CAN CHRONOLOGY

Jim Rock, 1993

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>1300</td>
<td>For the first time iron is tinplated in Bohemia (Clark 1977:11).</td>
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<tr>
<td>1706</td>
<td>The English passed a tariff protecting the tinplate industry (Clark 1977:11).</td>
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<tr>
<td>Circa 1730 to 1900</td>
<td>England led the world in the production and marketing of tin plate (Busch 1981:95; Swedberg and Swedberg 1985:10).</td>
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<tr>
<td>1780</td>
<td>Small lead drums are manufactured to hold snuff (Clark 1977:11).</td>
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<tr>
<td>Late 1790's</td>
<td>Paper labels were commonly found on cans (Clark 1977:11).</td>
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<td>1758</td>
<td>Rappee Snuff was being sold in Pound Leaden containers (Jones 1993:30).</td>
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<tr>
<td>1762</td>
<td>Bohea and Congo tea was being sold in pound, half and quarter pound tin containers (Jones 1993:30).</td>
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<td>1762</td>
<td>Potable soup, of the best sorts, made separately from beef, veal, mutton, and chicken was being sold in tin boxes (Jones 1993:30).</td>
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<tr>
<td>1795</td>
<td>Emperor Napoleon I of France offered a monetary award for the development of an easy, safe way to preserve food for his armies (Swedberg and Swedberg 1985:10).</td>
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<tr>
<td>1798</td>
<td>Aloys Senefelder of Germany invented lithography, a process in which a design was put on the surface of a smooth, porous stone with a greasy crayon. Water, followed by greasy printing ink, was applied. The oily parts rejected the water but absorbed the ink. The wet parts repelled the ink. The stone thus became a plate that printed on paper pressed against it. The technique reached the United States around 1820 (Clark 1977:11; Swedberg and Swedberg 1985:10).</td>
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<tr>
<td>After 1800</td>
<td>Embossing became common on cans (Clark 1977:11).</td>
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<tr>
<td>1809</td>
<td>Nicholas Appert of France received an award of 12,000 Francs from Napoleon for preserving food in glass containers with corks and wire stoppers. He thought air caused spoilage, so he boiled the jars in water to eliminate the air and to cook the food (Clark 1977:11; Swedberg and Swedberg 1985:10).</td>
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<tr>
<td>1810</td>
<td>Englishmen Peter Durand and Augustus de Heine, working independently, each received a patent for preserving food in tin containers. These containers were cylindrical in shape and made of tin plate - iron coated with tin. These containers were hand</td>
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made by tinsmiths and often has plumb or lap side seams. The cap for closing the can was not vented. These were hole-and-cap cans (Anonymous 1961:5; Busch 1981:96; Clark 1977:11; Rock 1984a:100; Sacharow and Griffin 1970:9; Swedberg and Swedberg 1985:10).

1811 An English patent was issued to Bryan Doukin and John Hall for canning in glass containers (Clark 1977:11; Rock 1984a:100; Sacharow and Griffin 1970:9; Swedberg and Swedberg 1985:10).

1812 Tin-canned food was first marketed in England (Busch 1981:103).


1813 Doukin and Hall shipped tin cans to the British Army and Navy for testing (Anonymous 1961:5).

1817 Messrs. Donkin, Hall and Gamble were selling meats in tin canisters of 4 lb. to 20 lb. weight (Jones 1993:30).

1818 Peter Durand patented his tin plate containers in the United States (Clark 1977:13; Rock 1984a:100; Sacharow and Griffin 1970:9).


Circa 1820 Tin can caps were modified to include a center vent hole. Bad air was believed to spoil the contents. By venting and heating the can less failure was produced. Thus the hole-in-cap can came about. It was not until the 1850's that the true reason for this canning success or failure was understood (Clark 1977:14; Collins 1924:34; Fontana et al. 1962:68; MacNaughton and Hedges 1935:40; Rock 1984a:100; Sacharow and Griffin 1970:9).

1824 Mechanical and seaming of round packers cans was first done in England (Anonymous 1961:11).

1825 Thomas Kensett and Ezra Daggett were granted a U. S. Patent by President James Monroe for canning food in tins (Anonymous 1961:6; Busch 1981:103; May 1937:10).

1830 Huntley and Palmers, English biscuit makers, began selling their products in tins (Clark 1977:11).

1837 Thomas Kensett of New York City began canning in the 1820's as did William Underwood of Boston. Both of these canners began using tin cans following the financial panic of 1837 (Anonymous 1961:25).
1839

William Underhill and Co. of Boston and Thomas Kensett Sr. of Baltimore began shifting their packaging of oysters, lobsters, and salmon from glass to tin containers (Fontana et al. 1962:70; May 1937:435).

