

## **FINAL DRAFT**

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Date: January 2010  
Words: 10, 123  
Rights: First Serial  
Photos / Illus: 42  
Price: Open  
Periodical: Open  
Category: History

## **Codd (*Marble-In-The-Neck*) Soda-Water Bottles,**

### **THEN and NOW!**

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by

**Cecil Munsey**

### **A Bottle...**

...is defined as a container with a neck that is narrower than the body and has a “mouth.” Bottles are often made of glass, clay, plastic, aluminum or other impervious materials, and are typically used to store liquids such as water, milk, soft drinks, beer, wine, cooking oil, medicine, shampoo, ink and chemicals. A device applied to seal the mouth of a bottle is termed an external bottle cap, closure, or an internal stopper such as the Codd bottle stopper featured in this monograph.

The bottle has been developed over more than 1,000 years. Some of the earliest examples appeared in China, Phoenicia, Rome and Crete. In modern times bottles are a part of every culture.

## **PART A**

### **THEN** (19th and 20<sup>th</sup> Centuries)

At first, carbonated drinks were contained in stoneware bottles, but these had a tendency to allow the gas to leak and consequently make the drink “flat.” As a result, makers began to use glass for their bottles. A problem with the glass bottles was that the pressure of the gas within the bottle could force the cork stopper out especially if the cork dried out.

Most shopkeepers were reluctant to store the drinks on their side to keep the cork wet, so bottle manufacturers adopted a new shape devised by an Irishman, William Hamilton in **1809**. This bottle was egg-shaped with a rounded bottom preventing the bottle from standing upright (**Fig. 1**). This shape came into general usage in **1840** – (**Fig. 2**) and was used until the end of the nineteenth Century (1899).



**(Fig.1) Hamilton bottle circa 1817**



(Fig. 2) 1809 cobalt-blue Hamilton soda or mineral water bottle

## Hamilton Bottles In Art

William Henry Hamilton Trood (1848-1899) was an artist, specializing in oil paintings of dogs. Schooled in England, his work is characterized in a highly finished, sympathetic quality with attention to detail. Two of his most famous paintings were painted in 1887 and involved *Hamilton soda water bottles* and dogs: “*Uncorking the Bottle*” (Fig. 3) and “*A Surprising Result,*” (Fig. 4).



(Fig. 3) William Henry Hamilton Trood, "Uncorking the Bottle," 1887



(Fig. 4) William Henry Hamilton Trood, "A Surprising Result," 1887

## Codd Bottle

The problem with the pointy-ended Hamilton bottle was its tendency to roll off counters or shelves. The problem was solved, in **1872**, with the invention of the Codd (*marble-in-the-neck*) bottle by Hiram Codd (1838-1887) – (Fig. 5) from Bury St Edmunds, Suffolk, England (Fig. 6).

Codd in his early working life became a mechanical engineer. At the age of 23 he worked as a salesman for the “*British and Foreign Cork Company*” where he recognized a need for better bottle filling machines and a new type of closure to alleviate the need for the very items he sold – corks.

In 1862 he conceived and patented a device for measuring the flow of liquids; in 1870 devised and patented a machine for filling bottles. To understand the mineral water trade better and to prove the worth of his



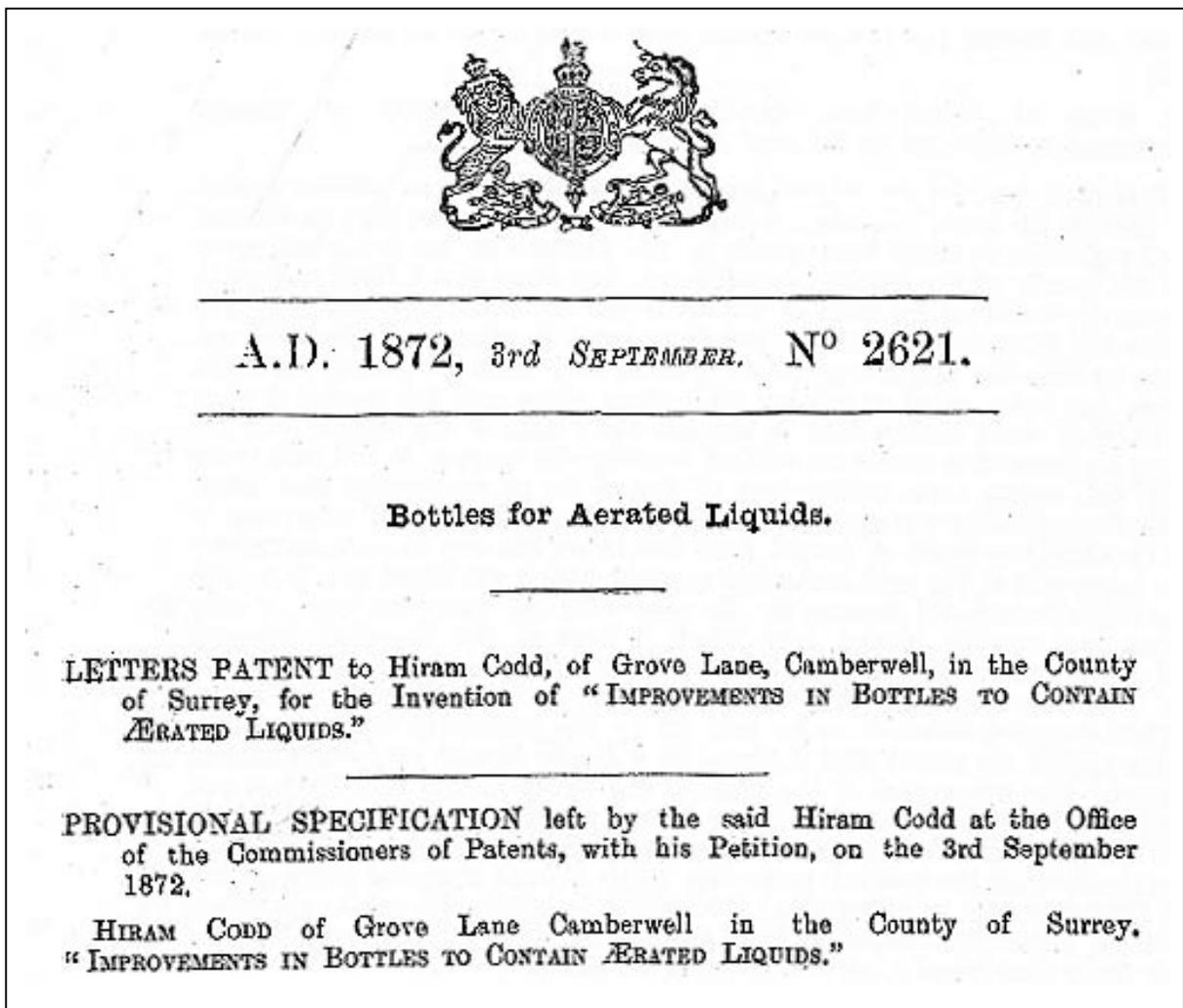
(Fig. 5) Hiram Codd  
1872 Patent bottle

inventions, he experimented at a small mineral water works in the Caledonian Road, Islington in London. A “letters patent” issued to him in November 1870 [Fig. 35] stated he was a soda water manufacturer living at 6 Park Place, Islington.

He pursued his idea of a glass ball stopper with bottle makers, to no avail but fortunately in 1872 Messrs. Alexander & Austin of Blaydon and W. Brooke of Hunslet showed an interest in his invention and it is there that the story of the Codd (marble-in-the-neck) bottle begins.



(Fig. 6) Hiram Codd



(Fig. 35) Letters Patent to Hiram Codd for "Bottles for Aerated Liquids"

Also in 1872 he was introduced to Richard Barrett, a printer, of Mark Lane, London, whose two sons owned the *Malvern Mineral Water Co.* at Grove Lane, Camberwell. Because of Barrett's sons' belief in Codd's invention Richard was induced to become a co-partner in all of Hiram Codd's business. This enabled Codd to continue his research into the globe (or marble) stopper idea and in particular the tool used to form the essential groove in the lip of the bottle and in 1873 he perfected the Codd bottle. He realized that inserting and capturing a marble in the neck of a bottle would provide a new and effective way of sealing mineral water and soda bottles without corks or external stoppers. His bottle used the effervescent pressure of the mineral water itself to force a marble against a rubber washer in the upper ring of the neck of the bottle. This made for a very efficient and durable seal. *[Some of these bottles have remained sealed for more than 100 years.]*

At first glance, Codd's idea appears brilliantly simple. However, like all things that look to be simple at first; the Codd bottle is much more ingenious than it appears. For instance, a way would have to be devised to keep the marble from stopping the bottle when it was tilted for pouring or drinking. Designing the neck of the bottle to keep the marble in its place while the bottle was tilted to one side solved this problem. Cleverly tipping the bottle to the other side allows the marble to re-seat itself after only a measured amount of fluid passes, limiting the drinker to one swig or drink. The bottle could easily be re-sealed by shaking it vigorously, and then tilting it upside down to cause the marble, under pressure, to re-seat itself over the mouth of the bottle.

