

Antique Soda & Beer Bottles

Your Information Source For Pre-crown Sodas & Beers

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INTRODUCTION:

The history of soda and beer bottles follows an evolutionary course. Although there was a tendency to stick with traditional bottles forms, the styles or shapes of the bottles changed as new products were introduced, new technologies were invented, or competition was rampant. For purposes of simplicity, the history of beer and soda bottles will be addressed separately.

BEER BOTTLES:

Beer was being brewed from ancient times and no doubt it was bottled soon afterwards.

The first records of brewing are about 6,000 years old and refer to the Sumerians. Sumer was between the Tigris and Euphrates rivers, and in the area of Southern Mesopotamia. An ancient clay tablet engraved with the Sumerian language outlines the steps for making beer. This table has pictographs that represent barley, baking bread, crumbled bread being put into water and made into mash and then a drink. The Sumerians perfected this process and are recognized as the first civilized culture to brew beer.

They brewed beer that they offered to their gods as in a 1800 B.C. hymn to Ninkasi, the goddess of brewing. The beer was drunk out of jars with a straw to help filter out the sediments and soggy bread that was part of the brew.

When the Sumerian empire collapsed, the Babylonians became the rulers of Mesopotamia and incorporated the Sumerian culture into their own. As a result, they acquired the knowledge to brew beer. The Babylonians brewed at least twenty different types of beer. The beers were brewed with pure emmer (prehistoric grain type and similar to spelt), pure barley or a mixture of grains. The Babylonian king Hammurabi enacted a law that established a daily beer ration. The higher ones rank, the more beer that was rationed. High priests received two and a half times the ration of a common worker. The Babylonians also exported beer to Egypt.

The Egyptians soon learned the art of brewing and carried the tradition into the next millennium. They continued to use bread for brewing beer but also added dates to flavor it. The ancient Egyptians even had a hieroglyph for the word brewer, which illustrates the importance of brewing to the culture. Ancient Egyptian documents show that beer and bread were part of the daily diet and was consumed by the wealthy and poor. Beer was an important offering to the gods and was placed in tombs for the afterlife.

With the rise of the Greeks and Romans Empire, beer continued to be brewed, but wine was the drink of preference. In Rome itself, wine became the drink of the gods and beer was only brewed in areas where wine was difficult to obtain. To Romans beer was the drink of barbarians. Tacitus, a Roman historian, wrote about the Teutons, the ancient Germans, and documented "a liquor from barley or other grain" that these people drank.

During these ancient times, brewing beer was a women's job. In some cultures beer was brewed by priestesses in the temples. During the Middle Ages this changed when brewing was carried on in monasteries. It is interesting that monks were able to drink beer when fasting. Beer was a drink and not food. This runs contrary to later beliefs where beer was considered "liquid bread."

When Columbus first arrived in the New World, the American Indians that he met served him a corn-based beer. The Aztecs, Incas and Mayans had been brewing such beers for hundreds of years before the arrival of Europeans.

Beer was considered a health drink for most of its history and was an good source of nourishment. It was often advertised as good for the sick and elderly. But perhaps its biggest health advantage was that beer was brewed. At a time when impurities and microbes in water were unknown, beer provided a safer drink as it boiled as part of the brewing process. Beer drinkers were less susceptible to waterborne diseases and thus healthier. Over the centuries this trend was noticed but was not understood until pasteurization was understood.

Most beers brewed over the last four hundred years have been made of the following ingredients:

- Barley malt for fullness
- Hops add bitterness
- Yeast to convert barley malt sugars into alcohol
- Water to serve as a medium for the fermentation process

Brewers over the years have substituted other grains for the barley. These include corn, wheat and rice.

The early brewing centers of modern times were England, Holland and Germany. English beers had the greatest influence on American consumers at the countries founding and through the mid-Nineteenth century. Although the first brewing center in the New World was run by the Dutch on Manhattan Island or New Amsterdam. During the second half of the Seventeenth Century, the Dutch were exporting some beer, but much beer was still imported. The problem with Manhattan was getting an good supply of water and this problem was not addressed for another 150 years. Even so, the brews were various ales and beers also common in England.

Starting around 1700, Philadelphia started to emerge as the brewing center of the English Colonies in America. A good supply of water, the productive farmlands that surrounded Philadelphia, a thirsty population and the skills of the English trained brewers were responsible for this. Soon Philadelphia beers were exported to all of the English Colonies in America. George Washington was an ardent fan of Philadelphia porter and ordered quantities of it for consumption at his Mount Vernon home. The beer bottles of this period were the common black glass bottles that were also used to bottle wine and other spirits. Starting in the late 1700s, the shapes of beer and beer bottles started to evolve in different directions. Wine bottles started to be more slender with higher shoulders, while beer bottles tended to be shorter with lower shoulders. This beer bottle shape was know as the porter shape. This style remained associated with English beers and remained in use until well after 1900.

During the 1830s, a new style of beer was being brewed in Germany. The Germans had isolated a

strain of yeast that produced a lighter beer. This yeast was a bottom fermenting yeast (*Saccharomyces Uvarum*) as opposed to the top fermenting yeasts (*Saccharomyces Cerevisiae*) used to produce the heavier English style beers. In 1840, John Wagner smuggled some of this yeast out of Germany and to Philadelphia, where he brewed the first lager beer in America. The earliest lager beer bottle had a distinctive shape that is called an early lager. This beer did not find popularity immediately in Philadelphia where the German population was well established, but did become very popular in the Midwest where many of the new German immigrants were settling. Slowly, lager beers gained in popularity in the older settled areas of the United States, but it took almost thirty years until the German style lager beers usurped the English style beers in these areas. Lager beers of this period are called the late lager. By this time the Midwestern Breweries in Saint Louis and Milwaukee had a firm handle on the market and would eventually dominate beer production in the United States. Around 1875, a new style of beer bottle appeared in the New York area. This style is called the champagne beer style and remained popular until well into the Twentieth Century.

Around 1875 beers start to acquire trade marked names. Prior to this point beers were advertised by their brewer, the type of beer or the region it was from. Widely advertised types of beer included; lager, ale, brown stout, cream ale, weiss beer and bock. Regional branding included; Philadelphia Porter and Ale, Saint Louis Lager, Milwaukee Lager, and Poughkeepsie Ale. Of the branded beers, one of the most enduring is Budweiser (1876), but others include Pabst Blue Ribbon (1882) and Miller High Life (1903).