1840

William Underwood and Co. of Boston were making their own tin containers. Peter Durand named this container "tin canister". The term can was coined by the bookkeepers at Wm. Underwood Co. They used "can" instead of canister (Fontana et al. 1962:67; May 1937:12).

1847

The Pendulum press was invented for stamping can parts. This was patented by Allen Taylor. This machine stamped a can end with extension edges (Busch 1981:96, 103; Clark 1977:11; Collins 1924:32; Fontana et al. 1962:69-70; May 1937:28,435; MacNaughton and Hedges 1935:41).

1849

Henry Evens patented a foot-powered pendulum press. This press cut out can ends. William Numsen patented a combination die that cut out the ends, flanged them, and cut out the filler holes in the top. The machinery increased individual worker production from 5 or 6 cans per hour to 50 or 60 can per hour. Stamped can ends are uniform in size and fit outside the can body holding the can together. The end of the can which was used for filling, usually fit outside the can body, but some cans had this end fitted inside the can at least through the 1870's (Busch 1981:96; Collins 1924:32; May 1937:28,435; Fontana et al. 1962:69-70; MacNaughton and Hedges 1935:41; Rock 1984a:100).

Mid-1800s

Canning spread widely, but no one understood why some foods kept and some did not (Swedberg and Swedberg 1985:10).

By 1850

Stenciling and paper transfer labeling was employed on tins (Clark 1977:11).

1850-1860

Louis Pasteur of France learned that bacteria caused most food spoilage. He found that heating in a closed container killed these microscopic, single-cell plants and kept others out. This knowledge led to improved and speedier canning methods (Busch 1981:96; Swedberg and Swedberg 1985:10).

1852

Mr. Stevenson brought out the joker systems, the first substitute for the tinsmiths soldering iron used in the canning business. The "joker" was patented by Howe in 1876. This system was generally accepted in the 1880's (Collins 1924:34; Stevenson 1914:92).

1853

Gail Borden visited the religious Society of Shakers at New Lebanon, New York, and observed that they used a globe-shaped copper vacuum pan for preparing medicinal herbs. Some sources say that the Shakers developed condensed milk (Swedberg and Swedberg 1985:10).
Gail Borden perfected and patented his formula for condensed milk. In his process, he used the copper vacuum pan that the Shakers invented (Anonymous 1961:29; Busch 1981:103; Clark 1977:11; Swedberg and Swedberg 1985:10).

Bessemer steel was invented. This allowed better less expensive cans to be made. Steel also allowed thinner coats of tin than iron plate had required (Anonymous 1961:6; Clark 1977:11; Swedberg and Swedberg 1985:10).


Locked side seams were perfected for tin cans (Anonymous 1961:11).

The first non-food consumer can was developed by Dr. I. W. Lyon, a New York City dentist. This green can had a conical roof tapering to a small cylindrical dome. The can had exposed holes for dispensing powder when the top is removed (Anonymous 1961:23).

A. L. Shriver of Baltimore invented a pressure cooker or "retort" that killed bacteria in filled cans (Kloap 1971:232). Anonymous 1961:26 puts this date as 1874.

American canneries learned that by adding calcium chloride to their cooking water the temperature of the water was raised and canning was more reliable (Busch 1981:97).

The United States government purchased Borden's condensed milk for military distribution during the Civil War. This showed the public that canned products were safe and nutritious (Darling and McConnell 1993:16; Swedberg and Swedberg 1985:10).

Can manufacturing became mechanized. Production of cans was 5,000,000 per year before the Civil War and 30,000,000 by the end of the conflict. Edward F. Heite points out, in Archaeological Data Recovery on the Collins, Geddes Cannery Site, that it really was the standardization of dyes for stamping can parts that lead to standardization of can sizes. (Anonymous 1961:6; Heite 1990).

Silas Augustine Ilsley started a tinware factory in Brooklyn, New York (Clark 1977:11,28; Swedberg and Swedberg 1985:10).

Kerosene was successfully marketed in tin cans (Anonymous 1961:36).

Key opened cans were introduced. The most common was the sardine can which had its entire end removed (MacNaughton and Hedges 1935:42,44; Rock 1984a:100-101, Sacharow and Griffin 1970:10).

William Underwood and Company of Boston "deviled" its canned meats and seafoods by adding special seasoning. In 1867, they
registered the first American food trademark - Red Devil (Darling and McConnell 1993:16).

