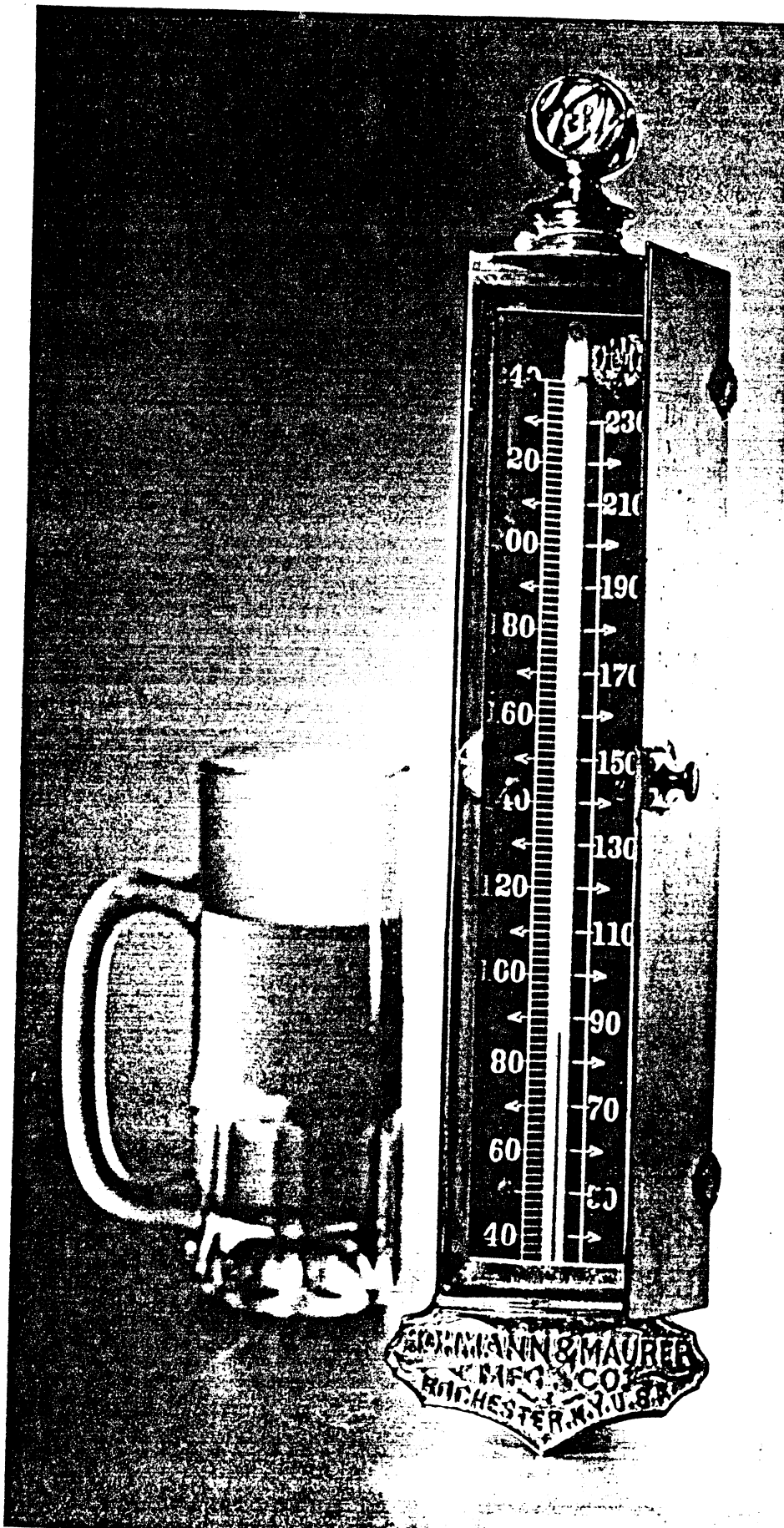


Figure 2. A cut from the Taylor Brothers 1877 catalog illustrating brewer's thermometers. From the author's collection.



calciners to breweries and paper mills — were becoming more dependent on measuring devices. Testimonial letters of 1899 from satisfied customers bore the names of such historic firms as Edison Phonograph Works of Orange, New Jersey, B. F. Goodrich of Akron, the Clark Thread Company of Newark, and Rome Brass and Copper in Rome, New York.

Because of its well-known name, Hohmann and Maurer was kept as a division and was operated almost as a separate company until 1907, when its identity was lost and it became part of Taylor Instrument Companies, Inc., of which Maurer was a director and later vice president. Hohmann did not remain with the company.