### **Patent Information as it appears in the 1873 Letters Patent**

“Bottles for ærated liquids are now sometimes constructed with an internal stopper of a globular or other form which by the pressure of the gas is held up to a seat of vulcanized India-rubber in the mouth of the bottle. Now, my Invention consists in so constructing such bottles that when they are opened by forcing back the stopper, the stopper may not fall down into and impede the water way or channel by which the liquid is poured from the bottle but may be sustained above it in the upper part of the neck and there retained. The liquid as it is poured out of the bottle then flows freely beneath the stopper and without coming in contact with it so that the escape of the liquid is unimpeded. For this purpose projecting

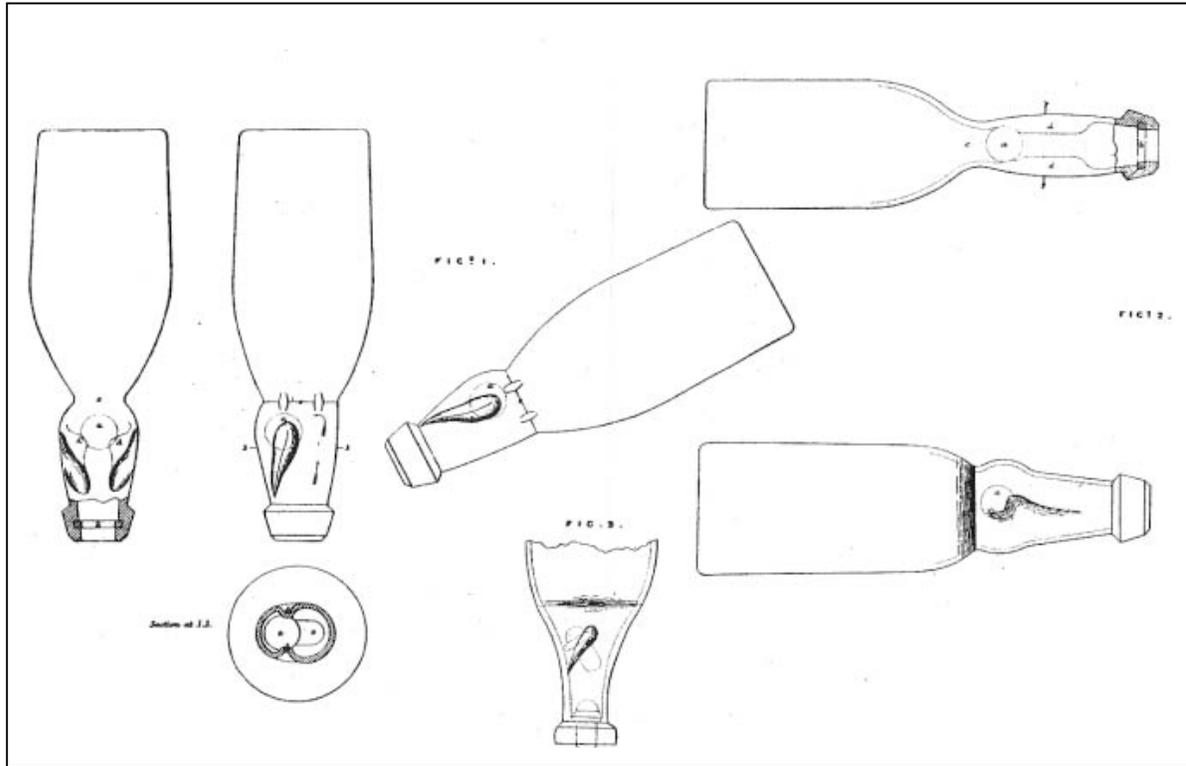
ridges along the inside of the neck of the bottle are formed one either side. The stopper is too large to fall between these ridges and they catch it when it is displaced so preventing it falling down into the waterway that is beneath the ridges. The projections are so inclined that when the stopper has been rolled or slidden [sic] back along them in opening the bottle the bottle may be nearly inverted without causing the stopper to fall back to its seat.

SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said Hiram Codd in the Great Seal Patent Office on the 3rd March 1873.

### **Patent application in Codd's own words:**

*This Invention has for its object improvements in bottles to contain aerated liquids. Bottles for aerated liquids are now sometimes constructed with an internal stopper of a globular or other form that by the pressure of the gas is held up to a seat at the mouth of the bottle. According to my Invention I form projecting ridges along the inside of the neck of the bottle one on either side - the stopper is too large to fall between these ridges and they catch it when it is displaced and guide it in its fall - the projections are so inclined that when in opening the bottle the stopper has been rolled or slidden [sic] back along them and has arrived at their lower end they form obstructions to impede the return of the stopper and the bottle may be inverted or nearly so without causing the stopper to fall back to its seat. By this means such bottles may if desired be so constructed that when opened by forcing back the stopper.*

*The stopper shall not impede the water way or channel by which the liquid is poured from the bottle but may be sustained above it in the upper part of the neck and there retained whilst (while) the liquid as it is poured from the bottle flows freely beneath it. In order that my Invention may be fully understood and readily carried into effect, I have in the Drawings hereunto annexed shown various examples of bottles formed according to my Invention - (Fig. 7) of the Drawings show various views of a bottle furnished with an internal ball stopper 'a' which is to be held up by the pressure of air or gas within the bottle against an elastic ring 'b' placed in a groove formed around the interior of the head. The lower part of the neck of the bottle is also contracted at 'c' as described in the Specification of a former Patent granted to me so as to prevent the ball stopper from falling into the bottle when it is pressed back from the elastic seat 'd, d' are the inclined projecting ridges formed along the inside of the neck of the bottle one on either side; the moulds in which the bottles are blown have suitable projections formed in them to produce these internal projections in the neck at the time when a bottle is blown in the mould.*



(Fig. 7) Original Codd bottle design

## Yearly License Fee

Mineral Water and Soda Water manufacturers who wanted to use Codd's bottles had to pay him a yearly fee for a license to use his patent bottle; by mid 1873 he had granted 20 and received a further 50 applications. This license arrangement was boosted further by a trade show held in London in the same year. By 1874 the license was offered free to bottle manufacturers as long as they purchased the marbles, sealing rings and used Dodd's patented groove tool solely, from him. It was also required that the mineral water firms they traded with had already bought a license from Codd to use his bottle. Codd had two factories in London solely producing marbles, one in Kennington and the other in Camberwell, which was run by F. Barrett, the son of Richard Barrett his financial backer.

## Invention of the term “Soda Pop”

Collector-historians continue to tell the story that flavored soda water got the popular nickname “soda pop” as a result of the “pop” that accompanied the opening of all *internally sealed* soda bottles including those sealed with corks. The most well known of soda water bottle at the time, in this category, was the Codd marble-stoppered bottle invented by Hiram Codd.

It may be true that internal stoppers help perpetuate the nickname, **but** Robert Southey, an English poet, is quoted as having said as early as 1812 while describing ginger ale, *“a nectar, between soda water and ginger beer, and called pop, because ‘pop goes the cork’ when it is drawn.”*

A recent discovery of interest to those interested in the origin of the term “soda pop” is a quote from Sigmund Freud (1856-1939) the Austrian originator of Psychoanalysis. The quote is from “The Passions of the Mind” an autobiography of Freud written in 1971 by Irving Stone. The book was based on the journals and other written materials of Freud. Dr. Freud said, recalling a picnic in the 1880s...  
*“... he returned with three bottles of raspberry-flavored soda. When the bottles arrived, we all three raised the thumb, with a simultaneous movement pressed sharply on the glass marble closing the neck. The marble submerged behind a loud pop after which we drank the cool and sweet soda.”*

While it was a common thing, in those early days, to use the thumb to open Codd bottles, there was an opener designed to specifically by Codd do the job without ending up with a sore thumb. It was called simply a “Codd Bottle Opener” (**Figs. 8; 9; & 10**).



(Fig. 8) Codd Bottle Opener



(Fig. 9) Codd Bottle Opener



(Fig. 10) Codd Bottle Opener

## Codd Bottle Openers

Other inventors modified Codd's own patented opener but in all cases, the marble would drop, opening the bottle. Codd's openers were made of boxwood, lignum vitae or sycamore (**Fig. 11**); some with corkscrews (**Fig. 12**). Some of these openers had a red rubber pad on the cone (plunger) that prevented slippage while being used. Other openers (**Fig. 13; 14 & 15**) were widely used in public settings; but privately most people simply used their little finger to push the marble down. This habit was one of the reasons why only a few Codd bottles were ever popular in the United States. (*See the Appendix 1 for a complete listing and description of the 68 known American Codd-stoppered bottles.*)



(Fig. 11) Codd Opener (inside)



(Fig. 12) Openers (a) Codd bottle (b) Corkscrews for wine bottles



(Fig. 13) Codd openers wit#E5815



(Fig 14) Codd opener & corkscrew



(Fig. 15) "Coney's Patent" Codd Opener

Because Americans were too impulsive to wait to find a proper opener, they used the finger-opening method almost exclusively. This worked for those with clean fingers, but for the many who worked at tasks that caused their hands to be dirty, using a dirty finger was repulsive. As a result, American bottling companies, not wanting to risk

accusations of spreading germs, turned to different internal stoppers more suited to the American taste and lifestyle.

However, Codd's invention was so successful in England that it was adopted by nearly all the English mineral water and soda pop manufacturers of the time. Eventually all bottles sealed by a marble became known as Codd bottles, regardless of their manufacturer, design or color.

## London Bottle Exchange

In 1880 Codd instigated the idea of a bottle exchange in London, this was slow to start but eventually caught on not only in London but also all over the country. So now many thousands of empty bottles could be returned to their rightful owners via the bottle exchanges, which charged a small fee on each bottle for providing this service – 1 penny per gross of 144.

Success of the bottle exchange was based on the fact that Codd bottles not returned or broken on purpose for their marbles were the causes of many factory owners going broke. The Codd bottle was an expensive bottle to manufacture. It had to be made in three parts, the bottom, neck and marble as well as having a groove near the mouth for a rubber washer to fit so the bottle would be leak proof when the marble was held against it by internal pressure. The washers had to be frequently renewed (replaced) as the old ones perished.