SODA BOTTLES:

As compared to beer bottles, soda bottles are a relative newcomer. Although beer was brewed and bottled in ancient times, the manufacture and bottling of artificial mineral and soda water did not start until the end of the eighteenth century.

Since the ancient times man had used naturally carbonated mineral springs for medicinal purposes. Early European springs were documented in 77 A.D. by Pliny, the great Roman historian. Starting in the sixteenth century, early scientists and alchemists tried to unlock the secrets of these springs and their carbonated waters. If these secrets could be discovered, then artificial waters with the same properties could be produced.

The Reverend Joseph Priestley, the discoverer of oxygen, is credited with unlocking the secrets of the natural mineral springs. In 1768, he carbonated a glass of water by pouring the water from one tumbler to another over a vat of fermenting beer at a nearby brewery. The water absorbed some of the carbon dioxide, a by product of fermentation, and thus became effervescent. During the next couple of years, Priestley perfected the process and in 1772 published the first book on how to produce artificial Pymont water, a popular mineral water of the time. The book, *Directions For Impregnating Water With Fixed Air*, served as a basis for the manufacture of artificial soda and mineral waters that is still in use today.

In 1770 or 1771, a Swedish chemist named Torbern Bergman, expounded on Priestley's work and created an apparatus for making artificial mineral water. This apparatus used chalk and acid to produce the carbonic gas and charge the water. Bergman also analyzed the popular mineral waters of the day and discovered the minerals that were in them. Bergman added these minerals to the water before impregnating the water with the gas to produce a facsimile of the natural waters.

Both Priestley's and Bergman's processes could not sustain a viable business. It took Jacob

Schwepe, a German born Swiss jeweler, to perfect the process of making artificial mineral waters in 1783. He partnered with Nicholas Paul, an engineer, and M. A. Gosse, a scientist, to produce artificial mineral waters in Geneva, Switzerland in 1790. Prior to this partnership, they were his competitors. Later Schwepe would continue the business alone. Due to the popularity of his waters in England, Schwepe he brought the his process to London in 1792. Over 200 years later the Schwepe name is still with us.

In Great Britain, the production of artificially carbonated waters exploded. Patents were issued in 1807 to Henry Thompson of Tottenham, England and in 1809 and 1814 to William Hamilton of Dublin, Ireland for processes of manufacturing these artificial waters.

In the United States, Valentine Seaman of New York City discovered a process to make artificial waters resembling those of Saratoga, a popular mineral spring of that time, in 1793. As early as 1806, Benjamin Silliman of New Haven, Connecticut was experimenting with impregnating gas in water and did bottling to a limited extent. Silliman, a professor at Yale, had spent four years in Philadelphia and England learning chemistry and geology and undoubtedly was exposed to these waters at either of these locations. In 1807 Cohen & Hawkins began to manufacture artificial mineral and soda waters on Chestnut Street in Philadelphia. Joseph Hawkins was an Englishman that received a patent for an improvement to the Schwepe's process. They tried to establish a company called the "Philadelphia Mineral Water Association" but failed in the scheme. Cohen carried on the business at various locations during the next few years. In 1807 Townsend Speakman, also of Philadelphia, began making and selling a fruit flavored carbonated drink that he called "Neophyte Julep." He bottled the waters for Dr. Philip Physick, who sold them to his patients for \$1.50 a month for one glass a day. In 1808, A. Thaddeus Sherman set up a soda fountain in New Haven under the direction of Benjamin Silliman. In 1809, Joseph Hawkins, now of the firm of Shaw & Hawkins, received the first American patent for producing artificial mineral waters. The first United States patent for mineral water apparatus was issued to Simons and Rundell or Riondel of Charleston, South Carolina in 1810.

Although soda was bottled in the early days, those containers were doubtlessly unmarked, at least in America. The English had adopted an egg shaped or torpedo bottle to their artificial mineral waters. This shape is credited to Nicholas Paul, who was an original partner with Jacob Schwepe. The rounded shape would not stand up and thus kept the cork wet at all times. A dry cork would shrink and allow the charged gas in the water to escape. This style of bottle is mentioned in various early English patents. The earliest of these bottles were made of stoneware, but later glass was used.

In the United States, there were early attempts to bottle artificial mineral waters in marked containers. Perhaps the first was Elias Durand of Philadelphia, who produced a marked bottle in 1835 and another perhaps earlier. However, it was a French immigrant, Eugene Roussel, who started the bottled soda water craze.