At about the same time, another well-known firm, Watertown Thermometer Company in the upstate city of Watertown, New York, was acquired and moved to Rochester in 1910. This union brought new types of thermometers and barometers as well as skilled workers who moved downstate and resettled in Rochester. Watertown Thermometer Company contributed the attractive trademark of a traditional Mercury with rather unsubstantial wings on his ankles and helmet and carrying the physician's caduceus, a logical symbol because of the clinical thermometers manufactured.

The third largest acquisition of U. S. firms was the take-over in 1905 of R. Hoehn Company, Brooklyn, an old and well-established concern. Since its product line did not differ greatly from that of Taylor, it may be assumed that the purchase was made in the interest of removing competition, gaining an established market, and acquiring skilled personnel. One of these individuals, always called "Ike" Mayer, had been listed as a proprietor of R. Hoehn. He became an influential figure in the Taylor Instrument Companies.

It is difficult for the historian to sort out all the facts regarding the companies that eventually were welded into a single corporation. Most articles contained errors discovered later, and it would be brash to claim complete accuracy in this one, although extreme care has been taken. Many devices used in the early days of cataloging add to the difficulties. They may not

Figure 3. A solid brass thermometer with a door made by the Hohmann & Maurer Division of Taylor about 1905. The closed door prevented others from learning temperature secrets of processing.

all have been deliberate, but they certainly cause confusion.

One problem is the omission of dates on catalogs, apparently to prevent the appearance of obsolescence. A minute search for a dated letter or obscure patent date on an illustration often gives the only clues to the date of a catalog printing. Another problem was the common practice of retouching the art work that illustrated the items, or giving the artist a free hand in identification of the woodcuts used for illustration. This meant that the picture and the product could have different identification, whether the product was made by a firm or purchased from some domestic or foreign source. In addition, an early version of private branding was practiced, so an item might carry only the dealer's name or that of the importer or domestic purchaser.

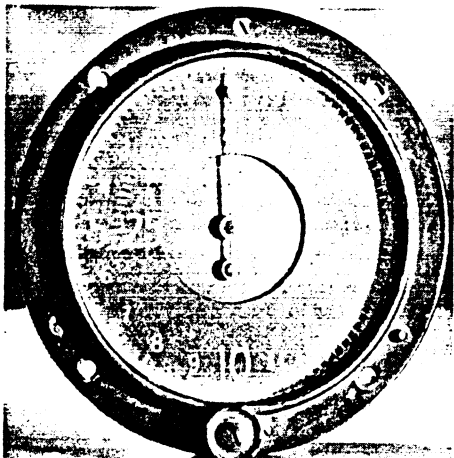


Figure 4. As the only major maker of barometers Taylor was called to supply altimeters for United States and allied planes during World War I.

This confusion of identity is complicated with Taylor products in the early part of this century because parts and complete instruments were freely exchanged between the units. Conceivably, a thermometer or barometer might have wood parts from Watertown, glass tubing from R. Hoehn, and metal scales from Taylor Brothers. These complications did not occur in the earlier days of these companies before product exchange began, and well-identified products of each are in museums and private collections. As can be seen on the Taylor "family tree," two other U. S. firms were acquired. The Pert Pinelli Company of Boston, purchased in 1903, added expertise and product in the line of hydrometers for measuring specific gravity. A short time later, in 1906, came Davis & Roesch Company of New York, which had been making regulators for the Hohmann & Maurer Division. These

concerns have not been researched fully and there is little material in the archives, so it is not certain their contributions in product or personnel were significant.

A most important development in the history of Taylor Brothers was the acquisition in 1900 of the prestigious and well-established London firm of Short & Mason. Its high-quality weather instruments and other scientific apparatus were known throughout the world. Standard products ranged from fine aneroid barometers for governments and explorers, to sunshine recorders and elegant sundials for the Royal garden with gnomons (the part that cast the shadow) made of brass, bronze, or gun metal. Special items were created by apprentice-taught workmen of such skill that a crude drawing and a few notes could result in an instrument of such functional beauty and accuracy as to astound today's machine operator.

The specialized knowledge of Short & Mason served the Taylor firm well in the years that followed. From an S&M pressure gauge was developed the Tyco Aneroid Sphygmomanometer, a small dial instrument that revolutionized blood pressure measurement. Knowledge, product and personnel gained from the London subsidiary led to Taylor's becoming the first U. S. maker of barometers, compasses, anemometers, and altimeters for the growing aircraft industry, and for military use.