The Codd bottle cost between four and five pence each and that was rather expensive in those days. As there was no deposit on bottles there was no incentive to return the bottles when empty. The bottle contained a good marble, much prized as a toy by children who liked to play marble games [Fig. 27]. So any bottle unfortunate enough to fall into the hands of small boys or girls (and often large ones) ended up as broken glass.



(Fig. 27) Codd bottle & marbles

As the contents were sold for between 1 ½ to 2 ½ pence and the margin of profit was about one penny, each bottle had to be used quite a few times before it showed a profit to the owner. Unfortunately for the owner, many bottles did not make it.

### Anti-theft Cods

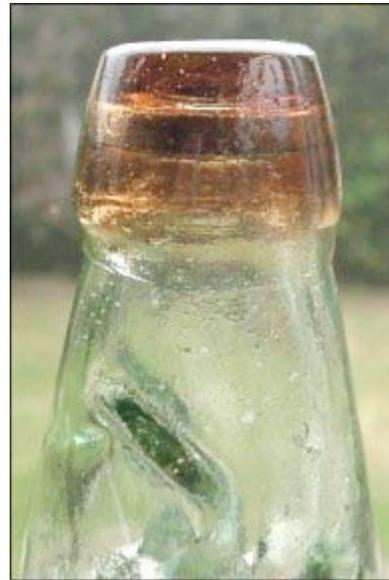
While it is well known that Hiram Codd invented the marble-stoppered soda pop bottle named after him, it is not well known who added a colored applied tool lip to Codd bottles. Dan Ryland patented the colored lip, in **1891**. Dan and his family were glassmakers who owned and operated the famous *Ryland & Sons*, glasshouse in England. The Rylands were responsible for many interesting improvements to Codd's idea. The Rylands introduced the "**anti-theft**" Codd. This was an aqua bottle whose top or lip was made of a colored glass to identify one particular company. Thanks to Dan Rylands, bottle collectors can find Cods with blue (Fig. 16), amber, brown, green and even red lips (Fig. 17a & 17b)!



(Fig. 16) Blue-Lip Codd Bottles



(Fig. 17a) Red-lip codd bottle



(Fig. 17b) Codd bottle  
red#E580E

The colored lips on Codd bottles had a purpose that is explained within the following extract from the 1889 *Ryland & Sons* catalogue:

*“One of the greatest grievances of a large mineral water or soda pop manufacturer at the present day is the continual loss of bottles, quantities of which are either stolen or resold by hawkers, or accidentally mixed with those of other manufacturers of the same town. We have therefore obtained a patent for coloring certain portions of any bottle, by which means a mineral water manufacturer can detect his bottles at a considerable distance, without the trouble of having to look whether his name is engraved [embossed] on the bottle. To accomplish this object we make the mouth [lip] of the bottle any of the colors mentioned below, the remaining portion of the bottle being of ordinary pale glass. Of course we shall be at liberty to make any color for different makers, but on no account shall we use the same color for two makers in any one district. The usual colors available are **blue**, **amber** and **green**, for the price for the colored mouths [lips] being 2 shillings per gross in addition to the ordinary price.”*

Colored lips on Codd bottles unfortunately didn't really catch on with soda and mineral water bottlers so compared to standard plain aqua bottles, colored-lip bottles are quite hard to find and sell for more than their aqua counterparts in the collector marketplace.

Other manufacturers produced Codd's with colored marbles (**Fig. 18**). Still other glass manufacturers provided Codd's whose glass was all a color other than aqua. These colors include amber (**Figs. 19**), brown (**Fig. 20**), all shades of green (**Fig. 21a & 21b**), black glass (**Fig. 22**), sun-colored (purple) (**Fig. 23**), and even clear glass (**Fig. 24**). The Holy Grail for any Codd collector would have to be cobalt blue Codd bottles (**Fig. 25**). Few companies used these and if available they usually change hands today for **several-thousand-dollars**.



(Fig. 18) Codd bottles with green marble stoppers



(Fig. 19) Amber Globe Codd



(Fig. 20) Brown Codd bottle



(Fig. 21a) Green Codd Bottle



(Fig. 21b) Rare Green Codd \$300



(Fig. 22) Black Glass Codd



(Fig. 23) Suncolored Codd bottle w-blue marble



(Fig. 24) Clear glass "Heart" patent codd (1895)



(Fig. 25) Cobalt blue Codd

Many collectors prefer the color of the bottles or colored-lip Codd's. Others prefer the crazy patent Codd's – the ones with strange necks, funny shaped marbles or even valves to release the gas pressure!

Unusual embossments on Codd bottles are of interest (Figs. 26a & 26b).

Many Codd-style bottles are copies or variations of the original bottle designed by Hiram Codd in 1872.

Over a span of 60 years (until the 1930s), Codd and his competitors continued to improve on both the design and the beauty of the bottle. They produced bottles of different sizes and some with oddly designed necks. Identifying an original Codd bottle, or even one made by a specific competitor, became extremely difficult. Recall some bottle manufacturers attempted to label their Codd bottles by making them in unique colors, or with a specifically colored marble or bottle lip.



(Fig. 26a) Beer Bottle with embossed Codd bottle



(Fig. 26b) Beer Bottle with embossed Codd Cottle (close-up)

The diversity of Codd-style bottles and the limited time they were produced make collecting them a difficult challenge. Adding to that difficulty, as already pointed out, young children often broke the bottles to get the marble out (Fig. 27) photo of bottle and marbles.



(Fig. 27) Codd bottle & marbles

While collecting Codd (marble-in-the-neck) bottles is still economically possible, with prices for some common bottles being less than \$25, purchasing a cobalt blue Codd bottle, as already indicated, may cost several thousand dollars. In those earlier days, cobalt blue was generally a color reserved for bottles containing poisons, and a smart mineral or soda water bottler would have avoided using bottles of this color. It's estimated that fewer than a thousand different cobalt blue Codd bottles were produced.

Codd-style bottles were sold throughout Europe and Asia, but as bottle manufacturers became more sophisticated and standardized their products, the way was open for development of the various external stoppers and caps used in most of the world (Fig. 28).



(Fig. 28) Shelf of Codds

Over time the Codd bottle, with its strangely shaped neck and eye-catching marble, became just another artifact and collector's item in most countries but as shall be shown in some places the Codd bottle is still being used (See Part B).

## CODDSWALLOP

The Codd bottle also gave its name to a well-known English phrase – “*CODDSWALLOP*.” This was a sarcastic reference to what was inside the bottle. No self-respecting beer-swilling gent would be seen dead with a bottle of “*CODDSWALLOP*” (soda pop)!

Many Codd bottles were exported and so can be found in South Africa, Australia, New Zealand, and to other countries. The idea of Codd bottles never caught on very much in the USA where the Hutchinson patent was king of the mineral water trade until replaced by the Crown cork.

For those interested reproduced here in this article as **Appendix 1**, is a listing and discussion of the 68 currently known “**American Codd Bottles**” and pertinent information about each.

## Other Codd Bottles

One of the oldest Codd bottles of all, the egg ended ovate bottle has its devotees - these can also be found in colors, with colored lips and in patent forms. There are a huge number of "internal stoppers" all invented between 1860 and 1890. These have all manner of strange devices inside them to replace the humble cork - from big plugs of wood to rubber balls, from glass stoppers to porcelain bullets. In England it has been reliably estimated there are 250 relevant patents registered between 1868 and 1907; these includes lips, washer fittings, manufacturing tools, openers and filling methods. Codd bottles were generally manufactured in two sizes and capacity – 10 oz and 6 oz (splits) and with variations of closures. One can find “Dumpy” Cods, “Jumbo” Cods, even “Giant” Cods whose capacities are all different.

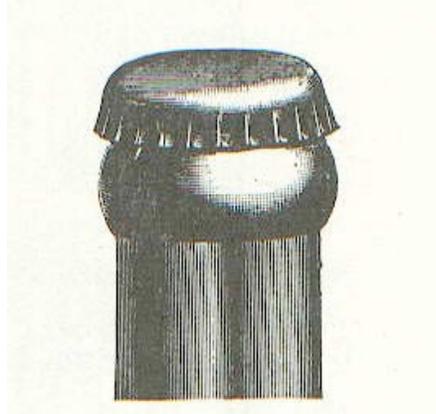
Most of these came in aqua but colored varieties exist and are enthusiastically sought. Many collectors of Codd bottles will also collect the other Codd bottles of unusual shapes, sizes and closures.

In England the internal screw cap (Fig. 29) was to replace many of the other strange bottles types gradually from the turn of the 20<sup>th</sup> century. Some companies did favor the “Crown Cork” (Fig. 30) but it did not take over the industry in England, as was the case in Australia and the US.



(Fig. 29) bottle closure with inside threads

Original Codd bottles made during the 19<sup>th</sup> and 20<sup>th</sup> centuries are available in huge numbers but the bottle design itself is still in a stage of evolution.



(Fig. 30) Crown Cork (cap) closure

*[As will be shown in the next section, both Japan and India surprisingly still use Codd bottles today and have since 1840.]*

## PART B

Now (21<sup>st</sup> Century)

### Codd Bottle Survives and Thrives

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#### Ramune

In Japan the Codd bottle was still being used as the 20<sup>th</sup> century overtook and became the 21<sup>st</sup> century. It survives and thrives according the following **anonymous**

source as: ラムネ

*“Ramune (ラムネ) is the name given to a group of popular carbonated soft drinks sold in Japan. They are widely known for the distinctive design of their bottle, which are also called “codd-neck” bottles after their English inventor Hiram Codd who first conceived the quirky design in 1872. They are made of glass and sealed with a glass marble; the marble is held in place by the pressure of the drink. To move the marble a special opening device is provided with the bottle. The marble is pushed inside the neck of the bottle where it rattles around while drinking. Two little glass nodes inside the bottle allow the drinker to hook the marble in place while drinking. Japanese people find it amusing to watch foreigners drinking Ramune, as it takes practice to learn to stop the marble blocking the flow of drink.*

*Other than the design of the bottles, the drinks’ flavor is otherwise quite conventional, largely resembling other carbonated lemon-lime sodas.”*

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RAMUNE (“**RAH-moo-nay**”), as the research above indicates, is a generic name that was given to a group of carbonated soft drinks in Japan that were invented in 1876 by a Scottish expatriate, Alexander Cameron Sim (1840-1900). He was a pharmacist like many of history’s soft drink inventors. His drink was based on lemonade and called *Ramune* in Japan (**Fig. 31**).