1868 Edwin Norton began to make cans in Toledo, Ohio (Clark 1977:11; Swedberg and Swedberg 1985:10).

1868 The forerunner of Standard Oil Trust began selling its oil in 5 gallon cans (Anonymous 1961:36).

1868 Enamels were put on tin can interiors to halt corrosion and discoloration of food (Sacharow and Griffin in 1970:9).

1869 Daniel, Joseph, and Guy, the Somers Brothers, began making metal cans and tags in Brooklyn, New York. Ten years later (1879), they developed their own way to lithograph tin-plated sheets (Clark 1977:11, 28; Swedberg and Swedberg 1985:10).

1869 Joseph Campbell of Camden, New Jersey began canning tomatoes soon after the company expanded into the condensed soup business (Darling and McConnell 1993:16).

1870 Salmon canneries of the Columbia River Region of Washington were canning in handmade cans that were heavily soldered (May 1937:112).

1870 The London firm of Barclay and Fry patented the offset press. This allowed one-color lithography to be printed on a colored base (Clark 1977:11; Swedberg and Swedberg 1985:10).

By the 1870s Ginna and Company of Brooklyn, New York, was well enough established to created fine, artistic tins (Swedberg and Swedberg 1985:10).

1871 The Edwin Norton moved his tin plant to Chicago (Swedberg and Swedberg 1985:10).


1873 Oliver Norton joined his brother Edwin in Chicago and the firm became Norton Brothers (Swedberg and Swedberg 1985:10).

1870's The Norton Brothers developed a lock-and-lap side seam for the tin can. This allowed automatic production of cans at the rate of 6,000 per hour (Anonymous 1961:6).

1873 W.H.I. Howe of New York acquired the English patent for "tagger" topped preserve cans. These cans could be returned and reused. The "tagger top" is known in two forms: First soldered tin with a removable lid and protected by a thin sheet of tinfoil. Second, a paint or kerosene can, rectangular or round, with a raised pouring spout and a screw cap, sealed with a thin plate of foil (Fontana et al. 1962:74).

1875 The first shrimp was canned in New Orleans (Anonymous 1961:28).
1875 Steel began being made using an open-hearth process (Clark 1977:11).

1875-1885 Steel gradually replaced iron as the basic material for tinplate (Kloap 1971:232).

1875 Arthur A. Libby and J. Wilson of Chicago, Illinois, purchased the patent rights for the tapered meat tin. The patent had existed for nearly 10 years when this took place. Libby eventually bought out Wilson to have exclusive rights to this container (May 1937:437; Pulati 1973:16; Rock 1984a:101).

1876 The Howe "floater" was introduced into the can making industry. This machine automatically soldered can ends by rolling them, at any angle, in a bath of solder (Busch 1981:97, 103; Collins 1924:34).

1876 A patent for direct printing on roughened tin plate was granted (Clark 1977:11; Swedberg and Swedberg 1985:11).

1876 Sardines were first packed in Maine (Anonymous 1961:28).

1878 The first Alaskan salmon cannery opened (Anonymous 1961:28).

1879 The Somers Brothers of Brooklyn, New York, developed their own process for lithographing tin containers (Clark 1977:11,27,29).

1880 The majority of canning factories were making their own cans (Judge 1914:55).

1880 The seafood industry was making its cans by automation. Cans were made by drawing the base and body of the can from one piece of metal. Before 1880 seafood was canned in three-piece soldered cans (Fontana et al 1962:72).

1880 California canned goods were being exported to England, the Orient, Australia, Western Siberia and the Pacific; a limited trade also existed with Germany, France, Belgium and Holland (Jacobs 1914:34).

1880 Chromolithography was introduced (Clark 1977:11; Swedberg and Swedberg 1985:11).

1880's The slip-cover tin container was first manufactured and the lever-opening lid followed shortly (Anonymous 1961:11).

1882 Mechanical tinning pots were used for the first time (Clark 1977:11).
1883 The Norton Brothers with their automatic can-making line began to experiment with a German open top can. They also invented and used a semi-automatic body maker that was capable of mechanically soldering side seams. Before this time their production line had only hole-in-cap containers (Busch 1981:97; Clark 1977:18; May 1937:351-352).

1884 The sardine can with a depressed top allowed the industry to stop venting the cans - no longer was a spot of solder present and the lid was not flat (Fontana et al. 1962:72).

1885 The first Evaporated milk made in the U.S. was canned by Helvetia Milk Condensing Company of Highland, Illinois (Bitting 1937:737-739; Hunziker 1914:13; May 1937:183; Rock 1984b:109).