As a consequence, the Rochester firm was sought out to supply instruments for all the Allied Forces in World War I. And to it came Glenn Curtiss, Victor Lockheed, Glen Martin, Orville Wright, and others who wanted to ascend into the sky, whether by balloon, dirigible or heavier-than-air craft. At the fascinating Glenn Curtiss museum in Hammondsport, New York, can be seen the early planes and the instruments used in them.

Today Short & Mason exists only in memory and in the fine instruments still in service. The clever craftsmen, the skilled instrument makers, the patient inlaid woodworkers are also gone and, with no willing apprentices to replace them, are victims of the machine-production age. After years of dwindling demand for these fine instruments, the Taylor firm was forced to discontinue S&M production in 1968.

Industrial changes began to reshape the history of the Taylor organization in the early 1900s. That is another story, so big that it requires a history of its own. Today, while still an important entity, a single plant in Arden,

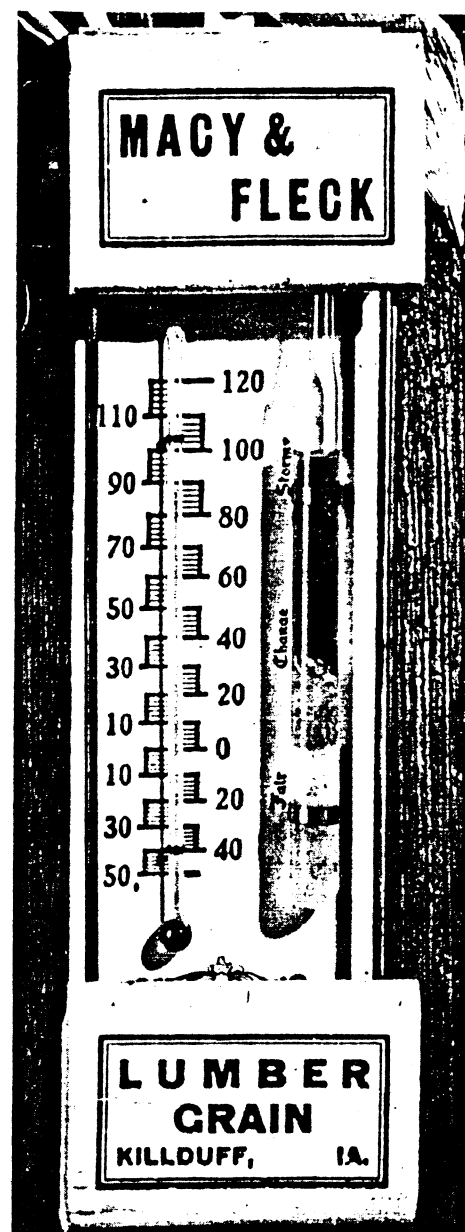


Figure 5. This advertising thermometer was made by Taylor about 1912. It included a "cottage" barometer which was actually a bottle containing a temperature-sensitive mixture and not a barometer at all.

North Carolina, is devoted to the production and marketing of consumer products. Here are made the thermometers, barometers, hydrometers, compasses and medical instruments, similar in some cases to the items Taylor started with in 1851. The main plant in Rochester and large sales offices and factories all over the free world are devoted to products not dreamed of during the first half of Taylor's 125 years.

The modern era for Taylor started about the same time as World War I. Faster ways had to be found to make things. New machinery ran too fast for men to keep up with it. Yet uniform quality and close tolerances were de-

manded, whether for beer or bullets, auto parts or breakfast cereals. To make it all work, process control was required. Temperature, pressure, flow and liquid level, all had to be measured, monitored, controlled. It was a new era for instrument makers, and Taylor Instrument Companies as well as others rapidly went from simple thermometers to dial and recording devices, from simple regulators to recording controllers and then, to vast control panels stretching great distances in large installations.

It was soon realized that these first instruments were much too big, took up too much room, and made monitoring difficult. Miles of instruments would not do. So they had to be made smaller, with modern components and circuitry, products of the electronic age. Now there are computer consoles with control instructions punched on a typewriter, digital readout, and other techniques of a space age technology.

All this is a far cry, indeed, even from World War II days, when Taylor engineered the instrumentation for the Manhattan atom bomb project. The carloads of instruments shipped from Rochester under top-secret conditions ended up at Oak Ridge in control rooms so vast that operators had to ride bicycles from panel to panel.

In a real sense, the history of the Taylor organization is the history of American industry from 1851 to 1976. What George Taylor and David Kendall started as a pioneer company has weathered wars and depressions, changing times good and bad, to become part of a giant industrial complex spanning the globe. In 1968, Taylor Instrument Companies merged with two other outstanding Rochester firms — Pfaunder Company, which made glass-lined tanks, and Ritter Company of dental equipment fame — to form Sybron Corporation. Since then other makers of allied products have been added and total sales for 1975 were over half a billion dollars.