**(Fig. 31) Contemporary Codd bottles filled w-lemonade**

Sims also founded the Kobe (Japan) Regatta & Athletic Club in 1870. Today the soft drink is manufactured by a number of firms in Japan. It originally came in nine flavors: *lemon-lime; pineapple; raspberry; kiwifruit; melon; strawberry; orange; lychee;* and *peach*. Today there are even more flavors including *Disco Dance, Blue Hawaii, bubble gum,* and *octopus* (**Fig. 32a; 32b; & 32c**).



(Fig. 32a) Some Ramune products



(Fig. 32b) Ramune-soda-pop

According to yet another **anonymous** source, this one from America, who is a bit more tongue-in-cheek and lighthearted in his appraisal of Ramune:

*“Americans, in addition to being greedy, shortsighted, dim-witted and chubby, are boring. We, for instance, prefer our carbonated beverages to arrive with twist-off tops in basic plastic bottles. In faraway places like Japan and India, however, they do it differently. Take Kamata Shoten brand Ramune soda flavored with lychee. Spy it at your favorite beverage store and there's no way in heck you're not buying a bottle.*

*“Ramune comes in a glass decanter shaped like an alien, with two big indentations in the head as eyes and a sturdy, cylindrical body below. It looks like a sex toy. The bottle holds a scant 6.7 ounces of clear liquid and its top is wrapped with plastic, on which is a diagram that explains how to open it. Duh, we think to ourselves, we know how to open bottles. You twist the top.*

*“That doesn't work. We fiddle with the top some more. It's silver, and what seems to be some sort of glass stopper is plugging the mouth hole. We twist harder, but the lid isn't budging. We stick it in our mouth and try and bite it off. Ouch. Is this a joke? We retrieve the instructional diagram from the trash. Apparently it has something to do with a plastic "tool" that we discarded. We try using our teeth again. Ouch! No luck.*

*“Then, in desperation, we poke the tool into the glass marble thing, and with a pop, a clear fizzy drink pours all over our lap as the glass-stopper is revealed to be a marble, and it drops down into the drink. How cool is that? The alien head's neck is thin, so the marble sits suspended in the head rather than falling all the way to the bottom of the bottle.”*

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## Hello Kitty Ramune

“**Hello Kitty**” (ハローキティ **Harō Kiti**<sup>?</sup>), is a fictional animated character produced by the Japanese company Sanrio and designed by Ikuko Shimizu a famous animator (**Fig. 33**). Her first appearance on an item, a vinyl coin purse, was introduced in Japan in 1974 and brought to the United States in 1976. Shortly after that she was placed on many products including **her own Ramune soda bottle (Fig. 34)**. According to one reviewer:



(Fig. 33) Hello Kitty



(Fig. 34) "Hello Kitty" 6-6oz  
Ramune Soda Bottle

*“The character is portrayed as a female white cat with a red bow and no drawn mouth. Supposedly she lives in London, England with her parents and twin sister. The Hello Kitty line has since developed licensing arrangements worth more than \$1 billion a year in sales. Examples of products depicting the character include dolls, stickers, greeting cards, clothes, accessories, school supplies, dishes and home appliances. Hello Kitty has an official theme park, Sanrio Puroland that opened in 1990.*

*“Hello Kitty Ramune soda marketed in a Codd (marble-in-the-neck) soda water bottle, shown above. The ingredient list for this lychee-flavored Ramune is pretty simple: sugar, glucose and fructose are the top three ingredients. From there, the rest are acids and flavorings. Not much to it, and the first sip confirms that Ramune soda is for the kids, not adults. It's for the anime [animation] set, with its stylish bottle, doe-eyed demeanor and saccharine taste. Tip the bottle and the marble rolls up toward the spigot, which gets problematic as the liquid is consumed -- the marble rolls up and plugs the opening.*

*“And the lychee? Well, no. No real lychee flavor to be found anywhere. It's more like cream soda, sweet and spineless. If you're not a fan of sugared carbonated beverages, you'll hate this. But really, who cares what it tastes like? Ramune isn't about substance. It's about style, about form over function, about superficiality and appearances -- all of which makes one wonder why Americans haven't gone nuts for the Ramune lychee-flavored soft drink.”*

Speaking about Hello Kitty Ramune, a young Japanese fan of the lemon-flavored soda purchased a bottle and recorded her experience in drinking it:

*“Drinking it wasn't as easy as I thought. I had to ask help from someone with a bit more strength to pop the marble stopper. Because the first bottle was such an interesting experience for me (my boyfriend and I couldn't stop talking about the drink and the bottle design), I decided to document my next bottle.”*

[Figs. 36 through 41 is the photographic results of the effort, – plus a cartoon strip, APPLGEEKS LITE – by the very popular artists Mohammad Haque and Ananth Panagariya (Fig. 42).]



(Fig. 36) Ramune01



(Fig. 37) Ramune02



(Fig. 38) Ramune03



(Fig. 39) Ramune04



(Fig. 40) Ramune05



(Fig. 41) Ramune06

**APPLEGEEKS LITE 271**



(Fig. 42) Ramune07 cartoon showing how to open a bottle

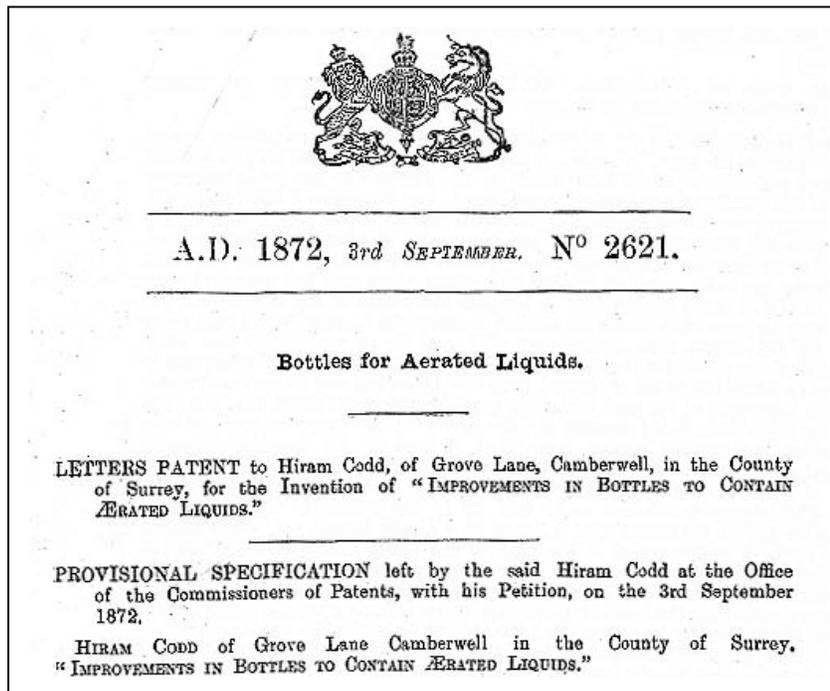
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## Banta

In India, **Banta** is a favorite soft drink and it is marketed in the distinctively designed Codd Bottle, (“**Banta-wali**”). Like Japan’s **Ramune**, the soda pop, true to its Scottish heritage is a lemon-flavored (nimbu-pani) beverage made locally. Available in multiple lemon based flavors, Banta is delicious and refreshing, especially in the hot Indian summers. Since it is made locally, the average cost is much cheaper than a Pepsi or a Coke and that partially accounts for its popularity.

Large professional glass companies manufacture the Japan version of the Codd bottle that contains **Ramune**. Small local glass companies manufacture the Indian version of the Codd bottles that contain **Banta**.

Both (marble-in-the-neck) designs are the same NOW – 178 years after Codd invented the bottle – as they were THEN – in 1872 when they were first designed, patented, and first produced under Hiram Codd’s *Letters Patent for a bottle to contain Aerated Liquids* (Fig. 35).



(Fig. 35) Letters Patent to Hiram Codd for "Bottles for Aerated Liquids"

# # # # #

... finis ...