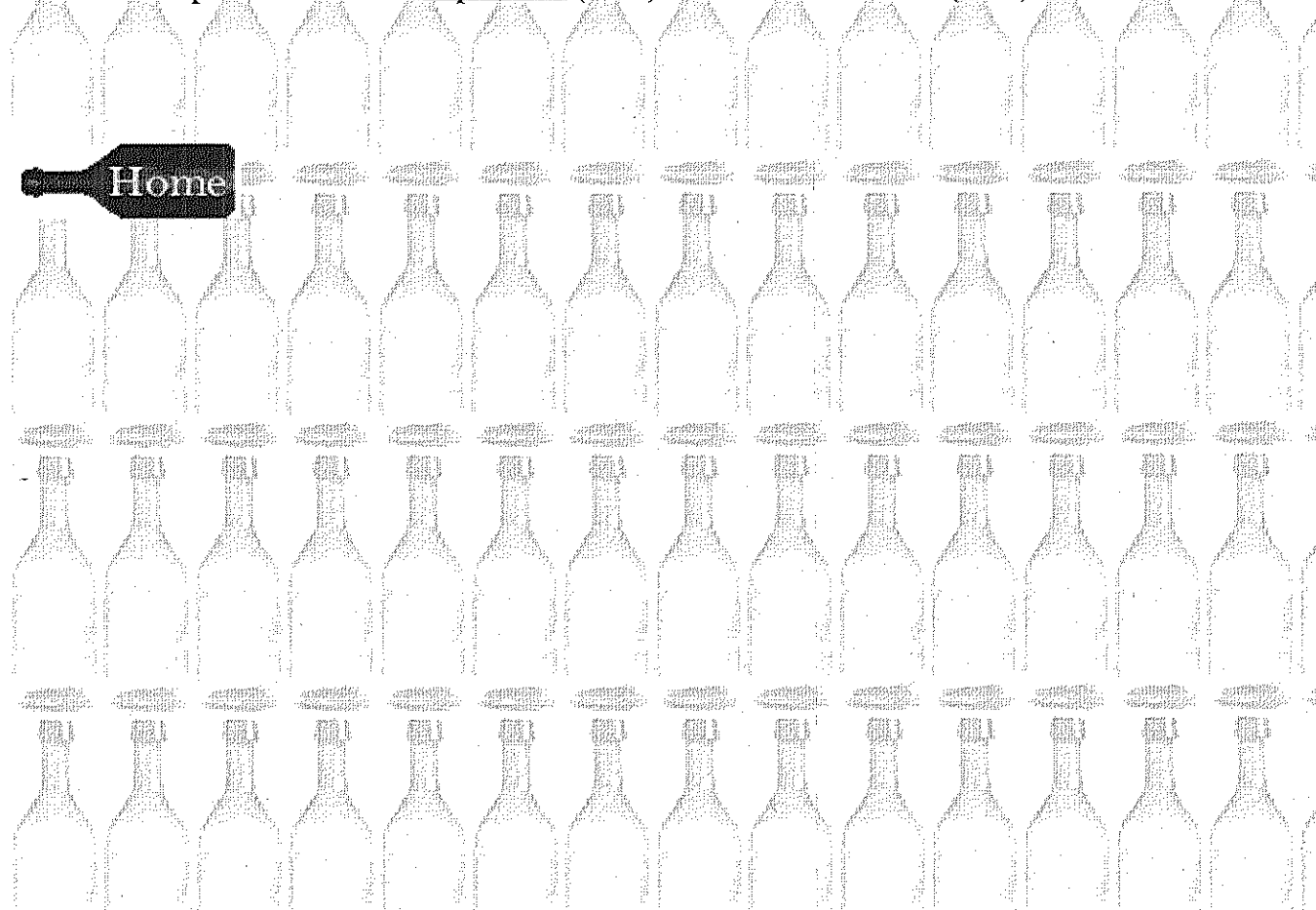
Roussel came to Philadelphia from France in 1838 and immediately set up a perfume shop on Chestnut Street. At this location he served and bottled mineral waters. He is credited with producing the first flavored soda waters in this country, but I have seen evidence that most soda water fountains of that day added flavors to their product. Roussel claimed to provide his artificially charged waters on the French plan. At this time, he also introduced a new bottle for his product, this form is called the early pontil shape soda.

What ever his secret was, his bottled soda waters took off. Just to give you an idea of the magnitude of this craze, in late 1842, Henry Seybert reopened the Dyottville Glass Works, in the

Kensington section of Philadelphia, primarily to make bottles for Roussel. Bottles produced at the newly reopened factory were of a different color and shape than the previously ones, which are attributed to South Jersey manufacture. The new shape is called the late pontil shape. By 1843, William Heiss, John Diehl, Peter Hall, Dr. F. W. Hartley, E. McIntire, and David Bentley & Son were all competing with Roussel. Heiss and Bentley were coppersmiths who also produced mineral water fountains. In the spring of that same year, three bottled soda water businesses were opened in one week by Philadelphia area natives in New York City. They were Adam W. Rapp, John Tweddle Jr., and Thomas W. Newton. Rapp advertised prepared soda and mineral water with a variety of syrups put up "in Glass Bottles" and was listed as a teacher and confectioner prior to leaving Philadelphia. Henry B. Rapp, a relative, was listed as an agent for the Dyottville Glass Works in 1844. Tweddle was the son of John Tweddle, who was an long established brewer and soda bottler in Chester County, just out side of Philadelphia. Thomas W. Newton was listed as a plumber in Philadelphia prior to moving to New York during 1843.

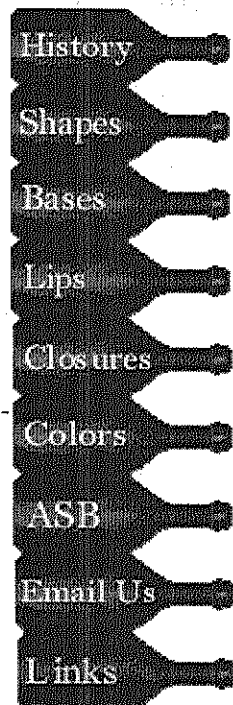
By 1845, Roussel was advertising about all of his imitators and how he was forced to change the color and style of his bottles so that the public would easily recognize his product. It was in this year that the soda shape was created. It was also at this time that Roussel first used cobalt glass for his soda water bottles and collectors today thank him. Soon everyone was using the soda shape and blue bottles. By 1847 there we at least nine competitors to Roussel in Philadelphia and by 1850, there were twenty.

During the ensuing decades, the soda water industry became firmly rooted. Starting in 1851, with the introduction of "ginger ale," named products start to emerge and are later franchised. During the 1880s, we have Coca-Cola (1886), Moxie (1885), and Dr. Pepper (1885) arrive on the scene. Other named products include Pepsi-Cola (1898) and Hires Root Beer (1876).



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Bottle Shapes:

The shape of a bottle has a lot to say about a bottle's age. Regional preferences and traditions help to dictate what shapes were popular and for how long. Some forms are noticeably rare or absent from some areas of the country. Porter bottles exist in the less than half a dozen forms in the western states, but were extremely popular in eastern Pennsylvania, with thousands of examples.

Special patents also dictated a bottle's shapes. Some patents were more popular than others. The 1879 Hutchinson patent, from Chicago, was used by over 4,000 different firms for their bottles, while the 1875 Arthur Christian patent, of the same city, was only used in a few dozen.

Bottles from different countries also vary greatly. Codd patent bottles from the United States are uncommon, but are the norm in Great Britain. The Hutchinson patent is directly the reverse.

The information below is based on my research and dates are based on hard facts or reasonable estimates.

Beer Bottle Shapes:



Porter shape, circ: 1760-1918
 Typical size: 7 x 3" or 6 3/4 x 2 3/4"
 Also in quart size and fluted
 Used to bottle various heavy beers such as porter, ale, and stout.



Early ale shape, circ: 1847-1851
 Typical size: 7 1/2 x 2 7/8"
 Not known in quart size or fluted
 Used to bottle ale.