1887 Patrick J. Towle established a small factory to manufacture Log Cabin Syrup in St. Paul, Minn. The company canned its syrup in tall rectangular paper label tins (Reed 1981:2).

1888 Max Ams of the Max Ams Machine Company of New York, New York, invented a process that seamed cans with a double side seam (Sacharow and Griffin 1970:9; Rock 1984a:101).

1890 The first automatic locker for making a lock seam was introduced (Stevenson 1914:92).

1890 Norton Brothers made a can from a single sheet of tin plate. Their machine speeded production, up to 6000 can per hour, and gradually replaced hand methods in can making (Clark 1977:11; Kloap 1971:232; Swedberg and Swedberg 1985:11).

1891 The McKinley Tariff Act was enacted. After this protective tariff began to function, imported tin products were taxed and their price increased. This helped the domestic tin industry to become competitive. By the 1920s, production of tin-plating in the United States exceeded that of Great Britain (Clark 1977:11; Swedberg and Swedberg 1985:11).

1891 Hasker and Marcuse Manufacturing Company, a tin can maker, was founded in Richmond, Virginia, by Charles Hasker and Milton Marcuse (Clark 1977:11; Swedberg and Swedberg 1985:11).

1892 Pineapple was being canned in Hawaii (Busch 1981:97).

1892 The lithographical flat hinged lidded tobacco can was first marketed (Anonymous 1961:39).

1893 Daniel G. Trench, of Trench and Co., brought the first open-top can machinery from Europe and exhibited it at the World's Columbian exposition in Chicago. This method was known as "The Karges System" (May 1937:438).
Edward Norton of Chicago, Illinois, perfected a method for scoring a strip on the side of a can that could be removed by a key, thus opening the can. The key-wind opening system was quickly adopted for the tapered meat tin. After 1903 vacuum packed coffee cans were usually opened by the key wind system as well (Cobb 1914:94; Lee 1914:44; Rock 1984a:101).

Charles Ams, of the Max Ams Machine Company, Greenwich Street, New York, patented a sealing compound of rubber and gum which replaced the rubber gasket used in sanitary, open top cans. The edge of the can top could be painted with this and then clamped on to the can machinery forming an air-tight seal (Busch 1981:97; Collins 1924:38; May 1937:439).

J. W. Fuller patented the design for the log cabin can. Design patent No. 26, 936, Pat. April 20, 1897. These cans had a paper label and folded seams. Very early cans had a wire handle on the ridge line of the cabin (Pulati 1973:33; Reed 1981:2-3).

The Ams Machine Company brought out a machine that applied the rubber and gum compound automatically to can ends and crimped the ends in a double seam. By the next year he was producing these cans for the Cobb Preserving Company of Fairport, New York. Ams employees began calling these cans "sanitary cans" (Busch 1971:97, 103; Collins 1924:39; May 1937:88; Rock 1984a:101).

The Cobb Preserving Company introduced the first fully automatic canning line (Clark 1977:11).


The American Tinplate Company was organized by William H. Moore, Daniel G. Reid, and William B. Leeds. A merger of more than thirty tin-plating companies resulted. These three men led the forming of the American Can Company in 1901 (Swedberg and Swedberg 1985:11).

George W. Cobb, Sr. of Cobb Perserving Co., Fairport, New York, bought machinery from Max Ams Machine Co. and began manufacturing open-top cans for their products (May 1937:439).

Pacific Coast Condensed Milk Company of Kent, Washington, began canning its "Carnation" brand evaporated milk. Originally Carnation Evaporated Milk was packed in hole-in-cap cans with 3/4" and 1/2" caps, but as soon as this machine was worn out it was replaced with vent hole or hole-in-top equipment (Bitting 1937:739; May 1937:186-188; Rock 1984b: 110).
Advantages of the "open-top" or "sanitary can":

(a.) The can enters the cannery with the bottom already double seamed, the body flanged and ready for attaching the top.

(b.) The top is fully open for filling.

(c.) The double seam is the strongest part of the can.

(d.) The can may be flattened for shipping (MacNaughton and Hedges 1935:51).

Irregularly shaped cans were introduced with either slip or hinged covers (Anonymous 1961:11).

The vent hole or hole-in-top can was introduced. This can is filled through a single small hole in the center of one end. The vent hole can was filled, vented and sealed through this small opening. One of the first products packaged in this type of can was evaporated milk (Hunziker 1914:90; Pulati 1973:28-29; Rock 1984a:101).

Tindeco (Tin Decorating Company of Baltimore) was founded. It was incorporated in 1912 and by 1920 the firm was a leader in tin lithography (Clark 1977:11; Swedberg and Swedberg 1985:11).