## Appendix: 1

# American Codd Bottles

Courtesy

**Tod von Mechow**  
**Pennsylvania State University**  
**Information Technology Services**

*United States*

*California*

## **Bakersfield, California**

### **Condict, Henry F. Pre-1880 - 1920+**

52208AB      Embossed: (1) H. F. CONDUCT / BAKERSFIELD //  
Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known  
Notes: Details are not known.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## **Los Angeles, California**

### **James, J. William Pre-1888 - 1891**

52206AA      Embossed: (1) J. W. JAMES / PURE MINERAL WATER / (2) LOS ANGELES //  
PATENT / (1) SAFE GROOVE / SOLE MAKER / (2) DAN RYLANDS / (2)

BARNSELY /// b // (monogram)

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Safe Groove Marble Stopper, Hand Blown, Circ: 1888-91

### **Stoll, Henry W. 1875 - 1884**

51753AC Embossed: H. W. STOLL / LOS ANGELES // c //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Details are not known.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-84

## **Riverside, California**

### **Riverside Soda Works Pre-1890 - 1897**

53428AA Embossed: (1) RIVERSIDE WORKS // c //

Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1890-97

## **San Diego, California**

### **California Gazosa Works**

54314AA Embossed: (1) CALIFORNIA GAZOSA WORKS / NET. CONT. / 7 FLU. OZ. / \_\_\_\_ .  
\_\_\_\_ / MADE IN ITALY (all in plate) //

Bottle: Glass, Codd Bottle, 2 leaf, 7 7/8 x ?, Plate Mold Code: Unknown

Notes: two indents in the neck.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## *District of Columbia*

## **Washington, District of Columbia**

### **Bridwell, M. T.**

WDCB-0080 Embossed: (1) M. T. BRIDWELL / 351.M.ST S. W. / (2) WASHINGTON / D. C. // (1)  
CODD'S PATENT / REISS / AUG 15TH 1878 / H. CODD & CO. / 25 PARK ROW /  
NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The "T" in "ST" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## *Florida*

## **Pensacola, Florida**

### **Hudson, William 1877 - 1900**

- PSB-02.1 Embossed: (1) WILLIAM HUDSON / (1) REGISTERED / (2) ACCORDING TO LAW / (2) PENSACOLA FLORIDA / H. CODDS PAT JULY // 23' 72 & APR 29' 73 // // b // (1) H. CODD. PAT. / (2) 1872 & 73  
Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?  
Notes: Older style Codd neck.  
1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1877-81
- PSB-02.2 Embossed: (1) WILLIAM HUDSON / (1) REGISTERED / (2) ACCORDING TO LAW / (2) PENSACOLA FLORIDA / H. CODDS PAT JULY // 23' 72 & APR 29' 73 // // b // (1) H. CODD. PAT. / (2) 1872 & 73  
Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?  
Notes: Newer style Codd neck and no indentation in base.  
1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1877-81
- PSB-02.3 Embossed: (1) WILLIAM HUDSON / (1) REGISTERED / (2) ACCORDING TO LAW / (2) PENSACOLA FLORIDA // c // // b // (1) H. CODD. PAT. / (2) 1872 & 73  
Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?  
1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1877-81

## *Hawaii*

### **Honolulu, Hawaii**

#### **Consolidated Soda Water Works Company Ltd. 1894 - 1918+**

- HBLA-026 Embossed: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) CONSOLIDATED / SODA WATER / WORKS Co LTD / (2) HONOLULU H.I. // (1) ACME PATENT / 4 / (2) SOLE MAKER / (2) DAN RYLANDS / BARNESLEY //  
Bottle: Glass, Codd Bottle, 3 leaf, 8 1/4 x ?  
Notes: The "R" in "RD", the "o" in "Co" and the "TD" IN "LTD" are raised and underlined.  
1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Acme Patent Codd, Hand Blown, Circ: 1894-1900

#### **Hollister & Company Pre-1868 - 1893**

- HBLA-216 Embossed: (1) HOLLISTER & Co. / (2) HONOLULU / H. I. / THE NIAGARA BOTTLE RD 65433 // BARNETT & FOSTER MAKERS LONDON'N //  
Bottle: Glass, Codd Bottle, 2 leaf, 8 3/4 x ?  
Notes: Makers information is embossed around the base rim of the bottle.  
1. Aqua, Smooth Base, Long Tapered Collar, Niagara Codd Stopper, Hand Blown, Circ: 1893-94

#### **Palmer, John A. 1883 - 1888**

- HBLA-058 Embossed: (1) CRYSTAL / SODA / WORKS // THE (1) NIAGARA BOTTLE / BARNETT & FOSTER / MAKERS / (2) LONDON'N / RD 65433 // // b // J. A. P.  
Bottle: Glass, Codd Bottle, 2 leaf, 8 3/4 x ?  
Notes: The "D" in "RD" is raised.

1. Aqua, Smooth Base, Long Tapered Collar, Niagara Codd Stopper, Hand Blown, Circ: 1887-88

### **Tahiti Lemonade Works Company 1892 - 1894**

HBLA-294 Embossed: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) TAHITI / LEMONADE / WORKS COMPANY / (2) HONOLULU. H. I. // PATENT / (1) RYLANDS VALVE / 4 / (2) SOLE MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 3 leaf, 9 1/4 x ?

Notes: The "D" in both "RD"s is raised and underlined. There is a valve hole and stopper on the neck of the bottle to release the pressure of the charged water when opening.

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Valve Codd, Hand Blown, Circ: 1892-94

HBLA-295 Embossed: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) TAHITI / LEMONADE / WORKS COMPANY / (2) HONOLULU, H. I. // (1) ACME PATENT / 4 / (2) SOLE MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 3 leaf, 8 1/2 x ?

Notes: The "D" in both "RD"s is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Acme Patent Codd, Hand Blown, Circ: 1892-94

### **Sunny South, Hawaii**

#### **Tahiti Lemonade Works 1885 - 1892**

HBLA-281 Etched: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) TAHITI LEMONADE WORKS / (2) SUNNY SOUTH // PATENT / (1) RYLANDS VALVE / 4 / SOLE MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 3 mold, 9 x ?

Notes: Etched on front and embossed on back and shoulder. The "D" in both "RD"s are raised and underlined. There is a valve hole and stopper on the neck of the bottle to release the pressure of the charged water when opening.

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Valve Codd, Hand Blown, Circ: 1888-89

HBLA-282 Etched: (1) TAHITI LEMONADE WORKS / (2) SUNNY SOUTH // (1) RYLANDS BULB / MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/2 x ?

Notes: Etched on front and embossed on back. Unlike HBLA-283, the "R" in "RYLANDS" is directly above the "R" in "BARNESLEY."

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Bulb Codd, Hand Blown, Circ: 1885-86

HBLA-283 Etched: (1) TAHITI LEMONADE WORKS / (2) SUNNY SOUTH // (1) RYLANDS BULB / MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/2 x ?

Notes: Etched on front and embossed on back. Unlike HBLA-282, the "R" in "RYLANDS" is not directly above the "R" in "BARNESLEY."

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Bulb Codd, Hand Blown, Circ: 1886-87

HBLA-288 Etched: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) TAHITI LEMONADE WORKS / (2) SUNNY SOUTH // (1) RELIANCE PATENT / SOLE

MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 3 leaf, 9 1/4 x ?

Notes: Etched on front and embossed on back and shoulder. The "D" in "RD" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Acme Patent Codd, Hand Blown, Circ: 1887-88

HBLA-289 Embossed: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) TAHITI  
LEMONADE WORKS / (2) SUNNY SOUTH // PATENT (1) RYLANDS VALVE / 4 /  
SOLE MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 3 leaf, 9 1/4 x ?

Notes: There is a valve hole and stopper on the neck of the bottle to release the pressure of the charged water when opening. The "D" in "RD" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Valve Codd, Hand Blown, Circ: 1889-91

HBLA-290 Embossed: // s // (2) TRADE MARK / RD // (2) TRADE MARK / RD // (1) TAHITI  
LEMONADE WORKS / (2) SUNNY SOUTH // PATENT (1) RYLANDS VALVE / 4 /  
SOLE MAKER / (2) DAN RYLANDS / BARNESLEY //

Bottle: Glass, Codd Bottle, 3 leaf, 9 x ?

Notes: The "D" in "RD" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Rylands' Valve Codd, Hand Blown, Circ: 1889-91

## *Illinois*

### **Rock Island, Illinois**

#### **Carse & Ohlweiler Pre-1873 - 1920+**

50734AA Embossed: (1) CARSE & OHWEILER / ROCK ISLAND / ILL // H. CODD PAT / 1872  
& 1873 //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

50734AC Embossed: (1) CARSE & OHWEILER / MINERAL WATER / ROCK ISLAND / ILL //  
H. CODD PAT / 1872 & 1873 //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Details are not known.

1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown

50734AD Embossed: TRADE / C&O / MARK / ROCK ISLAND / ILL // (1) COODS PATENT / 4 /  
(2) MAKERS / (2) RYLAND & CODD / (2) BARNESLEY //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Details are not known.

1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## *Iowa*

### **Davenport, Iowa**

**Hill & Witt 1874 - 1879**

53295AB Embossed: (1) HILL & WITT / DAVENPORT / IOWA. / H. CODD PAT. / JULY 23 & APRIL 29 // 1872 & 1873 //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

1. Aqua, Smooth Base, Rounded Taper, Codd Glass Ball Stopper, Hand Blown, Circ: 1877-79

**Witt, Henning J. 1879 - 1885+**

53296AB Embossed: (1) H. J. WITT / DAVENPORT / IOWA. / H. CODD PAT. / JULY 23 & APRIL 29 // 1872 & 1873 //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Made from an altered Hill & Witt mold.

1. Aqua, Smooth Base, Rounded Taper, Codd Glass Ball Stopper, Hand Blown, Circ: 1879-83

*Maryland***Baltimore, Maryland****Miles, A. S. Pre-1883 - 1888+**

52785AA Embossed: (1) A. S. MILES / BALTIMORE / MD. / 1872 & 1873 // H. CODD PAT //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1882-83

*Massachusetts***Athol, Massachusetts****Funk, A.**

50904AA Embossed: A. FUNK / ATHOL / MASS. // c //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

1. Clear, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1905-15

**Boston, Massachusetts****Gove, Charles S., Company 1885 - 1925+**

51500AA Embossed: REGISTERED / (/) CHARLES S (\\) GOVE & CO / (\\) NO. 30 CANAL (/) STREET, BOSTON (all in diamond containing) (1) SPARKLING / WATERS / CSGCo (monogram) // c //

Bottle: Glass, Codd Bottle, 2 leaf, 8 3/16 x ?