Early lager shape, circ: 1847-1851
 Typical size: 8 1/2 x 2 7/8"
 Not known in quart size or fluted
 Used to bottle lager beer.



Late ale or lager shape, circ: 1851-1910
 Typical size: 7 x 2 7/8" or 6 3/4 x 2 3/4"
 Not known in quart size or fluted
 A merging of the early lager and ale shapes. Used to bottle lager to about 1878 and ale and porter until 1910.



Soda Bottle Shapes:



Early pontil shape, circ: 1838-1845
 Typical size: 6 1/2 x 2 7/16"
 Also in pint size but not fluted.
 Used to bottle artificial soda and mineral waters.



Late pontil shape, circ: 1844-1846
 Typical size: 6 7/8 x 2 1/2"
 Not known in quart size or fluted
 Used to bottle artificial soda and mineral waters.



Soda shape, circ: 1845-1865
 Typical size: 7 1/4 x 2 9/16"
 Not known in quart size but come fluted
 Used to bottle artificial soda and mineral waters.



Pony shape, circ: 1852-1905
 Typical size: 7 x 2 1/2"
 Not known in quart size but come fluted
 Used mostly to bottle artificial soda and mineral waters and in some applications beers of various sorts.





Champagne beer shape, circ: 1875-1920

Typical size: 9 1/4 x 2 3/4
Also in quart size and fluted bottles
Used to bottle lager, champagne, and small beers, such as root beer.



Weiss beer shape, circ: 1867-1910

Typical size: 7 3/4 x 2 3/4"
Not known in quart size but come fluted
Used to bottle weiss or white beer in usually very heavy bottles.



Zaun weiss beer shape, circ: 1880-1910

Typical size: 7 1/2 x 2 5/8"
Not known in quart size or fluted
Used to bottle weiss or white beer in usually very heavy bottles.



St. Louis weiss beer shape, circ: 1885-1915

Typical size: 2 3/8 x 9 1/2"
Not known in quart size or fluted
Used to bottle weiss or white beer in usually very heavy bottles.



Early export beer shape, circ: 1860-1880

Typical size: 9 x 2 5/8"
Also in quart size but not fluted
Used to bottle various beers typically for export. Form was adopted for domestic use in some areas.

No Picture Yet

Late export beer shape, circ: 1880-1915

Typical size: 9 x 2 5/8"
Also in quart size but not fluted
Used to bottle various beers typically for export. Form was adopted for domestic use in some areas.

No Picture Yet

Flavored beer shape, circ: 1850-1865

Typical size: 10 x 3 1/2" or 8 1/2 x 3 1/2"
Also in pint size and fluted
Used to bottle various flavored beers such as root beer, champagne beer, and Cronk's beer.



Malt porter shape, circ: 1895-1915

Typical size: 6 3/4 x 2 1/4
Not known in quart sizes or fluted



Drug store shape, circ: 1855-1865

Typical size: 7 1/2 x 2 3/4"
Not known in quart size or fluted
Used mostly by pharmacists to bottle artificial soda and mineral waters. Was for a more upscale trade.



Ten Pin shape, circ: 1844-1910

Typical size: 7 x 2" or 8 x 2"
Not known in quart size but come fluted
Used to bottle artificial soda and mineral waters. The degree curving on the sides varies greatly.



Gravitating shape, circ: 1865-1885

Typical size: 7 1/4 x 2 3/8"
Not known in quart size or fluted
Used to bottle artificial soda and mineral waters using the Mathew's patent of 1864. Shape was also used for Hutchinson's patent of 1879.



Arthur Christian shape, circ 1875-1880

Typical size: 7 1/2 x 2 3/8"
Not known in quart size or fluted
Used to bottle artificial soda and mineral waters.



Hutchinson shape, circ: 1880-1915

Typical size: 6 1/2 to 7 1/2 x 2 3/8"
Also in pint and quart sizes and fluted
Used to bottle artificial soda and mineral waters using the Hutchinson or similar patents.



Codd shape, circ: 1873-1915

Typical size: 8 1/4 x 2 1/2"
Not known in quart sizes or fluted
Used to bottle artificial soda and mineral waters under Codd's patent. More common in other countries than the US.



Torpedo shape, circ: 1800-1900

Typical size: 8 3/4 x 2 5/8
Not known in quart sizes or fluted
Used to bottle artificial soda and mineral waters.