So the Taylor story parallels in a way that of George Eastman, Thomas Edison, Harvey Firestone, and a host of others who made America great. He did not invent anything — not even the thermometers he made, but he made them well, and he would certainly be pleased to know that a century and a quarter later thermometers are still being sold everywhere — with his name on them.

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**THE TAYLOR INSTRUMENT 125 YEAR HISTORY**  
A Chronology of the TAYLOR INSTRUMENT DIVISION OF SYBRON CORPORATION  
From 1851 to 1976

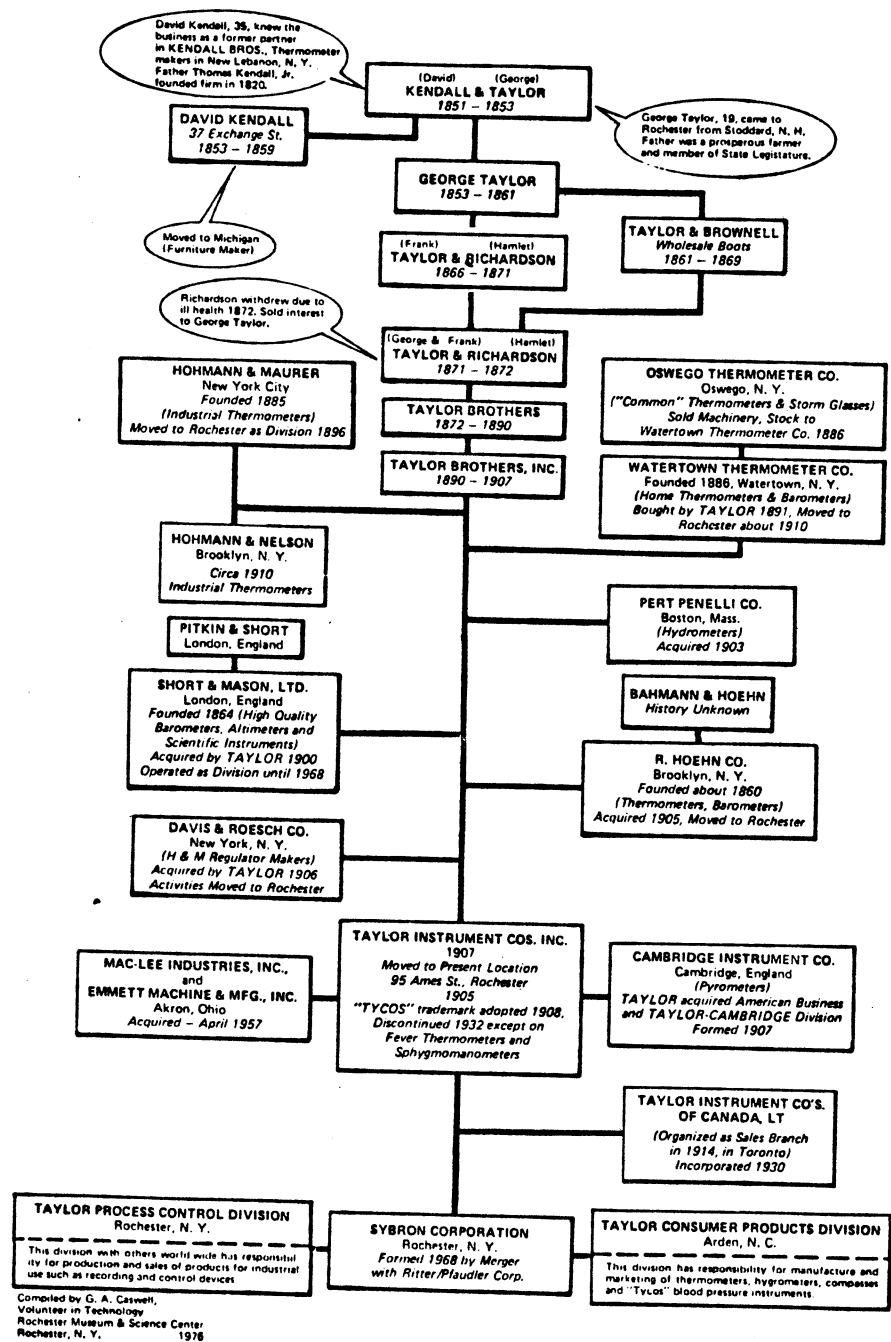


Figure 6