Sixty firms operating more than one hundred factories, many of which were small, were purchased and united to form the American Can Company. The tins were sometimes marked A C Co., but in 1923, the name CANCO was adopted (Busch 1981:98; 103; Clark 1977:11; Swedberg and Swedberg 1985:11).

Heekin Can began operating near Cincinnati, Ohio. Its symbol was an encircled H. James Heekin, began roasting coffee in 1864 and later handled tea, spices, baking powder, and related products. Originally he made tins for his own products only, but as the company grew, he made them for others (Clark 1977:11; Swedberg and Swedberg 1985:11).

Nelly Bly, (Mrs. Robert L. Seaman) patented a steel oil barrel (50 gallon drum). This first barrel had a bulge-shape. By 1912, 1000 of these were being made a day (Anonymous 1961:38).

The rotary offset press was patented (Swedberg and Swedberg 1985:11).

Hills Brothers of San Francisco was the first firm to vacuum pack coffee commercially (Clark 1977:11; Swedberg and Swedberg 1985:11).

Edwin Norton left American Can Company and helped found the Continental Can Company (C C Co.) (Clark 1977:11; Swedberg and Swedberg 1985:11).
George Cobb of the Cobb Preserving Company, using Ams machinery purchased in 1899, organized the Sanitary Can Company. Sanitary Can Company cans were completely made by machines; the interiors were lacquered to prevent chemical reaction of the product with the metal. Sanitary cans are airtight and needed no solder to fasten the side seam, top, or bottom (Busch 1981:98, 103; Clark 1977:18; Collins 1924:36 37; Cruess 1948:37-38; Kopetz 1978:879; May 1937:91-95, 440; Rock 1984a:101; Swedberg and Swedberg 1985:11).

The Cobb Preserving Co. of New Jersey started packing all its red fruits in the lined lacquered or otherwise coated "Sanitary Enamel Lined Can" (May 1937:440).

The Pure Food and Drugs Act stressed safe commodities. Interstate companies could no longer make false statements about ingredients or curative powers in their products. Adulteration of foods became illegal (Swedberg and Swedberg 1985:11).

The paint can with its remarkable closure was introduced (Anonymous 1961:30).

The bulge-shape 50 gallon drum was replaced by the straight-sided drum (Anonymous 1961:38).

The upright flat-pocket tobacco can began being mass produced.

The Sanitary Can Company was absorbed by the American Can Company (Busch 1981:98; May 1937:95,440).


Mr. Tuttle, of Tin Decorating Co., Baltimore, (Tindeco) patented the "Roly Poly" tobacco tin design. Design patent #43,239, Nov. 5, 1912 (Helberg 1986:3).

Patrick J. Towle obtained a copyright for a lithographed log cabin shaped tin. These were marketed by 1919. These cans had a locking side seam (Pulati 1973:32; Reed 1981:5).

Continuous ovens came into use to dry inked tin plate (Clark 1977:11; Swedberg and Swedberg 1985:11).

Ernst Mueller of the Bayer Company started making aspirin in tablet form. To market this product, the pocket-size aspirin tablet box was made (Anonymous 1961:23).

James A. Folger of San Francisco, began selling coffee in vacuum sealed key-wind open cans (Stahl 1991:3-4).
1918

Fig. 18

Home canning cans were made. These tins had embossed tops listing many of the materials that could be placed in them. If an F is in the center of the top, they were made by National Can Corporation. (These cans also were made without embossed tops.) The top was formed by a die so that it snapped securely in place. Wax is then placed around the cap in the recessed area to seal the cap (Pulati 1973:11).

1921

Zinc oxide and zinc compounds in an enamel lining were found to prevent discoloration of canned corn.

1919-1927

Log Cabin Syrup tins were lithographed showing a child standing in the doorway (Reed 1981:5).

Early 1920's

American engineers perfected the "roll form" and "wing form" body makers for tin cans. This new method allowed as many as 250 cans a minute to be produced.

1920's

Can making really increased in America with the perfection of "roll form" and "wing form" can bodies. The wing form process is where the flat body blank is shaped around a cylindrical block by two metal "wings" that clamp it down from opposite sides. The roll form has can blanks pass between two rollers feeding them against a deflecting plate, which in turn directs them around the forming cylinder. The improved "roll" and "wing" form sped can production up to 250 cans per minute (Anonymous 1961:11).

1921

Canned citrus juice and grapefruit segments were being shipped from Florida (Anonymous 1961:26).