Round bottom shape, circ: 1875-1920

Typical size: 9 x 2 3/8"
Not known in quart size but come fluted



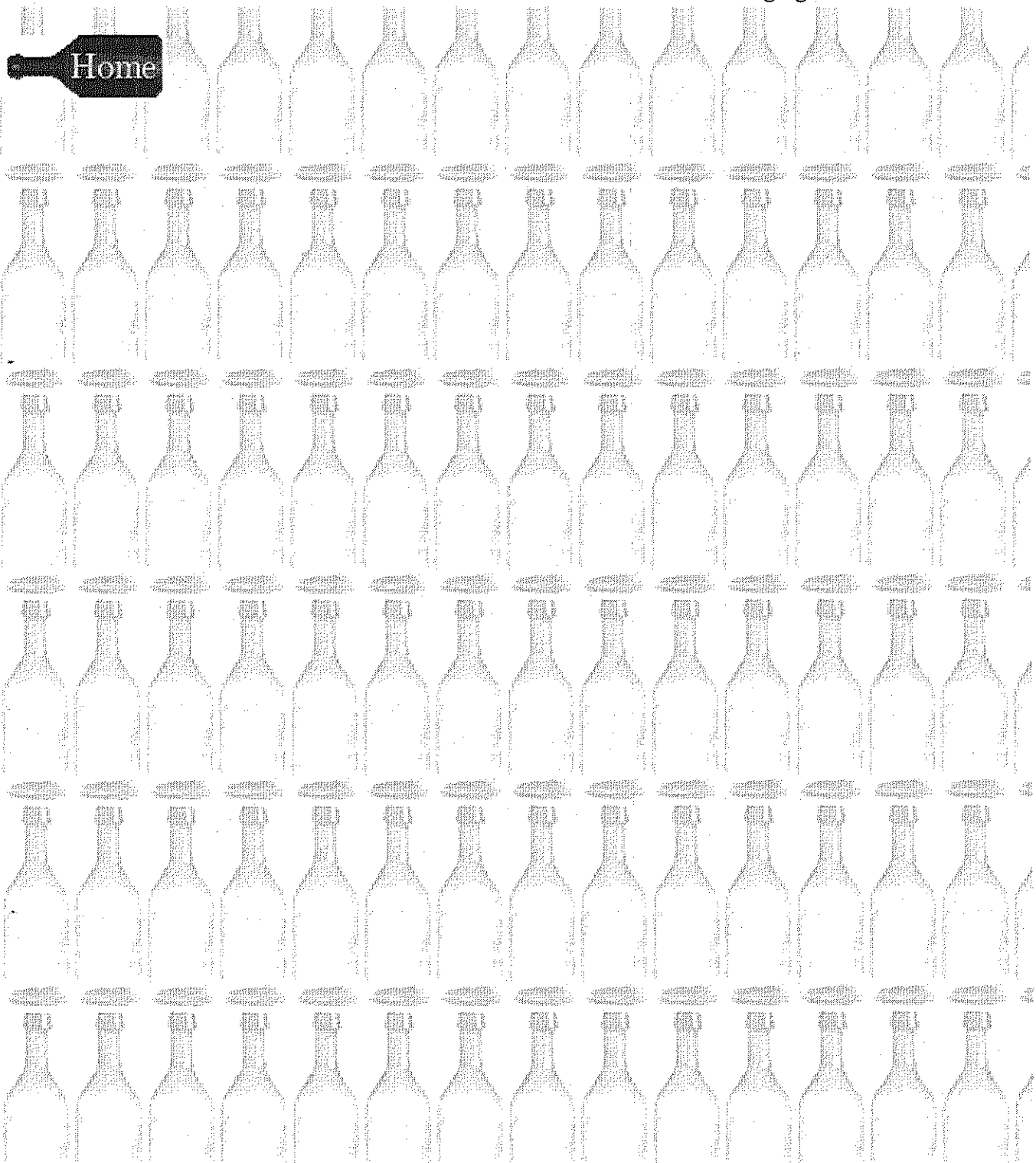
Used to bottle various malt extracts.
This form was equally used by bottlers
and brewers.



Used to bottle artificial soda and mineral
water.

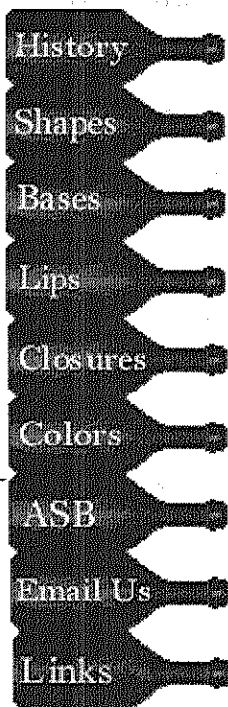


Ginger Ale shape, circ: 1870-1895
Typical size: 7 1/2 x 2 5/8 or 8 1/2 x 2
3/8"
Not known in quart size or fluted
Used to bottle ginger ale.



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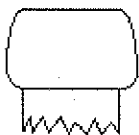
Bottle Lips:

The form of a bottle's lip can say something about a bottle's age. The major lip styles changed little of the years and with the exception of soda bottles produced in the 1840s and special patents, were used for extensive periods of time. Regional preferences and traditions help to dictate what lips were popular and for how long.

Some lips are noticeably rare or absent from some areas of the country. In New York City, early porter bottles were produced with a tapered or rounded collar lip type. In Philadelphia, a mere ninety miles away, the double taper lip was used almost exclusively on these same bottles. Considering that both these city's bottles were manufactured at the Dyottville and Union Glass Works, one can see the influence of regional preferences. This preferences can be used to identify a bottles place of origin. If one finds a pontiled porter bottle with a rounded collar, you can be fairly certain that it is not from Philadelphia or its surrounding region.

Special patents also dictated a Lip's shapes. Some patents required a special form of lip. The earliest Albertson patent, which was the forerunner of Mathew's gravitating patent, required a large and wide tapered lip to hold the internal spring mechanism.

The lip styles shown below are general representations only. The exact shape of lip may vary greatly.



Rounded taper lip, circ: 1847-1920

This type of lip is often called a "blob" top by collectors. It was first used on soda shaped bottles and later on various shapes of beer bottles. Its rounded shape prevented chipping and provided the strength needed to mount various closures. It was used almost exclusively on pony and champagne beer shaped bottles. It was by far the most common type of lip used on pre-crown soda and beer bottles.



Double tapered lip, circ: 1815-1885

The type of lip first made its appearance on black glass wine and beer bottles. The shape second taper was a refinement of the earlier lips used on these bottles. The second taper was used to hold wire that was wrapped around the bottle and over the cork to hold it in place. This type of lip was used almost exclusively on beer bottles and is commonly found on porter and ale bottles. Its popularity started to fade during the 1870s when it was replaced with the rounded taper lip.

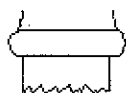


Tapered lip, circ: 1844-1855

This type of lip was first used on late pontil soda shaped bottles but shortly thereafter was used on some porter shaped bottles. On soda bottles its use followed the short tapered lip and provided a heavier and larger area for securing the string or wire used to secure the cork in the neck. Its use faded on the East coast by 1850, but remained popular in the Midwest for a number of years later. Its use was replaced by the rounded taper lip.



Tapered lip with ring, circ: 1848-1870



This type of lip is often called a Twitchell top by collectors. George Twitchell of Philadelphia was the first to use this top in the late 1840s and used it almost exclusively on his soda, pony, and porter shaped bottles. This lip style was later used by other bottlers in New York, Georgia, Illinois, and Pennsylvania, but was never really that popular.



Short tapered lip, circ: 1838-1845

This type of lip was used on some of the earliest soda bottles. It was replaced with the tapered lip starting in 1844. They were used exclusively on the early and late pontiled shaped sodas. These lips are often very crudely applied and add greatly to the character of a bottle.



Rounded lip, circ: 1850-1855 and 1880-1915

This type of lip is sometimes referred to as a doughnut by collectors. It was used on some early soda shaped bottles, usually manufactured at Pittsburgh glass works during the era that pontiled bottles were produced. Its use then stopped until the Hutchinson stopper became popular. Since this stopper was sealed internally, there was no need for a heavy lip to fasten the closure to on Hutchinson shaped bottles. It is also used on other internally stopped bottles such as those that used the Baltimore loop seal, which are often in the pony and champagne beer shape, or Roobach's second patent, which used Hutchinson shaped bottles. Both of these later patents have a ring inside the lip that is part of the sealing mechanism.