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1900-15

51500AB Embossed: (1) REGISTERED / (1) CHAS. S. COVE & CO. / (2) BOSTON, MASS. // CSG (monogram) //

Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## **Great Barrington, Massachusetts**

### **Pruyn, Robert T. 1895 - 1904**

53983AA Embossed: (1) GREAT BARRINGTON / REGST-D / BOTTLING WKS / (1) R. T. PRUYN / MASS. (all in tombstone plate) //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Details are not known.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## **Lawrence, Massachusetts**

### **Curran & Joyce**

53947AA Embossed: (1) CURRAN & JOYCE / (2) LAWRENZE, MASS // c //

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/2 x ?

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## *New York*

## **New York, New York**

### **Codd, Hiram, & Company Pre-1875 - 1885+**

51550AA Embossed: No 1 (in motif of five pointed star) // (1) CODDS PATENT / (1) REIS. AUG 13TH 1878 / MAKERS / (2) RYLANDS & CODD / BARNESLEY / 4 / H. CODD & CO / NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, 8 x 2 3/8 (4)

Notes: The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-85

51550AB Embossed: No 52 (in motif of five pointed star) // (1) CODDS PATENT / (1) REIS. AUG 13TH 1878 / MAKERS / (2) RYLANDS & CODD / BARNESLEY / 4 / H. CODD & CO / NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?

Notes: The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-85

51550AC Embossed: No 66 (in motif of five pointed star) // (1) CODDS PATENT / (1) REIS. AUG 13TH 1878 / MAKERS / (2) RYLANDS & CODD / BARNESLEY / 4 / H. CODD & CO / NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?

Notes: The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-85

51550AD Embossed: No 51 (in motif of five pointed star) // (1) CODDS PATENT / (1) REISSUED AUG 13TH 1878 / (2) H. CODD & CO. / (2) 23 PARK ROW / NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-85

51550AE Embossed: (1) CODD'S PATENT / (circle containing) (in motif of five pointed star containing) No 1 / (2) REIS. AUG 13 1878 // c //

Bottle: Glass, Codd Bottle, 2 leaf, 7 3/4 x ?

Notes: The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-85

51550AF Embossed: No 65 (in star motif) // (1) CODD'S PATENT / PAT. APRIL 29, 1873 / (1) SOLE AGENTS H. CODD & CO. / 22 COMMERCE ST. / (2) NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/2 x 2 3/8

Notes: The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1875-85

51550AG Embossed: PATENT APRIL 29TH, 1873 // c // // b // No 90 / (2) PATENT

Bottle: Glass, Codd Bottle, 2 leaf, 9 x ?

Notes: Details are not known. The "o" in "No" is raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1875-85

51550AH Embossed: No 52 (in motif of five pointed star) // (1) CODD'S PATENT / PAT. APRIL 25TH 1873 / SOLE AGENTS / (2) H. CODD & Co / 22 COMMERCE ST / NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The "TH" in "25TH" is raised. The "o" in "Co" and the "T" in "ST" are raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

51550AI Embossed: No 52 (in motif of five pointed star) // (1) CODD'S PATENT / REISSUED AUG 13TH 1878 / (2) H. CODD & CO. / 23 PARK ROW / NEW YORK //

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/4 x ?

Notes: The "o" in "No" and the "TH" in "13TH" is raised and underlined.

1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown

51550AJ Embossed: H. CODD & CO. NEW YORK // RE-ISS. AUG 13TH 1878 // // b // (1) CODD'S / No 90 / (2) PATENT

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The "o" in "No" is raised and underlined.

1. Blue, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

### **Schoneberger & Lighte Pre-1875 - 1880**

53602AA Embossed: (1) THIS BOTTLE NOT TO BE SOLD / (1) SCHONEBERGER & LIGHTE / 18 & 20 / JACKSON ST / N. Y. (all in round plate) / AUG 1873

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known, Plate Mold Code: Unknown

Notes: Details are not known.

1. Aqua, Smooth Base, Rounded Taper, Codd Glass Ball Stopper, Hand Blown, Circ: 1875-78

53602AB Embossed: (1) SCHONEBERGER & LIGHTE / (1) 18 & 20 / JACKSON ST / (2) N. Y. (all in round plate) // (1) CODD'S / (1) REIS / (2) AUG 13 '78 / (2) PATENT (all in doughnut) / (2) THIS BOTTLE NOT TO BE SOLD //

Bottle: Glass, Codd Bottle, 2 leaf, 9 1/2 x 2 7/8 (5 1/2), Plate Mold Code: Unknown

1. Aqua, Smooth Base, Rounded Taper, Codd Glass Ball Stopper, Hand Blown, Circ: 1878-80

### **Tonjes, Henry, & Company**

53317AA Embossed: (1) HENRY TONJES & CO. / 334 EAST 31ST ST / NEW YORK // THCo (monogram) / REGISTERED //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Details are not known. The "ST" in "31ST" are raised.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1880-90

### **Yonkers, New York**

#### **Smith, D. H.**

51494AA Embossed: (1) D. H. SMITH / YONKERS / NEW YORK (all in banner) / THIS BOTTLE // (1) CODD'S PATENT / (2) H. CODD & CO. / 22 COMMERCE ST. / NEW YORK / NOT SOLD // // b // D. H. S

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/4 x 2 1/4 (4 1/2)

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1895-1905

51494AB Embossed: (1) D. H. SMITH / YONKERS / NEW YORK (all in banner) // c // // b // D. H. S.

Bottle: Glass, Codd Bottle, 2 leaf, 8 x 2 1/2 (4)

Notes: Aqua marble in neck.

1. Clear, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1905-15

## *Ohio*

### **Cleveland, Ohio**

#### **Brough Mineral Water Company, The**

53124AA Embossed: (1) THE BROUGH MINERAL WATER Co / (oval containing) (monogram) / (motif of honey bee) / (2) CLEVELAND OHIO (all in oval) // (1) BRATBY & HINCHLIFFE / LONDON & / MANCHESTER //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The "o" in "Co" is raised and underlined. Details are not known

1. Light Greenish Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1890-1900

### **Kettering, Ohio**

**James & Son**

- 53984AA Embossed: (1) JAMES & SON / KETTERING / OHIO //  
 Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known  
 Notes: Details are not known.  
 1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

***Pennsylvania*****Lancaster, Pennsylvania****Kiehl, George A.**

- 51034AB Embossed: (1) GEORGE A. KIEHL / (1) REGISTERED / (2) ACCORDING TO LAW / (2) LANCASTER / PA // c // // b // H CODD PAT / 1872 & 73  
 Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known  
 1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1875-80
- 51034AE Embossed: (1) GEORGE A. KIEHL / (1) REGISTERED / (2) ACCORDING TO LAW / (2) LANCASTER / PA / H. CODD'S PAT. JULY 23 '72 // & APR 29 '73 // // b // H CODD PAT / 1872 & 73  
 Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known  
 1. Aqua, Smooth Base, Rounded Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1875-80
- 51034AF Embossed: (1) REGISTERED ACCOURDING TO LAW / (2) ~ . ~ (all in doughnut containing) G<sup>o</sup> A KIEL / LANCASTER / PA. // (1) CODD'S PATENT / RE-ISS AUG 13 1878 / H. CODD & Co / 25 PARK ROW / (2) NEW YORK //  
 Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known  
 Notes: The "o" in "G<sup>o</sup>" and the "TH" in "13TH" are raised and underlined. The "o" in "Co" is raised and underlined.  
 1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown
- 51034AG Embossed: (1) REGISTERED ACCOURDING TO LAW / (2) ~ . ~ (all in doughnut containing) G<sup>o</sup> A KIEL / LANCASTER / PA. // (1) CODD'S PATENT / 4 / MAKERS / (2) RYANDS & CODD / BARNSLEY //  
 Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known  
 Notes: The "o" in "G<sup>o</sup>" is raised and underlined.  
 1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

**Philadelphia, Pennsylvania****Brinton & Brosius 1885 - 1913**

- 02036AA Embossed: (1) STANDARD / MINERAL WATERS / BRINTON & BROSIUS / PHILADELPHIA // c // // b // B & B4  
 Bottle: Glass, Codd Bottle, 2 leaf, 8 x 2 3/8 (4 1/2)  
 1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1885-1910
- 02036AB Embossed: (1) STANDARD / MINERAL WATERS / BRINTON & BROSIUS / PHILADELPHIA // c // // b // B & B3 (three lines and two dots above and below

embossing)

Bottle: Glass, Codd Bottle, 2 leaf, 8 x 2 3/8 (4 1/2)

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1885-1910

02036AC Embossed: (1) STANDARD / MINERAL WATERS / BRINTON & BROSIUS / PHILADELPHIA // c // // b // B & B (two lines above and below embossing)

Bottle: Glass, Codd Bottle, 2 leaf, 8 3/8 x 2 7/16 (4 3/8)

1. Clear, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1910-13

02036AG Embossed: No 1 (in motif of five pointed star) // (1) CODDS PATENT / (1) H. CODD & CO / NEW YORK // // b // B & B

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The "o" in "No" is raised and underlined. Details are not known.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1885-90

### **Brinton & Brosius Incorporated 1914 - 1915+**

51583AA Embossed: (1) STANDARD / MINERAL WATER / BRINTON & BROSIUS / INC. / PHILADELPHIA // c // // b // B & B 8 / "13"

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1914-16

### **Otto, George William 1883 - 1914+**

53345AF Embossed: (/) Geo. W. Otto / (/) 230 Bainbridge St. / (/) Philadelphia Pa (all in script) // c //

Bottle: Glass, Codd Bottle, 2 leaf, 9 x ?