1922

American Can Company of New York developed "C-enamel" to line cans for citrus fruits and fruit juices (Clark 1977: 32, 33; May 1937:441).

1922

P.M. Chappel began canning dog food in Chicago (Anonymous 1961:31).

1923

Fig. 19

Helvetia Milk Condensing Company changed its name to Pet Milk Co (Bitting 1937:168; Rock 1984b:110).

1924

The tops and bottoms of most cans were not soldered at all, they were fastened by rolled seams. Only the side seam was soldered (Collins 1924:34).

1924

Tomato juice in cans was first marketed in Indiana (Anonymous 1961:26).

Late 1920s

Photolithography was introduced (Clark 1977:11).

1926

Canned ham was introduced to the market (Anonymous 1961:28-29).

1927

1927  Continuous hot rolling of steel comes into use (Clark 1977:11).

1928-1932  Log Cabin Syrup tins were lithographed. They retained the black log background and a child standing in the cabin door on the rear panel. The difference is the child and the illustration on the front are black and white rather than color (Reed 1981:6).

1929  Cold reduced steel was first used in tin cans. This steel allowed the coating of tin on the steel to be more uniform and higher in quality than before (Kloap 1971:232).

1930  The telescoping upright pocket tobacco tin was patented by American tobacco Company of New York.

Fig. 20

1930's  The word "beer" is usually as prominent as the brand name, owing to the novelty of having beer in cans (Maxwell 1993:96).

1930's  Opening instructions, usually with illustrations, are included as part of the label on beer cans (usually near the seam) (Maxwell 1993:96).

Fig. 21

1930's  Contents are often described as "contains 12 fluid ounces—same as a bottle"—on beer cans (Maxwell 1993:96).

1933  The first quart can of motor oil was sold (Anonymous 1961:38).

1933-1939  Log Cabin Syrup's lithography was on all four sides of the tin. These were cartoon Log Cabin tins (Reed 1981:6-7).

1935  C-enamel for can lining was introduced and beer was successfully canned in flat and cone top cans (Busch 1981:100, 103; Clark 1977:11; Maxwell 1993:96).

1935  The first beer can was marketed on January 24 in Richmond, Virginia. Eighteen breweries were canning beer by end of year (Maxwell 1993:96).

1935  The Vaughn Novelty opener, Church Key, was introduced to open flat top beer cans.

1935  Beginning June 28 all beer cans produced were marked "Internal Revenue Tax Paid." (Maxwell 1993:96).

1935  Cone-top beer cans were first marketed in September. These have flat bottoms and short cones ("low-profile") (Maxwell 1993:96).

1937  Steel was first tinned using an electrolytic process (Clark 1977:11; Kloap 1971:232).

1937  Beer cone top cans produced after this date have concave bottoms and long cones ("high-profile") (Maxwell 1993:96).

1937  J-spout beer cans were introduced (Maxwell 1993:96).
Quart-size cone cans were introduced in July for beer (Maxwell 1993:96).

Clicquot Club Company of Mill, Massachusetts, began canning Clicquot Club Ginger Ale in a Continental Can Company cone top can. The citric acid in the ginger ale ate through the lining. This attempt at canning soft drinks was a failure (Toepfer 1976:4).

J-spout beer cans was phased out of production (Maxwell 1993:96).

Introduction of crowntainer, which replaces the J spout for beer (Maxwell 1993:96).

Log Cabin Syrup tins retained the cartoon characters, but the end panels were not lithographed (Reed 1981:7).

Electroplating of tin came into wide spread use (Kloap 1971:232).

No Log Cabin Syrup tins were made (Reed 1981:7).

Aerosol cans were marketed commercially (Busch 1981:102; 103).

Domestic canned beer production ceased due to World War II. Over 18 million cans of beer produced for military use (Maxwell 1993:96).

Military beer cans are silver or olive drab in color (Maxwell 1993:96).

Military cans are not marked "Internal Revenue Tax Paid" but, rather, "Withdrawn Free of Tax for Exportation" (Maxwell 1993:96).

Log Cabin Syrup tins had lithographed brown logs and a red panel on the side of the can (Reed 1981:7).

A new inside lining was developed for soda cans (Toepfer 1976:4).

Pepsi introduced Pepsi in cans. These cans exploded on the shelf and Pepsi abandoned the idea of canning their product (Toepfer 1976:4).