Long tapered lip, circ: 1875-1920

This type of lip was used mostly on Codd shaped bottle. It was primarily used with bottles that used Codd's patent closure or those of a similar function such as the early Roobach's stopper. There is often a ring inside the lip with a rubber gasket that serves as a sealing mechanism.



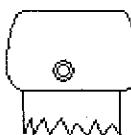
Inverted tapered lip, circ: 1850-1855 and 1865-1885

This type of lip was used on porter and soda shaped bottles manufactured in the Pittsburgh region during the era that pontiled bottles were being manufactured. Its use then stopped and was reintroduced when Matthew's gravitating patent shaped bottles were manufactured. It was used almost exclusively on these gravitating shaped bottles. When Hutchinson's patent closure was introduced, this style of lip was used until the rounded lip replaced it.



Rounded with tapered ring lip, circ: 1865-1875

This type of lip was never really popular and was only used on some beer bottles. This style of lip was popular in England and without a doubt, American bottles tried to identify their wares with the English products. This lip style was used on porter and early export beer shaped bottles.



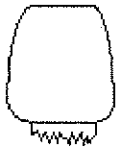
Rounded taper with insert lip, circ: 1900-1920

This type of lip was never popular in the United States, but examples do exist. It was much more popular in Germany. The insert in the side of the lip allowed the eccentric part of a wire closure to be mounted and eliminated the need for a wire band under the lip to secure it. this lip was used almost exclusively on champagne beer shaped bottles.



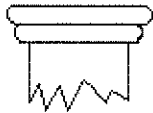
Flare with taper lip, circ: 1870-1875

This type of lip was primarily used on one style of bottle for Taylor's 1872 patent closure. It was used on a pony shaped bottle and comes with and without a hole through the lip.



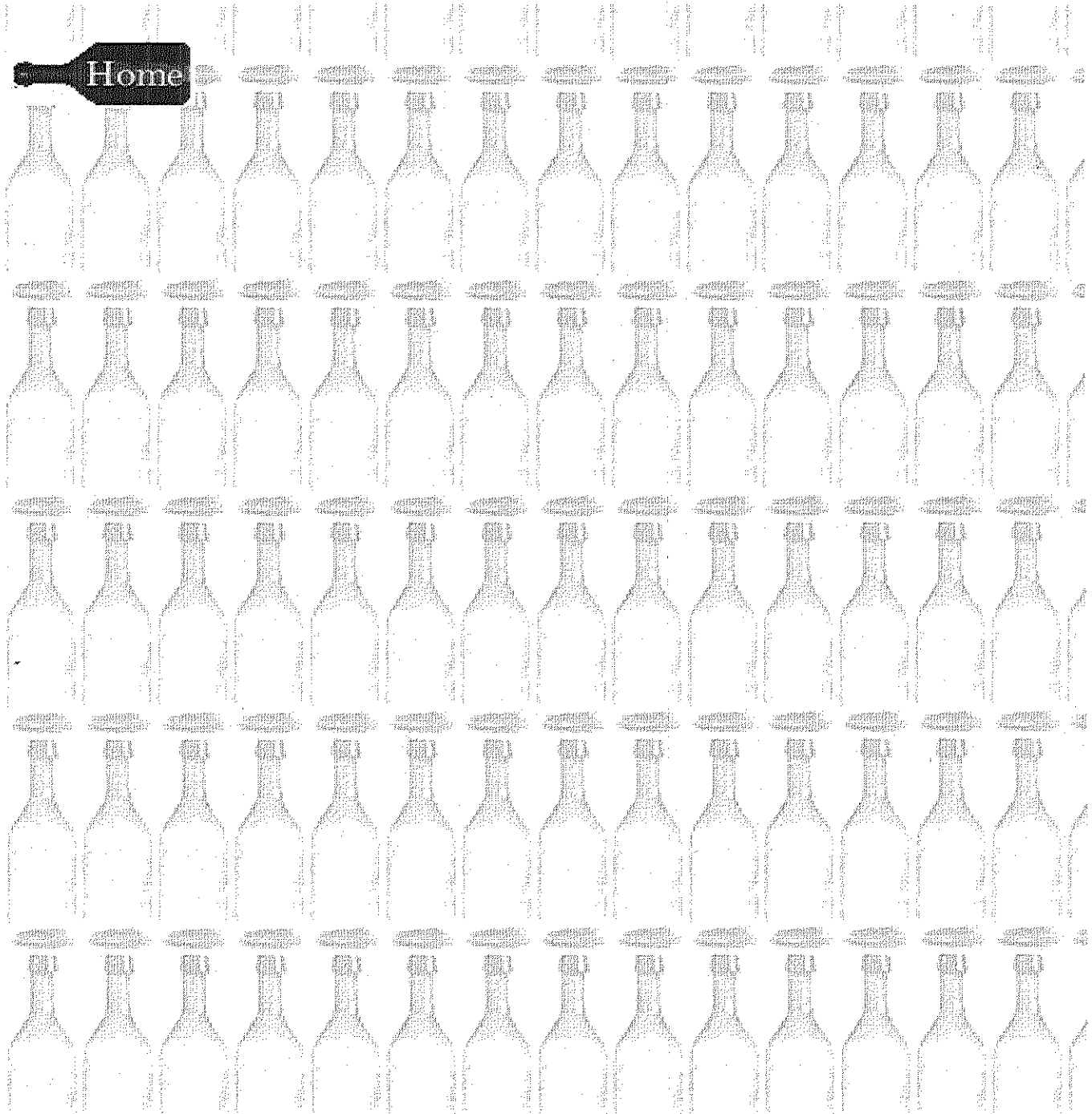
Matthews early lip, circ: 1864-1866

This type of lip was only used on pony shaped bottles that used the first Matthew's patent. Although this lip appears wide, it is really hollow inside and was used to house a spring mechanism that would seal the bottle.