Notes: Details are not known.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1890-95

### **Roeshman, H., & Brother 1894 - 1895+**

51609AA Embossed: (1) H. ROESHMAN & BROS. / 955 TO 961 / N. 9TH ST / PHILADELPHIA / PA. // c //

Bottle: Glass, Codd Bottle, 2 leaf, 8 1/4 x 2 1/2 (4 1/4)

Notes: The "TH" in "9TH" and the "T" in "ST" are raised and underlined.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1894 only

### **Standard Mineral Water Company Pre-1884 - 1884**

19110AA Embossed: (1) STANDARD / MIN. WATER Co / BRINTON & BROSIUS / 314. N. 17TH ST / PHILADA // (1) CODD'S PATENT / PAT. APPIL 29TH 1873 / SOLE AGENTS (2) H. CODD & Co / 22 COMMERCE ST / NEW YORK // // b // B & B

Bottle: Glass, Codd Bottle, 2 leaf, 8 x 2 1/2 (4 1/4)

Notes: The "o"s in the "Co"s and the "TH"s in "17TH" and "29TH" are raised and underlined. The "T" in "COMMERCE ST" is raised.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

**Unknown**

- 53141AA Embossed: (1) GAZZOSA TIPO MILANO / C. (motif of standing lion) 1. / (2) 815 CARPENTER ST / (2) PHILADELPHIA, PA / REGISTERED // c // b // 7  
Bottle: Glass, Codd Bottle, 2 leaf, 8 3/4 x 2 3/8 (5 1/4)  
Notes: The "T" in "ST" is raised and underlined. Roughly translated from Italian "Milano Style Lemonade."  
1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1916-18
- 53141AB Embossed: (1) GAZZOSA TIPO MILANO / C. (motif of standing lion) 1. / (2) 815 CARPENTER ST / (2) PHILADELPHIA, PA / REGISTERED // (1) MADE IN ENGLAND // b // 7  
Bottle: Glass, Codd Bottle, 2 leaf, 8 3/4 x 2 3/8 (5 1/4)  
Notes: The "T" in "ST" is raised and underlined. Roughly translated from Italian "Milano Style Lemonade."  
1. Clear, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1918-20
- 53141AC Embossed: C. 1. / (1) GAZZOSA.TIPO.MILANO / 815 CARPENTER ST. / PHILA, PA. / REGISTERED // c //  
Bottle: Glass, Codd Bottle, 2 leaf, 8 5/8 x 2 7/16 (5)  
Notes: Bottle has two neck indents and an amber marble. Roughly translated from Italian "Milano Style Lemonade."  
1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1915-16

**Pittsburgh, Pennsylvania****Friel, Charles**

- 51489AB Embossed: (1) CHARLES FREIL / PITTSBURGH / (2) PA. (all in round plate) // (1) CODD'S / (1) REIS / (2) AUG 13 78 / (2) PATENT (all in doughnut) //  
Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known, Plate Mold Code: Unknown  
1. Aqua, Smooth Base, Tapered Collar, Codd Glass Ball Stopper, Hand Blown

***Rhode Island*****Newport, Rhode Island****Harvey, J. S.**

- 50960AA Embossed: (/) HARVEY (\) MINERAL / (\) WATER (/) WORKS (all around a diamond) / TRADE / MARK / JSH (monogram) / NEWPORT / R.I. (all in the diamond) / REGISTERED // c // b // H. CODD / PAT. 1872 & 73  
Bottle: Glass, Codd Bottle, 2 leaf, 7 3/4 x ?  
1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1875-88

***Texas***

## **Galveston, Texas**

### **Mignon Bottling Works Company**

54059AA Embossed: (1) MIGNON BOTTLING WORKS CO. / (2) GALVESTON, TEXAS (all in doughnut) //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: Details are not known.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown

## *Washington*

### **Yakima, Washington**

#### **Biggam Brothers 1911 - 1915**

WS-505E Embossed: BIGGAM BROs / YAKIMA. WASH. // (1) NUTTALL & Co / MAKERS / (2) ST HELENS //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The s in BROs, the o in Co and the T in ST are all raised and underscored.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown,  
Circ: 1911-13

WS-505F Embossed: BIGGAM BROs / YAKIMA. / WASH. // (1) NUTTALL & Co / MAKERS / (2) ST HELENS //

Bottle: Glass, Codd Bottle, 2 leaf, dimensions not known

Notes: The s in BROs, the o in Co and the T in ST are all raised and underscored.

1. Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown,  
Circ: 1911-13

## *Wisconsin*

### **Sheboygan, Wisconsin**

#### **Sheboygan Mineral Water Company 1881 - 1917**

WSWB-7974 Embossed: (1) SHEBOYGAN MINERAL WATER CO. / SHEBOYGAN // c //

Bottle: Glass, Codd Bottle, 2 leaf, 8 x ?

1. Greenish Aqua, Smooth Base, Long Tapered Collar, Codd Glass Ball Stopper, Hand Blown, Circ: 1881-1915
-

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## UNPUBLISHED ESSAYS

Munsey, Cecil. "Codd Bottle Opener and SODA POP" (Sigmund Freud, Austrian originator of Psycho-Analysis & English poet Robert Southey): 1-15-02

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# # # #

**POSTSCRIPT FOR ARTICLE #1242**

As a result of releasing my article, “**Codd (Marble-In-The-Neck) Soda-Water Bottles, THEN and NOW!**” on my website, <<http://www.CecilMunsey.com>> by way of the Internet, I received a number of correspondences. **Russ Smith** in England <[rushing@onetel.com](mailto:rushing@onetel.com)> shared a piece of original research that has been published in Great Britain along with permission to share it.

“**The Rise and Fall of the HOPE GLASS WORKS**” by **Mark Potten** is a well written piece and does expose new research. Anybody interested in the history of Hiram Codd’s marble-stoppered soda and mineral water bottles will be interested in Mark’s contribution to the literature.

The article is reproduced here for your information. Both Russ Smith and Mark Potten are very proud to be recognized as “Coddites”. [Those are bottle collectors who specialize in the collecting and studying of Codd (marble-in-the-neck soda water bottles).] They would enjoy corresponding with fellow Coddites.

**Dr. Cecil Munsey**

[cecilmunsey@cox.net](mailto:cecilmunsey@cox.net)

# THE RISE and FALL of the HOPE GLASS WORKS

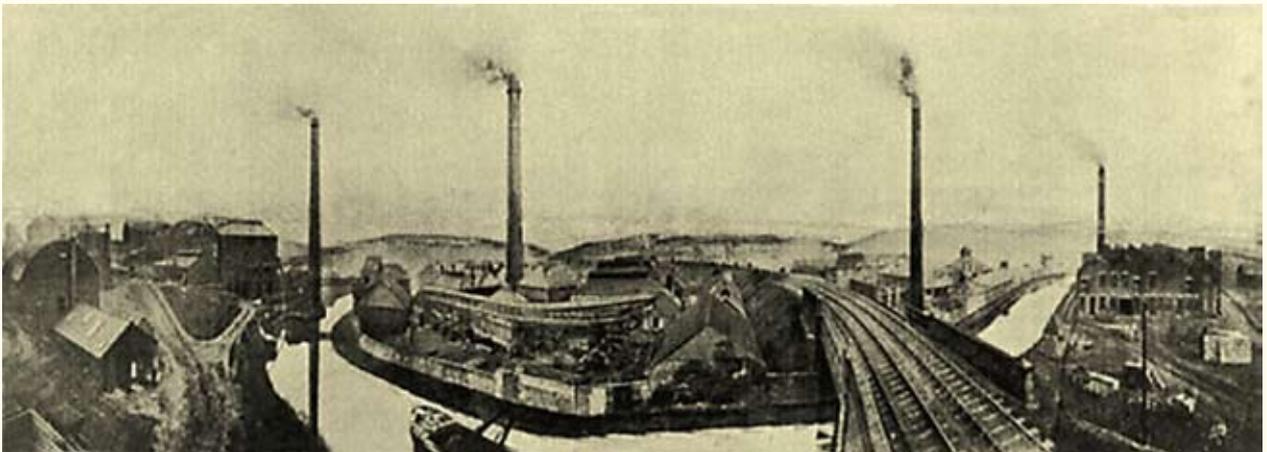
by Mark POTTEN



Even including the “Non-Coddites” amongst us, I’m sure we have all heard of Ben and Dan RYLANDS from Stairfoot, Barnsley and their HOPE GLASS BOTTLE WORKS. Through time they established one of the biggest marble stoppered bottle factories in the UK with continuous success for over six decades. Presently this site is being demolished to make way for a new housing estate. Although only part of the original early 1890s factory and chimney stack remained, now is an apt time to pay homage and give a brief history of “The rise and fall of the Hope Glass Works”.

Ben Rylands was born in Rothwell, just outside Leeds, on 16<sup>th</sup> Jan 1825. He served a glass/bottle making apprenticeship with his uncle Mr. Winterbottom from Castleford and completed his apprenticeship under Messrs. Breffitt & Co., at the Aire & Calder Glass Works. In 1850 he became a partner in the Mexborough Flint Glass Works, this being the first bottle making company in the Mexboro area. In 1852 in a new partnership he started the Swinton Glass Works (South Yorkshire Glass Bottle Company).

Photo 1.  
A view of  
the HOPE  
GLASS  
BOTTLE  
WORKS  
from the  
mid. 1890’s



In 1867 Ben built his own works, namely the Hope Glass works, next to the Stairfoot Railway station in Ardsley near Barnsley. The site that he chose was ideal, with ample space for expansion, railways passing through it and the Dearne and Dove Canal alongside. It became sufficiently profitable for him to lease a second works in 1872, the Dearne & Dove Glass Works at Wombwell, a few miles away.