"Internal Revenue Tax Paid" marking removed from can (and bottle beer labels, March 30. (Maxwell 1993:96)

Log Cabin Syrup tins were available in the "Frontier Village Series". This series had 10 different designs, 1) Home scene, rectangular door; 2) home scene, dutch door; 3) doctors office Dr. R. U. Well; 4) frontier jail; 5) stockade school; 6) express office; 7) blacksmith shop; 8) trading post; and 9) frontier inn. The first four cans in small sizes. 5-7 (including a home scene can) came in medium size cans. 8 and 9 were in one gallon size tins (Reed 1981:8).
1953 The first soft drinks were packed in cans (Anonymous 1961:33).
1953 A better can for soda was developed. Cantrell and Cochran (C & C) introduced Super Root Beer and Super Cola in cone top cans in New York and Los Angeles (Toepfer 1976:4).
1953 Juices for babies were first sold in cans (Anonymous 1961:34).
1954 Schlitz markets the first 16-oz. punch-top beer can (Maxwell 1993:96).
1954-1955 Log Cabin Syrup cans were no longer in production (Reed 1981:8).
1950's Crowntainers phased out by mid-decade for beer (Maxwell 1993:96).
1950's Cone top cans were largely phased out by mid-decade for beer (Maxwell 1993:96).
1950's Pastels and metallic colors become common features of can labels (Maxwell 1993:96).
1957 Aluminum cans were introduced for lubricating oil (Sacharow and Griffin 1970:10).
Late 1950's Aluminum lids used on steel-bodied cans. These are often called "soft-tops". Soft-top is often painted on the aluminum lid (Maxwell 1993:96).
1958 Primo Beer was sold in an 11-oz, paper-label, aluminum can in Hawaii (Busch 1981:101; 103; Maxwell 1993:96).
1959 Adolph Coors Co introduces the first all aluminum beer can in the U.S. This was a 7-oz. can (Clark 1977:11; Maxwell 1993:96).
Early 1960's Some beer cans stated on can labels that they were "soft-tops" (Maxwell 1993:96).
Ca 1960 One quart aluminum oil cans were introduced (Anonymous 1961:38).
1960 Beer cone top cans were completely phased out by this time (Maxwell 1993:96).
1960 All major soft drinks were available in cans (Anonymous 1961:33).

1962 First self-opening can ("snap-top" or "tab-top") beer can was introduced by Pittsburgh Brewing Company (Busch 1981:103; Clark 1977:11; Maxwell 1993:96).

1962 The first aluminum tear-top can was introduced (Kloap 1971:232).

1963 First self-opening can ("snap-top" or "tab-top") beer can was introduced by Pittsburgh Brewing Company (Busch 1981:103; Clark 1977:11; Maxwell 1993:96).

1962 The first aluminum tear-top can was introduced (Kloap 1971:232).

1963 In January, Schlitz becomes first national brewer to use tab-top cans. By August, 65 brands are available in this design (Maxwell 1993:96).

1963 First 12-oz. all-aluminum can issued (Maxwell 1993:96).


1963 The drawn and ironed (D&I) method for making aluminum beverage cans was perfected. The drawing-and-ironing process was quite different from the traditional can with a soldered side seam and both ends double seamed. In this newer process, the aluminum alloy or steel in sheet form is fed into a press where it is blanked and shaped into cups. The cup is then fed into an ironing press where the diameter is reduced and the side wall is ironed to reduce the gauge and achieve the necessary can height. In this step the thickness of the aluminum in the cup wall is reduced about 70%, while the bottom maintains its original thickness. The can is then trimmed, cleaned, printed, coated on the interior, necked-in, flanged and palletized for shipment. Of special note is the printing process which is done cylindrically. The printer can apply up to four colors and a protective overvarnish on a can. (Busch 1981:101; Kloap 1971:232)

1964 Continental Can's "U-tab" design was introduced for beer cans (Maxwell 1993:96).

1964 Tab-top with "smile" beads were introduced for beer cans (Maxwell 1993:96).

1964 Gallon beer cans were introduced (Maxwell 1993:96).

1960's Composite cans gained popularity for frozen orange juice and oil containers (Kloap 1971:232).


1965 First "ring-pull" can marketed on beer cans (Maxwell 1993:96).

1965 Tin-free-steel cans were first made (Busch 1981:103; Clark 1977:11; Kloap 1971:232).

1965 TFS (tinfo free steel) was the same as tinplate with no tin, but instead a much thinner (1/30 as thick) layer of chromium-chromium-oxide, designed to protect the steel from rusting in transit and in storage before it was made into cans.
Once the can had been fabricated, the coatings on the inside and outside gave it the necessary extra corrosion resistance which had previously been supplied by the tin. The success of this material depended upon the welded and cemented cans introduced at about this time because the conventional can could not be soldered without the tin plating. The cementing process extrudes a thin layer of plastic cement along a 1/4-in wide strip at the one edge of the body blank. The blank is then formed to a cylindrical shape and the two overlapped edges heated to approximately 500 deg.F. The two edges are held together for about 25 milliseconds to allow the nylon cement to become at least partially set. The can is then released from its clamped position and cooled to room temperature.