Double Rounded lip, circ: 1860-1885

This type of lip was not extensively used, but does occur on a few soda and beer bottles. The height of each of the rounded collars on these lips varies greatly. These bottles range from a porter shaped bottle from Louisiana, a Hutchinson shaped bottle from New Jersey, to a Zaub shaped weiss beer bottle from New York.



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Bottle Closures:

Since there were bottles, man has been looking for a better stopper. A stopper held the contents in and protected them. Early stoppers were leather or anything soft that could be pushed into the lip of a bottle to seal it. Eventually, the cork became the preferred bottle closure. At times tar or pitch was applied to the cork to help seal it.

Closing of soda bottles was problematic because of the pressure of the contents. If the stopper leaked, the soda water would go flat. If the cork remained moist, it would not shrink and thus protect the contents. This is the reason some soda bottles will not stand up. When a bottle rested on its side the contents would keep the cork moist. Other bottles were stored and shipped upside down to accomplish the same goal. Often a string or wire was fastened around the neck and over the cork to secure it against the pressurized contents.

As the industrial age dawned, there started a slow but steady number of patents for closures for soda and beer bottles. The earliest patent for a soda water bottle stopper was in 1859, and issued to Henry William Putnam. This patent was for a heavy wire bail attached to the bottle's neck that could swing over the cork to hold it in. In 1885, there were over 80 patents granted for these closure. As the number of bottlers decreased, as national brands flooded the market and as automation of the bottling process became standard, the number of closure patents decreased. The crown cork effectively replaced all bottle closures and became the standard by 1920. The crown worked well on the automated bottling lines and was more sanitary than other stoppers.

The closure used on a bottle has something to say about a bottle's age. Closures used on soda and beer bottles have periods of use that are not reflective of the closures general used for other bottles. For example, the screw-on top was used on many types of bottles, but try and find a true screw top soda bottle. Other closures were designed for use on soda or beer bottles. For example the Hutchinson and Codd stoppers were designed for carbonated beverages. They both needed the pressure of the charged gases to seal them. You will not find these stoppers on any other type of bottle. Stoppers were often patented and the patent date establishes the earliest date of the bottle. Some stoppers were only used on a single bottle, often on the bottles of the inventor. The Roorbach and Tucker stopper is a prime example. Other, like the ABC Patent, gained limited success. While some were extremely popular. Those that were popular spawned imitators who made minor improvement to the widely used stopper. There are no doubt over one hundred different patents for a bail type stopper for beer bottles that are all variations of the "Lightning" stopper.

As more economical and easier to use stoppers were invented, older styles fell out of style. Health laws in the United States and eventually elsewhere in the world doomed many stoppers as unsanitary. These events all help to mark the end of a stoppers use.

Stopper achieved different levels of popularity in different countries. The Codd stopper was immensely popular in England and it's empire, but rare used in the United States. The Hutchinson stopper was the stopper of choice in the United States, but virtually nonexistent in Britain. Regions can also have an influence on a bottles stopper. William Painter's 1885 patent

bottle stopper, popularly called the Baltimore loop seal, was widely used in Baltimore and the Mid-West, but scarcely used in Philadelphia.

Below are listed some of the more popular stoppers, some rarities and those that have implemented some modification to the glass:

Cork, circ: pre-1600-1905,

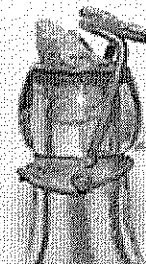


By far the most common closure used on soda and beer bottles until about 1885 on American soda bottles when the Hutchinson stopper became the standard and in 1880 on American beer bottles when Lightning Stopper became standard. Initially, string or a wire was used to secure the cork to the bottle. Later, a wire bail became the standard. Some bottlers still used corks into the Twentieth Century.

Putnam Stopper, circ: 1859-1905,

Invented by: Henry William Putnam

American Patent: March 15, 1859, Number: 23, 263

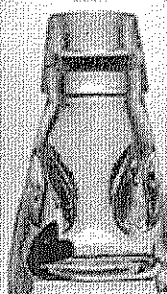


This cork fastener was the standard used on corked soda and bottles during the 1870s and 1880s when it was replaced with the more popular Hutchinson internal stopper. The bail was reusable and the bottler was not required to rewire the cork with every refilling of the bottle.

Codd Stopper, circ: 1872-1920,

Invented by: Hiram Codd in 1872, England

American Patent: April 29, 1873

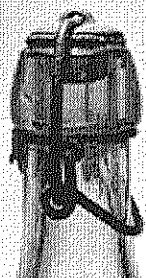


A marble in the neck was pushed up against a rubber gasket in the lip to seal the bottle. The pressure of the carbonated beverage inside kept the marble in place. These bottles had to be filled upside down in order for the marble properly seat. The indentations in the neck kept the marble from clogging when the contents were poured out. There were many similar patents that all worked on the same basic principle.

Lightning Stopper, circ: 1875-1910,

Invented by: Charles De Quillfeldt,

American Patent: January 5, 1875, Number: 158,406



This stopper revolutionized beer bottling and was an almost instant success for Karl Hutter who acquired the patent rights and popularized this stopper when it was reissued in 1877. In 1878, Henry Putnam also acquired an interest in this stopper and in 1882 adapted it for use on fruit jars. There were many imitators of this patent over the years, but they all worked on the same principle of leveraging a rubber disk into the lip of the bottle to make a seal.

Hutter Stopper, circ: 1893-1920,

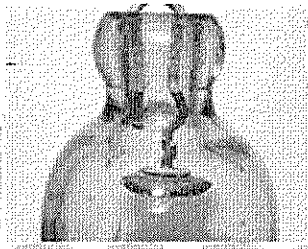
Invented by: Karl Hutter,

American Patent: February 7, 1893



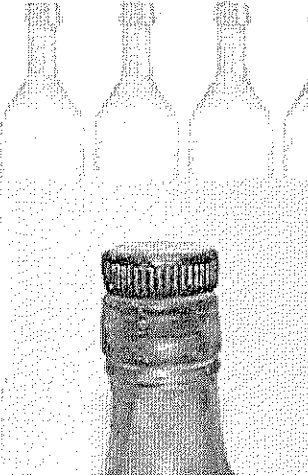
This stopper was an improvement to the Lightning stopper and was extremely popular and eventually replaced the Lightning as the preferred beer bottle stopper. A tapered porcelain plug was fitted with a rubber washer on the bottom and forced into the lip of the bottle to seal it. This stopper was replaced with the crown cork.