Ben started working with Hiram Codd in September 1873, helping in the development of a tool to produce the groove in the lip of the bottle (which Codd & Foster then patented in December 1873). The problem with Brooke’s earlier tool was that

December 18, 1873.] *The United Kingdom Mineral Water Trade Review and Guardian.*

---

**B. RYLANDS,**  
**HOPE GLASS BOTTLE WORKS,**  
**ARDSLEY, near BARNSELY,**  
MANUFACTURER, EXCLUSIVELY, OF  
**CODD'S PATENT GLOBE-STOPPERED SODA WATER BOTTLES.**

These Bottles, when properly and carefully made, have but to be tried fairly to insure a proof of the fact that Mr. CODD'S valuable invention is the very best for superseding the confessedly clumsy and expensive system of corking and wiring. Mineral Water Manufacturers who may doubt the truth of this assertion have now, at any rate, a practical, cheap, and reliable way of testing it. They can apply to any of the firms hereinafter mentioned, all of whom have, for longer or shorter periods, been supplied by B. RYLANDS with these Bottles.

Many more references can be given if required; and B. R. would respectfully add that, after a lengthened experience in the manufacture of CODD'S PATENT BOTTLES, during which time he has given special attention to every detail connected therewith, he is prepared to compare those he is now making, as regards strength or colour, with any bottles (plain or patent) that can be made.

the groove formed in the lip was never exactly the same size: this was dependent on the amount of molten glass added to the neck to form the lip and the amount of pressure applied to the tool, so there had to be numerous different size rings to fit each bottle made. Codd & Foster’s tool alleviated this problem by making all the grooves produced the same size. In December 1873 Ben manufactured 800 gross (over 115,000) sample bottles to prove that the tool produced the same size groove in them all. He took out a licence to manufacture Codd’s bottles on 7<sup>th</sup> April 1874 and was the first manufacturer to use the newly patented Groove tool in full production (see Photo 2).

Photo 2. An early Ben Rylands advert dating from late 1875



Photo 3. An extremely rare photograph of Ben Rylands (seated) and Hiram Codd

In February 1877 he went into partnership with Hiram Codd (see [Photo 3](#)). Hiram held one-fifth of the share capital and Ben retained four-fifths and the responsibility of management. To fulfil the overwhelming demand for Codd's newly patented bottle, Ben opened a new works not half a mile up the canal utilising the latest furnace technology.

Ben died on August 29th 1881 and six months later his son Dan, then 31, took over but Hiram forced him to pay a huge premium to keep the partnership agreement in force.

Late in 1884, after Dan and Hiram dissolved their partnership (see [Photo 4](#)), Dan Rylands' name alone was moulded on all bottles made at Stairfoot.

In July 1885 'The Useful Patents Co. Ltd.' of London (owned by Hiram Codd) won a court case against Dan for infringing the Codd and Foster patent groove tool of 1873. Dan retaliated by patenting another tool for the same purpose - bottles produced by this method are embossed: "PATENT SAFE GROOVE". Also in that year Codd's 1871 patent expired and Dan took advantage again and brought out his Reliance Patent. Early examples of this are embossed: "MADE BY RYLANDS PATENT PROCESS".

In 1885 Dan Rylands was supplying Codd's Patent Globe-Stoppered bottles to the whole of the UK (which included London - no other maker was allowed to do this - a part of the split up agreement) and for export.

Hiram Codd died in February 1887.

In July 1888 a company named 'Dan Rylands Limited' was formed to acquire the business of 'Dan Rylands' for the sum of £136,400. Dan took at least £66,600 of this in shares to remain as chairman and managing director.

Also in 1888 a prospectus pointed out that 'since paying out the late Hiram Codd in 1884, Mr. Dan Rylands had increased by 66% the bottle manufacturing capabilities of the Hope Glass Works', which then comprised:- two large continuous regenerative glass melting furnaces, three smaller ones, two ordinary coal furnaces, forty-two annealing kilns, four sets of Rylands & Potter's patent kilns, with sixty patent trucks and four double pairs of rail for the same, eight Rylands patent gas producers, sixteen other gas producers, nine sorting and packing warehouses, three engine houses, large box factory, wire spinning shed and stores, engineers', mould fitters' and blacksmiths' shops, pattern makers' shop, mould stores, sand/limestone/chemical and mixing stores, globe stoppered grinding room (to grind 3,000 gross weekly - 432,000), a clerk's office, draughtsman's office, stables, about 400 light gas works, thirty-three workmen's cottages and two managers' houses! (See [Photo 1](#) for a view of the works several years later). Dan Rylands at the time was sole owner of ninety-four British and Foreign patents. New capital was raised in 1889 for the erection of glass melting furnaces specially adapted for the manufacture of bottles by Rylands patented Automated Bottle-Making machine: this was capable of making 6 bottles per minute.

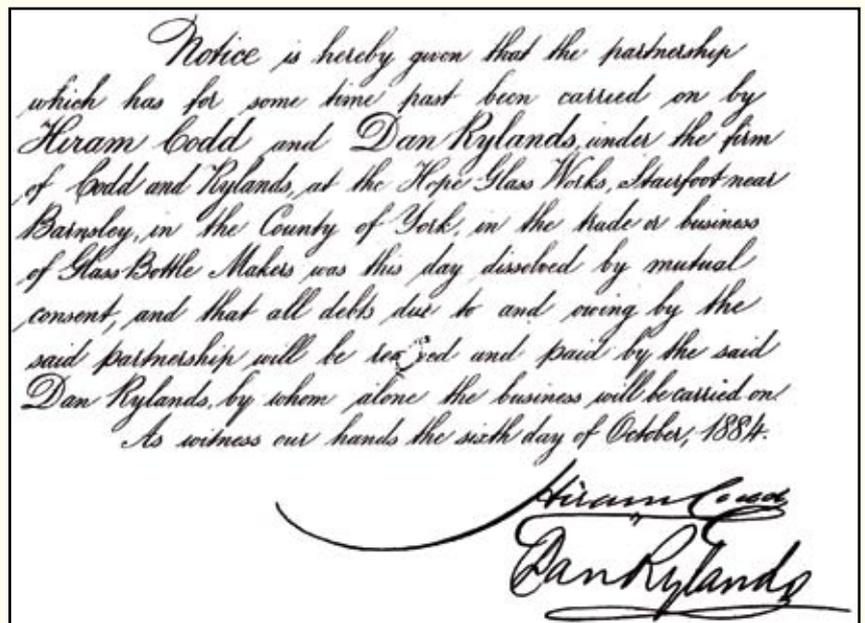


Photo 4. The letter sent to all mineral water traders, dissolving the Codd and Rylands partnership in 1884, with original signatures

In January 1892 Dan's box factory was destroyed in a fire with damages of £16,000 and early in 1893 he experienced his third workers' strike in twenty years: this, together with other financial problems, caused him to become bankrupt. He resigned and in May 1893 attempted to commit suicide. Later that year the Times newspaper stated he had £300,000 liabilities: interestingly he was also a colliery proprietor and a brick manufacturer.

By 1897 the company was known as 'The Rylands Glass and Engineering Company Limited' and from this time their bottles were marked simply "The Rylands". In May 1905 the works was taken over by the Wood Brothers from Hoyle Mill, near Barnsley.

Sadly, in 1910, after suffering from mental health problems for a considerable time, Dan Rylands took his own life.

Many factors brought about the collapse of The Rylands in 1927 but over-specialisation in pursuit of manufacturing Codd's bottle was probably the main cause. In the 1920's the Codd Bottle suddenly went out of fashion in favour of the new screw and crown caps.

In 1928 the glass works site was bought by Beatson Clark and once again started manufacturing bottles and jars: this was closed down in October 2006.

**Had it not been for Ben's knowledge and inventiveness and Dan's passion to follow in his father's footsteps and make their business a success, then I am sure that Codd's globe stoppered bottle would never have been so popular and for so long.**

So where did the 4 embossed on all Rylands Codd bottles come from? I have found two feasible reasons but am not sure which is true. When Ben started making Codd's bottle they all had "CODDS PATENT 4" embossed on them, which was the licence number agreement taken out in April 1874, and so it was the trademark that just stuck. Alternatively, perhaps the policy of Hope Glass Works was embodied in its trademark "4" which was embossed on all its glassware. This signified the **four** qualities considered by the firm to be of paramount importance, namely accuracy, cleanliness, neatness and strength.

The two bottles shown in Photo 5 are probably examples of the first and the last "patents" ever made at the Hope Glass Works. The one to the left is a very early Codd's Patent 4 London S.E. and has got to be one of the first made after Ben was granted a bottle maker's licence. The very rare example to the right was never actually patented but the design was registered (RD448146) in January 1905 by George William Ellis, Manager, Hope Glass Works, Stairfoot. This must have been manufactured long after Dan had resigned.



Photo 5. The first / last "patent" ever to be made at the RYLANDS factory?

<b>A Guide to Dating Rylands Codd Bottles</b>	
<b>Embossing on Bottle</b>	<b>Dates</b>
B. Rylands	1874 to 1877
Rylands and Codd	1877 to 1881
Codd and Rylands	1882 to 1884
Dan Rylands	1884 to 1888
Dan Rylands Ltd	1888 to 1897
The Rylands	1897 to 1927

As stated above, this is only a brief history and I have to thank Peter Douglas and Neil York for their invaluable research. I look forward to reading their findings in more detail in due course.

If anybody has any questions, queries or unknown patents relating to the mineral water trade or a particular patent that they would like more information about, please contact me via email at [mark@mpotten.freeseve.co.uk](mailto:mark@mpotten.freeseve.co.uk) or by phone on 01935 863374 after 7pm.

Codd Greetings and Happy New Year ... Mark Potten.