The second method of TFS fabrication is welding. Electric resistance heating is used in the welded can because of the necessity to keep the heat effects of the weld to as narrow a strip of the can possible. In this process, the can body is formed into a cylinder and the diameter is fixed by four tack welds spaced about 1-1/2 in. apart along the length of the can. The can body is then continuously seam welded by passing a high current through the overlap can edges as it passes between two rotating copper electrode wheels. In both of the above methods the resultant body is compatible with existing line equipment with minor modifications (Kloap 1971:232-234).

1966 Welded-seam beer cans were introduced (Maxwell 1993:96).

1966 "Neck-in chime" cans (lid smaller than can body) were introduced for beer cans (Maxwell 1993:96).

1967 Tin-free steel (TFS) beer cans were introduced (Maxwell 1993:96).

1967 A nation wide standard for "bar coding" Universal Product Code (UPC) was adopted (Seideman 1993:59).


1970 Some soldered end cans, hole-in-top, vent hole filler, were still being used for canned milk (Sacharow and Griffin 1970:10).


1972 Beer cans with specialized shapes first marketed.

1972 Push-button can openings introduced by Coors for beer (Maxwell 1993:96).

1973 Universal Product Code (UPC) was adopted as the industry standard. It became a business juggernaut not a technological curiosity (Seideman 1993:62).
1974 On June 26, 1974 the first UPC product was sold at Marsh Supermarket in Troy, Ohio (Seideman 1993:63).

1974-1979 Beer cans were issued commemorating the U.S. bicentennial (Maxwell 1993:96).


1977 Coors phases out push-button beer cans (Maxwell 1993:96).


1980 3M brought out a soft top, peel scotch tab, for fruit or vegetable juice cans (Popular Science 1980:88).


1986 American Can Company sold its can division.

1987 American Can Company officially changed its name to Primerica Corporation on April 29, 1987 at its annual meeting in Houston, Texas.

1980's UPC computer codes standard feature on all beer cans (Maxwell 1993:96).

1980's Multiple neck-in chimes present on cans produced in the early years of the decade (Maxwell 1993:96).

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Appendix I

CAN MEASUREMENT

When you measure a round cylindrical can you write 211 by 400. The first three figures represent the outside diameter of the can, and the second group of three figures represent the height of the sealed can. The first digit of each group represents "inches", and the second and third digits of each group represent sixteenths of an inch. (For example 211 by 400 means the diameter is 2-11/16 inches and the height is 4 inches).
CAN ANATOMY

1. CAP
2. VENT HOLE
3. TOP END
4. FILLER HOLE
5. CHANNEL
6. FLANGE
7. CAN BODY
8. SIDE SEAM
9. BOTTOM END
10. FLANGE

Fig. 1
Plumb joint

Lap seam

Fig. 2
Fig. 3
Fig. 4

Fig. 5

Circa 1910
Fig. 8
Fig. 13
Fig. 14

Modern Sanitary Can
Tin Decorating Company of Baltimore. This company was in existence from 1912 to 1965 and was known as Tindeco. The company was incorporated in May of 1912.

At first it produced tins for the American tobacco Company, but this business expanded into candy boxes, cookie and cake tins, medicine tins and talcum powder cans. By 1922, Tindeco's products also included kitchen objects such as trays, napkin rings, wastebaskets, plaques and crumber sets. In 1923 Tindeco and Harrison Cody copyrighted Peter Rabbit tinware saucers and cups, talcum powder tins, peanut butter pails, candy boxes, trays and candy lunch pails.

At the end of 1935 Tindeco was sold to Owens-Illinois Glass Company, the depression had taken its toll. The old Tindeco plant became Owens-Illinois Can Company, plant #31. Owens-Illinois Can Company specialized in fine lithography for tobacco, drug, tooth and talcum powders, food and candy tins.

In 1944, Owens-Illinois sold the plant to Continental Can Company Inc. of New York. Although owned by three companies, many of the accounts obtained by Tindeco were retained by Owens-Illinois and Continental Can. Millions of cans were made for American Tobacco Company and the plant was the largest producer of Bayer Aspirin tins in the country. In 1965, Continental Can Company closed this plant (Helberg 1985:3-10).

Helberg, Kristin

Fig. 17