Hutchinson Stopper, circ: 1879-1915,



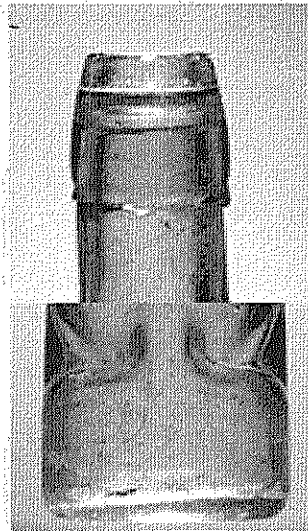
**Invented by: William H. Hutchinson,
American Patent: April 4, 1879 Number: 213,992**

This was an improvement to Matthews gravitating stopper and worked on the same principle. When the stopper was raised, the pressure of the carbonated contents sealed the rubber gasket against the base of the neck. Unlike Matthews, it was cheaper and more efficient to use. Also, the bottle did not have to be filled upside down. To bottle, the stopper was put in the downward position, the contents were injected into the bottle with a nozzle. This nozzle contained a hook that grabbed the top loop of the stopper and pulled it upward thus sealing the bottle. This stopper was deemed unsanitary because dust and dirt could settle above the stopper and contaminate the drink when the contents were dispensed. Its replacement was the crown cork.



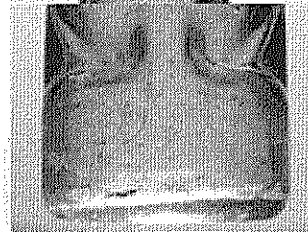
**Screw Stopper, circ: 1880-1920,
Invented by:
American Patent:**

This stopper was never popular in the United States, however it was widely accepted in England and its colonies. A composite stopper was screwed into the lip of the bottle, which had screw threads on the inside. In the United States this closure was known as the "American Screw Stopper."



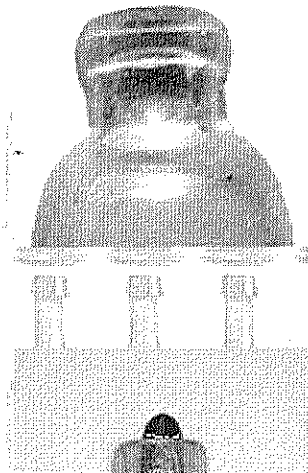
**Roobach Stopper, circ: 1883-1885,
Invented by: William L. Roobach
American Patent: February 20, 1883**

This stopper was similar to Codd's patent although it used a ceramic marble to seal the bottle. The marble was held in place by the pressure of the carbonated contents. Additionally, the indentations to hold the marble and keep it from clogging the neck during pouring were located near the base of the bottle. These bottles had to be filled upside down to properly seal the bottle.

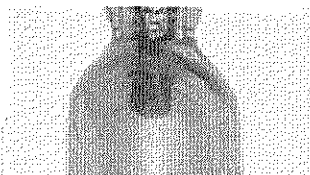


**Floating Ball Stopper, circ: 1885-1910,
Invented by: William L. Roobach
American Patent: June 23, 1885 and August 4, 1885, Numbers: 320,701
and 323,737**

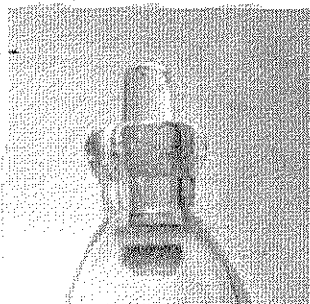
This was also known as the Twitchell Floating Ball stopper. This stopper gained some popularity in the United States. A hollow composite ball or marble was held against a rubber washer that was secured in a neck groove by the pressures of the carbonated contents. This stopper was an improvement on Roobach's 1883 patent. The bottles can be identified by the large groove in the neck.



**Self-Closing Stopper, circ: 1889-1895,
Invented by: William L. Roobach and George W. Tucker
American Patent: October 14, 1889, Number: 429,482**



This stopper was never popularity in the United States and George W. Tucker may have been the only user. A hollow composite bullet with a rubber gasket was held against the neck by the pressures of the carbonated contents. This stopper was an improvement to Matthews' gravitating stopper. This stopper became the Trademark of the Pennsylvania Bottling & Supply Company of Philadelphia and is embossed on their bottles.



**Matthews Gravitating Stopper, circ: 1864-1885,
Patented by: John Matthews
American Patent: October 11, 1864, April 15, 1872**

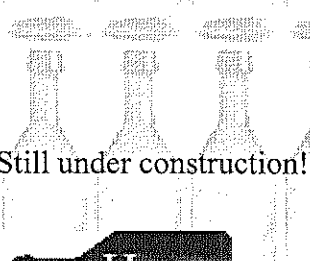
This stoppers was an improvement to the Albertson stopper, which was patented in 1862. This stopper consisted of a glass rod that was tipped with a rubber nipple. The glass rod fitted into the neck of the bottle and the attached rubber nipple sealed the contents when the pressure of the carbonated contents pushed the rubber nipple against the base of the neck. To open the bottle, the glass rod was pushed down to break the seal. The bottle had to be filled upside down so that the glass rod could fall into place. The stopper gained popularity after an improvement was made in 1872 and most of the bottles date after this point. Glass rods of these bottles bear the Albertson and two Matthews patents. If the stoppers are missing, the bottles can be identified by the elaborate patent embossing on the base, which is not present on latter bottles, and the straight neck and inverted taper lip. The glass rods were fragile and had a tendency to break. As a result, the cheaper and more durable Hutchinson stopper quickly replaced the Gravitating stopper during the early 1880s.



No Picture Yet

**Arthur Christian Stopper, circ: 1875-1880,
Patented by: Arthur Christian
American Patent: April 13, 1875**

This stoppers was an adaptation of the Gravitating stopper. Its improvement was the placing of the sealing gasket in the lip of the bottle and not on the stopper itself. A tapered composition stopper was pulled up into the lip and wedged against the rubber gasket in the lip creating a seal. The bottle was opened by pushing the stopper down into the bottle. This stopper was never widely accepted, even though it was used by a number of bottler across the country. Due to the limited numbers that are found, it was mostly tried and abandoned by those who were looking for an improvement over the cork stopper.



Still under construction!!! More to come.



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